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Title:	Semi-Annual Monitoring Report for Los Alamos National Laboratory, AI No. 856, Title V Operating Permit P100-R2M4 for July 1 - December 31, 2020
Author(s):	Carretti, Vincent Anthony
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PO Box 1663, K491
Los Alamos, New Mexico 87545
(505) 667-4218

National Nuclear Security Administration
Los Alamos Field Office
3747 West Jemez Road, A316
Los Alamos, New Mexico, 87544
(505) 665-7314/Fax (505) 667-5948

Symbol: ESHQSS: 21-001
LA-UR: 21-20502
Locates Action No.: N/A
Date: FEB 0 3 2021

Mr. David Feather
Compliance Reporting Manager
New Mexico Environment Department, Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505-1816

Subject: Semi-Annual Monitoring Report for Los Alamos National Laboratory, AI No. 856, Title V Operating Permit P100-R2M4 for July 1 – December 31, 2020

Dear Mr. Feather:

Enclosed is Los Alamos National Laboratory's (LANL) Semi-Annual Monitoring Report for the second half of 2020 for Operating Permit P100-R2M4, effective July 18, 2019. This Semi-Annual Monitoring Report covers the July 1 – December 31, 2020 (2020H2) reporting period.

This submission is required by permit condition A109.A. of the Title V Operating Permit P100-R2M4, and is submitted within 45 days following December 31, 2020, the end of the six month reporting period. LANL's Air Quality Compliance team obtained approval from Ms. Carina Munoz-Dyer, Reports Group Staff Manager at the New Mexico Environment Department, Air Quality Bureau, to submit attachments to this report in E-files only without paper copies.

This Semi-Annual Monitoring Report includes:

1. Printed copies of:
    - Cover Letter (Signed original)
    - Reporting Submittal Form for P100-R2M4 (Signed original)
    - Title V Report Certification Form for P100-R2M4 (Signed original)
    - Title V Semi-Annual Monitoring Report for July 1– December 31, 2020 (2020H2)
        - Part 1 – Monitoring Activity Reporting Requirements
        - Part 2 – Deviation Summary Report

2. E-files of:
    - Cover Letter
    - Reporting Submittal Form for P100-R2M4
    - Title V Report Certification Form for P100-R2M4
    - Title V Semi-Annual Monitoring Report for July 1– December 31, 2020 (2020H2)
        - Part 1 – Monitoring Activity Reporting Requirements
        - Part 2 – Deviation Summary Report
    - Monitoring Report Attachments A.607.A through A.1507.B

There were two deviations from permit conditions during this reporting period:

1. Permit Condition A116, Asbestos NESHAP - On August 5, 2020, two loads of waste containing asbestos totaling about 11 tons of soil, concrete, and presumed transite piping (PACM) were taken to the Los Alamos Eco Station, which is an unauthorized landfill for waste containing asbestos. At the time it was unknown that the waste contained asbestos, as soon as it was discovered an emergency notification was submitted to NMED and the waste was cleaned up and taken to an approved waste site, removal was completed on November 19, 2020.
2. Permit Condition A607.A – Asphalt Plant Baghouse Differential Pressure - At the asphalt plant, after the annual calibration in September 2020 on the magnehelic gauge, pressure transmitter, and chart recorder, the equipment was re-installed improperly. The device to continually measure the pressure drop across the baghouse was inoperable during the period October 2 – November 20, 2020 because of equipment malfunction. This resulted in missing differential pressure data across the baghouse for brief periods of operation during this timeframe (intermittent operation for a total of 8.5 hours of operation during this period). Due to lack of available personnel during LANL's limited operational stance due to the COVID-19 pandemic, this issue was not fixed until November 20, 2020. The asphalt plant operator is now aware that the LANL Air Quality Team must be notified within 24 hours and the equipment must be shut down if the differential pressure readings are out of acceptable range to ensure this type of issue can be corrected more urgently moving forward.

If you have any questions or comments regarding this submittal or would like to discuss the submittal in greater detail, please contact Adrienne Nash at (505) 665-5026 or Marjorie Stockton at (505) 665-3289.

Sincerely,

JENNIFER PAYNE (Affiliate) Digitally signed by JENNIFER PAYNE (Affiliate) Date: 2021.01.26 17:23:25 -07'00'

Jennifer E. Payne
Division Leader
Environmental Protection and Compliance
Triad National Security, LLC
Los Alamos National Laboratory

Sincerely,

Michael J. Weis
Manager, Los Alamos Field Office
National Nuclear Security Administration
U.S. Department of Energy
Los Alamos Field Office

JEP/MJW/MBS/VAC:jdm

Attachment(s): Attachment 1 Communication with NMED Regarding Electronic Attachments
Attachment 2 Semi-Annual Monitoring Report for Los Alamos National Laboratory, AI No. 856, Title V Operating Permit P100-R2M4 for July 1 – December 31, 2020

Copy: Adrienne L. Nash, NA-LA, adrienne.nash@nnsa.doe.gov
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adesh-records@lanl.gov
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New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300

Version 07.20.18

NMED USE ONLY	
TEMPO	

REPORTING SUBMITTAL FORM

NMED USE ONLY	
Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION

A. ® Company Name: Department of Energy, National Nuclear Security Administration			**D. ® Facility Name:** Los Alamos National Laboratory		
B.1 ® Company Address: 3747 West Jemez Road			**E.1 ® Facility Address:** P.O. Box 1663 MS J978		
B.2 ® City: Los Alamos	**B.3 ® State:** NM	**B.4 ® Zip:** 8 7 5 4 4	**E.2 ® City:** Los Alamos	**E.3 ® State:** NM	**E.4 ® Zip:** 87545
C.1 ® Company Environmental Contact: Adrienne L. Nash	**C.2 ® Title:** Program Manager		**F.1 ® Facility Contact:** Marjorie B. Stockton	**F.2 ® Title:** Acting Meteorology & Air Quality Team Leader	
C.3 ® Phone Number: (505) 665-5026	**C.4 ® Fax Number:** (505) 667-9998		**F.3 ® Phone Number:** (505) 665-3289	**F.4 ® Fax Number:** NA	
C.5 ® Email Address: adrienne.nash@nnsa.doe.gov			**F.5 ® Email Address:** mstockton@lanl.gov		
G. Responsible Official: (Title V only): Michael J. Weis	**H. Title:** Manager		**I. Phone Number:** (505) 667-5105	**J. Fax Number:** NA	

K. ® AI Number:	L. Title V Permit Number:	M. Title V Permit Issue Date:	N. NSR Permit Number:	O. NSR Permit Issue Date:
856	P100-R2M4	July 18, 2019	2195	Various

P. Reporting Period: From: July 1, 2020 To: December 31, 2020

Do NOT submit NSPS OOOO or OOOOa well completion or flowback notifications to the Air Quality Bureau. See https://www.env.nm.gov/air-quality/notices-and-faqs-for-compliance-and-enforcement/ for explanation.

SECTION II – TYPE OF SUBMITTAL (check one that applies)

A. ☐	**Title V Annual Compliance Certification**	**Permit Condition(s):**	**Description:**	
B. ☒	**Title V Semi-Annual Monitoring Report**	**Permit Condition(s):** A109.A	**Description:** LANL Semi-Annual Monitoring Report for July 1 - December 31, 2020	
C. ☐	**NSPS Requirement (40CFR60)**	**Regulation:**	**Section(s):**	**Description:**
D. ☐	**MACT Requirement (40CFR63)**	**Regulation:**	**Section(s):**	**Description:**
E. ☐	**NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)**	**Regulation:**	**Section(s):**	**Description:**
F. ☐	**Permit or Notice of Intent (NOI) Requirement**	**Permit No.** ☐: **or NOI No.** ☐:	**Condition(s):**	**Description:**
G. ☐	**Requirement of an Enforcement Action**	**NOV No.** ☐: **or SFO No.** ☐: **or CD No.** ☐: **or Other** ☐:	**Section(s):**	**Description:**

SECTION III - CERTIFICATION

After reasonable inquiry, I Michael J. Weis **(Name of Certifier) certify that the information in this submittal is true, accurate and complete.**

® Signature of Certifier:	® Title:	® Date	® Responsible Official for Title V?
	Manager	2/3/2021	☒ Yes ☐ No

Reviewed By: _____ Date Reviewed: _____

Title V Report Certification Form

I. Report Type

☐ **Annual Compliance Certification**

☒ **Semi-Annual Monitoring Report**

☐ **Other Specify:**

II. Identifying Information

Facility Name: Los Alamos National Laboratory		
Facility Address: P.O. Box 1663, MS J978	State: NM	Zip: 87545
Responsible Official (RO): Michael J. Weis	Phone: (505) 667-5105	Fax: NA
RO Title: Manager	RO e-mail: michael.weis@nnsa.doe.gov	
Permit No.: P100-R2M4	Date Permit Issued: 7/18/2019	
Report Due Date (as required by the permit): 2/14/2021	Permit AI number: 856	
Time period covered by this Report: From: 7/1/2020	To: 12/31/2020	

III. Certification of Truth, Accuracy, and Completeness

I am the Responsible Official indicated above. I, (Michael J. Weis) certify that I meet the requirements of 20.2.70.7.AE NMAC and that I have been identified to the Department as such through a permitting action or notification. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete.

Signature _____ Date: 02/23/2021

ATTACHMENT 1

Communication with NMED Regarding Electronic Attachments

ESHQSS: 21-001

LA-UR-21-20502

Date: FEB 0 3 2021

From: Munoz, Carina, NMENV
To: Ramanathan, Brinda
Subject: RE: Template for Los Alamos National Laboratory"s semi-annual monitoring report
Date: Monday, July 3, 2017 9:22:48 AM

That will be okay. Just provide a CD with the attachments. And include this email with your submittal.

Thanks
Carina

Carina G. Munoz-Dyer
Reports Group Staff Manager
Compliance and Enforcement Section
NMED Air Quality Bureau
Ph. 505-476-4368

The Four-Way Test
Of the Things We Think, Say or Do:

1. Is it the **TRUTH**?
2. Is it **FAIR** to all concerned?
3. Will it build **GOODWILL** and **BETTER FRIENDSHIPS**?
4. WIll it be **BENEFICIAL** to all concerned?

From: Ramanathan, Brinda [mailto:brindar@lanl.gov]
Sent: Monday, July 03, 2017 9:20 AM
To: Munoz, Carina, NMENV <Carina.Munoz@state.nm.us>
Subject: RE: Template for Los Alamos National Laboratory's semi-annual monitoring report

Hi Carina,

Good morning.

Thank you for the forms.

I do have one question. LANL's monitoring report attachments are 1500-1700 pages long. The previous compliance manager, Renae Held allowed us to submit electronic files only for the attachments. Is this acceptable to you? We will submit paper copies for the submittal form, certification form and the report. We would like to avoid printing so many pages.

Let me know.

Thank you again for your help with this.

Brinda

From: Munoz, Carina, NMENV [mailto:Carina.Munoz@state.nm.us]
Sent: Monday, July 3, 2017 9:09 AM
To: Ramanathan, Brinda <brindar@lanl.gov>; aqb, Submittals, NMENV <Submittals.aqb@state.nm.us>
Subject: RE: Template for Los Alamos National Laboratory's semi-annual monitoring report
Importance: High

Brinda,

Here are the template for AI 856 – LANL Semi-Annual and ACC reports. The forms are a combined version that include TV Permit P100-R2 and R2M1. Please read the instructions on the first page of each form. Let me know if you have any questions.

Thanks
Carina

Carina G. Munoz-Dyer
Reports Group Staff Manager
Compliance and Enforcement Section
NMED Air Quality Bureau
Ph. 505-476-4368

The Four-Way Test
Of the Things We Think, Say or Do:

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3. Will it build **GOODWILL** and **BETTER FRIENDSHIPS**?
4. WIll it be **BENEFICIAL** to all concerned?

From: Ramanathan, Brinda [mailto:brindar@lanl.gov]
Sent: Wednesday, June 28, 2017 8:51 AM
To: Munoz, Carina, NMENV <Carina.Munoz@state.nm.us>
Subject: Template for Los Alamos National Laboratory's semi-annual monitoring report

Hi Carina,

We spoke a month ago about getting a new template for the semi-annual monitoring report for Title V permit P100-R2M1.
I was wondering if the template is available so that I can get started on the monitoring report.

The AI for LANL is AI856.

Until Feb 3, 2017 LANL operated under permit P100-R2.
On Feb 3, 2017, LANL was issued a permit modification P100-R2M1. The modification was for the addition of Evaporative Sprayers in Section A1500.

Would you kindly let me know if LANL has to submit two monitoring reports or one for the Jan 1–Jun 30, 2017 monitoring period?

I will follow up this e-mail with a phone call to you.

Thank you.

With best regards,

Brinda Ramanathan
Air Quality Compliance
505-665-8879
Los Alamos National Laboratory

ATTACHMENT 2

Semi-Annual Monitoring Report for Los Alamos National Laboratory, AI No. 856, Title V Operating Permit P100-R2M4 for July 1–December 31, 2020

ESHQSS: 21-001

LA-UR-21-20502

Date: FEB 0 3 2021

Title V Semi - Annual Monitoring Report for Permits P100-R2M4

Part 1 – Monitoring Activity Reporting Requirements

A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The six month reporting periods start on January 1st and July 1st of each year.

A responsible official (as defined in 20.2.70.7.AE NMAC) shall certify the accuracy, truth and completeness of every report and compliance certification submitted to the Department as required by this permit. These certifications shall be part of each document. (20.2.70.300.E NMAC)

Compliance Certification Reports, Semi-Annual monitoring reports, compliance schedule progress reports, and any other compliance status information required by this permit shall be certified by the responsible official and submitted to:

Manager, Compliance and Enforcement Section
New Mexico Environment Department
Air Quality Bureau
525 Camino De Los Marquez, Suite 1
Santa Fe, NM 87505-1816

B108 General Monitoring Requirements

(20.2.70. 302.A and C NMAC)

A. These requirements do not supersede or relax requirements of federal regulations.

B. The following monitoring and/or testing requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.

C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring.

D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke monitoring period exemptions at B108.D(2), hours of operation shall be monitored and recorded.

   (1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.

   (2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.

   (3) If invoking the monitoring period exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during the five year term of this permit.

E. The permittee is not required to report a deviation for any monitoring or testing in a Specific Condition if the deviation was authorized in this General Condition B108.

F. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum

achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.

G. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.

H. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance. All monitoring periods, unless stated otherwise in the specific permit condition or federal requirement, shall commence at the beginning of the 12 month reporting period as defined at condition A109.B.

B109 General Recordkeeping Requirements

(20.2.70.302.D NMAC)

A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any applicable requirements that become effective during the term of this permit. The minimum information to be included in these records is (20.2.70.302.D.1 NMAC):
   (1) equipment identification (include make, model and serial number for all tested equipment and emission controls);
   (2) date(s) and time(s) of sampling or measurements;
   (3) date(s) analyses were performed;
   (4) the company or entity that performed the analyses;
   (5) analytical or test methods used;
   (6) results of analyses or tests; and
   (7) operating conditions existing at the time of sampling or measurement.

B. The permittee shall keep records of all monitoring data, equipment calibration, maintenance, and inspections, Data Acquisition and Handling System (DAHS) if used, reports, and other supporting information required by this permit for at least five (5) years from the time the data was gathered or the reports written. Each record shall clearly identify the emissions unit and/or monitoring equipment, and the date the data was gathered. (20.2.70.302.D.2 NMAC)

C. If the permittee has applied and received approval for an alternative operating scenario, then the permittee shall maintain a log at the facility, which documents, contemporaneously with any change from one operating scenario to another, the scenario under which the facility is operating. (20.2.70.302.A.3 NMAC)

D. The permittee shall keep a record describing off permit changes made at this source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes. (20.2.70.302.I.2 NMAC)

E. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine and predictable emissions during startup, shutdown, and scheduled maintenance (SSM):

(1) The owner or operator of a source subject to a permit, shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. (20.2.7.14.A NMAC) The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC.

(2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies.

(3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.

(4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

B110 General Reporting Requirements

(20.2.70.302.E NMAC)

A. Reports of required monitoring activities for this facility shall be submitted to the Department on

the schedule in section A109. Monitoring and recordkeeping requirements that are not required by a NSPS or MACT shall be maintained on-site or (for unmanned sites) at the nearest company office, and summarized in the semi-annual reports, unless alternative reporting requirements are specified in the equipment specific requirements section of this permit.

B. Reports shall clearly identify the subject equipment showing the emission unit ID number according to this operating permit. In addition, all instances of deviations from permit requirements, including those that occur during emergencies, shall be clearly identified in the reports required by section A109. (20.2.70.302.E.1 NMAC)

C. The permittee shall submit reports of all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. These reports shall be submitted as follows:
   (1) Deviations resulting in excess emissions as defined in 20.2.7.7 NMAC (including those classified as emergencies as defined in section B114.A) shall be reported in accordance with the timelines specified by 20.2.7.110 NMAC and in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC)
   (2) All other deviations shall be reported in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC).

D. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC.

E. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format.

F. At such time as new units are installed as authorized by the applicable NSR Permit, the permittee shall fulfill the notification requirements in the NSR permit.

G. Periodic Emissions Test Reporting: The permittee shall report semi-annually a summary of the test results.

H. The permittee shall submit an emissions inventory for this facility annually. The emissions inventory shall be submitted by the later of April 1 or within 90 days after the Department makes such request. (20.2.73 NMAC and 20.2.70.302.A.1 NMAC)

I. Emissions trading within a facility (20.2.70.302.H.2 NMAC)
   (1) For each such change, the permittee shall provide written notification to the department and the administrator at least seven (7) days in advance of the proposed changes. Such notification shall state when the change will occur and shall describe the changes in emissions that will result and how these increases and decreases in emissions will comply with the terms and conditions of the permit.
   (2) The permittee and department shall attach each such notice to their copy of the relevant permit.

FACILITY SPECIFIC REQUIREMENTS:

A109 Facility: Reporting B. A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of pollutants NOx, CO, SO2, VOC, TSP, PM10, and PM2.5 shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.
Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.
☒ **Yes** **Date report submitted:** September 11, 2020 **Tracking Number:** SBR20200006
☐ **No** **Provide comments and identify any supporting documentation as an attachment.**
Comments: The Semi-Annual Emissions Report for January 1 - June 30, 2020, was submitted on September 11, 2020 within 90 days from the end of the reporting period as required by condition A109.A. The Semi-Annual Emissions Report for July 1 - December 31, 2020 is not due until 90 days following December 31, 2020, which is after the submission of this report.

EQUIPMENT SPECIFIC REQUIREMENTS:

A605 Fuel Requirements – Asphalt Production

A. Asphalt Plant Combustion Sources

Requirement: Combustion sources located at the asphalt plant shall combust only those fuels allowed under condition III.A.3 of the NSR Permit GCP-3-2195G.

Monitoring: N/A

Recordkeeping: The permittee shall meet the recordkeeping requirements of GCP-3 and maintain records in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: Pipeline quality natural gas is used at the asphalt plant and is allowed under condition III.A.3 of the NSR permit GCP-3-2195G.

Recordkeeping: Records are maintained in accordance with Section B109.

Reporting: A109.A: This Semi-Annual Monitoring Report is submitted within 45 days allowed after the reporting period.

A109.B: The January 1 - June 30, 2020 Semi-Annual Emissions Report was submitted on September 11, 2020 (SBR No. 20200006) within the 90 days allowed. The July 1 - December 31, 2020 Semi-Annual Emissions Report for Operating Permit P100-R2M4 is due 90 days following December 31, 2020, which is after the submission of this report.

A109.C: The 2020 Annual Compliance Certification Report for operating permit P100-R2M4 (January 1 –December 31, 2020) will be submitted to NMED AQB and the U.S. Environmental Protection Agency (EPA) by January 30, 2021, within 30 days of December 31, 2020, the end of the 12-month reporting period.

All reporting requirements are completed and submitted in accordance with Section B110.

A607 Asphalt Production – Other

A. Asphalt Plant Baghouse – Differential Pressure

Requirement: The baghouse shall be equipped with a device to continually measure the pressure drop across the baghouse.

Monitoring: The permittee shall monitor the differential pressure (inches of water) across the filters by the use of a differential pressure gauge. Pressure gauge readings and the time period the rotary dryer drum operates shall be recorded by a datalogger each time the rotary dryer drum is operating. The pressure data shall confirm whether the filter(s) are operating within the unit's specifications.

Recordkeeping: The permittee shall manually record the baghouse pressure drop readings at least once each day the rotary drum dryer operates and maintain records of all baghouse differential pressure readings in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: One permit deviation occurred during this reporting period. The device to continually measure the pressure drop across the baghouse was inoperable during the period October 2 – November 20, 2020 because of equipment malfunction. This resulted in missing differential pressure data across the baghouse for brief periods of operation during this timeframe. This deviation has not been previously reported to NMED. After the annual calibration in September 2020 on the magnehelic gauge, pressure transmitter, and chart recorder, the equipment was re-installed improperly. Once aware, the LANL Air Quality Team immediately contacted appropriate personnel to reconnect the equipment properly, but due to lack of available personnel during LANL's limited operational stance due to the COVID-19 pandemic, this issue was not fixed until November 20, 2020. Asphalt Plant operator is now aware that LANL Air Quality Team must be notified within 24 hours and the equipment must be shut down if the differential pressure readings are out of acceptable range so this type of issue can be corrected more urgently moving forward. This is noted as a deviation in Part 2 "Deviation Summary Report." There were no excess emissions during this period.

Requirement: The baghouse is equipped with a magnehelic gauge connected to a data-logger to continually monitor the differential pressure across the baghouse.

Monitoring: The differential pressure data is used to confirm proper operation of the baghouse. The differential pressure is measured during rotary dryer drum operation as described below:

1. A datalogger records differential pressure readings every two minutes and transmits the pressure drop data through a leased phoneline to a remote terminal unit.
2. A chart recorder records differential pressure readings and serves as a backup when there is a problem with the remote data-transmission phone communication.
3. The asphalt plant operator manually records the differential pressure readings at each start-up and shut-down daily.

Recordkeeping: Recordkeeping conditions are met using a datalogger, backup chart recorder, and operator's

differential pressure entries at the start and end of each operation daily. A backup chart recorder captured baghouse pressure drop data when the phone-line communciation did not work. The daily pressure drop data for days of plant operation and backup charts are located in ATTACHMENT A607.A. Please note, the Asphalt Plant did not operate in July, August, and September, so no pressure data/chart recorder is provided.
Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A607 Asphalt Production – Other

B. Asphalt Plant Baghouse - Stack Height (Unit TA-60-BDM)

Requirement: The rotary dryer/baghouse exhaust stack shall be no less than 10 meters in height.

Monitoring: N/A

Recordkeeping: The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The height of the asphalt plant stack has been measured and is no less than 10 meters. The stack is a permanent structure attached to the baghouse fan outlet and its height does not change.

Recordkeeping: Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A607 Asphalt Production – Other

C. Asphalt Plant Baghouse – Opacity

Requirement: Visible emissions from the rotary dryer/baghouse exhaust stack shall not exhibit an opacity of 20% or greater averaged over a (6) minute period.

Monitoring: During periods of drum dryer operation, the permittee shall perform six (6) minute opacity readings on the rotary dryer/baghouse stack. Opacity readings shall be performed at least once per month during any month the drum dryer operates. The observations shall be conducted according to 40 CFR 60, Appendix A, Method 9.

Recordkeeping: The permittee shall maintain records of all opacity observations and in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement/Monitoring: LANL has certified visible emissions (opacity) readers on-site who perform monthly six (6) minute opacity readings using the procedures in 40 CFR Part 60, Appendix A, Reference Method 9 to determine compliance with the opacity limitation. No visible emissions exhibited an opacity of 20% or greater during this reporting period. Method 9 opacity reports for this reporting period are provided in ATTACHMENT A607.C. Please note, the Asphalt Plant did not operate in July, August, and September, so no opacity reading was taken.

Recordkeeping: Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A607 Asphalt Production – Other

D. Asphalt Plant Baghouse – Fines Cleanout

Requirement: The permittee shall sequester or remove particulates collected by the control equipment to prevent wind-blown particulate emissions. Recycled baghouse fines shall be recycled into the drum mixer via a closed-loop system.

Monitoring: N/A

Recordkeeping: The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: Baghouse fines (particulates) are removed from the baghouse and cyclone by a screw conveyor. The removed fines are recycled into the asphalt production process via a closed loop system. Visible emissions from this system were not observed during this reporting period.

Recordkeeping: Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A607 Asphalt Production – Other

E. Asphalt Plant Production Rate (Unit TA-60-BDM)

Requirement: To avoid Compliance Assurance Monitoring (CAM) requirements under 40 CFR 64, the asphalt plant shall limit uncontrolled potential PM emissions by limiting asphalt production to less than or equal to 6,000 tons per year.

Monitoring: The permittee shall monitor the total daily production rate.

Recordkeeping: The permittee shall calculate a weekly rolling, 12-month total production rate and maintain records in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The asphalt plant production rate did not exceed 6,000 tons per year.

Monitoring: Asphalt production is monitored and recorded on a daily basis. The weekly rolling 12-month total is calculated and compared to the production limit set in this permit condition. Asphalt production amount is recorded daily in an operation log. The asphalt production rate for this certification period did not exceed 6,000 tons per year. The daily operation logs and 12-month rolling totals are provided in ATTACHMENT A607.E. Please note, the Asphalt Plant did not operate in July, August, and September, so no operation log is provided.

Recordkeeping: Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A607 Asphalt Production – Other

F. Asphalt Plant Operations – General

Requirement: The permittee shall:

1) Install, operate, and maintain equipment in accordance with standard operating procedures, and

2) equip and operate the asphalt processing equipment such as screens, conveyor belts, and conveyor transfer points with dust control systems to control particulate matter emissions, and

3) operate the Plant in accordance with NSR Permit GCP-3-2195G, Section III, A, B, C, D, E, F, and H.

4) Ensure that no visible emissions from the facility are observed crossing the perimeter of the restricted area for no more than 5 minutes during any 2 consecutive hours during facility operations.

Monitoring: The permittee shall perform all monitoring required under NSR Permit GCP-3-2195G.

Recordkeeping: The permittee shall maintain records of all standard operating procedures, records of all maintenance and/or replacement of dust control systems, and all records required under NSR Permit GCP-3-2195G, Section IV.B, and including records of actual hours of operation, records of all required monitoring, daily and weekly total asphalt production and the weekly rolling 12 month total production, number of haul truck trips daily including materials delivery and product, frequency of haul road sweeping, and copies of the applicant's proposed maintenance requirements and records demonstrating conformance with said requirements. The permittee shall maintain records of all compliance test results for total suspended particulates (TSP), particulate matter (PM10), nitrogen oxides, carbon monoxide, and records of all opacity/visible emissions observations performed.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement:

1) No new equipment was installed during this monitoring period. Operational and maintenance requirements are contained in internal plant procedures that are followed by plant operation staff.

2) Dust collection and control systems are in place on screens, conveyor belts, and transfer points to control particulate matter emissions.

3) The asphalt plant is operated in accordance with NSR Permit GCP-3-2195G, Section III A,B,C,D,E,F, and H.

4) Both EPA Reference Methods 9 and 22 are used at the plant to determine the extent of visible emissions. Fugitive dust emissions from the plant did not cross the property boundary or exceed the five (5) minute visible emissions limit during any two consecutive hours of operation. EPA Method 9 reports are in ATTACHMENT A607.C and EPA Method 22 reports are in ATTACHMENT A607.G. Please note, the Asphalt Plant did not operate in July, August, and September, so no opacity reading was taken.

Monitoring: Preventive maintenance records are included in ATTACHMENT A607.F.

Recordkeeping: Recordkeeping conditions are met using the following methods: Standard operating procedures are in place and available on site; maintenance and calibrations are performed annually. The maintenance inspection was last completed on December 2, 2020, and calibration completed on July 1, 2020 and August 13, 2020. The plant's operations logs contain the start time, stop time, daily and monthly hours of operation; asphalt production amounts; day when paved road was swept; and the number of truck trips. The rolling 12-month totals for production are calculated on the emissions calculation spreadsheet. The operation logs and rolling 12-month totals are provided in ATTACHMENT A607.E. Please note, the Asphalt Plant did not operate in July, August, and September, so no operation log is provided. Records located at the facility include fuel delivery tickets for fuel oil and asphalt oil, frequency of road sweeping, calibration procedures, and a procedure that outlines required maintenance.

All compliance test results have been provided to NMED and are available on site.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A607 Asphalt Production – Other

G. Asphalt Plant Fugitive Dust

Requirement: Fugitive dust emissions from asphalt processing equipment, including the system used to recycle fabric filter fines, shall exhibit no more than five (5) minutes of visible emissions during any two consecutive hours. This condition does not apply to fugitive dust emissions from other support operations such as storage piles, front end loaders, or materials handling around the asphalt process equipment.

Monitoring: The permittee shall perform a Method 22 test at least once per month on all screens, conveyor drop points, and hoppers during the months the asphalt plant operates. The duration of the test shall be a minimum of ten (10) minutes. If visible emissions are observed for more than two (2) minutes, the Method 22 test shall continue for two (2) hours or until scheduled operation of the plant ends.

Recordkeeping: The permittee shall maintain records of all equipment standard operating procedures, records of all maintenance and/or replacement of dust control systems, results of all visible emissions observations, and all records required under NSR Permit GCP-3-2195G.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement: The asphalt plant did not emit fugitive dust that exceeded five (5) minutes of visible emissions during any two (2) consecutive hours in this reporting period.

Monitoring: EPA Method 22 tests are performed once per month when the plant operates. The EPA Method 22 readings for this monitoring period are provided in ATTACHMENT A607.G. Please note, the Asphalt Plant did not operate in July, August, and September, so no opacity reading was taken. LANL has certified visible emission (opacity) readers on-site who perform monthly ten (10) minute readings using 40 CFR Part 60, Appendix A, Reference Method 22 to determine compliance with the opacity limitation. No visible emissions exhibited an opacity of 20% or greater during this reporting period.

Recordkeeping: The standard operating procedure, maintenance and repair records, and visible emissions observations are maintained at the plant site. All other records required under the NSR permit are also available on site.

Reporting: Emissions and monitoring reports are submitted on a six-month basis, and compliance certification on an annual basis, in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A707 Other – Beryllium Activities

A. Operational Requirements – Beryllium Activities

Source	Operating Requirements	Process Limits	Control Equipment Requirements
Sigma Facility TA-3-66	Beryllium operations will consist of registered metallographic operations, electroplating /chemical milling, and relocated machining, and arc melting/casting sources.	None	Metallographic operations and electroplating /chemical milling operations shall be conducted in aqueous solution or lubricant bath. Emissions from machining and arc melting/casting operations shall be exhausted through a HEPA filtration system prior to entering the atmosphere.
Beryllium Technology Facility TA-3-141	The continuous emission monitor will be maintained in accordance with the Laboratory's quality program.	Beryllium processed by the facility will not exceed 10,000 pounds per calendar year. Beryllium processed by the facility will not exceed 1000 pounds per day.	All processes shall be exhausted through a HEPA filtration system prior to entering the atmosphere. Powder operations, other than closed glovebox operations, and machining operations, other than the processes used in metallographic preparation shall be exhausted through a cartridge filtration system then through the HEPA filtration system. Metallographic preparation activities shall be conducted in lubricating baths or equivalent. (NSR permit 634-M2)
Target Fabrication Facility TA-35-213	Beryllium operations will consist of only beryllium machining and associated cleanup activities.	None	All processes shall be exhausted through a HEPA filtration system prior to entering the atmosphere.
Plutonium Facility TA-55-PF4	Regulated beryllium activities will be ducted through the pollution control equipment and out the north or south stack of PF-4. (NSR Permit 1081-M1-R3, Specific Condition 1.b., partial, revised) The electric furnace	44 pounds of beryllium (20 kg) in any 24 hour period; 1100 pounds/year (500 kg/year) using a rolling total. (NSR Permit 1081-M1-R3, Specific Condition 1.c.)	Weld cutting, weld dressing, metallography, and electric furnace operations shall be controlled with 4 HEPA filters with a control efficiency of 99.95% each. (NSR Permit 1081-M1-R1, Condition 3, partial, revised) The non-accessible filters shall be replaced when the pressure drop across the filter either falls to levels

	shall be enclosed in a glove box, have a maximum operating temperature of 1600 degrees centigrade, and an inside volume space less than 1.1 cubic feet. (NSR Permit 1081-M1-R6, Specific Condition 1.d., partial, revised)		indicating filter breakthrough or increases to levels indicative of excessive loading. (NSR Permit 1081-M1-R1, Condition 3, partial, revised)

B. Emissions Monitoring Requirements – Beryllium Activities

Source	Monitoring Requirements
Sigma Facility TA-3-66	A log shall be maintained during operations, which shows the number of metallographic specimens used in the metallographic operation and the weight or volume of Be samples processed in the electroplating/chemical milling, machining, and arc melting/casting operations.
Beryllium Technology Facility TA-3-141	Facility exhaust stack will be equipped with a continuous emission monitor used to measure beryllium emissions. Cartridge and HEPA filters shall be equipped with differential pressure gauges that measure the differential pressure across the cartridge and HEPA filters while the exhaust fans are in operation. (NSR permit 634-M2)
Target Fabrication Facility TA-35-213	Records of the stack emission test results (see Condition 2 of NSR Permit No. 632) and other data needed to determine total emissions shall be retained at the source and made available for inspection by the Department.
Plutonium Facility TA-55-PF4	The HEPA filtration systems shall be equipped with a differential pressure gauge that measures the differential pressure (inches of water) across the HEPA filters while the exhaust fans are in operation. (NSR Permit 1081-M1-R3, Condition 11) Control efficiency shall be verified by daily HEPA filter pressure drop tests and annual HEPA filter challenge tests of accessible filters. (NSR Permit 1081-M1-R1, Condition 3, partial, revised) The furnace temperature shall be continuously monitored and the flow rate from the glove box containing the furnace shall be measured once during each metal melt operation. (NSR Permit 1081-M1-R6, Condition 11, revised)

C. Recordkeeping Requirements – Beryllium Activities

Source	Recordkeeping Requirements
Sigma Facility TA-3-66	Recordkeeping for this source is specified in Condition A707.B.
Beryllium Technology Facility TA-3-141	Generate and maintain beryllium inventory records to demonstrate compliance with the 10,000 pounds of beryllium per calendar year and the 1000 pounds of beryllium per day processing limit. Record pressure drop across the cartridge and HEPA filters once per day that the exhaust fans are in operation and the facility is occupied. Record control equipment maintenance and repair activities. (NSR permit 634-M2)
Target Fabrication Facility TA-35-213	Recordkeeping for this source is specified in Condition A707.B.
Plutonium Facility TA-55-PF4	Stack emission test results and facility operating parameters including a daily record of the pressure drop measured across each appropriate HEPA plenum filtration stage, when the exhaust fans are operating. (NSR Permit 1081-M1-R3, Condition 9, partial, revised) A copy of the annual HEPA test, a log of the daily pressure drop readings and a control equipment maintenance log shall be kept. This documentation shall be provided upon request. (NSR Permit 1081-M1-R1, Condition 3, partial, revised) A log of the filter replacement shall be kept and shall be made available to the Department personnel upon request. (NSR Permit 1081-M1-R1, Condition 3, partial, revised) The permittee shall keep records of the number and weight of classified parts processed during a 24-hour period and year using a rolling total. Records shall be made available to properly cleared Department personnel upon request. (NSR Permit 1081-M1-R3, Condition 9, partial, revised) The permittee shall for each use of the furnace record the following operating parameters: metal type, theoretical melting point of the metal, metal melt duration once melting is commenced, maximum furnace temperature and glove box flow rate. (NSR Permit 1081-M1-R6, Condition 9, partial, revised) A record of the furnace's internal volume shall be maintained at the facility.

	(NSR Permit 1081-M1-R6, Condition 9, partial, revised)

D. Reporting Requirements – Beryllium Activities

Source	Reporting Requirements
Sigma Facility TA-3-66	The permittee shall submit reports described in Section A109 and in accordance with Section B110.
Beryllium Technology Facility TA-3-141	Anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date. Actual date of initial startup of each new or modified source within fifteen (15) days after the startup date. Provide the date when each new or modified emission source reaches the maximum production rate at which it will operate within fifteen (15) days after that date. Notify the Department within 60 days after each calendar quarter of the facility's compliance status with the permitted emission rate from the continuous monitoring system. Provide any data generated by activities described in the Quality Assurance Project Plan (QAPP) that will assist the Air Quality Bureau's Enforcement Section in determining the reliability of the methodology used for demonstrating compliance with the permitted emission rate within 45 days of such a request. The permittee shall submit reports described in Section A109 and in accordance with Section B110.
Target Fabrication Facility TA-35-213	The permittee shall submit reports described in Section A109 and in accordance with Section B110.
Plutonium Facility TA-55-PF4	Stack emission test results and facility operating parameters will be made available to Department personnel upon request. Reports may be required to be submitted to the Department if inspections of the source indicate noncompliance with this permit or as a means of determining compliance. The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☒ **Yes** **Date report submitted:** August 4, 2020; October 28, 2020 **Tracking Number:** Activity No.: 000856-08042020-01; Activity No.: 000856-10282020-01

☐ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: A707.A Operational Requirements - Beryllium Activities:

TA-3-66 Metallographic operations and electroplating/chemical milling operations are conducted in aqueous solution or lubricant bath. Emissions from machining and arc melt/casting operations are exhausted through a HEPA filtration system prior to entering the atmosphere.

TA-3-141 The continuous emission monitor is maintained in accordance with LANL's quality program. Beryllium

processing records are available on-site for inspection. No process limits were exceeded during this reporting period.

All processes are exhausted through a HEPA filtration system prior to entering the atmosphere. Powder operations, other than closed glovebox operations, and machining operations, other than the processes used in metallographic preparation, are exhausted through a cartridge filtration system and then through the HEPA filtration system. Metallographic preparations are conducted in lubricating baths or equivalent.

TA-35-213 All processes are exhausted through a HEPA filtration system prior to entering the atmosphere. Beryllium operations consist of only beryllium machining and associated cleanup activities.

TA-55-PF4 All beryllium activities are ducted through the facility's pollution control equipment and out the north or south stack of PF-4. Weld cutting, weld dressing, and metallography operations are controlled using four (4) HEPA filters with a control efficiency of 99.95% each. The non-accessible filter is replaced when the pressure differential across the filter indicates breakthrough or excessive loading.

No process limits were exceeded during this reporting period.

The electric furnace did not operate during this reporting period.

A707.B - Emissions Monitoring Requirements - Beryllium Activities:

TA-3-66 Log books are maintained for the number of metallographic specimens used in the metallographic operation and the weight or volume of samples processed in the electroplating/chemical milling, machining, and arc melting/casting operations. The log books are kept on-site and are available for inspection. Data from the log books are included in ATTACHMENT A707.B.a.

TA-3-141 The facility exhaust stack has a built-in sampling system used to continuously sample beryllium emissions. Cartridge and HEPA filters are equipped with differential pressure gauges that measure differential pressure when exhaust fans are operating.

TA-35-213 A copy of stack emission test results as well as other data needed to determine total emissions are retained at the source and are available for inspection. Log books documenting beryllium processing are on-site and are available for inspection. Data from the beryllium processing logs are included in ATTACHMENT A707.B.b.

TA-55-PF4 The HEPA filtration system contains a differential pressure gauge that measures differential pressure across the HEPA filters while the exhaust fans are in operation. The control efficiency is verified by daily HEPA filter pressure drop tests. Annual HEPA filter challenge tests are performed to verify filter control efficiency. The HEPA filter challenge tests are included in ATTACHMENT A707.C.b.

The electric furnace did not operate during this reporting period.

A707.C Recordkeeping Requirements - Beryllium Activities:

TA-3-66 Recordkeeping for this source is specified in Condition A707.B.

TA-3-141 Inventory records are maintained to demonstrate compliance with beryllium process limits. Records of pressure drop across the cartridge and HEPA filters are performed daily when the exhaust fans are in operation and the facility is occupied. Control equipment maintenance and repair activities are recorded. HEPA filter differential pressure readings are included in ATTACHMENT A707.C.a.

TA-35-213 Recordkeeping for this source is specified in Condition A707.B.

TA-55-PF4 A copy of the stack emission test results are retained at the source and available for inspection. HEPA filter challenge tests are performed annually. Daily differential pressure readings are provided in ATTACHMENT A707.C.c. Filter replacement and control equipment maintenance and repair records are kept and available on site for inspection. Process records are available that contain the number and weight of classified parts processed during a 24-hour period and annual rolling total.

The electric furnace did not operate during this reporting period.

A707.D Reporting Requirements - Beryllium Activities:

For all beryllium sources, reports are submitted in accordance with permit conditions A109 and in accordance B110. For more information, see Section A605 in this report.
There were no new or modified emission sources during the reporting period.
TA-3-141 Quarterly beryllium reports, containing continuous monitoring system data from the Beryllium Technology Facility, are also submitted to NMED. Reports during this reporting period were submitted within 60 days following each calendar quarter. The reports were submitted on August 4, 2020 for 2020Q2 (Activity No.: 000856-08042020-01) and October 28, 2020 for 2020Q3 (Activity No.: 000856-10282020-01).

A805 Fuel Sulfur Requirements – External Combustion

A. All Boilers and Heaters (except Units RLUOB-BHW-1 through -4)

Requirement: All boilers and heaters, except Units RLUOB-BHW-1 through -4 and the Power Plant addressed in Section A1300 shall combust only natural gas containing no more than 2 grains of total sulfur per 100 dry standard cubic feet.

Monitoring: None.

Recordkeeping: The permittee shall demonstrate compliance with the natural gas limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, or fuel gas analysis, specifying the allowable limit or less. If fuel gas analysis is used, the analysis shall not be older than one year.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement: A natural gas transportation contract is in place, and states that gas provided to LANL

will be pipeline quality and contain no more than three quarters (3/4) grains of total sulfur per one hundred (100) dry standard cubic feet.

Recordkeeping: A copy of LANL's natural gas transportation contract is maintained on-site.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A805 Fuel Sulfur Requirements – External Combustion

B. Units RLUOB-BHW-1 through -4

Requirement: Units RLUOB-BHW-1 through -4 shall combust either natural gas containing no more than 2.0 grains of total sulfur per 100 dry standard cubic feet or No. 2 fuel oil containing no more than 0.5 wt% total sulfur. (NSR Permit 2195N-R2, Specific Condition 1.c.)

Monitoring: None.

Recordkeeping: The permittee shall demonstrate compliance with the natural gas limit and/or fuel oil limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel analysis, specifying the allowable limit or less. If a fuel analysis is used, the analysis shall not be older than one year. (NSR Permit 2195N-R2, Specific Condition 3.c., revised) Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: A natural gas transportation contract is in place, and states that gas provided to LANL will be pipeline quality and contain no more than three quarters (3/4) grains of total sulfur per one hundred (100) dry standard cubic feet.

Fuel oil is under a purchase contract and only Ultra Low Sulfur Diesel (ULSD) is delivered to the facility.
ULSD contains less than 0.0015 wt% total sulfur.

Recordkeeping: A copy of the transportation contract and purchase contract are maintained on-site. No fuel oil was purchased for the RLUOB boilers during this reporting period.

Reporting: Emissions and monitoring reports are submitted on a six-month basis, and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A806 20.2.61 NMAC Opacity – External Combustion

A. All Boilers and Heaters (except Units RLUOB-BHW-1 through -4)

Requirement: Exhaust emissions from these external combustion sources shall not exceed 20% opacity averaged over a 10-minute period.

Monitoring: Use of natural gas fuel meeting the requirement at Condition A805.A constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.

Recordkeeping: The permittee shall record dates of any opacity measurements and the corresponding opacity readings.

Reporting: The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: LANL has certified visible emission readers on-site who perform observations using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation. No visible emissions were observed during steady state operations during this reporting period.

Monitoring: Use of natural gas for combustion meets the requirement of Condition A805.A.

Recordkeeping: A standard form is used for all opacity measurements. The form includes the date of measurement and opacity observed. Opacity readings were not required during this reporting period. See ATTACHMENT A806.A.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A806 20.2.61 NMAC Opacity – External Combustion

B. Units RLUOB-BHW-1 through -4: Natural Gas-Fired

Requirement: Exhaust emissions from these external combustion sources shall not exceed 20% opacity averaged over a 10-minute period.

Monitoring: Use of natural gas fuel meeting the requirement at Condition A805.A constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.

Recordkeeping: The permittee shall record dates of any opacity measurements and the corresponding opacity readings.

Reporting: The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: LANL has certified visible emission readers on-site who perform observations using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation. No visible emissions were observed during steady state operations during this reporting period.

Monitoring: The natural gas used by these units meets the requirement of Condition A805.A.

Recordkeeping: A standard form is used for all opacity measurements. The form includes the date of measurement and opacity observed. No opacity readings were required during this reporting period.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A806 20.2.61 NMAC Opacity – External Combustion

C. Units RLUOB-BHW-1 through -4: Fuel Oil-Fired

Requirement: Exhaust emissions from these external combustion sources shall not exceed 20% opacity averaged over a 10-minute period.

Monitoring: The permittee shall perform a least one (1) opacity observation each day that fuel oil is used to fire any of Units RLUOB-BHW-1 through -4. Opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. (NSR Permit 2195N-R2, Specific Condition 3.d., revised)

Recordkeeping: The permittee shall record dates of any opacity measurements and the corresponding opacity readings. (NSR Permit 2195N-R2, Specific Condition 4.b., revised)

Reporting: The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement: LANL has certified visible emission readers on-site who perform observations using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limits.

Monitoring: No fuel oil was used in these units during this reporting period. No opacity measurements were taken during this reporting period.

Recordkeeping: The opacity form includes the date of measurement and opacity observed. No fuel oil was burned during this reporting period, and therefore, no opacity readings were taken and no records were generated. See ATTACHMENT A806.C. for details.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A807 Other – External Combustion

A. Natural Gas Fuel Usage (Sources listed in Table 800.A except RLUOB-BHW-1 through -4)

Requirement: The combined natural gas fuel usage shall be limited to 870 MMscf/y. This limitation shall apply to all boilers and heaters listed in Table 800.A except Units RLUOB-BHW-1 through -4, but including all other boilers and heaters at the Facility that qualify as Title V Insignificant Activities.

Monitoring: The permittee shall monitor the monthly total volumetric flow of natural gas to Units TA-55-6-BHW-1 and TA-55-6-BHW-2 through use of a totalizing flow meter.

Recordkeeping: The permittee shall:

1) Calculate the monthly rolling 12-month total natural gas fuel usage for the emission units listed in Table 800.A except Units RLUOB-BHW-1 through -4.

2) Calculate the actual emissions rate for the emission units listed in Table 800.A except Units RLUOB-BHW-1 through -4. The calculation shall be based on the actual fuel usage of Units equipped with individual flow meters and the Facility-Wide metered or estimated natural gas usage.

3) Calculate the semiannual and annual total emissions rate (tons/year) for this source category and compare them to the emission limits in Table 802.A. The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: For units listed under this permit condition, a 12-month rolling total of natural gas used is calculated and recorded each month. The rolling total is compared to the fuel use limit each month. Natural gas usage limits were not exceeded during this reporting period. Natural gas usage and rolling totals are provided in ATTACHMENT A807.A.

Monitoring: Units TA-55-6-BHW-1 and TA-55-6-BHW-2 have volumetric flow meters in place to monitor monthly natural gas use. Fuel use information for the TA-55 units listed in this condition is included in ATTACHMENT A807.A.

Recordkeeping:

1) Monthly rolling 12-month total natural gas fuel use is calculated for the permitted units listed in Table 800.A.

2) The actual emission rate is calculated for the units listed in Table 800.A. This calculation uses actual fuel use data from individual unit flow meters and facility wide metered natural gas.

3) The emissions rate is calculated every six months and annually for this source category, and compared to the permit limits. Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A807 Other – External Combustion

B. Natural Gas and Fuel Oil Usage (Units RLUOB-BHW-1 through -4)

Requirement: The permittee shall comply with the emission limits in Table 802.B for each fuel type.

Monitoring: The permittee shall:

1) Monitor the monthly total volumetric flow of natural gas to Units RLUOB-BHW-1 through -4 using a totalizing flow meter. (NSR Permit 2195N-R2, Specific Condition 3.a., partial, revised)

2) Monitor the daily fuel oil consumption during which any of the 4 RLUOB boilers are fired with this fuel type. (NSR Permit 2195N-R2, Specific Condition 3.a, partial, revised)

3) Monitor the hours of operation for each boiler when fired on fuel oil and during non-emergency maintenance and readiness testing.

Recordkeeping: The permittee shall:

1) Calculate and record the annual fuel oil usage for Units RLUOB-BHW-1 through -4 as a daily rolling 365-day total.

2) Calculate and record the semiannual and calendar year total emissions rate (tons/year) for each fuel type and for the combination of both fuels compare to the emission limits in Table 802.B.

3) Record the annual hours of operation of each boiler when fired on fuel oil during non-emergency maintenance and readiness testing and compare to the limitation at Condition A804.B.

4) The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The initial compliance test was used to demonstrate compliance with the emission limits for natural gas use. Vendor data are also used to determine compliance with emission limits for fuel oil and natural gas. All concentrations and emission rates were below permitted limits in Table 802.B.

Monitoring:

1) A totalizing flow meter is in place and measures natural gas used by the RLUOB boilers. The natural gas fuel use data is provided in ATTACHMENT A807.A.

2) Daily fuel oil consumption is monitored by facility personnel using meter readings from each boiler. No fuel oil was burned during this reporting period. See ATTACHMENT A807.B for details.

3) The hours of operation of each boiler are recorded by facility personnel each time a boiler is run on fuel oil. The purpose of running the boilers is also recorded.

Recordkeeping:

1) Annual fuel oil usage is calculated and recorded on a daily rolling 365-day total. No fuel oil was burned during this reporting period.

2) The emissions rate is calculated on a six-month and annual basis for each fuel type and for both fuels combined. Emissions are compared to permit limits and data are provided to NMED in accordance with permit condition A109.

3) Annual hours of operation for each boiler are recorded when fired on fuel oil during non-emergency use.
The total hours are compared to the hour limit in permit condition A804.B. No fuel oil was used during this certification period and no records were generated.
4) Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A807 Other – External Combustion

C. 40 CFR 60, Subpart Dc (Units TA-55-6-BHW-1, TA-55-6-BHW-2, RLUOB-BHW-1 through -3)

Requirement: The units are subject to 40 CFR 60, Subpart Dc and the permittee shall comply with the following applicable requirements:

1. When combusting oil in the affected boilers, meet the 0.5 weight percent fuel sulfur standard in 40 CFR 60.42c(d). This standard applies at all times per §60.42c(i). The permittee shall demonstrate compliance per the requirements of §60.42c(h).

Monitoring: The permittee shall comply with the fuel supplier certification requirements in 40 CFR 60.46c(e). The permittee shall monitor fuel usage to meet the recordkeeping requirements of 40 CFR 60.48c(g).

Recordkeeping: The permittee shall comply with the recordkeeping requirements of 40 CFR 60.48c(c), (f) and (g) 40 CFR 60.7(b) and (f) and maintain the records according to §60.48c(i) except when records are required to be maintained for a longer time period in accordance with Section B109.

Reporting: The permittee shall comply with the initial notification requirements of 40 CFR 60.48c(a) and 40 CFR 60.7(a)(1), (a)(4) and (g) and the periodic reporting requirements of 40 CFR 60.48c(b), (d), (e)(11) and (f). Reports shall be submitted according to §60.48c(j). The reporting period may be modified to coincide with the Semi-Annual reporting period in Section A109. The permittee shall report in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: Units TA-55-6-BHW-1, TA-55-6-BHW-2, RLUOB-BHW-1, RLUOB-BHW-2, and RLUOB-BHW-3 meet the requirements of 40 CFR Part 60, Subparts A and Dc. Notification requirements were met through source startup notifications and initial permit applications.

Monitoring: The amount of fuel oil combusted is monitored and recorded on a monthly basis. Fuel sulfur requirements are tracked and addressed in a fuel oil purchase contract, delivery receipts, and the natural gas transportation contract. No fuel oil was purchased during this reporting period.

Recordkeeping: Fuel sulfur content information and fuel use records are maintained on site for at least five (5) years as required by the operating permit.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on

an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A807 Other – External Combustion

D. 40 CFR 60, Subpart Dc (New Unit RLUOB-BHW-4)

Requirement: This unit is subject to 40 CFR 60, Subpart Dc and the permittee shall comply with the following applicable requirements:

1. When combusting oil in the affected boilers, meet the 0.5 weight percent fuel sulfur standard in 40 CFR 60.42c(d), and (g). This standard applies at all times per §60.42c(i). The permittee shall demonstrate compliance per the requirements of §60.42c(h).
2. For new boiler RLUOB-BHW-4, the permittee shall demonstrate initial compliance with the SO2 standard through a certification from the fuel supplier per 40 CFR 60.44c(h).

Monitoring: The permittee shall comply with the fuel supplier certification requirements in 40 CFR 60.46c(e). The permittee shall monitor fuel usage to meet the recordkeeping requirements of 40 CFR 60.48c(g).

Recordkeeping: The permittee shall comply with the recordkeeping requirements of 40 CFR 60.48c(c), (f) and (g) and 40 CFR 60.7(b) and (f) and maintain the records according to §60.48c(i) except when records are required to be maintained for a longer time period in accordance with Section B109.

Reporting: The permittee shall comply with the initial notification requirements of 40 CFR 60.48c(a) and 40 CFR 60.7(a)(1), (a)(3) and (g) and the periodic reporting requirements of 40 CFR 60.48c(b), (d), (e)(11) and (f). Reports shall be submitted according to §60.48c(j). The reporting period may be modified to coincide with the Semi-Annual reporting period in Section A109.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: LANL purchases only fuel oil with ultra low sulfur content; fuel oil was not used during this reporting period. See ATTACHMENT 807.C.& D. for details.

RLUOB-BHW-4 has not been installed. When installed, the requirement, monitoring, recordkeeping, and reporting will be conducted in accordance with the requirements listed in the current permit.

A807 Other – External Combustion

E. Initial Compliance Testing (Units RLUOB-BHW-4)

Requirement: Initial compliance tests are required for boiler, Unit RLUOB-BHW-4. The tests shall be conducted for NOx and CO while burning natural gas fuel only. This condition applies only if boiler Unit RLUOB-BHW-4 is not an identical make and model to boiler units RLUOB-BHW-1 through -3. (NSR Permit 2195N-R2, Specific Condition 6.a., revised)

Monitoring: The permittee shall conduct EPA Method tests for CO and NOx within six (6) months of any new boiler start up. Method 19 may be used for determining stack flow rates. This requirement supersedes Condition B111.A(2). Initial compliance testing shall be conducted in accordance with Section B111.

Recordkeeping: The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110 and Section B111.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: Unit RLUOB-BHW-4 has not been installed. When installed, the requirement, monitoring, recordkeeping, and reporting will be conducted in accordance with the requirements listed in the current permit. See ATTACHMENT A807.E. for details.

A807 Other – External Combustion

F. Operational Inspection (Sources listed in Table 800.A)

Requirement: Compliance with the allowable emission limits in Table 802.A shall be demonstrated by performing periodic inspections to ensure proper operations.

Monitoring: The permittee shall conduct annual operational inspections to determine that the boilers are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the boiler manufacturer, and indications based on operational experience with these units.

Recordkeeping: The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the boilers into compliance. The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

Within ninety (90) days of permit issuance, the permittee shall submit for Department approval a procedure which the permittee will use to carry out the operational inspections. The permittee may at any time submit revisions for Department approval.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement/Monitoring: LANL conducts annual operational inspections and preventive maintenance on the permitted boilers listed in the current permit to ensure proper operations.

Recordkeeping: The records of operational inspections and preventive maintenance are maintained in the compliance folders and e-files stored on air quality servers. Copies of annual inspections for 2020 are included in ATTACHMENT A807.F.a.

Reporting: LANL submitted two procedures that are used to carry out the operational inspections: "Preventive Maintenance Instruction (PMI) 403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance" for boilers at TA-53 and TA-55 and "Maintenance Procedure UI-PROC-76-28-010: TA-09/16 Steam Plants – Annual Boiler Waterside/Fireside Checklist" for boilers located at TA-16. The procedures were submitted to NMED AQB on May 14, 2015 (SBR20150006) within 90 days after permit P100-R2 issuance. Revisions were last made to PMI 403-A.006 on October 24, 2018, and to Maintenance Procedure UI-PROC-76-28-010 on April 10, 2019. No revisions were made to these procedures during this reporting period. See ATTACHMENT A807.F.b.

A907 Other – Chemical Usage

A. Emission calculations (Unit LANL-FW-CHEM)

Requirement: The permittee shall comply with the facility-wide VOC and HAP emission limits at Table 106.B.

Monitoring: The permittee shall monitor facility-wide chemical purchasing and site location using an electronic chemical tracking system. The quantity of chemicals that are vented to the atmosphere shall be estimated on a semi-annual basis, and categorized as VOC, HAP, or a combination of these categories.

Recordkeeping: The permittee shall record the quantity of total VOC emitted and the quantity of each individual and total HAPs on a semi-annual basis. These records shall be maintained in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110. With respect to individual HAPs, reports shall include any HAP emitted in a quantity greater than 0.5 tons per year.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☒ **Yes** **Date report submitted:** September 11, 2020 **Tracking Number:** SBR20200006

☐ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: Facility-wide emissions did not exceed the VOC or HAP emission limits in Table 106.B.

Monitoring/Recordkeeping: Facility-wide chemical purchases are monitored using ChemDB, an electronic chemical tracking system. The chemical purchase information is used to calculate emissions. Chemical emission information is submitted to NMED every six months in accordance with permit condition A109.B. The semi-annual emissions report for January 1 - June 30, 2020 was submitted to NMED on September 11, 2020 (SBR20200006), within 90 days of the end of the reporting period. Records of chemical purchases for this monitoring period are provided in ATTACHMENT A907.A.

Reporting: Facility-wide VOC and HAPs emissions are calculated, recorded, and reported on a six-month basis in accordance with permit conditions A109.B, B109, and B110. The semi-annual emissions report includes individual HAPs emitted in a quantity greater than 0.5 tons per year.

A907 Other – Chemical Usage

B. Emission calculations (Unit RLUOB-CHEM)

Requirement: The permittee shall comply with the source-specific VOC emission limit at Table 902.A and the facility-wide VOC and HAP emission limits at Table 106.B. (NSR Permit 2195N-R2, Specific Condition 2.a., revised)

Monitoring: The permittee shall monitor chemical purchasing for the RLUOB-CHEM facility using an electronic chemical tracking system. The quantity of chemicals that are vented to the atmosphere shall be estimated on a monthly basis, and categorized as VOC, HAP, TAP, or a combination of these categories. (NSR Permit 2195N-R2, Specific Condition 4.c., revised)

Recordkeeping: The permittee shall record the quantity of total VOC and TAP, each individual HAP,and the total HAPs emitted on a monthly rolling, 12-month total basis. These records shall be maintained in accordance with Section B109. (NSR Permit 2195N-R2, Specific Condition 4.c., revised)

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110. With respect to individual HAPs, reports shall include any HAP emitted in a quantity greater than 0.5 tons per year.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: Source specific VOC and facility-wide VOC and HAP emissions are in compliance with emission limits set in Tables 902.A and 106.B in NSR Permit 2195N-R2.

Monitoring: Chemical purchasing for the RLUOB-CHEM facility are monitored using ChemDB, an electronic chemical tracking system. Records of chemical purchases for the reporting period are provided in ATTACHMENT A907.B.a. The quantities of chemicals that are vented to the atmosphere are estimated on a monthly basis and are categorized as VOC, HAP, TAP, or a combination of these categories. The quantities of chemicals for this reporting period are provided in ATTACHMENT A907.B.b.

Recordkeeping: The quantity of total VOC and TAP, individual HAP, and the total HAPs emitted are recorded on a monthly rolling, 12–month total basis. Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. The semi-annual emission report includes individual HAPs emitted in a quantity greater than 0.5 tons per year. For more information, see comments in Section A605 of this report.

A1007 Other – Degreasers

A. Operational Requirements (Degreasers)

Requirement: The permittee shall comply with the applicable requirements according to 40 CFR 63, Subpart T, including, but not limited to:

1) Ensure the degreaser is closed with a tight fitting cover whenever not in use, and
2) Maintain a freeboard ratio of 0.75 or greater, and
3) Collect and store all waste solvent and wipe rags in closed containers, and
4) Perform flushing within the freeboard area only, and
5) Allow cleaned parts to drip for 15 seconds or until dripping stops, and
6) Do not exceed the fill line on the solvent level, and
7) Wipe up spills immediately, and
8) Do not create observable splashing with agitation device, and
9) Ensure that the degreaser is not exposed to drafts greater than 40 meters/min, and
10) Do not clean sponges, fabric, wood, or paper.

Monitoring: The permittee shall monitor and record the amount of solvent added to the degreaser.

Recordkeeping: The permittee shall:

1) Calculate the actual emissions rate (pounds/month) of VOC and HAPs based on the quantity of solvent lost to evaporation on a monthly basis.
2) Calculate the semi-annual emissions rate (tons/year) for this source category and add to the facility-wide emission rates in Table 106.B.
3) Maintain records of the degreaser solvent content and quantity added and work practice checklists.
4) The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: An exemption notice was submitted on April 9, 2018 and was approved by NMED on May 8, 2018 for a non-halogenated solvent to be used in the degreaser. LANL intends to keep the flexibility to use the halogenated solvent in the future and therefore is continuing to comply with all permit requirements, regardless of which solvent is being used.

Requirement:

1) The degreaser is kept closed with a tight fitting cover when it is not being used.

2) A freeboard ratio of 0.75 or greater is maintained.

3) All waste solvent and solvent contaminated wipe rags are collected and stored in closed containers.

4) Flushing operations are performed only within the freeboard area.

5) Cleaned parts are allowed to drip for 15 seconds or until dripping stops.

6) The fill line has not been exceeded.

7) Spills are wiped up immediately.

8) Administrative controls are in place to prevent observable splashing with an agitation device.

9) The degreaser is located in a glove box with a set ventilation flow rate. Exhaust flows do not exceed 40 meters/min.

10) Sponges, fabric, wood, or paper are not cleaned in the degreaser.

Monitoring and Recordkeeping: A Degreaser Recordkeeping database is used to track the amount of degreaser solvent added, removed, and lost. This system is used to calculate emissions. The "Degreaser Solvent Usage" report for this period is provided in ATTACHMENT A1007.A.a.

1) The actual emission rate (pounds/month) of VOC and HAPs is automatically calculated by the database when data is entered on a monthly basis.

2) The semi-annual emissions (tons/year) are also calculated by the database. These emissions are included in the facility-wide totals.

3) Checklists for work practice standards have been completed for this reporting period. Records of solvent content and quantity added are maintained on site. A copy of the work practice checklists are provided in ATTACHMENT A1007.A.b.

4) Records for this source category are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1104 Operational Limitations – Internal Combustion

A. Hours of Operation and Emission Limits for Unit TA-33-G-1P

Requirements:

1) Unit TA-33-G-1P is limited to eight (8) hours of daily operation at full capacity. Operation shall occur between the hours of 7:00 AM and 5:00 PM. (NSR Permit 2195F-R4, Condition A1104.A)

2) Unit TA-33-G-1P is limited to the emissions limits stated in Table 1102.A. (NSR Permit 2195F-R4, Condition A1104.A)

Monitoring: The permittee shall monitor the time(s) of operation each day, and the daily and monthly rolling 12-month total hours of operation for Unit TA-33-G-1P using a non-resettable hour meter. Hours that do not represent hours the unit is operated at the TA-33 site may be monitored separately for subsequent subtraction from the daily and monthly rolling 12-month totals

Recordkeeping: The permittee shall maintain the following records and in accordance with Section B109:

1) The permittee shall keep records of the time(s) of operation each day, and the daily, monthly, and the monthly rolling 12-month total hours of operation of the genset listed above, as indicated on the non-resettable hour meter. The permittee may record and subtract hours of operation that do not represent operating hours at the TA-33 site.

2) The permittee shall calculate the annual emissions of all criteria and hazardous air pollutants from Unit TA-33-G-1P. The permittee may subtract emissions that are not the result of operations at TA-33.

Reporting: The permittee shall submit reports in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: Unit TA-33-G-1P operated for 301.7 hours of emergency use and 1.6 hours of maintenance and readiness testing, for a total of 303.3 hours during this reporting period. Emissions are lower than the limits stated in Table 1102.A. in NSR permit 2195F-R4.

Monitoring: The times of operations are monitored and the generator is equipped with a non-resettable hour meter. The purpose of equipment use at TA-33 and elsewhere are identified in the log sheet provided in ATTACHMENT A1104.A.

Recordkeeping: A log book is located in the trailer that contains the unit. The log book includes hours of operation recorded daily when the equipment operates. The monthly rolling 12-month total hours of operation are calculated in a spreadsheet. Operations at areas outside TA-33 are recorded.
The annual emissions of criteria and HAPs are calculated based on the hours of operation.

Reporting: Reports are submitted as required by permit conditions in accordance with Section B110.

A1104 Operational Limitations – Internal Combustion

B. Hours of Operation and Emission Limits for Units TA-33-G-2 through -4

Requirements:

1) Units TA-33-G-2 through -4 are authorized to operate 500 hours per generator per calendar year. (NSR Permit 2195P, Specific Condition 1.b.)

2) Units TA-33-G-2 through -4 shall each be certified to be in compliance with applicable non-road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 1.c.)

Monitoring: The permittee shall monitor the total hours of operation for each genset, Units TA-33-G-2 through -4, using a non-resettable hour meter.

Recordkeeping: The permittee shall:

1) Record the total hours operation of the gensets listed above, as indicated on the non-resettable hour meter. (NSR Permit 2195P, Specific Condition 4.a., revised)

2) Calculate and record the semi-annual emissions of criteria and hazardous air pollutants from each genset, Units TA-33-G-2 through -4.

3) Maintain a copy of the engine certification to the applicable non road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 4.c.)

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement/Monitoring: The operating hour readings are collected twice a year to verify the hour limit is not approached. The hour limits for these units were not exceeded during this reporting period. Hours of generator operation are provided in ATTACHMENT A1104.B.
The hour meters on these units are non-resettable.

Recordkeeping:

1) Equipment operating hours are recorded.

2) The emissions of regulated pollutants from Units TA-33-G-2, TA-33-G-3 and TA-33-G-4 are calculated and recorded on a six-month basis.

3) Certificates of compliance with applicable non-road emission standards are maintained on-site.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1105 Fuel Sulfur Requirements – Internal Combustion

A. Fuel Sulfur Requirement for Unit TA-33-G-1P

Requirement: Unit TA-33-G-1P while in use at TA-33 shall combust only diesel fuel containing no more than 500 ppmw total sulfur.

Monitoring: None.

Recordkeeping: The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: Only Ultra Low Sulfur Diesel (ULSD) is used at the facility. A purchase contract is in place to only purchase ULSD, which is less than 15 ppm sulfur.

Recordkeeping: A copy of the purchase contract is available on-site.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1106 20.2.61 NMAC Opacity – Internal Combustion

A. CI-RICE - TA-33-G-1P, TA-33-G-2, TA-33-G-3, TA-33-G-4, RLUOB-GEN-1, RLUOB-GEN-2, RLUOB-GEN-3, TA-48-GEN-1, TA-55-GEN-1 TA-55-GEN-2 and TA-55-GEN-3

Requirement: Visible emissions from the stacks of the above listed sources shall not equal or exceed an opacity of 20 percent.

Monitoring: During steady state operation, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall be conducted on a quarterly basis per calendar year as qualified by the Section B108.D monitoring provisions. This requirement excludes Insignificant and Trivial Activities.

Recordkeeping: The permittee shall maintain records of all Method 9 observations, and in accordance with Section B109.

Reporting: The permittee shall report date, time, and results of all Method 9 observations. The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: No visible emissions were observed to exceed 20% opacity during this reporting period.

Monitoring: Opacity measurements were not required for generators in this reporting period. Section B108.D(2) of the permit allows for reduced frequency of opacity monitoring if the unit operates 25% (547.5 hours in a quarter) or less of a monitoring period (calendar quarter). After two successive periods without monitoring, monitoring is required during the next period, unless the unit has operated less than 10% (219 hours in a quarter) of the monitoring period. If the unit runs less than 10%, that period is not considered as one of the two successive periods. No applicable CI-RICE units operated more than 25% for two successive monitoring periods during this reporting period, therefore no monitoring was required. See ATTACHMENT A1106.A.

Recordkeeping: Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1107 Other – Internal Combustion

A. 40 CFR 60, Subpart IIII (Emergency Generators Units RLUOB-GEN-1 through -3)

Requirement: The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(a), §60.4206 and §60.4207(b) and Table 1102.B. In addition the permittee shall follow the compliance requirements stated in §60.4211(a, b, and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.

Monitoring: None

Recordkeeping: The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The manufacturer's emissions certifications as required by §60.4205(a) are available on site.
Diesel sulfur requirements of 15 ppm are met by the LANL fuel oil contract specifying purchasing ULSD.
§60.4211 (a) (b) and (f) - Manufacturer's certifications for nonroad engines are on-site; non-emergency maintenance checks and readiness testing of such units is limited to 100 hours per year per §60.4211(f)(3).

Recordkeeping: Hours of non-emergency and emergency operation are recorded at the facility during generator operation. The units subject to this condition operated less than 100 hours to date on non-emergency maintenance and readiness checks in accordance with condition §60.4211(f)(3).

Reporting: Hours of operations are reported in accordance with Section B110. See ATTACHMENT A1107.A. for operating records.

A1107 Other – Internal Combustion

B. 40 CFR 60, Subpart IIII (Emergency Generators Unit TA-48-GEN-1, TA-55-GEN-1 TA-55-GEN-2 and TA-55-GEN-3)

Requirement: The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(b), §60.4202(a)(2), §60.4206 and §60.4207(b) and Table 1102.B. In addition, the permittee shall follow the compliance requirements stated in §60.4211(a, c and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.

Monitoring: None

Recordkeeping: The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The manufacturer's emissions certifications as required by §60.4205(b) are available on site.

Diesel sulfur requirements of 15 ppm are met by the LANL fuel oil contract specifying purchasing ULSD.

§60.4211 (a) (c) and (f) - Manufacturer's certifications for non-road engine are on-site to demonstrate compliance with standards; non-emergency maintenance checks and readiness testing of such units are limited to 100 hours per year per §60.4211(f)(3).

Recordkeeping: Hours of non-emergency and emergency operation are recorded at the facility during generator operation. The units subject to this condition operated less than 100 hours to date on non-emergency maintenance and readiness checks.

Reporting: Hours of operations are reported in accordance with Section B110. See ATTACHMENT A1107.B.

A1204 Operational Limitations – Data Disintegrator

A. Operational Throughput Limitation (Unit Data Disintegrator)

Requirement: The Unit Data Disintegrator is limited processing no more than 25,000 boxes or 565 tons per year media. To avoid Compliance Assurance Monitoring (CAM) requirements under 40 CFR 64, the Data Disintegrator shall limit uncontrolled potential PM emissions by limiting media processing no more than 25,000 boxes or 565 tons per year.

Monitoring: The permittee shall perform the monitoring required in Condition A1207.A.

Recordkeeping: The permittee shall perform the recordkeeping required in Condition A1207.A.

Reporting: The permittee shall perform the reporting required in Condition A1207.A.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement: A log is kept to ensure that no more than 25,000 boxes or 565 tons per year of media are processed.

Monitoring, recordkeeping and reporting are discussed in Condition A1207.A.

A1207 Other – Data Disintegrator

A. Emission calculations (Data Disintegrator)

Requirement: The permittee shall calculate Data Disintegrator emissions based on the records of the number of boxes of media that are destroyed.

Monitoring: The permittee shall monitor the quantity of media destroyed on a monthly basis. The total weight shall be based on a previously determined average box weight. This average weight determination shall be maintained as part of the records for this facility.

Recordkeeping: The permittee shall calculate the actual emissions rate (tons per reporting period) for the emission units listed in Table 1200.A on a semi-annual basis. The emission rate in tons per year shall be calculated by summing the emissions from the previous reporting period with the current period. Records shall be maintained in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement: A log is kept to record the number of boxes of media destroyed monthly and is used to calculate emissions on a six-month basis.

Monitoring: The number of boxes destroyed is provided in ATTACHMENT A1207.A. The average box weight has been determined and is maintained as part of the facility records.

Recordkeeping: The actual emissions rate is calculated for the emission unit on a six-month basis and is included in the semi-annual emissions report. These records are maintained on-site. The emission rate in tons per year is calculated by summing the emissions from the previous reporting period with the current period. The emissions are compared to the allowable emissions for the unit. Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1207 Other – Data Disintegrator

B. Cyclone/Cloth Tube Filters (Data Disintegrator)

Requirement: The permittee shall perform regular maintenance and repair on the cyclone and cloth tube filter(s) per manufacturer's recommendations. (NSR Permit 2195H, Specific Condition 1.d.)

Monitoring: N/A

Recordkeeping: The permittee shall maintain adequate records on site to demonstrate compliance with manufacturer's recommended repair and maintenance schedules for the cyclone and the cloth tube filter(s). (NSR Permit 2195H, Specific Condition 4.a.) Records shall be maintained in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement: Preventive maintenance and repair are performed on the data disintegrator cyclone and cloth tube filter(s) following manufacturer's recommendations. Preventative maintenance was performed in September of 2020.

Recordkeeping: Records of maintenance performed on the cyclone and cloth tube filter(s) are provided in ATTACHMENT A1207.B. Manufacturer recommended repair and maintenance information are available on site. Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1207 Other – Data Disintegrator

C. Compliance Testing (Data Disintegrator)

Requirement: If upon notification by the Department, compliance testing is required, it shall be conducted in accordance with EPA Reference Methods 1 through 4, Method 5 for TSP, and conducted in accordance with 450 CFR 60, Appendix A. For combined TSP and PM10, testing shall be in accordance with 40 CFR 51, Appendix M, Method 201. Alternative test method(s) may be used if the Department approves the change. (NSR Permit 2195H, Specific Condition 6.b., revised)

Monitoring: N/A

Recordkeeping: The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: No compliance test was required or performed during this reporting period.

Recordkeeping: Records are maintained in accordance with Section B110. No tests were conducted and no records were generated during this reporting period.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1305 Fuel Sulfur Requirements – TA-3 Power Plant

A. Boilers (Units TA-3-22-1 through -3)

Requirement: External combustion sources at the TA-3 Power Plant shall combust only natural gas containing no more than 2 gr/100 scf total sulfur or No. 2 fuel oil containing no more than 0.05 wt% total sulfur. (NSR Permit 2195B-M2, Specific Condition A110.A)

Monitoring: N/A

Recordkeeping: The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The natural gas transportation contract states that gas provided to LANL will be pipeline quality with total sulfur content of no more than three quarters (3/4) grains of total sulfur/100 dscf.

Recordkeeping: Fuel oil is under a purchase contract and only Ultra Low Sulfur Diesel (ULSD) is delivered to the facility. ULSD contains less than 0.0015 wt% total sulfur. A copy of the transportation contract and purchase contract are kept on site. No fuel oil was purchased for the TA-3 power plant during this reporting period.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1305 Fuel Sulfur Requirements – TA-3 Power Plant

B. Combustion Turbine (Unit TA-3-22-CT-1)

Requirement: The combustion turbine at the TA-3 Power Plant shall combust only natural gas containing no greater than 2 gr/100 scf total sulfur. (NSR Permit 2195B-M2, Specific Condition A110.B)

Monitoring: N/A

Recordkeeping: The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. (NSR Permit 2195B-M2, Specific Condition A110.B and 40 CFR 60.334(h))

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The natural gas transportation contract states that gas provided to LANL will be pipeline quality with total sulfur content of no more than three quarters (3/4) grains of total sulfur/100 dscf.

Recordkeeping: LANL's natural gas transportation contract is kept on-site.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1306 20.2.61 NMAC Opacity – TA-3 Power Plant

A. Sources Combusting Natural Gas

Requirement: All combustion units shall not exceed 20% opacity. (NSR Permit 2195B-M2, Specific Condition A111.A)

Monitoring: Use of natural gas fuel meeting the requirement at Condition A1305.A or B constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.

Recordkeeping: The permittee shall record dates of any opacity measures and the corresponding opacity readings.

Reporting: The permittee shall report dates of any opacity measures and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement: LANL has certified opacity readers on-site who perform opacity readings using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation.

Monitoring: Natural gas fuel meets the requirement specified in Condition A1305.A and B. Use of natural gas fuel constitutes compliance with the 20% opacity limit. No visible emissions were observed during steady state operation during this reporting period. See ATTACHMENT A1306.A. for details.

Recordkeeping: A standard form is used for all opacity measurements. The form includes the date of measurement and opacity observed. No opacity readings were required during this reporting period.

Reporting: A standard form is used for all opacity measurements. The form includes the date and time of the Method 9 observation and opacity observed. Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1306 20.2.61 NMAC Opacity – TA-3 Power Plant

B. Boilers Combusting No. 2 Fuel Oil

Requirement: All combustion units shall not exceed 20% opacity. (NSR Permit 2195B-M2, Specific Condition A111.B)

Monitoring: During steady state operation, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall be conducted on a quarterly basis per calendar year whenever the boiler(s) are operational during the monitoring period. This requirement is subject to the monitoring provisions of Condition B108.D.

Recordkeeping: The permittee shall maintain records of all Method 9 observations, and in accordance with Section B109.

Reporting: The permittee shall report date, time, and results of all Method 9 observations. The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: Certified opacity readers are located on-site who perform opacity readings using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation. Fuel oil was not used during this reporting period.

Monitoring: Opacity is read at least once per quarter when boilers are combusting fuel oil and when required by monitoring provisions in condition B108.D. Opacity readings are measured over a 10-minute period and in accordance with 40 CFR 60, Appendix A, Method 9. A standard form is used for all opacity measurements. The form includes the date of measurement and opacity observed. Fuel oil was not used during this reporting period and therefore no Method 9 opacity measurements were conducted. See ATTACHMENT A1306.B.

Recordkeeping: Records are maintained in accordance with Section B109.

Reporting: A standard form is used for all opacity measurements. The form includes the date and time of the Method 9 observation and opacity observed. Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1307 Other – TA-3 Power Plant

A. Emission calculations (TA-3 Power Plant)

Requirement: The permittee shall comply with the hourly and annual emission limits at Table1302.A. and Conditions A1302.B, C, and D for the combustion turbine and boilers. The boiler annual emission limit shall be expressed as the combined emissions from all 3 boilers. (NSR Permit 2195B-M2, Specific Condition A801.A)

Monitoring: The permittee shall perform the following calculations on a monthly basis:

1) Calculate the average hourly emissions rates (pph) for each emissions unit based on the monthly total fuel consumption and monthly actual hours of operation.

2) Calculate the actual annual emissions rates (tpy) for all emissions units based on the monthly rolling 12-month total fuel consumption and the monthly rolling 12-month total hours of operation.

3) All NOx emission rates for the boilers shall also be calculated in terms of lb/MMBtu heat input.

(NSR Permit 2195B-M2, Specific Condition A801.A)

Recordkeeping: The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement: All emissions calculations required by this section are performed for the emission units listed. The emission units did not exceed the hourly or annual emission limits.

Monitoring: Emissions spreadsheets are in place that calculate all required emissions and are used for monitoring and reporting purposes. See ATTACHMENT A1307.A for details.

1) The average hourly emission rates are included in the spreadsheet.

2) The actual annual emission rates are included in the spreadsheet.

3) The emission rates are based on the emission factor for NOx (lbs/MMscf), which is 58 lbs/MMscf, this factor is converted to lbs/MMBtu by dividing by the high heat value of natural gas (the number of Btu in a scf). As the HHV of natural gas ranges in value, the emission range was calculated using the low and high values at LANL between 2011 and 2020, the lowest was 1006.6 Btu/scf and the highest was 1079.3 Btu/scf, therefore the NOx emission rate will range from 0.0537 to 0.0576 lbs/MMBtu.

Recordkeeping: Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1307 Other – TA-3 Power Plant

B. Fuel Usage (Boilers, Units TA-3-22-1 through -3)

Requirement: Combined boiler operation shall not consume more than 1000 MMscf of natural gas and no more than 500,000 gallons of No. 2 fuel oil in any 12-month period. Volumetric natural gas fuel flow shall be measured using gas flowmeters installed on the natural gas fuel inlet to each respective unit (3 separate gas flowmeters). Fuel oil usage shall be measured using a single inventory meter located at a storage tank that is dedicated for use by the TA-3 power plant boilers. (NSR Permit 2195B-M2, Specific Condition A803.A, revised)

Monitoring: The liquid fuel flow rate shall be continuously monitored whenever liquid fuel is combusted. The natural gas fuel flow rate for each boiler shall be continuously monitored whenever natural gas is combusted. The hours of operation of each boiler shall be continuously monitored. (NSR Permit 2195B-M2, Specific Condition A803.A, revised)

Recordkeeping: The permittee shall record the monthly total of liquid fuel (gallons) for all boilers combined and gaseous fuel (scf) for each boiler on a monthly basis, to include a monthly total. Annual fuel usage shall be calculated and recorded on a monthly rolling 12-month total basis. The permittee shall record the hours of operation of each boiler on a monthly basis, to include a monthly total. The record shall include the monthly rolling 12-month total hours of operation for all 3 boilers combined. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Conditon A803.A, revised)

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The combined boiler natural gas use did not exceed 1,000 MMscf or 500,000 gallons of No. 2 fuel oil in any 12-month period. Volumetric flow is measured using the liquid or gas fuel flowmeters installed on the natural gas fuel inlet to each respective unit and on the combined fuel oil inlet to the boilers. All fuel use data are tracked monthly in a spreadsheet used for emission calculations.

Monitoring: Natural gas fuel meters are in place on each boiler. Fuel oil is measured using an inventory meter on the storage tank. Both natural gas and fuel oil are continuously monitored when being combusted. A monthly and 12-month rolling total of natural gas and fuel oil use are recorded and reviewed monthly to verify usage does not exceed allowable limits. See ATTACHMENT 1307.B for monthly and 12-month rolling totals for each fuel.

Recordkeeping: Total monthly liquid fuel for all boilers and gaseous fuel for each boiler were recorded on a monthly basis. The annual fuel usage was calculated and recorded on a monthly rolling 12-month total basis. Total hours of operation of each boiler are recorded monthly and included in a monthly rolling 12-month total hours for all boilers combined. Hours of operation of each boiler are continuously monitored. This data is collected monthly from the power plant operations staff. Monthly and 12 month rolling hours are provided in ATTACHMENT A.1307.B. Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in

Section A605 of this report.

A1307 Other – TA-3 Power Plant

C. Fuel Usage (Combustion Turbine, Unit TA-2-22-CT-1)

Requirement: The combustion turbine shall not consume more than 1400 MMscf of natural gas in any 12-month period. Volumetric flow shall be measured using a gas fuel flowmeter installed on the fuel inlet of the combustion turbine. (NSR Permit 2195B-M2, Specific Condition A802.A)

Monitoring: The natural gas fuel flow rate for the combustion turbine shall be continuously monitored whenever natural gas is combusted. (NSR Permit 2195B-M2, Specific Condition A802.A)

Recordkeeping: The permittee shall record the daily total of gaseous fuel (scf) for the turbine on a monthly basis, to include a monthly total. Annual fuel usage shall be calculated and recorded on a monthly rolling 12-month total basis. The permittee shall record the daily hours of operation of the combustion turbine on a monthly basis, to include a monthly total. The record shall include the monthly total hours and monthly rolling 12-month total hours of operation. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.A)

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: A 12-month rolling total for natural gas use is maintained to verify usage does not exceed 1400 MMscf. The daily and monthly total fuel use is collected and recorded in a spreadsheet used for calculating emissions. See ATTACHMENT A1307.C.

Monitoring: The natural gas flowmeter is installed on the turbine inlet. The fuel flowmeter continuously measures natural gas being delivered to the combustion turbine.

Recordkeeping: Daily hours of operation are collected monthly and entered into the spreadsheet. A 12-month rolling total hours of operation is calculated using this information. Rolling total hours are provided in ATTACHMENT A1307.C. Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1307 Other – TA-3 Power Plant

D. Load Requirement (Combustion Turbine, Unit TA-3-22-CT-1)

Requirement: The combustion turbine shall be operated at no less than 80% and no greater than 100% load as determined by the manufacturer's supplied algorithm, except for minimal periods during startup and shutdown conditions. The permittee shall follow the manufacturer's recommended startup/shutdown procedures in order to minimize the duration of these events. (NSR Permit 2195B-M2, Specific Condition A802.B)

Monitoring: The operating load of the combustion turbine shall be monitored once daily during normal operations of that unit. (NSR Permit 2195B-M2, Specific Condition A802.B)

Recordkeeping: The permittee shall record the daily monitored operating load for the combustion turbine. The permittee shall maintain a record of the manufacturer's recommended startup/shutdown procedure and the manufacturer's criteria for the determination of turbine load. The permittee shall maintain a record for each startup/shutdown or malfunction event for the combustion turbine. The record shall include the date, the start/end time and duration for each event, which is defined as the length of time the combustion turbine is operating at less than 80% or greater than 100% load. For any malfunction event, the record shall also include the nature of the malfunction and any corrective action taken. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.B)

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement: The combustion turbine load was maintained between 80% and 100% during this reporting period, except for brief periods during a performance test that was required due to a combustion turbine controls upgrade. NMED-AQB was notified on September 17, 2020 that this test was to be completed. Performance testing is required to ensure the unit is operating safely and these tests are crucial to the safe operation of the equipment.
Load range is calculated by the turbine operating system and is manually recorded during each operation.
Startup/shutdown procedures are in place and are followed by the unit operators.

Monitoring: Load range is calculated by the turbine operating system and is manually recorded each hour during normal operation. The operating load is recorded at least once daily during normal operations. This data is collected in the daily operating log. Startup/shutdown procedures are in place and are followed by the unit operators. Each time the unit is started or shut down, the data is entered into a daily operating log, which is maintained on-site. The record includes the date, start/end times, and duration. See ATTACHMENT A.1307.D.

Recordkeeping: The operating load is recorded at least once daily during normal operations. This data is collected in the daily operating log. Startup/shutdown procedures are in place and are followed by the unit operators. Each time the unit is started or shut down, the data is entered into a daily operating log, which is maintained on-site. The record includes the date, start/end times, and duration. Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1307 Other – TA-3 Power Plant

E. Control Device Operation (Boilers, Units TA-3-22-1 through -3)

Requirement: Each boiler (Units TA-3-22-1 through -3) shall only be operated with a properly operating flue gas recirculation fan (Units F-1 through -3, respectively). Any malfunction of the flue gas recirculation system during boiler operation may be subject to the excess emissions requirements of 20.2.7 NMAC. (NSR Permit 2195B-M2, Specific Condition A803.B)

Monitoring: The flue gas recirculating fans shall be inspected for proper operation and maintenance once during each calendar month that the unit was operating. (NSR Permit 2195B-M2, Specific Condition A803.B)

Recordkeeping: The permittee shall record all inspections of the flue gas recirculating fans and any event during which a fan malfunctions. The record shall include the date, time, name of operator conducting the inspection, and any discrepancies noted. For malfunction events, the record shall also include the nature and duration of the malfunction, and any corrective action taken. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A803.B)

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: When a boiler is operating, the associated Flue Gas Recirculation (FGR) fan is on. A fan speed indicator is located on the control panel in the operator control room. This fan speed is monitored and recorded during boiler operation. No malfunctions of the FGR systems have occurred during this reporting period.

Monitoring: The FGR fans are inspected for proper operation and maintenance each month the unit is operating. Preventive maintenance forms are provided in ATTACHMENT A1307.E.

Recordkeeping: Records of inspection and maintenance of the FGR fans are completed monthly. No malfunctions occurred during this reporting period. All inspection records contain the required data found in this section. Records are maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1307 Other – TA-3 Power Plant

F. Control Device Operation (Combustion Turbine, Unit TA-3-22-CT-1)

Requirement: The combustion turbine shall be equipped with Rolls-Royce Dry Low Emissions (DLE) control technology (pre-mix, lean-burn series staged combustion system) to control NOx emissions. (NSR Permit 2195B-M2, Specific Condition A802.C)

Monitoring: N/A

Recordkeeping: The permittee shall maintain a record of the DLE system associated with the combustion turbine. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.C)

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The combustion turbine is equipped with the Dry Low Emissions (DLE) control technology. The DLE control was evaluated during unit start-up and determined to be working as designed. Manufacturer data are available on the DLE system.

Recordkeeping: Records of the DLE system associated with the combustion turbine were all maintained in accordance with Section B109.

Reporting: Emissions and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.

A1307 Other – TA-3 Power Plant

G. 40 CFR 60, Subparts A and GG (Combustion Turbine, Unit TA-3-22-CT-1)

Requirement: The combustion turbine is subject to 40 CFR 60, Subpart GG and the permittee shall comply with the applicable requirements of 40 CFR 60, Subpart A and Subpart GG. (NSR Permit 2195B-M2, Specific Condition A802.D)

Monitoring: The permittee shall comply with the monitoring and testing requirements of 40 CFR 60.334 and 60.335. (NSR Permit 2195B-M2, Specific Condition A802.D)

Recordkeeping: The permittee shall comply with the recordkeeping requirements of 40 CFR 60.334 and 40 CFR 60.7. (NSR Permit 2195B-M1-R2, Specific Condition A802.D)

Reporting: The permittee shall comply with the reporting requirements of 40 CFR 60.7. (NSR Permit 2195B-M1-R2, Specific Condition A802.D)

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The combustion turbine is in compliance with 40 CFR Part 60 Subpart A and 40 CFR Part 60 Subpart GG.

Monitoring: The combustion turbine is in compliance with the monitoring and test requirements of 40 CFR 60.334 and 60.335.

Recordkeeping: The combustion turbine is in compliance with the monitoring, notification, and record keeping requirements of 40 CFR 60.334 and 40 CFR 60.7.

Reporting: The combustion turbine is in compliance with the reporting requirements of 40 CFR 60.7.

A1307 Other – TA-3 Power Plant

H. Periodic Emissions Tests (Combustion Turbine, Unit TA-3-22-CT-1)

Requirement: The permittee shall comply with the allowable emission limits at Table A1302.A, including the NOx ppmv limitation. (NSR Permit 2195B-M2, Specific Condition A802.E)

Monitoring: The permittee shall test using a portable analyzer or EPA Reference Methods subject to the requirements and limitations of Section B108, General Monitoring Requirements. For periodic testing of NOx and CO emissions tests shall be carried out as described below.

Test results that demonstrate compliance with the NOx and CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.

(1) The test period shall be annually, based on a calendar year.
(2) The tests shall continue based on the existing testing schedule.
(3) All subsequent monitoring shall occur in each succeeding monitoring period. No two monitoring events shall occur closer together in time than 25% of a monitoring period.
(4) The permittee shall follow the General Testing Procedures of Section B111.
(5) Performance testing required by 40 CFR 60, Subpart GG or 40 CFR 60, Subpart KKKK may be used to satisfy these periodic testing requirements if they meet the requirements of this condition and are completed during the specified monitoring period.

Recordkeeping: The permittee shall maintain records in accordance with Section B109. The permittee shall also record the results of the periodic emissions tests, including the turbine's fuel flow rate and horsepower at the time of the test, and the type of fuel fired (natural gas, field gas, etc.).

If a combustion analyzer is used to measure excess air in the exhaust gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results.

The permittee shall also keep records of all raw data used to determine exhaust gas flow and of all calculations used to determine flow rates and mass emissions rates.

Reporting: The permittee shall report in accordance with Section B109, B110, and B111.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: Requirement: The facility is in compliance with the allowable emission limits in Table A1302.A, including the NOx ppmv limitation, as demonstrated in the monitoring and reporting sections below.

Monitoring: An emission stack test was conducted on January 10, 2019; the test results demonstrated that the actual emissions were less than the allowable emissions. No additional stack testing is required this reporting period.Requirement: The facility is in compliance with the allowable emission limits in Table A1302.A, including the NOx ppmv limitation, as demonstrated in the monitoring and reporting sections below.

Monitoring: The test followed the requirements and limitations required in Section B108. A combustion analyzer is used for this periodic emissions test. Instrument and calibration data are included in the final test report. An ORSAT or other similar gas absorption analyzer is not used. Results from the test demonstrate compliance with NOx and CO emission limits and thus the VOC emission limits. No limits were exceeded. See ATTACHMENT A1307.H. for details.

1) An emission stack test was conducted on January 10, 2019; the test results demonstrated that the actual emissions were less than the allowable emissions.

2) No additional stack testing was required during this certification period.

3) The tests are performed annually if required, or at a frequency as specified in General Condition B108.D based on the percentage of time the unit has operated.

4) The stack test was performed following the monitoring requirements required in Section B108 and general testing procedures found in Section B111. Records of periodic emissions test include all data required by this section.

5) Performance testing met the requirements of this condition and were completed during the specified monitoring period.

Recordkeeping: The test followed the requirements and limitations required in Section B109. Records are kept of the periodic emissions test results, including the turbine's fuel flow rate and horsepower, and the type of fuel fired. A combustion analyzer is used for this periodic emissions test. Instrument and calibration data are included in the final test report. An ORSAT or other similar gas absorption analyzer is not used. Raw data and calculations are included in the test report.

Reporting: Emission and monitoring reports are submitted on a six-month basis and compliance certification on an annual basis in accordance with permit conditions A109, B110, and B111. For more information, see comments in Section A605 of this report.

A1407 Other – Open Burning

A. Operational

Requirement: The permittee shall comply with the applicable requirements of 20.2.60 NMAC and 20.2.65 NMAC, including, but not limited to:

1) Prior to initiating a burn consisting of vegetative material, the permittee shall submit to the Department a sampling and analysis plan and upon approval conduct representative sampling of the intended burn material and analyze samples for radionuclides, target analyte list (TAL) inorganic elements, polychlorinated biphenyls (PCBs), and high explosives (HE); and

2) The permittee shall submit to the Department a background concentration report for the contaminants listed in Condition A1407.A, Requirement (1). The report shall indicate locations where background concentrations were taken and compare sample results with background concentrations of the constituents; and

3) The permittee shall not burn vegetative material which includes any contaminant above the relevant background concentration; and

4) Upon receiving Department approval, the permittee shall conduct public notification in a display ad in at least four newspapers: Los Alamos Monitor, Rio Grande Sun, Santa Fe New Mexican, and the Albuquerque Journal, no less than 21 days in advance of a planned burn.

Monitoring: The permittee shall monitor all open burning as required by Department regulation or burn approval.

Recordkeeping: The permittee shall maintain records of all sampling and analysis plans and any representative sampling conducted. Records shall be kept in accordance with Section B109.

Reporting: The permittee shall submit reports as outlined in the Condition 1407.A Requirements, as described in Section A109, and in accordance with Section B110.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes**	**Date report submitted:**	**Tracking Number:**
☒ **No**	**Provide comments and identify any supporting documentation as an attachment.**	

Comments: No open burning occurred during this reporting period. See ATTACHMENT A1407.A. for details.

P100-R2M1 - A1507 Evaporative Sprayers–Work Practice Standards

A. Operational Requirements (Evaporative Sprayers)

Requirement: Compliance with the allowable emission limits in Table 106.B shall be demonstrated by calculating the annual total HAPs emissions in tons per year. The emissions shall be calculated based on the most recent water analysis and hours of operation for the evaporative sprayers.

Monitoring: The permittee shall conduct an analysis of the basin water, including analytical results (water concentrations) for all HAPs and TAPs, at the Sanitary Effluent Reclamation Facility (SERF) every two years beginning no later than calendar year 2018. The permittee shall monitor the hours of operation for each sprayer.

Recordkeeping: The permittee shall record a monthly rolling, 12-month total of HAPs emissions based on the sum of emissions from all the evaporative sprayers. The emission factors for the HAPs shall be based on the values from the most recent water analysis.

Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B111. An electronic copy of the required water analysis including analytical results (water concentrations) for all HAPs, TAPs, and the total dissolved solids (TDS) shall be sent to AQB with the Semi-annual Monitoring Report specified in A109.A for any year in which the water sampling is conducted.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The facility is in compliance with the allowable emissions limits in Table 106.B by calculating the annual total HAP emissions in tons per year. The most recent water analysis results and hours of operation are used to calculate the emissions.

Monitoring: The facility conducts analysis of the basin water for HAPs and TAPs every two years effective 2018. Basin water sampling was conducted in November and December of 2020. The hours of operation are monitored and tabulated. See ATTACHMENT A1507.A.b. for details.

Recordkeeping: Records are kept on-site and include the monthly rolling and 12-month total of HAPs emissions based on the sum of emissions from all the evaporative sprayers. The emission factors are based on the values from the most recent water analysis.

Reporting: Reporting is done in accordance with the Title V requirements specified in Section A109.A and Section B111. Water analysis results will be included in the Semi-Annual Monitoring Report for any year in which the water sampling is conducted. Basin water sampling was in November and December of 2020. See ATTACHMENT A1507.A.a. for details.

P100-R2M1 - A1507 Evaporative Sprayers–Work Practice Standards

B. Maintenance and Repair Requirements

Requirement: Compliance with the allowable emission limits in Table 106.A shall be demonstrated by properly maintaining and repairing the units.

Monitoring: Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur.

Recordkeeping: The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.

Reporting: The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: Compliance with the allowable emissions limits is demonstrated by properly maintaining and repairing the units.

Monitoring: Equipment maintenance and repair are conducted in accordance with the manufacturer's recommended schedule and LANL procedures, and documented in Table 106.A. See ATTACHMENT A1507.B. for work practice standards and maintenance and repair records.

Recordkeeping: Records are maintained in accordance with Section B109. Maintenance and repair records are kept on-site, and include maintenance and repairs activities, and the maintenance schedule.

Reporting: Records are maintained in accordance with Section B109. Maintenance and repair records are kept on-site, and include maintenance and repairs activities, and the maintenance schedule.

P100-R2M4 - A1507 Evaporative Sprayers–HAPs Calculations, Maintenance, and Repair

A. HAPs Calculations (Evaporative Sprayers)

Requirement: Compliance with the facility-wide allowable emission limits in Table 106.B (P100-R2M1) shall be demonstrated by calculating the annual total HAPs emissions in tons per year. The emissions shall be calculated based on the most recent water analysis and hours of operation for the evaporative sprayers.

Monitoring: The permittee shall conduct an analysis of the basin water, including analytical results (water concentrations) for all HAPs and New Mexico TAPs, at the Sanitary Effluent Reclamation Facility (SERF) every two years beginning no later than calendar year 2018. The permittee shall monitor the

hours of operation for each sprayer.

Recordkeeping: The permittee shall record a monthly rolling, 12-month total of HAPs emissions based on the sum of calculated actual emissions from all the evaporative sprayers. The emission factors for the HAPs shall be based on the values from the most recent water analysis.

Reporting: The permittee shall submit reports according to Section A109 and in accordance with Section B111 (P100-R2M1). An electronic copy of the required water analysis including analytical results (water concentrations) for all HAPs, TAPs, and the total dissolved solids (TDS) shall be sent to AQB with the Semi-annual Monitoring Report specified in Condition A109.A (P100-R2M1) for any year in which the water sampling is conducted.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

☐ **Yes** **Date report submitted:** **Tracking Number:**

☒ **No** **Provide comments and identify any supporting documentation as an attachment.**

Comments: Requirement: The facility demonstrates compliance with the allowable emissions limits in Table 106.B by calculating the annual total HAP emissions in tons per year. The most recent water analysis results and hours of operation are used to calculate the emissions.

Monitoring: The facility conducts analysis of the basin water for HAPs and TAPs every two years effective 2018. Basin water sampling was conducted in November and December of 2020. The hours of operation are monitored and tabulated.

Recordkeeping: Records are kept on-site and include the monthly rolling and 12-month total of HAPs emissions based on the sum of emissions from all the evaporative sprayers. The emission factors are based on the values from the most recent water analysis.

Reporting: Reporting is done in accordance with the Title V requirements specified in Section A109.A and Section B111. Water analysis results will be included in the Semi-Annual Monitoring Report for any year in which the water sampling is conducted. Basin water sampling was in November and December of 2020.

P100-R2M4 - A1507 Evaporative Sprayers–HAPs Calculations, Maintenance, and Repair

B. Maintenance and Repair Requirements

Requirement: Compliance with the facility-wide allowable emission limits in Table 106.B (P100-R2M1) shall be demonstrated by properly maintaining and repairing the units.

Monitoring: Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur.

Recordkeeping: The permittee shall maintain records in accordance with Section B109 (P100-R2M1), including records of maintenance and repairs activities and a copy of the manufacturer’s or permittee’s recommended maintenance schedule.

Reporting: The permittee shall maintain records in accordance with Section B109 (P100-R2M1), including records of maintenance and repairs activities and a copy of the manufacturer’s or permittee’s

recommended maintenance schedule.
Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.
☐ **Yes** **Date report submitted:** **Tracking Number:**
☒ **No** **Provide comments and identify any supporting documentation as an attachment.**
Comments: Requirement: Compliance with the allowable emissions limits is demonstrated by properly maintaining and repairing the units. Monitoring: Equipment maintenance and repair are conducted in accordance with the manufacturer's recommended schedule and LANL procedures, and documented in Table 106.A. Recordkeeping: Records are maintained in accordance with Section B109. Maintenance and repair records are kept on-site, and include maintenance and repairs activities, and the maintenance schedule. Reporting: Records are maintained in accordance with Section B109. Maintenance and repair records are kept onsite, and include maintenance and repairs activities, and the maintenance schedule.

Part 2

Deviation Summary Report

1. Were any deviations reported to the Air Quality Bureau during this reporting period? If NO, answer question 2 below. If YES, complete the "Summary of Deviations Previously Reported" table below, then answer question	☒ Yes	☐ No

SUMMARY OF DEVIATIONS PREVIOUSLY REPORTED

Unit # and description	Date deviation reported	Tracking Number
Asbestos NESHAP	August 5, 2020	Not received

2. Are there any deviations not yet reported? If No, no further information is required on the Deviation Summary Report. If Yes, answer question 3 below and enter the required information in the Deviation Summary Table.	☒ Yes ☐ No
3. Did any of the deviations result in excess emissions? For deviations resulting in excess emissions a completed Excess Emission Form for each deviation must be attached to this report.	☐ Yes ☒ No

Deviation Summary Table for deviations not yet reported.

No.	Applicable Requirement (Include Rule Citation)	Emission Unit ID(s)	Cause of Deviation	Corrective Action Taken
1	A607.A	TA-60-BDM	After the annual calibration in September 2020 on the magnehelic gauge, pressure transmitter, and chart recorder, the equipment was re-installed improperly. The device to continually measure the pressure drop across the baghouse was inoperable during the period October 2 – November 20, 2020 (intermittent operation for a total of 8.5 hours of operation during this period) because of equipment malfunction. This resulted in missing differential pressure data across the baghouse for brief periods of operation during this timeframe. There were no excess emissions due to this deviation.	Once aware, the LANL Air Quality Team immediately contacted appropriate personnel to reconnect the equipment properly, but due to lack of available personnel during LANL's limited operational stance due to the COVID-19 pandemic, this issue was not fixed until November 20, 2020. Asphalt Plant operator is now aware that LANL Air Quality Team must be notified within 24 hours and the equipment must be shut down if the differential pressure readings are out of acceptable range so this type of issue can be corrected more urgently moving forward.
2				
3				
4				
5				

Deviation Summary Table (cont.)

	Deviation Started	Deviation Ended				Did you attach an excess emission form?

No.	Date	Time	Date	Time	Pollutant	Monitoring Method	Amount of Emissions	
1	10/2/2020	12:00 AM	11/20/2020	11:59 PM	PM	Differential Pressure Gauge	No excess emissions	☐ **Yes** ☒ **No**
2								☐ **Yes** ☐ **No**
3								☐ **Yes** ☐ **No**
4								☐ **Yes** ☐ **No**
5								☐ **Yes** ☐ **No**

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Operating Permit P100-R2M4

Monitoring Period July 1–December 31, 2020

ATTACHMENT A607.A.	Asphalt Plant – Differential Pressure Records
ATTACHMENT A607.C.	Asphalt Plant – Method 9 Opacity Reports
ATTACHMENT A607.E.	Asphalt Plant – Daily Operation Log and 12-Month Rolling Production
ATTACHMENT A607.F.	Asphalt Plant – Maintenance and Delivery Records
ATTACHMENT A607.G.	Asphalt Plant – Method 22 Opacity Reports
ATTACHMENT A707.B.a.	Beryllium – TA-03-0066 Beryllium Logs
ATTACHMENT A707.B.b.	Beryllium – TA-35-0213 Beryllium Operating Log
ATTACHMENT A707.C.a.	Beryllium – TA-03-0141 Beryllium HEPA Filter Differential Pressure Readings
ATTACHMENT A707.C.b.	Beryllium – TA-55-PF4 Annual HEPA Filter Challenge Test Reports
ATTACHMENT A707.C.c.	Beryllium – TA-55-PF4 HEPA Filtration Differential Pressure Readings
ATTACHMENT A806.A.	External Combustion – 20.2.61 NMAC Opacity
ATTACHMENT A806.C.	External Combustion – 20.2.61 NMAC Opacity – Units RLUOB-BHWs Fuel Oil-Fired
ATTACHMENT A807.A.	External Combustion – Natural Gas Usage and Rolling 12-Month Total
ATTACHMENT A807.B.	External Combustion – RLUOB Natural Gas and Fuel Oil Usage
ATTACHMENT A807.C. & D.	External Combustion – Fuel Oil Sulfur Content
ATTACHMENT A807.E.	External Combustion – Initial Compliance Testing (Unit RLUOB-BHW-4)
ATTACHMENT A807.F.a.	External Combustion – Operational Boiler Inspection
ATTACHMENT A807.F.b.	External Combustion – Revised Boiler Maintenance Procedures
ATTACHMENT A907.A.	Chemical Usage – Chemical Purchases (From ChemDB)
ATTACHMENT A907.B.a.	Chemical Usage – RLUOB-CHEM Chemical Purchases (From ChemDB)
ATTACHMENT A907.B.b.	Chemical Usage – RLUOB-CHEM Chemical Quantity Total
ATTACHMENT A1007.A.a.	Degreaser – Degreaser Solvent Usage (From Tracking Database)
ATTACHMENT A1007.A.b.	Degreaser – Completed Work Practice Checklists
ATTACHMENT A1104.A.	Internal Combustion – TA-33-G-1P Daily Operating Logs
ATTACHMENT A1104.B.	Internal Combustion – Permitted Generator Hours of Operation

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Operating Permit P100-R2M4

Monitoring Period July 1–December 31, 2020

ATTACHMENT A1106.A.	Internal Combustion – Method 9 Opacity Reports
ATTACHMENT A1107.A.	Internal Combustion – Operating Records for RLUOB Generators
ATTACHMENT A1107.B.	Internal Combustion – Operating Records for Permitted Emergency Generators
ATTACHMENT A1207.A.	Data Disintegrator – Operating Logs
ATTACHMENT A1207.B.	Data Disintegrator – Maintenance Performed
ATTACHMENT A1306.A.	TA-03 Power Plant – Opacity for Sources Combusting Natural Gas
ATTACHMENT A1306.B.	TA-03 Power Plant – Opacity for Boilers Combusting No. 2 Fuel Oil
ATTACHMENT A1307.A.	TA-03 Power Plant – Emission Rate Calculations
ATTACHMENT A1307.B.	TA-03 Power Plant – Boiler Fuel Use and Hours of Operation
ATTACHMENT A1307.C.	TA-03 Power Plant – Turbine Fuel Use and Hours of Operation
ATTACHMENT A1307.D.	TA-03 Power Plant – Turbine Operating Logs
ATTACHMENT A1307.E.	TA-03 Power Plant – FGR Fan Inspection and Maintenance
ATTACHMENT A1307.H.	TA-03 Power Plant – Combustion Turbine Emission Stack Test Report
ATTACHMENT A1407.A.	Open Burning
ATTACHMENT A1507.A.a.	Evaporative Sprayers – Analytical Data for Basin Water
ATTACHMENT A1507.A.b.	Evaporative Sprayers – Hours of Operation
ATTACHMENT A1507.B.	Evaporative Sprayers – Maintenance and Repair Requirements

ATTACHMENT A607.A.

Asphalt Plant

Differential Pressure Records

Asphalt Plant Data

Date	Time	Diff Press
2-Oct-2020	6:00:00	0.00
2-Oct-2020	6:02:00	0.00
2-Oct-2020	6:04:00	0.00
2-Oct-2020	6:06:00	0.00
2-Oct-2020	6:08:00	0.00
2-Oct-2020	6:10:00	0.00
2-Oct-2020	6:12:00	0.00
2-Oct-2020	6:14:00	0.00
2-Oct-2020	6:16:00	0.00
2-Oct-2020	6:18:00	0.00
2-Oct-2020	6:20:00	0.00
2-Oct-2020	6:22:00	0.00
2-Oct-2020	6:24:00	0.00
2-Oct-2020	6:26:00	0.00
2-Oct-2020	6:28:00	0.00
2-Oct-2020	6:30:00	0.00
2-Oct-2020	6:32:00	0.00
2-Oct-2020	6:34:00	0.00
2-Oct-2020	6:36:00	0.00
2-Oct-2020	6:38:00	0.00
2-Oct-2020	6:40:00	0.00
2-Oct-2020	6:42:00	0.00
2-Oct-2020	6:44:00	0.00
2-Oct-2020	6:46:00	0.00
2-Oct-2020	6:48:00	0.00
2-Oct-2020	6:50:00	0.00
2-Oct-2020	6:52:00	0.00
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Asphalt Plant Data

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Asphalt Plant Data

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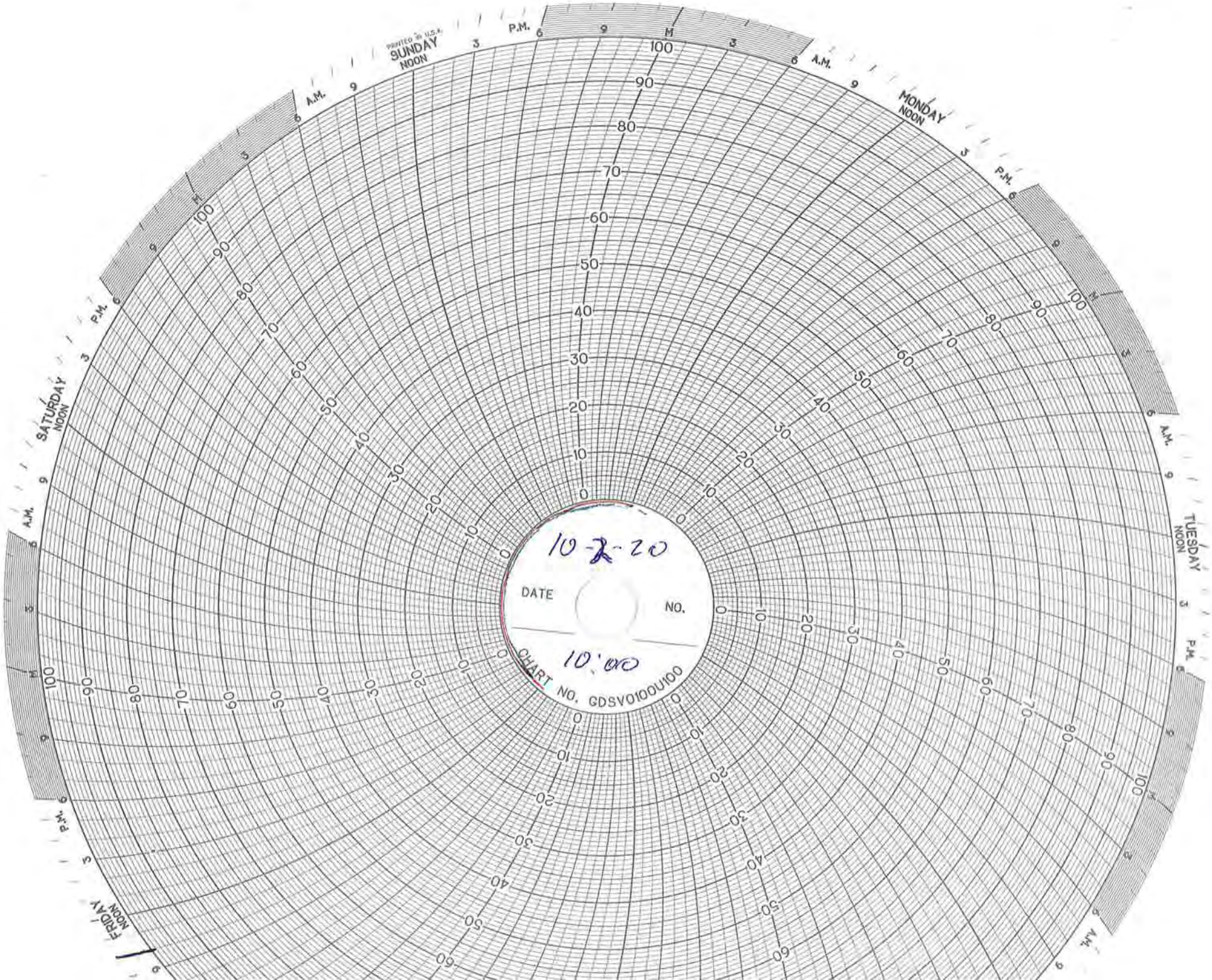
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DATE
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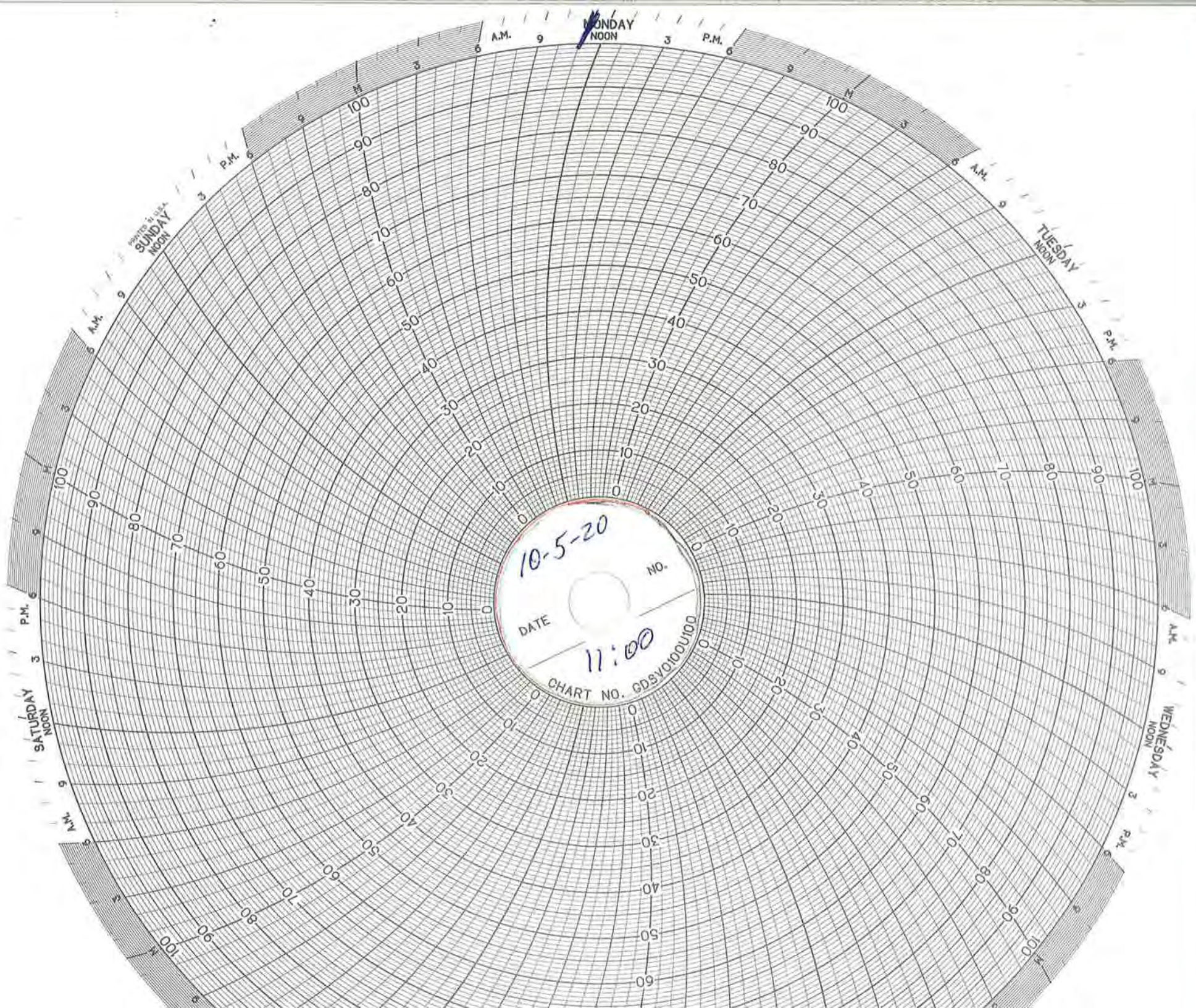
CHART NO. GDSV0100U100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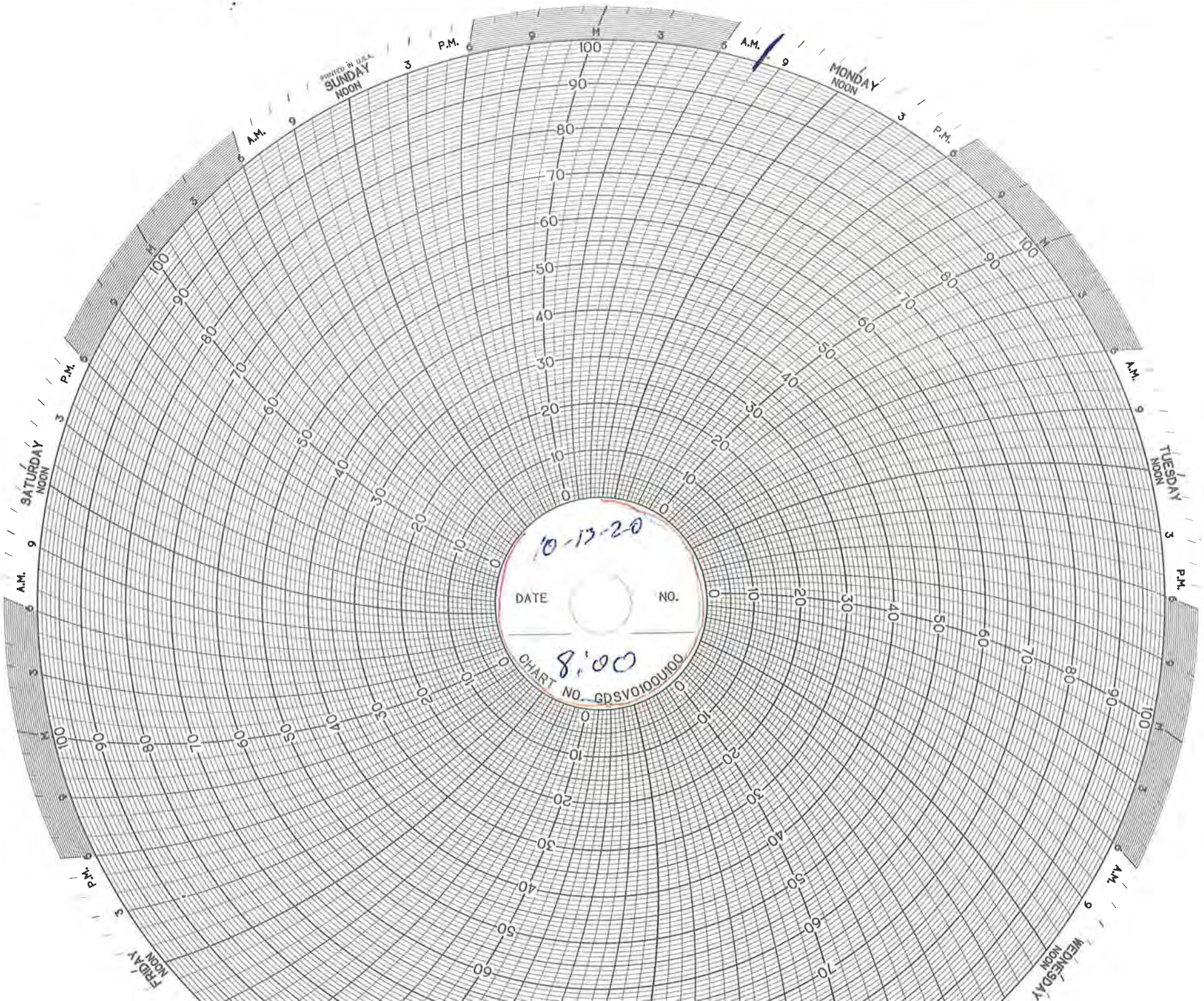
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A.M.
P.M.
DATE
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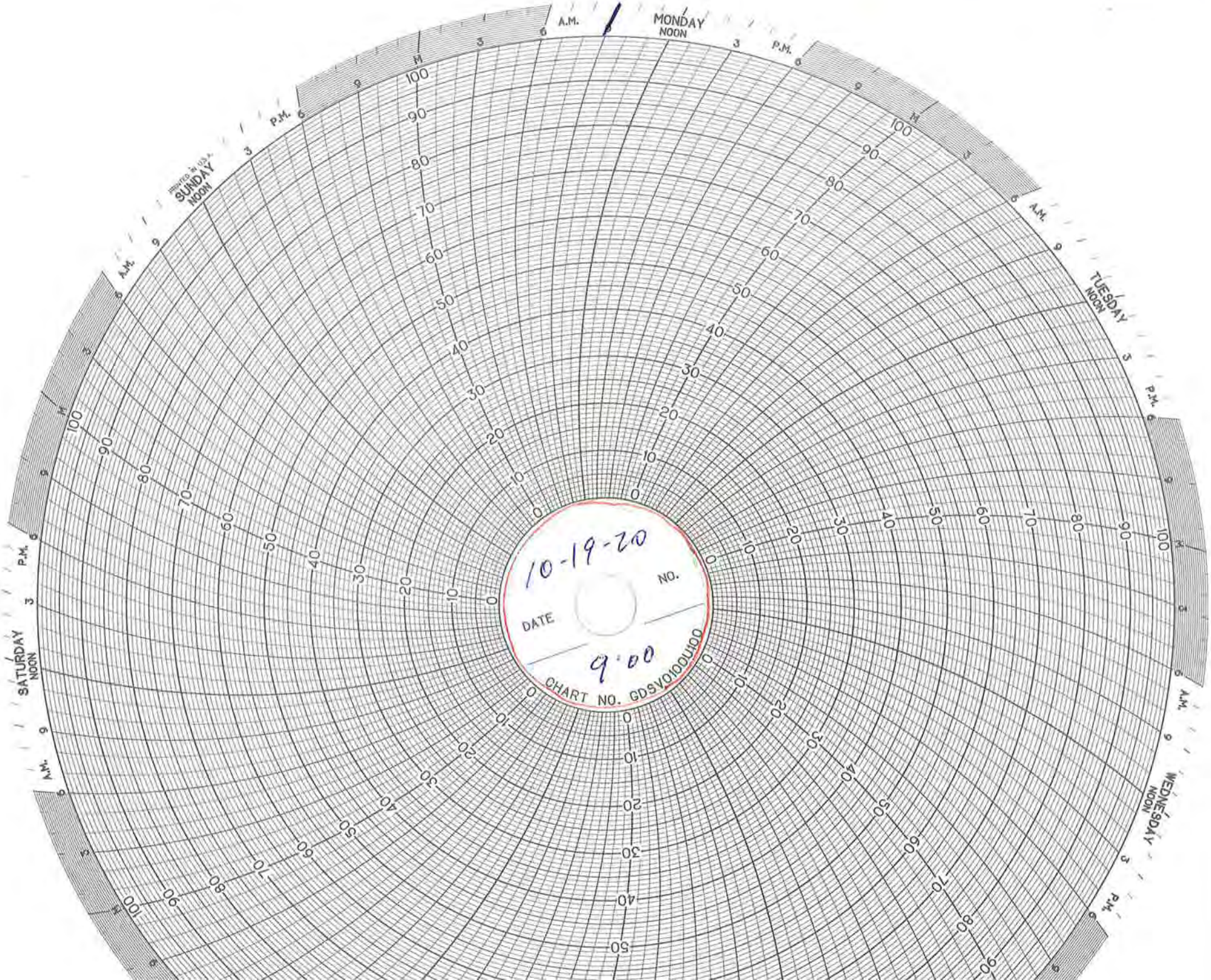
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P.M.
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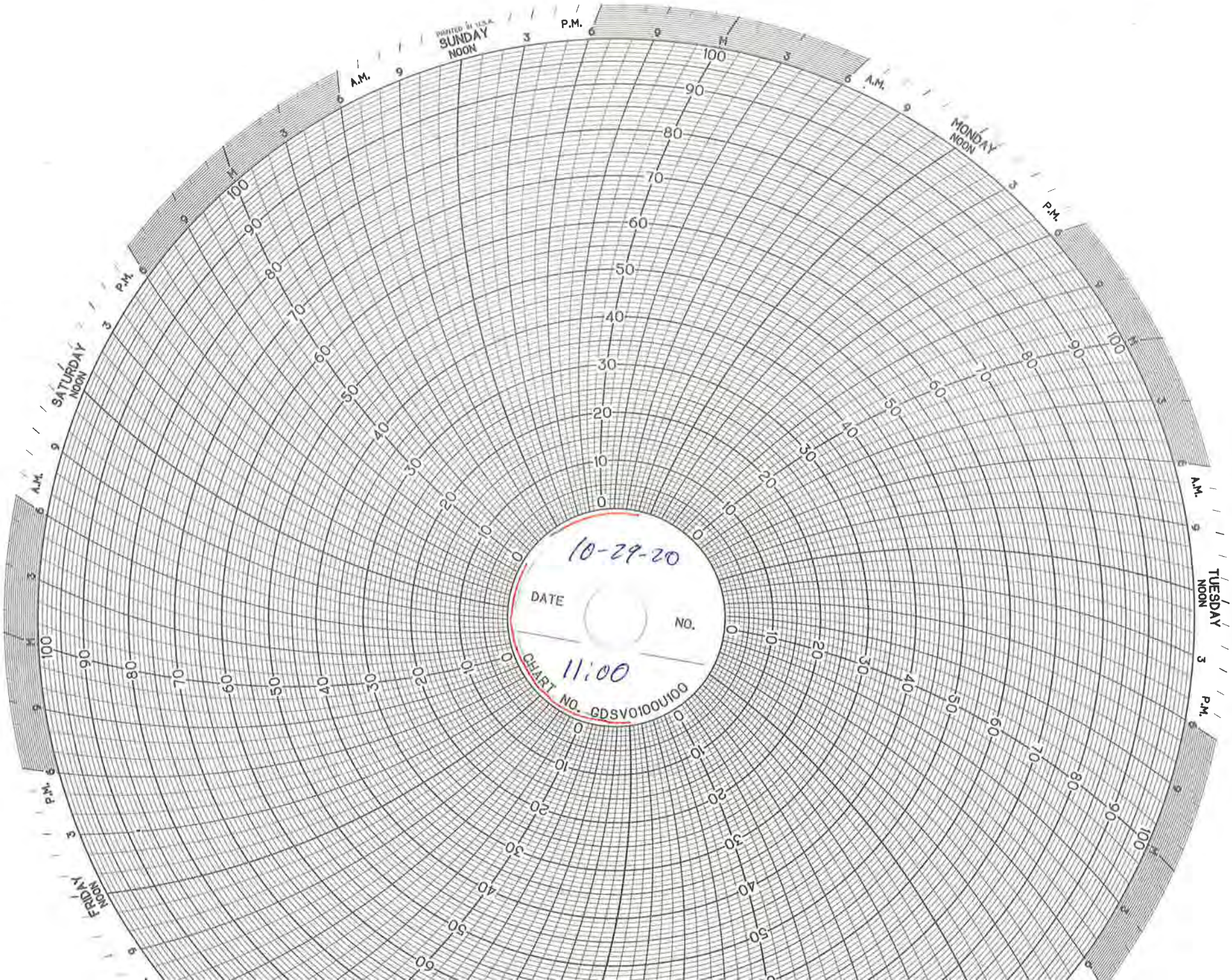
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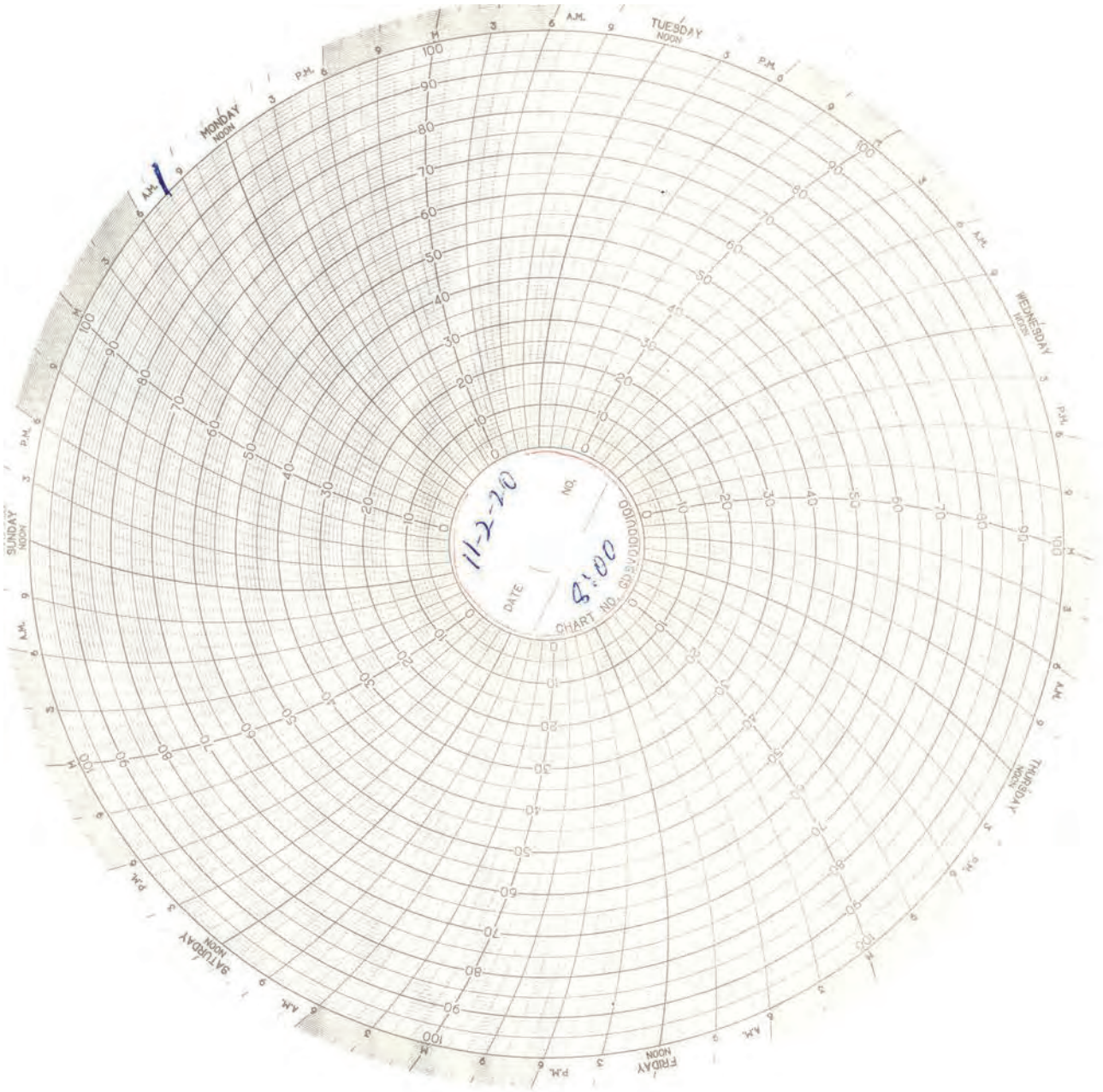

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P.M.
11-2-20
DATE
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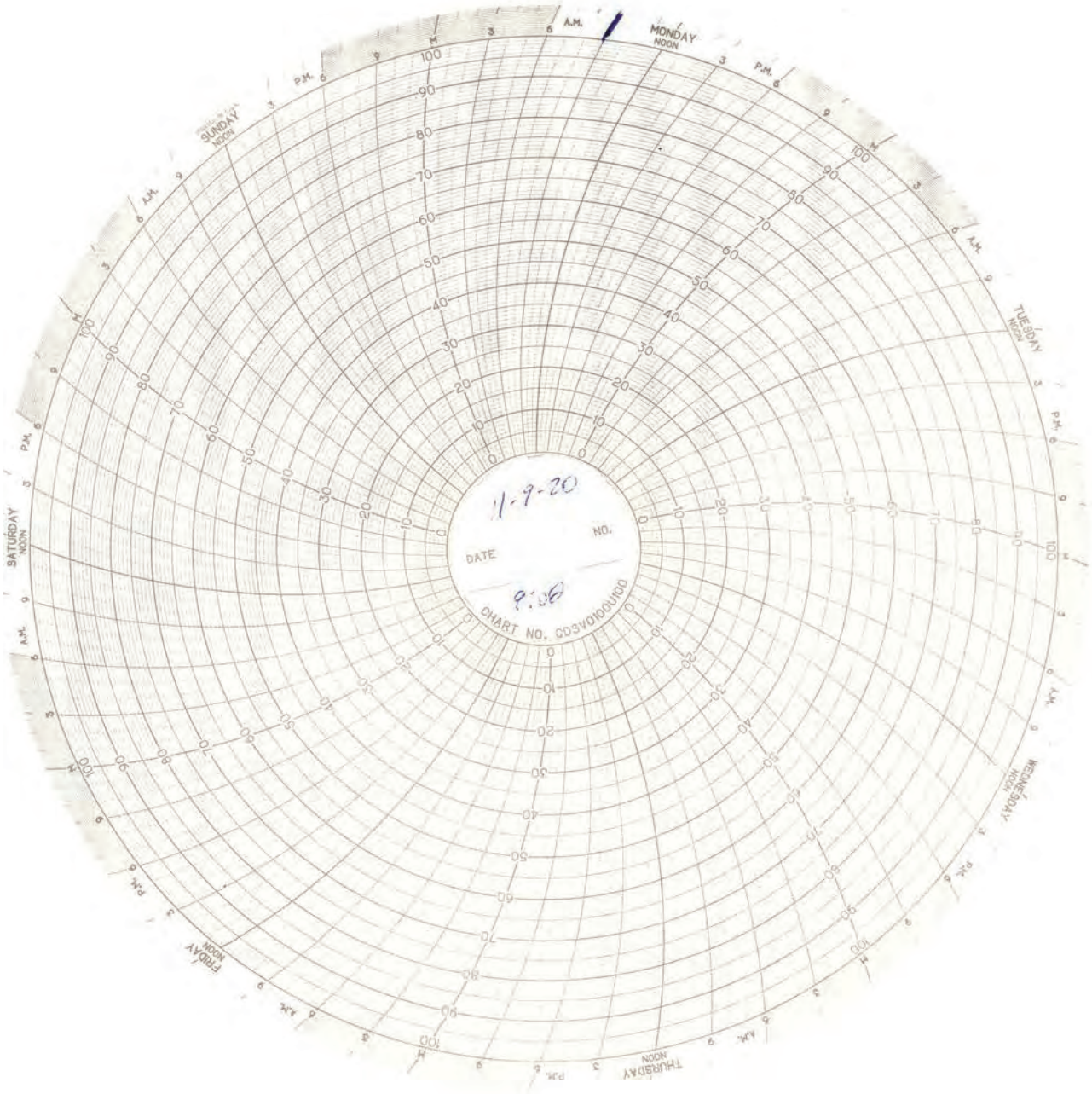
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P.M.
1-9-20
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DATE
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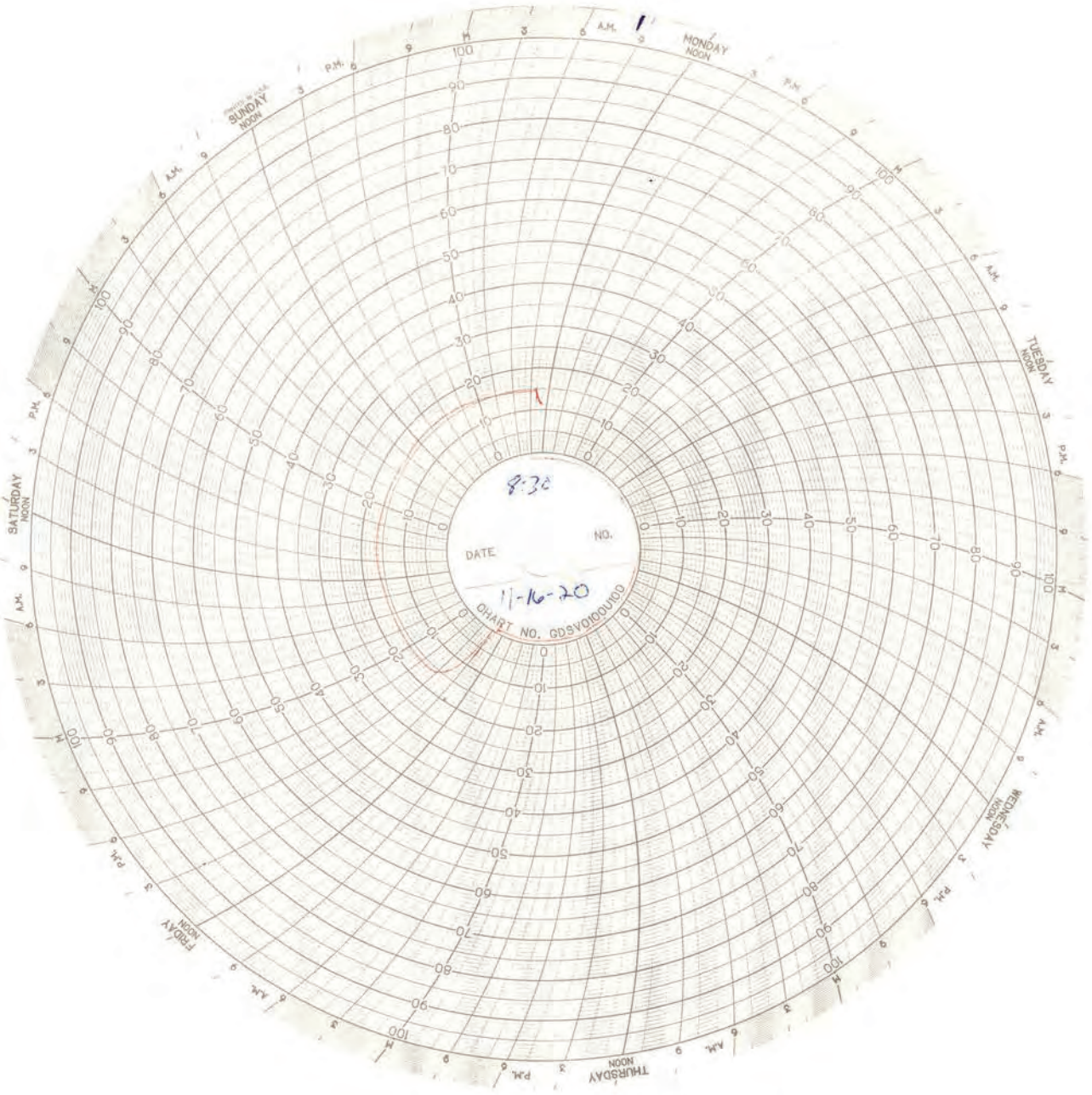
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11-16-20
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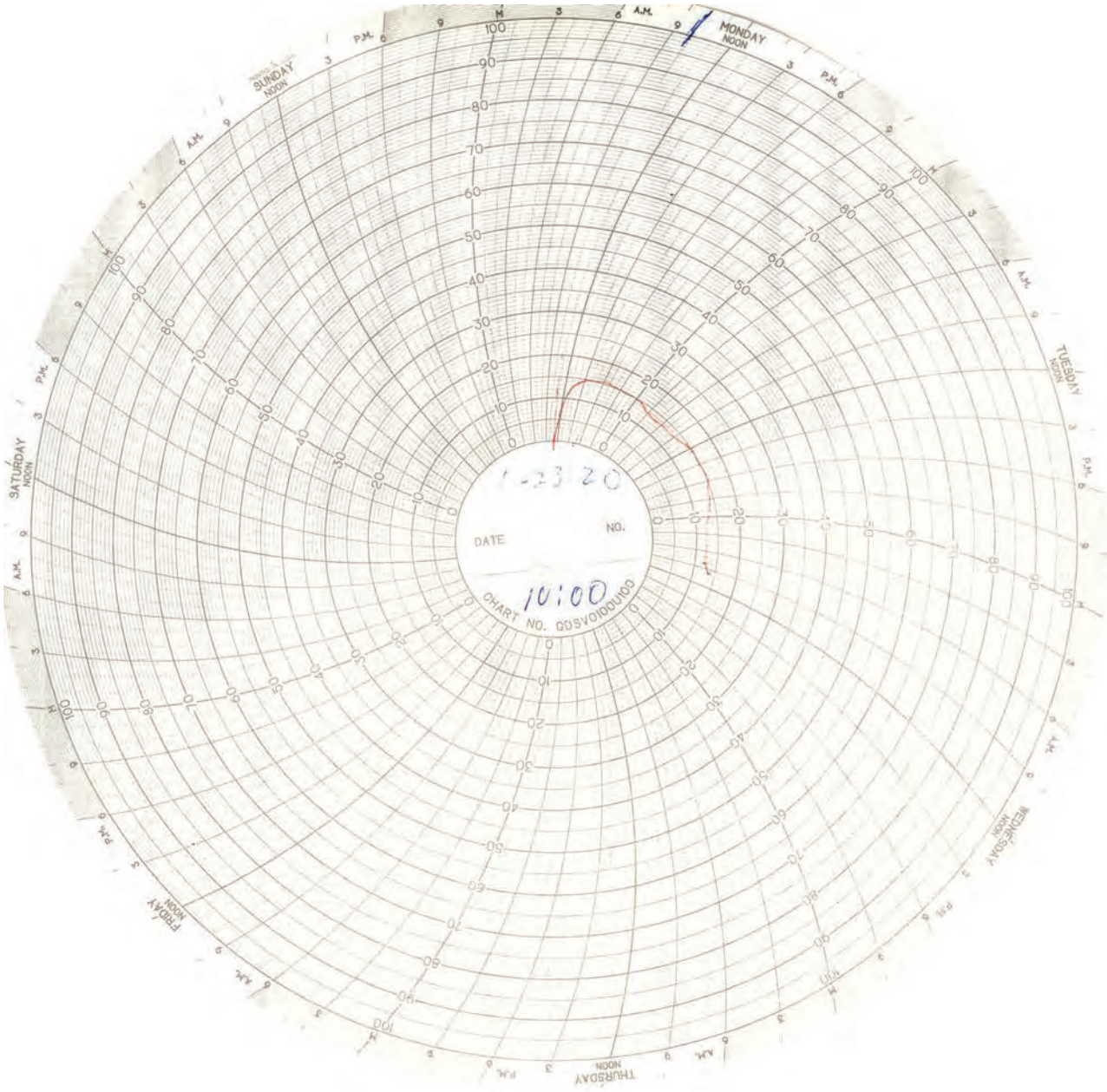
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TUESDAY
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WEDNESDAY
NOON
THURSDAY
NOON
FRIDAY
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SATURDAY
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A.M.
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DATE
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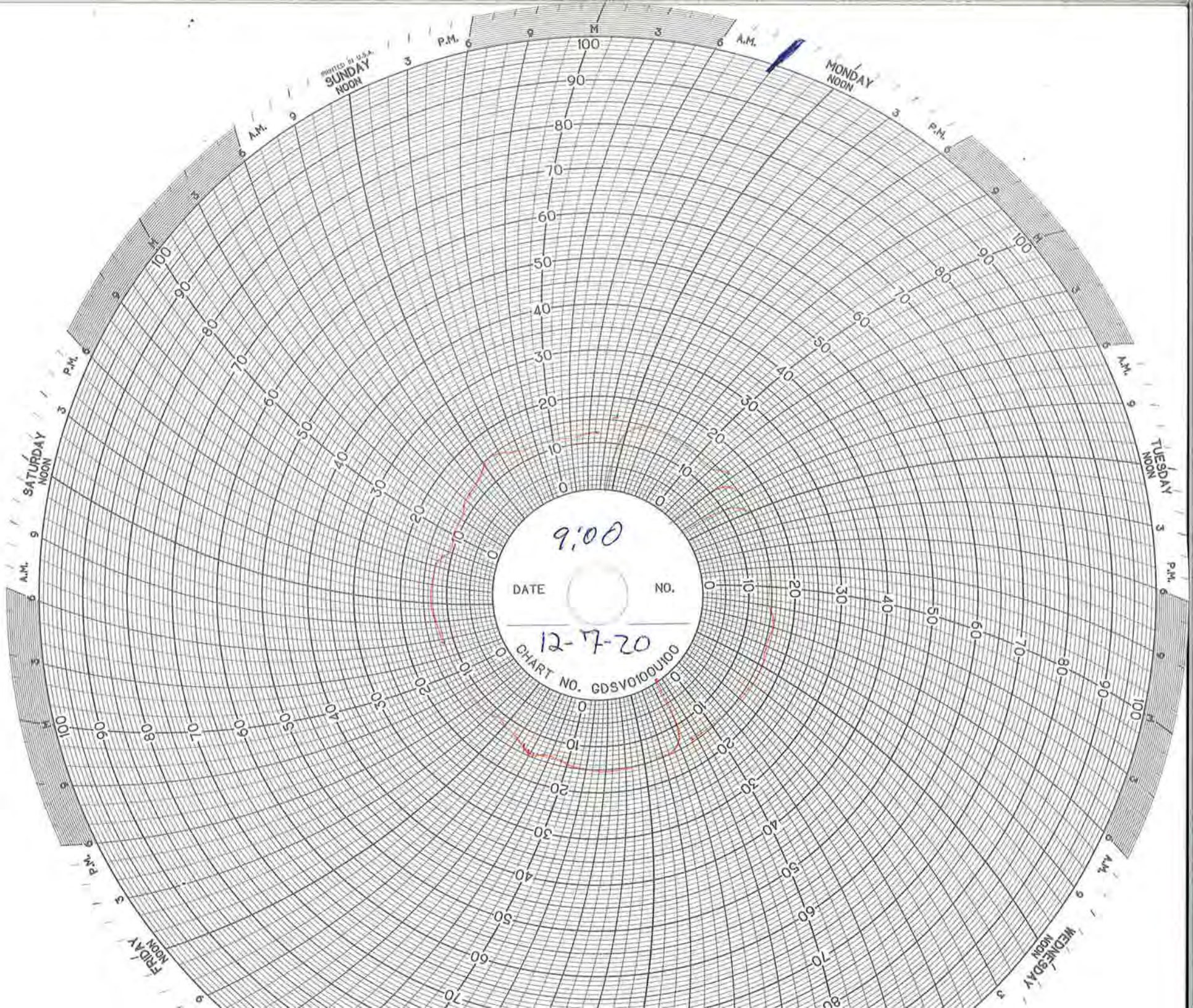
CHART NO. QDSVOIOOUIOO
10:00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MONDAY NOON
TUESDAY NOON
WEDNESDAY NOON
FRIDAY NOON
SATURDAY NOON
A.M.
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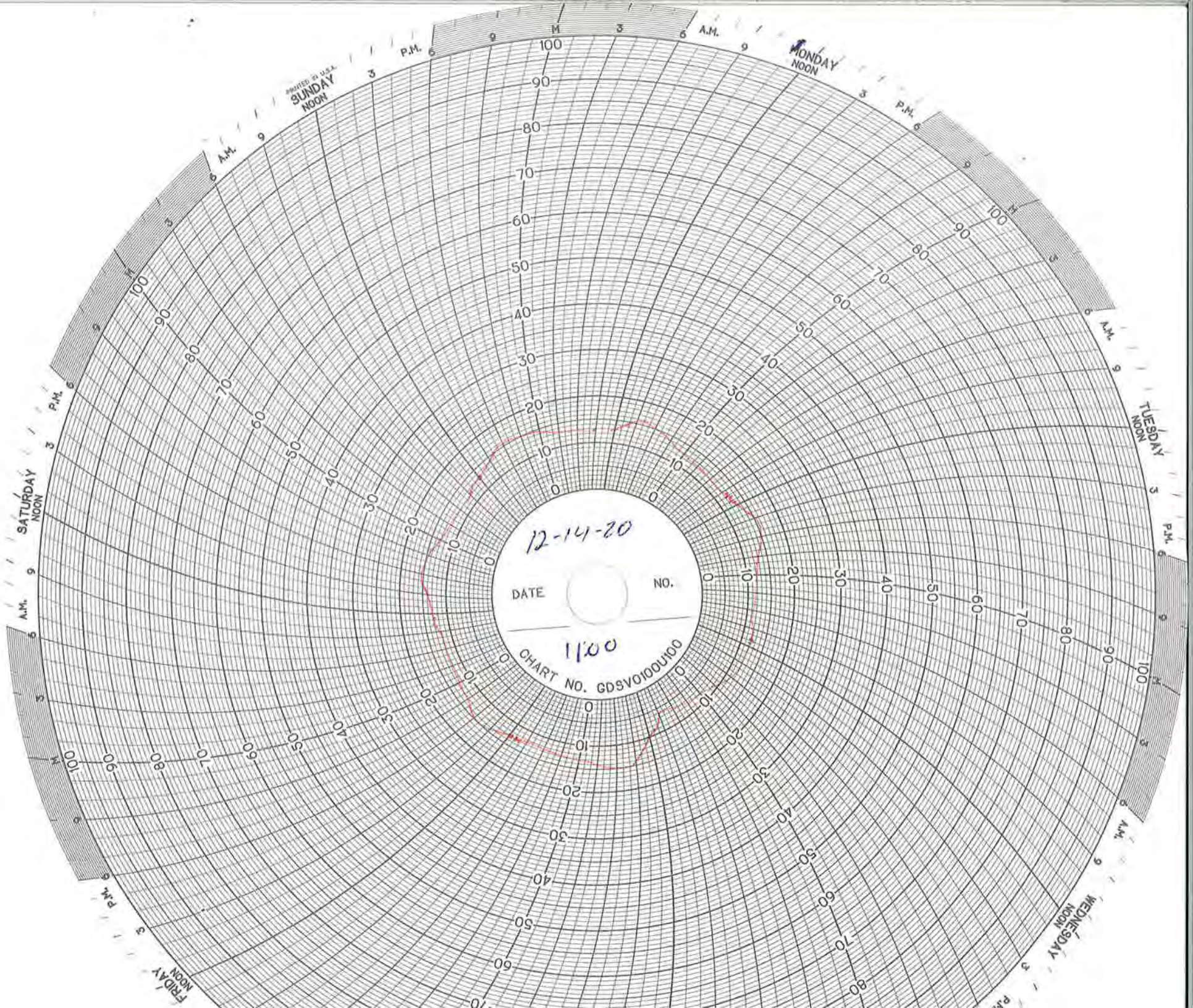
9:00
DATE
NO.
12-7-20
CHART NO. GDSVQ100U100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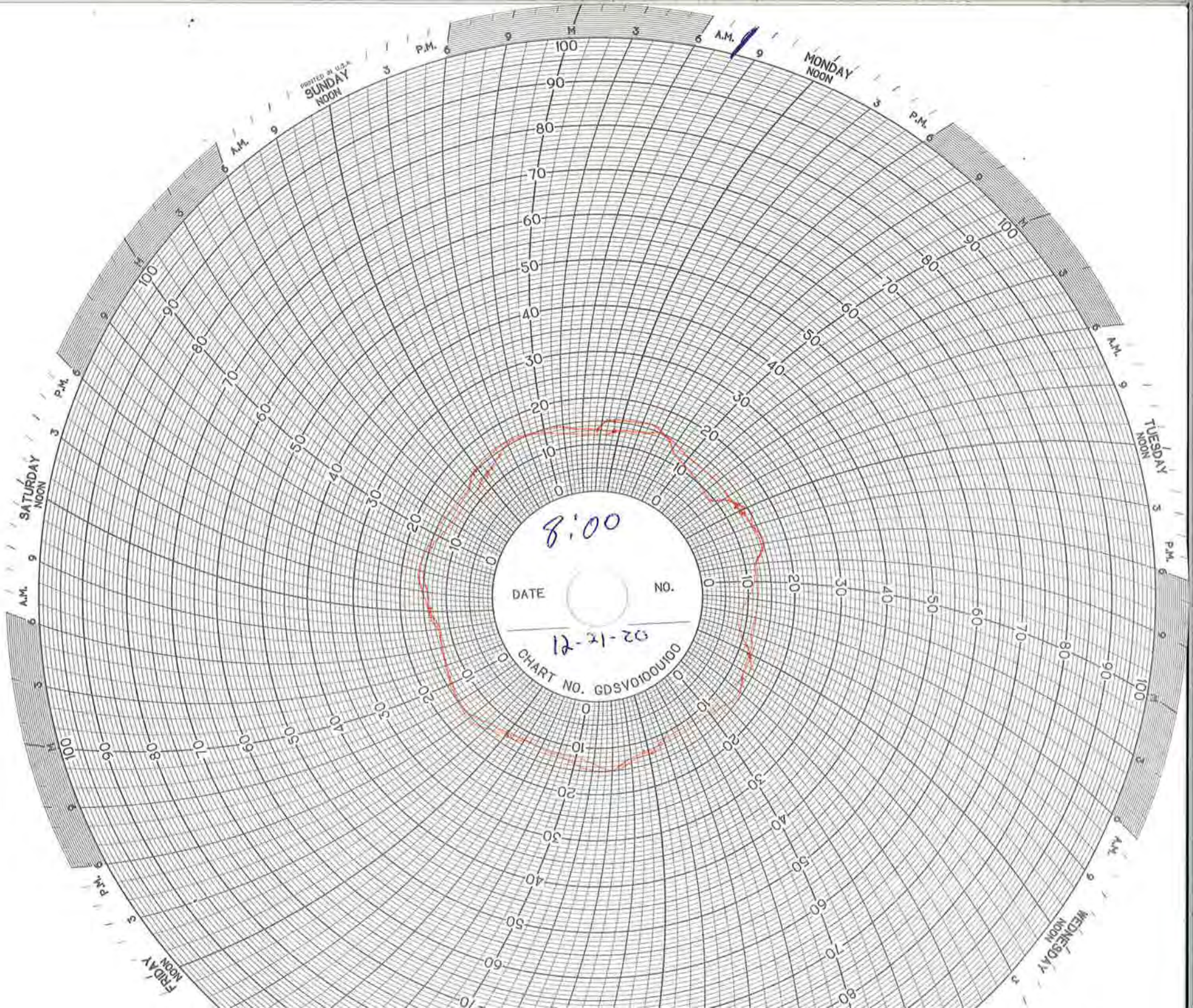
SATURDAY NOON
A.M.
P.M.
12-14-20
DATE
NO.
1100
CHART NO. GDSV0100U100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P.M.
8:00
DATE
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12-21-20
CHART NO. GDSV0100U100

ATTACHMENT A607.C.

Asphalt Plant

EPA Method 9 Opacity Reports

Los Alamos NATIONAL LABORATORY EST. 1943 The Vision is Greatest Science Protecting America

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (6 MINUTE)

Source Name: TA-60 Asphalt Batch Plant

Source Location: TA-60-233

Type of Source: Asphalt Plant

Type of Control Equipment: Bag House

Describe Emission Point (Top of stack, etc.): Top of Stack

Height Above Ground Level: 33 Feet

Height Relative to Observer: 26 Feet

Distance From Observer: 65 Feet

Direction of Source From Observer: NNW

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☑No Plume Present

Emission Color: NA

Plume Type ☑No Plume Present
☐Continuous ☐ Fugitive ☐Intermittent

Water Droplets Present?
☑NO ☐YES If YES, droplet plume is ☐Attached ☐Detached

At what point in the plume was opacity determined?
6" above stack height

Describe Background (i.e. blue sky, trees, etc.): Blue Sky

Background Color: Blue

Sky Conditions: Clear Blue Sky

Wind Speed: 4 mph

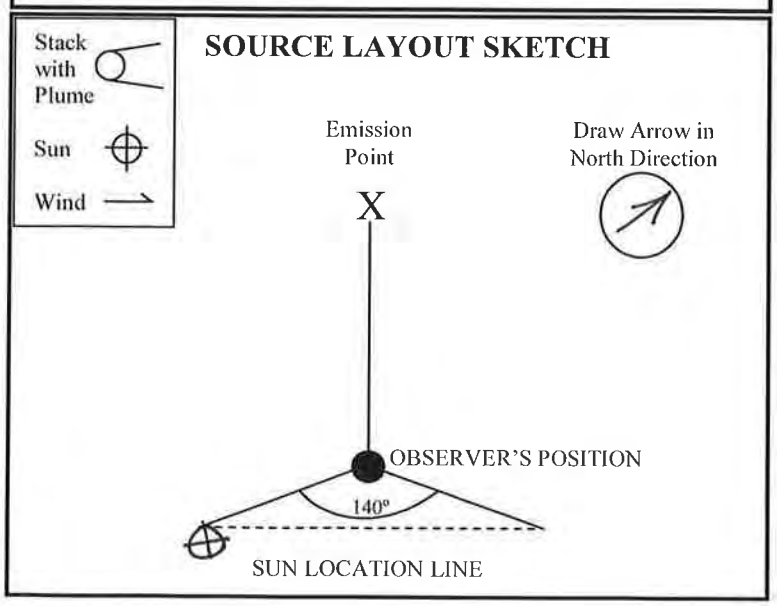
Wind Direction (provide from/to, i.e. from North to South): E to W

Ambient Temperature: 60 °F

Relative Humidity: 14 %

Additional Comments/Information: NA

SOURCE LAYOUT SKETCH



Observation Date: 10/21/2020

Start Time: 10:58 a.m.

End Time: 11:04 a.m.

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Average 6-Minute Opacity: 0

Range of Opacity Readings: Min. 0 Max. 0

OBSERVER (please print)
Name: Leonard F. Sandoval Title: DEP

Signature: [signature]

Date: 10/21/2020

Observer Organization: EPC-CP

Certified by: ETA

Certification Date: 8/19/2020

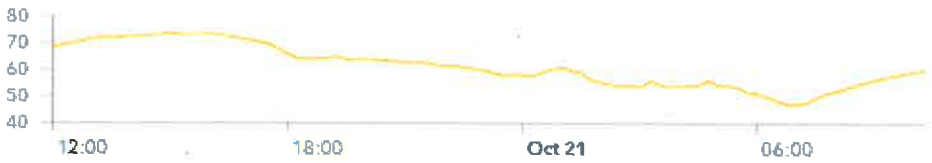
Select Tower to View Details | TA 6 | TA 49 | TA 53 | TA 54 | TA 5 MDCN

TA53 last updated at **10/21/2020, 10:15 AM MST***

Temperature

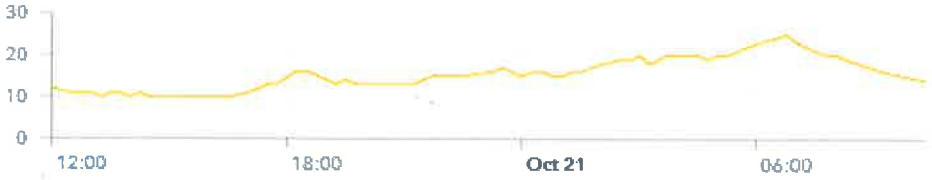
60 °F

Last 24 Hours



Relative Humidity

14 %



Wind

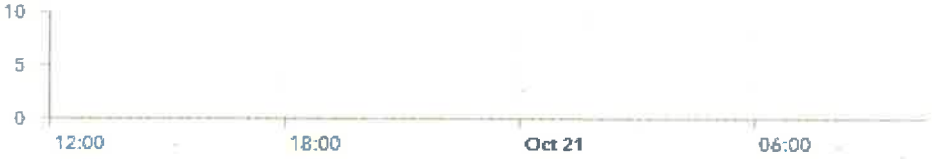
4 mph

from 85°



Precipitation Today

0 in



Pressure

No Data



Conditions (F) | Conditions (C) | More Data | Additional Resources

Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (6 MINUTE)

Source Name: TA-60 Asphalt Batch Plant

Source Location: TA-60-233

Type of Source: Asphalt Plant

Type of Control Equipment: Bag House

Describe Emission Point (Top of stack, etc.): Top of Stack

Height Above Ground Level: 33 Feet

Height Relative to Observer: 26 Feet

Distance From Observer: 65 Feet

Direction of Source From Observer: NNW

Description of Plume (stack exit only)
☐Looping ☐Trapping ☐Looping ☐Fanning ☐Coning
☑No Plume Present

Emission Color: NA

Plume Type ☑No Plume Present ☐Continuous ☐Fugitive ☐Intermittent

Water Droplets Present?
☑NO ☐YES If YES, droplet plume is ☐Attached ☐Detached

At what point in the plume was opacity determined?
6" above stack height

Describe Background (i.e. blue sky, trees, etc.): Gray Cloud Cover

Background Color: Grey

Sky Conditions: Cloudy

Wind Speed: 13 mph

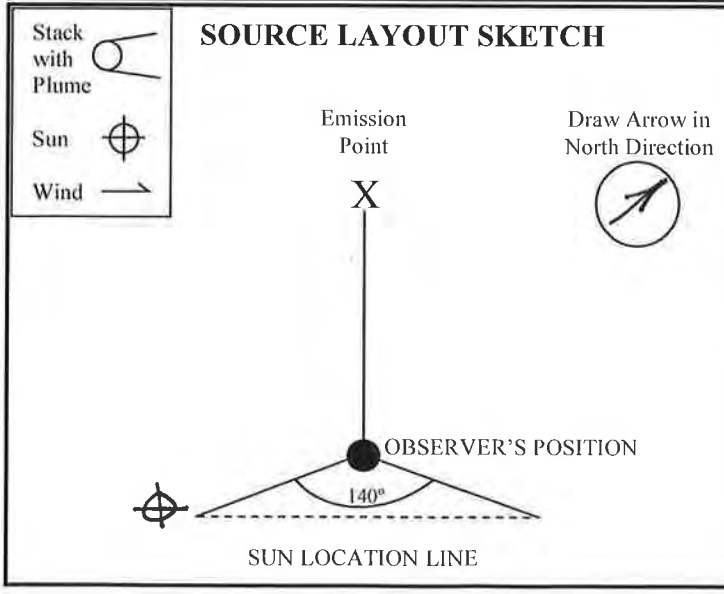
Wind Direction (provide from/to, i.e. from North to South): NNE to SSW

Ambient Temperature: 44°F

Relative Humidity: 84 %

Additional Comments/Information:
NA

SOURCE LAYOUT SKETCH



Observation Date: 11/23/2020

Start Time: 10:58 a.m.

End Time: 11:04 a.m.

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Average 6-Minute Opacity: 0

Range of Opacity Readings: Min. 0 Max. 0

OBSERVER (please print)
Name: Leonard F. Sandoval Title: DEP

Signature: [signature] Date: 11/23/2020

Observer Organization: EPC-CP

Certified by: ETA Certification Date: 8/19/2020

Hourly Forecast for Today, Monday 11/23

Today 11/23 — 50% / 0.04 in

Cloudy with occasional showers this afternoon. High 49F. Winds SSW at 10 to 20 mph. Chance of rain 50%.

Tonight 11/23 — 60% / 0.08 in

Mostly cloudy with showers and a few thunderstorms. Low 36F. Winds SW at 5 to 10 mph. Chance of rain 60%.

Sun

6:51AM 4:55PM

Moon

1:52PM 12:30AM

Waxing Gibbous, 58% visible

Time	Conditions	Temp.	Feels Like	Precip	Amount	Cloud Cover	Dew Point	Humidity	Wind	Pressure
7:00 am	Cloudy	37 °F	30 °F	15 %	0 in	98 %	36 °F	94 %	12 mph SSW	30.01 in
8:00 am	Cloudy	37 °F	30 °F	15 %	0 in	96 %	36 °F	95 %	11 mph SSW	30.00 in
9:00 am	Cloudy	39 °F	32 °F	15 %	0 in	96 %	37 °F	95 %	11 mph S	29.98 in
10:00 am	Cloudy	43 °F	37 °F	14 %	0 in	91 %	39 °F	85 %	12 mph S	29.96 in
11:00 am	Cloudy	44 °F	38 °F	18 %	0 in	92 %	40 °F	84 %	13 mph SSW	29.91 in
12:00 pm	Cloudy	45 °F	39 °F	18 %	0 in	84 %	40 °F	80 %	13 mph SSW	29.86 in
1:00 pm	Mostly Cloudy	46 °F	40 °F	10 %	0 in	79 %	39 °F	77 %	13 mph SSW	29.81 in
2:00 pm	Mostly Cloudy	47 °F	42 °F	22 %	0 in	74 %	39 °F	72 %	12 mph SSW	29.77 in
3:00 pm	Mostly Cloudy	48 °F	43 °F	24 %	0 in	70 %	39 °F	70 %	12 mph SSW	29.74 in
4:00 pm	Showers	48 °F	42 °F	35 %	0.01 in	78 %	39 °F	71 %	11 mph SSW	29.74 in
5:00 pm	Showers	46 °F	42 °F	48 %	0.02 in	76 %	39 °F	76 %	9 mph SSW	29.75 in

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (6 MINUTE)

Source Name: TA-60 Asphalt Batch Plant

Source Location: TA-60-233

Type of Source: Asphalt Plant

Type of Control Equipment: Baghouse

Describe Emission Point (Top of stack, etc.): Top of Stack

Height Above Ground Level: 33 Feet

Height Relative to Observer: 26 Feet

Distance From Observer: 65 Feet

Direction of Source From Observer: NNW

Description of Plume (stack exit only)
☐Looping ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: NA

Plume Type ☒No Plume Present
☐Continuous ☐ Fugitive ☐Intermittent

Water Droplets Present?
☒NO ☐YES If YES, droplet plume is ☐Attached ☐Detached

At what point in the plume was opacity determined?
6" above stack height

Describe Background (i.e. blue sky, trees, etc.): Mix of blue sky & grey cloud cover

Background Color: Blue Sky mix

Sky Conditions: Blue Sky mix

Wind Speed: 3 mph

Wind Direction (provide from/to, i.e. from North to South): E to W

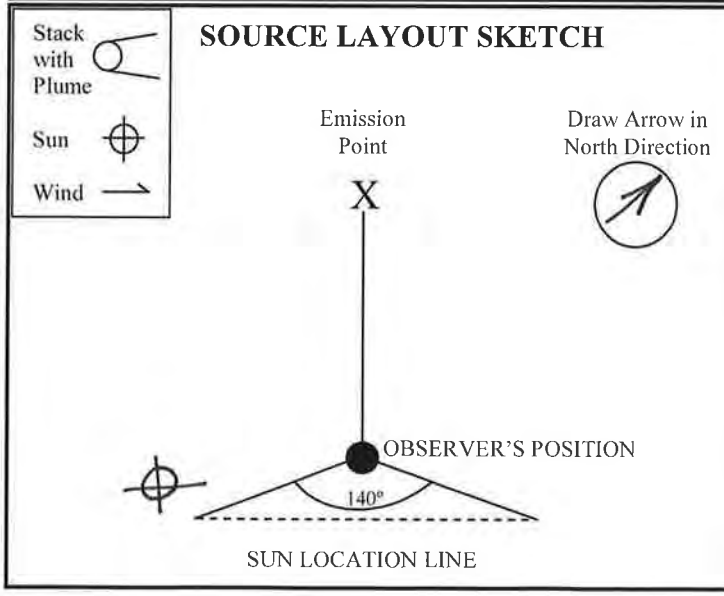
Ambient Temperature: 27 °F

Relative Humidity: 51 %

Additional Comments/Information:

NA

SOURCE LAYOUT SKETCH



Observation Date: 12/17/2020

Start Time: 10:55a.m.

End Time: 11:01a.m.

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Average 6-Minute Opacity: 0

Range of Opacity Readings: Min. 0 Max. 0

OBSERVER (please print)
Name: Leonard F. Sandoval

Title: DEP

Signature

Date: 12/17/2020

Observer Organization: EPC-CP

Certified by: ETA

Certification Date: 8/19/2020

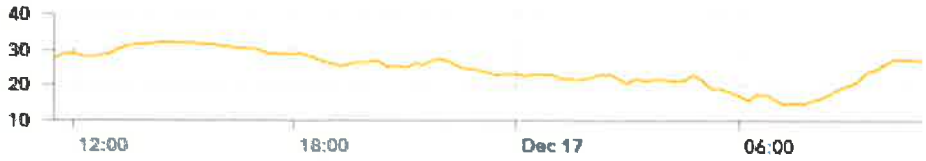
Select Tower to View Details | TA 6 | TA 49 | TA 53 | TA 54 | TA 5 MDCN

TA53 last updated at 12/17/2020, 11:00 AM MST*

Temperature

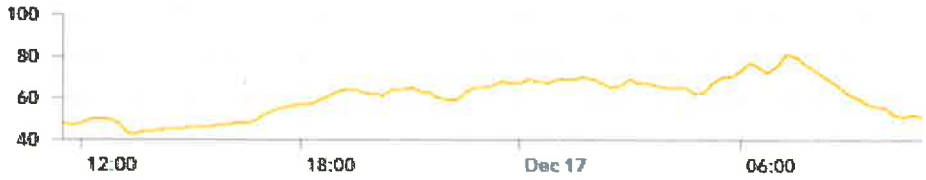
27 °F

Last 24 Hours



Relative Humidity

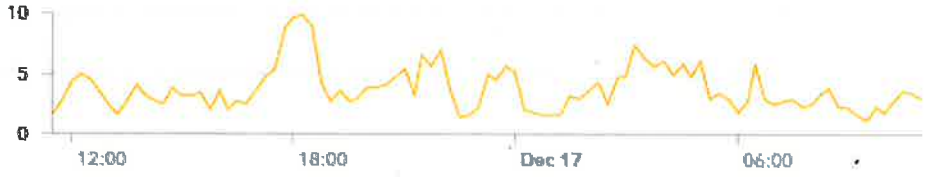
51 %



Wind

3 mph

from 72°



Precipitation Today

0 in



Pressure

No Data



Conditions (F) | Conditions (C) | More Data | Additional Resources

ATTACHMENT A607.E.

Asphalt Plant

Daily Operation Log and 12-Month Rolling Production

2020 TA-60 BDM Asphalt Plant

Data Reviewed By / Date: K. Mahoney, 1/11/2021 (July-Dec data entry)

Month	Data Entry Asphalt Produced (Tons)	12-Month Rolling Total	Month	Data Entry Asphalt Produced (Tons)	12-Month Rolling Total
January	39	591	**July**	0	197
February	25	550	**August**	0	151
March	7	481	**September**	0	134
April	0	380	**October**	28	135
May	0	321	**November**	34	169
June	0	250	**December**	3	136
6 mo. Total	71		**6 mo. Total:**	65	

Annual Hours			
Month	**Hours**	**Month**	**Hours**
Jan	7.9	Jul	0.0
Feb	3.2	Aug	0.0
Mar	1.1	Sep	0.0
Apr	0.0	Oct	4.7
May	0.0	Nov	4.6
Jun	0.0	Dec	1.0
Total:	12.2	Total:	10.4

2020 Asphalt Produced (Tons):	**136**

12-Month Rolling Production Permit Limit is 6,000 Tons

Annual Total (to date): **22.6** Hours

Hours are Limited to 4,380 per Year

Logistics Division
Asphalt Batch Plant Operations
41-20-001.2: Asphalt Batch Plant Daily Operating Log

Date	Hours of Operation			Asphalt Produced (tons)	Number of Truck Trips to Plant	Haul Road Swept? (check one)		Pressure Drop Across Baghouse				Operator's Initials (Person Taking Readings)
								Start		End		
	Start Time	End Time	Total (hrs.)			Yes	No	Pressure	Time	Pressure	Time	
10-2-20	10:05	10:40	0.58	0	0			-2.52	8:19	-2.52	10:33	Leslie
10-13-20	12:36	1:07	0.52	3	0			-2.52	12:46	-2.52	12:52	Leslie
10-14-20	9:40	10:11	0.52	04	01			-2.52	9:57	-2.52	10:00	Leslie
10-15-20	10:33	10:59	0.43	3	1			-2.52	10:46	-2.52	10:55	Leslie
10-16-20	10:00	10:35	0.58	3	1			-2.52	10:04	-2.52	10:24	Leslie
10-20-20	11:06	11:37	0.52	3	1			-2.52	11:15	-2.52	11:32	Leslie
10-21-20	11:00	11:32	0.53	3	1			-2.52	11:12	-2.52	11:25	Leslie
10-22-20	10:48	11:17	0.48	3	1			-2.52	11:00	-2.52	11:11	Leslie
10-27-20	8:37	9:12	0.58	6	1			-2.52	8.53	-2.52	9:10	Leslie
		Total:	4.74 hrs	28 tons								

Operation of the plant is limited to 1/2 hour after sunrise to 1/2 hour before sunset.

The data in this log is required by NMED Title V Operating Permit (Air Quality) and must be maintained on site for a minimum of 5 years.

Logistics Division
Asphalt Batch Plant Operations
41-20-001.2: Asphalt Batch Plant Daily Operating Log

Date	Hours of Operation			Asphalt Produced (tons)	Number of Truck Trips to Plant	Haul Road Swept? (check one)		Pressure Drop Across Baghouse				Operator's Initials (Person Taking Readings)
								Start		End		
	Start Time	End Time	Total (hrs.)			Yes	No	Pressure	Time	Pressure	Time	
11-13-20	11:14	11:53	0.65	4	1			-2.52	11:28	-2.52	11:35	Leslie
11-17-20	840	9.24	0.73	5	1			-2.52	850	-2.52	918	Anthony
11-17 20	1030	11:10	0.67	8	1			-2.52	1035	-2.52	1100	Anthony
11-18-20	1125	1205	0.83	8	1			-2.52	1129	-2.52	1203	Anthony
11-20-20	945	1030	0.75	3	1			-2.52	956	-2.52	1019	Anthony
11-23-20	11:00	11:29	0.48	3	1			5.73	11:15	5.62	11:24	Leslie
11-24-20	10:50	11:21	0.52	3	1			5.34	11:04	5.26	11:18	Leslie
		Total	4.63 hrs	34 tons								

Operation of the plant is limited to 1/2 hour after sunrise to 1/2 hour before sunset.

The data in this log is required by NMED Title V Operating Permit (Air Quality) and must be maintained on site for a minimum of 5 years.

Logistics Division
Asphalt Batch Plant Operations
41-20-001.2: Asphalt Batch Plant Daily Operating Log

Date	Hours of Operation			Asphalt Produced (tons)	Number of Truck Trips to Plant	Haul Road Swept? (check one)		Pressure Drop Across Baghouse				Operator's Initials (Person Taking Readings)
								Start		End		
	Start Time	End Time	Total (hrs.)			Yes	No	Pressure	Time	Pressure	Time	
12-17-20	1044	1145	1.02	3	1			784	1054	476	1135	AM

Operation of the plant is limited to 1/2 hour after sunrise to 1/2 hour before sunset.

The data in this log is required by NMED Title V Operating Permit (Air Quality) and must be maintained on site for a minimum of 5 years.

ATTACHMENT A607.F.

Asphalt Plant

Maintenance and Delivery Records

Los Alamos NATIONAL LABORATORY

Logistics Division
Maintenance Operating Instruction
Asphalt Batch Plant Operations
41-20-001.3: ASPHALT BATCH PLANT PM INSPECTION & LUBRICATION CHECKLIST

PM DATE: 12-2-2020 | NEXT SCHEDULED PM DATE: 6-2-2021

TA-60 BLDG-233 EQUIP. ID: Batch Plant | PM #: 2020-02

Place a Checkmark under "S" if the condition is SATISFACTORY or "U" if the condition is UNSATISFACTORY. Note actions required or general remarks in "Comments" as applicable. Mark "N/A" under comments if not applicable. Advise the foreman or supervisor of problems involving imminent danger.

ASPHALT BATCH PLANT PREVENTATIVE MAINTENANCE INSPECTION AND LUBRICATION

STEP	ACTION / DESCIPTION	S	U	Comments
1.0	*PRE-MAINTENANCE INSTRUCTIONS*			
1.1	Before beginning maintenance, follow applicable LO/TO procedures at the main control panel	✓		
2.0	*ASPHALT PLANT MAINTENANCE*			
2.1	Perform preventative maintenance of the asphalt plant equipment semi-annually.	✓		
3.0	*LUBE/INSPECTION POINTS*			
	FEEDER	✓		
3.1	8 Pillow Blocks	✓		
3.2	1 Gear Box (Check Oil) *Add if Necessary*	✓		
3.3	2 Wheel bearings	✓		
3.4	Clear away stones and dust build up from any moving parts	✓		
	CONVEYOR BELT	✓		
3.5	4 Pillow Blocks	✓		
3.6	1 Gear Box (Check Oil) *Add if Necessary*	✓		
3.7	Clear away stones and dust build up from any moving parts	✓		
	DRIER	✓		
3.8	12 Pillow Blocks	✓		
3.9	1 Gear Box (Check Oil) *Add if Necessary*	✓		had to add oil 90w Gear oil
3.10	Clear away stones and dust build up from any moving parts	✓		
3.11	Inspect the drum roller drive chain for mechanical integrity. Replace or repair any broken parts	✓		
3.12	Lube chain and idle gear	✓		
	HOT ELEVATOR			
3.13	2 Pillow Blocks	✓		
3.14	2 Flat Bearings	✓		
3.15	1 Gear Box (Check Oil) *Add if Necessary*	✓		
3.16	Clear away stones and dust build up from any moving parts	✓		
3.17	Inspect the elevator chain under the buckets for proper tension and mechanical integrity. Ensure no broken parts or damage exists. Adjust/replace if necessary	✓		
3.18	Inspect elevator buckets for aggregate buildup and metal wear. Repair and/or clean parts if necessary.	✓		
3.19	Inspect elevator bottom for excessive aggregate buildup. Remove and/or clean if evident.	✓		
	SHAKER AND SCREENING PLANT			
3.20	2 Bearing on Electric Motor	✓		
3.21	1 Gear Box (Check Oil) *Add if Necessary*	✓		
3.22	Screen Cloth Tension	✓		
3.23	Inspect even material feed and distribution into screen.	✓		Checked top screen and it in good condition
3.24	Tighten Loose Bolts	✓		
3.25	Drive Belt Tension	✓		
3.26	Support Springs	✓		
3.27	Clear away stones and dust build up from any moving parts	✓		

3.28	Inside the screen, inspect the feed and discharge wear plates for excessive buildup and wear. Repair and/or clean as needed			

ASPHALT BATCH PLANT PREVENTATIVE MAINTENANCE INSPECTION AND LUBRICATION

STEP	ACTION / DESCIPTION	S	U	Comments
	PUG MILL			
3.29	4 Pillow Blocks	✓		
3.30	1 Gear Box (Check Oil) ***Add if Necessary***	✓		
3.31	Clear away stones and dust build up from any moving parts	✓		
3.32	Inside the mill, inspect the 2 paddle assemblies and wear plates under the paddles for excessive buildup and wear. Repair and/or clean as needed	✓		
	BAG HOUSE			
3.33	3 Flat Bearings	✓		
3.34	4 Gear Box Points (Check Oil) ***Add if Necessary***	✓		
	EXHAUST FAN	✓		
3.35	2 Pillow Blocks	✓		
3.36	2 Fittings on Electric Motor	✓		
	DAMPER CONTROL	✓		
3.37	4 Flat Bearings	✓		
	AIR COMPRESSOR	✓		
3.38	Clean Air Filter	✓		
3.39	Check Oil Level ***Add if Necessary***	✓		
	DUST RETURN SCREW	✓		
3.40	1 Gear Box (Check Oil) ***Add if Necessary***	✓		
	HOT ASPHALT PUMP	✓		
3.41	2 Fittings on Electric Motor	✓		
	HOT OIL PUMP AND ELECTRIC MOTOR	✓		
3.42	2 Fittings on Electric Motor	✓		
	PROPANE PUMP	✓		
3.43	2 Fittings	✓		
4.0	***POST-MAINTENANCE INSTRUCTIONS***	✓		
4.1	After completing maintenance, follow applicable LO/TO procedures at the main control panel	✓		

REMARKS / ACTION REQUIRED:

VERIFICATION

CRAFT NAME: Andrew Garcia	Z-NUMBER	DATE
CRAFT SIGNATURE: [signature]	Z327001	12-2-20
SUPERINTENDENT NAME: Adam W. Drake	Z-NUMBER	DATE
SUPERINTENDENT SIGNATURE: [signature]	Z328300	12-7-2020

ATTACHMENT A607.G.

Asphalt Plant

EPA Method 22 Opacity Reports

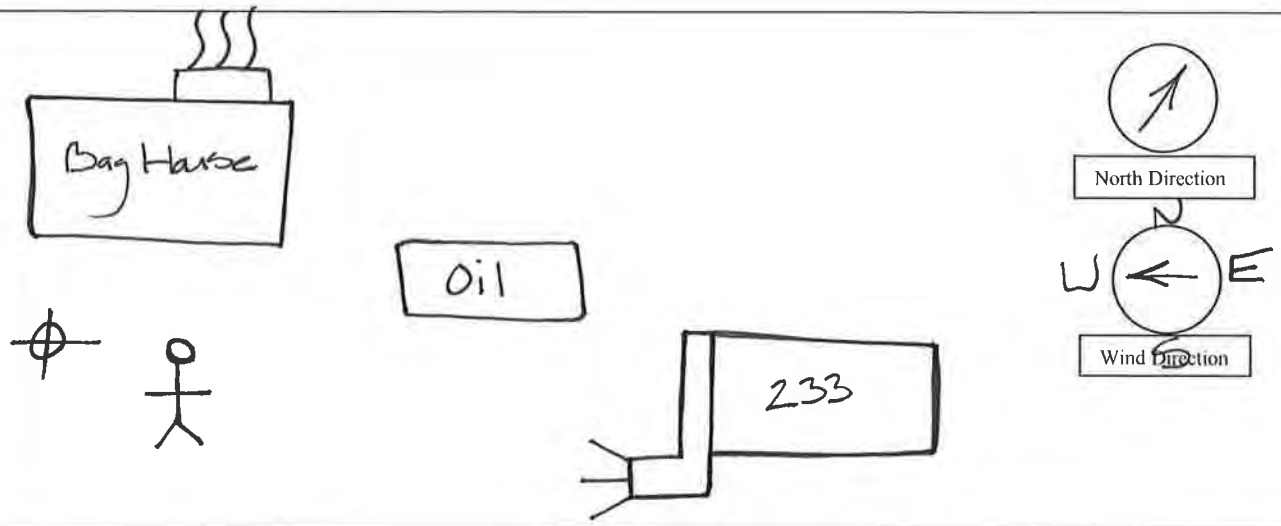
Los Alamos National Laboratory
METHOD 22 Visual Determination of Fugitive Emissions Form

Location: TA-60 Asphalt Batch Plant	**Observer Affiliation:** EPC-CP
Representative: Leonard F. Sandoval	**Date of Inspection:** 10/21/2020
Sky Conditions: Clear Blue Sky	**Wind Direction:** West
Precipitation: ∅	**Wind Speed:** 4 mph
Industry: DOE National Lab	**Process Unit:** F.E.

Sketch of Process Unit:

Indicate:

* observer position relative to source
* potential emission and/or actual emission points
* sun location
* wind direction
* North direction



Observations:	Clock Time	Observation period duration (min:sec)	Accumulated Emission Time(min:sec)
Begin	10:58 a.m.		
		10 min.	1.5 = 1.5'.
End Observation	11:08 a.m.		

Notes:

This form is used to document fugitive visible emissions from outside air emission sources. If an emission is observed during the Method 22 inspection/observation period (which must be at least 6 minutes for the Asphalt Plant and 10 minutes for all other LANL sources), a Method 9 visible emission test may need to be performed.

SIGNATURE OF OBSERVER/INSPECTOR: DEP

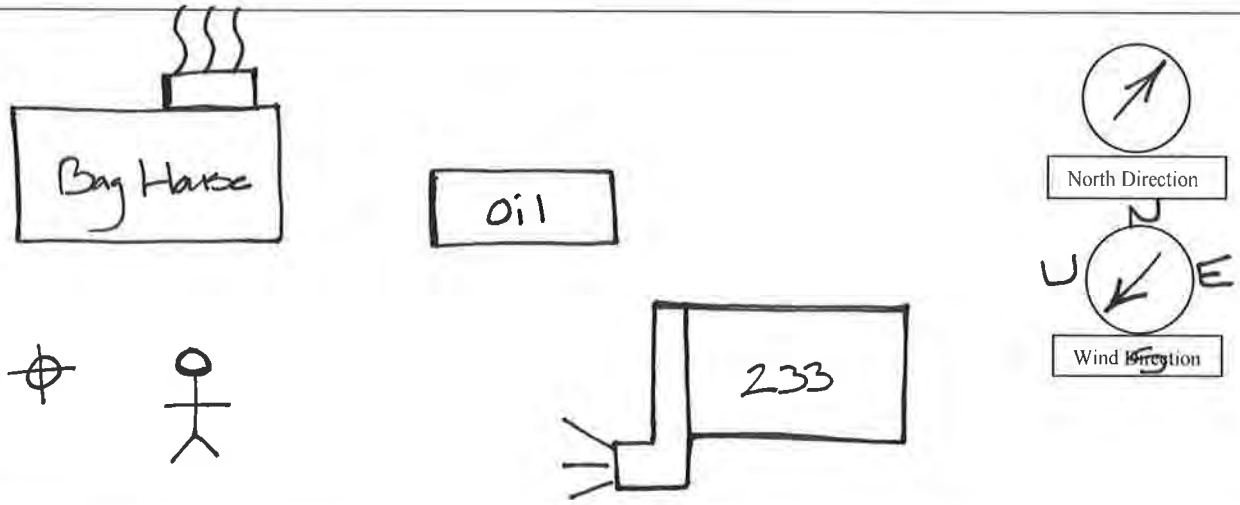
DATE 10/21/2020

Los Alamos National Laboratory
METHOD 22 Visual Determination of Fugitive Emissions Form

Location: TA-60 Asphalt Batch Plant	**Observer Affiliation:** EPC-CP
Representative: Leonard F. Sandoval	**Date of Inspection:** 11/23/2020
Sky Conditions: Cloudy	**Wind Direction:** SSW
Precipitation: ∅	**Wind Speed:** 13 mph
Industry: DOE National Laboratory	**Process Unit:** F.E.

Sketch of Process Unit:

Indicate:
* observer position relative to source
* potential emission and/or actual emission points
* sun location
* wind direction
* North direction



Observations:	Clock Time	Observation period duration (min:sec)	Accumulated Emission Time(min:sec)
Begin	10:58 a.m.		
		10 min.	1.5=1.5%.
End Observation	11:08 a.m.		

Notes:

This form is used to document fugitive visible emissions from outside air emission sources. If an emission is observed during the Method 22 inspection/observation period (which must be at least 6 minutes for the Asphalt Plant and 10 minutes for all other LANL sources), a Method 9 visible emission test may need to be performed.

SIGNATURE OF OBSERVER/INSPECTOR: F. DEP DATE 11/23/2020

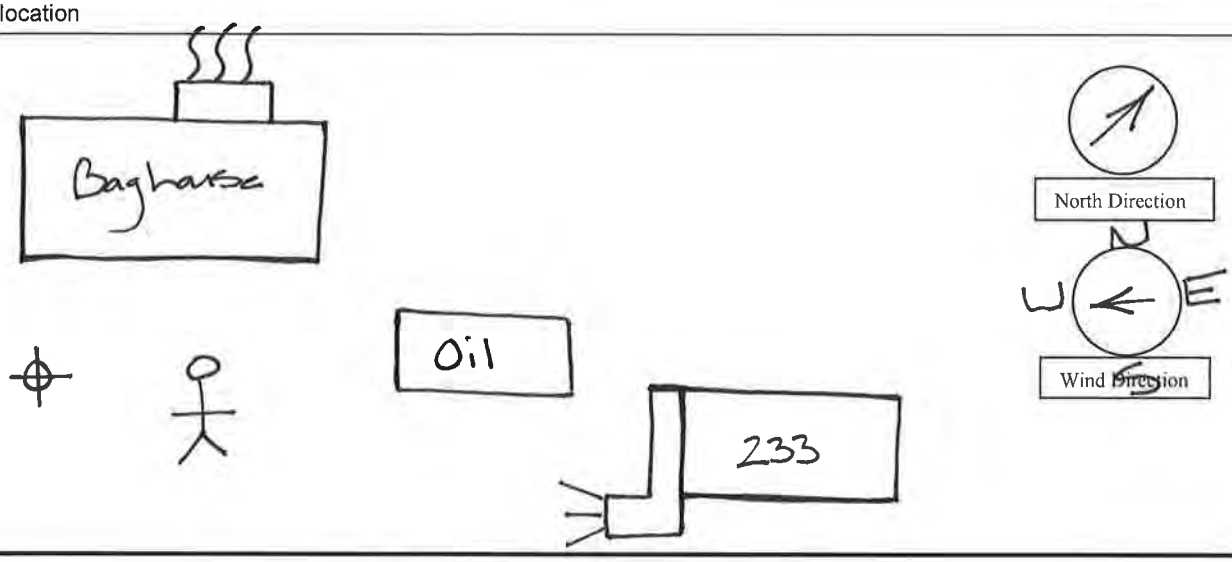
Los Alamos National Laboratory
METHOD 22 Visual Determination of Fugitive Emissions Form

Location: TA-60 Asphalt Batch Plant	**Observer Affiliation:** EPC-CP
Representative: Leonard F. Sandoval	**Date of Inspection:** 12/17/2020
Sky Conditions: Blue Sky mix	**Wind Direction:** E to W
Precipitation: 0	**Wind Speed:** 3 mph
Industry: DOE National Laboratory	**Process Unit:** Fugitive Emissions

Sketch of Process Unit:

Indicate:

* observer position relative to source
* potential emission and/or actual emission points
* sun location
* wind direction
* North direction



Observations:	Clock Time	Observation period duration (min:sec)	Accumulated Emission Time(min:sec)
Begin	10:55 a.m.		
		10 min	1.5=1.5%
End Observation	11:05 a.m.		

Notes:

This form is used to document fugitive visible emissions from outside air emission sources. If an emission is observed during the Method 22 inspection/observation period (which must be at least 6 minutes for the Asphalt Plant and 10 minutes for all other LANL sources), a Method 9 visible emission test may need to be performed.

SIGNATURE OF OBSERVER/INSPECTOR: L. F. DEP DATE 12/17/2020

ATTACHMENT A707.B.a.

Beryllium

TA-03-0066 Beryllium Logs

July 1, 2020 - December 31, 2020

Electroplating/Chemical Milling

Date	Weight of Beryllium Samples Processed (gm)	Controlled Emission Factor (gm emission/gm Used)	Controlled Be Emissions (gm)
No beryllium processed during this period.		1.20E-05	0.00E+00
Total Beryllium Emissions from Electroplating/Chemical Milling			**0.00E+00**

Note: Information required under Title V Operating Permit P100-R2M4, Section A707.B, Emissions Monitoring Requirements and A707.D, Reporting Requirements

July 1, 2020 - December 31, 2020

Metallography

Date	Number of Metallographic Specimens Used in the Polishing Operation	Weight of Each Specimen (gm) [1]	Total Weight of Specimen (gm)	Controlled Emission Factor (gm emission/gm Used)	Be Emissions (gm)
No beryllium processed during this period.		20	0	3.50E-09	0.00E+00
				Total Beryllium Emissions from Metallography	**0.00E+00**

Note: Information required under Title V Operating Permit P100-R2M4, Section A707.B, Emissions Monitoring Requirements and A707.D, Reporting Requirements

Note: [1] The weight of specimen are conservative averages

July 1, 2020 - December 31, 2020

Machining

Date	Weight Beryllium Samples Used (gm)	Controlled Emission Factor (gm emission/gm Used)	Be Emissions (gm)
No beryllium processed during this period.		1.75E-09	0.00E+00
		Total Beryllium Emissions from Machining	**0.00E+00**

Note: Information required under Title V Operating Permit P100-R2M4, Section A707.B, Emissions Monitoring Requirements and A707.D, Reporting Requirements

July 1, 2020 - December 31, 2020

Arc Melting/Casting

Date	Weight of Beryllium Samples Used (gm)	Controlled Emission Factor (gm emission/gm Used)	Be Emissions (gm)
No beryllium processed during this period.		1.75E-09	0.00E+00
	Total Beryllium Emissions from Arc Melting/Casting		**0.00E+00**

Note: Information required under Title V Operating Permit P100-R2M4, Section A707.B, Emissions Monitoring Requirements and A707.D, Reporting Requirements

ATTACHMENT A707.B.b.

Beryllium

TA-35-0213 Beryllium Operating Log

TA-35-0213 Beryllium Operating Log
July 1 - December 31, 2020

July		August		September		October		November		December	
Date	**Hours**	**Date**	**Hours**	**Date**	**Hours**	**Date**	**Hours**	**Date**	**Hours**	**Date**	**Hours**
8-Jul-2020	6	18-Aug-2020	5	1-Sep-2020	6	1-Oct-2020	7	3-Nov-2020	4	1-Dec-2020	5
9-Jul-2020	5	19-Aug-2020	6	2-Sep-2020	5	2-Oct-2020	7	4-Nov-2020	5	2-Dec-2020	6
14-Jul-2020	5	20-Aug-2020	6	3-Sep-2020	6	6-Oct-2020	8	5-Nov-2020	4	3-Dec-2020	5
15-Jul-2020	5	21-Aug-2020	5	4-Sep-2020	4	7-Oct-2020	6	10-Nov-2020	7	8-Dec-2020	5
16-Jul-2020	4	25-Aug-2020	4	9-Sep-2020	5	8-Oct-2020	6	12-Nov-2020	6	9-Dec-2020	6
21-Jul-2020	5	26-Aug-2020	5	10-Sep-2020	6	13-Oct-2020	5	13-Nov-2020	5	10-Dec-2020	7
22-Jul-2020	6	27-Aug-2020	5	15-Sep-2020	4	14-Oct-2020	4	17-Nov-2020	6	11-Dec-2020	6
23-Jul-2020	6			16-Sep-2020	5	15-Oct-2020	4	18-Nov-2020	5	15-Dec-2020	7
24-Jul-2020	6			17-Sep-2020	6	16-Oct-2020	4	19-Nov-2020	6	16-Dec-2020	6
28-Jul-2020	6			18-Sep-2020	4	27-Oct-2020	6	25-Nov-2020	5	17-Dec-2020	4
29-Jul-2020	5			22-Sep-2020	6	28-Oct-2020	3			21-Dec-2020	4
30-Jul-2020	4			23-Sep-2020	5	29-Oct-2020	5			22-Dec-2020	2
				24-Sep-2020	6	30-Oct-2020	5				
				29-Sep-2020	6						
				30-Sep-2020	6						
Total Hours	**63**		**36**		**80**		**70**		**53**		**63**

Total hours for July 1 - December 31, 2020: **365**

Reviewed by: Katelyn Mahoney, 1/12/2021

ATTACHMENT A707.C.a.

Beryllium

TA-03-0141 Beryllium HEPA Filter Differential Pressure Readings

		HEPA 1	HEPA 2	DUST	YEAR
DAY 1	04:00	0.78	0.60	0.90	2020
	12:00	0.77	0.59	1.04	2020
	20:00	0.79	0.60	1.10	2020
DAY 2	04:00	0.78	0.60	0.94	2020
	12:00	0.79	0.60	1.03	2020
	20:00	0.78	0.60	1.19	2020
DAY 3	04:00	0.77	0.59	1.01	2020
	12:00	0.78	0.60	1.13	2020
	20:00	0.78	0.60	1.04	2020
DAY 4	04:00	0.77	0.59	1.03	2020
	12:00	0.77	0.59	1.08	2020
	20:00	0.78	0.60	1.10	2020
DAY 5	04:00	0.77	0.59	0.96	2020
	12:00	0.77	0.59	1.08	2020
	20:00	0.78	0.60	1.13	2020
DAY 6	04:00	0.78	0.60	0.99	2020
	12:00	0.78	0.60	1.09	2020
	20:00	0.77	0.60	1.12	2020
DAY 7	04:00	0.77	0.59	0.99	2020
	12:00	0.77	0.60	1.14	2020
	20:00	0.78	0.60	1.20	2020
DAY 8	04:00	0.79	0.60	1.08	2020
	12:00	0.79	0.61	1.16	2020
	20:00	0.78	0.59	1.14	2020
DAY 9	04:00	0.79	0.61	1.07	2020
	12:00	0.78	0.59	1.14	2020
	20:00	0.77	0.59	1.25	2020
DAY 10	04:00	0.78	0.60	1.06	2020
	12:00	0.77	0.59	1.21	2020
	20:00	0.80	0.60	1.24	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 11	04:00	0.78	0.59	1.14	2020
	12:00	0.77	0.59	1.25	2020
	20:00	0.78	0.59	1.30	2020
DAY 12	04:00	0.78	0.60	1.18	2020
	12:00	0.78	0.59	1.30	2020
	20:00	0.78	0.59	1.26	2020
DAY 13	04:00	0.77	0.60	1.14	2020
	12:00	0.78	0.60	1.19	2020
	20:00	0.78	0.59	1.18	2020
DAY 14	04:00	0.79	0.61	1.03	2020
	12:00	0.77	0.59	1.14	2020
	20:00	0.78	0.60	1.27	2020
DAY 15	04:00	0.78	0.60	1.07	2020
	12:00	0.79	0.60	1.13	2020
	20:00	0.78	0.59	1.12	2020
DAY 16	04:00	0.78	0.60	1.04	2020
	12:00	0.79	0.61	1.11	2020
	20:00	0.79	0.60	1.13	2020
DAY 17	04:00	0.77	0.60	1.00	2020
	12:00	0.78	0.60	1.05	2020
	20:00	0.78	0.60	1.10	2020
DAY 18	04:00	0.78	0.59	0.99	2020
	12:00	0.77	0.60	1.02	2020
	20:00	0.77	0.59	1.08	2020
DAY 19	04:00	0.77	0.60	0.95	2020
	12:00	0.77	0.59	1.05	2020
	20:00	0.79	0.61	1.09	2020
DAY 20	04:00	0.77	0.59	0.92	2020
	12:00	0.77	0.60	1.05	2020
	20:00	0.78	0.60	1.11	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 21	04:00	0.78	0.59	0.98	2020
	12:00	0.78	0.59	1.15	2020
	20:00	0.78	0.60	1.11	2020
DAY 22	04:00	0.77	0.59	0.99	2020
	12:00	0.78	0.59	1.05	2020
	20:00	0.78	0.60	1.05	2020
DAY 23	04:00	0.77	0.59	1.04	2020
	12:00	0.78	0.60	1.01	2020
	20:00	0.77	0.59	1.11	2020
DAY 24	04:00	0.77	0.59	0.97	2020
	12:00	0.79	0.60	1.06	2020
	20:00	0.79	0.61	1.08	2020
DAY 25	04:00	0.79	0.61	0.90	2020
	12:00	0.79	0.60	0.96	2020
	20:00	0.77	0.59	1.04	2020
DAY 26	04:00	0.76	0.59	0.98	2020
	12:00	0.77	0.59	1.05	2020
	20:00	0.76	0.58	1.01	2020
DAY 27	04:00	0.76	0.59	0.94	2020
	12:00	0.79	0.60	1.04	2020
	20:00	0.77	0.59	1.02	2020
DAY 28	04:00	0.76	0.59	0.93	2020
	12:00	0.79	0.60	1.01	2020
	20:00	0.80	0.61	1.12	2020
DAY 29	04:00	0.80	0.61	0.97	2020
	12:00	0.80	0.61	1.10	2020
	20:00	0.77	0.59	1.13	2020
DAY 30	04:00	0.76	0.58	1.05	2020
	12:00	0.78	0.59	1.18	2020
	20:00	0.76	0.58	1.23	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 31	04:00	0.75	0.58	1.02	2020
	12:00	0.78	0.60	1.06	2020
	20:00	0.76	0.59	1.12	2020

JAN | FEB | MAR

APR | MAY | JUN

JUL | AUG | SEP

OCT | NOV | DEC

MONTH DISPLAYED IS
JULY

3:09:05 PM Wednesday, January 06, 2021

PRINT SCREEN | MAIN

NM STATE REPORTING

		HEPA 1	HEPA 2	DUST	YEAR
DAY 1	04:00	0.76	0.58	0.98	2020
	12:00	0.76	0.58	1.04	2020
	20:00	0.76	0.58	1.04	2020
DAY 2	04:00	0.76	0.59	0.99	2020
	12:00	0.76	0.58	1.09	2020
	20:00	0.76	0.58	0.99	2020
DAY 3	04:00	0.76	0.58	0.92	2020
	12:00	0.79	0.60	1.06	2020
	20:00	0.77	0.60	1.06	2020
DAY 4	04:00	0.78	0.60	0.98	2020
	12:00	0.76	0.59	1.07	2020
	20:00	0.77	0.58	1.20	2020
DAY 5	04:00	0.76	0.58	1.06	2020
	12:00	0.76	0.58	1.12	2020
	20:00	0.76	0.59	1.06	2020
DAY 6	04:00	0.76	0.58	1.03	2020
	12:00	0.79	0.61	1.11	2020
	20:00	0.76	0.59	1.15	2020
DAY 7	04:00	0.77	0.59	1.00	2020
	12:00	0.79	0.61	1.10	2020
	20:00	0.77	0.59	1.13	2020
DAY 8	04:00	0.77	0.59	1.04	2020
	12:00	0.77	0.58	1.13	2020
	20:00	0.77	0.58	1.16	2020
DAY 9	04:00	0.77	0.59	1.06	2020
	12:00	0.79	0.60	1.14	2020
	20:00	0.80	0.61	1.14	2020
DAY 10	04:00	0.79	0.61	1.03	2020
	12:00	0.76	0.59	1.07	2020
	20:00	0.77	0.59	1.16	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 11	04:00	0.76	0.59	1.04	2020
	12:00	0.80	0.60	1.13	2020
	20:00	0.77	0.59	1.18	2020
DAY 12	04:00	0.77	0.58	1.03	2020
	12:00	0.79	0.61	1.12	2020
	20:00	0.77	0.59	1.19	2020
DAY 13	04:00	0.77	0.59	1.08	2020
	12:00	0.77	0.59	1.20	2020
	20:00	0.78	0.60	1.17	2020
DAY 14	04:00	0.77	0.59	1.10	2020
	12:00	0.77	0.59	1.17	2020
	20:00	0.77	0.59	1.18	2020
DAY 15	04:00	0.76	0.58	1.06	2020
	12:00	0.77	0.59	1.14	2020
	20:00	0.78	0.59	1.11	2020
DAY 16	04:00	0.76	0.59	1.02	2020
	12:00	0.76	0.57	1.10	2020
	20:00	0.78	0.59	1.10	2020
DAY 17	04:00	0.75	0.58	1.03	2020
	12:00	0.77	0.59	1.14	2020
	20:00	0.79	0.60	1.15	2020
DAY 18	04:00	0.79	0.60	1.05	2020
	12:00	0.79	0.61	1.09	2020
	20:00	0.79	0.60	1.12	2020
DAY 19	04:00	0.77	0.60	1.05	2020
	12:00	0.79	0.61	1.31	2020
	20:00	0.77	0.59	1.20	2020
DAY 20	04:00	0.76	0.58	1.08	2020
	12:00	0.78	0.60	1.13	2020
	20:00	0.78	0.59	1.17	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 21	04:00	0.76	0.59	1.03	2020
	12:00	0.77	0.58	1.12	2020
	20:00	0.79	0.60	1.20	2020
DAY 22	04:00	0.78	0.60	1.08	2020
	12:00	0.79	0.60	1.15	2020
	20:00	0.76	0.58	1.15	2020
DAY 23	04:00	0.75	0.59	1.06	2020
	12:00	0.76	0.57	1.12	2020
	20:00	0.75	0.58	1.21	2020
DAY 24	04:00	0.76	0.58	1.02	2020
	12:00	0.79	0.60	1.42	2020
	20:00	0.79	0.60	1.19	2020
DAY 25	04:00	0.79	0.60	1.04	2020
	12:00	0.77	0.59	1.13	2020
	20:00	0.76	0.58	1.18	2020
DAY 26	04:00	0.76	0.58	1.07	2020
	12:00	0.77	0.58	1.12	2020
	20:00	0.77	0.59	1.10	2020
DAY 27	04:00	0.76	0.59	0.98	2020
	12:00	0.76	0.58	1.07	2020
	20:00	0.78	0.60	1.13	2020
DAY 28	04:00	0.76	0.59	1.07	2020
	12:00	0.76	0.58	1.14	2020
	20:00	0.76	0.58	1.06	2020
DAY 29	04:00	0.76	0.58	0.93	2020
	12:00	0.76	0.59	1.05	2020
	20:00	0.76	0.59	1.02	2020
DAY 30	04:00	0.76	0.59	0.93	2020
	12:00	0.75	0.58	1.03	2020
	20:00	0.76	0.59	1.06	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 31	04:00	0.76	0.59	0.94	2020
	12:00	0.76	0.58	1.07	2020
	20:00	0.75	0.58	1.02	2020

JAN FEB MAR
APR MAY JUN
JUL AUG SEP
OCT NOV DEC

MONTH DISPLAYED IS
AUGUST

PRINT SCREEN MAIN

3:10:02 PM Wednesday, January 06, 2021

NM STATE REPORTING

		HEPA 1	HEPA 2	DUST	YEAR
DAY 1	04:00	0.76	0.58	0.91	2020
	12:00	0.78	0.60	0.93	2020
	20:00	0.77	0.59	1.00	2020
DAY 2	04:00	0.76	0.59	0.87	2020
	12:00	0.79	0.61	0.96	2020
	20:00	0.77	0.58	1.03	2020
DAY 3	04:00	0.76	0.59	0.96	2020
	12:00	0.78	0.59	1.11	2020
	20:00	0.79	0.60	1.12	2020
DAY 4	04:00	0.79	0.61	1.00	2020
	12:00	0.79	0.60	1.08	2020
	20:00	0.79	0.60	1.11	2020
DAY 5	04:00	0.79	0.60	1.02	2020
	12:00	0.79	0.60	1.15	2020
	20:00	0.78	0.60	1.08	2020
DAY 6	04:00	0.79	0.60	0.97	2020
	12:00	0.78	0.59	1.06	2020
	20:00	0.80	0.61	1.10	2020
DAY 7	04:00	0.80	0.61	1.01	2020
	12:00	0.80	0.61	1.08	2020
	20:00	0.80	0.61	1.12	2020
DAY 8	04:00	0.79	0.60	0.97	2020
	12:00	0.82	0.62	1.02	2020
	20:00	0.83	0.63	0.84	2020
DAY 9	04:00	0.83	0.64	0.68	2020
	12:00	0.82	0.63	0.67	2020
	20:00	0.81	0.62	0.68	2020
DAY 10	04:00	0.81	0.62	0.73	2020
	12:00	0.83	0.63	0.74	2020
	20:00	0.80	0.62	0.70	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 11	04:00	0.80	0.62	0.68	2020
	12:00	0.82	0.63	0.77	2020
	20:00	0.84	0.64	0.82	2020
DAY 12	04:00	0.82	0.62	0.71	2020
	12:00	0.84	0.63	0.80	2020
	20:00	0.83	0.63	0.80	2020
DAY 13	04:00	0.83	0.63	0.77	2020
	12:00	0.81	0.61	0.88	2020
	20:00	0.81	0.61	0.94	2020
DAY 14	04:00	0.80	0.61	0.86	2020
	12:00	0.82	0.62	0.86	2020
	20:00	0.81	0.61	0.96	2020
DAY 15	04:00	0.81	0.61	0.82	2020
	12:00	0.81	0.62	0.89	2020
	20:00	0.81	0.62	0.90	2020
DAY 16	04:00	0.80	0.61	0.86	2020
	12:00	0.81	0.61	0.94	2020
	20:00	0.81	0.62	0.98	2020
DAY 17	04:00	0.81	0.61	0.87	2020
	12:00	0.83	0.63	0.89	2020
	20:00	0.81	0.62	0.93	2020
DAY 18	04:00	0.80	0.62	0.83	2020
	12:00	0.81	0.62	0.88	2020
	20:00	-0.0	-0.0	-0.0	2020
DAY 19	04:00	-0.0	-0.0	-0.2	2020
	12:00	-0.0	-0.0	-0.1	2020
	20:00	-0.0	-0.0	-0.1	2020
DAY 20	04:00	-0.0	-0.0	-0.2	2020
	12:00	-0.0	-0.0	-0.1	2020
	20:00	-0.0	-0.0	-0.0	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 21	04:00	-0.0	-0.0	-0.2	2020
	12:00	0.80	0.62	0.94	2020
	20:00	0.81	0.61	1.04	2020
DAY 22	04:00	0.80	0.61	0.89	2020
	12:00	0.81	0.62	0.93	2020
	20:00	0.80	0.62	0.99	2020
DAY 23	04:00	0.80	0.61	0.90	2020
	12:00	0.81	0.62	0.99	2020
	20:00	0.81	0.62	0.97	2020
DAY 24	04:00	0.80	0.61	0.85	2020
	12:00	0.82	0.63	0.95	2020
	20:00	0.84	0.63	1.00	2020
DAY 25	04:00	0.84	0.64	0.93	2020
	12:00	0.83	0.63	1.00	2020
	20:00	0.83	0.63	1.00	2020
DAY 26	04:00	0.83	0.63	0.91	2020
	12:00	0.82	0.62	1.00	2020
	20:00	0.82	0.62	1.05	2020
DAY 27	04:00	0.81	0.62	0.94	2020
	12:00	0.80	0.61	0.97	2020
	20:00	0.81	0.62	0.98	2020
DAY 28	04:00	0.80	0.62	0.76	2020
	12:00	0.83	0.63	0.78	2020
	20:00	0.80	0.62	0.78	2020
DAY 29	04:00	0.80	0.61	0.79	2020
	12:00	0.83	0.63	0.76	2020
	20:00	0.80	0.61	0.88	2020
DAY 30	04:00	0.80	0.61	0.80	2020
	12:00	0.83	0.63	0.87	2020
	20:00	0.81	0.61	0.94	2020

JAN FEB MAR
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MONTH DISPLAYED IS
SEPTEMBER

PRINT SCREEN MAIN

3:10:21 PM Wednesday, January 06, 2021

NM STATE REPORTING

		HEPA 1	HEPA 2	DUST	YEAR
DAY 1	04:00	0.81	0.62	0.88	2020
	12:00	0.80	0.61	0.88	2020
	20:00	0.81	0.62	0.91	2020
DAY 2	04:00	0.80	0.62	0.81	2020
	12:00	0.81	0.62	0.82	2020
	20:00	0.80	0.61	0.91	2020
DAY 3	04:00	0.80	0.61	0.81	2020
	12:00	0.81	0.61	0.88	2020
	20:00	0.80	0.62	0.84	2020
DAY 4	04:00	0.81	0.63	0.72	2020
	12:00	0.80	0.62	0.82	2020
	20:00	0.81	0.61	0.88	2020
DAY 5	04:00	0.82	0.62	0.81	2020
	12:00	0.80	0.62	0.91	2020
	20:00	0.81	0.61	0.98	2020
DAY 6	04:00	0.81	0.62	0.84	2020
	12:00	0.82	0.62	0.99	2020
	20:00	0.82	0.63	0.91	2020
DAY 7	04:00	0.82	0.63	0.84	2020
	12:00	0.76	0.59	-0.0	2020
	20:00	0.77	0.60	-0.0	2020
DAY 8	04:00	0.76	0.59	-0.1	2020
	12:00	0.80	0.61	0.93	2020
	20:00	0.81	0.61	0.99	2020
DAY 9	04:00	0.81	0.62	0.88	2020
	12:00	0.81	0.61	0.97	2020
	20:00	0.81	0.62	0.96	2020
DAY 10	04:00	0.81	0.62	0.88	2020
	12:00	0.80	0.61	0.85	2020
	20:00	0.81	0.61	0.94	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 11	04:00	0.81	0.62	0.79	2020
	12:00	0.81	0.62	0.93	2020
	20:00	0.82	0.62	0.90	2020
DAY 12	04:00	0.82	0.62	0.73	2020
	12:00	0.81	0.61	0.82	2020
	20:00	0.83	0.63	0.83	2020
DAY 13	04:00	0.83	0.63	0.67	2020
	12:00	0.80	0.61	0.85	2020
	20:00	0.83	0.62	0.94	2020
DAY 14	04:00	0.82	0.63	0.83	2020
	12:00	0.82	0.63	0.86	2020
	20:00	0.82	0.62	0.90	2020
DAY 15	04:00	0.80	0.61	0.85	2020
	12:00	0.83	0.64	0.80	2020
	20:00	0.82	0.62	0.91	2020
DAY 16	04:00	0.80	0.62	0.73	2020
	12:00	0.83	0.63	0.75	2020
	20:00	0.81	0.62	0.82	2020
DAY 17	04:00	0.79	0.61	0.70	2020
	12:00	0.80	0.62	0.75	2020
	20:00	0.80	0.61	0.90	2020
DAY 18	04:00	0.80	0.61	0.76	2020
	12:00	0.80	0.61	0.85	2020
	20:00	0.81	0.61	0.90	2020
DAY 19	04:00	0.79	0.61	0.75	2020
	12:00	0.83	0.63	0.84	2020
	20:00	0.85	0.63	0.96	2020
DAY 20	04:00	0.84	0.63	0.84	2020
	12:00	0.86	0.65	0.86	2020
	20:00	0.85	0.63	0.91	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 21	04:00	0.84	0.64	0.81	2020
	12:00	0.84	0.64	0.82	2020
	20:00	0.84	0.64	0.89	2020
DAY 22	04:00	0.84	0.64	0.79	2020
	12:00	0.85	0.64	0.83	2020
	20:00	0.85	0.64	0.85	2020
DAY 23	04:00	0.84	0.63	0.82	2020
	12:00	0.87	0.65	0.78	2020
	20:00	0.84	0.64	0.71	2020
DAY 24	04:00	0.82	0.62	0.63	2020
	12:00	0.82	0.62	0.72	2020
	20:00	0.83	0.63	0.80	2020
DAY 25	04:00	0.84	0.63	0.73	2020
	12:00	0.81	0.62	0.81	2020
	20:00	0.83	0.63	0.70	2020
DAY 26	04:00	0.84	0.64	0.68	2020
	12:00	0.83	0.63	0.84	2020
	20:00	0.81	0.62	0.81	2020
DAY 27	04:00	0.81	0.62	0.83	2020
	12:00	0.84	0.64	0.67	2020
	20:00	0.81	0.62	0.68	2020
DAY 28	04:00	0.82	0.63	0.87	2020
	12:00	0.86	0.64	0.80	2020
	20:00	0.82	0.62	0.64	2020
DAY 29	04:00	0.83	0.63	0.81	2020
	12:00	0.84	0.64	0.72	2020
	20:00	0.82	0.62	0.75	2020
DAY 30	04:00	0.83	0.63	0.66	2020
	12:00	0.83	0.63	0.72	2020
	20:00	0.83	0.63	0.81	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 31	04:00	0.81	0.62	0.77	2020
	12:00	0.84	0.63	0.78	2020
	20:00	0.82	0.61	0.78	2020

JAN FEB MAR
APR MAY JUN
JUL AUG SEP
OCT NOV DEC

MONTH DISPLAYED IS
OCTOBER

PRINT SCREEN MAIN

3:10:32 PM Wednesday, January 06, 2021

NM STATE REPORTING

		HEPA 1	HEPA 2	DUST	YEAR
DAY 1	04:00	0.84	0.62	0.77	2020
	12:00	0.83	0.63	0.80	2020
	20:00	0.83	0.63	0.78	2020
DAY 2	04:00	0.83	0.62	0.76	2020
	12:00	0.83	0.63	0.79	2020
	20:00	0.84	0.62	0.82	2020
DAY 3	04:00	0.82	0.63	0.74	2020
	12:00	0.83	0.63	0.78	2020
	20:00	0.84	0.63	0.77	2020
DAY 4	04:00	0.81	0.62	0.74	2020
	12:00	0.83	0.63	0.83	2020
	20:00	0.84	0.63	0.83	2020
DAY 5	04:00	0.83	0.63	0.73	2020
	12:00	0.86	0.64	0.79	2020
	20:00	0.86	0.65	0.75	2020
DAY 6	04:00	0.85	0.64	0.75	2020
	12:00	0.83	0.62	0.82	2020
	20:00	0.82	0.62	0.78	2020
DAY 7	04:00	0.81	0.61	0.74	2020
	12:00	0.81	0.61	0.74	2020
	20:00	0.83	0.63	0.73	2020
DAY 8	04:00	0.83	0.63	0.78	2020
	12:00	0.83	0.63	0.72	2020
	20:00	0.83	0.63	0.79	2020
DAY 9	04:00	0.83	0.63	0.71	2020
	12:00	0.87	0.66	0.68	2020
	20:00	0.82	0.62	0.67	2020
DAY 10	04:00	0.83	0.63	0.73	2020
	12:00	0.83	0.63	0.68	2020
	20:00	0.83	0.64	0.73	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 11	04:00	0.84	0.64	0.91	2020
	12:00	0.83	0.63	0.75	2020
	20:00	0.83	0.63	0.63	2020
DAY 12	04:00	0.84	0.63	0.65	2020
	12:00	0.85	0.64	0.74	2020
	20:00	0.84	0.64	0.71	2020
DAY 13	04:00	0.83	0.62	0.81	2020
	12:00	0.83	0.63	0.66	2020
	20:00	0.83	0.62	0.67	2020
DAY 14	04:00	0.84	0.64	0.74	2020
	12:00	0.85	0.64	0.67	2020
	20:00	0.86	0.65	0.76	2020
DAY 15	04:00	0.84	0.63	0.87	2020
	12:00	0.82	0.63	0.76	2020
	20:00	0.83	0.63	0.78	2020
DAY 16	04:00	0.82	0.62	0.72	2020
	12:00	0.83	0.63	0.76	2020
	20:00	0.84	0.64	0.79	2020
DAY 17	04:00	0.82	0.63	0.74	2020
	12:00	0.87	0.65	0.80	2020
	20:00	0.84	0.63	0.77	2020
DAY 18	04:00	0.83	0.64	0.82	2020
	12:00	0.87	0.66	0.76	2020
	20:00	0.83	0.63	0.79	2020
DAY 19	04:00	0.85	0.64	0.77	2020
	12:00	0.82	0.63	0.86	2020
	20:00	0.85	0.64	0.82	2020
DAY 20	04:00	0.84	0.63	0.67	2020
	12:00	0.84	0.65	0.71	2020
	20:00	0.83	0.62	0.72	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 21	04:00	0.82	0.63	0.79	2020
	12:00	0.83	0.63	0.72	2020
	20:00	0.83	0.63	0.78	2020
DAY 22	04:00	0.84	0.63	0.72	2020
	12:00	0.83	0.63	0.78	2020
	20:00	0.84	0.64	0.77	2020
DAY 23	04:00	0.84	0.63	0.62	2020
	12:00	0.85	0.64	0.66	2020
	20:00	0.84	0.64	0.75	2020
DAY 24	04:00	0.82	0.63	0.70	2020
	12:00	0.85	0.64	0.73	2020
	20:00	0.84	0.64	0.82	2020
DAY 25	04:00	0.82	0.63	0.73	2020
	12:00	0.83	0.63	0.74	2020
	20:00	0.83	0.64	0.70	2020
DAY 26	04:00	0.84	0.63	0.72	2020
	12:00	0.84	0.64	0.67	2020
	20:00	0.84	0.63	0.67	2020
DAY 27	04:00	0.84	0.63	0.75	2020
	12:00	0.83	0.63	0.67	2020
	20:00	0.83	0.63	0.79	2020
DAY 28	04:00	0.82	0.62	0.90	2020
	12:00	0.82	0.62	0.87	2020
	20:00	0.83	0.63	0.85	2020
DAY 29	04:00	0.82	0.62	0.88	2020
	12:00	0.82	0.62	0.77	2020
	20:00	0.84	0.63	0.79	2020
DAY 30	04:00	0.82	0.63	0.89	2020
	12:00	0.81	0.62	0.78	2020
	20:00	0.84	0.64	0.78	2020

JAN | FEB | MAR

APR | MAY | JUN

JUL | AUG | SEP

OCT | NOV | DEC

MONTH DISPLAYED IS
NOVEMBER

PRINT SCREEN | MAIN

3:10:45 PM Wednesday, January 06, 2021

NM STATE REPORTING

		HEPA 1	HEPA 2	DUST	YEAR
DAY 1	04:00	0.81	0.62	0.90	2020
	12:00	0.86	0.65	0.66	2020
	20:00	0.82	0.63	0.83	2020
DAY 2	04:00	0.83	0.63	0.88	2020
	12:00	0.84	0.65	0.86	2020
	20:00	0.83	0.63	0.81	2020
DAY 3	04:00	0.83	0.63	0.85	2020
	12:00	0.84	0.64	0.95	2020
	20:00	0.83	0.63	0.87	2020
DAY 4	04:00	0.83	0.63	0.89	2020
	12:00	0.82	0.62	0.73	2020
	20:00	0.82	0.62	0.66	2020
DAY 5	04:00	0.83	0.63	0.82	2020
	12:00	0.81	0.62	0.73	2020
	20:00	0.83	0.62	0.70	2020
DAY 6	04:00	0.82	0.63	0.68	2020
	12:00	0.83	0.63	0.67	2020
	20:00	0.82	0.63	0.74	2020
DAY 7	04:00	0.82	0.62	0.68	2020
	12:00	0.85	0.64	0.63	2020
	20:00	0.84	0.64	0.73	2020
DAY 8	04:00	0.84	0.63	0.65	2020
	12:00	0.83	0.63	0.68	2020
	20:00	0.84	0.64	0.80	2020
DAY 9	04:00	0.84	0.63	0.74	2020
	12:00	0.84	0.64	0.74	2020
	20:00	0.84	0.63	0.73	2020
DAY 10	04:00	0.83	0.63	0.67	2020
	12:00	0.82	0.63	0.68	2020
	20:00	0.83	0.63	0.73	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 11	04:00	0.83	0.63	0.64	2020
	12:00	0.86	0.66	0.79	2020
	20:00	0.82	0.63	0.77	2020
DAY 12	04:00	0.83	0.63	0.89	2020
	12:00	0.84	0.63	0.73	2020
	20:00	0.82	0.63	0.82	2020
DAY 13	04:00	0.84	0.64	0.82	2020
	12:00	0.83	0.63	0.86	2020
	20:00	0.83	0.63	0.85	2020
DAY 14	04:00	0.83	0.63	0.90	2020
	12:00	0.82	0.62	0.68	2020
	20:00	0.81	0.62	0.76	2020
DAY 15	04:00	0.84	0.63	0.84	2020
	12:00	0.83	0.64	0.73	2020
	20:00	0.82	0.63	0.86	2020
DAY 16	04:00	0.83	0.64	0.91	2020
	12:00	0.83	0.64	0.81	2020
	20:00	0.84	0.64	0.83	2020
DAY 17	04:00	0.84	0.63	0.88	2020
	12:00	0.83	0.64	0.73	2020
	20:00	0.83	0.63	0.60	2020
DAY 18	04:00	0.85	0.65	0.81	2020
	12:00	0.83	0.62	0.83	2020
	20:00	0.85	0.64	0.76	2020
DAY 19	04:00	0.84	0.63	0.84	2020
	12:00	0.84	0.63	0.90	2020
	20:00	0.82	0.63	0.82	2020
DAY 20	04:00	0.83	0.63	0.89	2020
	12:00	0.83	0.62	0.86	2020
	20:00	0.83	0.64	0.63	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 21	04:00	0.83	0.63	0.82	2020
	12:00	0.84	0.64	0.68	2020
	20:00	0.81	0.62	0.76	2020
DAY 22	04:00	0.83	0.64	0.67	2020
	12:00	0.86	0.66	0.60	2020
	20:00	0.84	0.64	0.71	2020
DAY 23	04:00	0.84	0.64	0.75	2020
	12:00	0.84	0.63	0.82	2020
	20:00	0.84	0.64	0.81	2020
DAY 24	04:00	0.84	0.65	0.88	2020
	12:00	0.83	0.63	0.85	2020
	20:00	0.84	0.64	0.87	2020
DAY 25	04:00	0.84	0.63	0.90	2020
	12:00	0.82	0.63	0.74	2020
	20:00	0.83	0.65	0.68	2020
DAY 26	04:00	0.85	0.65	0.91	2020
	12:00	0.82	0.63	0.70	2020
	20:00	0.83	0.64	0.68	2020
DAY 27	04:00	0.84	0.64	0.65	2020
	12:00	0.83	0.62	0.71	2020
	20:00	0.84	0.63	0.65	2020
DAY 28	04:00	0.83	0.63	0.71	2020
	12:00	0.82	0.63	0.89	2020
	20:00	0.85	0.64	0.77	2020
DAY 29	04:00	0.82	0.63	0.77	2020
	12:00	0.82	0.63	0.72	2020
	20:00	0.83	0.64	0.81	2020
DAY 30	04:00	0.83	0.64	0.86	2020
	12:00	0.80	0.61	0.94	2020
	20:00	0.83	0.64	0.80	2020

		HEPA 1	HEPA 2	DUST	YEAR
DAY 31	04:00	0.83	0.64	0.89	2020
	12:00	0.83	0.64	0.71	2020
	20:00	0.84	0.64	0.80	2020

JAN | FEB | MAR
APR | MAY | JUN
JUL | AUG | SEP
OCT | NOV | DEC

MONTH DISPLAYED IS
DECEMBER

PRINT SCREEN | MAIN

3:10:56 PM Wednesday, January 06, 2021

ATTACHMENT A707.C.b.

Beryllium

TA-55-PF4 Annual HEPA Filter Challenge Test Reports

Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	100 Area Glovebox Exhaust In-Place HEPA Filter Testing
Procedure no.:	TA55-STP-104A, R4
Date of issue:	8-10-20
Working copy issued to:	R. Martinez
Working copy issued by:	T. Stiker
	Certified Operations Center Operator (OCO)

Procedure is the current revision listed in Documentum: ☑ Yes ☐ Documentum Unavailable

Performance Type: ☑ Scheduled ☐ Partial ☐ Other *If partial or other list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
Richard Martinez	TAS	8-10-20
Kevin Bailey	TAS	8-10-20
M. VIGIL	M	8/10/20

OC Reviews Complete and TSR Status Board Updated

OCO Signature 8/10/20 Date

For Information Only

Attachment A, 100 Area Glovebox Exhaust FF-852 Data Sheet

(Page 1 of 3)

Step 3.1[2]	Obtain current copy of STP	Initials RM	Step 3.1[3]	Obtain Permission to conduct STP	Initials RM
Step 5.1[2]	Plenum (Circle One) SAT UNSAT	Initial RM			

Valve	Required Position	Initials Step 5.1[3]
V-852-H	Closed and Locked	RM
V-852-G	Closed	RM
V-852-F	Closed	RM
V-852-D	Closed	RM
V-852-C	Closed	RM
V-852-B	Closed	RM
V-852-A	Closed	RM
V-852-AA	Closed	RM
TP-852-1	Closed and Capped	RM
TP-852-2	Closed and Capped	RM
TP-852-3	Closed and Capped	RM

Step 5.1[4]	Visually inspect the bag-out doors between the air plenum and the bag-out boxes (both sides). Ensure that the seals are intact and the doors are securely **dogged shut**.	Initials RM

Date: 8-10-20 **5.1[6][a]** **Photometer Cal. Expiration Date:** 11-24-20 **5.1[6][b]** **Photometer File #** 104099 **5.1[6][c]**

For Information Only

Attachment A, 100 Area Glovebox Exhaust FF-852 Data Sheet

(Page 2 of 3)

Step	Item	FF-852
5.2[1][b]	First-stage HEPA Filter ΔP (PDI-815-2)	.52 Inches wc
5.2[1][c]	Second-Stage HEPA Filter ΔP (PDI-815-4)	.48 Inches wc
5.2[2][d]	Third-Stage HEPA Filter ΔP (PDI-815-5)	.49 Inches wc

$	PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]
Follow the HEPA test procedure	
Cu = 35 ug/l(%) Final Stable Upstream Meter reading **Acceptance: ≥ 30 meter reading**	
Stable Downstream (Cd%) Meter reading = .002 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - .002 Cd% = 99.998%	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** (YES) **NO**

FIRST STAGE TEST [defense-in-depth]	
Follow the HEPA test procedure	
Cu = 35 ug/l(%) Final Stable Upstream Meter reading **Acceptance: ≥ 30 meter reading**	
Stable Downstream (Cd%) Meter reading = .010 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - .010 Cd% = ~~99.980%~~ 99.990% 8-10 20	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** (YES) **NO**

For Information Only

Attachment A, 100 Area Glovebox Exhaust FF-852 Data Sheet

(Page 3 of 3)

Valve	Required Position	Initials Step 5.2[4][c]	Independent Verification Step 5.2[4][d]
V-852-A	Closed	RW	MV
V-852-AA	Closed	RW	MV
TP-852-1	Closed and Capped	RW	MV
TP-852-2	Closed and Capped	RW	MV
TP-852-3	Closed and Capped	RW	MV

6.1.1 ISI 3

Step 5.2[4][e]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT	RW	N/A

$

Surveillance Test Procedure Acceptance			
Date of Test:	8-10-20	(unless already listed elsewhere on the attachment)	
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	184122 8-10-20 / 239257 8-10-20 / 183541 8.10.20 Signature/Z#/date		
OC Operator:	335126 8/10/20 Signature / Z# / Date	**OC On-Duty Supervisor:**	308593 8/10/20 Signature / Z# / Date
Surveillance Test Results Review			
System Engineer:	171532 8-14-20 Signature / Z# / Date		
Comments	Routine test.		

For Information Only

Attachment B, 100 Area Glovebox Exhaust FF-853 Data Sheet

(Page 1 of 3)

Step 3.1[2]	Obtain current copy of STP	Initials RM	Step 3.1[3]	Obtain Permission to conduct STP	Initials RM
Step 5.1[2]	Plenum (Circle One) SAT UNSAT	Initial RM			

Valve	Required Position	Initials Step 5.1[3]
V-853-H	Closed and Locked	RM
V-853-G	Closed	RM
V-853-F	Closed	RM
V-853-D	Closed	RM
V-853-C	Closed	RM
V-853-B	Closed	RM
V-853-A	Closed	RM
V-852-AA	Closed	RM
TP-853-1	Closed and Capped	RM
TP-853-2	Closed and Capped	RM
TP-853-3	Closed and Capped	RM

Step 5.1[4]	Visually inspect the bag-out doors between the air plenum and the bag-out boxes (both sides). Ensure that the seals are intact and the doors are securely **dogged shut.**	Initials RM

Date: 8-10-20 **5.1[6][a]** **Photometer Cal. Expiration Date:** 11-24-20 **5.1[6][b]** **Photometer File #** 104099 **5.1[6][c]**

For Information Only

Attachment B, 100 Area Glovebox Exhaust FF-853 Data Sheet

(Page 2 of 3)

Step	Item	FF-853
5.3[1][b]	First-stage HEPA Filter ΔP (PDI-816-2)	.52 Inches wc
5.3[1][c]	Second-Stage HEPA Filter ΔP (PDI-816-4)	.50 Inches wc
5.3[1][d]	Third-Stage HEPA Filter ΔP (PDI-816-5)	.51 Inches wc

$	**PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]**
Follow the HEPA test procedure	
Cu = 37 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥ 30 meter reading**
Stable Downstream (Cd%) Meter reading = .002 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - .002 Cd% = 99.998 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** (YES) **NO**

FIRST STAGE TEST [defense-in-depth]	
Follow the HEPA test procedure	
Cu = 37 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥ 30 meter reading**
Stable Downstream (Cd%) Meter reading = .005 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - .005 Cd% = 99.995 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** (YES) **NO**

For Information Only

Attachment B, 100 Area Glovebox Exhaust FF-853 Data Sheet

(Page 3 of 3)

Valve	Required Position	Initials Step 5.3[4][c]	Independent Verification Step 5.3[4][d]
V-853-A	Closed	RM	MC
V-852-AA	Closed	RM	MC
TP-853-1	Closed and Capped	MC	RM
TP-853-2	Closed and Capped	MC	RM
TP-853-3	Closed and Capped	MC	RM

6.1.1 ISI 3				
Step 5.3[4][e]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT/ UNSAT	RM	N/A

$

Surveillance Test Procedure Acceptance			
Date of Test:	8-10-20	(unless already listed elsewhere on the attachment)	
Test Results:	**SATISFACTORY** / **UNSATISFACTORY** (circle one)		
Surveillance Personnel:	184128 8-10-20 Signature/Z#/date	259237 8-10-20	
OC Operator:	335126 8/10/20 Signature / Z# / Date	**OC On-Duty Supervisor:**	309553 8/10/20 Signature / Z# / Date
Surveillance Test Results Review			
System Engineer:	171532 8-14-2020 Signature / Z# / Date		
Comments			

For Information Only

Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	300 Area Glovebox Exhaust In-Place HEPA Filter Testing
Procedure no.:	TA-55-STP-104C, R4
Date of issue:	7/20/20
Working copy issued to:	M. IRISH
Working copy issued by:	M. WELLS
	Certified Operations Center Operator (OCO)

Procedure is the current revision listed in Documentum: ☑ Yes ☐ Documentum Unavailable

Performance Type: ☑ Scheduled ☐ Partial ☐ Other *If partial or other list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

Track as 7/20/20

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
K. BAILEY	M	7/20/20
R. MARTINEZ	M	7/20/20
M. IRISH	M	7/20/20
M. VIGIL	M	7/20/20
J. MARTINEZ	M	7/20/20

OC Reviews Complete and TSR Status Board Updated

M M M / 7/22/20

OCO Signature Date

For Information Only

Attachment A, Valve Alignment

Verify that the following valves on the aerosol injection ductwork are in the designated position:

Valve	Required Position	Initials Step 3.4[6]	Valve	Required Position	Initials Step 3.4[6]
HV-854-J	Closed and Locked	RM	855-J	Closed and Locked	RM
854-H	Closed	RM	855-D	Closed	RM
854-G	Closed	RM	855-C	Closed	RM
854-D	Closed	RM	855-B	Closed	RM
854-C	Closed	RM	855-A	Closed	RM
854-B	Closed	RM	HV-855-8	Closed and Locked	RM
V-854-A	Closed	RM	859-7	Closed	RM
854-8	Closed and Locked	RM	859-5	Closed	RM
858-7	Closed	RM	859-3	Closed	RM
858-5	Closed	RM	859-2	Closed	RM
858-3	Closed	RM	859-1	Closed	RM
858-2	Closed	RM			
858-1	Closed	RM			
HV-854-AA	Closed	RM			

Ensure that the maintenance valves/doors are in the correct operating position:

Step 3.4[7]	Visually inspect the bag-out doors between the air plenum and the bag-out boxes (both sides). Ensure that the seals are intact and the doors are securely **dogged shut**.	**Initials** RM

For Information Only

Attachment B, 300 Area Glovebox Exhaust FF-854 Data Sheet

(Page 1 of 2)

Step 3.1[2]	Obtain current copy of STP	Initials	**Step 3.1[3]**	Obtain Permission to conduct STP	Initials
Step 5.1[2]	Plenum (Circle One) **SAT** **UNSAT**	Initial			

Date: 1/29/20 (5.1[4][a]) **Photometer Cal. Expiration Date:** 11/24/20 (5.1[4][b]) **Photometer File #** 104099 (5.1[4][c])

Step	Item	FF-854
5.2[1]	First-stage HEPA Filter ΔP (PDI-817-2)	.12 Inches wc
5.2[2]	Second-Stage HEPA Filter ΔP (PDI-817-4)	.15 Inches wc
5.2[3]	Third-Stage HEPA Filter ΔP (PDI-817-5)	.11 Inches wc

$	**PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]**
	Follow the HEPA test procedure
Cu = 35 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥30 meter reading**
Stable Downstream (Cd%) Meter reading = .003 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - .003 Cd% = 99.997 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** **YES** **NO**

FIRST STAGE TEST [defense-in-depth]	
Follow the HEPA test procedure	
Cu = 35 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥30 meter reading**
Stable Downstream (Cd%) Meter reading = .004 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - .004 Cd% = 99.996 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** **YES** **NO**

For Information Only

Attachment B, 300 Area Glovebox Exhaust FF-854 Data Sheet

(Page 2 of 2)

Valve	Required Position	Initials Step 5.4[8]	Independent Verification Step 5.4[8][b]
V-854-A	Closed	MV	RM
V-854-AA	Closed	MV	RM
V-870A	Open	MV	RM
V-890	Open	MV	RM
TP-854-1	Closed and Capped	MV	RM
TP-854-2	Closed and Capped	MV	RM
TP-854-3	Closed and Capped	MV	RM

6.1.1 ISI 3

$ Step 5.4[7]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT	RM	N/A

Surveillance Test Procedure Acceptance			
Date of Test:	7.20.2020	(unless already listed elsewhere on the attachment)	
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	183541 7.20.20, 182680 / 7/20/20, 184122 / 177911 7/20/20	Signature/Z#/date M-V-239237 7-20-20 7-20-20	
OC Operator:	119902 7/20/20 Signature / Z# / Date	OC On-Duty Supervisor:	7/20/2020 212241 Signature / Z# / Date

Surveillance Test Results Review	
System Engineer:	252921 7/30/2020 Signature / Z# / Date
Comments	DAB 171532 8-14-2020 None

For Information Only

Attachment C, SRL Exhaust FF-858 Data Sheet

(Page 1 of 2)

Step 3.1[2]	Obtain current copy of STP	**Initials**	**Step 3.1[3]**	Obtain Permission to conduct STP	**Initials**
Step 5.1[2]	Plenum (Circle One) SAT UNSAT	**Initial**			

Date: 1/20/20 **5.1[4][a]** **Photometer Cal. Expiration Date:** 11/24/20 **5.1[4][b]** **Photometer File #** 104099 **5.1[4][c]**

Step	Item	FF-858
5.3[3]	First-stage HEPA Filter ΔP (PDI-819-1)	.08 Inches wc
5.3[4]	Second-Stage HEPA Filter ΔP (PDI-819-3)	.07 Inches wc
5.3[5]	Third-Stage HEPA Filter ΔP (PDI-819-4)	.05 Inches wc

$ PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]

Follow the HEPA test procedure

Cu = 37 ug/l(%) Final Stable Upstream Meter reading **Acceptance: ≥30 meter reading**

Stable Downstream (Cd%) Meter reading = .001 (%)

Removal Efficiency (%) =.100% - Cd% = 100% - .001 Cd% = 99.999 %

Acceptance: ≥ 99.95% **Acceptable? (circle one)** YES NO

FIRST STAGE TEST [defense-in-depth]

Follow the HEPA test procedure

Cu = 37 ug/l(%) Final Stable Upstream Meter reading **Acceptance: ≥30 meter reading**

Stable Downstream (Cd%) Meter reading = .001 (%)

Removal Efficiency (%) =.100% - Cd% = 100% - .001 Cd% = 99.999 %

Acceptance: ≥ 99.95% **Acceptable? (circle one)** YES NO

For Information Only

Attachment C, SRL Exhaust FF-858 Data Sheet

(Page 2 of 2)

Valve	Required Position	Initials Step 5.4[8]	Independent Verification Step 5.4[8][b]
858-1	Closed	MV	RM
HV-854-AA	Closed	MV	RM
HV-870A	Open	MV	RM
HV-890	Open	MV	RM
TP-858-1	Closed and Capped	MV	RM
TP-858-2	Closed and Capped	MV	RM
TP-854-3	Closed and Capped	MV	RM

6.1.1 ISI 3

$ Step 5.4[7]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT	RM	N/A

Surveillance Test Procedure Acceptance			
Date of Test:	7.20.2020	(unless already listed elsewhere on the attachment)	
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	183541 7.20.20 / 152680 7/20/20 / 184122 7-20-20 / 173968 / M-V-239257 7-20-20	Signature/Z#/date	
OC Operator:	319962 7/20/20 Signature / Z# / Date	OC On-Duty Supervisor:	7/20/2020 212242 Signature / Z# / Date

Surveillance Test Results Review	
System Engineer:	252921 7/30/2020 Signature / Z# / Date
Comments	171532 8-14-2020 None

For Information Only

Attachment D, 300 Area Glovebox Exhaust FF-855 Data Sheet

(Page 1 of 2)

Step 3.1[2]	Obtain current copy of STP	**Initials** RM	**Step 3.1[3]**	Obtain Permission to conduct STP	**Initials** RM
Step 5.1[2]	Plenum (Circle One) **SAT** **UNSAT**	**Initial** KG			

Date: 7-20-20 (5.5[4][a]) **Photometer Cal. Expiration Date:** 11/24/20 (5.5[4][b]) **Photometer File #** 104099 (5.5[4][c])

Step	Item	FF-855	
5.6[1]	First-stage HEPA Filter ΔP (PDI-818-2)	.17	Inches wc
5.6[2]	Second-Stage HEPA Filter ΔP (PDI-818-4)	.15	Inches wc
5.6[3]	Third-Stage HEPA Filter ΔP (PDI-818-5)	.15	Inches wc

$ PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]

Follow the HEPA test procedure

Cu = 37 ug/l(%) Final Stable Upstream Meter reading

Acceptance: ≥30 meter reading

Stable Downstream (Cd%) Meter reading = 0.002 (%)

Removal Efficiency (%) =.100% - Cd% = 100% - 0.002 Cd% = 99.998 %

Acceptance: ≥ 99.95% **Acceptable? (circle one)** **YES** **NO**

FIRST STAGE TEST [defense-in-depth]

Follow the HEPA test procedure

Cu = 38 ug/l(%) Final Stable Upstream Meter reading

Acceptance: ≥30 meter reading

Stable Downstream (Cd%) Meter reading = 0.003 (%)

Removal Efficiency (%) =.100% - Cd% = 100% - 0.003 Cd% = 99.997 %

Acceptance: ≥ 99.95% **Acceptable? (circle one)** **YES** **NO**

For Information Only

Attachment D, 300 Area Glovebox Exhaust FF-855 Data Sheet

(Page 2 of 2)

Valve	Required Position	Initials Step 5.8[8]	Independent Verification Step 5.8[8][b]
855-A	Closed	KGB	MV
HV-854-AA	Closed	KGB	MV
HV-870B	Open	KGB	MV
HV-891	Open	KGB	MV
TP-855-1	Closed and Capped	KGB	MV
TP-855-2	Closed and Capped	KGB	MV
TP-855-3	Closed and Capped	KGB	MV

6.1.1 ISI 3

$ Step 5.8[7]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT	KGB	N/A

Surveillance Test Procedure Acceptance			
Date of Test:	7.20.2020	(unless already listed elsewhere on the attachment)	
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	183541 7.20.20 M-V-239257 7-20-20 / 1739/8 7/20/20	Signature/Z#/date	184122 7-20-20 / 182680 7/20/20
OC Operator:	3010 7/20/20 Signature / Z# / Date	OC On-Duty Supervisor:	7/20/2020 212242 Signature / Z# / Date

Surveillance Test Results Review	
System Engineer:	252921 7/30/2020 Signature / Z# / Date
Comments	171532 8-14-2020 None

For Information Only

Attachment E, SRL Exhaust FF-859 Data Sheet

(Page 1 of 2)

Step 3.1[2]	Obtain current copy of STP	Initials RM	Step 3.1[3]	Obtain Permission to conduct STP	Initials RM
Step 5.1[2]	Plenum (Circle One) SAT UNSAT	Initial RM			

Date: 7-20-20 (5.5[4][a]) **Photometer Cal. Expiration Date:** ~~104099~~ KGB 7.22.20 11.24.20 (5.5[4][b]) **Photometer File #** ~~11-24-20~~ KGB 7.22.20 104099 (5.5[4][c])

Step	Item	FF-859
5.7[3]	First-stage HEPA Filter ΔP (PDI-821-1)	.17 Inches wc
5.7[4]	Second-Stage HEPA Filter ΔP (PDI-821-3)	.12 Inches wc
5.7[5]	Third-Stage HEPA Filter ΔP (PDI-821-4)	.12 Inches wc

$	**PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]**
Follow the HEPA test procedure	
Cu = 31 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥30 meter reading**
Stable Downstream (Cd%) Meter reading = 0.001 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - 0.001 Cd% = 99.999 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** YES **NO**

FIRST STAGE TEST [defense-in-depth]	
Follow the HEPA test procedure	
Cu = 31 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥30 meter reading**
Stable Downstream (Cd%) Meter reading = 0.009 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - 0.009 Cd% = 99.991 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** YES **NO**

For Information Only

Attachment E, SRL Exhaust FF-859 Data Sheet

(Page 2 of 2)

Valve	Required Position	Initials Step 5.8[8]	Independent Verification Step 5.8[8][b]
859-1	Closed	KGB	MV
HV-854-AA	Closed	KGB	MV
HV-870B	Open	KGB	MV
HV-891	Open	KGB	MV
TP-859-1	Closed and Capped	KGB	MV
TP-859-2	Closed and Capped	KGB	MV
TP-855-3	Closed and Capped	KGB	MV

6.1.1 ISI 3

$ Step 5.8[7]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT	KGB	N/A

Surveillance Test Procedure Acceptance			
Date of Test:	7.20.2020	(unless already listed elsewhere on the attachment)	
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	18354 7.20.20 M-V-239257 7-20-20 / 184122 7-25-20 / 171511 7/20/20	Signature/Z#/date	152680 / 7/20/20
OC Operator:	319502 7/20/20	OC On-Duty Supervisor:	308593 7/22/20
	Signature / Z# / Date		Signature / Z# / Date

Surveillance Test Results Review	
System Engineer:	252921 7/30/2020
	Signature / Z# / Date
Comments	171532 8-14-2020

For Information Only

ATTACHMENT A707.C.c.

Beryllium

TA-55-PF4 HEPA Filtration Differential Pressure Readings

Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	Surveillance Rounds
Procedure no.:	TA55-STP-004 R21
Date of issue:	7-1-2020
Working copy issued to:	J.Cedillo
Working copy issued by:	T.Stilson
	Certified Operations Center Operator (OCO)

Procedure is the current revision listed in Documentum: ☑ Yes ☐ Documentum Unavailable

Performance Type: ☑ Scheduled ☐ Partial ☐ Other *If partial or other list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

Training Checklist:

Workers Performing Surveillance		Applicable Surveillance Training Current	
		OCO Initials	Date
Cedillo, John	330354	JSC	7-1-2020
Chance, Bryan	109569	JSC	
Cochran,Cory	319862	JSC	
Heintschel, Dustin	232795	JSC	
Stilson, Tyler	334315	JSC	
Wells, Mathew	335126	JSC	
Jaurigue, Antonio	298308	JSC	
Miller, Marcus	308593	JSC	
Price, Ricky	288994	JSC	7-1-2020

OC Reviews Complete and TSR Status Board Updated

OCO Signature 7/31/20 Date

FOR INFORMATION ONLY

Attachment B, Surveillance Training Checklist (continued)

(Page 2 of 2)

Training Checklist (continuation sheet)

Workers Performing Surveillance		Applicable Surveillance Training Current	
		Initials	Date
Seybert, Fred	212242	JSL	7-1-2020
Dostart, Larry	309711	JSL	
Dunlevy, Derek	199876	JSL	
Hendricks, Justin	225874	JSL	
Tesch, Chuck	152599	JSL 7-1-20 ~~JSL~~	
Washburn, Michael	304241	JSL	
Fordham, Brian	235635	JSL	
Hohner, Rory	095026	JSL	
Irish, Michael	182680	JSL	
Langwrothy, Thomas	200955	JSL	
Martinez, Jerome	173968	JSL	
Martinez, Richard	184122	JSL	
O'Neill, Steven	238717	JSL	
Sanchez, Anthony	175061	JSL	
Sanchez, Augustine	090060	JSL	✓
Wickings, Sherman	335098	JSL	7-1-2020

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:					7/1/20		7/2/20		7/3/20		7/4/20		7/5/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:					[illegible]	[illegible]	[illegible]	[illegible]	DH	TLS	M	JSL	DH	JSL
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]					-2.02	-2.01	-2.00	-2.01	-2.00	-1.99	-1.99	-2.02	-2.01	-2.01
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]					-1.94	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]					-1.95	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.97	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]					-2.00	-2.01	-2.01	-2.01	-2.02	-2.01	-1.99	-1.99	-2.01	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]					-.22	-.22	-.21	-.22	-.21	-.21	-.21	-0.21	-0.21	-0.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]					-.28	-.27	-.27	-.28	-.27	-.28	-.27	-0.27	-0.27	-0.27
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]					-.24	-.21	-.20	-.20	-.20	-.20	-.20	-0.20	-0.20	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]					-.20	-.20	-.19	-.19	-.19	-.20	-.19	-0.20	-0.20	-0.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc					-.15	-.15	-.15	-.15	-.15	-.14	-.14	-0.15	-0.15	-0.14
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc					-.09	-.09	-.09	-.09	-.09	-.09	-.09	-0.09	-0.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc					-.09	-.09	-.09	-.09	-.09	-.09	-.09	-0.09	-0.09	-0.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc					-.115	-.115	-.112	-.101	-.117	-.114	-.113	-0.112	-0.110	-0.114

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR TRAINING PURPOSES ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:					7/1/20		7/2/20		7/3/20		7/4/20		7/5/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:					[illegible]	BC	[illegible]	BC	DH	TG	M	JSC	DH	JSC
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note	Date:				7/1/20		7/2/20		7/3/20		7/4/20		7/5/20	
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.	Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
	Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
	Initials:					C	BC	C	BC	DH	TM	M	[illegible]	DH	[illegible]

SRs	Description	Area	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS Sat / Unsat (circle one)													
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time							0727	1923	0711	1926	0703	1919	0731	1921	0740	1921
		OCS Daily Review Sign off (initials)							[signature]	ATS	DBO	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [illegible] Date 7-5-20 Time 1921 Reviewed by: [signature] Date: 7/5/20 Time: 1934
On-duty Supervisor

Comments: _____

FOR INFORMATIONAL USE ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:			7/1/20	7/2/20	7/3/20	7/4/20	7/5/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:			[illegible]	[illegible]	SO	SO	SO
	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
SR 4.4.1.1	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA			005	005	008	005	005
	CP-305-H (LED Reading)				005	005	008	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value			005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat
		Completion Time:			0715	0829	0806	0734	0738

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

FOR INFORMATION ONLY

			Date:			7/1/20	7/2/20	7/3/20	7/4/20	7/5/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			JM	BDS	SD	SD	SD
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc			.63	.04	.63	.03	.03
		PDI-894-2	≤2.0 & > 0[1] in. wc			.49	.48	.49	.48	.48
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc			.05	.06	.06	.06	.06
		PDI-895-2	≤2.0 & > 0[1] in. wc			.71	.72	.71	.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc			.30	.30	.29	.29	.29
		PDI-817-2	≤2.0 & > 0[1] in. wc			.31	.32	.31	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc			.35	.32	.32	.32	.32
		PDI-817-5	≤2.0 & > 0[1] in. wc			.31	.31	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc			.45	.48	.46	.44	.45
		PDI-81 9-3	≤2.0 & > 0[1] in. wc			.47	.45	.45	.45	.45
		PDI-819-4	≤2.0 & > 0[1] in. wc			.40	.40	.39	.39	.40
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

FOR INFORMATION ONLY

			Date:			7/1/20	7/2/20	7/3/20	7/4/20	7/5/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			[illegible]	[illegible]	SO	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc			.13	.12	.13	.13	.13
		PDI-822-2	≤2.0 & > 0[1] in. wc			.61	.60	.60	.60	.61
		PDI-822-4	≤2.0 & > 0[1] in. wc			.45	.45	.44	.45	.45
		PDI-822-5	≤2.0 & > 0[1] in. wc			.59	.59	.59	.59	.59
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc			.32	.36	.39	.34	.34
		PDI-830-2	≤2.0 & > 0[1] in. wc			.12	.14	.12	.12	.11
		PDI-830-3	≤2.0 & > 0[1] in. wc			.15	.18	.18	.15	.15
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc			.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc			.67	.68	.66	.66	.66
		PDI-836-3	≤2.0 & > 0[1] in. wc			.66	.66	.66	.66	.66
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc			.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc			.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc			.44	.44	.45	.45	.45

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:			7/1/20	7/2/20	7/3/20	7/4/20	7/5/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			JH	MM	SO	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc			.59	.58	.59	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc			.59	.59	.59	.59	.59
		PDI-838-3	≤2.0 & > 0[1] in. wc			.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc			.41	.42	.42	.42	.42
		PDI-839-2	≤2.0 & > 0[1] in. wc			.55	.55	.55	.55	.55
		PDI-839-3	≤2.0 & > 0[1] in. wc			.55	.55	.55	.55	.55
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc			.17	.16	.16	.16	.16
		PDI-810-2	≤2.0 & > 0[1] in. wc			.87	.82	.84	.84	.84
		PDI-810-3	≤2.0 & > 0[1] in. wc			.51	.51	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc			OFF	OFF	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc			OFF	OFF	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc			OFF	OFF	OFF	OFF	OFF
			Completion Time			0830	0933	0928	0902	0842
OC Operator Review and Page Count Complete (initials)						JH 7/1/20	[illegible]	M	M	M
OCS Daily Review Sign off (initials)						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 7/5/20 Time 0843 Reviewed by: [illegible] On-duty Supervisor Date: 7/5/20 Time: 0844

Comments 7/1/20 4.4.1.1 Not in use. Waiting for Calibration.

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

			Date:			7/1/20	7/2/20	7/3/20	7/4/20	7/5/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			[illegible]	[illegible]	80	80	80
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc			.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc			.54	.52	.52	.52	.52
		PDI-840-3	≤2.0 & > 0[1] in. wc			.51	.51	.51	.51	.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc			.36	.36	.36	.36	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc			.43	.42	.42	.42	.42
		PDI-831-3	≤2.0 & > 0[1] in. wc			.40	.39	.40	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc			.57	.58	.57	.58	.58
		PDI-832-2	≤2.0 & > 0[1] in. wc			.68	.68	.68	.68	.68
		PDI-832-3	≤2.0 & > 0[1] in. wc			.61	.61	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc			.12	.12	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc			.58	.59	.58	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc			.51	.51	.51	.51	.51
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc			OFF	OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc			OFF	OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc			OFF	OFF	OFF	OFF	OFF

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:			7/1/20	7/2/20	7/3/20	7/4/20	7/5/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:			JM	DMS	SO	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc			.43	.42	.41	.42	.43
		PDI-829-2	≤2.0 & > 0[1] in. wc			.51	.50	.50	.49	.50
		PDI-829-3	≤2.0 & > 0[1] in. wc			.40	.39	.39	.39	.39
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc			.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc			.55	.54	.55	.54	.55
		PDI-833-3	≤2.0 & > 0[1] in. wc			.51	.51	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc			.50	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc			.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc			.06	.50	.50	.50	.51
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc			.26	.22	.22	.23	.23
		PDI-815-2	≤2.0 & > 0[1] in. wc			.56	.55	.55	.55	.55
		PDI-815-4	≤2.0 & > 0[1] in. wc			.48	.49	.48	.48	.48
		PDI-815-5	≤2.0 & > 0[1] in. wc			.50	.50	.49	.49	.49
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

			Date:			7/1/20	7/2/20	7/3/20	7/4/20	7/5/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			AN	DAS	SO	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc			.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc			.36	.34	.35	.34	.35
		PDI-812-3	≤2.0 & > 0[1] in. wc			.35	.32	.31	.30	.31
		PDI-812-4	≤2.0 & > 0[1] in. wc			.31	.32	.31	.31	.31
		PDI-812-5	≤2.0 & > 0[1] in. wc			.38	.39	.39	.39	.39
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc			.03	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc			.38	.39	.39	.39	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc			.35	.32	.32	.35	.35
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc			.05	.06	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc			.32	.32	.31	.31	.31

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:			7/1/20	7/2/20	7/3/20	7/4/20	7/6/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			[illegible]	DDS	SO	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc			.10	.12	.10	.10	.10
		PDI-857-2	≤ 2.0 & > 0[1] in. wc			.47	.48	.47	.47	.48
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc			.05	.06	.06	.06	.05
		PDI-856-2	≤ 2.0 & > 0[1] in. wc			.61	.61	.61	.61	.61
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**			SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less			SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less			SAT	SAT	SAT	SAT	SAT

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:			7/1/20	7/2/20	7/3/20	7/4/20	7/5/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			[illegible]	[illegible]	SD	SD	SD
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less			SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less			SAT	SAT	SAT	SAT	SAT
			Completion time			0955	0850	0928	0902	0841
			OC Operator Review and Page Count Complete (initials)			[illegible]	[illegible]	M	M	M
			OCS Daily Review Sign off (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Steve O'Neill Date 7/5/20 Time 0842 Reviewed by: _____ Date: 7/5/20 Time: 0850

On-duty Supervisor

Comments: 7/23/20 PDI-835-1 and PDI-835-3 may be transposed. [illegible]

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	07.06.20		07.07.20		7/8/20		7/9/20		07.10.20		07-11-20		07.12.20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	BC	C	BC	C	DW	[illegible]	M	TMS	BC	C	BC	C	BC	C
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.02	-2.01	-2.01	-2.00	-2.02	-2.01	-2.01	-2.00	-2.02	-2.02	-2.02	-2.01	-1.99	-2.01
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.93	-1.93	-1.93	-1.92	-1.94	-1.93	-1.94	-1.94	-1.93	-1.93	-1.94	-1.93	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.96	-1.96	-1.96	-1.96	-1.97	-1.96	-1.95	-1.96	-1.96	-1.96	-1.96	-1.96	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-1.99	-2.00	-2.01	-2.00	-2.03	-2.01	-2.00	-2.01	-2.01	-2.01	-2.01	-2.01	-2.01	-2.00
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.21	-.20	-.21	-0.21	-0.22	-0.22	-.21	-.24	-.21	-.21	-.20	-.21	-.21	-0.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.21	-.27	-.27	-0.28	-0.29	-0.26	-.27	-.28	-.28	-.27	-.27	-.27	-.27	-0.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.20	-.20	-.20	-0.21	-0.21	-0.19	-.20	-.22	-.20	-.19	-.21	-.20	-.20	-0.19
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.20	-.20	-.19	-0.21	-0.18	-0.19	-.20	-.22	-.20	-.19	-.21	-.20	-.19	-0.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.16	-.15	-.15	-0.14	-0.13	-0.16	-.15	-.14	-.14	-.14	-.14	-.13	-.16	-0.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.09	-.10	-.09	-0.08	-0.09	-0.10	-.09	-.09	-.09	-.10	-.09	-.09	-.09	-0.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.09	-.10	-.09	-0.09	-0.09	-0.09	-.09	-.08	-.09	-.10	-.08	-.09	-.08	-0.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.115	-.109	-.116	-0.104	-0.115	-0.100	-.114	-.094	-.109	-.111	-.102	-.104	-.115	-0.114

Attachment A, Per Shift Surveillance Rounds [UET]

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Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.			Date:	07.06.20		07.07.20		7/8/20		7/9/20		07.10.20		07.11.20		07.12.20	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	[illegible]	BC	[illegible]	DH	JSC	M	TAS	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	07.06.20		07.07.20		7/8/20		7/9/20		07.10.20		07.11.20		07.12.20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	BC	[illegible]	BC	[illegible]	DM	JSL	M	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0718	1915	0722	1913	0739	1917	0725	1924	0723	1922	0726	1914	0720	1915
		OCS Daily Review Sign off (initials)			AFG	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AFG	AFG	AFG	[illegible]	AFG	[illegible]

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [illegible] Date 7/14/20 Time 1917 Reviewed by: [illegible] Date 07/22/2020 Time: 1920
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	7/6/20	7/7/20	7/8/20	7/9/20	7/10/20	7/11/20	7/12/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	DDS	DDS	[illegible]	DDS	DDS	DDS
	Description / Gauge	Acceptance Criteria	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)	NA	005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / ~~Unsat~~ 005	Sat / ~~Unsat~~ 005	Sat / ~~Unsat~~ 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0717	0850	0748	0720	0829	0700	0700

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Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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				Date:	7/6/20	7/7/20	7/8/20	7/9/20	7/10/20	7/11/20	7/12/20
				Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
				Initials:	NL	DDS	DDS	NL	DDS	DDS	DDS
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)							
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.03	.04	.04	.04	.04	.04	.04
		PDI-894-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.09
		PDI-895-2	≤2.0 & > 0[1] in. wc	.71	.72	.71	.71	.72	.72	.72
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.30	.27	.29	.29	.29	.30	.29
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc	.33	.31	.32	.31	.32	.32	.32
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	.30	.31	.31	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.46	.44	.45	.45	.45	.45	.46
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.45	.43	.45	.45	.45	.45	.45
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.39	.39	.40	.39	.40	.39
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:	7/6/20	7/7/20	7/8/20	7/9/20	7/10/20	7/11/20	7/12/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	TL	DDS	DDS	JM	DDS	DDS	DDS
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12	.13	.12	.13
		PDI-822-2	≤2.0 & > 0[1] in. wc	.61	.58	.60	.59	.60	.60	.60
		PDI-822-4	≤2.0 & > 0[1] in. wc	.45	.42	.45	.44	.45	.45	.44
		PDI-822-5	≤2.0 & > 0[1] in. wc	.60	.56	.59	.59	.59	.59	.59
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.97	.24	.24	.25	.32	.36	.32
		PDI-830-2	≤2.0 & > 0[1] in. wc	.12	.08	.09	.11	.12	.12	.12
		PDI-830-3	≤2.0 & > 0[1] in. wc	.16	.11	.12	.12	.14	.16	.16
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.67	.68	.67	.66	.66	.68
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.66	.68	.66	.65	.66	.66
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.44	.45	.44	.44	.44	.44

FOR UNOFFICIAL USE ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	7/6/20	7/7/20	7/8/20	7/9/20	7/10/20	7/11/20	7/12/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	DDS	DDS	[illegible]	DDS	DDS	DDS
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & >0[1] in. wc	.60	.59	.59	.59	.59	.59	.59
		PDI-838-2	≤2.0 & >0[1] in. wc	.59	.59	.58	.59	.59	.59	.59
		PDI-838-3	≤2.0 & >0[1] in. wc	.60	.59	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & >0[1] in. wc	.42	.42	.42	.42	.42	.42	.42
		PDI-839-2	≤2.0 & >0[1] in. wc	.55	.56	.55	.56	.55	.56	.55
		PDI-839-3	≤2.0 & >0[1] in. wc	.55	.55	.54	.54	.55	.55	.55
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & >0[1] in. wc	.17	.17	.18	.17	.16	.17	.16
		PDI-810-2	≤2.0 & >0[1] in. wc	.87	.85	.89	.87	.82	.85	.82
		PDI-810-3	≤2.0 & >0[1] in. wc	.52	.52	.52	.52	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & >0[1] in. wc	OFF	OFF	OFF	off	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & >0[1] in. wc	OFF	OFF	OFF	off	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & >0[1] in. wc	OFF	OFF	OFF	off	OFF	OFF	OFF
			Completion Time	0923	0958	0840	0800	0826	0730	0740
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OCS Daily Review Sign off (initials)				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: Anthony Sanchez Date 7/12/2020 Time 0746 Reviewed by: [signature] Date: 7/12/20 Time: 1122
On-duty Supervisor

Comments SR 4.4.1.1 Flammable Gas Detector is Out of Service, awaiting repair.

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	7/6/20	7/7/20	7/8/20	7/9/20	7/10/20	7/11/20	7/12/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	TL	DDS	DDS	JR	DDS	DDS	DDS
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.53	.54	.54	.54	.54	.54	.54
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.37	.36	.37
		PDI-831-2	≤2.0 & > 0[1] in. wc	.42	.42	.41	.42	.42	.42	.42
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.40	.39	.39
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.59	.58	.58
		PDI-832-2	≤2.0 & > 0[1] in. wc	.68	.68	.68	.68	.68	.68	.68
		PDI-832-3	≤2.0 & > 0[1] in. wc	.62	.62	.61	.61	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.59	.59	.59	.58	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	~~7/6/20~~ OFF	OFF	OFF	off	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	OFF	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

			Date:	7/6/20	7/7/20	7/8/20	7/9/20	7/10/20	7/11/20	7/12/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	DDS	DDS	[illegible]	DDS	DDS	DDS
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.44	.49	.44	.46	.44	.44	.44
		PDI-829-2	≤2.0 & > 0[1] in. wc	.51	.58	.51	.51	.51	.51	.50
		PDI-829-3	≤2.0 & > 0[1] in. wc	.40	.44	.40	.41	.40	.40	.40
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.54	.54	.55	.55	.54	.54	.54
		PDI-833-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.25	.22	.22	.23	.21	.21	.22
		PDI-815-2	≤2.0 & > 0[1] in. wc	.55	.50	.55	.54	.55	.55	.54
		PDI-815-4	≤2.0 & > 0[1] in. wc	.48	.42	.49	.49	.49	.48	.49
		PDI-815-5	≤2.0 & > 0[1] in. wc	.50	.48	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

			Date:	7/6/20	7/7/20	7/8/20	7/9/20	7/10/20	7/11/20	7/12/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	DDS	DDS	[illegible]	DDS	DDS	DDS
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16	.15	.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc	.35	.32	.35	.36	.35	.35	.35
		PDI-812-3	≤2.0 & > 0[1] in. wc	.31	.31	.31	.35	.32	.32	.32
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31	.31	.32	.31	.32	.32	.32
		PDI-812-5	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.40	.39
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.39	.38	.38	.38	.39	.39	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.32	.32	.32	.32	.32	.32
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.04	.05	.05	.05	.05	.06	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.30	.32	.31	.31	.32	.32	.32

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

			Date:	7/6/20	7/7/20	7/8/20	7/9/20	7/10/20	7/11/20	7/12/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	AL	DDS	DDS	AL	DDS	DDS	DDS
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.11	.12
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.48	.48	.48	.48	.49	.49	.49
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.61	.62	.62	.62	.62	.62	.62
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	Sat	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	SAT	SAT	SAT	SAT

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	7/6/20	7/7/20	7/8/20	7/9/20	7/10/20	7/11/20	7/12/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	TL	DRS	DRS	AH	DRS	DRS	DRS
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0923	1027	0944	0810	0856	0906	0812
			OC Operator Review and Page Count Complete (initials)	BL	BL	M	M	BL	BL	BL
			OCS Daily Review Sign off (initials)	ARS	TL	AH	AH	ARS	ARS	ARS

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Anthony Sanchez Date 7/12/2020 Time 0812 Reviewed by: _____ Date: 7/12/20 Time: 7/12/20 1120 AM

On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	7/13/20		7/14/20		07.15.20		07.16.20		7/17/20		7/18/20		7/19/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	DH	TAS	DH	TAS	[illegible]	[illegible]	[illegible]	[illegible]	DH	JSL	DH	DH	DH	JSL
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.01	-2.01	-2.00	-2.00	-2.00	-2.00	-2.02	-2.00	-2.01	-2.00	-2.01	-2.01	-1.99	-2.01
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.92	-1.93	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.96	-1.95	-1.96	-1.97	-1.97	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.01	-2.01	-2.00	-2.01	-2.02	-2.00	-2.00	-1.99	-1.99	-2.01	-2.01	-2.01	-2.01	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.20	-.20	-0.20	-.20	-.20	-0.21	-.20	-0.20	-0.20	-0.21	-0.20	-0.21	-0.21	-0.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.25	-.26	-0.27	-.26	-.26	-0.27	-.26	-0.28	-0.27	-0.27	-0.26	-0.27	-0.26	-0.27
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.20	-.20	-0.20	-.19	-.19	-0.19	-.20	-0.19	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.20	-.20	-0.20	-.19	-.19	-0.19	-.19	-0.20	-0.20	-0.20	-0.19	-0.19	-0.19	-0.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.48	-.15	-0.15	-.16	-.14	-0.15	-.14	-0.16	-0.16	-0.16	-0.16	-0.15	-0.15	-0.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-.09	-0.09	-.09	-.09	-0.10	-.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.09	-.08	-0.09	-.09	-.09	-0.09	-.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.117	-.093	-0.119	-.102	-.106	-0.096	-.116	-0.115	-0.115	-0.115	-0.101	-0.100	-0.112	-0.097

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:	7/13/20		7/14/20		07-15-20		07-16-20		7/17/20		7/18/20		7/19/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	DH	TAS	DH	TAS	BC	[illegible]	BC	[illegible]	DH	JSL	DH	DH	DH	JSL
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

FOR TRAINING PURPOSES ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

SRs	Description	Area	Gauge	Acceptance Criteria	Date:	7/13/20		7/14/20		07-15-20		07-16-20		7/17/20		7/18/20		7/19/20	
					Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
					Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
					Initials:	DH	TPS	DH	TPS	[illegible]	[illegible]	[illegible]	[illegible]	DH	JS-	DH	DH	DH	[illegible]
					SURVEILLANCE RESULTS Sat / Unsat (circle one)														
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time				0729	1916	0730	1925	0724	1920	0717	[illegible]	0726	1929	0705	2001	0724	1920
		OCS Daily Review Sign off (initials)				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [illegible] Date 7-19-20 Time 1920 Reviewed by: PRiew [illegible] Date: 7/19/20 Time: 2108
On-duty Supervisor

Comments: 7/13/20 - 0729 - IFIT READING DUE TO FE-863 POKED OUT - RCTS ENTERING IFIT FOR DOCs

FOR INFORMATIONAL PURPOSES ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	7/13/20	7/14/20	7/15/20	7/16/20	7/17/20	7-18-20	7-19-20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	RH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / ~~Unsat~~ 005	Sat / ~~Unsat~~ 005	Sat / Unsat 005	Sat / ~~Unsat~~ 005	Sat / ~~Unsat~~ 005	Sat / Unsat 005	Sat / ~~Unsat~~ 005
		Completion Time:	0822	0845	0710	0806	0855	0845	0828

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

			Date:	7/13/20	7/14/20	7/15/20	7/16/20	7/17/20	7-18-20	7-19-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	RH	RH	RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & >0[1] in. wc	.04	.04	.03	.04	.04	.04	.03
		PDI-894-2	≤2.0 & >0[1] in. wc	.50	.50	.49	.49	.49	.49	.48
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & >0[1] in. wc	.07	.07	.07	.08	.08	.07	.06
		PDI-895-2	≤2.0 & >0[1] in. wc	.71	.71	.71	.72	.72	.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & >0[1] in. wc	.29	.29	.29	.29	.29	.30	.29
		PDI-817-2	≤2.0 & >0[1] in. wc	.30	.30	.31	.31	.31	.31	.31
		PDI-817-4	≤2.0 & >0[1] in. wc	.32	.32	.34	.32	.32	.35	.34
		PDI-817-5	≤2.0 & >0[1] in. wc	.30	.31	.31	.31	.31	.32	.32
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & >0[1] in. wc	.45	.46	.46	.45	.46	.45	.45
		PDI-81 9-3	≤2.0 & >0[1] in. wc	.45	.45	.45	.45	.45	.48	.48
		PDI-819-4	≤2.0 & >0[1] in. wc	.40	.40	.40	.39	.39	.40	.40
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

FOR PRINTFORM ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/13/20	7/14/20	7/15/20	7/16/20	7/17/20	7-18-20	7-19-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	[illegible]	[illegible]	[illegible]	RM	RM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.11	.12	.13	.12
		PDI-822-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-822-4	≤2.0 & > 0[1] in. wc	.44	.45	.44	.44	.44	.43	.44
		PDI-822-5	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.58
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBY	StBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBY	StBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBY	StBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBY	StBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.29	.33	.17	.34	.35	.35	.40
		PDI-830-2	≤2.0 & > 0[1] in. wc	.11	.10	.08	.12	.12	.13	.16
		PDI-830-3	≤2.0 & > 0[1] in. wc	.18	.12	.09	.16	.18	.17	.17
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.06	.06	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.67	.67	.68	.68	.68	.67
		PDI-836-3	≤2.0 & > 0[1] in. wc	.66	.66	.66	.66	.66	.66	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.05	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.50	.50
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.43	.44	.44	.44	.45	.45

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/13/20	7/14/20	7/15/20	7/16/20	7/17/20	7-18-20	7-19-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	[illegible]	DDS	DDS	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.60	.59	.59	.60	.60	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.58	.58	.59	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc	.60	.60	.59	.59	.59	.60	.60
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.42	.42	.41	.42	.42	.41	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.55	.53	.56	.56	.55	.56	.56
		PDI-839-3	≤2.0 & > 0[1] in. wc	.52	.52	.55	.55	.55	.56	.55
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	7/13/20 .16 -.59 RH	.18	.17	.17	.16	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	RH .86 -.59 7/13/20	.88	.86	.87	.82	.84	.85
		PDI-810-3	≤2.0 & > 0[1] in. wc	RH 7/13/20 .60-.51	.51	.51	.52	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	off	OFF	OFF	off	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	OFF	off	OFF	OFF	off	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	off	OFF	OFF	off	OFF
			Completion Time	0844	0900	0910	0840	0910	0735	0748
OC Operator Review and Page Count Complete (initials)				M	M DH	DC	DH	M DH	M DH	7-19-20 M DH
OCS Daily Review Sign off (initials)				MJW	[illegible]	AFD	AFD	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: RICHARD HARTMAN Date 7-19-20 Time 0840 Reviewed by: PRich [illegible] Date: 7/19/20 Time: 2115

On-duty Supervisor

Comments 4.4.1.1 Needs calibration

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TORMH OMY NOT ONLY

			Date:	7/13/20	7/14/20	7/15/20	7-16-20	7-17-20	7-18-20	7-19-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	ZH	ZH	JM	[illegible]	DMS	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.16	.17	.17	.16	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.52	.52	.53	.52	.52	.55	.54
		PDI-840-3	≤2.0 & > 0[1] in. wc	.50	.50	.51	.50	.51	.52	.52
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	St By	St By
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	St By	St By
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	St By	St By
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.36	.36	.36	.37	.37	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc	.41	.41	.42	.42	.42	.41	.42
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.58	.58	.57	.58	.59	.58	.58
		PDI-832-2	≤2.0 & > 0[1] in. wc	.69	.69	.68	.68	.68	.68	.68
		PDI-832-3	≤2.0 & > 0[1] in. wc	.60	.60	.61	.60	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12	.12	.12	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.58	.59	.59
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.51	.51	.51	.51
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	off	OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	off	OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	off	OFF	OFF	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	7/13/20	7/14/20	7/15/20	7-16-20	7-17-20	7-18-20	7-19-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	~~RH~~	RH	JM	@	DMS	RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & >0[1] in. wc	.42	.45	.46	.46	.43	.46	.41
		PDI-829-2	≤2.0 & >0[1] in. wc	.50	.50	.51	.51	.50	.49	.50
		PDI-829-3	≤2.0 & >0[1] in. wc	.40	.40	.40	.40	.39	.38	.38
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & >0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & >0[1] in. wc	.52	.54	.55	.55	.52	.55	.55
		PDI-833-3	≤2.0 & >0[1] in. wc	.50	.50	.51	.51	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & >0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & >0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & >0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & >0[1] in. wc	.25	.25	.24	.25	.25	.25	.25
		PDI-815-2	≤2.0 & >0[1] in. wc	.52	.52	.52	.51	.55	.55	.55
		PDI-815-4	≤2.0 & >0[1] in. wc	.49	.49	.48	.49	.49	.49	.49
		PDI-815-5	≤2.0 & >0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBy	StBy
		PDI-816-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBy	StBy
		PDI-816-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBy	StBy
		PDI-816-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBy	StBy

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

			Date:	7/13/20	7/14/20	7/15/20	7/16/20	7/17/20	7-18-20	7-19-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.17
		PDI-812-2	≤2.0 & > 0[1] in. wc	.32	.32	.36	.35	.35	.37	.38
		PDI-812-3	≤2.0 & > 0[1] in. wc	.31	.31	.35	.32	.32	.37	.35
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31	.31	.32	.32	.32	.32	.32
		PDI-812-5	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.39	.40	.40
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBy	StBy
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBy	StBy
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBy	StBy
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBy	StBy
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	StBy	StBy
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.39	.39	.39	.38	.39	.39	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc	.32	.31	.34	.32	.32	.35	.34
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.03	.30 7/14/20 RH .03	.31	.31	.31	.31	.31

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

			Date:	7/13/20	7/14/20	7/15/20	7/16/20	7/17/20	7-18-20	7-19-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.10	.11	.11	.11	.10	.11
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.49	.49	.48	.49	.48	.45	.46
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.05	.05	.05	.05	.06	.06	.06
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.62	.62	.62	.61	.61	.61	.61
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	7/13/20	7/14/20	7/15/20	7-16-20	7-17-20	7-18-20	7-19-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	1050	0920	0930	0842	0852	0810	0805
			OC Operator Review and Page Count Complete (initials)	M	M DH	BC	[illegible]	M DH	M DH	M DH
			OCS Daily Review Sign off (initials)	MJW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Richard J Martinez Date 7-19-20 Time 0835 Reviewed by: PRICE Date: 7/19/20 Time: 2109

On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
		Date:	7/20/20		7/21/20		7/22/20		7/23/20		07-24-20		07-25-20		07-26-20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	ABJ	[illegible]	ABJ	[illegible]	DH	JSL	DH	JSL	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.01	-2.01	-1.99	-1.99	-2.01	-2.02	-2.00	-1.99	-2.01	-2.00	-2.01	-2.01	-2.00	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.92	-1.93	-1.93	-1.92	-1.93	-1.92	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.97	-1.97	-1.96	-1.96	-1.96	-1.95	-1.96	-1.96	-1.98	-1.96	-1.97	-1.96	-1.96	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.01	-2.00	-2.02	-2.00	-2.01	-1.99	-1.94	-2.01	-2.04 [illegible]	-2.03	-2.00	-2.01	-2.01	-2.00
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.20	-0.19	-.20	-0.19	-0.19	-0.21	-0.20	-0.20	-.20	-0.20	-.20	-0.21	-.20	-0.20
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.27	-0.26	-.27	-0.25	-0.25	-0.24	-0.26	-0.27	-.27	-0.27	-.26	-0.26	-.27	-0.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.20	-0.19	-.20	-0.21	-0.20	-0.22	-0.20	-0.20	-.20	-0.21	-.20	-0.20	-.20	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.20	-0.19	-.20	-0.20	-0.20	-0.21	-0.19	-0.19	-.20	-0.20	-.19	-0.19	-.20	-0.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.15	-0.15	-.15	-0.14	-0.16	-0.16	-0.15	-0.15	-.15	-0.15	-.15	-0.15	-.16	-0.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.10	-0.09	-.09	-0.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-0.09	-.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.09	-0.09	-.09	-0.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-0.09	-.09	-0.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.115	-0.114	-.101	-0.099	-0.115	-0.099	-0.113	-0.115	-.115	-0.084	-.084	-0.101	-.099	-0.097

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.			Date:	7/20/20		7/21/20		7/22/20		7/23/20		07-24-20		07-25-20		07-26-20	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	ABJ	[illegible]	ABJ	[illegible]	DH	JSL	DH	JSL	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

SRs	Description	Area	Gauge	Acceptance Criteria	Date:	7/20/20		7/21/20		7/22/20		7/23/20		07-24-20		07-25-20		07-26-20	
					Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
					Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
					Initials:	APS		APS		DH	JSL	DH	JSL	RC		BC		BC	
						SURVEILLANCE RESULTS Sat / Unsat (circle one)													
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time				0729	1915	0727	1919	0729	1916	0725	1924	0714	1917	0721	1927	0722	1913
		OCS Daily Review Sign off (initials)				APS		APS		DH		DH	APS	APS		APS		APS	

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: _____ Date 7/26/20 Time 1913 Reviewed by: _____ Date: 7/26/20 Time: 1934
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	7-20-20	7/21/20	7-22-20	7/23/20	7-24-20	7-25-20	7/26/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:							
	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
SR 4.4.1.1	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat
		Completion Time:	0815	0710	0800	0705	0835	0716	0711

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

				Date:	7-20-20	7/21/20	7-22-20	7/23/20	7-24-20	7-25-20	7/26/20
				Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
				Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)							
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.03	.03	.04	.03	.05	.05	.03
		PDI-894-2	≤2.0 & > 0[1] in. wc	.48	.48	.49	.48	.49	.49	.45
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-895-2	≤2.0 & > 0[1] in. wc	.71	.71	.68	.70	.70	.71	.70
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.29	.29	.29	.29	.29	.27	.29
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.31	.32
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.30	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.46
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.46	.46	.46	.46	.46	.44	.45
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.39	.39
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:	7-20-20	7/21/20	7-22-20	7/23/20	7-24-20	7-25-20	7/26/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	CA	JM	AS	JM	AS	AS	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.12	.12	STBY	STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	.60	.60	STBY	STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	.42	.43	STBY	STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	.58	.58	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.07	.08	.08	.08	.09
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.57	.58	.58	.55	.58
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.50	.50	.50	.48	.50
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	.62	.65	.65	.60	.63
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.38	.36	.20	.30	.36	.43	.34
		PDI-830-2	≤2.0 & > 0[1] in. wc	.13	.13	.10	.11	.12	.15	.11
		PDI-830-3	≤2.0 & > 0[1] in. wc	.17	.17	.11	.13	.16	.18	.13
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.66	.66	.66	.65	.65	.67
		PDI-836-3	≤2.0 & > 0[1] in. wc	.66	.66	.66	.66	.66	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.48
		PDI-837-3	≤2.0 & > 0[1] in. wc	.44	.44	.44	.44	.44	.45	.43

TOP INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	7-20-20	7/21/20	7-22-20	7/23/20	7-24-20	7-25-20	7/26/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	80
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.58	.59	.59	.59	.59	.58	80 7/26/20 ~~.57~~ .57
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.60	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.42	.42
		PDI-839-2	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55	.54	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc	.55	.54	.55	.55	.55	.55	.53
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	off	.16	.16	.16	.16
		PDI-810-2	≤2.0 & > 0[1] in. wc	.84	.84	off	.84	.84	.84	.84
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	.51	off	.51	.510	.510	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	off	.12	OFF	off	off	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	off	.54	off	off	off	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	off	.53	off	off	off	OFF
			Completion Time	0845	0820	0935	0755	0807	0847	0902
OC Operator Review and Page Count Complete (initials)				M	[illegible]	M DH	M	[illegible]	[illegible]	[illegible]
OCS Daily Review Sign off (initials)				AB	AB	[illegible]	[illegible]	AB	AB	AB

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [signature] Date ~~0902~~ 7/26/20 so 7/26/20 Time 0902 Reviewed by: [signature] On-duty Supervisor Date: 7/26/20 Time: 1102

Comments 7-20-20 4.4.1.1 Not in use, waiting Calibration

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	7-20-20	7/21/20	7-22-20	7/23/20	7-24-20	7-25-20	7/26/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.54	.54	.53	.54	.54	.54	.53
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.37	.36	.37	.37	.37
		PDI-831-2	≤2.0 & > 0[1] in. wc	.42	.43	.42	.43	.45	.45	.45
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.41	.41	.41
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.68	.68	.69	.68	.68	.68	.68
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.12	OFF	.12	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.58	OFF	.58	.58	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.51	.51	OFF	.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	off	.12	off	off	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	off	.53	off	off	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	off	.51	off	off	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

			Date:	7-20-20	7/21/20	7-22-20	7/23/20	7-24-20	7-25-20	7/26/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.43	.45	.51	.44	.42	.44	.43
		PDI-829-2	≤2.0 & > 0[1] in. wc	.49	.50	.59	.50	.50	.50	.49
		PDI-829-3	≤2.0 & > 0[1] in. wc	.38	.41	.48	.39	.39	.40	.39
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.58	.55	.58	.58	.58	.58	.56
		PDI-833-3	≤2.0 & > 0[1] in. wc	.51	.51	.52	.52	.52	.52	.52
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.24	.24	.23	.24	.23	.23	.22
		PDI-815-2	≤2.0 & > 0[1] in. wc	.55	.55	.53	.55	.52	.52	.51
		PDI-815-4	≤2.0 & > 0[1] in. wc	.48	.48	.49	.48	.48	.47	.46
		PDI-815-5	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.49	.49
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

				Date:	7-20-20	7/21/20	7-22-20	7/23/20	7-24-20	7-25-20	7/26/20
				Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
				Initials:	(A	JM	(A	JM	AS	KS	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)							
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc	.36	.36	.35	.36	.35	.35	.35
		PDI-812-3	≤2.0 & > 0[1] in. wc	.35	.35	.32	.35	.36	.36	.32
		PDI-812-4	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.31
		PDI-812-5	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.40	.40
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03	.03	.02	.03	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.39	.38	.38	.38	.38	.38	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.36	.34	.36	.34	.34	.33
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.32	.32	.32	.31	.31

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

			Date:	7-20-20	7/21/20	7-22-20	7/23/20	7-24-20	7-25-20	7/26/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	@	[illegible]	@	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.12	.12	.11	.11	.11	.11	.11
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.46	.47	.46	.47	.47	.47	.47
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.61	.61	.68	.61	.62	.62	.61
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	Sat	SAT	Sat	Sat	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	Sat	SAT	Sat	Sat	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	Sat	SAT	Sat	Sat	SAT

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	7-20-20	7/21/20	7-22-20	7/23/20	7-24-20	7-25-20	7/26/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	@	JM	@	JM	AS	AS	SD
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	Sat	Sat	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	Sat	Sat	SAT
			Completion time	0930	0940	0935	0735	0912	0910	0902
			OC Operator Review and Page Count Complete (initials)	M	JM	M DM	M	BK	BK	BK
			OCS Daily Review Sign off (initials)	ARJ	ARJ	JM	JM	ARJ	ARJ	ARJ

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [signature] Date 7/26/20 Time 0902 Reviewed by: [signature] Date: 7/26/20 Time: 1100

On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	7-27-20		7-28-20		7-29-20		7-30-20		7-31-20					
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	JSL	M	JSL	M	BC	[illegible]	BC	C	JSL	DH				
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.00	-2.00	-2.00	-2.00	-2.01	-1.99	-2.01	-2.00	-2.01	-1.99				
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.92	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.92				
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.96	-1.97	-1.96	-1.96	-1.96	-1.96	-1.97	-1.96	-1.96				
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.01	-2.01	-2.02	-2.02	-2.01	-2.01	-1.99	-2.00	-2.01	-2.00				
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.20	-.20	-0.20	-.20	-.20	-0.21	-.20	-.11	-0.20	-0.20				
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.27	-.27	-0.27	-.27	-.26	-0.27	-.26	-.26	-0.26	-0.26				
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.20	-.20	-0.20	-.21	-.20	-0.20	-.21	-.11	-0.20	-0.20				
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.20	-.19	-0.20	-.21	-.19	-0.20	-.20	-.19	-0.19	-0.19				
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.16	-.15	-0.16	-.15	-.15	-0.15	-.15	-.15	-0.15	-0.15				
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-.08	-0.09	-.09	-.09	-0.09	-.09	-.09	-0.09	-0.10				
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.09	-.09	-0.09	-.09	-.09	-0.09	-.09	-.09	-0.09	-0.09				
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.105	-.113	-.101	-.116	-.103	-0.100	-.099	-.101	-0.112	-0.102				

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:	7-27-20		7-28-20		7-29-20		7-30-20		7-31-20					
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	JSL	M	JSL	M	BC	BC	BC	G	JSL	BH				
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

FOR TRAINING ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	7-27-20		7-28-20		7-29-20		7-30-20		7-31-20					
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	JSL	M	JSL	M	RE		RE	C	JSL	DH				
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** Sat / Unsat (circle one)													
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0714	1936	0704	1925	0729	1915	0714	1914	0706	0723				
		OCS Daily Review Sign off (initials)																

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: 7/31/20 Date 8/1/20 Time 0723
DH 7/31/20

Reviewed by: _____ Date: 8/1/20 Time: 0140
On-duty Supervisor

Comments: _____

FOR INFORMATIONAL USE ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	7/27/20	7/28/20	7/29/20	7-30-20	7-31-20		
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005	005	005	005	0005		
	CP-305-H (LED Reading)		005	005	005	005	0005		
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	0005		
		≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat
		Completion Time:	0715	0848	0725	0822	0815		

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/27/20	7/28/20	7/29/20	7-30-20	7-31-20		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04		
		PDI-894-2	≤2.0 & > 0[1] in. wc	.46	.48	.46	.46	.49		
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.06	.08	.06	.08	.08		
		PDI-895-2	≤2.0 & > 0[1] in. wc	.70	.71	.70	.71	.71		
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.30	.29	.29	.29	.29		
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31		
		PDI-817-4	≤2.0 & > 0[1] in. wc	.35	.32	.33	.32	.32		
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31		
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.45	.46	.45	.45	.45		
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.46	.44	.46	.46	.45		
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.39	.40	.40	.39		
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	7/27/20	7/28/20	7/29/20	7-30-20	7-31-20		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	[illegible] STBY	STBY	.13	.13	.12		
		PDI-822-2	≤2.0 & > 0[1] in. wc	[illegible] STBY	STBY	.61	.59	.59		
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.45	.45	.44		
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	.59	.59	.59		
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.09	.09	STBY	STBY	STBY		
		PDI-823-2	≤2.0 & > 0[1] in. wc	.58	.58	STBY	STBY	STBY		
		PDI-823-4	≤2.0 & > 0[1] in. wc	.50	.49	STBY	STBY	STBY		
		PDI-823—5	≤2.0 & > 0[1] in. wc	.63	.62	STBY	STBY	STBY		
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.37	.32	.34	.30	.34		
		PDI-830-2	≤2.0 & > 0[1] in. wc	.13	.11	.12	.11	.12		
		PDI-830-3	≤2.0 & > 0[1] in. wc	.15	.13	.14	.13	.17		
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07		
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.65	.66	.65	.65		
		PDI-836-3	≤2.0 & > 0[1] in. wc	.66	.65	.65	.65	.66		
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04		
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49		
		PDI-837-3	≤2.0 & > 0[1] in. wc	.44	.43	.44	.43	.42		

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/27/20	7/28/20	7/29/20	7-30-20	7-31-20		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.60		
		PDI-838-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59		
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	159	.59	.59		
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.42	.41	.42	.42		
		PDI-839-2	≤2.0 & > 0[1] in. wc	.54	.52	.53	.53	.52		
		PDI-839-3	≤2.0 & > 0[1] in. wc	.53	.54	.54	.54	.52		
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17		
		PDI-810-2	≤2.0 & > 0[1] in. wc	.88	.84	.85	.89	.85		
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51		
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	OFF	OFF	off	OFF		
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	OFF	OFF	off	OFF		
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	OFF	OFF	off	OFF		
			Completion Time	0820	0913	0815	0930	0910		
OC Operator Review and Page Count Complete (initials)										
OCS Daily Review Sign off (initials)										

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: Anthony Sanchez Date 7/31/20 Time 0910 Reviewed by: _____ Date: 7/31/20 Time: 1600
On-duty Supervisor

Comments 7/27/20 44.1.1 not in use. Waiting for calibration

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	7/27/20	7/28/20	7/29/20	7-30-20	7-31-20		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	SD	[illegible]	[illegible]	DDS		
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17		
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.54	.52	.54	.54	.54		
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.52		
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.35	.36	.37	.37		
		PDI-831-2	≤2.0 & > 0[1] in. wc	.45	.44	.45	.45	.48		
		PDI-831-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41		
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.58	.57	.57	.59	.59		
		PDI-832-2	≤2.0 & > 0[1] in. wc	.68	.66	.68	.69	.68		
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61		
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.11	.12		
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58		
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50		
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	OFF	off	off	OFF		
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	OFF	off	off	OFF		
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	OFF	off	off	OFF		

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	7/27/20	7/28/20	7/29/20	7-30-20	7-31-20		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	SO	JM	DS	DDS		
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.43	.46	.44	.50	.44		
		PDI-829-2	≤2.0 & > 0[1] in. wc	.50	.51	.50	.57	.51		
		PDI-829-3	≤2.0 & > 0[1] in. wc	.38	.40	.46	.45	.40		
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08		
		PDI-833-2	≤2.0 & > 0[1] in. wc	.57	.56	.57	.57	.55		
		PDI-833-3	≤2.0 & > 0[1] in. wc	.51	.50	.51	.52	.55		
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06		
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50		
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50		
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.25	.23	.25	.23	.21		
		PDI-815-2	≤2.0 & > 0[1] in. wc	.51	.50	.52	.52	.55		
		PDI-815-4	≤2.0 & > 0[1] in. wc	.48	.46	.48	.48	.49		
		PDI-815-5	≤2.0 & > 0[1] in. wc	.49	.48	.49	.49	.50		
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/27/20	7/28/20	7/29/20	7-30-20	7-31-20		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	SO	[illegible]	[illegible]	[illegible]		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.13	.16		
		PDI-812-2	≤2.0 & > 0[1] in. wc	.36	.35	.36	.28	.35		
		PDI-812-3	≤2.0 & > 0[1] in. wc	.35	.31	.35	.29	.32		
		PDI-812-4	≤2.0 & > 0[1] in. wc	.32	.31	.32	.27	.32		
		PDI-812-5	≤2.0 & > 0[1] in. wc	.40	.39	.39	.32	.39		
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY		
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03	.02	.03	.03	.02		
		PDI-865-2	≤2.0 & > 0[1] in. wc	.38	.39	.39	.39	.39		
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.33	.35	.33	.32		
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.05		
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31		

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/27/20	7/28/20	7/29/20	7-30-20	7-31-20		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	SO	[illegible]	AJ	AJ		
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11		
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.47	.46	.47	.47	.48		
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.06	.07	.06	.07	.07		
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61		
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft[2] combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT		
4.3.2.2[2]	Room 201		0 lb/ft[2] combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT		
4.3.2.2[2]	Room 204		0 lb/ft[2] combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT		

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	7/27/20	7/28/20	7/29/20	7-30-20	7-31-20		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	SO	[illegible]	AS	AS		
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	Sat	Sat		
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SA	Sat		
			Completion time	0920	0919	0800	0828	0858		
			OC Operator Review and Page Count Complete (initials)	TAS	JSC	[illegible]	[illegible]	JSC		
			OCS Daily Review Sign off (initials)	[illegible]	MSW	[illegible]	MSW	[illegible]		

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.
Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Anthony Sanchez Date 7/31/20 Time 0858 Reviewed by: PFICO Date: 7/31/20 Time: 1605
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment D, Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 1 of 2)

NOTE: This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials	CDV Initials
*Note	Confinement DR-344	Southeast	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	(Sat.) / Unsat.	1413	7/23/20		
4.1.3.2[1]	Confinement Door DR-344	Southeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat.) Unsat.	1415	7/23/20		
4.1.3.2[1]	Confinement Door DR-149	Northeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat.) / Unsat.	1310	7/23/20		
*Note	Confinement DR-102	Northwest	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	(Sat.) / Unsat.	1347	7/23/20		
4.1.3.2[1]	Confinement Door DR-102	Northwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat.) Unsat.	1348	7/23/20		
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) goes to the fully closed position via the automatic door closure is ≤ 30 seconds. 4.4 Seconds	(Sat.) Unsat.	1346	7/23/20		

*** Note:** Monthly Inspection of DR-344 and DR-102 in accordance with compensatory measure(s) from: *Request for Permanent Equivalency to OE Order 420.1B Chapter II, NFPA 80, NFPA 101 and IBC Requirements for LANL Building TA55-4 (PF-4); Installation of New Confinement Doors DR-102, DR-302, and DR-344 LANL-DOE-ORDER-420.1B-EQ-2013-001*

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Attachment D, Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 2 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials	CDV Initials
4.1.3.2[1]	Confinement Door DR-302	Southwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	(Sat) Unsat.	1356	7/23/20	[signature]	[signature]
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) goes to the fully closed position via the automatic door closure is ≤ 30 seconds. 6.15 Seconds	(Sat) Unsat.	1354	7/23/20	[signature]	[signature]
4.1.3.2[1]	Confinement Door DR-4	N. Basement Personnel door DR-4	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure.	(Sat.) Unsat.	1333	7/23/20	[signature]	[signature]
4.1.3.2[1]	Confinement Door DR-90	South Basement Door (Tunnel)	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat) Unsat.	1707	7/23/20	[signature]	[signature]
					OC Operator Review and Page Count Complete		M	

[1] SR 4.1.3.2 applies during both Mode 1 and Mode 2.

Completed by: [signature] Date 7/23/20 Time 1710 Reviewed by: [signature] 333120 Date: 7/23/20 Time: 1720

Concurrent Dual Verifier [signature] Date 7/23/20 Time 1710

On-duty Supervisor Comments:

FOR INFORMATION ONLY

Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	Surveillance Rounds
Procedure no.:	TA55-STP-004, R21
Date of issue:	8/1/20
Working copy issued to:	M. Wells
Working copy issued by:	M. Miller
	Certified Operations Center Operator (OCO)

Procedure is the current revision listed in Documentum: ☑ Yes ☐ Documentum Unavailable

Performance Type: ☑ Scheduled ☐ Partial ☐ Other *If partial or other list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
Cecillo, John	MM	8/1/20
Chavez, Bryan	MM	
Cochran, Cory	MM	
Heintschel, Dustin	MM	
Stilson, Tyler	MM	
Wells, Matt	MM	
Jaramillo, Antonio	MM	
Miller, Marcus	MM	
Rice, Ricky	MM	

OC Reviews Complete and TSR Status Board Updated

MM / 8/31/20

OCO Signature Date

FOR INFORMATION ONLY

Attachment B, Surveillance Training Checklist (continued)

(Page 2 of 2)

Training Checklist (continuation sheet)

Workers Performing Surveillance	Applicable Surveillance Training Current	
	Initials	Date
Seyhert, Fred	MM	8/1/20
Dostert, Larry	MM	
Dunlevy, Derek	MM	
Hendricks, Justin	MM	
Tesch, Chuck		
Washburn, Michael	MM	8/1/20
Fordham, Brian	MM	
Holmes, Rory	MM	
Irish, Michael	MM	
Langworthy, Tom	MM	
Martinez, Jerome	MM	
Martinez, Richard	MM	
O'neill, Steven	MM	
Sanchez, Anthony	MM	
Wickings, Sherman	MM	
Ashley, Keith	MM	

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:											8-1-20		8-2-20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:											JSL	DH	JSL	DH
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]											-1.99	-2.00	-2.00	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]											-1.93	-1.93	-1.93	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]											-1.96	-1.96	-1.96	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]											-2.01	-2.01	-2.01	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]											-0.20	-0.20	-0.14	-0.20
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]											-0.26	-0.27	-0.26	-0.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]											-0.20	-0.20	-0.20	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]											-0.19	-0.19	-0.19	-0.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc											-0.15	-0.15	-0.15	-0.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc											-0.09	-0.09	-0.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc											-0.09	-0.09	-0.09	-0.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc											-0.105	-0.16	-0.099	-0.105

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR INFORMATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:											8-1-20		8-2-20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:											JSL	DW	JSL	DH
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

FOR INFORMATION ONLY

Note Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.				**Date:**										8-1-20		8-2-20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:											JSL	DH	JSL	DH
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** **Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat	(Sat) Unsat
		Completion Time													0709	DH 8/1/20 0730 1930	0714	DH 8/2/20 0732 1938
		OCS Daily Review Sign off (initials)																

[1] Mode 2 acceptance criteria is < 0.00 in. wc.

[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.

[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [illegible] Date 8/2/20 Time ~~0730~~ 1938 DH 8/2/20 Reviewed by: _____ Date 8/2/20 Time: 1938
On-duty Supervisor

Comments: _____

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:						8/1/20	8/2/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:						[illegible]	[illegible]
	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
SR 4.4.1.1	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA						005	005
	CP-305-H (LED Reading)							005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value						005	005
		≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:						0705	0707

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

			Date:						8/1/20	8/2/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						AM	AM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc						.04	.04
		PDI-894-2	≤2.0 & > 0[1] in. wc						.45	.45
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc						.06	.07
		PDI-895-2	≤2.0 & > 0[1] in. wc						.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc						.29	.29
		PDI-817-2	≤2.0 & > 0[1] in. wc						.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc						.33	.33
		PDI-817-5	≤2.0 & > 0[1] in. wc						.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc						.45	.45
		PDI-81 9-3	≤2.0 & > 0[1] in. wc						.46	.46
		PDI-819-4	≤2.0 & > 0[1] in. wc						.40	.40
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc						STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc						STBY	STBY

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:						8/1/20	8/2/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc						.13	.13
		PDI-822-2	≤2.0 & > 0[1] in. wc						.59	.59
		PDI-822-4	≤2.0 & > 0[1] in. wc						.43	.43
		PDI-822-5	≤2.0 & > 0[1] in. wc						.57	.57
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc						STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc						.37	.37
		PDI-830-2	≤2.0 & > 0[1] in. wc						.13	.14
		PDI-830-3	≤2.0 & > 0[1] in. wc						.17	.16
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc						.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc						.65	.66
		PDI-836-3	≤2.0 & > 0[1] in. wc						.66	.66
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc						.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc						.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc						.44	.44

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:						8/1/20	8/2/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc						.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc						.58	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc						.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc						.41	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc						.54	.54
		PDI-839-3	≤2.0 & > 0[1] in. wc						.54	.54
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc						.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc						.87	.88
		PDI-810-3	≤2.0 & > 0[1] in. wc						.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc						off	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc						off	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc						off	off
			Completion Time						0740	0800
OC Operator Review and Page Count Complete (initials)									TAS	JSL
OCS Daily Review Sign off (initials)									M	MH

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: Jessie M. Date 8/2/20 Time 0800 Reviewed by: _____ Date: 8/2/20 Time: 1941
On-duty Supervisor

Comments 8/1/20 4.1.1.1 not in use. Waiting to be calibrated.

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:						8/1/20	8/2/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc						.17	.17
		PDI-840-2	≤2.0 & > 0 in[1] wc						.53	.54
		PDI-840-3	≤2.0 & > 0[1] in. wc						.51	.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc						STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc						.37	.37
		PDI-831-2	≤2.0 & > 0[1] in. wc						.44	.44
		PDI-831-3	≤2.0 & > 0[1] in. wc						.41	.41
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc						.58	.58
		PDI-832-2	≤2.0 & > 0[1] in. wc						.68	.68
		PDI-832-3	≤2.0 & > 0[1] in. wc						.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc						.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc						.56	.56
		PDI-807-3	≤2.0 & > 0[1] in. wc						.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc						OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc						OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc						OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

			Date:						8/1/20	8/2/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						YM	YM
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc						.45	.44
		PDI-829-2	≤2.0 & > 0[1] in. wc						.51	.50
		PDI-829-3	≤2.0 & > 0[1] in. wc						.40	.40
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc						.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc						.57	.57
		PDI-833-3	≤2.0 & > 0[1] in. wc						.52	.52
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc						.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc						.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc						.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc						.24	.24
		PDI-815-2	≤2.0 & > 0[1] in. wc						.54	.54
		PDI-815-4	≤2.0 & > 0[1] in. wc						.48	.48
		PDI-815-5	≤2.0 & > 0[1] in. wc						.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc						STBY	STBY

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

			Date:						8/1/20	8/2/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						QM	QM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc						.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc						.36	.36
		PDI-812-3	≤2.0 & > 0[1] in. wc						.35	.35
		PDI-812-4	≤2.0 & > 0[1] in. wc						.31	.32
		PDI-812-5	≤2.0 & > 0[1] in. wc						.39	.39
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc						STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc						.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc						.38	.38
		PDI-865-3	≤2.0 & > 0[1] in. wc						.34	.34
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc						.04	.04
		PDI-863-2	≤2.0 & >0[1] in. wc						.31	.31

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:						8/1/20	8/2/20 ~~8/2/20~~ 8/4/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc						.12	.12
		PDI-857-2	≤ 2.0 & > 0[1] in. wc						.47	.46
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc						.65	.05
		PDI-856-2	≤ 2.0 & > 0[1] in. wc						.60	.61
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**						Sat	Sat
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less						Sat	Sat
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less						Sat	Sat

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:						8/1/20	8/2/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less						SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less						SAT	SAT
			Completion time						0750	0720
			OC Operator Review and Page Count Complete (initials)						[illegible]	[illegible]
			OCS Daily Review Sign off (initials)						[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Jerome M. Date 8/2/20 Time 0720 Reviewed by: _____ Date: 8/2/20 Time: 1940

On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
			Date:	8/3/2020		8/4/2020		8-5-20		8-6-20		8/7/20		8/8/20		8/9/20	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	BC	[illegible]	BC	JSL	M	JSL	M	[illegible]	BC	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**														
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.00	-2.02	-2.00	-2.01	-1.99	-1.99	-2.01	-2.00	-2.00	-1.97	-2.02	-2.00	-2.01	-2.01
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.93	-1.93	-1.93	-1.93	-1.92	-1.93	-1.93	-1.92	-1.95	-1.93	-1.93	-1.93	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.96	-1.96	-1.96	-1.96	-1.97	-1.97	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.01	-2.00	-2.02	-2.02	-2.01	-1.99	-2.00	-2.01	-2.01	-2.01	-2.00	-2.01	-2.01	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.20	-.21	-0.20	-.20	-0.20	-.22	-.20	-.20	-.20	-.20	-.20	-.21	-0.20	-.20
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.26	-.27	-0.26	-.26	-0.25	-.28	-0.26	-.27	-.26	-.25	-.26	-.27	-0.26	-.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.20	-.21	-0.20	-.20	-0.20	-.22	-0.20	-.20	-.20	-.19	-.20	-.20	-0.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.20	-.19	-0.20	-.19	-0.19	-.22	-0.20	-.20	-.20	-.19	-.19	-.19	-0.20	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-.15	-0.15	-.15	-0.15	-.16	-0.15	-.16	-.15	-.15	-.15	-.15	-0.15	-.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-.09	-0.09	-.09	-0.09	-.09	-0.09	-.09	-.09	-.09	-.09	-.09	-0.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.09	-.08	-0.09	-.09	-0.09	-.09	-0.09	-.09	-.09	-.09	-.09	-.09	-0.09	-.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.107	-.110	-0.114	-.102	-0.115	-.112	-0.111	-.101	-.101	-.102	-.100	-.110	-0.101	-.100

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.

			Date:	8/3/20		8/4/20		8-5-20		8-6-20		8/7/20		8/8/20		8/9/20	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	BL	[illegible]	BL	JSL	M	JSL	M	[illegible]	BL	[illegible]	BL	[illegible]	BL
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note					Date:	8/3/20		8/4/20		8-5-20		8-6-20		8/7/20		8/8/20		8/9/20	
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.					Weekday:	Mon		Tue		Wed		Thu		Fri		Sat		Sun	
					Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
					Initials:	[illegible]	BL	[illegible]	BL	JSL	M	JSL	M	[illegible]	BL	[illegible]	BL	[illegible]	BL
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** Sat / Unsat (circle one)														
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0719	1921	0711	1919	0714	M 8/5/20 AM 1933	0720	1932	0719	1920	0716	1919	0713	1915	
		OCS Daily Review Sign off (initials)			[illegible]	ARS	[illegible]	ARS	[illegible]	[illegible]	[illegible]	[illegible]	ARS	ARS	ARS	[illegible]	ARS		

[1] Mode 2 acceptance criteria is < 0.00 in. wc.

[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.

[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: BL Date 8-9-20 Time 1915 Reviewed by: [illegible] Date: 8/9/20 Time: 1935
On-duty Supervisor

Comments: _____

FOR INFORMATIONAL USE ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	8/3/20	8/4/20	8/5/20	8/6/20	8-7-20	8/8/20	8/9/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	JM	JM	DAS	DAS	AA	SO	SO
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	OOS	OOS	OOS	OOS	OOS	OOS	OOS
	CP-305-H (LED Reading)		OOS	OOS	OOS	OOS	OOS	OOS	OOS
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	OOS	OOS	OOS	OOS	OOS	OOS	OOS
		≥ -0.1; ≤+0.1	Sat / Unsat OOS	Sat / Unsat OOS	Sat / Unsat OOS	Sat / Unsat OOS	Sat / Unsat OOS	Sat / Unsat OOS	Sat / Unsat OOS
		Completion Time:	0730	0711	0825	0756	0810	0701	0734

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	8/3/20	8/4/20	8/5/20	8/6/20	8/7/20	8/8/20	8/9/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JH	JH	DDS	DDS	DDS	SU	SU
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.05	.04	.04	.04
		PDI-894-2	≤2.0 & > 0[1] in. wc	.45	.46	.49	.49	.48	.46	.48
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.06	.06	.08	.08	.09	.08	.08
		PDI-895-2	≤2.0 & > 0[1] in. wc	.71	.71	.70	.70	.70	.70	.70
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.29	.29	.29	.29	.29	.29	.30
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc	.33	.32	.32	.32	.32	.32	.32
		PDI-817-5	≤2.0 & > 0[1] in. wc	.30	.30	.31	.31	.31	.32	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.45	.45	.44	.45	.45	.45	.45
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.46	.46	.44	.44	.45	.46	.45
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.40	.39	.39	.39	.39	.39
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

FOR INFORMATION ONLY

			Date:	8/3/20	8/4/20	8/5/20	8/6/20	8/7/20	8/8/20	8/9/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.13	.13	.12	.12
		PDI-822-2	≤2.0 & > 0[1] in. wc	.59	.60	.60	.60	.60	.58	.59
		PDI-822-4	≤2.0 & > 0[1] in. wc	.43	.43	.45	.44	.44	.42	.42
		PDI-822-5	≤2.0 & > 0[1] in. wc	.58	.58	.59	.59	.59	.56	.58
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.36	.35	.46	.42	.46	.38	.39
		PDI-830-2	≤2.0 & > 0[1] in. wc	.12	.12	.16	.16	.14	.12	.12
		PDI-830-3	≤2.0 & > 0[1] in. wc	.17	.14	.19	.19	.19	.18	.18
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.65	.66	.66	.66	.66	.66
		PDI-836-3	≤2.0 & > 0[1] in. wc	.67	.66	.66	.66	.65	.65	.66
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.44	.44	.44	.44	.44	.45	.45

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	8/3/20	8/4/20	8/5/20	8/6/20	8/7/20	8/8/20	8/9/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	YM	YM	DDS	DDS	DDS	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.59	.60	.60	.60	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.58	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.41	.42	.42	.42	.43	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.53	.53	.55	.55	.55	.53	.55
		PDI-839-3	≤2.0 & > 0[1] in. wc	.53	.53	.55	.55	.55	.56	.55
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	OFF	.17	.17	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.87	.85	OFF	.85	.88	.86	.86
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	.51	OFF	.51	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	.12	OFF	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	OFF	.53	OFF	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	.52	OFF	OFF	OFF	OFF
			Completion Time	0835	0258	0920	0826	0936	0913	0842
OC Operator Review and Page Count Complete (initials)						TAS	TAS			
OCS Daily Review Sign off (initials)										

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [signature] Date 8/9/20 Time 0845 Reviewed by: [signature] On-duty Supervisor Date: 8/9/2020 Time: 0844

Comments 8/3/20 44.11 not in use - waiting to be calibrated

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	8/3/20	8/4/20	8/5/20	8/6/20	8/7/20	8/8/20	8/9/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	DMS	DMS	DMS	SO	SO
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.54	.54	.52	.52	.52	.52	.53
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.52	.51	.51	.51	.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.37	.37	.37	.37	.37	.37	.37
		PDI-831-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.44	.44	.44
		PDI-831-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	~~.37~~ .57	.58	.59	.59	.60	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.68	.68	.68	.68	.68	.68	.68
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.12	OFF	.12	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.58	OFF	.58	.58	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	OFF	.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	.06	OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	.50	OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	.49	OFF	OFF	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:	8/3/20	8/4/20	8/5/20	8/6/20	8/7/20	8/8/20	8/9/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JH	JH	DMS	DMS	DMS	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.45	.44	.44	.45	.43	.44	.44
		PDI-829-2	≤2.0 & > 0[1] in. wc	.51	.50	.49	.51	.50	.50	.50
		PDI-829-3	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.39	.39	.39
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	JH 8/3/20 .08	.08	.09	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.57	.57	.58	.58	.58	.56	.56
		PDI-833-3	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.27	.27	.22	.22	.22	.25	.26
		PDI-815-2	≤2.0 & > 0[1] in. wc	.54	.54	.54	.54	.54	.54	.54
		PDI-815-4	≤2.0 & > 0[1] in. wc	.48	.48	.48	.49	.49	.48	.48
		PDI-815-5	≤2.0 & > 0[1] in. wc	.50	.49	.49	.50	.50	.49	.49
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

			Date:	8/3/20	8/4/20	8/5/20	8/6/20	8/7/20	8/8/20	8/9/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc	.36	.36	.34	.34	.34	.34	.33
		PDI-812-3	≤2.0 & > 0[1] in. wc	.35	.35	.31	.31	.31	.31	.31
		PDI-812-4	≤2.0 & > 0[1] in. wc	.32	.31	.32	.32	.32	.31	.31
		PDI-812-5	≤2.0 & > 0[1] in. wc	.40	.38	.39	.39	.39	.38	.39
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03	.03	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.38	.34	.38	.39	.39	.35	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.31	.32	.32	.32	.32	.32
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.04	.04	.05	.04	.05	.04	.04
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.30	.30

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

			Date:	8/3/20	8/4/20	8/5/20	8/6/20	8/7/20	8/8/20	8/9/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.11	.12	.12	.12	.11	.11
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.47	.46	.48	.48	.48	.46	.47
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.05	.06	.07	.07	.08	.07	.07
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.60	.60	.61	.61	.61	.60	.61
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[3]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[3]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	8/3/20	8/4/20	8/5/20	8/6/20	8-7-20	8/8/20	8/9/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			BDS	BDS		SD	SD
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0810	0750	0909	0841	0840	0913	0842
			OC Operator Review and Page Count Complete (initials)			BDS	TAS			
			OCS Daily Review Sign off (initials)							

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.
Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [signature] Date: ~~8/9/20~~ 8/9/20 Time: 0845 Reviewed by: [signature] Date: 8/9/2020 Time: 08-16
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TO BE WORKED ON ONLY

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	8-10-20		8-11-20		8/12/20		8-13-20		8-14-20		8-15-20		8-16-20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	JSL	M	JSL	DH	C	BC	JSL	BC	JSL	M	JSL	M	JSL	DH
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.02	-2.02	-2.01	-2.01	-2.00	-1.99	-2.00	-2.02	-2.02	-2.00	-2.00	-2.01	-2.01	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.93	-1.94	-1.94	-1.94	-1.94	-1.92	-1.93	-1.93	-1.94	-1.92	-1.93	-1.93	-1.91
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.97	-1.97	-1.97	-1.97	-1.96	-1.95	-1.97	-1.96	-1.96	-1.96	-1.96	-1.97	-1.96	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.00	-2.01	-2.01	-2.03	-2.01	-2.01	-2.01	-2.02	-2.02	-2.01	-2.01	-2.01	-2.01	-2.00
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.19	-.20	-0.20	-0.19	-.20	-.20	-0.20	-.21	-0.20	-.18	-0.19	-.19	-0.19	-0.18
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.25	-.24	-0.25	-0.25	-.25	-.25	-0.26	-.27	-0.26	-.25	-0.26	-.26	-0.27	-0.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.18	-.18	-0.20	-0.18	-.20	-.19	-0.20	-.20	-0.20	-.20	-0.20	-.20	-0.20	-0.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.19	-.18	-0.19	-0.19	-.20	-.19	-0.20	-.17	-0.20	-.19	-0.19	-.20	-0.20	-0.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-.14	-0.15	-0.15	-.16	-.15	-0.15	-.15	-0.15	-.15	-0.15	-.15	-0.15	-0.15
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-.08	-0.09	-0.09	-.09	-.09	-0.09	-.09	-0.09	-.09	-0.09	-.09	-0.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.09	-.09	-0.09	-0.09	-.09	-.09	-0.09	-.09	-0.09	-.09	-0.09	-.09	-0.09	-0.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.113	-.102	-0.104	-0.104	-.104	-.111	-0.116	-.109	-0.103	-.106	-0.104	-.104	-0.102	-0.103

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR INFORMATION ONLY

Note		Date:	8-10-20		8-11-20		8/12/20		8-13-20		8-14-20		8-15-20		8-16-20	
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	JSL	M	JSL	DH	C	BZ	JSL	BZ	JSL	M	JSL	M	JSL	DH
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

SRs	Description	Area	Gauge	Acceptance Criteria	Date:	8-10-20		8-11-20		8/12/20		8-13-20		8-14-20		8-15 20		8-16-20	
					Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
					Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
					Initials:	JSL	M	JSL	DH	C	BC	JSL	BC	JSL	M	JSL	M	JSL	DH
					SURVEILLANCE RESULTS Sat / Unsat (circle one)														
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sa Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time				0104	1935	0710	0726	0714	1935	0707	1920	0720	1926	0712	1929	0723	1933
		OCS Daily Review Sign off (initials)				M	MH	M	MH	MW	AB	AB	AB	M	MH	M	MH	M	MH

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [signature] Date 8/16/20 Time 1933 Reviewed by: [signature] Date 8/16/20 Time: 1941
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	8/10/20	8/11/20	8/12/20	8/13/20	08/14/20	8/15/20	8/16/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	RH	RH
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H)	Record Calculated Value	005	005	005	005	005	005	005
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	~~Sat~~ / Unsat 005	~~Sat~~ / Unsat 005	~~Sat~~ / Unsat 005
		Completion Time:	0703	0921	0701	0740	0710	0855	0725

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

			Date:	8/10/20	8/11/20	8/12/20	8/13/20	08/14/20	8/15/20	8/16/20
			Weekday:	Mon.	Tue	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	DAO	JM	JM	[illegible]	RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.04 ~~.04~~ 8/10/20	.04	.04	.04	.04	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.48	.49	.48	.48	.48	.49	.48
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.06	.09	.07	.07	.07	.08	.08
		PDI-895-2	≤2.0 & > 0[1] in. wc	.71	.71	.71	.71	.70	.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.29	.30	.29	.29	.29	.30	.29
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.30	.30
		PDI-817-4	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-817-5	≤2.0 & > 0[1] in. wc	.30	.31	.31	.31	.30	.30	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	.45	.46	.46	.46	.44	.45	.45
		PDI-819-3	≤2.0 & > 0[1] in. wc	.46	.45	.46	.45	.45	.45	.45
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.39	.40	.40	.39	.39	.40
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	8/10/20	8/11/20	8/12/20	8/13/20	08/14/20	8/15/20	8/16/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	BMS	JM	JM	[illegible]	ZH	ZH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.13	.14	.13	.13	.13	.14	.14
		PDI-822-2	≤2.0 & > 0[1] in. wc	.59	.60	.60	.60	.59	.60	.60
		PDI-822-4	≤2.0 & > 0[1] in. wc	.42	.44	.43	.43	.43	.43	.44
		PDI-822-5	≤2.0 & > 0[1] in. wc	.58	.59	.58	.58	.58	.59	.60
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.41	.31	.36	.35	.32	.35	.35
		PDI-830-2	≤2.0 & > 0[1] in. wc	.13	.10	.13	.13	.12	.11	.11
		PDI-830-3	≤2.0 & > 0[1] in. wc	.17	.12	.15	.16	.15	.16	.16
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.66	.66	.66	.66	.66	.67
		PDI-836-3	≤2.0 & > 0[1] in. wc	.66	.65	.67	.67	.67	.66	.66
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.44	.43	.43	.43	.44	.44

TO PRINT FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	8/10/20	8/11/20	8/12/20	8/13/20	08/14/20	8/15/20	8/16/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.60
		PDI-838-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.60	.58	.59	.59
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	.59	.60	.59	.60	.60
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.42	.41	.41	.42	.42	.42
		PDI-839-2	≤2.0 & > 0[1] in. wc	.55	.55	.54	.52	.52	.52	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc	.55	.56	.52	.52	.53	.51	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.16	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.88	.85	.88	.87	.85	.85	.86
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	.51	.52	.51	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	OFF	off	off	off	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	OFF	off	off	off	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	OFF	off	off	off	OFF	OFF
			Completion Time	0730	0930	0733	0715	0710	0851	0827
OC Operator Review and Page Count Complete (initials)				TAS	JSL	TAS	JSL	JSL	TAS	JSL
OCS Daily Review Sign off (initials)										

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [signature] Date 8/16/20 Time 0835 Reviewed by: [signature] Date: 8/16/20 Time: 1116
On-duty Supervisor

Comments 8/10/20 4.1.1.1 System not in use. Waiting for Calibration

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

				Date:	08/10/20	8/11/20	8/12/20	8/13/20	08/14/20	8/15/20	8/16/20
				Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
				Initials:	[illegible]	RDS	[illegible]	[illegible]	[illegible]	RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)							
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	[illegible] 8/10/20 .51 .17	.17	.17	.17	.17	.16	.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.53	.54	.54	.54	.54	.53	.52
		PDI-840-3	≤2.0 & > 0[1] in. wc	[illegible] 8/10/20 .17 .51	.51	.51	.51	.51	.50	.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	Stby	Stby	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	Stby	Stby	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	Stby	Stby	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.37	.37	.37	.36	.36	.37
		PDI-831-2	≤2.0 & > 0[1] in. wc	.43	.44	.44	.43	.43	.43	.42
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.41	.41	.41	.41	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.67	.68	.68	.68	.67	.68	.68
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.12	.11	.11	.11	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.56	.58	.57	.57	.57	.58	.59
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	OFF	off	off	off	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	OFF	off	off	off	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	OFF	off	off	off	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

			Date:	08/10/20	8/11/20	8/12/20	08/13/20	08/14/20	8/15/20	8/16/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & >0[1] in. wc	.42	.49	.44	.44	.45	.45	.46
		PDI-829-2	≤2.0 & >0[1] in. wc	.50	.53	.50	.50	.50	.50	.51
		PDI-829-3	≤2.0 & >0[1] in. wc	.39	.41	.40	.40	.40	.40 RH 8/15/20	.40
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & >0[1] in. wc	.06	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & >0[1] in. wc	.57	.56	.56	.56	.56	.56	.56
		PDI-833-3	≤2.0 & >0[1] in. wc	.52	.52	.51	.51	.53	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & >0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & >0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & >0[1] in. wc	.49	.50	.50	.49	.49	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & >0[1] in. wc	.25	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & >0[1] in. wc	.53	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & >0[1] in. wc	.48	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & >0[1] in. wc	.49	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & >0[1] in. wc	stby	.39	.46	.44	[illegible]	.46	.43
		PDI-816-2	≤2.0 & >0[1] in. wc	stby	.49	.54	.54	.54	.55	.54
		PDI-816-4	≤2.0 & >0[1] in. wc	stby	.44	.50	.50	.50	.50	.50
		PDI-816-5	≤2.0 & >0[1] in. wc	stby	.48	.52	.52	.52	.52	.51

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

			Date:	08/10/20	8/11/20	8/12/20	08/13/20	08/14/20	8/15/20	8/16/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	DRS	[illegible]	[illegible]	[illegible]	RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc	.32	.34	.35	.33	.33	.33	.33
		PDI-812-3	≤2.0 & > 0[1] in. wc	.30	.31	.34	.31	.31	.31	.31
		PDI-812-4	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.31	.31
		PDI-812-5	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.40	.40
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	Stby	Stby	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	Stby	Stby	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	Stby	Stby	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	Stby	Stby	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	Stby	Stby	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.32	0	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.38	.02	.38	.38	.37	.37	.37
		PDI-865-3	≤2.0 & > 0[1] in. wc	.02	.02	.34	.33	.32	.32	.32
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	[illegible] 8/10/20 .31 .05	0	.04	.04	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	[illegible] 8/10/20 .31	0	.31	.31	.32	.30	.30

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

			Date:	8/10/20	8/11/20	8/12/20	8/13/20	8/14/20	8/15/20	8/16/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.10	.11	.12	.12	.10	.10	.10
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.48	.49	.48	.46	.48	.48	.48
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.07	.07	.06	.06	.08	.08	.07
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.61	.61
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	8/10/20	8/11/20	8/12/20	08/13/20	08/14/20	8/15/20	8/16/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0840	0920	0750	0950	0852	0852	0827
			OC Operator Review and Page Count Complete (initials)	TAS	JSL		JSL	JSL	TAS	TAS
			OCS Daily Review Sign off (initials)			MJM				

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: RTohnor Date 8/16/20 Time 0834 Reviewed by: PRICE Date: 8/16/20 Time: 1117

On-duty Supervisor

Comments: 4.1.3.4[2] + 4.1.3.4[2] IFIT fan off. Turned off by OPS 8/11/20

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR TRAINING PURPOSES ONLY

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	8/17/20		8/18/20		8/19/20		8-20-20		8/21/20		8/22/20		8/23/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	[illegible]	AM	SPW	BC	SPW	DH	JSL	M	[illegible]	BC	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.01	-2.00	-2.00	-2.01	-2.00	-2.01	-2.01	-1.99	-2.00	-2.01	-2.00	-1.99	-2.00	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.97	-1.96	-1.96	-1.97	-1.97	-1.97	-1.97	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.02	-2.02	-2.00	-2.00	-2.01	-2.00	-1.97	-2.01	-2.01	-2.01	-2.01	-2.01	-2.01	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.19	-.20	-0.18	-.21	-0.20	-0.20	-0.20	-.21	-.20	-.20	-0.20	-.20	-0.20	-.20
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.27	-.26	-0.23	-.26	-0.26	-0.27	-0.26	-.26	-.25	-.26	-0.26	-.26	-0.26	-.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.20	-.19	-0.20	-.20	-0.20	-0.80	-0.20	-.20	-.20	-.20	-0.20	-.20	-0.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.18	-.19	-0.20	-.20	-0.19	-0.19	-0.19	-.19	-.19	-.19	-0.20	-.20	-0.19	-.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-.15	-0.15	-.15	-0.15	-0.15	-0.15	-.15	-.15	-.15	-0.15	-.15	-0.15	-.15
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-.09	-0.09	-.09	-0.09	-0.09	-0.09	-.09	-.09	-.09	-0.09	-.09	-0.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.09	-.09	-0.09	-.09	-0.09	-0.09	-0.09	-.09	-.09	-.09	-0.09	-.09	-0.09	-.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.102	-.103	-0.120	-.117	-0.102	-0.117	-0.101	-.104	-.102	-.102	-0.103	-.107	-0.113	-.118

Attachment A, Per Shift Surveillance Rounds [UET]

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FOR INFORMATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:	8/17/20		8/18/20		8/19/20		8-20-20		8/21/20		8/22/20		8/23/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:		AM	SPW	BC	JSC SPW	DH	JSC	M						
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

SRs	Description	Area	Gauge	Acceptance Criteria	Date:	8/17/20		8/18/20		8/19/20		8-20-20		8/21/20		8/22/20		8/23/20	
					Weekday:	Mon		Tue		Wed		Thu		Fri		Sat		Sun	
					Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
					Initials:	[illegible]	ARJ	SPW	BC	JSC SPW	DM	JSC	M	[illegible]	BC	[illegible]	BC	[illegible]	BC
					SURVEILLANCE RESULTS Sat / Unsat (circle one)														
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time				0111	1925	0725	1918	0604	1930 0750	0716	1929	0716	1919	0714	1918	0714	1919
		OCS Daily Review Sign off (initials)				[illegible]	ARJ	[illegible]	ARJ	SPW 8/19/20	[illegible]	[illegible]	[illegible]	[illegible]	ARJ	[illegible]	ARJ	[illegible]	ARJ BC

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [illegible] Date 8-23-2020 Time 1919 Reviewed by: [illegible] Date: 8/23/20 Time: 1935
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY NOT FOR USE

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	8/17/20	8/18/20	8/19/20	8/20/20	8/21/20	8/22/20	8/23/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	SPW	[illegible]	[illegible]	[illegible]
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	003	003	005	005	005	003	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat
		Completion Time:	0700	0702	0701	0703	0900	0701	0703

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	8/17/20	8/18/20	8/19/20	8/20/20	8/21/20	8/22/20	8/23/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JPW	RDS	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.04	.04	.04	.04	.04	.04
		PDI-894-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.49	.48	.47	.47
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.08	.09	.08	.08
		PDI-895-2	≤2.0 & > 0[1] in. wc	.71	.66	.70	.70	.71	.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.29	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc	.33	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.45	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.46	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	.26	.26	.24	.26	.26	.26
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.31	.31	.31
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.31	.31	.31
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	.30	.31	.30	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	.44	.44	.42	.42	.44	.44
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	.45	.46	.45	.48	.45	.45
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	.41	.41	.41	.41	.41	.41

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	8/17/20	8/18/20	8/19/20	8/20/20	8/21/20	8/22/20	8/23/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	AM	AM	AM	SPW	DMO	AM	AM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.13	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	.60	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	.44	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	.48	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	.08	.08	.08	.09	.08	.08
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	.58	.58	.56	.59	.58	.58
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	.50	.50	.50 ~~.61~~ SPW pump	.49	.50	.50
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	.64	.64	.61	.62	.63	.63
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.31	.35	.37	.39	.34	.42	.49
		PDI-830-2	≤2.0 & > 0[1] in. wc	.11	.13	.11	.12	.11	.18	.19
		PDI-830-3	≤2.0 & > 0[1] in. wc	.13	.16	.13	.12	.14	.20	.20
4.1.1.7[1]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.67	.67	.66	.67	.65	.66	.66
		PDI-836-3	≤2.0 & > 0[1] in. wc	.67	.67	.66	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.03	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.44	.44	.44	.46	.44	.44	.44

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	8/17/20	8/18/20	8/19/20	8/20/20	8/21/20	8/22/20	8/23/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JH	JH	JH	SPW	RDS	JH	JH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & >0[1] in. wc	.59	.59	.59	.60	.60	.59	.59
		PDI-838-2	≤2.0 & >0[1] in. wc	.59	.59	.59	.59	.58	.59	.59
		PDI-838-3	≤2.0 & >0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & >0[1] in. wc	.41	.41	.41	.41	.42	.41	.41
		PDI-839-2	≤2.0 & >0[1] in. wc	.53	.53	.53	.52	.52	.53	.53
		PDI-839-3	≤2.0 & >0[1] in. wc	.52	.52	.52	.51	.54	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & >0[1] in. wc	.17	.17	.17	.18	.17	.17	.17
		PDI-810-2	≤2.0 & >0[1] in. wc	.85	.86	.87	.88	.88	.87	.86
		PDI-810-3	≤2.0 & >0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & >0[1] in. wc	off	off	off	off	OFF	off	off
		PDI -811 -2	≤2.0 & >0[1] in. wc	off	off	off	off	OFF	off	off
		PDI -811 -3	≤2.0 & >0[1] in. wc	off	off	off	off	OFF	off	off
			Completion Time	0715	0740	0735	0733	0931	0815	0735
OC Operator Review and Page Count Complete (initials)				JH	JH	TAS	SPW	JH	JH	JH
OCS Daily Review Sign off (initials)										

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: Sarah M. Date: 8/23/20 Time: 0735 Reviewed by: _____ Date: 8/20/20 Time: 0813
On-duty Supervisor

Comments 8/17/20 4.4.1.1 Not in use. Waiting for calibration.

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

			Date:	8/17/20	8/18/20	8/19/20	8/20/20	8.21.20	8/22/20	8/23/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	SPW	[illegible]	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.54	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	STBY	STBY	STBY	STBY	STBY	STBY
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	.47	.47	.44	.47	.47	.47
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	.58	.58	.59	.59	.58	.58
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	.51	.51	.50	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.37	.37	.37	.37	.37	.37	.37
		PDI-831-2	≤2.0 & > 0[1] in. wc	.43	.43	.43	.45	.45	.45	.45
		PDI-831-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.40	.41	.41	.41
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.60	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.68	.68	.68	.68 ~~.45~~ [illegible]	.68	.68	.68
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.60	.60	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.13	.12	.11	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.60	.59	.59	.59	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.52	.51	.52	.51	.51	.51
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	off	off	off	off	off	off
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	off	off	off	off	off	off
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	off	off	off	off	off	off

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

			Date:	8/17/20	8/18/20	8/19/20	8/20/20	8-21-20	8/22/20	8/23/20
			Weekday:	Mon.	Tue.	Wed	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	SPW	DS	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & >0[1] in. wc	.46	.42	.46	.48	.45	.38	.38
		PDI-829-2	≤2.0 & >0[1] in. wc	.51	.49	.51	.50	.50	.46	.45
		PDI-829-3	≤2.0 & >0[1] in. wc	.41	.39	.40	.40	.40	.37	.36
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & >0[1] in. wc	.08	.08	.08	.09	.08	.08	.08
		PDI-833-2	≤2.0 & >0[1] in. wc	.58	.58	.58	.58	.56	.58	.58
		PDI-833-3	≤2.0 & >0[1] in. wc	.52	.51	.52	.51	.52	.52	.52
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & >0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & >0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & >0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & >0[1] in. wc	STBY	.25	.24	.25	.25	.24	.24
		PDI-815-2	≤2.0 & >0[1] in. wc	STBY	.54	.54	.54	.54	.54	.54
		PDI-815-4	≤2.0 & >0[1] in. wc	STBY	.48	.48	.49	.49	.48	.48
		PDI-815-5	≤2.0 & >0[1] in. wc	STBY	.50	.49	.49	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & >0[1] in. wc	.45	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & >0[1] in. wc	.53	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & >0[1] in. wc	.50	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & >0[1] in. wc	.51	STBY	STBY	STBY	STBY	STBY	STBY

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	8/17/20	8/18/20	8/19/20	8/20/20	8.21.20	8/22/20	8/23/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	SPW	[illegible]	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc	.36	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc	.35	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc	.38	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	.12	.12	.11	.11	.12	.12
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	.28	.28	.28	.28	.28	.28
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	.21	.21	.20	.21	.21	.21
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	.30	.30	.30	.30	.30	.30
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	.32	.32	.31	.35	.33	.33
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.01	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.37	.38	.38	.38	.38	.37	.37
		PDI-865-3	≤2.0 & > 0[1] in. wc	.33	.33	.33	.32	.32	.33	.33
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.05	.05	.04	.04
		PDI-863-2	≤2.0 & >0[1] in. wc	.30	.30	.30	.31	.31	.31	.31

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	8/17/20	8/18/20	8/19/20	8/20/20	8.21-20	8/22/20	8/23/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	SPW	AS	JM	JM
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.12	.12	.12	.11	.12	.12	.12
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.48	.47	.47	.48	.48	.47	.47
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.06	.06	.06	.05	.07	.06	.06
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.61	.65	.61	.60	.61	.61	.61
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT SPW 8/20/20	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT

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Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

SRs	Description	Gauge	Acceptance Criteria	Date:	8/17/20	8/18/20	8/19/20	8/20/20	8.21.20	8/22/20	8/23/20
				Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
				Initials:	JH	JH	JH	SPW	AS	JH	JH
				SURVEILLANCE RESULTS							
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3 5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT SPW 8/20/20	Sat	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3 5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	Sat	SAT	SAT
			Completion time	0745	0720	0717	0800	0900	0800	0840
			OC Operator Review and Page Count Complete (initials)				JSL			
			OCS Daily Review Sign off (initials)							

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.
Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Serena M. Date 8/23/20 Time 0840 Reviewed by: On-duty Supervisor Date: 8/23/20 Time: 0814

Comments: # 4.1.3.4 Plastic cart with two UFD's in room 4 with other items in barricaded area with ML-1 Storage sign. Notified OPS. Rm 201 GB1216 pipe fitters had saw in no combustible area, called ops they had us move it (4.3.2.2) - per ops we moved saw, we are now SAT

Rm 206, had full bag on bag in front of GB, notified ops per ops we were told to move bag, we are now SAT

Attachment A, Per Shift Surveillance Rounds [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

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Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	8/24/20		8/25/20		8/26/20		8/27/20		8/29/20		8/29/20		8/30/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	DH	JSL	SPW	JSL	SPW	[illegible]	SN	TAS	M	JSL	M	JSL	M	TAS
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.01	-2.00	-2.02	-2.01	-1.98	-1.99	-2.01	-2.00	-2.01	-2.01	-2.00	-2.00	-2.01	-2.01
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.93	-1.92	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.92	-1.93	-1.93	-1.93	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.97	-1.96	-1.97	-1.96	-1.96	-1.96	-1.96	-1.96	-1.95	-1.96	-1.97	-1.96	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-1.99	-1.99	-2.01	-2.02	-2.01	-1.98	-2.01	-2.00	-2.01	-1.97	-2.02	-2.01	-2.01	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.20	-0.20	-0.19	-0.21	-0.21	-.22	-.020	-.21	-.21	-0.22	-.21	-0.21	-.21	-.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.25	-0.25	-0.26	-0.25	-0.26	-.28	-0.26	-.28	-.27	-0.29	-.27	-0.26	-.27	-.27
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.20	-0.21	-0.19	-0.20	-0.20	-.19	-0.19	-.20	-.20	-0.20	-.20	-0.26	-.20	-.19
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.19	-0.19	-0.19	-0.20	-0.19	-.19	-0.19	-.20	-.20	-0.20	-.19	-0.20	-.20	-.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-0.14	-0.15	-0.15	-0.15	-.15	-0.15	-.15	-.15	-0.15	-.15	-0.15	-.15	-.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-.09	-0.09	-.09	-0.09	-.09	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-.09	-0.09	-.09	-0.09	-.09	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.101	-0.119	-0.103	-0.105	-0.106	-.107	-0.101	-.102	-.117	-0.119	-.101	-0.116	-.114	-.111

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR REFERENCE ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:	8/24/20		8/25/20		8/26/20		8/27/20		8/28/20		8/29/20		8/30/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	DH	JSL	SRW	JSL	SRW	K	SRW	TAS	M	JSL	M	JSL	M	TAS
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note					Date:	8/24/20		8/25/20		8/26/20		8/27/20		8/28/20		8/29/20		8/30/20	
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.					Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
					Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
					Initials:	DH	JSC	SPW	JSC	SPW	[illegible]	SPW	TM	M	JSC	M	JSC	M	TM
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**														
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0723	1914	0705	1920	0707	1902	0712	1919	0731	1914	0731	1921	0726	1920	
		OCS Daily Review Sign off (initials)			MM	[illegible]	MM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MM	[illegible]	MM	[illegible]	MM	MM	

[1] Mode 2 acceptance criteria is < 0.00 in. wc.

[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.

[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: TM Date 8-30-20 Time 1920 Reviewed by: [signature] Date: 8/30/20 Time: 1931

On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	8/24/20	8.25.20	8.26.20	8/27/20	8/28/20	8/29/20	8/30/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	SPW	[illegible]	SO	SO
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H)	Record Calculated Value	005	005	005	005	005	005	005
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0816	0824	0955	0811	0709	0701	0705

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

				Date:	8/24/20	8-25-20	8-26-20	8-27-20	8/28/20	8/29/20	8/30/20
				Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
				Initials:	MM	DS	AS	SPW	MM	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)							
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & >0[1] in. wc	.05	.05	.05	.05	.04	.04	.04
		PDI-894-2	≤2.0 & >0[1] in. wc	.48	.48	.48	.49	.48	.46	.46
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & >0[1] in. wc	.08	.08	.08	.07	.07	.07	.08
		PDI-895-2	≤2.0 & >0[1] in. wc	.70	.71	.71	.70	.71	.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & >0[1] in. wc	Stby	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-817-2	≤2.0 & >0[1] in. wc	Stby	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-817-4	≤2.0 & >0[1] in. wc	Stby	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-817-5	≤2.0 & >0[1] in. wc	Stby	STBY	STBY	STBY	Stby	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & >0[1] in. wc	Stby	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-819-3	≤2.0 & >0[1] in. wc	Stby	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-819-4	≤2.0 & >0[1] in. wc	Stby	STBY	STBY	STBY	Stby	STBY	STBY
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & >0[1] in. wc	.26	.26	.26	.26	.26	.26	.27
		PDI-818-2	≤2.0 & >0[1] in. wc	.30	.31	.31	.31	.31	.31	.31
		PDI-818-4	≤2.0 & >0[1] in. wc	.31	.31	.31	.30	.30	.31	.31
		PDI-818-5	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & >0[1] in. wc	.46	.42	.42	.42	.42	.43	.44
		PDI-821-3	≤2.0 & >0[1] in. wc	.45	.45	.45	.45	.45	.46	.47
		PDI-821-4	≤2.0 & >0[1] in. wc	.42	.42	.42	.40	.42	.41	.42

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	8/24/20	8-25-20	8-26-20	8-27-20	8/28/20	8/29/20	8/30/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	DS	[illegible]	SPW	[illegible]	SD	SD
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	Stby	STBy	STBy	STBy	Stby	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	Stby	STBy	STBy	STBy	Stby	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	Stby	STBy	STBy	STBY	Stby	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	Stby	STBy	STBy	STBY	Stby	STBY	STBY
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	[illegible] 8/24/20 .54 .07	.09	.09	.09	.07	.08	.08
		PDI-823-2	≤2.0 & > 0[1] in. wc	[illegible] 8/24/20 .07 .59	.59	.59	.59	.58	.56	.56
		PDI-823-4	≤2.0 & > 0[1] in. wc	.48	.49	.49	.50	.48	.48	.49
		PDI-823—5	≤2.0 & > 0[1] in. wc	.62	.62	.62	.61	.62	.61	.62
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.45	.45	.45	.25	.35	.31	.34
		PDI-830-2	≤2.0 & > 0[1] in. wc	.18	.18	.18	.18	.12	.11	.11
		PDI-830-3	≤2.0 & > 0[1] in. wc	.20	.20	.20	.20	.15	.14	.15
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.65	.66	.66
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.05	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.49	.48	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.45	.45	.46	.43	.45	.44

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	08/24/20	8-25-20	8-26-20	8/27/20	08/28/20	8/29/20	8/30/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	AS	AS	SPW	[illegible]	80	80
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.60	.60	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.57	.58	.58	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.54	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.42	.42	.42	.41	.41	.42	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.18	.17	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.85	.85	.87	.88	.87	.87	.87
		PDI-810-3	≤2.0 & > 0[1] in. wc	.50	.51	.51	.51	.52	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	off	off	off	off	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	off	off	off	off	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	off	off	off	off	OFF	OFF
			Completion Time	0709	0913	0900	0915	0709	0848	0825
OC Operator Review and Page Count Complete (initials)				M DH	M DH	[illegible]	[illegible]	M	M	M
OCS Daily Review Sign off (initials)				MJW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: SLONI Date ~~0825~~ 8/30/20 80 8/30/20 Time 0825 Reviewed by: [signature] On-duty Supervisor Date: 8/30/20 Time: 0830

Comments 4.4.1.1 8/24/20 FGS OOS

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	8/24/20	8-25-20	8-26-20	8/27/20	8/28/20	8/29/20	8/30/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	DS	DDS	SPW	[illegible]	SU	SU
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.47	.47	.48	.47	.47	.47	.48
		PDI-841-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.56	.58	.58	.58
		PDI-841-3	≤2.0 & > 0[1] in. wc	.52	.52	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.46 8/24/20 .37	.37	.36	.37	.36	.37	.37
		PDI-831-2	≤2.0 & > 0[1] in. wc	.43	.45	.44	.45	.45	.43	.42
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.41	.41	.42	.41	.39	.39
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.67	.67	.68	.67	.67	.68	.67
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.11	.12	.12	.11	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.57	.57	.58	.58	.57	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.51	.51	.50	.51	.51	.51	.51
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	off	OFF	off	off	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	off	OFF	off	off	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	off	OFF	off	off	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	6/24/20	8-25-20	8-26-20	8/27/20	6/28/20	8/29/20	8/30/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	BPS	SPW	[illegible]	SD	SD
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.39	.39	.39	.60	.44	.45	.45
		PDI-829-2	≤2.0 & > 0[1] in. wc	.45	.45	.47	.62	.50	.50	.50
		PDI-829-3	≤2.0 & > 0[1] in. wc	.35	.35	.37	.50	.39	.39	.39
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.55	.55	.56	.55	.55	.54	.54
		PDI-833-3	≤2.0 & > 0[1] in. wc	.52	.52	.52	.51	.52	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.05	.05	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.58	.50	.50	.50	.50	.50 .60 [illegible]	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.49	.49	.50	.50	.49	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.22	.24	.22	.22 .20 SPW RE-ZERO	.22	.25	.24
		PDI-815-2	≤2.0 & > 0[1] in. wc	.53	.53	.54	.51	.52	.50	.52
		PDI-815-4	≤2.0 & > 0[1] in. wc	.47	.48	.48	.49	.48	.48	.48
		PDI-815-5	≤2.0 & > 0[1] in. wc	.49	.50	.49	.49	.49	.49	.49
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

			Date:	8/24/20	8-25-20	8-26-20	8/27/20	8/28/20	8/29/20	8/30/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	WW	DS	DDS	SOJ	WB	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.12	.11	.12	.12
		PDI-813-2	≤2.0 & > 0[1] in. wc	.29	.29	.29	.28	.28	.28	.28
		PDI-813-3	≤2.0 & > 0[1] in. wc	.23	.25	.22	.22	.22	.22	.22
		PDI-813-4	≤2.0 & > 0[1] in. wc	.30	.30	.30	.31	.29	.30	.31
		PDI-813-5	≤2.0 & > 0[1] in. wc	.38	.33	.32	.30	.32	.32	.32
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.37	.37	.38	.38	.38	.39	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.35	.32	.32	.32	.35	.34
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.04	.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.31	.31

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

			Date:	8/24/20	8.25.20	8.26.20	8/27/20	8/28/20	8/29/20	8/30/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	DMO	SPW	[illegible]	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[3] in. wc	.10	.12	.12	.11	.12	.11	.11
		PDI-857-2	≤ 2.0 & > 0[3] in. wc	.48	.48	.48	.49	.49	.46	.46
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[3] in. wc	.07	.07	.06	.07	.07	.08	.08
		PDI-856-2	≤ 2.0 & > 0[3] in. wc	.62	.62	.62	.62	.62	.61	.61
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	08/24/20	8-25-20	8-26-20	8/27/20	08/28/20	8/29/20	8/30/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	SPW	[illegible]	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	SAT	SAT	SAT	SAT	SAT
			Completion time	0800	0848	0838	0817	0837	0848	0824
			OC Operator Review and Page Count Complete (initials)	M [illegible]	M [illegible]	[illegible]	[illegible]	M	M	M
			OCS Daily Review Sign off (initials)	MJW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [signature] Date 8/30/20 Time 0824 Reviewed by: [signature] On-duty Supervisor Date: 8/30/20 Time: 0832

Comments: _____

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	8/31/20													
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	SPW	JH DH												
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.00	-2.01												
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.93												
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.97												
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.01	-2.01												
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.20	-0.20												
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.28	-0.27												
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.21	-0.20												
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.21	-0.19												
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-0.15												
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-0.09												
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.09	-0.09												
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.098	-0.12												

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:	8/31/20													
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	SPJ	SH DH												
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**															
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	(Sat)	(Sat)	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat
				Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	(Sat)	(Sat)	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat
				Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	(Sat)	(Sat)	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat
				Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	(Sat)	(Sat)	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat
				Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	(Sat)	(Sat)	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat
				Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat	Unsat

FOR TRAINING PURPOSES ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note				Date:	8/31/20													
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.				Weekday:	Mon		Tue		Wed		Thu		Fri		Sat		Sun	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	SRW	JH DH												
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0718	1955												
		OCS Daily Review Sign off (initials)			AHS	JW												

[1] Mode 2 acceptance criteria is < 0.00 in. wc.

[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.

[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [signature] Date 8.31.20 Time 1957 Reviewed by: [signature] Date: 8/31/20 Time: 2012

On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	8/31/20						
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]						
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1 *	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005						
	CP-305-H (LED Reading)		005						
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005						
		≥ -0.1; ≤+0.1	~~Sat / Unsat~~ 005	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat
		Completion Time:	~~0748~~ 0748 TH 8/31/20						

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

FOR INFORMATION ONLY

			Date:	8/31/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	YL						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.04						
		PDI-894-2	≤2.0 & > 0[1] in. wc	.48						
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.07						
		PDI-895-2	≤2.0 & > 0[1] in. wc	.71						
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	STBY						
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.26						
		PDI-818-2	≤2.0 & > 0[1] in. wc	.31						
		PDI-818-4	≤2.0 & > 0[1] in. wc	.31						
		PDI-818-5	≤2.0 & > 0[1] in. wc	.30						
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.42						
		PDI-821-3	≤2.0 & > 0[1] in. wc	.48						
		PDI-821-4	≤2.0 & > 0[1] in. wc	.41						

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

FOR INFORMATION ONLY

			Date:	8/31/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	AL						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.07						
		PDI-823-2	≤2.0 & > 0[1] in. wc	.52						
		PDI-823-4	≤2.0 & > 0[1] in. wc	.50						
		PDI-823—5	≤2.0 & > 0[1] in. wc	.61						
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.36						
		PDI-830-2	≤2.0 & > 0[1] in. wc	.03						
		PDI-830-3	≤2.0 & > 0[1] in. wc	.03						
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07						
		PDI-836-2	≤2.0 & > 0[1] in. wc	.65						
		PDI-836-3	≤2.0 & > 0[1] in. wc	.63						
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04						
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49						
		PDI-837-3	≤2.0 & > 0[1] in. wc	.42						

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	8/31/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & >0[1] in. wc	.59						
		PDI-838-2	≤2.0 & >0[1] in. wc	.54						
		PDI-838-3	≤2.0 & >0[1] in. wc	.59						
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & >0[1] in. wc	.42						
		PDI-839-2	≤2.0 & >0[1] in. wc	.52						
		PDI-839-3	≤2.0 & >0[1] in. wc	.52						
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & >0[1] in. wc	.16						
		PDI-810-2	≤2.0 & >0[1] in. wc	.82						
		PDI-810-3	≤2.0 & >0[1] in. wc	.50						
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & >0[1] in. wc	OFF						
		PDI -811 -2	≤2.0 & >0[1] in. wc	OFF						
		PDI -811 -3	≤2.0 & >0[1] in. wc	OFF						
			Completion Time	0802						
OC Operator Review and Page Count Complete (initials)				OC						
OCS Daily Review Sign off (initials)				AM						

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [signature] Date 8/31/20 Time 0815 Reviewed by: [signature] On-duty Supervisor Date: 8/31/20 Time: 2015

Comments #4.4.1 | Gas Meter is Out of Service, awaiting repair.

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY NOT FOR PERFORMANCE

			Date:	8/31/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	TL						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY						
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY						
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.47						
		PDI-841-2	≤2.0 & > 0[1] in. wc	.58						
		PDI-841-3	≤2.0 & > 0[1] in. wc	.52						
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.37						
		PDI-831-2	≤2.0 & > 0[1] in. wc	.42						
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40						
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59						
		PDI-832-2	≤2.0 & > 0[1] in. wc	.67						
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61						
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12						
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58						
		PDI-807-3	≤2.0 & > 0[1] in. wc	.51						
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF						
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF						
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF						

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

			Date:	8/31/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & >0[1] in. wc	.45						
		PDI-829-2	≤2.0 & >0[1] in. wc	.50						
		PDI-829-3	≤2.0 & >0[1] in. wc	.40						
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & >0[1] in. wc	.08						
		PDI-833-2	≤2.0 & >0[1] in. wc	.55						
		PDI-833-3	≤2.0 & >0[1] in. wc	.51						
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & >0[1] in. wc	.06						
		PDI-835-2	≤2.0 & >0[1] in. wc	.50						
		PDI-835-3	≤2.0 & >0[1] in. wc	.50						
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & >0[1] in. wc	.22						
		PDI-815-2	≤2.0 & >0[1] in. wc	.54						
		PDI-815-4	≤2.0 & >0[1] in. wc	.49						
		PDI-815-5	≤2.0 & >0[1] in. wc	.50						
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & >0[1] in. wc	STBY						
		PDI-816-2	≤2.0 & >0[1] in. wc	STBY						
		PDI-816-4	≤2.0 & >0[1] in. wc	STBY						
		PDI-816-5	≤2.0 & >0[1] in. wc	STBY						

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

FOR INFORMATION ONLY

			Date:	8/31/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	VL						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY						
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.12						
		PDI-813-2	≤2.0 & > 0[1] in. wc	.29						
		PDI-813-3	≤2.0 & > 0[1] in. wc	.21						
		PDI-813-4	≤2.0 & > 0[1] in. wc	.30						
		PDI-813-5	≤2.0 & > 0[1] in. wc	.34						
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03						
		PDI-865-2	≤2.0 & > 0[1] in. wc	.40						
		PDI-865-3	≤2.0 & > 0[1] in. wc	.32						
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.05						
		PDI-863-2	≤2.0 & >0[1] in. wc	.31						

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

			Date:	8/31/20						
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat.	Sun.
			Initials:	[illegible]						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11						
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.48						
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.06 in ~~.60~~ 8/31/20						
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.60						
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	Sat						
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat						
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat						

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	8/31/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	TH						
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat						
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat						
			Completion time	0804						
			OC Operator Review and Page Count Complete (initials)	BC						
			OCS Daily Review Sign off (initials)	AM						

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: J. Pennington Date 8/31/20 Time 0815 Reviewed by: [signature] Date: 8/31/20 Time: 2019

On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment D, Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 1 of 2)

NOTE: This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials	CDV Initials
*Note	Confinement DR-344	Southeast	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat. / Unsat.	1430	8/20/20		
4.1.3.2[1]	Confinement Door DR-344	Southeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1430	8/20/20		
4.1.3.2[1]	Confinement Door DR-149	Northeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1311	8/20/20		
*Note	Confinement DR-102	Northwest	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat. / Unsat.	1340	8/20/20		
4.1.3.2[1]	Confinement Door DR-102	Northwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1340	8/20/20		
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) goes to the fully closed position via the automatic door closure is ≤ 30 seconds. 4.5 Seconds	Sat. / Unsat.	1340	8/20/20		

*** Note:** Monthly Inspection of DR-344 and DR-102 in accordance with compensatory measure(s) from: *Request for Permanent Equivalency to OE Order 420.1B Chapter II, NFPA 80, NFPA 101 and IBC Requirements for LANL Building TA55-4 (PF-4); Installation of New Confinement Doors DR-102, DR-302, and DR-344 LANL-DOE-ORDER-420.1B-EQ-2013-001*

XINO FORM ONLY

Attachment D, Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 2 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials	CDV Initials
4.1.3.2[1]	Confinement Door DR-302	Southwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	Sat. / Unsat.	1405	8/20/20	JM	[illegible]
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) goes to the fully closed position via the automatic door closure is ≤ 30 seconds. 6 Seconds	Sat. / Unsat.	1405	8/20/20	JM	[illegible]
4.1.3.2[1]	Confinement Door DR-4	N Basement Personnel door DR-4	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure	Sat. / Unsat	1330	8/20/20	JM	[illegible]
4.1.3.2[1]	Confinement Door DR-90	South Basement Door (Tunnel)	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	Sat. / Unsat.	1415	8/20/20	JM	[illegible]
						OC Operator Review and Page Count Complete	TAJ	JSL

[1] SR 4.1.3.2 applies during both Mode 1 and Mode 2.

Completed by Jerome Martinez Date 8/20/20 Time 1450 ~~1544~~ 8/20/20 Reviewed by JOHN CEDILO Date: 8-20-20 Time: 1459 1544

Concurrent Dual Verifier Gary Holmes Date 8/20/20 Time 1449

On-duty Supervisor Comments:

[illegible] 182680 8/20/2020

FOR INFORMATION ONLY

Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	Surveillance Rounds
Procedure no.:	TA55-STP-004, R21
Date of issue:	09/01/20
Working copy issued to:	K. Ashley
Working copy issued by:	D. Heintschel
	Certified Operations Center Operator (OCO)

Procedure is the current revision listed in Documentum: ☑ Yes ☐ Documentum Unavailable

Performance Type: ☑ Scheduled ☐ Partial ☐ Other *If partial or other list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

Training Checklist:

Workers Performing Surveillance		Applicable Surveillance Training Current	
	STPood	OCO Initials	Date
Cedillo, John	✓	DH	09-01-20
Chance, Brian	✓	DH	09-01-20
Cochran, Cory	✓	DH	09-01-20
~~Heintschell, Dustin~~ HEINTSCHEL, DUSTIN R. DH 9/1/20	✓	DH	09-01-20
Stilson, Tyler	✓	DH	09-01-20
Wells, Matt	✓	DH	09-01-20
Jauregui, Antonio	✓	DH	09-01-20
Miller, Marcus	✓	DH	09-01-20
Price, Ricky	✓	DH	09-01-20

OC Reviews Complete and TSR Status Board Updated

DH 9/30/20

OCO Signature Date

FOR INFORMATION ONLY

Attachment B, Surveillance Training Checklist (continued)

(Page 2 of 2)

Training Checklist (continuation sheet)

Workers Performing Surveillance	STP-002	Applicable Surveillance Training Current	
		Initials	Date
Seybert, Fred	✓	DH	09-01-20
Dunlavy, Derek	✓	DH	09-01-20
Hendricks, Justin	✓	DH	09-01-20
Tesch, Charles	✓		
Washburn, Michael	✓	DH	09-01-20
Fordham, Brian	✓	DH	09-01-20
Hohner, Rory	✓	DH	09-01-20
Irish, Michael	✓	DH	09-01-20
Langworthy, Tom	✓	DH	09-01-20
Martinez, Jerome	✓	DH	09-01-20
Martinez, Richard	✓	DH	09-01-20
O'neill, Steven	✓	DH	09-01-20
Sanchez, Anthony	✓	DH	09-01-20
Wickings, Sherman	✓	SPW M	09-01-20
Ashley, Keith	✓	DH	09-01-20
Vigil, Matthew	✓	DH	09-01-20
CAMTO ALBERT	✓	DH	9/10/20

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TEXT ONLY FOR INFORMATION

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:			09.01.2020		9/2/20		9/3/20		09.04.20		9/5/20		09.06.20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:			BC	SH	SPW	[illegible]	SPW	JSL	BC	SH	AM	SH	BC	SH
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2	≤-1.5 in. wc[1]		-2.01	-2.00	-2.00	-1.99 -2.03	-2.00	-2.00	-2.01	-2.01	-2.02	-2.01	-2.00	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.5 in. wc[1]		-1.94	-1.93	-1.93	-1.92 -1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.5 in. wc[1]		-1.97	-1.97	-1.96	-1.96 -1.96	-1.96	-1.96	-1.97	-1.97	-1.97	-1.96	-1.96	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.5 in. wc[1]		-2.01	-2.01	-1.92	-2.00 -2.01	-2.00	-2.01	-2.00	-2.00	-2.01	-2.01	-1.99	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]		-.20	-.21	-.21	-.20 -0.21	-.021	-0.22	-.22	-0.22	-.22	-0.21	-.21	-0.22
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]		-.27	-0.28	-0.27	-0.27	-0.28	-0.28	-.27	-0.27	-.27	-0.27	-.26	-0.27
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]		-.20	-0.20	-0.20	-.21	-0.21	-0.20	-.20	-0.20	-.20	-0.20 -0.20	-.20	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]		-.19	-0.19	-0.19	-0.19	-0.20	[illegible]	-.20	-0.19	-.20	-0.19	-.19	-0.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc		-.15	-0.15	-0.15	-0.15	-0.15	-0.15	-.15	-0.15	-.15	-0.16	-.15	-0.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2	< 0.00 in. wc		-.09	-0.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-0.10	-.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc		-.09	-0.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-0.09	-.09	-0.09
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc		-.116	-0.105	-0.105	-0.103	-0.102	-0.106	-.104	-0.116	-.104	-0.117	-.103	-0.117

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR DEMONSTRATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:			09.01.2020		9/2/20		9/3/20		09.04.20		9/5/20		09.06.20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:			BC	JH	SPW	JSC	SPW	JSC	BC	JH	AM	JH	BC	JH
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:			09.01.2020		9/2/20		9/3/20		09.04.20		9/5/20		09.06.20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:			BC	JH	SPW	JSL	SPW	JSL	BC	JH	ARJ	JH	BC	JH
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time					0721	1933 JH 9/20	0705	1925	0704	1909	0717	1926	0719	1921	0719	1919
		OCS Daily Review Sign off (initials)					ARJ	[illegible]	[illegible]	[illegible]	[illegible]	ARJ	ARJ	[illegible]	ARJ	[illegible]	ARJ	[illegible]

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: JH Date 9.6.20 Time 1919 Reviewed by: [signature] On-duty Supervisor Date: 9/6/20 Time: 1933

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:		9/1/20	9/2/20	9/3/20	9-4-20	9-5-20	9-6-20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA		005	005	005	005	005	005
	CP-305-H (LED Reading)			005	005	005	005	005	005
	(DET-305-3) – (CP-305H)	Record Calculated Value		005	005	005	005	005	005
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:		0743	0710	0814	0821	0728	0731

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:		9/1/20	9/2/20	9/3/20	9-4-20	9-5-20	9-6-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		[illegible]	[illegible]	RH	[illegible]	[illegible]	[illegible]
SRs	Description	Gau	Acceptance Criteria		SURVEILLANCE RESULTS (in. wc)					
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc		.04	.04	.04	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc		.48	.48	.48	.45	.48	.48
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc		.07	.07	.08	.07	.09	.09
		PDI-895-2	≤2.0 & > 0[1] in. wc		.72	.72	.71	.71	.72	.72
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.30	.30	.30
		PDI-817-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.31	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.31	.32	.33
		PDI-817-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.35	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.45	.45	.45
		PDI-81 9-3	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.46	.45	.48
		PDI-819-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.40	.39	.39
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc		.27	.27	.26	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc		.32	.32	.31	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc		.31	.31	.30	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc		.31	.31	.31	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc		.41	.42	.42	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc		.46	.47	.48	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc		.42	42	.41	STBY	STBY	STBY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:		9/1/20	9/2/20	9/3/20	9-4-20	9-5-20	9-6-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.13	.13	.13
		PDI-822-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.58	.60	.60
		PDI-822-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.45	.43	.42
		PDI-822-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.59	.59	.59
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc		.09	.08	.08	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc		.59	.59	.60	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc		.50	.49	.50	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc		.63	.62	.62	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc		.30	.38	.15	.40	.36	.37
		PDI-830-2	≤2.0 & > 0[1] in. wc		.10	.12	.05	.14	.13	.13
		PDI-830-3	≤2.0 & > 0[1] in. wc		.12	.18	.10	.15	.18	.18
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc		.07	.07	.05	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc		.65	.65	.66	.66	.67	.67
		PDI-836-3	≤2.0 & > 0[1] in. wc		.65	.65	.66	.65	.66	.66
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc		.05	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc		.48	.48	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc		.45	.44	.42	.42	.45	.44

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:		9/1/20	9/2/20	9/3/20	9-4-20	9-5-20	9-6-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc		.60	.59	.59	.60	.59	.60
		PDI-838-2	≤2.0 & > 0[1] in. wc		.58	.58	.59	.59	.59	.59
		PDI-838-3	≤2.0 & > 0[1] in. wc		.60	.59	.60	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc		.42	.42	.42	.42	.42	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc		.53	~~.4~~ 9/2/20 .54	.51	.52	.52	.53
		PDI-839-3	≤2.0 & > 0[1] in. wc		.53	.53	.51	.54	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc		.17	.18	.18	.17	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc		.89	.88	.90	.88	.89	.88
		PDI-810-3	≤2.0 & > 0[1] in. wc		.51	.52	.52	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	off	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	off	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	OFF	OFF
			Completion Time		0758	0725	.0832	0907	0808	0810
OC Operator Review and Page Count Complete (initials)					[illegible]	M	M	[illegible]	[illegible]	[illegible]
OCS Daily Review Sign off (initials)					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: Anthony Sanch Date 9-6-20 Time 0810 Reviewed by: [signature] JAURIGUE Date: 9/6/20 Time: 0955

On-duty Supervisor

Comments 4.4.1.1 Meter is Out of Service, awaiting repair.

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:		9/1/20	9/2/20	9/3/20	9-4-20	9-5-20	9-6-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		TL	TL	ZH	DS	DMS	DMS
SRs	**Description**	**Gauge**	**Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**					
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc		.47	.47	.47	.47	.48	.48
		PDI-841-2	≤2.0 & > 0[1] in. wc		.59	.59	.59	.59	.58	.59
		PDI-841-3	≤2.0 & > 0[1] in. wc		.51	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc		.37	.37	.37	.37	.37	.37
		PDI-831-2	≤2.0 & > 0[1] in. wc		.42	.42	.41	.42	.41	.42
		PDI-831-3	≤2.0 & > 0[1] in. wc		.40	.40	.40	.40	.39	.39
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc		.60	.59	.59	.59	.60	.60
		PDI-832-2	≤2.0 & > 0[1] in. wc		.68	.68	.64	.68	.68	.68
		PDI-832-3	≤2.0 & > 0[1] in. wc		.61	.61	.60	.60	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc		.12	.12	.12	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc		.58	.58	.59	.59	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc		.51	.51	.50	.51	.51	.51
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:		9/1/20	9/2/20	9/3/20	9-4-20	9-5-20	9-6-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		TL	TL	ZH	DS	DDS	DDS
SRs	**Description**	**Gauge**	**Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**					
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc		.45	.46	.44	.44	.46	.45
		PDI-829-2	≤2.0 & > 0[1] in. wc		.50	.51	.51	.50	.51	.51
		PDI-829-3	≤2.0 & > 0[1] in. wc		.40	.40	.40	.40	.40	.40
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc		.08	.08	.08	.08	.09	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc		.55	.54	.52	.54	.54	.54
		PDI-833-3	≤2.0 & > 0[1] in. wc		.51	.51	.51	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc		.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc		.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc		.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc		.23	.23	.23	.23	.23	.21
		PDI-815-2	≤2.0 & > 0[1] in. wc		.55	.54	.54	.54	.55	.54
		PDI-815-4	≤2.0 & > 0[1] in. wc		.49	.49	.49	.49	.48	.48
		PDI-815-5	≤2.0 & > 0[1] in. wc		.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:		9/1/20	9/2/20	9/3/20	9-4-20	9-5-20	9-6-20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:		YL	YL	RH	DS	DDS	DDS
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc		.12	.11	.10	.11	.11	.11
		PDI-813-2	≤2.0 & > 0[1] in. wc		.29	.29	.29	.29	.28	.29
		PDI-813-3	≤2.0 & > 0[1] in. wc		.22	.21	.21	.21	.21	.21
		PDI-813-4	≤2.0 & > 0[1] in. wc		.30	.30	.30	.30	.30	.30
		PDI-813-5	≤2.0 & > 0[1] in. wc		.34	.32	.32	.32	.32	.32
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc		.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc		.39	.39	.39	.39	.39	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc		.35	.35	.32	.32	.33	.32
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc		.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc		.32	.32	.31	.31	.31	.31

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:		9/1/20	9/2/20	9/3/20	9.4.20	9-5-20	9-6-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		[illegible]	[illegible]	ZH	AS	[illegible]	[illegible]
SRs	**Description**	**[illegible]**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc		.11	.12	.11	.11	.11	.11
		PDI-857-2	≤ 2.0 & > 0[1] in. wc		.47	.47	.49	.49	.48	.48
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc		.07	.07	.07	.07	.08	.08
		PDI-856-2	≤ 2.0 & > 0[1] in. wc		.60	.60	.60	.60	.61	.61
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft[2] combustibles in designated exclusion area (within 15 feet of fans)**		Sat	Sat	Sat	Sat	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft[2] combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less		Sat	Sat	Sat	Sat	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft[2] combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less		Sat	Sat	Sat	Sat	SAT	SAT

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:		9/1/20	9/2/20	9/3/20	9-4-20	9-5-20	9-6-20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gau**	**Acceptance Criteria**		**SURVEILLANCE RESULTS**					
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less		Sat	Sat	Sat	Sat	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less		Sat	Sat	Sat	Sat	SAT	SAT
			Completion time		0800	0757	0851	0830	0753	0756
			OC Operator Review and Page Count Complete (initials)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			OCS Daily Review Sign off (initials)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Anthony Sandoval Date 9-6-20 Time 0756 Reviewed by: [signature] JAURIGUE
On-duty Supervisor
Date: 9/6/20 Time: 0950

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

NON-CONFORMATION TO

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	~~8/13/21~~ 8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/1/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:		9/1/20	9/2/20	9/3/20	9/4/20	9/5/20	9/6/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F		72.5	71.8	71.7	71.9	71.9	71.9
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F		74.1	73.6	73.8	74.2	74.0	74.1
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F		69.9	66.1	69.7	69.5	70.2	69.4
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F		73.3	72.6	74.5	75.3	75.2	74.6
		Completion Time:		0815	0705	0710	0852	0858	0934
		OC Operator Review and Page Count Complete (initials)		BC	[illegible]	M	JC	JC	BC
		OCS Daily Review Sign off (initials)		AFD	[illegible]	[illegible]	AFD	AFD	AFD

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] 175041 Date 9-6-20 Time 0934

Reviewed by: [signature] JAMIGWE Date: 9/6/20 Time: 0945
On-duty Supervisor

Comments: _____

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TRAINING ONLY NOT FOR PERFORMANCE

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	9/7/20		9/8/20		9/9/20		9/10/20		9/11/20		9/12/20		9/13/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	M	[illegible]	M	[illegible]	SPW	[illegible]	SPW	[illegible]	M	[illegible]	M	[illegible]	M	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.01	-2.00	-2.01	-2.01	-2.00	-2.00	-2.01	-2.01	-2.00	-2.00	-2.00	-2.00	-2.01	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.93	-1.92	-1.93	-1.92	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	[illegible]	[illegible]	-1.95	-1.97	-1.97	-1.95	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.92
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.00	-2.01	[illegible]	[illegible]	-1.99	-2.02	-2.00	-2.01	-2.01	-2.00	-2.01	-2.03	-2.01	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.22	[illegible]	[illegible]	[illegible]	[illegible]	-0.20	-0.18	-0.19	-.18	-0.19	-.19	-0.19	-.19	-0.19
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.26	-0.24	-.27	-.26	[illegible]	-0.26	-0.25	-0.26	-.26	-0.26	-.26	-0.26	-.26	-0.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.20	-0.21	-.20	-.21	[illegible]	-0.20	-0.19	-0.20	-.20	-0.20	-.20	-0.20	-.20	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.20	-0.20	-.19	-.21	-0.20	-0.19	[illegible]	[illegible]	-.19	-0.20	-.19	-0.19	-.20	-0.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.15	-0.15	-.15	-.16	-0.15	-0.15	-0.15	-0.15	-.15	-0.15	-.15	-0.15	-.15	-0.15
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.09	-0.09	-.09	-.09	-0.09	-0.09	-0.09	-0.09	[illegible]	-0.09	-.09	-0.09	-.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.09	-0.09	-.09	-.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-0.09	-.09	-0.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.103	-0.104	-.115	-.117	-0.099	-0.117	-0.085	-0.099	-.101	-0.115	-.102	-0.116	-.101	-0.107

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR INFORMATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:	9/7/20		9/8/20		9/9/20		9/10/20		9/11/20		9/12/20		9/13/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	M	JSL	M	JSL	SPW	SH	SPW	SH	M	JSL	M	JSL	M	JSL
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

FOR INFORMATION ONLY

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	9/7/20		9/8/20		9/9/20		9/10/20		9/11/20		9/12/20		9/13/20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	M	JSL	M	TPJ	SPW	SH	SPW	SH	M	JSL	M	JSL	M	JSL
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** Sat / Unsat (circle one)													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0728	1922	0730	1930	0715	1926	0704	1927	0734	1917	0726	1930	0724	1928
		OCS Daily Review Sign off (initials)																

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: JSL Date 9-13-20 Time 1928 Reviewed by: SPW Date: 10/1/20 Time: 0730
On-duty Supervisor

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TRAINING ONLY NOT FOR IMPLEMENTATION

		M&TE Calibrated Data	105353 RH 9/11/20			103763 RH 9/11/20
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	~~103763~~	V-701 Thermistor File No.:	~~105353~~
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	~~103761~~ 105352 VH 9/11/20	V-704 Thermistor File No.:	~~105352~~ 103761 RH 9/11/20
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		**Date:**	9/7/20	9/8/20	9/9/20	9/10/20	9/11/20	9/12/20	9/13/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	M	RH	RH	RH	TH	M	M
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	72.4	72.2	69.5	66.3	64.0	63.3	63.2
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	74.4	74.3	71.3	61.1	65.8	65.2	65.2
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	73.0	71.8	61.8	59.0	59.1	63.3	65.6
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	78.2	75.5	103.4	68.0	60.1	63.6	65.6
		Completion Time	1031	0811	0815	0745	0634	0839	0823
		OC Operator Review and Page Count Complete (initials)	M	M			DH	M	M
		OCS Daily Review Sign off (initials)		AM	AM				

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: _____ 335126 Date 9/13/20 Time 0823

Reviewed by: PRICE _____ 258494 Date: 10/1/20 Time: 0730
On-duty Supervisor

Comments: _____

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	9-7-20	9/8/20	9/9/20	9/10/20	9/11/20	9-12-20	9/13/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	RLL	JM	JM	JM	MV	RLL	MV
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.18	.17	.18	.18	.18
		PDI-840-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.55	.54	.54	.55	.55
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	.50	.51	.51	.51	.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.47	.47	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	.58	.58	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	.52	.52	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.36	.36	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc	.42	.42	.42	.42	.42	.41	.39
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.58	.59	.59	.59	.58	.58
		PDI-832-2	≤2.0 & > 0[1] in. wc	.68	.67	.67	.67	.68	.67	.67
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.60	.61	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12	.12	.11	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.59	.58	.58	.58	.58	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.51	.51	.50	.51	.51	.51	.51
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	OFF	Off
		PDI-809-2	≤2.0 & > 0[1] in. wc	Off	off	off	off	off	OFF	off
		PDI-809-3	≤2.0 & > 0[1] in. wc	Off	off	off	off	off	Off	Off

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:	9-7-20	9/8/20	9/9/20	9/10/20	9/11/20	9-12-20	9/13/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RW	JH	JH	JH	MV	RW	MV
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.45	.42	.46	.49	.45	.45	.45
		PDI-829-2	≤2.0 & > 0[1] in. wc	.50	.49	.51	.54	.51	.50	.50
		PDI-829-3	≤2.0 & > 0[1] in. wc	.40	.38	.41	.42	.40	.39	.39
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.09	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.55	.55	.54	.55	.54	.53	.53
		PDI-833-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.03	.24	.24	.24	.25	.25	.25
		PDI-815-2	≤2.0 & > 0[1] in. wc	.55	.53	.53	.53	.53	.55	.53
		PDI-815-4	≤2.0 & > 0[1] in. wc	.48	.48	.46	.48	.48	.49	.49
		PDI-815-5	≤2.0 & > 0[1] in. wc	.50	.50	.50	.49	.49	.51	.51
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

FOR INFORMATION ONLY

				Date:	9-7-20	9/8/20	9/9/20	9/10/20	9/11/20	9-12-20	9/13/20
				Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
				Initials:	RLL	JM	JM	JM	MV	RM	MV
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)							
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	.36	.35
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	.35	.37
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	.34	.31
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	.39	.39
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.12	.12	.10	.12	.12	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	.28	.29	.28	.29	.28	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	.22	.21	.22	.21	.21	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	.31	.30	.30	.30	.30	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	.35	.33	.34	.34	.35	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03	.03	.03	.03	.03	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.39	.39	.39	.41	.40	.40	.40
		PDI-865-3	≤2.0 & > 0[1] in. wc	.34	.34	.33	.38	.35	.37	.35
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.32	.31	.31	.31	.31	.31	.31

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

			Date:	9-7-20	9/8/20	9/9/20	9/10/20	9/11/20	9-12-20	9-13-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	mv	[illegible]	mv
SRs	Description	Plug	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.12	.12	.11	.11	.10	.11	.10
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.50	.48	.46	.44	.44	.42	.42
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.61	.61	.58	.58	.58	.59	.59
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	unSAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	9-7-20	9/8/20	9/9/20	9/10/20	9/11/20	9-12-20	9/13/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gau[illegible]	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0805	0710	0810	1059	0705	0840	0720
			OC Operator Review and Page Count Complete (initials)	M	M	M	AFG [illegible]	DAH	M	M
			OCS Daily Review Sign off (initials)	[illegible]	AFG	AFG	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Matt Vigil Date 9/13/20 Time 8:35 Reviewed by: [signature] On-duty Supervisor Date: 9/13/20 Time: 0839

Comments: 9/10/20 4.3.2.2 Combustible in center of room in front of sheilding - Contacted Ops.

* Hepa VAC by South door. Fiberglass ladder by North door. Notified Ops.

* Transate combustible inspection performed after ladder was removed no combustible materials in the area mmt on 9/10/20

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	9-7-20	9/8/20	9/9/20	9/10/20	9/11/20	9-12-20	9/13/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials	RM	[illegible]	[illegible]	[illegible]	[illegible]	RM	[illegible]
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	005	[illegible]	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H)	Record Calculated Value	005	005	005	005	005	005	005
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0830	0715	0702	[illegible]50	0762	0850	0715

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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TOP UNFORMATION ONLY

			Date:	4-7-20	9/8/20	9/9/20	9/10/20	9/11/20	9-12-20	9/13/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RLM	JM	JM	JM	[illegible]	RLM	MV
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.04	.04	.04	.04	.04
		PDI-894-2	≤2.0 & > 0[1] in. wc	.45	.48	.47	.45	.45	.43	.43
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.07	.07	.07	.07
		PDI-895-2	≤2.0 & > 0[1] in. wc	.72	.71	.71	67	.67	.70	.69
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.30	.30	.30	.31	.30	.30	.30
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc	.34	.34	.33	.33	.33	.35	.35
		PDI-817-5	≤2.0 & > 0[1] in. wc	.33	.31	.31	.31	.31	.32	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	.45	.46	.45	.45	.45	.46	.45
		PDI-819-3	≤2.0 & > 0[1] in. wc	.47	.46	.45	.46	.45	.48	.48
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.39	.41	.39
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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TOPMATION ONLY

			Date:	9-7-20	9/8/20	9/9/20	9/10/20	9/11/20	9-12-20	9/13/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RCL	[illegible]	[illegible]	[illegible]	[illegible]	RCL	mv
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.13	.13	.11	.12	.11	.12	.12
		PDI-822-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-822-4	≤2.0 & > 0[1] in. wc	.45	.43	.43	.43	.43	.45	.45
		PDI-822-5	≤2.0 & > 0[1] in. wc	.59	.58	.58	.58	.58	.59	.59
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.36	.36	.42	.38	.42	.45	.42
		PDI-830-2	≤2.0 & > 0[1] in. wc	.12	.12	.15	.14	.15	.19	.15
		PDI-830-3	≤2.0 & > 0[1] in. wc	.16	.16	.19	.18	.19	.18	.18
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.08	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.67	.67	.65	.65	.65	.65	.65
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.66	.66	.66	.66	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.05	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.50	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.45	.43	.45	.44	.45	.44	.44

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	9-7-20	9/8/20	9/9/20	9/10/20	09/11/20	9-12-20	9/13/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MV
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.58	.59	.59	.59	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.59	.58	.57	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc	.60	.59	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.41	.42	.41	.41	.42	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.54	.53	.52	.52	.52	.53	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc	.55	.53	.52	.52	.52	.53	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.18	.17	.18	.17	.17	.15	.18
		PDI-810-2	≤2.0 & > 0[1] in. wc	.85	.81	[illegible] 9/9/20 ~~.80~~ .90	.90	.89	.90	.89
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	.51	.52	.52	.53	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	OFF	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	OFF	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	OFF	off
			Completion Time	0745	0800	0750	0930	0705	0740	0730
OC Operator Review and Page Count Complete (initials)				M	M	M	[illegible]	[illegible]	M	M
OCS Daily Review Sign off (initials)				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 9/13/20 Time 8:35 Reviewed by: [illegible] Date: 9/13/20 Time: 0835
On-duty Supervisor

Comments [illegible] 4.4.1.1 System not in use. Waiting for calibration

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	9/14/20		9/15/20		9/16/20		9/17/20		09.18.20		09.19.20		09.20.20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	SPW	DH	AFG	JH	SPW	JSC	SPW	JSC	BC	JH	BC	[illegible]	BC	DH
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.00	-2.00	-2.01	-2.01	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.01	-2.02	-2.01	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.92	-1.93	-1.93	-1.92	-1.94	-1.92	-1.93	-1.92	-1.94	-1.92	-1.93	-1.92	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.96	-1.95	-1.96	-1.97	-1.94	-1.97	-1.97	-1.97	-1.97	-1.96	-1.96	-1.97	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.00	-2.01	-2.01	-2.00	-2.00	-2.00	-2.03	-2.01	-2.00	-2.01	-2.01	-2.01	-2.01	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.19	-0.20	-.20	-0.20	-0.19	-0.20	-0.20	-0.20	-.20	-0.21	-.20	-.20	-.20	-.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.25	-0.25	-.26	-0.26	-0.26	-0.26	-0.26	-0.26	-.26	-0.26	-.26	-.26	-.26	-.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.20	-0.19	-.19	-0.20	-0.20	[illegible]	-0.20	-0.20	-.20	-0.20	-.20	-.19	-.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.19	-0.19	-.20	-0.20	-0.20	-0.20	[illegible]	[illegible]	-.19	-0.20	-.20	-.19	-.19	-.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-0.15	-.16	-0.15	-0.15	-0.15	-0.19	-0.15	-.15	-0.15	-.15	-.15	-.15	-.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-0.09	-.09	-0.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-.09	-.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.09	-0.09	-.09	-0.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-.09	-.09	-.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	~~-0.05~~ SPW 9/14 -0.101	-0.116	-.103	-0.114	-0.100	-0.101	-0.115	-0.111	-.099	-0.110	-.105	-.109	-.101	-.116

Attachment A, Per Shift Surveillance Rounds [UET]

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Note																	
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.			Date:	9/14/20		9/15/20		9/16/20		9/17/20		09.18.20		09.19.20		09.20.20	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	SPW	DH	AM	GH	SPW	JSC	SPW	JSC	BC	GH	BC	[illegible]	BC	DH
SRs	Description	Readings	Acceptance Criteria	SURVEILLANCE RESULTS Sat / Unsat (circle one)													
4.1.1.6	200 area re-circulation fan/ plenum	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

Date:	9/14/20		9/15/20		9/16/20		9/17/20		09.18.20		09.19.20		09.20.20	
Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Initials:	SPW	DH	ARJ	JH	SPW	JSL	SPW	JSL	BZ	JH	BZ	[illegible]	BZ	DH

SRs	Description	Area	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS Sat / Unsat (circle one)													
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0707	1929	ARJ 9/15/20 1926 0726	1905	07[illegible]	0[illegible]24	0710	1921	0722	1911	0726	1921	0725	1924
		OCS Daily Review Sign off (initials)			ARJ		ARJ		SPW 09/16				ARJ		ARJ		ARJ	

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [signature] Date: 9/20/20 Time: 1925 Reviewed by: [signature] Date: 9/20/20 Time: 1927
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	9/14/20	9/15/20	9/16/20	9/17/20	9-18-20	9/19/20	9/20/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H)	Record Calculated Value	005	005	005	005	005	005	005
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0703	0705	0701	[illegible]728	0741	0858	0915

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	9/14/20	9/15/20	9/16/20	9/17/20	9-18-20	9/19/20	9/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	TL	TL	TL	DS	TL	TL
SRs	Description	Gaug	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.04	.04	.05	.04	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.07	.07	.08	.08	.08	.08	.08
		PDI-895-2	≤2.0 & > 0[1] in. wc	.70	.71	.70	.70	.70	.70	.70
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.32	.32	STBY	STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.32	STBY	STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc	.35	.35	STBY	STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	.31	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.46	.46	STBY	STBY	STBY	STBY	STBY
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.46	.46	STBY	STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.40	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.27	.27	.27	.27	.27
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.32	.32	.31	.31	.31
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.32	.32	.31	.31	.31
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	.32	.32	.32	.32	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.43	.43	.43	.45	.42
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	.46	.46	.46	.47	.48
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.42	.42	.42	.42	.41

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	9/14/20	9/15/20	9/16/20	9/17/20	9.18.20	9/19/20	9/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gau	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.13	.14	STBX	STBx	STBy	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	.60	.60	STBX	STBX	STBy	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	.43	.43	STBY	STBY	STBy	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	.59	.59	STBY	STBY	STBy	STBY	STBY
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.08	.08	.08	.08	.08
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.57	.57	.57	.57	.69
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.49	.49	.49	.50	.50
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	.63	.62	.62	.63	.62
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.40	.40	.35	.38	.37	.37	.35
		PDI-830-2	≤2.0 & > 0[1] in. wc	.14	.14	.12	.13	.13	.12	.12
		PDI-830-3	≤2.0 & > 0[1] in. wc	.18	.18	.15	.16	.16	.16	.14
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.06	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.67	.65	.65	.65	.65	.66	.66
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.44	.44	.44	.44	.45	.42

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	9/14/20	9/15/20	9/16/20	9/17/20	9-18-20	9/19/20	9/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ZH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.58	.59	.59	.59	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.59	.56	.56	.56	.56	.56	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.41	.42	.42	.42	.42	.42
		PDI-839-2	≤2.0 & > 0[1] in. wc	.52	.52	.53	.52	.52	.52	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	.18	.17	.17	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.89	.91	.90	.89	.89	.89	.89
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	.52	.52	.52	.52	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	OFF	OFF	OFF	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	OFF	OFF	OFF	off	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	OFF	OFF	OFF	off	OFF	OFF
			Completion Time	0730	0729	0731	0818	0816	0956	0918
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible]	M	M	[illegible]	[illegible]	[illegible]
OCS Daily Review Sign off (initials)				APM	APM	[illegible]	[illegible]	APM	APM	APM

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [signature] Date 9/20/20 Time 0918 Reviewed by: [signature] Date: 9/20/20 Time: 1054
On-duty Supervisor

Comments 9/14/20 4.4.1.1 Not in use, Waiting for Calibration.

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	9/14/20	9/15/20	9/16/20	9/17/20	9-18-20	9/19/20	9/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.16
		PDI-840-2	≤2.0 & > 0[1] in. wc	.53	.53	.52	.52	.52	.52	.52
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.36	.37	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.39	.39	.39	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.67	.67	.65	.66	.66	.67	.66
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.61	.60
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.12	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.58	.57	.57	.55	.54	.55
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.49	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	9/14/20	9/15/20	9/16/20	9/17/20	9-18-20	9/19/20	9/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.46	.46	.48	.49	.50	.50	.50
		PDI-829-2	≤2.0 & > 0[1] in. wc	.50	.50	.51	.52	.52	.50	.51
		PDI-829-3	≤2.0 & > 0[1] in. wc	.40	.40	.41	.40	.41	.40	.41
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.53	.53	.52	.52	.52	.52	.52
		PDI-833-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.51	.51	.50
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.05	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.23	.23	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	.54	.54	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	.48	.48	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	.51	.50	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.46	.46	.45	.45	.45
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.54	.54	.55	.55	.57
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.50	.51	.51	.51	.50
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	.52	.52	.52	.52	.52

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	9/14/20	9/15/20	9/16/20	9/17/20	9-18-20	9/19/20	9/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	TL	TL	TL	AS	TL	ZH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16	.15	STBY	.15	.15	.15	.15
		PDI-812-2	≤2.0 & > 0[1] in. wc	.36	.36	STBY	.36	.36	.36	.34
		PDI-812-3	≤2.0 & > 0[1] in. wc	.35	.35	STBY	.32	.34	.33	.33
		PDI-812-4	≤2.0 & > 0[1] in. wc	.32	.32	STBY	.32	.31	.31	.31
		PDI-812-5	≤2.0 & > 0[1] in. wc	.39	.39	STBY	.40	.39	.40	.40
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.11	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.30	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	.25	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.31	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	.38	STBY	STBY	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.39	.39	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc	.36	.35	.35	.35	.35	.35	.34
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.31	.31

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	9/14/20	9/15/20	9/16/20	9/17/20	9-18-20	9/19/20	9/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	**Description**	**Equip.**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.12	.11	.12	.11	.11	.12	.11
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.45	.45	.46	.46	.45	.45	.45
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.08
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.59	.59	.60	.60	.60	.60	.60
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	Sat	Sat	Sat	Sat	Sat	Sat	Sat
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	Sat	Sat	Sat
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	Sat	Sat	Sat

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	9/14/20	9/15/20	9/16/20	9/17/20	9-18-20	9/19/20	9/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gau[illegible]	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	Sat	Sat	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	Sat	Sat	Sat	Sat	Sat	SAT
			Completion time	0735	0729	0750	0817	0745	0957	0912
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	M	[illegible]	[illegible]	[illegible]
			OCS Daily Review Sign off (initials)	ARJ	ARJ	[illegible]	[illegible]	ARJ	ARJ	ARJ

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [illegible] Date 9/20/20 Time 0919 Reviewed by: [illegible] On-duty Supervisor Date: 9/20/20 Time: 1059

Comments: _____

FOR INFORMATION ONLY

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.: 039745	~~039746~~ TL 9/14/20	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	~~8/5/21~~ TL 8/11/21 9/14/20	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	9/14/20	9/15/20	9/16/20	9/17/20	9/18/20	9/19/20	9-20-20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	TL	[illegible]	DAS	[illegible]	DAS	ARJ	[illegible]
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	63.[illegible]	63.4	63.9	64.0	63.9	63.8	64.0
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	65.1	65.2	65.8	65.7	65.7	65.8	65.9
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	68.0	68.9	68.4	68.7	67.7	68.4	68.6
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	68.1	68.8	69.4	69.2	68.6	68.5	68.0
		Completion Time:	0619	0701	0854	0708	0800	0900	0855
OC Operator Review and Page Count Complete (initials)			JSL	DH	[illegible]	TAS	BC	ARJ DN	BC
OCS Daily Review Sign off (initials)			ARJ	TL	[illegible]	[illegible]	ARJ	ARJ	ARJ

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] Date 09-20-20 Time 0855

Reviewed by: [signature] Date: 9/20/20 Time: 1000

On-duty Supervisor

Comments:

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TRAINING ONLY NOT FOR PRODUCTION

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	9-21-20		9/22/20		9/23/20		9-24-20		9-25-20		9-26-20		9-27-20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	JSL	M	SPW	M	SPW	C	JSL	[illegible]	JSL	DH	JSL	M	JSL	M
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2	-2.00	-2.01	-2.00	-2.00	-2.01	-2.01	-2.01	-2.02	-2.00	-2.01	-2.00	-2.00	-1.99	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.5 in. wc[1]	-1.93	-1.92	-1.92	-1.93	-1.92	-1.92	-1.92	-1.93	-1.93	-1.93	-1.91	-1.92	-1.92
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.5 in. wc[1]	-1.96	-1.97	-1.95	-1.96	-1.96	-1.96	-1.95	-1.96	-1.95	-1.96	-1.96	-1.97	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.5 in. wc[1]	-2.00	-2.01	-2.01	-2.01	-2.01	-2.00	-2.00	-2.01	-2.01	-2.01	-2.01	-2.01	-2.02
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]	-0.19	-.18	-0.21	-.20	-.21	-0.20	-0.21	-0.20	-0.21	-0.21	-.21	-0.21	-.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]	-0.26	-.24	-0.26	-.25	-.25	-.26	-0.25	-0.27	-0.25	-0.26	-.26	-0.25	-.25
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]	-0.20	-.20	-0.22	-.20	-.20	-.20	-0.20	-0.21	-0.20	-0.20	-.20	-0.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]	-0.20	-.19	-0.22	-.20	-.20	-.20	-0.20	-0.21	-0.20	-0.20	-.20	-0.19	-.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc	-0.15	-.15	-0.15	-.15	-.15	-.15	-0.15	-0.15	-0.15	-0.15	-.15	-0.15	-.15
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2	< 0.00 in. wc	-0.09	-.09	-0.09	-.09	-.09	-.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc	-0.09	-.09	-0.09	-.09	-.09	-.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.08
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc	-0.101	-.101	-0.100	-.102	-0.115	-.116	-0.103	-0.100	-0.103	-0.103	-.101	-0.107	-.116

Attachment A, Per Shift Surveillance Rounds [UET]

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FOR INFORMATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:	9-21-20		9/22/20		9/23/20		9-24-20		9-25-20		9-26-20		9-27-20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	JSL	M	SPW	M	SPW	C	JSL	E	JSL	DH	JSL	M	JSL	M
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

SRs	Description	Area	Gauge	Acceptance Criteria	Date:	9-21-20		9/22/20		9/23/20		9-24-20		9-25-20		9-26-20		9-27-20	
					Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
					Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
					Initials:	JSL	M	SPW	M	SPW	[illegible]	JSL	[illegible]	JSL	DH	JSL	M	JSL	M
					SURVEILLANCE RESULTS Sat / Unsat (circle one)														
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time				0714	1925	0707	[illegible]	[illegible]	1918	0712	1910	0713	1923	0708	1924	0722	1929
		OCS Daily Review Sign off (initials)				DMD													

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [signature] Date 9/27/20 Time 1929 Reviewed by: [signature] On-duty Supervisor Date: 9/27/20 Time: 1932

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	9/21/20	9/22/20	9-23-20	9-24-20	09/25/20	9/26/20	9/27/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0703	0701	0705	0712	0725	0719	0725

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	9/21/20	9/22/20	9-23-20	9-24-20	9/25/20	9/26/20	9/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	TL	JM	CR	CR	[illegible]	TL	TL
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.04	.04	.05	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.46	.47	.47	.48	.48	.48	.48
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-895-2	≤2.0 & > 0[1] in. wc	.70	.65	.69	.69	.70	.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-819-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.26	.27	.28	.27	.27	.27	.27
		PDI-818-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	.31	.32	.32	.32
		PDI-818-4	≤2.0 & > 0[1] in. wc	TL 9/21/20 .31	.31	.31	.31	.31	.31	.32
		PDI-818-5	≤2.0 & > 0[1] in. wc	.32	.31	.30	.31	[illegible]	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.42	.43	.42	.42	.42	.42	.42
		PDI-821-3	≤2.0 & > 0[1] in. wc	.46	.46	.47	.48	.48	.47	.47
		PDI-821-4	≤2.0 & > 0[1] in. wc	.42	.41	.41	.41	.42	.42	.42

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	9/21/20	9/22/20	9/23/20	9/24/20	09/25/20	9/26/20	9/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gau[illegible]	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.07	.08	.07
		PDI-823-2	≤2.0 & > 0[1] in. wc	.57	.58	.59	.58	.58	.58	.58
		PDI-823-4	≤2.0 & > 0[1] in. wc	.50	.49	.49	.49	.49	.49	.49
		PDI-823—5	≤2.0 & > 0[1] in. wc	.62	.61	.61	.61	.62	.62	.62
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.36	.39	.37	.40	.39	.41	.41
		PDI-830-2	≤2.0 & > 0[1] in. wc	.12	.14	.12	.12	.14	.15	.15
		PDI-830-3	≤2.0 & > 0[1] in. wc	.16	.17	.16	.17	.18	.18	.18
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.65	.66	.64	.63	.63	.65	.65
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.65	.63	.62	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.48	.49	.49	.49	.48	.48	.48
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.43	.43	.42	.43	.45	.45

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	9/21/20	9/22/20	9-23-20	9-24-20	09/25/20	9/26/20	9/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	YL		R	R		YL	YL
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.58
		PDI-838-2	≤2.0 & > 0[1] in. wc	.57	.58	.58	.58	.57	.57	.57
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.42	.41	.42	.42	.42	.42	.42
		PDI-839-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.53
		PDI-839-3	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	OFF	@ OFF .18	.17	.17	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.89	OFF	@ OFF .88	.89	.88	.88	.88
		PDI-810-3	≤2.0 & > 0[1] in. wc	.52	OFF	@ OFF .51	.51	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	.11	OFF	OFF	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	.51	OFF	OFF	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	.51	OFF	OFF	OFF	OFF	OFF
			Completion Time	0835	0730	0700	0715	0700	0826	0820
OC Operator Review and Page Count Complete (initials)				JSL	TAB	JSL	JSL	AP	JSL	TAB
OCS Daily Review Sign off (initials)										

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: J. Hemphill Date 9/27/20 Time 0820 Reviewed by: PRW Date: 9/27/20 Time: 0824
On-duty Supervisor

Comments 4.1.1 O2 meter is Out of Service, awaiting repair / Not in Use/awaiting Calibration.

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	9/21/20	9-22-20	9/23/20	9/24/20	9-25-20	9/26/20	9/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0[1] in. wc	.54	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	.52	STBY	STBY	STBY	STBY	STBY	STBY
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	.48	.48	.48	.48	.48	.48
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	.59	.59	.59	.59	.59	.59
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	.52	.52	.52	.53	.52	.52
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.37	.37	.37	.37	.37	.37	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc	.42	.42	.42	.42	.41	.41	.41
		PDI-831-3	≤2.0 & > 0[1] in. wc 9/21/20	~~.46~~ .40	.40	.40	.40	.40	.40	.39
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.58	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.66	.67	.66	.66	.67	.67	.66
		PDI-832-3	≤2.0 & > 0[1] in. wc	.60	.60	.61	.61	.61	.60	.60
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	OFF	.11	.11	.12	.11	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.55	OFF	.56	.57	.56	.56	.55
		PDI-807-3	≤2.0 & > 0[1] in. wc	.49	OFF	.49	.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	.09	off	off	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	.52	off	off	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	.51	off	off	OFF	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:	9/21/20	9-22-20	9/23/20	9/24/20	9-25-20	9/26/20	9/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	TL	[illegible]	[illegible]	[illegible]	[illegible]	TL	TL
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.49	.45	.48	.48	.49	.47	.46
		PDI-829-2	≤2.0 & > 0[1] in. wc	.51	.50	.51	.51	.50	.50	.50
		PDI-829-3	≤2.0 & > 0[1] in. wc	.41	.39	.40	.46	.40	.40	.40
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.09	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.53	.52	.53	.53	.54	.52	.52
		PDI-833-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.50
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.05	.06	.05	.05	.05	.05	.05
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.45	.47	.47	.45	.45	.45	.45
		PDI-816-2	≤2.0 & > 0[1] in. wc	.55	.53	.55	.55	.58	.58	.58
		PDI-816-4	≤2.0 & > 0[1] in. wc	.51	.50	.51	.51	.51	.51	.51
		PDI-816-5	≤2.0 & > 0[1] in. wc	.52	.51	.52	.52	.55	.55	.55

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

FOR INFORMATION ONLY

			Date:	9/21/20	9-22-20	9/23/20	9/24/20	9-25-20	9/26/20	9/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.15	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc	.45	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc	.32	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc	.32	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc	.39	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	.10	.11	.11	.12	.11	.11
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	.30	.28	.28	.28	.28	.28
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	.22	.21	.21	.22	.22	.23
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	.30	.30	.30	.31	.30	.30
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	.33	.34	.34	.34	.33	.33
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.03	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.39	.39	.38	.38	.39	.38	.38
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.33	.35	.35	.35	.34	.35
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.05	.06	.05	.05	.06	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.30	.31	.31	.31	.31	.32

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:	9/21/20	9-22-20	9/23/20	9/24/20	9-25-20	9/26/20	9/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	**Description**	**Group**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.12	.12
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.46	.47	.47	.47	.45	.46	.47
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.07	.09	.07	.07	.07	.07	.07
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.60	.63	.61	.60	.61	.61	.61
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fan)**	Sat	Sat	Sat	Sat	Sat	Sat	Sat
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	Sat	Sat	Sat
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	Sat	Sat	Sat

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	9/21/20	9-22-20	9/23/20	9/24/20	9-25-20	9/26/20	9/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gau[illegible]	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAt	SAT	SAT	SAT	Sat	Sat
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAt	SAT	SAT	SAT	Sat	Sat
			Completion time	0834	0809	0803	0730	0730	0825	0819
			OC Operator Review and Page Count Complete (initials)	JSL	JSL	[illegible]	JSL	TAS	JSL	TAS
			OCS Daily Review Sign off (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [illegible] Date 9/27/20 Time 0819 Reviewed by: PRLC Date: 9/27/20 Time: 0825

On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TRAINING NOT FOR IMPLEMENTATION

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump House Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	9/21/20	9/22/20	9/23/20	9/24/20	9/25/20	9-26-20	9-27-20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	RH	[illegible]	[illegible]	[illegible]	DDS	TAS	JSC
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	64.[illegible]	64.4	64.5	64.6	65.1	65.5	65.8
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	66.[illegible]	66.1	66.1	66.2	66.6	66.3	67.3
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	71.6	69.7	69.4	71.2	71.3	71.6	71.2
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	70.4	69.8	69.4	69.9	72.1	72.5	71.18
		Completion Time:	0819	0711	0701	0753	0745	0848	0817
	OC Operator Review and Page Count Complete (initials)		TAS	JSC	[illegible]	JSC	TAS	JSC	TAS
	OCS Daily Review Sign off (initials)		DDS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [illegible] Date 9-27-20 Time 0817

Reviewed by: [illegible] Date: 9/27/20 Time: 0823
On-duty Supervisor

Comments: _____

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																			
		Date:	9/28/20		9-29-20		9/30/20												
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.				
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
		Initials:	SPW	EC	JSL	EC	SPW	DH											
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**																
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.01	-2.01	-2.01	-1.99	-2.01	-2.01											
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.92	-1.92	-1.93	-1.92	-1.92	-1.92											
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.98	-1.97	-1.97	-1.97	-1.97	-1.96											
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.01	-2.04	-2.02	-2.01	-2.01	-2.00											
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.19	-.21	-0.20	-.20	-0.20	-0.17											
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.24	-.26	-0.25	-.26	-0.25	-0.26											
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.18	-.20	-0.20	-.19	-0.20	-0.20											
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.18	-.20	-0.19	-.20	-.20 -.20	-0.19											
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.10	-.15	-0.15	-.15	-0.14	-0.15											
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.10	-.09	-0.09	-.09	-0.09	-0.09											
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.15	-.09	-0.09	-.09	-0.09	-0.09											
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.103	-.117	-0.101	-.103	-0.102	-0.108											

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR INFORMATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.				Date:	9/28/20		9-29-20		9/30/20									
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	SPW	BC	[illegible]	BC	SPW	DA								
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**														
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	9/28/20		9-29-20		9/30/20									
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	SPW	BC	JSC	BC	SPW	DH								
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0707	1927	0720	1928	0705	1930								
		OCS Daily Review Sign off (initials)			[illegible]	ATJ	[illegible]	ATJ	[illegible]	[illegible]								

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [signature] Date 9/30/20 Time 1930 Reviewed by: [signature] On-duty Supervisor Date: 9/30/20 Time: 1951

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	9/28/20	9/29/20	9/30/20				
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]				
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	003	005	003				
	CP-305-H (LED Reading)		003	005	003				
	(DET-305-3) – (CP-305H)	Record Calculated Value	005	005	005				
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat
		Completion Time:	0702	0716	0702				

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

FOR INFORMATION ONLY

			Date:	9/28/20	9/29/20	9/30/20				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.04	.05	.04				
		PDI-894-2	≤2.0 & > 0[1] in. wc	.45	.45	.46				
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.07	.09	.07				
		PDI-895-2	≤2.0 & > 0[1] in. wc	.70	.71	.71				
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-819-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.27	.27	.27				
		PDI-818-2	≤2.0 & > 0[1] in. wc	.32	.32	.32				
		PDI-818-4	≤2.0 & > 0[1] in. wc	.31	.32	.31				
		PDI-818-5	≤2.0 & > 0[1] in. wc	.31	.32	.31				
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.45	.42	.45				
		PDI-821-3	≤2.0 & > 0[1] in. wc	.46	.48	.47				
		PDI-821-4	≤2.0 & > 0[1] in. wc	.41	.42	.41				

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

FOR INFORMATION ONLY

			Date:	9/28/20	9/29/20	9/30/20				
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	[illegible]				
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.08	.08	.08				
		PDI-823-2	≤2.0 & > 0[1] in. wc	.56	.56	.56				
		PDI-823-4	≤2.0 & > 0[1] in. wc	.58	.49	.48				
		PDI-823—5	≤2.0 & > 0[1] in. wc	.61	.61	.62				
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.41	.44	.40				
		PDI-830-2	≤2.0 & > 0[1] in. wc	.17	.17	.16				
		PDI-830-3	≤2.0 & > 0[1] in. wc	.18	.19	.18				
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07				
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.66	.66				
		PDI-836-3	≤2.0 & > 0[1] in. wc	.66	.66	.66				
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04				
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49				
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.43	.43				

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	9/28/20	9/29/20	9/30/20				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]				
SRs	Description	Gau[illegible]	[illegible]cceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.59	.59				
		PDI-838-2	≤2.0 & > 0[1] in. wc	.58	.58	.58				
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	.59				
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.42	.41				
		PDI-839-2	≤2.0 & > 0[1] in. wc	.52	.53	.52				
		PDI-839-3	≤2.0 & > 0[1] in. wc	.53	.53	.53				
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.19	.17				
		PDI-810-2	≤2.0 & > 0[1] in. wc	.89	.9[illegible]	.89				
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	.5[illegible]	.51				
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF				
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	OFF	off				
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	OFF	off				
			Completion Time	0730	0746	0727				
OC Operator Review and Page Count Complete (initials)				TAS	[illegible]	[illegible]				
OCS Daily Review Sign off (initials)				[illegible]	[illegible]	[illegible]				

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 9/30/20 Time 0727 Reviewed by: [illegible] Date: 11/1/20 Time: 0916
On-duty Supervisor

Comments 4.4.1 Not in use. Waiting for Calibration.

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	9/28/20	9/29/20	9/30/20				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	DDS	JM				
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-840-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.48	.49	.49				
		PDI-841-2	≤2.0 & > 0[1] in. wc	.58	.59	.59				
		PDI-841-3	≤2.0 & > 0[1] in. wc	.52	.52	.52				
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.36				
		PDI-831-2	≤2.0 & > 0[1] in. wc	.41	.41	.41				
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.39	.40				
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.60	.59				
		PDI-832-2	≤2.0 & > 0[1] in. wc	.68	.68	.68				
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61				
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.12	.11				
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.58	.58				
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50				
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF				
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF				
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF				

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	9/28/20	9/29/20	9/30/20				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]				
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.49	.50	.47				
		PDI-829-2	≤2.0 & > 0[1] in. wc	.51	.52	.50				
		PDI-829-3	≤2.0 & > 0[1] in. wc	.40	.42	.39				
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08				
		PDI-833-2	≤2.0 & > 0[1] in. wc	.5[illegible]	.52	.53				
		PDI-833-3	≤2.0 & > 0[1] in. wc	.[illegible]	.51	.51				
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06				
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50				
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50				
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	[illegible]				
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.47	.48	.47				
		PDI-816-2	≤2.0 & > 0[1] in. wc	.55	.58	.55				
		PDI-816-4	≤2.0 & > 0[1] in. wc	.51	.51	.51				
		PDI-816-5	≤2.0 & > 0[1] in. wc	.54	.52	.53				

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

FOR INFORMATION ONLY

			Date:	9/28/20	9/29/20	9/30/20				
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	JM	pod	JM				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY				
		PDI-812-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY				
		PDI-812-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY				
		PDI-812-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY				
		PDI-812-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY				
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & >0[1] in. wc	.11	.11	.11				
		PDI-813-2	≤2.0 & >0[1] in. wc	.28	.29	.28				
		PDI-813-3	≤2.0 & >0[1] in. wc	.21	.21	.21				
		PDI-813-4	≤2.0 & >0[1] in. wc	.30	.30	.30				
		PDI-813-5	≤2.0 & >0[1] in. wc	.32	.32	.32				
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & >0[1] in. wc	.02	.02	.02				
		PDI-865-2	≤2.0 & >0[1] in. wc	.38	.39	.38				
		PDI-865-3	≤2.0 & >0[1] in. wc	.36	.36	.36				
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & >0[1] in. wc	.05	.06	.06				
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.31				

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:	9/28/20	9/29/20	9/30/20				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	DDS	[illegible]				
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.11	.11				
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.46	.45	.46				
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.07	.08	.07				
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.60	.59	.60				
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT				
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT				
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT				

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	9/28/20	9/29/20	9/30/20				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]				
SRs	Description	Gaug	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT				
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT				
			Completion time	0845	0810	0846				
			OC Operator Review and Page Count Complete (initials)	TAS	[illegible]	[illegible]				
			OCS Daily Review Sign off (initials)							

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [signature] Date 9/30/20 Time 0846 Reviewed by: [signature] Date: 11/1/20 Time: 0618

On-duty Supervisor

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TRAINING NOT FOR

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature								
Daily (September through April only)		Date:	9/28/20	9/29/20	9/30/20			
		Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
		Initials:	[illegible]	[illegible]	DAS				
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	65.1	63.9	63.6				
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	66.[illegible]	65.7	65.5				
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	65.2	63.9	65.9				
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	66.1	62.3	65.3				
		Completion Time:	0748	0950	0833				
	OC Operator Review and Page Count Complete (initials)		TAS	[illegible]	[illegible]				
	OCS Daily Review Sign off (initials)		[illegible]	[illegible]	[illegible]				

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: Anthony Sanchez Date 9/30/20 Time 0833

Reviewed by: [illegible] Date: 10/1/20 Time: 0730
On-duty Supervisor

Comments: _____

Attachment D, Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 1 of 2)

NOTE: This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials	CDV Initials
*Note	Confinement DR-344	Southeast	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	(Sat.) / Unsat.	1312	9/17/20	[illegible]	RH
4.1.3.2[1]	Confinement Door DR-344	Southeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat.) / Unsat.	1310	9/17/20	[illegible]	RH
4.1.3.2[1]	Confinement Door DR-149	Northeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat.) / Unsat.	1417	9/17/20	[illegible]	RH
*Note	Confinement DR-102	Northwest	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	(Sat.) / Unsat.	1354	9/17/20	[illegible]	RH
4.1.3.2[1]	Confinement Door DR-102	Northwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat.) / Unsat.	1352	9/17/20	[illegible]	RH
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) goes to the fully closed position via the automatic door closure is ≥ 30 seconds. 4.7 Seconds	(Sat.) / Unsat.	1348	9/17/20	[illegible]	RH

*** Note:** Monthly Inspection of DR-344 and DR-102 in accordance with compensatory measure(s) from: *Request for Permanent Equivalency to OE Order 420.1B Chapter II, NFPA 80, NFPA 101 and IBC Requirements for LANL Building TA55-4 (PF-4); Installation of New Confinement Doors DR-102, DR-302, and DR-344 LANL-DOE-ORDER-420.1B-EQ-2013-001*

Attachment D, Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 2 of 2)

FOR INFORMATION ONLY

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials	CDV Initials
4.1.3.2[1]	Confinement Door DR-302	Southwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	Sat / Unsat.	1401	9/17/20	JL	~~RH~~
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) goes to the fully closed position via the automatic door closure is ≤ 30 seconds. 6.6 Seconds	Sat / Unsat.	1359	9/17/20	JL	~~RH~~
4.1.3.2[1]	Confinement Door DR-4	N Basement Personnel door DR-4	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure	Sat / Unsat. *	1336	9/17/20	JL	RH
4.1.3.2[1]	Confinement Door DR-90	South Basement Door (Tunnel)	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	Sat / Unsat.	1329	9/17/20	JL	~~RH~~
						OC Operator Review and Page Count Complete	M	

[1] SR 4.1.3.2 applies during both Mode 1 and Mode 2.

Completed by [signature] Date 9/17/20 Time 1424 Reviewed by [signature] Date 9/17/20 Time 1427

Concurrent Dual Verifier [signature] Date 9/17/20 Time 1475 9/17/20 1450

On-duty Supervisor Comments * North Basement Roll-up Door needs adjustment for operation, slide panel is catching during operation.

Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	Surveillance Rounds
Procedure no.:	TA55-STP-004, R21
Date of issue:	10/1/20
Working copy issued to:	M. Wells
Working copy issued by:	D. Heintschel
	Certified Operations Center Operator (OCO)

Procedure is the current revision listed in Documentum: ☑ Yes ☐ Documentum Unavailable

Performance Type: ☑ Scheduled ☐ Partial ☐ Other *If partial or other list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
Cedillo, John	M	10-01-20
Chance, Brian BC 10.2.20 BRYAN	M	10-01-20
Cochran, Cory	M	10-01-20
Heintschel, Dustin	M	10-01-20
Stilson, Tyler	M	10-01-20
Wells, Matt	M	10-01-20
Jauriqui, Antonio	M	10-01-20
Miller, Marcus	M	10-01-20
Price, Ricky	M	10-01-20

OC Reviews Complete and TSR Status Board Updated

OCO Signature 10/31/2020 Date

FOR INFORMATION ONLY

Attachment B, Surveillance Training Checklist (continued)

(Page 2 of 2)

Training Checklist (continuation sheet)

Workers Performing Surveillance	Applicable Surveillance Training Current	
	Initials	Date
Seybert, Fred	M	10-01-20
Dunlavy, Derek	M	10-01-20
Hendricks, Justin		
Tesch, Charles		
Washburn, Michael	M	10-01-20
Fordham, Brian	M	10-01-20
Hohner, Rory	M	10-01-20
Irish, Michael	M	10-01-20
Langworthy, Tom	M	10-01-20
Martinez, Jerome	M	10-01-20
Martinez, Richard	M	10-01-20
O'neill, Steven	M	10-01-20
Sanchez, Anthony	M	10-01-20
Wickings, Sherman	M	10-01-20
Ashley, Keith	M	10-01-20
Vigil, Matthew	M	10-01-20
Sanchez, Augustine	M	10-01-20
Cantu, Albert	M	10-01-20
Dostart, Larry	M	10-01-20

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

TRAINING ONLY NOT FOR INFORMATION

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:							10/1/20		10/2/20		10/3/20		10/4/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:							SPU	M	L	BC	C	BC		BC
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc							-2.03	-2.00	-2.00	-2.01	-2.01	-2.00	-2.02	-2.01
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]							-1.93	-1.91	-1.93	-1.92	-1.92	-1.93	-1.92	-1.92
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]							-1.97	-1.96	-1.96	-1.97	-1.97	-1.96	-1.98	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]							-2.01	-2.00	-2.02	-2.02	-2.01	-2.01	-2.01	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]							-0.21	-.21	-.20	-.20	-.20	-.21	-0.20	-.20
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]							-0.24	-.26	-.25	-.25	-.25	-.26	-0.25	-.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]							-0.20	-.21	-.20	-.20	-.20	-.21	-0.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]							-0.20	-.20	-.19	-.19	-.20	-.20	-0.19	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc							-0.15	-.15	-.15	-.15	-.15	-.15	-0.15	-.15
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc							-0.09	-.09	-.09	-.09	-.09	-.09	-0.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc							-0.09	-.09	-.09	-.09	-.09	-.09	-0.09	-.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc							-0.101	-.105	-.101	-.114	-.101	-.101	-0.107	-.103

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR INFORMATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:							10/1/20		10-2-20		10/3/20		10/4/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:							SPW	M	C	BC	C	BC	[illegible]	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

FOR INFORMATION ONLY

Note Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.				**Date:**							10/1/20		10-2-20		10/3/20		10/4/20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:							SPW	M	L	BL	C	BL		BL
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** **Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat bc 1.2.20	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time									0719	1925	0712	1921	0720	1924	0717	1921
		OCS Daily Review Sign off (initials)																

[1] Mode 2 acceptance criteria is < 0.00 in. wc.

[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.

[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: Date 10-04-20 Time 1921 Reviewed by: Date: 10/4/20 Time: 1935
On-duty Supervisor

Comments: _____

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:				10/1/20	10/2/20	10/3/20	10/4/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:				[illegible]	DDS	SO	SO
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA				005	005	005	005
	CP-305-H (LED Reading)					005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value				005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:				[illegible]	0825	0700	0700

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

FOR INFORMATION ONLY

			Date:				10/1/20	10/2/20	10/3/20	10/4/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc				.04	.05	.04	.04
		PDI-894-2	≤2.0 & > 0[1] in. wc				.46	.46	.46	.46
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc				.07	.09	.09	.09
		PDI-895-2	≤2.0 & > 0[1] in. wc				.71	.71	.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-81 9-3	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc				.27	.27	.26	.27
		PDI-818-2	≤2.0 & > 0[1] in. wc				.31	.32	.31	.31
		PDI-818-4	≤2.0 & > 0[1] in. wc				.31	.32	.31	.31
		PDI-818-5	≤2.0 & > 0[1] in. wc				.31	.32	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc				.45	.45	.43	.43
		PDI-821-3	≤2.0 & > 0[1] in. wc				.46	.46	.46	.47
		PDI-821-4	≤2.0 & > 0[1] in. wc				.41	.42	.41	.41

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:				10/1/20	10/2/20	10/3/20	10/4/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:				[signature]	MDS	SO	SO
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc				.08	.08	.07	.07
		PDI-823-2	≤2.0 & > 0[1] in. wc				.56	.58	.66	.55
		PDI-823-4	≤2.0 & > 0[1] in. wc				.49	.49	.49	.49
		PDI-823—5	≤2.0 & > 0[1] in. wc				.61	.61	.62	.62
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc				.46	.39	.37	.40
		PDI-830-2	≤2.0 & > 0[1] in. wc				.16	.14	.12	.13
		PDI-830-3	≤2.0 & > 0[1] in. wc				.18	.18	.16	.19
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc				07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc				66	.68	.68	.67
		PDI-836-3	≤2.0 & > 0[1] in. wc				.66	.65	.66	.66
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc				.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc				.48	49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc				[signature] 10/1/20 .46 .43	.41	.42	.42

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:				~~10/1~~ 10/1/20	10/2/20	10/3/20	10/4/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:					DDS	SO	SO
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc				.59	.59	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc				.58	.58	.58	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc				.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc				.41	.42	.42	.42
		PDI-839-2	≤2.0 & > 0[1] in. wc				.52	.54	.52	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc				.52	.54	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc				.17	.17	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc				.88	.89	.89	.89
		PDI-810-3	≤2.0 & > 0[1] in. wc				.51	.52	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc				OFF	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc				OFF	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc				OFF	OFF	OFF	OFF
			Completion Time				0800	0930	0856	0812
OC Operator Review and Page Count Complete (initials)							DS	LC	C	C
OCS Daily Review Sign off (initials)							W			

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: Steven Owen Date 10/4/20 Time 0812 Reviewed by: _____ Date: 10/4/2020 Time: 0825

On-duty Supervisor

Comments 4.1.1.1 Not in use. Waiting for calibration

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

FOR INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

			Date:				10/1/20	10/2/20	10/3/20	10/4/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:				JM	BDS	SO	SO
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc				.47	.49	.48	.49
		PDI-841-2	≤2.0 & > 0[1] in. wc				.59	.59	.59	.59
		PDI-841-3	≤2.0 & > 0[1] in. wc				.53	.52	.52	.52
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc				.36	.36	.36	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc				.41	.41	.41	.41
		PDI-831-3	≤2.0 & > 0[1] in. wc				.40	.39	.39	.39
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc				.58	.60	.60	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc				.67	.67	.67	.67
		PDI-832-3	≤2.0 & > 0[1] in. wc				.61	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc				.11	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc				.56	.58	.58	.57
		PDI-807-3	≤2.0 & > 0[1] in. wc				.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc				OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc				OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc				OFF	OFF	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:				10/1/20	10/2/20	10/3/20	10/4/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:					DTJS	SO	SO
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc				.48	.49	.48	.49
		PDI-829-2	≤2.0 & > 0[1] in. wc				.51	.51	.50	.51
		PDI-829-3	≤2.0 & > 0[1] in. wc				.40	.40	.39	.40
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc				.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc				.55	.54	.54	.54
		PDI-833-3	≤2.0 & > 0[1] in. wc				.51	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc				.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc				.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc				.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc				.47	.48	.48	.48
		PDI-816-2	≤2.0 & > 0[1] in. wc				.56	.56	.56	.56
		PDI-816-4	≤2.0 & > 0[1] in. wc				.51	.51	.51	.51
		PDI-816-5	≤2.0 & > 0[1] in. wc				.55	.54	.54	.54

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

FOR INFORMATION ONLY

			Date:				10/1/20	10/2/20	10/3/20	10/4/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:				JM	MMS	SD	SD
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc				.11	.11	.10	.10
		PDI-813-2	≤2.0 & > 0[1] in. wc				.28	.29	.28	.28
		PDI-813-3	≤2.0 & > 0[1] in. wc				.21	MMS 10-2-20 ~~.29~~ .21	.21	.21
		PDI-813-4	≤2.0 & > 0[1] in. wc				.30	.29	.30	.30
		PDI-813-5	≤2.0 & > 0[1] in. wc				.32	.32	.32	.32
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc				.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc				.38	.39	.39	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc				.34	.34	.34	.35
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc				.05	.06	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc				.31	.31	.31	.31

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:				10/1/20	10/2/20	10/3/20	10/4/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:					RDD	SO	SO
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ [illegible] & > 0[1] in. wc				.11	.12	.11	.11
		PDI-857-2	≤2.0 & > 0[1] in. wc				.46	.46	.46	.46
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc				.07	.09	.09	.09
		PDI-856-2	≤2.0 & > 0[1] in. wc				.60	.61	.61	.60
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**				SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less				SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less				SAT	SAT	SAT	SAT

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

FOR INFORMATION ONLY

			Date:				10/1/20	10/2/20	10/3/20	10/4/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:				JM	DRS	SO	SO
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less				SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less				SAT	SAT	SAT	SAT
			Completion time				0802	0920	0856	0812
			OC Operator Review and Page Count Complete (initials)				JM	C	C	C
			OCS Daily Review Sign off (initials)							

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Steven O'Neal Date 10/4/20 Time 0812 Reviewed by: _____ Date: 10/4/2020 Time: 0826

On-duty Supervisor

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TRAINING INFORMATION ONLY

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8-5-21	Calibration Expiration Date:	8-13-21	Calibration Expiration Date:	8-13-21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8-11-21	Calibration Expiration Date:	8-13-21	Calibration Expiration Date:	8-13-21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:				10-1-20	10-2-20	10/3/20	10/4/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:				DAS	RH	SO	SO
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	(SAT) /UNSAT	(SAT) /UNSAT	(SAT) /UNSAT	(SAT) /UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F				63.9	63.3	63.4	62.8
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F				65.7	65.3	65.1	64.7
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F				67.8	66.3	67.1	64.6
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F				66.7	65.2	66.7	64.1
		Completion Time:				1012	0850	0934	0847
	OC Operator Review and Page Count Complete (initials)					JAS			
	OCS Daily Review Sign off (initials)								

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-5 (or approved engineered equivalent).

Completed by: Steven O'Neal Date 10/4/20 Time 0847

Reviewed by: _____ Date: 10/4/2020 Time: 0855
On-duty Supervisor

Comments: _____

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TRAINING ONLY NOT FOR IMPLEMENTATION

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	10/5/20		10/6/20		10/7/20		10/8/20		10/9/20		10/10/20		10/11/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	[illegible] TMS	DH	SAW	DH	[illegible]	BC	[illegible]	BC	[illegible]	DH	M	M	TMS	DH
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc	[illegible]	-2.00	-2.01	-2.02	[illegible]	-1.99	-2.00	-2.02	-2.01	-2.02	-2.00	-2.01	-2.02	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	[illegible]	-1.92	-1.94	-1.94	-1.92	-1.92	-1.93	-1.98	-1.92	-1.98	-1.90	-1.93	-1.94	-1.92
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.97	-1.96	-1.95	-1.96	-1.97	-1.96	-1.98	-1.97	-1.96	-1.96	-1.96	-1.97	-1.97	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.02	-2.01	-2.01	[illegible]	[illegible]	-2.01	-2.01	-2.01	[illegible]	-2.02	-2.00	-2.01	-2.01 [illegible]	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.19	-0.20	-0.20	-0.21	[illegible]	-0.20	-0.20	-0.20	-0.20	-0.21	-.21	-.21	-0.21 [illegible]	-0.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.25	-0.26	-0.25	-0.26	[illegible]	-0.25	-0.26	-0.25	-0.26	-0.26	-.26	-.26	-0.26 [illegible]	-0.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.19	-0.21	-0.20	-0.20	[illegible]	-0.20	-0.19	-0.21	[illegible]	-0.20	-.20	-.20	-.19	-0.19
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.19	-0.20	-0.20	-0.19	[illegible]	-0.20	-0.19	-0.21	[illegible]	-0.20	-.20	-.19	-.18	-0.18
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-0.15	-0.15	-0.15	[illegible]	-0.15	-0.15	-0.15	[illegible]	-0.15	-.15	-.15	-.13	-0.15
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-0.09	-0.09	-0.09	[illegible]	-0.10	-0.09	-0.09	[illegible]	-0.09	-.09	-.09	-.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.09	-0.09	-0.09	-0.09	[illegible]	-0.10	-0.09	-0.09	[illegible]	-0.09	-.09	-.09	-.10	-0.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.102	-0.106	-0.102	-0.111	[illegible]	-0.105	-0.118	-0.099	[illegible]	-0.117	-.106	-.109	-.122	-0.115

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.			Date:	10/05/20		10/6/20		10/7/20		10/8/20		10/9/20		10/10/20		10/11/20	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	DH	SPW	DH	TAS	BC	[illegible]	BC	C	DH	M	M	TAS	DH
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

FOR INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.				Date:	10/05/20		10/6/20		10/7/20		10/8/20		10/9/20		10/10/20		10/11/20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	DH	SPW	DH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	DH	M	M	[illegible]	DH
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** Sat / Unsat (circle one)													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0719	1925	0704	1924	0717	1923	0718	1921	0713	1926	0758	1928	0723	1935
		OCS Daily Review Sign off (initials)			[illegible]	[illegible]	in SPC 10/6/20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Mode 2 acceptance criteria is < 0.00 in. wc.

[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.

[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by [illegible] Date 10/5/20 Time 1935 Reviewed by: [illegible] Date: 10/11/20 Time: 1937

On-duty Supervisor

Comments: _____

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	10|5|20	10|6|20	10|7|20	10-8-20	10-9-20	10-10-20	10-11-20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	RJ	RJ	RJ	as	as	BH	BH
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)	NA	005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0712	0700	0700	0720	0730	0759	0747

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/5/20	10/6/20	10/7/20	10-8-20	10-9-20	10-10-20	10-11-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.46	.47	.47	.47	.47	.49	.50
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-895-2	≤2.0 & > 0[1] in. wc	.10	.70	.71	.71	.75	.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.27	.27	.27	.27	.27	.27	.27
		PDI-818-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-818-4	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-818-5	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.43	.42	.42	.42	.42	.42	.42
		PDI-821-3	≤2.0 & > 0[1] in. wc	.48	.47	.48	.48	.48	.48	.48
		PDI-821-4	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/5/20	10/6/20	10/7/20	10-8-20	10-9-20	10-10-20	10-11-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	~~RH~~	~~RH~~	RH	MS	MS	RH	RH
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.09	.09	.08	.08
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59	.60	.60	.59	.55	.59	.60
		PDI-823-4	≤2.0 & > 0[1] in. wc	.49	.50	.50	.49	.49	.50	.49
		PDI-823—5	≤2.0 & > 0[1] in. wc	.61	.61	.61	.62	.62	.61	.61
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.40	.35	.33	.20	.30	.29	.55
		PDI-830-2	≤2.0 & > 0[1] in. wc	.14	.11	.12	.09	.16	.12	.20
		PDI-830-3	≤2.0 & > 0[1] in. wc	.19	.12	.17	.10	.17	.18	.14
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.06	.06	.04	.07	.08	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.68	.68	.68	.68	.67	.66	.65
		PDI-836-3	≤2.0 & > 0[1] in. wc	.67	.67	.66	.66	.66	.66	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.43	.43	.43	.43	.42	.42

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/5/20	10/6/20	10/7/20	10-8-20	10-9-20	10-10-20	10-11-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	~~RH~~	RH	AS	RH	~~RH~~	RH
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.58	.58	.58	.59	.59	.58	.58
		PDI-838-2	≤2.0 & > 0[1] in. wc	.59	.58	.58	.58	.56	.58	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.42	.42	.41	.41	.41	.41	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.51	.51	.52	.52	.52	.51	.51
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	.16	.16	.17	.16	.16
		PDI-810-2	≤2.0 & > 0[1] in. wc	.89	.89	.82	.89	.89	.88	.86
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	.51	.50	.52	.51	.50	.50
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF
			Completion Time	0833	0830	0825	0815	0715	0815	0804
OC Operator Review and Page Count Complete (initials)				TAS	JSL	TAS	JSL	S	S	TAS
OCS Daily Review Sign off (initials)				W	W	W	W	W	W	W

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [signature] Date 10-11-20 Time 0805 Reviewed by: PRLG On-duty Supervisor Date: 10/11/20 Time: 0859

Comments 4.4.1.1 Awaiting Calibration

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

			Date:	10/5/20	10/6/20	10/7/20	10-8-20	10/9/20	10-10-20	10-11-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	[illegible]	[illegible]	RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.48	.48
		PDI-841-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.59	.59	.60	.60
		PDI-841-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.36	.36	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.41	.41	.41	.41	.41
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.39	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.66	.67	.67	.67	.67	.68	.66
		PDI-832-3	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.61	.60	.60
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.11	.12	.11	.11	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.57	.57	.59	.59	.59	.59	.59
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/5/20	10/6/20	10/7/20	10-8-20	10/09/20	10-10-20	10-11-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	MS	[illegible]	ZH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.47	.56	.55	.54	.54	.50	.50
		PDI-829-2	≤2.0 & > 0[1] in. wc	.50	.59	.59	.55	.58	.50	.50
		PDI-829-3	≤2.0 & > 0[1] in. wc	.40	.46	.46	.42	.40	.40	.40
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.52	.52	.52
		PDI-833-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.51	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.45	.43	.45	.45	.43	.45	.45
		PDI-816-2	≤2.0 & > 0[1] in. wc	.59	.56	.58	.56	.56	.59	.59
		PDI-816-4	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-816-5	≤2.0 & > 0[1] in. wc	.52	.51	.51	.51	.52	.51	.52

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	10/5/20	10/6/20	10/7/20	10-8-20	10/9/20	10-10-20	10-11-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	DS	WS	RH	RH
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-812-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-812-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-812-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-812-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	Stby	STBY	STBY
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & >0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-813-2	≤2.0 & >0[1] in. wc	.29	.30	.30	.30	.29	.30	.30
		PDI-813-3	≤2.0 & >0[1] in. wc	.21	.21	.21	.21	.21	.21	.21
		PDI-813-4	≤2.0 & >0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
		PDI-813-5	≤2.0 & >0[1] in. wc	.31	.31	.32	.32	.32	.32	.32
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & >0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & >0[1] in. wc	.39	.39	.39	.39	.39	.39	.40
		PDI-865-3	≤2.0 & >0[1] in. wc	.34	.32	.32	.35	.35	.32	.34
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & >0[1] in. wc	.11	.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.30	.30	.31	.31	.31	.31

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/5/20	10/6/20	10/7/20	10-8-20	10/9/20	10-10-20	10-11-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	MS	MR	RH	RH
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.11	.11
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.49	.49
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-856-2	≤2.0 & > 0[1] in. wc	.60	.60	.61	.61	.61	.61	.61
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	Sat	Sat	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	Sat	Sat	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	Sat	Sat	SAT	SAT

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/5/20	10/6/20	10/7/20	10-8-20	10/09/20	10-10-20	10-11-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	AJ	[illegible]	RH	RH
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	Sat	Sat	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	Sat	Sat	SAT	SAT
			Completion time	0944	0926	0905	0845	0720	0852	0838
			OC Operator Review and Page Count Complete (initials)	TAS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TAS
			OCS Daily Review Sign off (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [signature] Date 10-11-20 Time 0838 Reviewed by: PRCW Date: 10/11/20 Time: 0855

On-duty Supervisor

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/4/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature								
Daily (September through April only)		Date:	~~10/5/20~~ 10/5/20	10/6/20	10/7/20	10/8/20	10/9/20	10/10/20	10/11/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	SO	[illegible]	TAS
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	62.6	62.7	63.1	63.3	63.5	63.8	65.3
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	64.5	64.5	65.2	65.0	65.2	65.7	63.5
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	67.9	68.8	68.4	69.1	69.5	68.3	67.0
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	66.6	67.2	68.5	69.4	68.7	68.6	67.3
		Completion Time:	0901	0700	0859	0702	0804	1011	0843
		OC Operator Review and Page Count Complete (initials)	TAS	[illegible]	TAS	[illegible]	[illegible]	[illegible]	TAS
		OCS Daily Review Sign off (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-3 (or approved engineered equivalent).

Completed by: Tyler Stilson Date 10/11/20 Time 0843

Reviewed by: PRice Date: 10/11/20 Time: 0857
On-duty Supervisor

Comments:

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	10/12/20		10/13/20		10/14/20		10/15/20		10/16/20		10/17/20		10/18/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	SPW	BC	SPW	BC	SPW	DH	JSL	DH	[illegible]	BC	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc	-2.01	-2.00	-2.00	-2.01	-1.99	-2.01	-2.00	-2.01	-2.00	-2.02	-2.01	-2.00	-2.01	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.92	-1.90	-1.94	-1.92	-1.91	-1.91	-1.93	-1.92	-1.90	-1.91	-1.93	-1.92	-1.92
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.96	-1.97	-1.96	-1.96	-1.95	-1.97	-1.97	-1.96	-1.97	-1.97	-1.97	-1.97	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.02	-2.02	-2.01	-2.01	-2.03	-2.01	-2.00	-2.01	-2.02	-2.01	-2.01	-2.01	-2.01	-2.01
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.20	-.21	-0.20	-.21	-.21	-0.22	-0.22	-0.20	-0.20	-.21	-0.21	-.21	-.21	-.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.26	-.26	-0.23	-.26	-.26	-0.27	-0.27	-0.26	-0.25	-.26	-0.26	-.26	-.26	-.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.20	-.20	-0.20	-.20	-.21	-0.20	-0.21	-0.19	-0.20	-.20	-0.20	-.20	-.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.19	-.20	-0.19	-.20	-.20	-0.17	-0.21	-0.20	-0.19	-.20	-0.19	-.20	-.19	-.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-.15	-0.15	-.15	-.15	-0.15	-0.15	-0.15	[illegible]	-.15	-0.15	-.15	-.14	-.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-.09	-0.09	-.09	-.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.09	-.09	-0.09	-.09	-.09	-0.09	-0.09	-0.09	-0.09	-.09	-0.09	-.09	-.09	-.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.101	-.104	-0.104	-.102	-.117	-0.104	-0.109	-0.117	-0.105	-.105	-0.104	-.100	-.101	-.109

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

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FOR INFORMATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.				Date:	10/12/20		10/13/20		10/14/20		10/15/20		10/16/20		10/17/20		10/18/20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	SPW	BC	SPW	BC	SPW	DH	JSL	DH	[illegible]	BC	[illegible]	BC	L	BC
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**														
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat / Unsat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat / Unsat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat / Unsat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat / Unsat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat / Unsat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat	Sat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

10/12/20

Note Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.																	
				Date:	~~10/12/20~~ SPW		10/13/20		10/14/20		10/15/20		10/16/20		10/17/20		10/18/20
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	SPW	BL	SPW	BL	SPW	DH	ASL	DH		BL		BL	C	BL
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** **Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0704	1925	0707	1923	0714	1939	0707	1925	0723	1920	0719	1917	0715	1929
		OCS Daily Review Sign off (initials)				ARJ		AJ						ARJ		ARJ		ARJ

[1] Mode 2 acceptance criteria is < 0.00 in. wc.

[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.

[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: BC Date 10/18/20 Time 1917 Reviewed by: _____ Date: 10/18/20 Time: 1945

On-duty Supervisor

Comments: _____

_____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

FOR INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20	10/18/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0758	0738	0720	0738	0702	0701	0737

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20	10/18/20
			Weekday:	Mon.	Tue.	Wed.	Thu	Fri.	Sat.	Sun.
			Initials:	TL	TL	TL	TL	JM	JM	TL
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.49 .05 (JM 10/12/20)	.05	.05	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.05 .49 (TL 10/12/20)	.49	.49	.49	.48	.48	.48
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-895-2	≤2.0 & > 0[1] in. wc	.72 (TL 10/12/20)	.70	.72	.72	.71	.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.27	.26	.26	.26	.27	.26	.26
		PDI-818-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-818-4	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-818-5	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.44	.43	.42	.42	.42	.43	.43
		PDI-821-3	≤2.0 & > 0[1] in. wc	.46	.46	.47	.47	.47	.47	.47
		PDI-821-4	≤2.0 & > 0[1] in. wc	.41	.41	.42	.42	.42	.42	.42

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20	10/18/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	TL	TL	TL	TL	JM	JM	TL
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0 in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0 in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-823-2	≤2.0 & > 0[1] in. wc	.57	.57	.57	.57	.57	.57	.57
		PDI-823-4	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-823—5	≤2.0 & > 0[1] in. wc	.62	.62	.62	.62	.62	.62	.62
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.38	.40	.40	.39
		PDI-830-2	≤2.0 & > 0[1] in. wc	.15	.15	.14	.15	.15	.15	.16
		PDI-830-3	≤2.0 & > 0[1] in. wc	.18	.18	.18	.18	.18	.18	.18
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.65	.65	.65
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.34	.42	.43	.45	.43	.43	.43

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20	10/18/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.58
		PDI-838-2	≤2.0 & > 0[1] in. wc	.56	.55	.56	.56	.58	.58	.57
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.58	.58	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.40	.41	.42	.40	.41	.41	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.78	.78	.78	.78	.89	.88	.88
		PDI-810-3	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.51	.51	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
			Completion Time	0832	0922	0856	0807	0720	0735	0817
OC Operator Review and Page Count Complete (initials)						TS	JSC	DH		
OCS Daily Review Sign off (initials)										

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: T. Marquez Date: 10/18/20 Time: 0817 Reviewed by: _____ Date: 10/18/2020 Time: 0818

On-duty Supervisor

Comments 4.4.1-1 Meter is Out of Service, awaiting calibration.

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

			Date:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20	10/18/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.49	.48	.48	.48	.48	.48	.48
		PDI-841-2	≤2.0 & > 0[1] in. wc	.59	.59	.60	.59	.59	.59	.59
		PDI-841-3	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.36	.36	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc	.42	.42	.42	.42	.42	.42	.42
		PDI-831-3	≤2.0 & > 0[1] in. wc	.39	.40	.40	.40	.40	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.58
		PDI-832-2	≤2.0 & > 0[1] in. wc	.67	.66	.66	.68	.66	.67	.65
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.12	.12	.12	.11	.11	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	off	off	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	off	off	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	off	off	OFF

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20	10/18/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.48	.51	.06	.06
		PDI-829-2	≤2.0 & > 0[1] in. wc	.51	.50	.50	.50	.50	.42	.44
		PDI-829-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.41	.41
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.54	.53	.54	.55	.54	.54	.55
		PDI-833-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.52
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.49	.50	.49	.49	.49	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	stby	STBY	STBY
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.45	.45	.46	.46	.46	.46	.46
		PDI-816-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.56	.56	.56	.56
		PDI-816-4	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-816-5	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

			Date:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20	10/18/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & >0[1] in. wc	.11	.11	.11	.11	.11	.11	.11
		PDI-813-2	≤2.0 & >0[1] in. wc	.38	.29	.29	.29	.29	.29	.29
		PDI-813-3	≤2.0 & >0[1] in. wc	.21	.21	.22	.22	.21	.21	.22
		PDI-813-4	≤2.0 & >0[1] in. wc	.30	.30	.30	.31	.29	.29	.29
		PDI-813-5	≤2.0 & >0[1] in. wc	.34	.33	.34	.33	.33	.33	.33
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & >0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & >0[1] in. wc	.40	.39	.39	.39	.38	.38	.39
		PDI-865-3	≤2.0 & >0[1] in. wc	.35	.36	.36	.36	.35	.35	.35
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & >0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.31	.31

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20	10/18/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4²	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12	.12	.12	.12
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48	.48	.49	.49	.48	.48	.48
4.1.3.4²	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.09	.09	.09	.10	.09	.09	.09
		PDI-856-2	≤2.0 & > 0[1] in. wc	.61	.61	.62	.62	.61	.61	.62
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	Sat	* UnSat	* UnSat	Sat	Sat	Sat	Sat
4.3.2.2²	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	~~UnSat~~ Sat	Sat	Sat
4.3.2.2²	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	Sat	Sat	Sat

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20	10/18/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	10/16/20 mm Sat Sat	Sat	Sat
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	Sat	Sat	Sat
			Completion time	0832	0922	0856	0806	0740	0720	0818
			OC Operator Review and Page Count Complete (initials)			JSL	JSL			
			OCS Daily Review Sign off (initials)							

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: ? Pierquett Date 10/18/20 Time 0818 Reviewed by: _____ Date: 10/18/20 Time: 0819

On-duty Supervisor

Comments: (NA) South Exhaust Fan Room has spools of wire - OC advised and MS is looking at removal.
- 10/15/20 (NA) South Exhaust Fan Room wire spools are removed.

10/16/20 201 + 206 General combustibles left in non combustible areas OPS notified items removed mm 0744

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

FOR INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20	10/17/20	10/18/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	RH	[illegible]	[illegible]
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	62.9	62.4	62.6	62.8	61.9	61.5	61.4
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	64.7	64.3	64.3	64.5	63.6	63.4	63.2
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	66.5	[illegible]	67.4	68.2	63.5	65.0	65.6
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	64.7	64.9	[illegible]	68.0	63.1	63.2	65.1
		Completion Time:	0885	0750	0807	0705	0650	0958	0920
OC Operator Review and Page Count Complete (initials)			[illegible]	[illegible]	[illegible]	TAS	OH	[illegible]	[illegible]
OCS Daily Review Sign off (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: C. Coleman Date 10/19/20 Time 0920

Reviewed by: [illegible] Date: 10/18/2020 Time: 0928
On-duty Supervisor

Comments: _____

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	10/19/20		10/20/20		10/21/20		10/22/20		10/23/20		10/24/20		10/25/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	SPW	JSC	SPW	JSC	SPW	BC	SPW	BC	M	JSC	M	JSC	DH	TAS
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.[illegible]	-2.02	-2.01	-2.00	-2.01	-2.00	-2.00	-2.01	-2.01	-2.00	-1.99	-2.00	-2.01	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.[illegible]	-1.92	-1.93	-1.93	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.95	-1.[illegible]	-1.97	-1.95	-1.96	-1.97	-1.96	-1.96	-1.96	-1.97	-1.96	-1.96	-1.97	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.01	-2.02	-2.02	-2.00	-2.02	-2.02	-2.01	-2.02	-2.01	-2.00	-1.99	-1.96	-1.99	-1.99
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.21	-0.17	-.18	-0.2[illegible]	-.21	-.18	-0.20	-.21	-.20	-0.19	-.18	-0.19	-0.19	-.18
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.25	-0.23	-.23	-0.25	-0.26	-.25	-0.25	-.26	-.25	-0.24	-.23	-0.24	-0.24	-.24
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.20	-0.19	-.20	-0.19	-0.19	-.20	-0.19	-.20	-.20	-0.20	-.19	-0.20	-0.19	-.19
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.19	-0.19	-.19	-0.19	-0.19	-.20	-0.1[illegible]	-.20	-.20	-0.19	-.19	-0.19	-0.19	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.14	-0.15	-.14	-0.15	-0.15	-.15	-0.15	-.15	[illegible]	-0.14	-.15	-0.15	-0.14	-.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.09	-0.09	-.09	-0.09	-0.09	-.09	-0.09	-.09	-.09	-0.09	-.09	-0.10	-0.09	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.09	-0.09	-.09	-0.09	-0.09	-.09	-0.09	-.09	-.09	-0.09	-.09	-0.09	-0.09	-.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.114	-0.101	-0.103	-0.107	-0.117	-.101	-0.105	-.107	-.113	-0.106	-.121	-0.116	~~-0.109~~ -0.109 DH 232795	-.119

NOT FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

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FOR INFORMATION ONLY

Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		**Date:**	10/19/20		10/20/20		10/21/20		10/22/20		10/23/20		10/24/20		10/25/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	SPW	JSL	SPW	JSL	SPW	BC	SPW	BC	M	JSL	M	JSL	DH	TAS
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	10/19/20		10/20/20		10/21/20		10/22/20		10/23/20		10/24/20		10/25/20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	SPW	JSL	SPW	JSL	SPW	[illegible]	SPW	[illegible]	M	JSL	M	JSL	DH	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0713	1911	0711	1914 ~~0714~~	0716	1921	0704	1922	0730	1916	0724	1918	0724	1920
		OCS Daily Review Sign off (initials)			MJW	[illegible]	MJW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ATB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: TAB Date 10/25/20 Time 1920 Reviewed by: [signature] On-duty Supervisor Date: 10/31/2020 Time: 2057

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	10/19/20	10-20-20	10-21-20	10-22-20	10/23/20	10-24-20	10-25-20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0840	0653	0744	0758	0704	0740	0745

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

			Date:	10/19/20	10-20-20	10-21-20	10-22-20	10/23/20	10-24-20	10-25-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.06	.05	.04	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.48	.49	.49	.49	.48	.46	.47
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-895-2	≤2.0 & > 0[1] in. wc	.72	.69	.70	.71	.70	.71	.72
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	Stby	.31	.30	.30	.30	.30	.30
		PDI-817-2	≤2.0 & > 0[1] in. wc	Stby	.31	.31	.31	.31	.31	.30
		PDI-817-4	≤2.0 & > 0[1] in. wc	Stby	.32	.32	.35	.35	.35	.35
		PDI-817-5	≤2.0 & > 0[1] in. wc	Stby	.31	.31	.31	.31	.32	.32
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	Stby	.45	.45	.45	.45	.45	.46
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	Stby	.45	.45	.45	.46	.45	.48
		PDI-819-4	≤2.0 & > 0[1] in. wc	Stby	.39	.39	.39	.39	.40	.40
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.27	STBy	STBy	STBy	STBy	StBy	StBy
		PDI-818-2	≤2.0 & > 0[1] in. wc	.31 ~~.47~~ [illegible] 10/19/20	STBy	STBy	STBy	STBy	StBy	StBy
		PDI-818-4	≤2.0 & > 0[1] in. wc	.32	STBy	STBy	STBy	STBy	StBy	StBy
		PDI-818-5	≤2.0 & > 0[1] in. wc	.32	STBy	STBy	STBy	STBy	StBy	StBy
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.43	STBy	STBy	STBy	STBy	StBy	StBy
		PDI-821-3	≤2.0 & > 0[1] in. wc	.47	STBy	STBy	STBy	STBy	StBy	StBy
		PDI-821-4	≤2.0 & > 0[1] in. wc	.42	STBy	STBy	STBy	STBy	StBy	StBy

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

TRAINING INFORMATION ONLY

			Date:	10/19/20	10-20-20	10-21-20	10-22-20	10/23/20	10-24-20	10-25-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	DJ	[illegible]	DJ	SO	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	.13	.12	.12	.13	.12	.13
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	.59	.59	.59	.59	.60	.60
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	.42	.43	.43	.42	.43	.42
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	.57	.59	.59	.58	.59	.58
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.07	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	.57	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	.49	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	.63	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.35	.40	.45	.19	.666	10/24/20 ST .34	.42
		PDI-830-2	≤2.0 & > 0[1] in. wc	.14	.15	.15	.08	.23	.18	.18
		PDI-830-3	≤2.0 & > 0[1] in. wc	.18	.18	.18	10	.24	.18	.19
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.08	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.67	.65	.66
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.66	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.05	.05	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.48	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.45	.45	.45	.45	.44	.44

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	10/19/20	10-20-20	10-21-20	10-22-20	10/23/20	10-24-20	10-25-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	80	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.58	.58	.59	.59	.58	.58	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.57	.57	.57	.57	.57	.57	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc	.58	.58	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.41	.42	.42	.42	.41	.40
		PDI-839-2	≤2.0 & > 0[1] in. wc	.52	.55	.55	.55	.54	.54	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc	.53	.52	.54	.54	.54	.54	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.16	off	.16	.16	.16	.18	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.87	off	.85	.85	.87	.89	.89
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	off	.51	.51	.51	.52	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	.11	off	off	OFF	off	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	.51	off	off	OFF	OFF	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	.51	off	off	OFF	Off	off
			Completion Time	0812	0735	0745	0803	0736	0725	0735
OC Operator Review and Page Count Complete (initials)				M DH	M DH	[illegible]	[illegible]	M DH	M DH	M DH
OCS Daily Review Sign off (initials)				MJW	MJW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 10-25-20 Time 0735 Reviewed by: [illegible] Date: 10/31/2020 Time: 2032
On-duty Supervisor

Comments 4.4.1.1 10/20/20 Flammable Gas detector Out of Servis [illegible]

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TRAINING ONLY NOT FOR IMPLEMENTATION

			Date:	10/19/20	10-20-20	10-21-20	10-22-20	10/23/20	10-24-20	10-25-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	Stby	.17	.17	.17	.17	.17	.16
		PDI-840-2	≤2.0 & > 0[1] in. wc	Stby	.52	.52	.52	.52	.53	.54
		PDI-840-3	≤2.0 & > 0[1] in. wc	Stby	.51	.51	.51	.51	.51	.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBy	stby	STBy	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	.53	STBy	stby	STBy	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	.52	STBy	stby	STBy	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.36	.36	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc	.42	.42	.41	.41	.41	.42	.41
		PDI-831-3	≤2.0 & > 0[1] in. wc	.38	.39	.39	.39	.39	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.66	.66	.65	.65	.66	.68	.68
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.60	.60	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	off	.11	.11	.11	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.55	off	.55	.56	.56	.60	.59
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	off	.49	.50	.50	.51	.51
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	.13	off	off	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	.52	off	off	OFF	Off	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	.51	off	off	OFF	Off	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	10/19/20	10-20-20	10-21-20	10-22-20	10/23/20	10-24-20	10-25-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.06	.06	.05	.08	.04	.06	.06
		PDI-829-2	≤2.0 & > 0[1] in. wc	.43	.43	.42	.45	.31	.51	.50
		PDI-829-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.52	.31	.50	.48
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.53	.53	.55	.55	.55	.56	.53
		PDI-833-3	≤2.0 & > 0[1] in. wc	.52	.52	.51	.51	.52	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.49	.49	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	Stby	.25	.22	.22	.24	.24	.25
		PDI-815-2	≤2.0 & > 0[1] in. wc	Stby	.53	.52	.52	.50	.50	.52
		PDI-815-4	≤2.0 & > 0[1] in. wc	Stby	.49	.48	.46	.45	.46	.46
		PDI-815-5	≤2.0 & > 0[1] in. wc	Stby	.50	.49	.49	.48	.49	.48
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.42	STBy	STBY	STBy	STBY	STBy	STBy
		PDI-816-2	≤2.0 & > 0[1] in. wc	.57	STBy	STBY	STBy	STBY	STBy	STBy
		PDI-816-4	≤2.0 & > 0[1] in. wc	.50	STBy	STBY	STBy	STBY	STBy	STBy
		PDI-816-5	≤2.0 & > 0[1] in. wc	.52	STBy	STBY	STBy	STBY	STBy	STBy

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/19/20	10-20-20	10-21-20	10-22-20	10/23/20	10-24-20	10-25-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	AJ	[illegible]	AJ	SO	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & >0[1] in. wc	STBY	.15	.15	.15	.16	.15	.15
		PDI-812-2	≤2.0 & >0[1] in. wc	STBY	.32	.35	.35	.32	.35	.35
		PDI-812-3	≤2.0 & >0[1] in. wc	STBY	.33	.35	.35	.29	.35	.36
		PDI-812-4	≤2.0 & >0[1] in. wc	STBY	.31	.31	.31	.31	.32	.33
		PDI-812-5	≤2.0 & >0[1] in. wc	STBY	.39	.39	.39	.38	.39	.38
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & >0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & >0[1] in. wc	.39	.39	.39	.39	.39	.40	.40
		PDI-865-3	≤2.0 & >0[1] in. wc	.34	.34	.35	.35	.33	.38	.39
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & >0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.33	.32	.33	.33	.31	.32	.32

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

			Date:	10/19/20	10-20-20	10-21-20	10-22-20	10/23/20	10-24-20	10-25-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	SO	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & > 0[1] in. wc	.12	.12	.15	.15	.12	.12	.15
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.50	.50
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-856-2	≤2.0 & > 0[1] in. wc	.62	.69	.62	.62	.61	.62	.64
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	Sat	Sat	Sat	Sat	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	SAT	SAT	SAT

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:	10/19/20	10-20-20	10-21-20	10-22-20	10/23/20	10-24-20	10-25-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	SO	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	SAT	SAT	SAT
			Completion time	0824	0720	0825	0822	0736	0750	0757
			OC Operator Review and Page Count Complete (initials)	M DH	M DH	[illegible]	[illegible]	M DH	M DH	M DH
			OCS Daily Review Sign off (initials)	MJW	MJW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Richard J. Martinez Date 10-25-20 Time 0757 Reviewed by: [signature] On-duty Supervisor Date: 10/31/20 Time: 2032

Comments: _____

FOR INFORMATION ONLY

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

FOR INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

M&TE Calibrated Data							
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	10-19-20	10/20/20	10/21/20	10/22/20	10/23/20	10/24/20	10/25/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials	RH	PJC	PJC	[illegible]	[illegible]	DH	DH
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	61.3	61.3	61.4	61.3	61.1	59.6	59.6
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	63.2	63.1	63.1	62.9	62.7	61.5	61.3
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	66.7	[illegible]	66.6	65.9	65.1	61.1	64.3
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	66.6	66.7	66.8	65.5	64.8	60.9	64.2
		Completion Time:	0836	~~0655~~	[illegible]	0804	0737	0905	0831
	OC Operator Review and Page Count Complete (initials)		M DH	M DH	[illegible]	[illegible]	DH M	DH M	DH M
	OCS Daily Review Sign off (initials)		MJW	MJW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] Date 10/25/20 Time 0831

Reviewed by: [signature] Date: 10/31/2020 Time: 2033
On-duty Supervisor

Comments: _____

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	10/26/20		10/27/20		10/28/20		10/29/20		10-30-2020		10/31/20			
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	AGS	[illegible]	AMJ	[illegible]	DH	JSC	DH	JSC	BC	[illegible]	AMJ	[illegible]		
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.01	-2.02	-2.00	-2.01	-2.02	-2.03	-2.00	-2.01	-1.99	-2.00	-2.00	-1.99		
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92		
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.97	-1.96	-1.96	-1.97	-1.99	-1.97	-1.96	-1.96	-1.96	-1.97	-1.96	-1.96		
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.01	-2.01	-2.00	-1.99	-2.01	-1.99	-2.00	-1.99	-1.99	-2.00	-2.00	-1.99		
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.20	-.18	-.20	-.2[illegible]	-0.20	-0.20	-0.20	-0.21	-.20	-0.21	-.20	-0.22		
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.25	-.24	-.25	-.25	-0.25	-0.26	-0.25	-0.27	-.26	-0.26	-.26	-0.27		
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.21	-.20	-.20	-.20	-0.18	-0.2[illegible]	-0.20	-0.20	-.20	-0.20	-.19	-0.20		
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.20	-.19	-.20	-.19	-0.20	-0.19	-0.20	-0.2[illegible]	-.20	-0.19	-.19	-0.20		
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.15	-.15	-.15	-.15	-0.15	-0.16	-0.15	-0.15	-.15	-0.15	-.15	-0.15		
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.09	-.09	-.09	-.09	-0.10	-0.10	-0.09	-0.09	-.09	-0.07	-.09	-0.09		
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.08	-.09	-.08	-.08	-0.09	-0.09	-0.09	-0.08	-.08	-0.08	-.08	-0.09		
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.120	-.105	-.087	-.103	-0.120	-0.120	-0.111	-0.104	-.116	-0.116	-.105	-0.119		

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR INFORMATION ONLY

Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.																			
			Date:	10/26/20		10/27/20		10/28/20		10/29/20		10-30-2020		10/31/20					
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.			
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
			Initials:	ATJ	[illegible]	ATJ	[illegible]	DH	JSL	DH	JSL	[illegible]	[illegible]	ATJ	[illegible]				
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**															
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	10/26/20		10/27/20		10/28/20		10/29/20		10-30-2020		10/31/20			
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	ARS	[illegible]	ARS	[illegible]	DH	SSL	DH	SSL	[illegible]	[illegible]	ARS	[illegible]		
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** Sat / Unsat (circle one)													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0730	1914	0739	1919	0735	1923	0734	1922	0719	1919	0725	1923		
		OCS Daily Review Sign off (initials)			BRO	ARS	[illegible] ARS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ARS	[illegible]		

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [illegible] Date 10/31/2020 Time 1925 Reviewed by: [illegible] Date: 10/31/2020 Time: 1929
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20	10/31/20	
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	SO	[illegible]	
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	001	005	005	005	005	005	
	CP-305-H (LED Reading)		001	005	005	005	008	005	
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	008	005	005	005	008	005	
		≥ -0.1; ≤+0.1	Sat / Unsat 00	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 008	Sat / Unsat 005	Sat / Unsat
		Completion Time:	0702	0710	0720	0705	0730	0735	

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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INFORMATION ONLY

			Date:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20	10/31/20	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	80	[illegible]	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.04	.04	.04	.04	
		PDI-894-2	≤2.0 & > 0[1] in. wc	.46	.48	.48	.48	.46	.48	
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.09	.10	.10	.10	.10	.10	
		PDI-895-2	≤2.0 & > 0[1] in. wc	[illegible]	.72	.71	.72	.71	.71	
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.30	.30	.31	.31	.31	
		PDI-817-4	≤2.0 & > 0[1] in. wc	.34	.35	.34	.35	.34	.34	
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	.32	.32	.32	.31	.31	
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.46	.45	.45	.45	.46	.45	
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.46	.47	.46	.46	.46	.46	
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.41	.41	
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20	10/31/20	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.13	.13	.13	
		PDI-822-2	≤2.0 & > 0 in. wc	.59	.59	.59	.59	.59	.59	
		PDI-822-4	≤2.0 & > 0 in. wc	.42	.42	.42	.42	.42	.42	
		PDI-822-5	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.34	.36	.41	.41	.44	.42	
		PDI-830-2	≤2.0 & > 0[1] in. wc	.17	.12	.16	.13	.13	.16	
		PDI-830-3	≤2.0 & > 0[1] in. wc	.19	.15	.18	.18	.19	.19	
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	
		PDI-836-2	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.66	.65	
		PDI-836-3	≤2.0 & > 0[1] in. wc	.66	.65	.65	.65	.66	.65	
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.44	.43	.43	.44	.45	

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

FOR INFORMATION ONLY

			Date:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20	10/31/20	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:					SO		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.59	.58	
		PDI-838-2	≤2.0 & > 0[1] in. wc	.58	.56	.55	.55	.56	.55	
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	.58	.58	.59	.59	
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.40	.42	.40	.41	.41	
		PDI-839-2	≤2.0 & > 0[1] in. wc	.53	.53	.53	.53	.53	.54	
		PDI-839-3	≤2.0 & > 0[1] in. wc	.52	.53	.52	.52	.53	.53	
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	.16	.16	.17	.16	
		PDI-810-2	≤2.0 & > 0[1] in. wc	.89	.86	.88	.87	.87	.85	
		PDI-810-3	≤2.0 & > 0[1] in. wc	.53	.52	.52	.52	.51	.50	
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	
			Completion Time	0720	0719	0905	0702	0832	0823	
OC Operator Review and Page Count Complete (initials)				TDS	AFD	MM	MM	BC	BC	
OCS Daily Review Sign off (initials)				~~RRD~~		MJW	MJW			

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [signature] Date: 10/31/20 Time: 0833 Reviewed by: [signature] On-duty Supervisor Date: 10/31/2018 Time:

Comments 10/26/20 4.4.1.1 Not in use. Waiting for Calibration

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20	10/31/20	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	80	[illegible]	
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	
		PDI-840-2	≤2.0 & > 0[1] in. wc	.53	.53	.52	.53	.52	.53	
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.35	.35	.35	.36	.35	.36	
		PDI-831-2	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.39	.39	.39	.40	
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.58	.58	.59	.59	.59	.60	
		PDI-832-2	≤2.0 & > 0[1] in. wc	.65	.66	.65	.67	.67	.66	
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.61	
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.12	.11	.11	.12	.12	
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	
		PDI-807-3	≤2.0 & > 0[1] in. wc	.51	.51	.50	.50	.51	.50	
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20	10/31/20	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	YL	YL	YL	SO	YL	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.13	.15	.06	.06	.05	.05	
		PDI-829-2	≤2.0 & > 0[1] in. wc	.51	.49	.44	.44	.42	.42	
		PDI-829-3	≤2.0 & > 0[1] in. wc	.50	.46	.42	.42	.41	.40	
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	
		PDI-833-2	≤2.0 & > 0[1] in. wc	.54	.54	.53	.53	.52	.53	
		PDI-833-3	≤2.0 & > 0[1] in. wc	.51	.51	.50	.50	.51	.51	
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.51	.52	.52	.52	.52	
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.24	.24	.23	.22	.22	.22	
		PDI-815-2	≤2.0 & > 0[1] in. wc	.52	.51	.52	.52	.51	.52	
		PDI-815-4	≤2.0 & > 0[1] in. wc	.45	.45	.46	.45	.45	.45	
		PDI-815-5	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.48	
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

FOR INFORMATION ONLY

			Date:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20	10/31/20	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:					SD		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & >0[1] in. wc	.15	.15	.15	.15	.16	.15	
		PDI-812-2	≤2.0 & >0[1] in. wc	.35	.35	.35	.35	.32	.33	
		PDI-812-3	≤2.0 & >0[1] in. wc	.36	.35	.32	.32	.30	.32	
		PDI-812-4	≤2.0 & >0[1] in. wc	.31	.32	.32	.31	.31	.31	
		PDI-812-5	≤2.0 & >0[1] in. wc	.38	.38	.39	.39	.38	.38	
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-813-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-813-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-813-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-813-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & >0[1] in. wc	.03	.02	.02	.02	.02	.02	
		PDI-865-2	≤2.0 & >0[1] in. wc	.39	.40	.40	.40	.40	.40	
		PDI-865-3	≤2.0 & >0[1] in. wc	.38	.35	.35	.35	.35	.35	
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & >0[1] in. wc	.05	.04	.04	.04	.04	.04	
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.30	.30	.31	.31	.31	

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20	10/31/20	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible] RH	SO	[illegible]	
SRs	**Description**	**Gaug[illegible]**	**[illegible]ceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & > 0[1] in. wc	.12	.12	.13	.13	.11	.12	
		PDI-857-2	≤2.0 & > 0[1] in. wc	.49	.48	.48	.47	.46	.48	
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.09	.09	.08	.08	.09	.09	
		PDI-856-2	≤2.0 & > 0[1] in. wc	.62	.60	.60	.60	.60	.60	
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	Sat	Sat	Sat	Sat	SAT	Sat	
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	~~SAT~~	SAT	Sat	
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	SAT	Sat	

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

FOR INFORMATION ONLY

			Date:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20	10/31/20	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible] [illegible]	[illegible] [illegible]	80	[illegible]	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	Sat	SAT	Sat	SAT	Sat	
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	Sat	Sat	Sat	SAT	Sat	
			Completion time	0740	1045	1500	0845	0832	0833	
			OC Operator Review and Page Count Complete (initials)	TAS	APD	M [illegible]	[illegible] M	BL	BL	
			OCS Daily Review Sign off (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [signature] Date 10/31/20 Time 0833 Reviewed by: [signature] On-duty Supervisor Date: 10/31/2020 Time: 2019

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

INFORMATION ONLY

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/05/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20	10/31/20	
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	SPW	SPW	PJC	AMS	
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	57.[illegible]	53.8	53.6	54.1	54.5	54.54	
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	58.7	55.0	53.1	52.5	52.1	52.3	
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	57.6	[illegible]	59.5	61.9	61.8	63.1	
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	64.7	67.[illegible]	[illegible]	57.3	58.9	58.3	
		Completion Time:	0827	0808	0759	0730	0705	0900	
	OC Operator Review and Page Count Complete (initials)		ARS	ARS	[illegible]	[illegible]	[illegible]	[illegible]	
	OCS Daily Review Sign off (initials)		BAO	[illegible]	MJW	[illegible]	[illegible]	[illegible]	

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] Date 10/31/20 Time 0900

Reviewed by: [signature] On-duty Supervisor Date: 10/31/2020 Time: 2019

Comments: _____

Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	SURVEILLANCE ROUNDS
Procedure no.:	TA55-STP-004 R21
Date of issue:	11.01.2020
Working copy issued to:	B. SCHLAUCH
Working copy issued by:	B. SCHLAUCH
	Certified Operations Center Operator (OCO)

Procedure is the current revision listed in Documentum: ☑ Yes ☐ Documentum Unavailable

Performance Type: ☑ Scheduled ☐ Partial ☐ Other *If partial or other list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
CEDILLO JOHN	BC	11.01.20
CHANCE BRYAN	BC	11.01.20
COCHRAN LORY	BC	11.01.20
HEINTSCHEL DUSTIN	BC	11.01.20
STILSON TYLER	BC	11.01.20
WELLS MATT	BC	11.01.20
WICKINGS SHERMAN	BC	11.01.20
JAUREGUE ANTONIO	BC	11.01.20
MIKEL MARCUS	BC	11.01.20

OC Reviews Complete and TSR Status Board Updated

OCO Signature 12/1/20 Date

FOR INFORMATION ONLY

Attachment B, Surveillance Training Checklist (continued)

(Page 2 of 2)

Training Checklist (continuation sheet)

Workers Performing Surveillance	Applicable Surveillance Training Current	
	Initials	Date
PRICE RICKY	BC	11.01.20
SEIBERT FRED	BC	11.01.20
DUNLAVY DEREK	BC	11.01.20
ASHLEY KEITH	BC	11.01.20
WASHBURN MICHAEL	BC	11.01.20
HENDRICKS JUSTIN	BC	11.01.20
TESCH CHUCK		
FORDHAM BRIAN	BC	11.01.20
HOHNER RORY	BC	11.01.20
IRISH MICHAEL	BC	11.01.20
LANGWORTHY TOM	BC	11.01.20
MARTINEZ JEROME	BC	11.01.20
MARTINEZ RICHARD	BC	11.01.20
O'NEILL STEVE	BC	11.01.20
SANCHEZ AUGUSTINE	BC	11.01.20
VIGIL MATTHEW	BC	11.01.20
CANTU HUBERT	BC	11.01.20
DELANEY JEFFREY	M	12/15/20
CONNELLY PATRICK	BC	11.01.20
BRAUER KEVIN	BC	11.01.20

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TRAINING INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:													11-01-2020	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:													BC	
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc													-2.00	-2.01
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]													-1.92	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]													-1.97	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]													-2.01	-1.99
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]													-.20	-0.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]													-.26	-0.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]													-.20	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]													-.20	-0.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc													-.15	-0.15
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc													-.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc													-.08	-0.08
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc													-.117	-0.100

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR INFORMATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.																		
			Date:														11.01.2020	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.		
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
			Initials:													BC		
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**														
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

FOR INFORMATION ONLY

Note				Date:														11.01.2020	
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.				Weekday:	Mon		Tue		Wed		Thu		Fri		Sat		Sun	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:													BG	
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** Sat / Unsat (circle one)													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	(Sat) Unsat	(Sat) Unsat
		Completion Time															0917	1919
		OCS Daily Review Sign off (initials)																

[1] Mode 2 acceptance criteria is < 0.00 in. wc.

[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.

[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: _____ Date 11/1/2020 Time 1919 Reviewed by: _____ Date: 11/1/2020 Time: 1920

On-duty Supervisor

Comments: _____

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:							11/1/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:							[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA							005
	CP-305-H (LED Reading)								005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value							005
		≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	~~Sat / Unsat~~ 005
		Completion Time:							0750

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

FOR INFORMATION ONLY

			Date:							11/1/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							YL
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc							.05
		PDI-894-2	≤2.0 & > 0[1] in. wc							.48
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc							.10
		PDI-895-2	≤2.0 & > 0[1] in. wc							.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc							.30
		PDI-817-2	≤2.0 & > 0[1] in. wc							.31
		PDI-817-4	≤2.0 & > 0[1] in. wc							.33
		PDI-817-5	≤2.0 & > 0[1] in. wc							.32
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc							.45
		PDI-819-3	≤2.0 & > 0[1] in. wc							.45
		PDI-819-4	≤2.0 & > 0[1] in. wc							.40
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc							STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc							STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc							STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc							STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc							STBY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

FOR INFORMATION ONLY

			Date:							14/1/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc							.12
		PDI-822-2	≤2.0 & > 0[1] in. wc							.59
		PDI-822-4	≤2.0 & > 0[1] in. wc							.43
		PDI-822-5	≤2.0 & > 0[1] in. wc							.58
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc							STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc							STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc							STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc							.44
		PDI-830-2	≤2.0 & > 0[1] in. wc							.18
		PDI-830-3	≤2.0 & > 0[1] in. wc							.20
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc							.07
		PDI-836-2	≤2.0 & > 0[1] in. wc							.65
		PDI-836-3	≤2.0 & > 0[1] in. wc							.66
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc							.04
		PDI-837-2	≤2.0 & > 0[1] in. wc							.49
		PDI-837-3	≤2.0 & > 0[1] in. wc							.45

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

FOR INFORMATION ONLY

			Date:							11/1/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							TL
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc							.59
		PDI-838-2	≤2.0 & > 0[1] in. wc							.55
		PDI-838-3	≤2.0 & > 0[1] in. wc							.58
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc							.41
		PDI-839-2	≤2.0 & > 0[1] in. wc							.54
		PDI-839-3	≤2.0 & > 0[1] in. wc							.55
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc							.16
		PDI-810-2	≤2.0 & > 0[1] in. wc							.83
		PDI-810-3	≤2.0 & > 0[1] in. wc							.50
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc							OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc							OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc							OFF
			Completion Time							0839
OC Operator Review and Page Count Complete (initials)										BL
OCS Daily Review Sign off (initials)										AFJ

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by T. Langwell Date 11/1/20 Time 0839 Reviewed by: _____ Date: 11/1/20 Time: 0927

On-duty Supervisor

Comments 4.4.1.1 Gas Meter awaiting calibration, meter is Out-of-Service.

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

FOR INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

			Date:							11/1/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:							AL
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc							.17
		PDI-840-2	≤2.0 & > 0[1] in. wc							.52
		PDI-840-3	≤2.0 & > 0[1] in. wc							.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc							STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc							STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc							.36
		PDI-831-2	≤2.0 & > 0[1] in. wc							.41
		PDI-831-3	≤2.0 & > 0[1] in. wc							.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc							.60
		PDI-832-2	≤2.0 & > 0[1] in. wc							.66
		PDI-832-3	≤2.0 & > 0[1] in. wc							.60
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc							.11
		PDI-807-2	≤2.0 & > 0[1] in. wc							.56
		PDI-807-3	≤2.0 & > 0[1] in. wc							.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc							OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc							OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc							OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:							11/1/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:							[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc							.05
		PDI-829-2	≤2.0 & > 0[1] in. wc							.43
		PDI-829-3	≤2.0 & > 0[1] in. wc							.41
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc							.08
		PDI-833-2	≤2.0 & > 0[1] in. wc							.54
		PDI-833-3	≤2.0 & > 0[1] in. wc							.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc							.06
		PDI-835-2	≤2.0 & > 0[1] in. wc							.56
		PDI-835-3	≤2.0 & > 0[1] in. wc							.52
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc							.22
		PDI-815-2	≤2.0 & > 0[1] in. wc							.52
		PDI-815-4	≤2.0 & > 0[1] in. wc							.45
		PDI-815-5	≤2.0 & > 0[1] in. wc							.48
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc							STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc							STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc							STBY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:							11/1/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							TL
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc							.15
		PDI-812-2	≤2.0 & > 0[1] in. wc							.33
		PDI-812-3	≤2.0 & > 0[1] in. wc							.30
		PDI-812-4	≤2.0 & > 0[1] in. wc							.32
		PDI-812-5	≤2.0 & > 0[1] in. wc							.39
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc							STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc							STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc							STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc							STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc							.02
		PDI-865-2	≤2.0 & > 0[1] in. wc							.40
		PDI-865-3	≤2.0 & > 0[1] in. wc							.35
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc							.05
		PDI-863-2	≤2.0 & >0[1] in. wc							.32

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:							11/1/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							JL
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc							.12
		PDI-857-2	≤ 2.0 & > 0[1] in. wc							.47
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc							.10
		PDI-856-2	≤ 2.0 & > 0[1] in. wc							-.60
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft[2] combustibles in designated exclusion area (within 15 feet of fans)**							Sat
4.3.2.2[2]	Room 201		0 lb/ft[3] combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less							Sat
4.3.2.2[2]	Room 204		0 lb/ft[3] combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less							Sat

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:							11/1/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							TL
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less							Sat
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less							Sat
			Completion time							0839
			OC Operator Review and Page Count Complete (initials)							BC
			OCS Daily Review Sign off (initials)							AM

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: T Daugherty Date 11/1/20 Time 0839 Reviewed by: _____ Date: 11/1/20 Time: 0925

On-duty Supervisor

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TYNO INFORMATION ONLY

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/1/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:							11/1/20
		Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
		Initial:							AM
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	(SAT) /UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F							54.5
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F							52.5
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F							64.2
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F							59.9
		Completion Time:							0845
		OC Operator Review and Page Count Complete (initials)							AM
		OCS Daily Review Sign off (initials)							AM

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5611-9 (or approved engineered equivalent).

Completed by: _____ Date AM 11/1/20 Time 0845

Reviewed by: _____ Date: 11/1/20 Time: 0846

On-duty Supervisor

Comments: _____

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	11/2/20		11/3/20		11.04.2020		11.05.2020		11/6/20		11/7/20		11/8/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	DH	JSC	DH	JSC	BC	[illegible]	BC	JSC	DH	JSC	DH	JSC	DH	TAB
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.00	-2.02	-2.00	-2.01	-2.02	-2.00	-2.01	-2.01	-2.00	-2.00	-2.00	-2.01	-1.99	-2.02
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.92	-1.92	-1.93	-1.92	-1.92	-1.90	-1.93	-1.92	-1.92	-1.92	-1.92	-1.92	-1.93	-1.92
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.99	-1.96	-1.96	-1.96	-1.97	-1.96	-1.96	-1.96	-1.97	-1.96	-1.96	-1.96	-1.96	-1.95
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.01	-1.99	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-1.99	-1.98
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.21	-0.22	-0.21	-0.21	-.21	-.22	-.21	-0.22	-0.21	-0.22	-0.22	-0.24	-0.21	-.22
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.26	-0.27	-0.26	-0.27	-.27	-.28	-.27	-0.27	-0.26	-0.28	-0.27	-0.27	-0.26	-2.9
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.20	-0.21	-0.20	-.021	-.19	[illegible]	-.20	-0.20	-0.20	-0.20	-0.20	-0.17	-0.20	-.22
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.20	-0.21	-0.20	-0.20	-.19	-.20	-.20	-0.20	-0.20	-0.20	-0.20	-0.19	-0.19	-.21
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-0.15	-0.15	-0.15	-.15	-.15	-.15	-0.1[illegible]	-0.[illegible]	[illegible].15	-0.15	-0.15	-0.15	-.16
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-0.09	-0.09	-0.09	-.09	-.09	-.09	-0.09	-0.0[illegible]	-0.09	-0.09	-0.10	-0.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.08	-0.08	-0.08	-0.09	-.08	-.09	-.08	-.08	-.08	-0.0[illegible]	-.08	-0.09	-0.09	-.08
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.117	-0.116	-0.115	-0.104	-.115	-.119	-.101 [illegible]	-0.115	-0.110	-0.120	-0.108	-0.122	-0.112	-.102

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

TRAINING ONLY NOT FOR INFORMATION

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.																	
			Date:	11/2/20		11/3/20		11-04-2020		11-05-20		11/6/20		11/7/20		11/8/20	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	DH	JSL	DH	JSL	BC	[illegible]	BC	JSL	DH	JSL	DH	JSL	DH	TAS
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

FOR INFORMATION ONLY

Note				Date:	11/2/20		11/3/20		11-04-20		11-05-20		11/6/20		11/7/20		11/8/20	
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	DH	JSC	DH	JSC	BC	C	BC	JSC	DH	JSC	DH	JSC	DH	TAS
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** Sat / Unsat (circle one)													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0731	1921	0729	1915	0721	1920	0727	1923	0731	1918	0729	1915	0730	1911
		OCS Daily Review Sign off (initials)						ATS	ATS		ATS							

[1] Mode 2 acceptance criteria is < 0.00 in. wc.

[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.

[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: TAS Date 11/8/20 Time 1911 Reviewed by: PRW Date: 11/9/20 Time: 0510

On-duty Supervisor

Comments: _____

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

FOR INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	11/2/20 11/3/20	11/3/20	11/4/20	11/5/20	11/6/20	11-7-20	11/8/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H)	Record Calculated Value	005	005	005	005	005	005	005
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat
		Completion Time:	0830	0737	0702	[illegible]	0843	0835	0720

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 2 of 4)

FOR INFORMATION ONLY

			Date:	~~11/2/20~~ ~~11/3/20~~	11/3/20	11/4/20	11/5/20	11/6/20	11-7-20	11/8/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.47	.49	.48	.48	.48	.45	.45
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.11	.10	.10	.10	.10	.10	.10
		PDI-895-2	≤2.0 & > 0[1] in. wc	.72	.70	.71	.71	.71	.71	.71
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
		PDI-817-2	≤2.0 & > 0[1] in. wc	.32	.31	.31	.31	.31	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc	.33	.32	.33	.33	.33	.35	.35
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.32	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	.45	.45	.46	.45	.45	.45	.45
		PDI-819-3	≤2.0 & > 0[1] in. wc	.43	.45	.45	.46	.44	.46	.46
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.41	.40
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11/2/20 11/21/20	11/3/20	11/4/20	11/5/20	11/06/20	11-7-20	11/8/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.12	.13	.13	.13	.13	.12	.12
		PDI-822-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.59	.58
		PDI-822-4	≤2.0 & > 0[1] in. wc	.43	.42	.43	.43	.43	.42	.42
		PDI-822-5	≤2.0 & > 0[1] in. wc	.58	.59	.59	.58	.58	.58	.58
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	stby	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	Stby	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.46	.40	.42	.42	.42	.37	.45
		PDI-830-2	≤2.0 & > 0[1] in. wc	.17	.15	.15	.15	.17	.14	.18
		PDI-830-3	≤2.0 & > 0[1] in. wc	.19	.19	.18	.18	.18	.15	.18
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.06	.06	.06	.06	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.65	.65	.66	.66	.65	.67	.67
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.05	.05	.04	.05	.05
		PDI-837-2	≤2.0 & > 0[1] in. wc	.48	.50	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.44	.43	.43	.43	.43	.45	.45

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

FOR INFORMATION ONLY

			Date:	~~11/2/20~~ 11/1/20	11/3/20	11/4/20	11/5/20	11/6/20	11-7-20	11/8/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.58	.59	.59	.59	.59	.59
		PDI-838-2	≤2.0 & > 0 in. wc	.56	.58	.57	.57	.57	.58	.57
		PDI-838-3	≤2.0 & > 0 in. wc	.58	.59	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.40	.41	.41	.41	.41	.41	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.53	.52	.53	.54	.53	.52	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc	.54	.52	.54	.53	.53	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.17	.16
		PDI-810-2	≤2.0 & > 0[1] in. wc	.83	.82	.83	.84	.83	.82	.82
		PDI-810-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	OFF	OFF	off	off	OFF	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	OFF	OFF	off	off	OFF	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	OFF	OFF	off	off	OFF	off
			Completion Time	0820	0735	0730	0730	0728	0750	0740
OC Operator Review and Page Count Complete (initials)				M DH	M DH	BV	BV	M DH	M DH	M DH
OCS Daily Review Sign off (initials)				[illegible]	[illegible]	ATS	ATS	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 ~~apply during both Mode 1~~ and Mode 2 as stated in LCO 3.1.3

Completed by: M-V- Date 11/8/20 Time 0740 Reviewed by: [illegible] Date: 11/9/20 Time: 0841

On-duty Supervisor

Comments 11/02/20 4.4.1.1 Flammable gas detector Out of Service [illegible]

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	11/2/20 ~~11/01/20~~	11/3/20	11/4/20	11/5/20	11/6/20	11-7-20	11/8/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	MW	JM	JM	JM	MS	RM	MV
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.16	.16	.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0[1] in. wc	.53	.52	.52	.53	.53	.54	.53
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	stby	STBY	STBY	STBY	stby	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	stby	STBY	STBY	STBY	stby	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	stby	STBY	STBY	STBY	stby	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.36	.36	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.41	.41	.41	.41	.41	.41
		PDI-831-3	≤2.0 & > 0[1] in. wc	~~.48~~ .39 11/03/20	.40	.40	.40	.39	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.60	.59	.59	.59	.59	.60	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.67	.66	.67	.66	.66	.68	.66
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.60	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.56	.57	.57	.57	.57	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	off	off	off	off	off	off
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	off	off	off	off	off	off
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	off	off	off	off	off	off

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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TOP INFORMATION ONLY

			Date:	11/2/20 ~~11/1/20~~	11/3/20	11/4/20	11/5/20	11/6/20	11-7-20	11/8/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	MW	JM	JM	JM	[illegible]	RM	MV
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.05	.05	.06	.06
		PDI-829-2	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.45	.48
		PDI-829-3	≤2.0 & > 0[1] in. wc	.40	.40	.41	.41	.41	.44	.48
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.09	.08	.08	.08	.09	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.53	.54	.54	~~.54~~ .54 11/5/20 JM	.54	.55	.54
		PDI-833-3	≤2.0 & > 0[1] in. wc	.50	.51	.51	.51	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.05	.05	.06	.05	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.52	.51	.51	.51	.52	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.23	.23	.23	.23	.23	.25	.25
		PDI-815-2	≤2.0 & > 0[1] in. wc	.51	.52	.52	.52	.52	.50	.48
		PDI-815-4	≤2.0 & > 0[1] in. wc	.44	.45	.46	.46	.46	.42	.40
		PDI-815-5	≤2.0 & > 0[1] in. wc	.48	.49	.48	.48	.48	.42	.41
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	stby	STBY	STBY	STBY	stby	Stby	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	stby	STBY	STBY	STBY	stby	Stby	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	stby	STBY	STBY	STBY	stby	Stby	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	stby	STBY	STBY	STBY	stby	Stby	STBY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

			Date:	11/2/20 ~~11/01/20~~	11/3/20 ~~11/30/20~~	11/4/20	11/5/20	11/06/20	11-7-20	11/8/20
			Weekday:	Mon.	Tue. 11/3/20	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	RU	MV
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.15	.16	.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.38	.35
		PDI-812-3	≤2.0 & > 0[1] in. wc	.30	.35	.35	.35	.35	.35	.35
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31	.31	.31	.32	.32	.32	.32
		PDI-812-5	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.38
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	Stby	StBy	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	Stby	StBy	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	Stby	StBy	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	Stby	StBy	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	Stby	StBy	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.03	.03	.02	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.40	.39	.39	.40	.39	.40	.40
		PDI-865-3	≤2.0 & > 0[1] in. wc	.34	.36	[illegible]	.35	.34	.36	.36
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.05	.05	.04	[illegible]	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.32	.31	.31	.31	.31	.32	.31

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:	~~11/2/20~~ ~~11/01/20~~	11/3/20	11/4/20	11/5/20	11/06/20	11-7-20	11/8/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MV
SRs	**Description**	**Gaug**	**cceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.11	.11	.12	.12
		PDI-857-2	≤2.0 & > 0[1] in. wc	.46	.46	.47	.47	.47	.45	~~.45~~ .45
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-856-2	≤2.0 & > 0[1] in. wc	.60	.61	.61	.60	.60	.61	.60
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	UNSAT	UNSAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	11/2/20 ~~11/01/20~~	11/3/20	11/4/20	11/5/20	11/06/20	11-7-20	11/8/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	SAT	Sat	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	SAT	Sat	SAT	SAT
			Completion time	0802	0735	0745	0740	0843	0830	0805
			OC Operator Review and Page Count Complete (initials)	M DH	M DH	[illegible]	[illegible]	M DH	M DH	M DH
			OCS Daily Review Sign off (initials)	[illegible]	[illegible]	ATM	ARJ	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: M-V- Date 11/8/20 Time 0805 Reviewed by: [signature] On-duty Supervisor Date: 11/8/20 Time: 0840

Comments: South Basement FE 829 Insulator material laying around, plastic cart with material and ladder all in no combustible area. Notified Ops.

South Basement FE-829 ladder and rollaround cart found items removed OPS notified

FOR INFORMATION ONLY

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	11/2/20	11/3/20	11/4/20	11/5/20	11/6/20	11/7/20	11/8/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	~~ZH~~	PJC	PJC	PJC	PJC	DH	DH
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	54.9	54.7	54.8	54.9	54.8	54.9	54.1
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	52.4	52.4	53.1	53.4	53.6	53.9	53.2
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	62.8	62.7	62.9	62.9	62.9	64.1	63.0
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	59.9	58.0	59.1	59.4	58.9	~~64~~ DH 58.9	59.2
		Completion Time:	0916	0705	0731	0720	0705	0840	0855
OC Operator Review and Page Count Complete (initials)			M DH	M DH	BC	BC	[illegible] M	M	M
OCS Daily Review Sign off (initials)			[illegible]	[illegible]	ARS	AR	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] Date 11/8/20 Time 0855

Reviewed by: [signature] Date: 11/8/20 Time: 0858

On-duty Supervisor

Comments:

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TRAINING ONLY NOT FOR IMPLEMENTATION

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	11.09.20		11.10.20		11/11/20		11/12/20		11.13.20		11.14.20		11.15.20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	BC	C	BC	C	DAO	JH	DH	TAS	BC	C	BC	C	BC	
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc	-1.98	-2.01	-2.01	-2.01	-1.99	-1.99	-2.00	-2.00	-2.01	-2.00	-1.99	-1.99	-2.02	-1.99
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.93	-1.92
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.96	-1.96	-1.96	-1.97	-1.96	-1.96	-1.97	-1.97	-1.96	-1.96	-1.97	-1.97	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.00	-2.01	-2.00	-2.01	-2.01	-2.00	-2.00	-2.00	-1.98	-2.00	-2.00	-2.00	-2.00	-2.00
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.21	-.20	-.19	-.20	-.20	-.20	-0.21	-.21	-.20	-.21	-.20	-.22	-.21	-0.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.23	-.26	-.26	-.25	-.26	-.25	-0.26	-.26	-.26	-.26	-.25	-.28	-.27	-0.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.20	-.22	-.21	-.19	-.19	-.20	-0.20	-.20	-.20	-.20	-.21	-.23	-.19	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.19	-.22	-.20	-.19	-.19	-.19	-0.20	-.20	-.19	-.18	-.22	-.22	-.19	-0.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.15	-.14	-.16	-.15	-.14	-.14	-0.15	-.15	-.15	-.15	-.15	-.15	-.15	-0.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.10	-.09	-.09	-.09	-.09	-.09	-0.09	-.09	-.09	-.09	-.10	-.08	-.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.09	-.09	-.09	-.09	-.09	-.09	-0.09	-.09	-.09	-.09	-.10	-.08	-.08	-0.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.104	-.103	-.116	-.106	-.117	-.116	-0.105	-.105	-.118	-.117	-.124	-.110	-.115	-0.115

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

TRAINING ONLY NOT FOR PERFORMANCE

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.				Date:	11-09-20		11-10-20		11/n/20		11/12/20		11-13-20		11-14-20		11-15-20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	BC	~	BC	~	DBO	MM	QW	TDS	BC	~	BC	~	BC	
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**														
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	11.09.20		11.10.20		11/11/20		11/12/20		11.13.20		11.14.20		11.15.20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0719	1919	0720	1918	0714	1920 0723 [illegible]	0724	1917	0720	1918	0724	1918	0721	1918
		OCS Daily Review Sign off (initials)			ARJ	[illegible]	ARJ	[illegible]	DAD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [signature] Date 11/15/2020 Time 1910 Reviewed by: [signature] On-duty Supervisor Date: 11/15/2020 Time: 1919

Comments:

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	11-9-20	11-10-20	11-11-20	11/12/20	11-13-20	11-14-20	11-15-20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	RH	RH	RH	[illegible]	DJ	RH	RH
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H)	Record Calculated Value	005	005	005	005	005	005	005
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0717	0718	0715	0710	0730	0727	0710

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11-9-20	11-10-20	11-11-20	11/12/20	11-13-20	11-14-20	11-15-20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	RH	RH	RH	MW	DJ	RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.45	.46	.45	.46	.46	.44	.42
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-895-2	≤2.0 & > 0[1] in. wc	.70	.70	.70	.70	.70	.70	.70
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.30
		PDI-817-4	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	.31	.30	.31	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	.48	.47	.47	.47	.46	.48	.47
		PDI-819-3	≤2.0 & > 0[1] in. wc	.45	.45	.45	.43	.45	.45	.45
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.40	.40	.39	.40	.40	.40
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11-9-20	11-10-20	11-11-20	11/12/20	11-13-20	11-14-20	11-15-20
			Weekday:	Mon.	Tue.	Wed	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	[illegible]	[illegible]	RH	RH
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.12	.12	.13	.13	.12	.12	.12
		PDI-822-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.58	.58	.58	.58
		PDI-822-4	≤2.0 & > 0[1] in. wc	.42	.41	.42	.42	.42	.41	.41
		PDI-822-5	≤2.0 & > 0[1] in. wc	.58	.58	.59	.58	.58	.58	.59
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.30	.51	.45	.42	.44	.35	.46
		PDI-830-2	≤2.0 & > 0[1] in. wc	.11	.20	.18	.18	.18	.15	.19
		PDI-830-3	≤2.0 & > 0[1] in. wc	.18	.21	.20	.18	.20	.20	.20
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.04	.06
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.66	.66	.66	.66	.65	.64
		PDI-836-3	≤2.0 & > 0[1] in. wc	.64	.65	.65	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.48	.48	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.42	.42	.42	.42	.42	.42	.42

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11-9-20	11-10-20	11-11-20	11-12-20	11-13-20	11-14-20	11-15-20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	[illegible]	[illegible]	RH	RH
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.58	.58	.57	.57	.57	.60	.60
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.58	.60
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.40	.41	.41	.41	.41	.41	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.16	.16	.16	.16	.15	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.90	.88	.85	.85	.85	.81	.86
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF
			Completion Time	0755	0740	0754	0731	0745	0749	0741
OC Operator Review and Page Count Complete (initials)				BC	BC	RH AAD	RH	BC	BC	BC
OCS Daily Review Sign off (initials)				AAS	AAS	[illegible]	MJW	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: RHohnar Date 11-15-20 Time 0741 Reviewed by: _____ Date: 11/15/2020 Time: 2046

On-duty Supervisor

Comments 4.4.1.1 Awaiting Calibration

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

			Date:	11-9-20	11-10-20	11-11-20	11/12/20	11-13-20	11-14-20	11-15-20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	RH	RH	RH	[illegible]	[illegible]	RH	RH
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.16	.16	.16	.16	.17	.16
		PDI-840-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.53	.52	.52	.51
		PDI-840-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.51	.50	.50
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.36	.36	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc	.41	.40	.40	.41	.41	.41	.41
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.38	.39	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.58	.57	.59	.59	.59	.58	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.65	.65	.66	[illegible]	.66	.65	.65
		PDI-832-3	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.61	.60	.60
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.12	.11	.11	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.59	.59	.58	.58	.59	.57	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	off	off	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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TOP INFORMATION ONLY

			Date:	11-9-20	11-10-20	11-11-20	11/12/20	11-13-20	11-14-20	11-15-20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	RH	RH	RH	mm	DS	RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.06	.05	.05	.05	.02	.05	.05
		PDI-829-2	≤2.0 & > 0[1] in. wc	.50	.45	.44	.42	.12	.45	.41
		PDI-829-3	≤2.0 & > 0[1] in. wc	.46	.41	.41	.41	.12	.40	.41
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.52	.52	.51	.52	.52	.54	.51
		PDI-833-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.51	.50	.50
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.49	.49	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	RH 11-10-20 .04.20	RH 11-10-20 .04.20	.22	.22	.22	.22	.22
		PDI-815-2	≤2.0 & > 0[1] in. wc	.45	.45	.50	.50	.52	.52	.52
		PDI-815-4	≤2.0 & > 0[1] in. wc	.40	.41	.47	.47	.45 DS 11-13-20	.47	.47
		PDI-815-5	≤2.0 & > 0[1] in. wc	.41	.45	.49	.48	.48	.49	.49
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	Stby	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	Stby	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	Stby	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	Stby	STBY	STBY	STBY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	11-9-20	11-10-20	11-11-20	11/12/20	11-13-20	11-14-20	11-15-20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	RH	RH	RH	[illegible]	AJ	RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & >0[1] in. wc	.15	.15	.15	.15	.15	.15	.15
		PDI-812-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.30	.31	.31	.31
		PDI-812-3	≤2.0 & >0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
		PDI-812-4	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-812-5	≤2.0 & >0[1] in. wc	.39	.40	.39	.37	.38	.39	.39
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	stby	STBY	STBY	STBY
		PDI-813-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	Stby	STBY	STBY	STBY
		PDI-813-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	Stby	STBY	STBY	STBY
		PDI-813-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	Stby	STBY	STBY	STBY
		PDI-813-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	Stby	STBY	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & >0[1] in. wc	.02	.02	.02	.00	.02	.02	.02
		PDI-865-2	≤2.0 & >0[1] in. wc	.39	.40	.40	.38	.39	.40	.40
		PDI-865-3	≤2.0 & >0[1] in. wc	.32	.35	.34	.32	.34	.34	.35
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & >0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.30	.30	.30	.30	.30	.30

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	11-9-20	11-10-20	11-11-20	11/12/20	11-13-20	11-14-20	11-15-20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	RH	RH	RH	mm	ns	RH	RH
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.11	.11
		PDI-857-2	≤2.0 & > 0[1] in. wc	.45	.45	.44	.44	.45	.45	.45
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-856-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	Sat	Sat	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	Sat	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	Sat	SAT	SAT

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

FOR INFORMATION ONLY

			Date:	11-9-20	11-10-20	11-11-20	11/12/20	11-13-20	11-14-20	11-15-20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	RH	RH	RH	[illegible]	[illegible]	RH	RH
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3 5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	Sat	Sat	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3 5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	Sat	Sat	SAT	SAT
			Completion time	0802	0824	0843	0808	0800	0809	0824
			OC Operator Review and Page Count Complete (initials)	BC	BC	[illegible]	DH	BC	BC	BC
			OCS Daily Review Sign off (initials)	AB	AB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [signature] Date 11-15-20 Time 0824 Reviewed by: [signature] On-duty Supervisor Date: 11/15/2020 Time: 2047

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NON-CONFORMANCE FORM

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	11/9/20	11/10/20	11/11/20	11/12/20	11/13/20	11/14/20	11/15/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:				PJC		RH	RH
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	54.1	53.3	53.9	53.7	54.0	54.1	54.0
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	52.3	50.3	50.9	52.1	53.9	54.0	52.6
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	62.0	58.9	62.7	64.1	64.7	45.0	63.8
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	64.7	62.4	63.4	59.0	60.2	63.0	57.7
		Completion Time:	0800	0710	1054	0729	0757	0958	0940
	OC Operator Review and Page Count Complete (initials)		DC	CBC				BC	BC
	OCS Daily Review Sign off (initials)		AM	AM					

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: P Hohner Date 11/15/20 Time 0944

Reviewed by: _____ Date: 11/15/2020 Time: 2049
Shift Duty Supervisor

Comments: _____

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	11-16-20		11-17-20		11/18/20		11/19/20		11-20-20		11-21-20		11-22-20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	JSC	DH	TAS	M	SPW	[illegible]	SPW	[illegible]	JSC	DH	JSC	[illegible]	JSC	M
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.[illegible]	-2.01	-1.99	-2.00	-1.99	-2.01	-2.00	-2.01	-2.01	-1.98	-2.00	-2.01	-2.00	-2.01
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-2.[illegible]	-1.93	-1.92	-1.93	-1.92	-1.92	-1.92	-1.92	-1.93	-1.92	-1.92	-1.92	-1.92	-1.93 ~~-1.93~~ M 11/22/20
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.97	-1.9[illegible]	-1.97	-1.96	-1.97	-1.97	-1.95	-1.96	-1.96	-1.97	-1.96	-1.96	-1.96	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.00	-2.00	-2.00	-2.00	-2.01	-1.98	-2.00	-1.99	-2.00	-2.00	-2.00	-2.00	-2.00	-1.95
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.20	-0.22	-.21	-.24	-.22	-0.22	-.24	-0.21	-0.21	-0.21	-0.20	-.21	-0.20	-.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.26	-0.27	-.25	-.28	-.26	-0.27	-.29	-0.24	-0.26	-0.26	-0.25	-.26	-0.26	-.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.20	-0.20	-.19	-.18	-.19	-0.19	-.18	-0.19	-0.20	-0.20	-0.20	-.20	-0.20	-.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.20	-0.20	-.19	-.18	-.19	-0.19	-.18	-0.19	-0.20	-0.19	-0.19	-.20	-0.19	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-0.15	-.15	-.15	-.15	-0.15	-.15	-0.15	-0.15	-0.15	-0.15	-.15	-0.15	-.16
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-0.09	-.09	-.15	-.09	-0.09	-0.10	-0.10	-0.09	-0.09	-0.09	-.09	-0.09	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.08	-0.08	-.08	-.14	-.09	-0.08	-0.08	-0.09	-0.08	-0.08	-0.08	-.08	-0.08	-.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.103	-0.101	-.115	-.137	-.103	-0.101	-0.101	-0.117	-0.114	-0.104	-0.114	-.114	-0.110	-.102

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

TRAINING ONLY
NOT FOR OPERATIONAL USE

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.				Date:	11-16-20		11-17-20		11/18/20		11/19/20		11-20-20		11-21-20		11-22-20 11-22-20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	JSC	DH	TAS	M	SPW		SPW		JSC	DH	JSC	MM	JSC	M
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**														
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

FOR INFORMATION ONLY

Note				Date:	11-16-20		11-17-20		11/18/20		11/19/20		11-20-20		11-21-20		11-22-20	
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	JSL	DH	FAB	M	SPW		SPW		JSL	DH	JSL	MM	JSL	M
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** Sat / Unsat (circle one)													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0727	1939 ABOC Bay Panel	0724	1927	0719	1917	0707	1916	0711	1920	0717	1935	0733	1933
		OCS Daily Review Sign off (initials)							MW		MW							

[1] Mode 2 acceptance criteria is < 0.00 in. wc.

[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.

[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: _____ Date 11/22/20 Time 1933 Reviewed by: _____ Date: 11/29/20 Time: 1045

On-duty Supervisor

Comments: 11/17/20 S. SIDE HWSD. RECIRCS OFF

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

TYPE INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	11/16/20	11/17/20	11/18/20	11/19/20	11-20-20	11/21/20	11/22/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	AS	[illegible]	[illegible]
	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005	005	003	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	006	003	005	003	005
		≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0700	0702	0704	0702	0703	0705	0701

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11/16/20	11/17/20	11/18/20	11/19/20	11-20-20	11/21/20	11/22/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.02	.02
		PDI-894-2	≤2.0 & > 0[1] in. wc	.45	.46	.46	.46	.46	.46	.46
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.03	.03
		PDI-895-2	≤2.0 & > 0[1] in. wc	.70	.71	.71	.69	.69	.70	.70
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.30	.31	.31	.31	.30	.31	.31
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc	.33	.34	.34	.34	.34	.34	.34
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.46	.46	.46	.46	.46	.46	.46
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.47	.47	.47	.47	.46	.47	.47
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

FOR INFORMATION ONLY

			Date:	11/16/20	11/17/20	11/18/20	11/19/20	11-20-20	11/21/20	11/22/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.13	.12	.12	.12	.12	.12	.12
		PDI-822-2	≤2.0 & > 0[1] in. wc	.58	.59	.59	.59	.59	.59	.59
		PDI-822-4	≤2.0 & > 0[1] in. wc	.42	.41	.41	.42	.41	.41	.41
		PDI-822-5	≤2.0 & > 0[1] in. wc	.58	.57	.57	.57	.57	.57	.57
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.45	.45	.44	.33	.43	11/18/20 .44	.41
		PDI-830-2	≤2.0 & > 0[1] in. wc	.18	.17	.18	.13	.15	.18	.18
		PDI-830-3	≤2.0 & > 0[1] in. wc	.20	.19	.19	.16	.19	.19	.19
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.66	.66	.66	.66	.66	.66
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.45	.43	.43	.43	.43	.43	.43

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

FOR INFORMATION ONLY

			Date:	11/16/20	11/17/20	11/18/20	11/19/20	11-20-20	11/21/20	11/22/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.55	per 11/21/20 ~~.59~~ .59	.59
		PDI-838-3	≤2.0 & > 0[1] in. wc	.60	.59	.59	.59	.59	.59	.60
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.42	.41	.41	.41	.41	.41	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.53	.52	.52	.52	.52	.52	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc	.5[illegible]	.52	.52	.52	.52	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-810-2	≤2.0 & > 0[1] in. wc	.85	.84	.84	.82	.82	.82	.84
		PDI-810-3	≤2.0 & > 0[1] in. wc	.50	.51	.51	.50	.50	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	off	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	off	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	off	off
			Completion Time	0846	0730	0727	[illegible]140	0735	0730	0732
OC Operator Review and Page Count Complete (initials)				SSL	TAS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OCS Daily Review Sign off (initials)				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: Jessica M. Date 11/22/20 Time 0732 Reviewed by: [illegible] Date: 11/22/20 Time: 0752
On-duty Supervisor

Comments 4.4.1.1 Meter is out of Service, awaiting recalibration / repair.

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	11/16/20	11/17/20	11/18/20	11/19/20	11-20-20	11/21/20	11/22/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:							
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0[1] in. wc	.54	.53	.54	.53	.53	.53	.53
		PDI-840-3	≤2.0 & > 0[1] in. wc	.52	.51	.51	.51	.51	.51	.51
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.35	.35	.35	.36	.35	.35
		PDI-831-2	≤2.0 & > 0[1] in. wc	.42	.41	.41	.41	.41	.41	.41
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.39	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.60	.59	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.67	.66	.66	.66	.66	.66	.66
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.61	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.12	.11	.11	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.55	.57	.56	.56	.56	.56	.56
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.49	.49	.50	.49	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	off	off
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	off	off
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	off	off

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

			Date:	11/16/20	11/17/20	11/18/20	11/19/20	11-20-20	11/21/20	11/22/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-829-2	≤2.0 & > 0[1] in. wc	.42	.42	.41	.41	.41	.42	.42
		PDI-829-3	≤2.0 & > 0[1] in. wc	.42	.40	.40	.40	.40	.41	.41
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.53	.55	.55
		PDI-833-3	≤2.0 & > 0[1] in. wc	.52	.51	.51	.51	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.21	.23	.23	.23	.23	.23	.23
		PDI-815-2	≤2.0 & > 0[1] in. wc	.50	.54	.54	.54	.54	.54	.54
		PDI-815-4	≤2.0 & > 0[1] in. wc	.47	.47	.47	.47	.47	.47	.47
		PDI-815-5	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

FOR INFORMATION ONLY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

FOR INFORMATION ONLY

			Date:	11/16/20	11/17/20	11/18/20	11/19/20	11-20-20	11/21/20	11/22/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	DS	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.15	.16	.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc	.34	.34	.34	.36	.35	.36	.36
		PDI-812-3	≤2.0 & > 0[1] in. wc	.30	.35	.35	.35	.35	.35	.35
		PDI-812-4	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-812-5	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.38
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.39	.40	.40
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.36	.36	.36	.35	.36	.36
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.31	.31

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:	11/16/20	11/17/20	11/18/20	11/19/20	11-20-20	11/21/20	11/22/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH/RH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0.1 in. wc	.11	.12	.12	.12	.12	.10	.11
		PDI-857-2	≤ 2.0 & > 0.1 in. wc	.45	.46	.46	.47	.47	.45	.45
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0.1 in. wc	.10	.10	.10	.10	.10	.03	.03
		PDI-856-2	≤ 2.0 & > 0.1 in. wc	.60	.60	.60	.60	.60	.60	.60
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	Sat	Sat	Sat	Sat	Sat	Sat	Sat
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	Sat	Sat	Sat
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	Sat	Sat	Sat	Sat	Sat	Sat

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

FOR INFORMATION ONLY

			Date:	11/16/20	11/17/20	11/18/20	11/19/20	11-20-20	11/21/20	11/22/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	SAT	Sat	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	SAT	Sat	SAT	SAT
			Completion time	0845	0901	0900	0720	0708	0750	0759
			OC Operator Review and Page Count Complete (initials)	TAS	TAS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			OCS Daily Review Sign off (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Jerome M. Date 11/22/20 Time 0759 Reviewed by: [signature] On-duty Supervisor Date 11/22/20 Time: 0754

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	08/05/21	Calibration Expiration Date:	08/13/21	Calibration Expiration Date:	08/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	08/05/21	Calibration Expiration Date:	08/13/21	Calibration Expiration Date:	08/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	11/16/20	11/17/20	11/18/20	11/19/20	11/20/20	11/21/20	11-22-20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	SO	SO	PJC	TAS	JSC
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	54.[illegible]	54.6	54.9	55.2	55.0	54.7	54.5
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	~~65.5~~ 11/16/20	51.9	52.0	52.5	52.7	52.7	52.7
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	~~65.7~~ 11/16/20	[illegible]	66.0	67.1	66.5	65.8	65.61
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	62.8	59.0	59.4	60.0	62.8	59.0	57.83
		Completion Time:	0910	0913	0821	0749	0757	0845	0839
OC Operator Review and Page Count Complete (initials)			JSC	TAS	[illegible]	[illegible]	JSC	JSC	JSC
OCS Daily Review Sign off (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: JOHN CEDILLO Date 11-22-20 Time 0839

Reviewed by: [signature] On-duty Supervisor Date: 11/22/20 Time: 0845

Comments:

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	11/23/20		11/24/20		11/25/20		11-26-20		11/27/20		11/28/20		11/29/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	SPW	[illegible]	<	BC	[illegible]	DH	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc	-2.01	-2.00	-2.00	-2.02	-2.00	-2.01	-2.00	-2.00	-2.01	-2.00	-2.00	-2.01	-2.03	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.94	-1.90	-1.90	-1.91	-1.94	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.99	-1.96	-1.9[illegible]	-1.97	-1.96	-1.97	-1.97	-1.97	-1.96	-1.96	-1.96	-1.96	-1.97	-1.98
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.01	-1.99	-2.00	-2.00	-1.99	-2.00	-2.00	-2.00	-1.99	-2.01	-1.99	-1.99	-2.00	-2.00
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.19	-.20	-.20	-.19	-.19	-.19	-.19	-.20	-0.20	-.19	-0.19	-.19	-0.19	-.19
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.24	-.26	-.26	-.25	-.25	-.25	-0.24	-.25	-0.25	-.25	-0.25	-.25	-0.25	-.24
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.17	-.21	-.20	-.19	-.20	[illegible]	[illegible]	-.20	-0.20	-.20	-0.20	-.21	-0.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.18	-.20	-.19	-.19	-.20	-.19	-0.1[illegible]	-.20	-0.20	-.20	-0.20	-.20	-0.19	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.15	-.15	-.16	-.15	-.15	-.15	-0.15	[illegible]	[illegible]	-.15	-0.15	-.15	-0.15	-.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.10	-.09	-.09	-.09	-.09	-.09	-0.09	-.08	-0.09	-.09	-0.09	-.09	-0.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.09	-.08	-.08	-.09	-.09	-.09	-0.08	-.08	-0.08	-.08	-0.08	-.08	-0.08	-.08
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.112	-.113	-.116	-.117	-.115	-.115	-0.102	-.112	-0.101	-.112	-0.102	-.100	-0.102	-.118

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.			Date:	11/23/20		11/24/20		11/25/20		11-26-20		11/27/20		11/28/20		11/29/20	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	SFW BAD	BC	[illegible]	BC	[illegible]	DH	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

FOR INFORMATION ONLY

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

SRs	Description	Area	Gauge	Acceptance Criteria	Date:	11/23/20		11/24/20		11/25/20		11-26-20		11/27/20		11/28/20		11/29/20	
					Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
					Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
					Initials:	SFW	BE	C	BE	W	DH	JSC	MM	W	BE	W	BE	W	AKS
					SURVEILLANCE RESULTS Sat / Unsat (circle one)														
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2		Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time				0707	1921	0720	1918	0727	1921	0712	1935	0721	1915	0711	1927	0713	1930
		OCS Daily Review Sign off (initials)				DDD	W	DDD	W	W	MM	MM	MM	W	BE	W	AKS	W	W

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [signature] Date 11/29/20 Time 1930 Reviewed by: [signature] Date: 12/1/20 Time: 0735
On-duty Supervisor

Comments: _____

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	11/29/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0705	0702	0745	0703	0702	0835	0810

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	11/29/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:			SO				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-894-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.02	.02	.03	.02	.02	.02	.02
		PDI-895-2	≤2.0 & > 0[1] in. wc	.70	.67	.67	.67	.67	.67	.67
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.31	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-817-4	≤2.0 & > 0[1] in. wc	.34	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	.46	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-819-3	≤2.0 & > 0[1] in. wc	.46	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-819-4	≤2.0 & > 0[1] in. wc	.40	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	.27	.28	.27	.27	.27	.27
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.31	.31	.31
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.31	.31	.31
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	.45	.44	.45	.45	.45	.43
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	.47	.48	.47	.47	.47	.47
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	.41	.41	.41	.41	.41	.41

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	11/29/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	BO	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.12	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-822-2	≤2.0 & > 0[1] in. wc	.59	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-822-4	≤2.0 & > 0[1] in. wc	.42	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-822-5	≤2.0 & > 0[1] in. wc	.38	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STB	.07	.07	.07	.07	.07	.07
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	.53	.55	.54	.54	.54	.54
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	.47	.48	.49	.49	.48	.48
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	.61	.61	.61	.61	.61	.61
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.43	.44	.44	.43	.41	.45	.43
		PDI-830-2	≤2.0 & > 0[1] in. wc	.18	.18	.18	.18	.16	.13	.13
		PDI-830-3	≤2.0 & > 0[1] in. wc	.19	.19	.19	.19	.18	.19	.19
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.66	.66	.66	.66	.65	.65
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.64	.65	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.48	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.42	.44	.43	.43	.43	.43

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	11/29/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:			BO				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.58	.58	.58	.58	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.59	.58	.57	.58	.58	.57	.57
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	.58	.59	.59	.59	.57
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.41	.42	.41	.41	.41	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.53	.53	.53	.53	.53	.53	.53
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.53	.53	.53	.53	.53	.53
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.16	off	.17	.17	.17	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.87	off	.87	.86	.86	.87	.87
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	off	.51	.51	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	.11	off	off	off	off	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	.51	off	off	off	off	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	.51	off	off	off	off	off
			Completion Time	0750	0740	0823	0740	0746	0706	0701
OC Operator Review and Page Count Complete (initials)				MC	MC	TAB	MC	MC	MC	MC
OCS Daily Review Sign off (initials)				QDO	QDO	MC				

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: Michael M. Tilden Date 11/29/20 Time 0701 Reviewed by: _____ Date: 11/29/2020 Time: 0759
On-duty Supervisor

Comments 11/23/20 4.4.1.1 not in use. Needs to be calibrated.

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	11/29/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			SO				
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	STBY	STBY	STBY	STBY	stby	stby
		PDI-840-2	≤2.0 & > 0[1] in. wc	.53	STBY	STBY	STBY	STBY	stby	stby
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	STBY	STBY	STBY	STBY	stby	stby
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	.47	.48	.47	.47	.48	.48
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	.58	.58	.58	.58	.58	.58
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	.51	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.35	.35	.36	.35	.35	.39	.39
		PDI-831-2	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.40	.36	.39
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.59	.60	.59	.59	.60	.60
		PDI-832-2	≤2.0 & > 0[1] in. wc	.65	.65	.66	.64	.66	.65	.65
		PDI-832-3	≤2.0 & > 0[1] in. wc	.61	.60	.60	.60	.60	.59	.59
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	off	.11	.11	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.57	off	.56	.56	.56	.55	.55
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	off	.50	.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	.06	OFF	off	off	off	off
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	.51	OFF	off	off	off	off
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	.50	OFF	off	off	off	off

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

TOP INFORMATION ONLY

			Date:	11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	11/29/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:			80				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-829-2	≤2.0 & > 0[1] in. wc	.44	.42	.41	.41	.42	.42	.42
		PDI-829-3	≤2.0 & > 0[1] in. wc	.42	.40	.41	.41	.41	.41	.42
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.51	.52	.53	.52	.52	.52	.52
		PDI-833-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.05	.06	.05	.05	.05	.05
		PDI-835-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.23	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-815-2	≤2.0 & > 0[1] in. wc	.51	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-815-4	≤2.0 & > 0[1] in. wc	.46	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-815-5	≤2.0 & > 0[1] in. wc	.49	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	.43	.41	.42	.42	.42	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	.51	.52	.51	.51	.51	.52
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	.50	.49	.50	.50	.49	.49
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	.51	.51	.51	.51	.50	.50

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	11/29/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-812-2	≤2.0 & > 0[1] in. wc	.35	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-812-3	≤2.0 & > 0[1] in. wc	.36	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-812-5	≤2.0 & > 0[1] in. wc	.28	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	.12	.11	.12	.12	.11	.11
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	.30	.30	.30	.30	.30	.30
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	.22	.25	.22	.22	.25	.25
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.31	.30	.30
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	.37	.38	.39	.39	.36	.36
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.39	.39	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.36	.34	.34
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.04	.05	.04	.04	.04	.04	.04
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.31	.31

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:	11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	11/29/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	SO	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0.1 in. wc	.10	.10	.09	.10	.10	.10	.10
		PDI-857-2	≤ 2.0 & > 0.1 in. wc	.45	.44	.43	.44	.43	.43	.43
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0.1 in. wc	.03	.03	.02	.03	.03	.03	.03
		PDI-856-2	≤ 2.0 & > 0.1 in. wc	.59	.59	.59	.59	.59	.59	.59
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

FOR INFORMATION ONLY

			Date:	11/23/20	11/24/20	11/25/20	11/26/20	11/27/20	11/28/20	11/29/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:			SO				
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0720	0717	0823	0800	0810	0810	0818
			OC Operator Review and Page Count Complete (initials)	MC	VC	TAS				
			OCS Daily Review Sign off (initials)	0830	0800					

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Michael M. Jaramillo Date: 11/29/20 Time: 0800 Reviewed by: _____ (On-duty Supervisor) Date: 11/29/2020 Time: 0801

Comments: 11/23/20 4.1.3.4 FE-828 motor has loose or broken impellor. Cover needs to be removed to inspect properly.

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/17/21	Calibration Expiration Date:	~~8/23/21~~ 8/13/21 11-23-20
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	11-23-20	~~11/24/20~~ 11/24/20 PJC	~~11/24/20~~ 11/24/20 PJC	11/26/20	11/27/20	11/28/20	11/29/20
		Weekday:	Mon.	Tue. 11/25/20	Wed. 11/25/20	Thu.	Fri.	Sat.	Sun.
		Initials:	RH	PJC	PJC	[illegible]	[illegible]	[illegible]	[illegible]
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	54.1	53.8	53.4	53.5	53.8	53.9	53.9
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	51.7	50.6	50.4	54.8	54.2	53.7	52.5
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	66.3	64.7	66.3	~~59.6~~ 68.3	66.8	66.8	66.0
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	60.3	64.7	60.4	59.6	62.4	63.8	59.3
		Completion Time:	0825	0736	0712	1001	0938	0932	0902
OC Operator Review and Page Count Complete (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OCS Daily Review Sign off (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: C. Cochran Date 11/29/20 Time 0907

Reviewed by: [signature] On-duty Supervisor Date: 11/29/2020 Time: 0910

Comments:

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	11/30/20													
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	DAD	TAS												
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.02	-2.02												
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.92	-1.92												
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.97	-1.9[illegible]												
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.00	-1.99												
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.18	-.18												
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.25	-.26												
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.20	-.20												
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.19	-.20												
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.15	-.14												
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.09	-.09												
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.08	-.08												
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.100	-.114												

Attachment A, Per Shift Surveillance Rounds [UET]

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FOR INFORMATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		Date:	11/30/25													
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	[illegible]	M												

SRs	Description	Readings	Acceptance Criteria	SURVEILLANCE RESULTS Sat / Unsat (circle one)													
4.1.1.6	200 area re-circulation fan/ plenum	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	(Sat) Unsat	(Sat) Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on [illegible]ack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	11/30/20													
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	M												
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0709	1931												
		OCS Daily Review Sign off (initials)			[illegible]	[illegible]												

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [illegible] Date 11/30/20 Time 1931 Reviewed by: [illegible] Date: 12/1/20 Time: 0736
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

TWO INFORMATION ONLY

		Date:	11/30/20						
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	WMT						
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.05						
	CP-305-H (LED Reading)		0.05						
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.05						
		≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat
		Completion Time:	0705						

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11/30/26						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	WM						
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.02						
		PDI-894-2	≤2.0 & > 0[1] in. wc	.45						
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.52						
		PDI-895-2	≤2.0 & > 0[1] in. wc	.67						
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	5thy						
		PDI-817-2	≤2.0 & > 0[1] in. wc	5thy						
		PDI-817-4	≤2.0 & > 0[1] in. wc	5thy						
		PDI-817-5	≤2.0 & > 0[1] in. wc	5thy						
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	5thy						
		PDI-819-3	≤2.0 & > 0[1] in. wc	5thy						
		PDI-819-4	≤2.0 & > 0[1] in. wc	5thy						
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.26						
		PDI-818-2	≤2.0 & > 0[1] in. wc	.31						
		PDI-818-4	≤2.0 & > 0[1] in. wc	.31						
		PDI-818-5	≤2.0 & > 0[1] in. wc	.30						
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.43						
		PDI-821-3	≤2.0 & > 0[1] in. wc	.49						
		PDI-821-4	≤2.0 & > 0[1] in. wc	.42						

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11/20/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]						
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	stby						
		PDI-822-2	≤2.0 & > 0[1] in. wc	stby						
		PDI-822-4	≤2.0 & > 0[1] in. wc	stby						
		PDI-822-5	≤2.0 & > 0[1] in. wc	stby						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.57						
		PDI-823-2	≤2.0 & > 0[1] in. wc	.55						
		PDI-823-4	≤2.0 & > 0[1] in. wc	.47						
		PDI-823—5	≤2.0 & > 0[1] in. wc	.61						
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.49						
		PDI-830-2	≤2.0 & > 0[1] in. wc	.18						
		PDI-830-3	≤2.0 & > 0[1] in. wc	.36						
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.06						
		PDI-836-2	≤2.0 & > 0[1] in. wc	.65						
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65						
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.05						
		PDI-837-2	≤2.0 & > 0[1] in. wc	.48						
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43						

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	11/30/20						
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	WM						
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & >0[1] in. wc	.59						
		PDI-838-2	≤2.0 & >0[1] in. wc	.47						
		PDI-838-3	≤2.0 & >0[1] in. wc	.58						
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & >0[1] in. wc	.41						
		PDI-839-2	≤2.0 & >0[1] in. wc	.53						
		PDI-839-3	≤2.0 & >0[1] in. wc	.53						
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & >0[1] in. wc	.17						
		PDI-810-2	≤2.0 & >0[1] in. wc	.88						
		PDI-810-3	≤2.0 & >0[1] in. wc	.52						
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & >0[1] in. wc	off						
		PDI -811 -2	≤2.0 & >0[1] in. wc	off						
		PDI -811 -3	≤2.0 & >0[1] in. wc	off						
			Completion Time	0725						
OC Operator Review and Page Count Complete (initials)				JSC						
OCS Daily Review Sign off (initials)				M						

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: Michael McIntosh Date 11/30/20 Time 0725 Reviewed by: _____ Date: 12/1/20 Time: 0736
On-duty Supervisor

Comments 4.1.1.1 Meter out of service Waiting calibration MM

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	11/30/20						
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	WM						
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0 [1] in. wc	.38						
		PDI-840-2	≤2.0 & > 0 [1] in. wc	.54						
		PDI-840-3	≤2.0 & > 0 [1] in. wc	.54						
		[1]PDI-841-1	≤2.0 & > 0 [1] in. wc	.58						
		PDI-841-2	≤2.0 & > 0 [1] in. wc	.58						
		PDI-841-3	≤2.0 & > 0 [1] in. wc	.53						
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0 [1] in. wc	WM 11/30/20 .36						
		PDI-831-2	≤2.0 & > 0 [1] in. wc	.42						
		PDI-831-3	≤2.0 & > 0 [1] in. wc	.39						
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0 [1] in. wc	.59						
		PDI-832-2	≤2.0 & > 0 [1] in. wc	.65						
		PDI-832-3	≤2.0 & > 0 [1] in. wc	.60						
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0 [1] in. wc	.11						
		PDI-807-2	≤2.0 & > 0 [1] in. wc	.55						
		PDI-807-3	≤2.0 & > 0 [1] in. wc	.50						
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0 [1] in. wc	off						
		PDI-809-2	≤2.0 & > 0 [1] in. wc	off						
		PDI-809-3	≤2.0 & > 0 [1] in. wc	off						

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:	11/30/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	wm						
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	**North Basement exhaust filter plenum (FF-828) ΔP**	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.06						
		PDI-829-2	≤2.0 & > 0[1] in. wc	.43						
		PDI-829-3	≤2.0 & > 0[1] in. wc	.12						
4.1.1.7[2]	**100 area re-circulation filter plenum (HVP-803) ΔP**	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.56						
		PDI-833-2	≤2.0 & > 0[1] in. wc	.53						
		PDI-833-3	≤2.0 & > 0[1] in. wc	.56						
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06						
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50						
		PDI-835-3	≤2.0 & > 0[1] in. wc	.49						
4.1.3.4[2]	**100 area glovebox exhaust filter plenum (FF852) ΔP**	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	Shy						
		PDI-815-2	≤2.0 & > 0[1] in. wc	Shy						
		PDI-815-4	≤2.0 & > 0[1] in. wc	Shy						
		PDI-815-5	≤2.0 & > 0[1] in. wc	Shy						
4.1.3.4[2]	**100 area glovebox exhaust filter plenum (FF853) ΔP**	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.41						
		PDI-816-2	≤2.0 & > 0[1] in. wc	.53						
		PDI-816-4	≤2.0 & > 0[1] in. wc	.49						
		PDI-816-5	≤2.0 & > 0[1] in. wc	.50						

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

FOR INFORMATION ONLY

			Date:	11/30/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	lmy						
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	Stby						
		PDI-812-2	≤2.0 & > 0[1] in. wc	Stby						
		PDI-812-3	≤2.0 & > 0[1] in. wc	Stby						
		PDI-812-4	≤2.0 & > 0[1] in. wc	Stby						
		PDI-812-5	≤2.0 & > 0[1] in. wc	Stby						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc							
		PDI-813-2	≤2.0 & > 0[1] in. wc	.30						
		PDI-813-3	≤2.0 & > 0[1] in. wc	.25						
		PDI-813-4	≤2.0 & > 0[1] in. wc	.30						
		PDI-813-5	≤2.0 & > 0[1] in. wc	.35						
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.40						
		PDI-865-2	≤2.0 & > 0[1] in. wc	.36						
		PDI-865-3	≤2.0 & > 0[1] in. wc	.32						
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.04						
		PDI-863-2	≤2.0 & >0[1] in. wc	.32						

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:	11/30/20						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]						
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.16						
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.43						
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.62						
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.59						
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	Sat						
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat						
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat						

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

FOR INFORMATION ONLY

			Date:	11/30/20					
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	MM						
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft³ combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SM						
4.3.2.2[2]	Room 207		0 lb/ft³ combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SM						
			Completion time	0832						
			OC Operator Review and Page Count Complete (initials)	MM						
			OCS Daily Review Sign off (initials)	[signature]						

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: Michael M. Ingram Date 11/30/20 Time 0832 Reviewed by: _____ Date: 12/1/20 Time: 0737

On-duty Supervisor

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

TYNO INFORMATION ONLY

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	103763	V-701 Thermistor File No.:	105353
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	103761	V-704 Thermistor File No.:	105352
	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	11-30-20						
		Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
		Initials	ZH						
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	53.4						
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	50.9						
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	66.1						
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	65.5						
		Completion Time:	0830						
		OC Operator Review and Page Count Complete (initials)	MCL						
		OCS Daily Review Sign off (initials)							

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: _____ Date 11/30/20 Time 0832

Reviewed by: _____ Date: 12/1/20 Time: 0737
On duty Supervisor

Comments: _____

Attachment D, Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 1 of 2)

NOTE: This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials	CDV Initials
*Note	Confinement DR-344	Southeast	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	(Sat) / Unsat.	1432	11/12/20	[signature]	MV
4.1.3.2[1]	Confinement Door DR-344	Southeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat) / Unsat.	1432	11/12/20	[signature]	MV
4.1.3.2[1]	Confinement Door DR-149	Northeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat) / Unsat.	1343	11/12/20	[signature]	MV
*Note	Confinement DR-102	Northwest	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	(Sat) / Unsat.	1408	11/12/20	[signature]	MV
4.1.3.2[1]	Confinement Door DR-102	Northwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat) / Unsat.	1408	11/12/20	[signature]	MV
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) goes to the fully closed position via the automatic door closure is ≥ 30 seconds. 6 Seconds	(Sat) / Unsat.	1405	11/12/20	[signature]	MV

* **Note:** Monthly Inspection of DR-344 and DR-102 in accordance with compensatory measure(s) from: *Request for Permanent Equivalency to OE Order 420.1B Chapter II, NFPA 80, NFPA 101 and IBC Requirements for LANL Building TA55-4 (PF-4); Installation of New Confinement Doors DR-102, DR-302, and DR-344 LANL-DOE-ORDER-420.1B-EQ-2013-001*

Attachment D, Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 2 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials	CDV Initials
4.1.3.2[1]	Confinement Door DR-302	Southwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	Sat / Unsat	1416	11/12/20	[signature]	MV
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) goes to the fully closed position via the automatic door closure is ≤ 30 seconds. 6 Seconds	Sat / Unsat	1415	11/12/20	[signature]	MV
4.1.3.2[1]	* Confinement Door DR-4	N Basement Personnel door DR-4	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure	Sat / Unsat	1351	11/12/20	[signature]	MV
4.1.3.2[1]	Confinement Door DR-90	South Basement Door (Tunnel)	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat / Unsat	1424 11/12/20	11/12/20	[signature]	MV
OC Operator Review and Page Count Complete							OH	N/A

[1] SR 4.1.3.2 applies during both Mode 1 and Mode 2.

Completed by [signature] Date 11/12/20 Time 1439 Reviewed by [signature] Date 11/12/20 Time 1444

Concurrent Dual Verifier M-L Date 11/12/20 Time 14:39

On-duty Supervisor Comments:

*Note: North Basement Roll-up Door is OOS

FOR INFORMATION ONLY

Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	Surveillance Rounds
Procedure no.:	TA55-STP-004 R21
Date of issue:	12/1/2020
Working copy issued to:	T. Stilson
Working copy issued by:	M. Wells
	Certified Operations Center Operator (OCO)

Procedure is the current revision listed in Documentum: ☑ Yes ☐ Documentum Unavailable

Performance Type: ☑ Scheduled ☐ Partial ☐ Other *If partial or other list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
J. Cedillo	M	12/1/20
B. Chance	M	↓
C. Cochran	M	↓
D. Heintschel	M	↓
T. Stilson	M	↓
M. Wells	M	↓
J. Delanoy	[illegible]	6/27/20
A. Jaurigue	M	12/1/20
M. Miller	M	12/1/20

OC Reviews Complete and TSR Status Board Updated

OCO Signature 12/31/2020 Date

FOR INFORMATION ONLY

Attachment B, Surveillance Training Checklist (continued)

(Page 2 of 2)

Training Checklist (continuation sheet)

Workers Performing Surveillance	Applicable Surveillance Training Current	
	Initials	Date
R. Price	M	12/1/20
F. Seybert	M	
D. Dunlavy	M	
K. Ashley	M	
M. Washburn	M	
J. Hendricks	[signature]	12/7/20
R. Hohner	M	12/1/20
M. Irish	M	
T. Langworthy	M	
J. Martinez	M	
R. Martinez	M	
S. O'Neill	M	
A. Sanchez	M	
M. Vigil	M	
A. Cantu	M	
P. Connelly	M	
K. Brauer	M	

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:			12/1/20		12/2/20		12/3/20		12/4/20		12-5-20		12-6-20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:			TAS	DH	C	[illegible]	[illegible]	BC	TAS	LL	[illegible]	[illegible]	TS	DH
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]			-2.01	-1.99	-1.99	-2.01	-2.01	-2.00	-1.99	-1.99	-2.02	-2.00	-2.00	-1.98
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]			-1.93	-1.91	-1.92	-1.93	-1.93	-1.93	-1.92	-1.91	-1.93	-1.91	-1.93	-1.91
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]			-1.96	-1.97	-1.97	-1.97	-1.96	-1.97	-1.97	-1.97	-1.97	-1.96	-1.96	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]			-2.00	-2.00	-2.00	-2.00	-2.01	-2.00	-1.99	-2.00	-2.00	-2.00	-2.00	-2.00
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]			-.19	-.21	-.19	-.18	-0.18	-.19	-.18	-0.19	-0.18	-.19	-.19	-.20
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]			-.25	-.26	-.25	-.24	-0.24	-.24	-.24	-0.24	-0.24	-.25	-.24	-.25
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]			-.20	-.20	-.20	-.20	-0.20	-.20	-.20	-0.20	-0.19	-.19	-.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]			-.20	-.20	-.20	-.19	-0.19	-.20	-.19	-0.20	-0.18	-.19	-.20	-.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc			-.15	-.15	-.15	-.15	-0.15	-.15	-.15	-0.15	-0.15	-.15	-.15	-.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc			-.09	-.09	-.10	-.09	-0.09	-.09	-.09	-0.09	-0.09	-.09	-.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc			-.09	-.08	-.09	-.08	-0.08	-.08	-.08	-0.08	-0.08	-.08	-.08	-.08
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc			-.101	-.116	-.101	-.118	-0.107	-.114	-.113	-.115	-0.103	-.115	-.116	-.101

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.			Date:			12/1/20		12/2/20		12/3/20		12/4/20		12-5-20		12-6-20	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:			TAS	DH	[illegible]	[illegible]	[illegible]	BC	TAS	[illegible]	[illegible]	M	TS	DH
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

FOR INFORMATION ONLY

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

FOR INFORMATION ONLY

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:			12/1/20		12/2/20		12/3/20		12/4/20		12-5-20		12-6-20	
				Weekday:	Mon		Tue		Wed		Thu		Fri		Sat		Sun	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:			TAS	DH	C	BK		BK	TAS	MH	JSL	M	TS	DH
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time					0128	1929	0728	1920	0116	1917	0721	1935	0726	1931	0720	1935
		OCS Daily Review Sign off (initials)																

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [redacted] Date 12/6/20 Time 1935 Reviewed by: _____ Date: 12/6/20 Time: 2328
On-duty Supervisor

Comments: _____

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:		12-1-20	12-2-20	12/03/20	12-4-20	12/05/20	12/6/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA		005	005	005	005	005	005
	CP-305-H (LED Reading)			005	005	005	005	005	005
	(DET-305-3) – (CP-305H)	Record Calculated Value		005	005	005	005	005	005
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat	Sat / Unsat
		Completion Time:		0708	0735	0714	0700	0709	0703

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:		12-1-20	12-2-20	12/03/20	12-4-20	12/05/20	12/6/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		RS	~~RL~~		RS		RL
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & >0[1] in. wc		.03	.01	.01	.02	.01	.02
		PDI-894-2	≤2.0 & >0[1] in. wc		.45	.47	.47	.47	.47	.46
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & >0[1] in. wc		.03	.03	.02	.03	.02	.02
		PDI-895-2	≤2.0 & >0[1] in. wc		.66	.68	.68	.68	.70	.70
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & >0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-817-2	≤2.0 & >0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-817-4	≤2.0 & >0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-817-5	≤2.0 & >0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & >0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-819-3	≤2.0 & >0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-819-4	≤2.0 & >0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & >0[1] in. wc		.27	.26	.26	.26	.26	.27
		PDI-818-2	≤2.0 & >0[1] in. wc		.31	.30	.31	.31	.31	.31
		PDI-818-4	≤2.0 & >0[1] in. wc		.31	.31	.31	.31	.31	.31
		PDI-818-5	≤2.0 & >0[1] in. wc		.31	.30	.31	.31	.3	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & >0[1] in. wc		.42	.43	.43	.43	.43	.43
		PDI-821-3	≤2.0 & >0[1] in. wc		.46	.47	.47	.47	.47	.46
		PDI-821-4	≤2.0 & >0[1] in. wc		.42	.41	.41	.41	.42	.42

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:		12-1-20	12-2-20	12/05/20	12-4-20	12/05/20	12/6/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc		.07	.08	.08	.08	.08	.08
		PDI-823-2	≤2.0 & > 0[1] in. wc		.55	.56	.55	.55	.55	.55
		PDI-823-4	≤2.0 & > 0[1] in. wc		.48	.49	.48	.48	.47	.48
		PDI-823—5	≤2.0 & > 0[1] in. wc		.61	.60	.61	.61	.61	.62
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc		.45	.50	.46	1.35	.50	.34
		PDI-830-2	≤2.0 & > 0[1] in. wc		.15	.19	.18	.40	.18	.12
		PDI-830-3	≤2.0 & > 0[1] in. wc		.19	.20	.20	.41	.19	.15
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc		.07	.06	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc		.65	.65	.65	.65	.65	.65
		PDI-836-3	≤2.0 & > 0[1] in. wc		.65	.65	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc		.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc		.49	.49	.49	.49	.49	.48
		PDI-837-3	≤2.0 & > 0[1] in. wc		.45	.45	.45	.45	.45	.45

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:		12-1-20	12-2-20	12/03/20	12-4-20	12/05/20	12/6/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		RS	RH	[illegible]	RS	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc		.58	.58	.59	.58	.59	.58
		PDI-838-2	≤2.0 & > 0[1] in. wc		.55	.58	[illegible] 12/3/20 ~~.53~~ .57	.55	.57	.55
		PDI-838-3	≤2.0 & > 0[1] in. wc		.59	.59	.58	.59	.58	.58
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc		.41	.40	.41	.41	.41	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc		.55	.52	.52	.52	.51	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc		.53	.51	.53	.52	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc		.17	.17	.17	.17	.17	.16
		PDI-810-2	≤2.0 & > 0[1] in. wc		.89	.89	.89	.89	.89	.86
		PDI-810-3	≤2.0 & > 0[1] in. wc		.52	.50	.52	.52	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc		off	OFF	off	off	off	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc		off	OFF	off	off	off	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc		off	OFF	off	off	off	OFF
			Completion Time		0800	0855	0745	0740	0725	0829
OC Operator Review and Page Count Complete (initials)					TAS	[illegible]	[illegible]	TAS	JSL	JSL
OCS Daily Review Sign off (initials)					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: Z. Changrath Date 12/6/20 Time 0830 Reviewed by: [signature] On-duty Supervisor Date: 12/7/2020 Time: 0831

Comments Flammable Gas Channel check is out of service

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:		12-1-20	12-2-20	12/03/20	12-4-20	12/05/20	12/6/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:		AS	RH	[illegible]	AS	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc		.48	.46	.48	.48	.48	.48
		PDI-841-2	≤2.0 & > 0[1] in. wc		.59	.59	.59	.59	.59	.59
		PDI-841-3	≤2.0 & > 0[1] in. wc		.52	.51	.52	.51	.52	.52
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc		.35	.36	.36	.36	.36	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc		.41	.40	.41	.41	.41	.42
		PDI-831-3	≤2.0 & > 0[1] in. wc		.39	.40	.39	.39	.39	.39
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc		.59	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc		.65	.63	.65	.65	.65	.65
		PDI-832-3	≤2.0 & > 0[1] in. wc		.60	.60	.60	.60	.60	.61
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc		.11	.11	.11	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc		.56	.56	.56	.56	.53	.56
		PDI-807-3	≤2.0 & > 0[1] in. wc		.50	.50	.50	.50	.48	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc		off	OFF	off	off	off	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc		off	OFF	off	off	off	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc		off	OFF	off	off	off	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:		12-1-20	12-2-20	12/03/20	12-4-20	12/04/20	12/6/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:		AS	RH	[illegible]	AS	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc		.05 ~~.10~~ 12-1-20 AS	.05	.06	.02	.05	.06
		PDI-829-2	≤2.0 & > 0[1] in. wc		.42	.41	.42	.18	.43	.48
		PDI-829-3	≤2.0 & > 0[1] in. wc		.40	.41	.40	.18	.40	.45
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc		.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc		.54	.51	.53	.52	.52	.53
		PDI-833-3	≤2.0 & > 0[1] in. wc		.51	.50	.50	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc		.06	.06	.06	.05	.06	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc		.49	.50	.49	.50	.49	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc		.49	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc		STBY	STBY	Stby	STBY	Stby	STBY
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc		.40	.40	.40	.40	.40	.42
		PDI-816-2	≤2.0 & > 0[1] in. wc		.55	.52	.52	.52	.52	.53
		PDI-816-4	≤2.0 & > 0[1] in. wc		.49	.50	.49	.49	.49	.50
		PDI-816-5	≤2.0 & > 0[1] in. wc		.51	.50	.50	.50	.50	.51

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:		12-2-20	12-2-20	12-3-20	12-4-20	12-5-20	12/6/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		AS	[illegible]	[illegible]	[illegible]	[illegible]	TL
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc		STBY	STBY	stby	STBY	stby	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc		STBY	STBY	stby	STBY	stby	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc		STBY	STBY	stby	STBY	stby	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc		STBY	STBY	stby	STBY	stby	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc		STBY	STBY	stby	STBY	stby	STBY
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc		.10	.10	.09	.10	.09	.09
		PDI-813-2	≤2.0 & > 0[1] in. wc		.29	.30	.25	.25	.25	.25
		PDI-813-3	≤2.0 & > 0[1] in. wc		.22	.21	.20	.20	.20	.20
		PDI-813-4	≤2.0 & > 0[1] in. wc		.30	.30	.27	.29	.27	.28
		PDI-813-5	≤2.0 & > 0[1] in. wc		.31	.32	.29	.30	.29	.30
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc		.02	.02	.01	.02	.01	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc		.40	.40	.40	.40	.40	.40
		PDI-865-3	≤2.0 & > 0[1] in. wc		.35	.35	.35	.35	.35	.35
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc		.05	.05	.05	.05	.05	.05
		PDI-863-2	≤2.0 & >0[1] in. wc		.31	.31	.32	.32	.32	.32

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:		12-1-20	12-2-20	12/03/20	12-4-20	12/05/20	12/6/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & >0[1] in. wc		.10	.10	.10	.10	.10	.10
		PDI-857-2	≤2.0 & >0[1] in. wc		.45	.42	.42	.42	.45	.45
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & >0[1] in. wc		.03	.02	.02	.03	.02	.02
		PDI-856-2	≤2.0 & >0[1] in. wc		.59	.60	.60	.60	.59	.59
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**		Sat	SAT	Sat	Sat	Sat	Sat
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less		Sat	SAT	Sat	Sat	Sat	Sat
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less		Sat	SAT	Sat	Sat	Sat	Sat

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

			Date:		12-1-20	12-2-20	12/03/20	12-4-20	12/05/20	12/6/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:		AJ	[illegible]	[illegible]	AJ	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less		Sat	SAT	Sat	Sat	Sat	Sat
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less		Sat	SAT	Sat	Sat	Sat	Sat
Completion time					0738	0838	0851	0720	0735	0830
OC Operator Review and Page Count Complete (initials)					TAS	[illegible]	[illegible]	TAS	JSC	JSC
OCS Daily Review Sign off (initials)					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [signature] Date 12/6/20 12/6/20 Time 0830 Reviewed by: [signature] On-duty Supervisor Date: 12/7/2020 Time: 0832

Comments: _____

FOR INFORMATION ONLY

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

M&TE Calibrated Data							
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	08/5/21	Calibration Expiration Date:	08/13/21	Calibration Expiration Date:	08/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	08/11/21	Calibration Expiration Date:	08/13/21	Calibration Expiration Date:	08/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:		12/1/20	12/2/20	12/3/20	12/4/20	12/5/20	12-6-20
		Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
		Initials:		PJC	PJC	PJC	PJC	PJC	TS
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed	Calibration dates have not elapsed	SAT/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42 I F		53.5	52.9	52.6	52.9	53.8	53.9
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42 I F		50.3	51.3	51.8	52.8	~~67~~ PJC 12/5/20 ~~67.5~~ 46	53.6
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50 I F		67.1	64.7	64.4	65.2	67.3	66.5
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50 I F		58.6	61.5	62.2	60.2	58.8	60.2
		Completion Time		0702	0723	0703	0712	0822	0832
		OC Operator Review and Page Count Complete (initials)		TAS			TS	AS	JSC
		OCS Daily Review Sign off (initials)							

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: Tyler Stilson Date 12-6-20 Time 0832

Reviewed by: _____ Date: 12/7/2020 Time: 0933
On-duty Supervisor

Comments: _____

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	12/7/20		12/8/20		12-9-20		12-10-20		12/11/2012/12/20		12/13/20		12/13/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]	TS	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.04	-1.99	-2.03	-1.99	-2.04	-2.01	-2.00	-2.02	-2.01	-2.01	-2.03	-2.00	-1.99	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.93	-1.92	-1.92	-1.92	-1.91	-1.93	-1.93	-1.91	-1.97	-1.92	-1.91	-1.92	-1.92	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.97	-1.97	-1.96	-1.96	-1.96	-1.97	-1.96	-1.96	-1.95	-1.99	-1.97	-1.97	-1.96	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-1.99	-2.00	-2.02	-1.99	-1.99	-1.99	-2.00	-2.00	-2.00	-2.03	-2.00	-2.00	-1.99	-2.00
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.18	-.19	-0.19	-.21	-0.19	-.19	-.19	-.19	-0.19	-.19	-0.19	-.19	-0.19	-.19
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.24	-.25	-0.24	-.26	-0.25	-.25	-.26	-.25	-0.26	-.24	-0.25	-.25	-0.26	-.25
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.19	-.20	-0.18	-.20	-0.20	-.19	-.21	-.20	-0.21	-.19	-0.20	-.19	-0.21	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.19	-.19	-0.18	-.21	-0.20	-.19	-.18	-.20	-0.21	-.19	-0.19	-.19	-0.20	-.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.15	-.15	-0.15	-.15	-0.15	-.15	-.15	-.15	-0.15	-.16	-0.17	-.15	-0.15	-.15
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.09	-.09	-0.08	-.09	-0.09	-.09	-.09	-.09	-0.09	-.10	-0.09	-.09	-0.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.07	-.09	-0.08	-.08	-0.09	-.09	-.09	-.08	-0.08	-.09	-0.08	-.08	-0.08	-.08
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.111	-.103	-0.112	-.100	-0.102	-.113	-.102	-.116	-0.115	-.121	-0.115	-.099	-0.117	-.113

Attachment A, Per Shift Surveillance Rounds [UET]

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FOR INFORMATION ONLY

Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.				**Date:**	12/7/20		12/8/20		12-9-20		12-10-20		12/11/20		12/12/20		12/13/20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]	TS	M	[illegible]	BC	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**														
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	12/7/20		12/8/20		12-9-20		12-10-20		12/11/20		12/12/20		12/13/20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	BC	[illegible]	BC	JSL	[illegible]	TS	M	[illegible]	BC	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0725	1918	0717	1916	0730	1939	0726	1924	0727	1914	0707	1918	0720	1918
		OCS Daily Review Sign off (initials)			[illegible]	[illegible]	[illegible]	AD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AD	[illegible]	[illegible]

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [illegible] Date 12/13/20 Time 1918 Reviewed by: [illegible] On-duty Supervisor Date: 12/13/2020 Time: 1921

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	12-7-20	12/8/20	12/9/20	12/10/20	12/11/20	12/12/20	12/13/2020
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	80	80	80	[illegible]	MV	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0744	0733	0746	0734	0702	0710	0905

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

				Date:	12-7-20	12/8/20	12/9/20	12/10/20	12/11/20	12/12/20	12/13/2020
				Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
				Initials:	RH	SO	SO	SO	JM	MV	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)							
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.02	.01	.01	.01	.02	.02	.02
		PDI-894-2	≤2.0 & > 0[1] in. wc	.43	.44	.44	.44	.44	.44	.45
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.03	.03	.03	.03	.03	.03	.03
		PDI-895-2	≤2.0 & > 0[1] in. wc	.70	.70	.70	.70	.70	.70	.70
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.30	.30	.30
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.31	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.34	.34	.32
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.45	.45	.46
		PDI-819-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.46	.46	.44
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.40	.40	.39
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.26	.27	.27	.27	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	.30	.31	.32	.32	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.42	.42	.42	.42	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	.48	.48	.46	.46	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	STBY	STBY	STBY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

				Date:	12-7-20	12/8/20	12/9/20	12/10/20	12/11/20	12/12/20	12/13/2020
				Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
				Initials:	RH	SO	SO	SO	[illegible]	MV	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)							
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-823-2	≤2.0 & > 0[1] in. wc	.58	.56	.56	.56	.56	.58	.57
		PDI-823-4	≤2.0 & > 0[1] in. wc	.49	.48	.48	.48	.49	.49	.48
		PDI-823—5	≤2.0 & > 0[1] in. wc	.60	.62	.61	.61	.61	.61	.61
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.35	.18	.33	.31	.36	.35	.36
		PDI-830-2	≤2.0 & > 0[1] in. wc	.11	.02	.11	.11	.11	.11	.11
		PDI-830-3	≤2.0 & > 0[1] in. wc	.15	.04	.12	.12	.14	.15	.15
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.06	.06	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.65	.66	.66	.66	.66	.66	.65
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.66	.66	.66	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.48	.49	.49	.48
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.45	.45	.45	.43	.43	.45

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	12-7-20	12/8/20	12/9/20	12/10/20	12/11/20	12/12/20	12/13/2020
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	~~JH~~	SO	SO	SO		MV	
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.57	.56	.60	.56	.59	.57	.56
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.58	.58	.58	.58	.58	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.40	.42	.42	.42	.42	.42	.42
		PDI-839-2	≤2.0 & > 0[1] in. wc	.51	.52	.62	.52	.52	.52	.51
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.52	.52	.52	.52	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.16	.18	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.79	.86	.86	.87	.87	.87	.89
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	off	off	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	off	off	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	off	off	OFF
			Completion Time	0812	0829	0823	0827	0740	0800	0917
OC Operator Review and Page Count Complete (initials)						JSL	TS			
OCS Daily Review Sign off (initials)										

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: _____ Date 12/13/2020 Time 0936 Reviewed by: _____ Date: 12/13/2020 Time: 0936

On-duty Supervisor

Comments 4.4.1.1 Awaiting calibration

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	12-7-20	12/8/20	12/9/20	12/10/20	12/11/20	12/12/20	12/13/2020
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	SO	SC	SO	[illegible]	MV	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.47	.48	.48
		PDI-841-2	≤2.0 & > 0[1] in. wc	.60	.58	.59	.58	.58	.58	.59
		PDI-841-3	≤2.0 & > 0[1] in. wc	.52	.51	.52	.52	.52	.52	.52
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.36	.36	.35	.35	.35	.36	.35
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.41	.41	.41	.41	.41	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.39	.39	.39	.40	.40	.39
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.65	.66	.66	.66	.65	.65	.65
		PDI-832-3	≤2.0 & > 0[1] in. wc	.60	.61	.61	.61	.60	.60	.60
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.51	.51	.51	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	off	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	off	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	off	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:	12-7-20	12/8/20	12/9/20	12/10/20	12/11/20	12/12/20	12/13/2020
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	RH	SO	SO	SO		MV	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.05	.08	.06	.05	.06	.06	.06
		PDI-829-2	≤2.0 & > 0[1] in. wc	.49	.58	.49	.48	.49	.49	.49
		PDI-829-3	≤2.0 & > 0[1] in. wc	.46	.54	.46	.46	.47	.47	.48
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.51	.53	.54	.53	.53	.53	.52
		PDI-833-3	≤2.0 & > 0[1] in. wc	.50	.51	.50	.51	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.14	.06	.06	.06	.06	.06	.05
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.49	.50	.50	.49	.49	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.49
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	.41	.41	.41	.41	.41	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc	.52	.51	.52	.52	.52	.52	.53
		PDI-816-4	≤2.0 & > 0[1] in. wc	.50	.49	.49	.49	.49	.49	.48
		PDI-816-5	≤2.0 & > 0[1] in. wc	.50	.51	.51	.51	.51	.51	.50

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 5)

FOR INFORMATION ONLY

			Date:	12-7-20	12/8/20	12/9/20	12/10/20	12/11/20	12/12/20	12/13/2020
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	80	80	80	[illegible]	MV	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.09	.08	.08	.08	.08	.08	.08
		PDI-813-2	≤2.0 & > 0[1] in. wc	.27	.25	.25	.25	.25	.25	.25
		PDI-813-3	≤2.0 & > 0[1] in. wc	.20	.21	.21	.21	.21	.21	.20
		PDI-813-4	≤2.0 & > 0[1] in. wc	.30	.28	.28	.28	.29	.29	.28
		PDI-813-5	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.29
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.40	.39	.39	.39	.39	.39	.39
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	.35
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.31	.31

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:	12-7-20	12/8/20	12/9/20	12/10/20	12/11/20	12/12/20	12/13/2020
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	SO	SO	SO	[illegible]	MV	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.10	.10	.09	.09	.09	.09	.09
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.42	.42	.42	.42	.44	.42	.43
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.60	.59	.59	.59	.59	.59	.60
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

FOR INFORMATION ONLY

			Date:	12-7-20	12/8/20	12/9/20	12/10/20	12/11/20	12/12/20	12/13/2020
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	RH	SO	SO	SO	[illegible]	MV	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3 5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3 5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0831	0829	0823	0803	0730	0740	0930
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	TS	M	[illegible]	[illegible]
			OCS Daily Review Sign off (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [illegible] Date 12/13/2020 Time 0930 Reviewed by: [illegible] (On-duty Supervisor) Date: 12/13/2020 Time: 0935

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	08/05/21	Calibration Expiration Date:	08/13/21	Calibration Expiration Date:	08/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	08/11/21	Calibration Expiration Date:	08/13/21	Calibration Expiration Date:	08/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	12/07/20	12/8/20	12/9/20	12/10/20	12/11/20	12/12/20	12/13/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	MM	PJC	PJC	PJC	PJC	C	C
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	53.8	54.0	54.2	54.2	53.6	51.5	52.8
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	52.3	51.9	51.3	50.8	50.7	51.6	52.0
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	68.3	68.3	67.8	68.1	66.9	64.8	67.5
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	59.0	58.7	58.7	61.5	64.1	65.9	67.4
		Completion Time:	0652	0710	0701	0708	0726	0919	1007
		OC Operator Review and Page Count Complete (initials)	C	BC	JS	TS	C	C	C
		OCS Daily Review Sign off (initials)							

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: C. COCHRAN Date 12/13/20 Time 1007

Reviewed by: On-duty Supervisor Date: 12/13/2020 Time: 1016

Comments:

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	12/14/20		12/15/20		12/16/20		12/17/20		12/18/20		12/19/20		12/20/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	DH	TS	DH	[illegible]	[illegible]	BC	C	BC	M	[illegible]	M	[illegible]	DH	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.01	-1.99	-1.99	-2.02	-2.00	2.00	-2.0	-2.00	-1.99	-2.02	-2.01	-2.01	-2.01	-1.98
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.91	-1.93	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.93	-1.92	-1.93	-1.92
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.96	-1.97	-1.96	-1.97	-1.97	-1.97	-1.97	-1.97	-1.97	-1.97	-1.95	-1.97	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.00	-2.00	-2.00	-2.00	-2.00	2.00	-2.00	-2.00	-2.01	-2.00	-2.00	-2.00	-2.00	-2.00
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.19	-.18	-0.19	-0.18	-0.19	-.19	-.19	-.19	-.19	-0.18	-.19	-0.19	-0.19	-0.19
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.25	-.24	-0.24	-0.24	-0.24	-.25	-.25	-.25	-.26	-0.25	-.25	-0.25	-0.24	-0.25
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.20	-.19	-0.20	-0.18	-0.20	-.20	-.20	-.19	-.21	-0.21	-.20	-0.20	-0.19	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.19	-.19	-0.20	-0.18	-0.20	-.20	-.20	-.19	-.20	-0.20	-.20	-0.19	-0.19	-0.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.15	-.15	-0.15	-0.15	-0.15	-.15	-.15	-.15	-.15	-0.15	-.15	-0.15	-0.15	-0.15
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.09	-.09	-0.09	-0.09	-0.09	-.09	-.09	-.09	-.09	-0.09	-.09	-0.09	-0.09	-0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.08	-.08	-0.08	-0.08	-0.08	-.08	-.08	-.08	-.08	-0.08	-.08	-0.09	-0.08	-0.08
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.112	-.114	-.113	-0.115	-0.114	-.114	-.102	-.115	-.103	-0.114	-.105	-0.098	-0.117	-0.113

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

FOR INFORMATION ONLY

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.				Date:	12/14/20		12/15/20		12/16/20		12/17/20		12/18/20		12/19/20		12/20/20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	DH	TS	DH	JSC		BC		BC	M	JSC	M	JSC	DH	JSC
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**														
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	12/14/20		12/15/20		12/16/20		12/17/20		12/18/20		12/19/20		12/20/20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	DH	TJ	DH	JSL	[illegible]	BC	[illegible]	BC	M	JSL	M	JSL	DH	JSL
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** Sat / Unsat (circle one)													
4.1.1.4	Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0731	1927	0733	1914	0727	1919	0723	1912	0733	1912	0732	1911	0724	1912
		OCS Daily Review Sign off (initials)			[illegible]	MJW	MJW	[illegible]	[illegible]	ARS	[illegible]	ARS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: JSL Date 12-20-20 Time 1912 Reviewed by: [signature] Date: 12/20/20 Time: 1924
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	12-14-20	12/15/20	12-16-20	12/17/20	12/18/20	12/19/20	12/20/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:						ZH	ZH
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005	005	005	005	005	005	005
	CP-305-H (LED Reading)		005	005	005	005	005	005	005
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005	005	005	005
		≥ -0.1; ≤+0.1	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005	Sat / Unsat 005
		Completion Time:	0727	0702	0700	0705	0722	0726	0743

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	12-14-20	12/15/20	12-16-20	12/17/20	12/18/20	12/19/20	12/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & >0[1] in. wc	.01	.02	.02	.02	.02	.02	.02
		PDI-894-2	≤2.0 & >0[1] in. wc	.45	.46	.48	.46	.47	.45	.46
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & >0[1] in. wc	.03	.03	.03	.03	.03	.04	.03
		PDI-895-2	≤2.0 & >0[1] in. wc	.70	.62	.68	.67	.68	.68	.68
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & >0[1] in. wc	.30	.30	STBY	STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & >0[1] in. wc	.30	.31	STBY	STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & >0[1] in. wc	.33	.34	STBY	STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & >0[1] in. wc	.31	.31	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & >0[1] in. wc	.46	.46	STBY	STBY	STBY	STBY	STBY
		PDI-81 9-3	≤2.0 & >0[1] in. wc	.45	.46	STBY	STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & >0[1] in. wc	.40	.40	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & >0[1] in. wc	STBY	STBY	.26	.26	.27	.26	.26
		PDI-818-2	≤2.0 & >0[1] in. wc	STBY	STBY	.32	.32	.32	.30	.31
		PDI-818-4	≤2.0 & >0[1] in. wc	STBY	STBY	.31	.31	.31	.30	.31
		PDI-818-5	≤2.0 & >0[1] in. wc	STBY	STBY	.31	.31	.31	.30	.30
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & >0[1] in. wc	STBY	STBY	.42	.45	.44	.42	.42
		PDI-821-3	≤2.0 & >0[1] in. wc	STBY	STBY	.48	.46	.46	.47	.48
		PDI-821-4	≤2.0 & >0[1] in. wc	STBY	STBY	.41	.41	.41	.41	.41

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

FOR INFORMATION ONLY

			Date:	12-14-20	12/15/20	12-16-20	12/17/20	12/18/20	12/19/20	12/20/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	RLL	ZH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	.12	.12	.12	.12	.12	.12
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	.59	.59	.59	.58	.59	.59
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	.42	.42	.42	.42	.41	.42
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	.58	.58	.58	.58	.58	.58
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.08	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	.59	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	.61	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.14	.37	.36	.34	.32	.35	.36
		PDI-830-2	≤2.0 & > 0[1] in. wc	.05	.12	.12	.12	.12	.11	.11
		PDI-830-3	≤2.0 & > 0[1] in. wc	.09	.17	.15	.16	.16	.17	.17
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.06	.07	.07	.07	.07	.06	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.66	.66	.67	.66	.66	.65	.64
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.66	.67	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.45	.44	.43	.43	.44	.43	.44

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	12-14-20	12/15/20	12-16-20	12/17/20	~~12/18/20~~ TH 12/18/20	~~12/19/20~~ RH 12/19/20	12/20/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	@		@	TH		RH	RH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.58
		PDI-838-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.56	.57	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.40	.41	.41	.41	.40	.40	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.51	.51	.52	.51	.52	.51	.51
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.52	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	OFF	.17	.17	.18	.17	.16
		PDI-810-2	≤2.0 & > 0[1] in. wc	.89	OFF	.89	.88	.90	.89	.87
		PDI-810-3	≤2.0 & > 0[1] in. wc	.51	OFF	.51	.51	.52	.51	.50
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	.12	OFF	OFF	OFF	OFF	~~OFF~~
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	.56	OFF	OFF	OFF	OFF	~~OFF~~
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	.54	OFF	OFF	OFF	OFF	~~OFF~~
			Completion Time	0919	0720	0800	0730	0807	~~0750~~	0829
OC Operator Review and Page Count Complete (initials)				DH	TS	C	BC	MDH	MDH	MDH
OCS Daily Review Sign off (initials)					MJW	MJW				

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: RHohner Date 12/20/20 Time 0829 Reviewed by: _____ Date: 12/20/20 Time: 0846
On-duty Supervisor

Comments 4.4.1.1 out of Service/waiting for Calibration.

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 1 of 5)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	12-14-20	12/15/20	12-16-20	12/17/20	12/18/20	12/19/20	12/20/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[A]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[3]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.48	.17	.17	.17	.17	.16	.16
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.60	.54	.52	.53	.53	.53	.52
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.50	.50
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	.36
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.41	.41	.42	.41	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.39	.40	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.58	.58	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.68	.65	.64	.65	.65	.64	.65
		PDI-832-3	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	off	.12	.12	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	off	.59	.58	.56	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	off	.50	.50	.50	.50	.50
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	.08	OFF	OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	.52	OFF	OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	.51	OFF	OFF	OFF	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	12-14-20	12/15/20	12-16-20	12/17/20	12/18/20	12/19/20	12/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.09	.06	.06	.07	.07	.11	.06
		PDI-829-2	≤2.0 & > 0[1] in. wc	.60	.49	.50	.50	.49	.50	.50
		PDI-829-3	≤2.0 & > 0[1] in. wc	.58	.48	.49	.48	.49	.49	.49
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.09	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.52	.53	.52	.52	.52	.51	.52
		PDI-833-3	≤2.0 & > 0[1] in. wc	.50	.51	.51	.51	.51	.50	.50
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.05	.05	.05	.06	.05 ~~.05~~ 2H 12/19/20	.06
		PDI-835-2	≤2.0 & > 0[1] in. wc	.50	.49	.50	.50	.50	.50	.50
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	.23	.20	.21	.21	.21	.21
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	.52	.51	.51	.52	.52	.52
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	.46	.48	.46	.45	.45	.47
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	.49	.49	.49	.48	.49	.49
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	.52	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	.50	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	.52	STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12-14-20	12/15/20	12-16-20	12/17/20	12/18/20	12/19/20	12/20/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	@	[illegible]	@	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	.14	.14	.12	.13	.13	.14
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	.31	.30	.30	.30	.30	.30
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	.31	.30	.30	.30	.30	.30
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	.29	.29	.29	.29	.30	.30
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	.34	.32	.33	.33	.32	.32
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.09	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	.25	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	.20	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	.29	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	.30	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.40	.39	.40	.40	.39	.39	.40
		PDI-865-3	≤2.0 & > 0[1] in. wc	.33	.34	.38	.38	.35	.33	.33
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.05	.04	.04	.04	.04	.04	.04
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.32	.31	.31

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 5)

FOR INFORMATION ONLY

			Date:	12-14-20	12/15/20	12-16-20	12/17/20	12/18/20	12/19/60	12/20/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-857-2	≤2.0 & > 0[1] in. wc	.44	.43	.42	.44	.45	.44	.42
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-856-2	≤2.0 & > 0[1] in. wc	.60	.62	.59	.59	.60	.59	.59
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	UNSAT	UNSAT	UNSAT	UNSAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	Sat	Sat	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	Sat	Sat	SAT	SAT

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

FOR INFORMATION ONLY

			Date:	12-14-20	12/15/20	12-16-20	12/17/20	12/18/20	12/19/20	12/20/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	RH	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	UNSAT	SAT	SAT	Sat	Sat	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	Sat	Sat	SAT	SAT
			Completion time	0845	0740	0742	0759	0807	0829	0831
			OC Operator Review and Page Count Complete (initials)	[illegible]	TS	[illegible]	[illegible]	MDH	MDH	MDH
			OCS Daily Review Sign off (initials)	[illegible]	MJW	MJW	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: RHohner Date 12/20/20 Time 0831 Reviewed by: [illegible] (On-duty Supervisor) Date: 12/20/20 Time: 0850

Comments: 4.3.2.2 Found Tygon tubing taped to floor inside PMMA -Room 12 Basement Red light due to contamination, ladder within 15ft of fan.

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature								
Daily (September through April only)		Date:	12/14/20	12/15/20	12/16/20	~~12/17/20~~ PJC 12/17/20 12/17/20	12/18/20	12/19/20	12/20/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	TL	PJC	PJC	PJC	PJC	DH	DH
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	52.4	52.5	52.3	52.6	53.1	53.4	53.5
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	52.3	52.9	53.4	54.1	53.3	51.7	50.48
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	64.7	65.4	63.6	65.3	66.7	65.7	66.3
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	65.2	66.5	65.0	65.5	65.8	63.6	61.2
		Completion Time:	0753	0702	0706	0719	0734	0849	0831
	OC Operator Review and Page Count Complete (initials)		DH	MDH	<	<	MDH	M	M
	OCS Daily Review Sign off (initials)			MJW					

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: _____ Date 12/20/20 Time 0831

Reviewed by: _____ Date: 12/20/20 Time: 1924
On-duty Supervisor

Comments: _____

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:	12-21-2020		12-22-2020		12/23/20		12/24/20		12/25/20		12/26/20		12/27/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	BC	BC	BC	C	M	[illegible]	M	BC	ARJ	C	ARJ	C	AD	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.01	-2.00	-2.01	-1.99	-2.00	-2.02	-1.98	-1.99	-1.99	-2.00	-2.01	-1.99	-1.99	-2.01
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.92	-1.92	-1.93	-1.93	-1.93	-1.92	-1.92	-1.93	-1.93	-1.92	-1.93	-1.92	-1.92	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.96	-1.97	-1.97	-1.98	-1.97	-1.98	-1.96	-1.96	-1.96	-1.99	-1.98	-1.97	-1.97	-1.96
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.00	-2.00	-2.00	-2.00	-1.99	-2.01	-1.99	-2.00	-2.00	-2.01	-2.00	-2.00	-1.99	-2.00
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.19	0.20	-.18	-.1[illegible]	-.19	-0.19	-.19	-.19	-.19	-.19	-.19	-.20	-.19	0.20
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.26	0.27	-.24	-.24	-.26	-0.26	-.25	-.26	-.26	-.25	-.26	-.26	-.25	0.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.20	0.20	-.17	-.18	-.21	-0.20	-.20	-.18	-.18	-.20	-.20	-.21	-.20	0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.20	0.20	-.17	-.17	-.21	-0.19	-.20	-.19	-.19	-.19	-.19	-.20	-.19	0.19
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.14	0.15	-.15	-.15	-.15	-0.15	-.15	-.15	-.15	-.15	-.15	-.15	-.15	0.15
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.09	0.09	-.09	-.10	-.08	-0.09	-.09	-.10	-.10	-.09	-.09	-.09	-.09	0.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.08	0.08	-.08	-.09	-.06	-0.08	-.08	-.09	-.09	-.08	-.08	-.08	-.08	0.08
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.115	0.105	-.105	-.106	-.121	-0.108	-.112	-.117	-.117	-.102	-.101	-.101	-.115	0.115

Attachment A, Per Shift Surveillance Rounds [UET]

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FOR INFORMATION ONLY

Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		**Date:**	12-21-2020		12-22-2020		12/23/20		12/24/20		~~12/24/20~~ 12/25/20		12/26/20		12/27/20	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	BL	[illegible]	BL	[illegible]	M	JSL	M	BL	AW	[illegible]	AM	[illegible]	AM	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	12-21-2020		12-22-2020		12/23/20		12/24/20		12/25/20		12/26/20		12/27/20	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	BC	[illegible]	BC	C	M	JSC	M	BC	ARJ	C	ARJ	C	ARJ	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0721	1916	0720	1911	0730	1909	0731	0718 1918	0725	1927	0720	1917	0726	1914
		OCS Daily Review Sign off (initials)			ARJ	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ARJ	ARJ	ARJ	ARJ	[illegible]	ARJ	[illegible]

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [signature] Date 12/27/2020 Time 1914 Reviewed by: [signature] On-duty Supervisor Date: 12/27/2020 Time: 1914

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	12/21/20	12/22/20	12/23/20	12/24/20	12/25/20	12/26/20	12/27/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	SO	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	OOS	OOS	OOS	OOS	OOS	OOS	OOS
	CP-305-H (LED Reading)		OOS	OOS	OOS	OOS	OOS	OOS	OOS
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	OOS	OOS	OOS	OOS	OOS	OOS	OOS
		≥ -0.1; ≤+0.1	Sat / Unsat OOS	Sat / Unsat OOS	Sat / Unsat OOS	Sat / Unsat OOS	Sat / Unsat OOS	Sat / Unsat OOS	Sat / Unsat OOS
		Completion Time:	0720	0710	0702	0828	0705	0702	0705

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	12/21/20	12/22/20	12/23/20	12/24/20	12/25/20	12/26/20	12/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	mm	[illegible]	[illegible]	SO	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02	.01	.02	.02
		PDI-894-2	≤2.0 & > 0[1] in. wc	.47	.46	.46	.45	.46	.46	.46
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.03	.03	.03	.02	.03	.03	.03
		PDI-895-2	≤2.0 & > 0[1] in. wc	.68	.67	.67	.69	.67	.67	.67
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.26	.27	.27	.26	.27	.27	.27
		PDI-818-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.32	.31	.31	.31
		PDI-818-4	≤2.0 & > 0[1] in. wc	.32	.31	.31	.32	.31	.31	.31
		PDI-818-5	≤2.0 & > 0[1] in. wc	.32	.31	.31	.31	.31	.31	.31
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.42	.45	.45	.42	.45	.45	.45
		PDI-821-3	≤2.0 & > 0[1] in. wc	.47	.46	.46	.45	.46	.46	.46
		PDI-821-4	≤2.0 & > 0[1] in. wc	.43	.41	.41	.41	.41	.41	.41

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	12/21/20	12/22/20	12/23/20	12/24/20	12/25/20	12/26/20	12/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	MW	JH	JH	SD	JH	JH	JH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12	.12	.12	.12
		PDI-822-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.58
		PDI-822-4	≤2.0 & > 0[1] in. wc	.43	.42	.42	.42	.42	.42	.42
		PDI-822-5	≤2.0 & > 0[1] in. wc	.58	.57	.57	.66	.57	.57	.57
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.32	.34	.38	.34	.34	.36	.37
		PDI-830-2	≤2.0 & > 0[1] in. wc	.11	.11	.13	.11	.11	.12	.12
		PDI-830-3	≤2.0 & > 0[1] in. wc	.13	.13	.14	.16	.13	.17	.16
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.65	.66	.66	.66	.66	.66	.66
		PDI-836-3	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65	.65	.65	.65
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-837-2	≤2.0 & > 0[1] in. wc	.48	.49	.49	.49	.49	.49	.49
		PDI-837-3	≤2.0 & > 0[1] in. wc	.43	.43	.43	.45	.43	.43	.43

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

FOR INFORMATION ONLY

			Date:	12/21/20	12/22/20	12/23/20	12/24/20	12/25/20	12/26/20	12/27/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	MM	[illegible]	[illegible]	SD	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.58	.59	.59	.59
		PDI-838-2	≤2.0 & > 0[1] in. wc	.57	.58	.58	.58	.58	.58	.58
		PDI-838-3	≤2.0 & > 0[1] in. wc	.58	.58	.58	.59	.58	.58	.58
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.42	.41	.41	.41
		PDI-839-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
		PDI-839-3	≤2.0 & > 0[1] in. wc	.53	.52	.52	.62	.52	.52	.52
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-810-2	≤2.0 & > 0[1] in. wc	.87	.87	.87	.88	.87	.87	.87
		PDI-810-3	≤2.0 & > 0[1] in. wc	.52	.51	.51	.51	.51	.51	.51
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	OFF	OFF	OFF	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	OFF	OFF	OFF	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
			Completion Time	0757	0740	0735	0859	0740	0732	0730
OC Operator Review and Page Count Complete (initials)				BL	BL	[illegible]	M	BL	BL	[illegible]
OCS Daily Review Sign off (initials)				MW	MW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 12/27/20 Time 0730 Reviewed by: _____ Date: 12/27/20 Time: 0719
On-duty Supervisor

Comments 12/21/20 4.4.1.1 Flammable gas detector Out of cal

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	12/21/20	12/22/20	12/23/20	12/24/20	12/25/20	12/26/20	12/27/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	[illegible]	SO	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.16
		PDI-840-2	≤2.0 & > 0 in[1] wc	.54	.54	.54	.54	.54	.54	.53
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	.35
		PDI-831-2	≤2.0 & > 0[1] in. wc	WS OAV2 .68 .41	.41	.42	.42	.42	.42	.31
		PDI-831-3	≤2.0 & > 0[1] in. wc	.39	.39	.40	.41	.41	.41	.40
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-832-2	≤2.0 & > 0[1] in. wc	.65	.65	.64	.65	.64	.64	.63
		PDI-832-3	≤2.0 & > 0[1] in. wc	.60	.61	.61	.60	.61	.61	.60
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.58
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.51	.50	.51	.50	.50	.51
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 5)

FOR INFORMATION ONLY

			Date:	12/21/20	12/22/20	12/23/20	12/24/20	12/25/20	12/26/20	12/27/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	hmc			SO			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-829-2	≤2.0 & > 0[1] in. wc	.49	.48	.50	.49	.49	.49	.49
		PDI-829-3	≤2.0 & > 0[1] in. wc	.48	.47	.47	.48	.48	.48	.47
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-833-2	≤2.0 & > 0[1] in. wc	.53	.56	.56	.56	.56	.56	.55
		PDI-833-3	≤2.0 & > 0[1] in. wc	.50	.51	.51	.52	.51	.51	.51
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.06	.05	.05	.05
		PDI-835-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.23	.23	.23	.23	.23	.23	.22
		PDI-815-2	≤2.0 & > 0[1] in. wc	.51	.52	.52	.52	.52	.52	.51
		PDI-815-4	≤2.0 & > 0[1] in. wc	.55	.55	.46	.44	.46	.45	.45
		PDI-815-5	≤2.0 & > 0[1] in. wc	.47	.48	.48	.48	.48	.48	.48
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	stby	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	STBY	STBY	STBY

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	12/21/20	12/22/20	12/23/20	12/24/20	12/25/20	12/26/20	12/27/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	[illegible]	SW	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.12	.13	.13	.14	.14	.14	.15
		PDI-812-2	≤2.0 & > 0[1] in. wc	.30	.32	.31	.31	.31	.31	.30
		PDI-812-3	≤2.0 & > 0[1] in. wc	.27	.31	.30	.30	.30	.30	.30
		PDI-812-4	≤2.0 & > 0[1] in. wc	.29	.30	.29	.29	.29	.29	.30
		PDI-812-5	≤2.0 & > 0[1] in. wc	.32	.33	.33	.33	.33	.33	.34
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	Stby	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03	.02	.02	.02	.02	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.38
		PDI-865-3	≤2.0 & > 0[1] in. wc	.34	.34	.34	.33	.33	.33	.32
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-863-2	≤2.0 & >0[1] in. wc	.32	.31	.31	.31	.31	.31	.31

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/21/20	12/22/20	12/23/20	12/24/20	12/25/20	12/26/20	12/27/20
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	SO	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & >0[1] in. wc	.10	.09	.09	.09	.09	.09	.09
		PDI-857-2	≤2.0 & >0[1] in. wc	.43	.44	.44	.44	.44	.44	.43
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & >0[1] in. wc	.02	.02	.02	.02	.02	.02	.02
		PDI-856-2	≤2.0 & >0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	12/21/20	12/22/20	12/23/20	12/24/20	12/25/20	12/26/20	12/27/20
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	[illegible]	[illegible]	[illegible]	SD	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0630	0820	0720	0859	0744	0740	0705
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			OCS Daily Review Sign off (initials)	MJW	MJW	[illegible]	[illegible]	AMS	AMS	[illegible]

[1] Non TSR requirement

[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.

Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [signature] Date 12/27/20 Time 0705 Reviewed by: [signature] Date: 12/27/20 Time: 0709

On-duty Supervisor

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

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FOR INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103769
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	8/13/21	Calibration Expiration Date:	8/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature								
Daily (September through April only)		Date:	12/21/20	12/22/20	12/23/20	12/24/20	12/25/20	12/26/2020	12/27/20
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	TL	SO	SO	PJC	APJ	BC	APJ
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	53.6	53.9	53.0	52.0	52.3	53.0	53.7
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	52.1	Initial 53.9 Corr 54.0	52.8	49.8	51.4	52.4	54.07
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	67.6	Initial 68.0 Corr 67.9	64.2	63.2	70.4	65.9	67.1
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	63.1	61.7	63.8	62.2	50.1	61.9	72.35
		Completion Time:	0830	0843	0806	0711	1000	0845	0825
		OC Operator Review and Page Count Complete (initials)	BN	JW	M	M	APJ BC	BC	AB
		OCS Daily Review Sign off (initials)	APJ	MSW	M	M	APJ	APJ	APJ

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: JAURIGUE _____ Date 12/27/20 Time 0827

Reviewed by: JAURIGUE _____ Date: 12/27/20 Time: 0830
On-duty Supervisor

Comments: _____

Attachment A, Per Shift Surveillance Rounds [UET]

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FOR INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

Note Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		**Date:**	12/28/20		12/29/20		12/30/20		12/31/20							
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	M	JSC	M	JSC	AMY		AMY							
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.5 in. wc[1]	-2.00	-2.00	-2.02	-1.99	-2.00	-2.01	-1.99	-2.00						
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.5 in. wc[1]	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.92	-1.93						
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.5 in. wc[1]	-1.97	-1.96	-1.97	-1.96	-1.97	-1.96	-1.97	-1.97						
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.5 in. wc[1]	-2.00	-2.00	-1.99	-2.00	-2.00	-2.01	-2.00	-2.00						
4.1.1.2 4.1.1.5[3] 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.19	-0.20	-.20	-0.20	-.19	-0.19	-.19	-0.19						
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.26	-0.26	-.26	-0.26	-.25	-0.26	-.26	-0.26						
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.20	-0.20	-.20	-0.31	-.20	-0.20	-.20	-0.19						
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.20	-0.20	-.19	-0.20	-.19	-0.19	-.20	-0.15						
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.15	-0.15	-.15	-0.141	-.15	-0.15	-.15	-0.15						
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.09	-0.09	-.09	-0.09	-.09	-0.09	-.09	-0.09						
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.08	-0.08	-.08	-0.09	-.08	-0.08	-.08	-0.08						
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.114	-0.113	-.112	-0.43	-.113	-0.105	-.110	-0.104						

Attachment A, Per Shift Surveillance Rounds [UET]

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FOR INFORMATION ONLY

Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDI's may be used if FCS is unavailable.		**Date:**	12/28/20		12/29/20		12/30/20		12/31/20							
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	M	JSV	M	JSV	AM		AM							
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**												
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

Attachment A, Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	12/28/20		12/29/20		12/30/20		12/31/20							
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	M	JSC	M	JSC	ARY	[illegible]	ARY	[illegible]						
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0739	1916	0732	1913	0728	1919	0727	1917						
		OCS Daily Review Sign off (initials)			[illegible]	[illegible]	[illegible]	[illegible]	ARY	[illegible]	ARY	ARY						

[1] Mode 2 acceptance criteria is < 0.00 in. wc.
[2] SRs 4.1.2.x only apply during Mode 2 in accordance with LCO 3.1.2.
[3] SRs 4.1.1.5 is only applicable when MAR is in the IFIT Facility

Completed by: [signature] Date: 12/31/2020 Time: 1917 Reviewed by: [signature] Date: 12/31/20 Time: 1920
On-duty Supervisor

Comments: _____

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	12/28/20	12/29/20	12/30/20	12-31-20			
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	MV	MV	TL	RM			
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	005	005	005	005			
	CP-305-H (LED Reading)		005	005	005	005			
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	005	005	005	005			
		≥ -0.1; ≤+0.1	~~Sat / Unsat~~ 005	~~Sat / Unsat~~ 005	~~Sat / Unsat~~ 005	~~Sat / Unsat~~ 005	Sat / Unsat	Sat / Unsat	Sat / Unsat
		Completion Time:	07:26	0715	0734	0815			

FOR INFORMATION ONLY

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	12/28/20	12/29/20	12/30/20	12-31-20			
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	MV	MV	TL	RLL			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & >0[1] in. wc	.44	.44	.46	.46			
		PDI-894-2	≤2.0 & >0[1] in. wc	.02	.02	.02	.02			
4.1.3.4[2]	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & >0[1] in. wc	.05	.05	.03	.05			
		PDI-895-2	≤2.0 & >0[1] in. wc	.69	.69	.68	.68			
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-817-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-817-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-817-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-819-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-819-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
4.1.3.4[2]	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & >0[1] in. wc	.28	.28	.27	.27			
		PDI-818-2	≤2.0 & >0[1] in. wc	.32	.32	.31	.32			
		PDI-818-4	≤2.0 & >0[1] in. wc	.30	.30	.31	.31			
		PDI-818-5	≤2.0 & >0[1] in. wc	.31	.31	.31	.31			
4.1.3.4[2]	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & >0[1] in. wc	.45	.45	.44	.45			
		PDI-821-3	≤2.0 & >0[1] in. wc	.47	.47	.47	.46			
		PDI-821-4	≤2.0 & >0[1] in. wc	.41	.41	.42	.41			

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	12/28/20	12/29/20	12/30/20	12-31-20			
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	MV	MV	TL	RCL			
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & >0[1] in. wc	.11	.11	.12	.12			
		PDI-822-2	≤2.0 & >0[1] in. wc	.58	.58	.58	.59			
		PDI-822-4	≤2.0 & >0[1] in. wc	.43	.43	.42	.43			
		PDI-822-5	≤2.0 & >0[1] in. wc	.55	.55	.57	.55			
4.1.3.4[2]	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-823-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-823-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-823—5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY			
4.1.3.4[2]	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & >0[1] in. wc	.33	.33	.33	.31			
		PDI-830-2	≤2.0 & >0[1] in. wc	.11	.11	.11	.12			
		PDI-830-3	≤2.0 & >0[1] in. wc	.15	.15	.15	.15			
4.1.1.7[2]	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & >0[1] in. wc	.04	.06	.06	.07			
		PDI-836-2	≤2.0 & >0[1] in. wc	.65	.65	.65	.68			
		PDI-836-3	≤2.0 & >0[1] in. wc	.65	.65	.65	.65			
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & >0[1] in. wc	.03	.03	.04	.05			
		PDI-837-2	≤2.0 & >0[1] in. wc	.49	.49	.48	.49			
		PDI-837-3	≤2.0 & >0[1] in. wc	.42	.42	.42	.45			

Attachment B-1, Daily Surveillance Rounds (PF-4 South Side) [UET]

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FOR INFORMATION ONLY

			Date:	12/28/20	12/29/20	12/30/20	12-31-20			
			Weekday:	Mon.	Tue	Wed	Thu.	Fri.	Sat.	Sun.
			Initials:	MV	MV	YL	REV			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7[2]	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & >0[1] in. wc	.59	.59	.59	.59			
		PDI-838-2	≤2.0 & >0[1] in. wc	.55	.55	.55	.58			
		PDI-838-3	≤2.0 & >0[1] in. wc	.59	.59	.58	.59			
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & >0[1] in. wc	.40	.40	.40	.40			
		PDI-839-2	≤2.0 & >0[1] in. wc	.51	.51	.52	.52			
		PDI-839-3	≤2.0 & >0[1] in. wc	.51	.51	.52	.52			
4.1.3.4[2]	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & >0[1] in. wc	.18	.18	.17	.18			
		PDI-810-2	≤2.0 & >0[1] in. wc	.89	.85	.88	.88			
		PDI-810-3	≤2.0 & >0[1] in. wc	.51	.51	.52	.51			
4.1.3.4[2]	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & >0[1] in. wc	off	off	OFF	Off			
		PDI -811 -2	≤2.0 & >0[1] in. wc	off	off	OFF	Off			
		PDI -811 -3	≤2.0 & >0[1] in. wc	off	off	OFF	Off			
			Completion Time	0745	0735	0800	0750			
OC Operator Review and Page Count Complete (initials)				M	M	APJ	AP			
OCS Daily Review Sign off (initials)										

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR 4.1.3.4 apply during both Mode 1 and Mode 2 as stated in LCO 3.1.3.

Completed by: _____ Date 12-31-20 Time 0750 Reviewed by: _____ Date: 12/31/2020 Time: 1447
On-duty Supervisor

Comments 4.4.11 OOS unit needs to be recalibrated.

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

			Date:	12/28/20	12/29/20	12/30/20	12-31-20			
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	MV	MV	TL	RW			
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.1.7[2]	Vault re-circulation filter plenum (HVP-811) ΔP Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.18	.17	.17			
		PDI-840-2	≤2.0 & > 0 in[1] wc	.53	.55	.54	.55			
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51			
		[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.40	.38	.35	.35			
		PDI-831-2	≤2.0 & > 0[1] in. wc	.41	.41	.42	.42			
		PDI-831-3	≤2.0 & > 0[1] in. wc	.39	.40	.40	.41			
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.58	.58	.58	.59			
		PDI-832-2	≤2.0 & > 0[1] in. wc	.65	.65	.65	.65			
		PDI-832-3	≤2.0 & > 0[1] in. wc	.60	.60	.61	.60			
4.1.3.4[2]	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.12			
		PDI-807-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58			
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.51			
4.1.3.4[2]	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	off	OFF	off			
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	off	OFF	off			
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	off	OFF	off			

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	12/28/20	12/29/20	12/30/20	12-31-20			
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	MV	MV	TL	[illegible]			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4[2]	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.07	.05	.07	.05			
		PDI-829-2	≤2.0 & > 0[1] in. wc	.49	.49	.50	.49			
		PDI-829-3	≤2.0 & > 0[1] in. wc	.47	.47	.48	.47			
4.1.1.7[2]	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08			
		PDI-833-2	≤2.0 & > 0[1] in. wc	.55	.55	.56	.58			
		PDI-833-3	≤2.0 & > 0[1] in. wc	.51	.51	.52	.51			
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.06	.05	.05	.05			
		PDI-835-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.50			
		PDI-835-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50			
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.22	.22	.22	.25			
		PDI-815-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.51			
		PDI-815-4	≤2.0 & > 0[1] in. wc	.45	.45	.46	.46			
		PDI-815-5	≤2.0 & > 0[1] in. wc	.48	.48	.48	.49			
4.1.3.4[2]	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			

Attachment B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/28/20	12/29/20	12/30/20	12-31-20			
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	MV	MV	FL	FL			
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**						
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12			
		PDI-812-2	≤2.0 & > 0[1] in. wc	.30	.30	.30	.32			
		PDI-812-3	≤2.0 & > 0[1] in. wc	.28	.28	.29	.32			
		PDI-812-4	≤2.0 & > 0[1] in. wc	.29	.29	.30	.30			
		PDI-812-5	≤2.0 & > 0[1] in. wc	.34	.34	.34	.32			
4.1.3.4[2]	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
4.1.3.4[2]	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.02	.02	.02	.02			
		PDI-865-2	≤2.0 & > 0[1] in. wc	.47	.49	.40	.40			
		PDI-865-3	≤2.0 & > 0[1] in. wc	.31	.31	.34	.37			
4.1.3.4[2]	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.02	.02	.03	.04			
		PDI-863-2	≤2.0 & >0[1] in. wc	.31	.31	.32	.31			

FOR INFORMATION ONLY

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

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FOR INFORMATION ONLY

			Date:	12/28/20	12/29/20	12/30/20	12-31-20			
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	MV	MV	TL	[illegible]			
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4[2]	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.10	.10	.09	.10			
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.45	.45	.45	.45			
4.1.3.4[2]	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.02	.02	.03	.02			
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.59	.59	.59	.60			
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	Sat	SAT			
4.3.2.2[2]	Room 201		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	Sat	SAT			
4.3.2.2[2]	Room 204		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	Sat	SAT			

Attachment B-2, Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 5 of 5)

FOR INFORMATION ONLY

			Date:	12/28/20	12/29/20	12/30/20	12-31-20			
			Weekday:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			Initials:	MV	MV	[illegible]	LM			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.3.2.2[2]	Room 206		0 lb/ft² combustibles within 3 5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	Sat	SAT			
4.3.2.2[2]	Room 207		0 lb/ft² combustibles within 3 5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	Sat	SAT			
			Completion time	0805	0750	0800	0720			
			OC Operator Review and Page Count Complete (initials)	M	M	AM	AM			
			OCS Daily Review Sign off (initials)	[illegible]	[illegible]	[illegible]	[illegible]			

[1] Non TSR requirement
[2] SR 4.1.1.7 applies during Mode 1 as stated in LCO 3.1.1. SR's 4.1.3.4 and 4.3.2.2 apply during both Mode 1 and Mode 2.
Note: Rooms 201, 206 & 207 **must be** entered for surveillance even if they are red lit, room 204 can be viewed through the window. Notify the Operations Center of any rooms that are unable to be entered for the performance of rounds, Operations Center will make a logbook entry recording the room(s) and reason(s) for non-entry. Document in the comments section any room(s) and reason(s) they were unable to be entered for rounds.

Completed by: [signature] Date 12-31-20 Time 0720 Reviewed by: [signature] On-duty Supervisor Date: 12/31/2020 Time: 1946

Comments: _____

Attachment C, Non-PF-4 Daily Surveillance Rounds [UET]

(Page 1 of 1)

FOR INFORMATION ONLY

NOTE This entire Attachment is to be treated as Surveillance Requirement implementing actions.

M&TE Calibrated Data							
Record September through April only	PF-10 Thermometer File No.:	039746	PF-10 Thermistor File No.:	105353	V-701 Thermistor File No.:	103763
	Calibration Expiration Date:	8/5/21	Calibration Expiration Date:	08/13/21	Calibration Expiration Date:	08/13/21
	PF-11 Thermometer File No.:	039745	PF-11 Thermistor File No.:	105352	V-704 Thermistor File No.:	103761
	Calibration Expiration Date:	8/11/21	Calibration Expiration Date:	08/13/21	Calibration Expiration Date:	08/13/21

PF-10 & PF-11 Pump house Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature

Daily (September through April only)		Date:	12/28/20	12/29/20	12/30/20	12-31-20			
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	PJC	PJC	PJC	RM			
SR	**Description**	**Acceptance Criteria**							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	(SAT)/UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	53.6	53.6	53.1	53.0			
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	53.5	51.7	49.9	51.24			
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	67.2	67.2	64.7	68.74			
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	63.6	65.1	65.1	illegible			
		Completion Time	0731	0730	0739	1000			
	OC Operator Review and Page Count Complete (initials)		M	M	ARD	ARD			
	OCS Daily Review Sign off (initials)		MH	MH					

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: RM Date 12-31-20 Time 1000

Reviewed by: On-duty Supervisor Date: 12/31/2020 Time: 1946

Comments:

Attachment D, Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 1 of 2)

NOTE: This entire Attachment is to be treated as Surveillance Requirement implementing actions.

FOR INFORMATION ONLY

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials	CDV Initials
*Note	Confinement DR-344	Southeast	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	(Sat) / Unsat	1510	12/10/20	RH	
4.1.3.2[1]	Confinement Door DR-344	Southeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	(Sat) / Unsat	1512	12/10/20	RH	
4.1.3.2[1]	Confinement Door DR-149	Northeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	(Sat) / Unsat	1359	12/10/20		
*Note	Confinement DR-102	Northwest	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	(Sat) / Unsat	1421	12/10/20		
4.1.3.2[1]	Confinement Door DR-102	Northwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	(Sat) / Unsat	1425	12/10/20		
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) goes to the fully closed position via the automatic door closure is ≤ 30 seconds. 05 Seconds	(Sat) / Unsat	1422	12/10/20		

*** Note:** Monthly Inspection of DR-344 and DR-102 in accordance with compensatory measure(s) from: *Request for Permanent Equivalency to OE Order 420.1B Chapter II, NFPA 80, NFPA 101 and IBC Requirements for LANL Building TA55-4 (PF-4); Installation of New Confinement Doors DR-102, DR-302, and DR-344 LANL-DOE-ORDER-420.1B-EQ-2013-001*

Attachment D, Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 2 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials	CDV Initials
4.1.3.2[1]	Confinement Door DR-302	Southwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	Sat / Unsat	1415	12/10/20	[illegible]	[illegible]
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) goes to the fully closed position via the automatic door closure is ≤ 30 seconds. 06 Seconds	Sat / Unsat	1411	12/10/20	[illegible]	[illegible]
4.1.3.2[1]	Confinement Door DR-4	N Basement Personnel door DR-4	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure	Sat / Unsat	1438	12/10/20	[illegible]	[illegible]
4.1.3.2[1]	Confinement Door DR-90	South Basement Door (Tunnel)	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door)	Sat / Unsat	1330	12/10/20	[illegible]	[illegible]
						OC Operator Review and Page Count Complete	TS	[illegible]

[1] SR 4.1.3.2 applies during both Mode 1 and Mode 2.

Completed by [illegible] Date 12/10/20 Time 1512 Reviewed by ~~Tom Langworth~~ Price [illegible] Date ~~12/10/20~~ Time ~~1512~~ 1525 TL 12/10/20

Concurrent Dual Verifier [illegible] Date 12/10/20 Time 1512

On-duty Supervisor Comments:

FOR INFORMATION ONLY

ATTACHMENT A806.A.

External Combustion

20.2.61 NMAC Opacity

Use of pipeline quality natural gas at LANL meets the requirement at Condition A806.A and constitutes compliance with 20.2.61 NMAC. Opacity did not exceed 20% over a 10-minute period and no visible emissions occurred during steady state operation.

ATTACHMENT A806.C.

External Combustion

20.2.61 NMAC Opacity – Units RLUOB-BHWs Fuel-Oil Fired

No fuel oil was used in the RLUOB Boilers during this certification period and no opacity measurements were required.

ATTACHMENT A807.A.

External Combustion

Natural Gas Usage and Rolling 12-Month Total

2020 Small Boilers Data Entry / Gas Use

	Metered Boilers Gas Use			Non-Metered Gas Use	All Small Boilers[a] Non-Metered + Metered		
	TA-55-6 Boilers[b]		CMRR-RLUOB		Total Gas Use		12-Month Rolling Total[c]
	BHW-1B (EQPT-29)	BHW-2B (EQPT-30)	All 3 Boilers (EQPT-90, 104, & 105)				
Month	(Mscf)	(Mscf)	(Mscf)	(MMscf)	(Mscf)	(MMscf)	(MMscf)
January	2159	8	332	62.73	65,231	65.23	387.51
February	472	1663	335	54.33	56,798	56.80	385.57
March	1	2068	286	43.26	45,610	45.61	381.60
April	0	1847	187	29.55	31,586	31.59	379.76
May	2	1713	106	13.07	14,893	14.89	368.23
June	9	1230	98	10.73	12,071	12.07	367.36
July	1	1249	86	10.26	11,595	11.59	369.61
August	228	905	105	9.06	10,299	10.30	373.04
September	5	1222	132	15.01	16,370	16.37	380.12
October	47	1423	186	28.58	30,238	30.24	376.69
November	52	1737	296	38.12	40,201	40.20	399.71
December	104	2486	506	59.15	62,250	62.25	397.14
TOTAL	3079	17551	2655	373.86	397,141	397.14	
Reviewed by: Katelyn Mahoney 1/11/2021				12 Month Limit (MMscf) =			870

2020 Non Metered Boiler Pool Capacity:	278.7	MMBtu/hr[d]
Estimated Gas-Use per MMBtu rating Jan-June:	0.77	MMscf/MMBtu/hr
Estimated Gas-Use per MMBtu rating July-Dec:	0.57	MMscf/MMBtu/hr
Estimated Gas-Use per MMBtu - Annual	1.34	MMscf/MMBtu/hr
Estimated Gas-Use per MMBtu - Fiscal Year	1.28	MMscf/MMBtu/hr

Gas Use Non-Metered[e] (MMSCF)				
NMED ID:	EQPT-11	EQPT-12	EQPT-53&134	Insignificant Units[f]
Location:	TA-53-365	TA-53-365	TA-16-1484	Lab Wide
Equipment ID:	BHW-1	BHW-2	Plant 5	Various
Database ID:	B-0042	B-0043	B-0093/0092	
Design Rate[g] (MMBTU/hr)	7.115	7.115	12.700	252
Calculated Gas Use-Jan-June	5.455	5.455	9.737	193.027
Calculated Gas Use-July-Dec	4.089	4.089	7.299	144.706
Calculated Gas Use-Annual	9.544	9.544	17.036	337.733

ATTACHMENT A807.B.

External Combustion

RLUOB Boilers Natural Gas and Fuel Oil Usage

Boilers at the RLUOB did not use fuel oil during this certification period. Please see Attachment A807.A. for natural gas use by the RLUOB boilers.

ATTACHMENT A807.C. & D.

External Combustion

Fuel Oil Sulfur Content

LANL purchases only fuel oil with ultra-low sulfur content; fuel oil was not used in the TA-55-6 Boilers or RLUOB Boilers during this reporting period.

ATTACHMENT A807.E.

External Combustion

Initial Compliance Testing (Unit RLUOB-BHW-4)

Unit RLUOB-BHW-4 has not been installed.

ATTACHMENT A807.F.a.

External Combustion

Operational Inspection for Sources listed in Table 800.A.

Facility: F10 Unit: 550440 Proj:
Task Title: 550440: HW BOILER FS/WS (A) PM
W/O Type: PM W/O Group: RLUOB PM Task Priority: 4
Planner: 116672 MADRID
W/O Title: 550440: HW BOILER (A) FS/WS PM
Written To: 550440 HOT WATER BOILERS
Task Dspln: FTTR Due Date: 09/30/2020
Job Type: PM D-B Determination:N/A
Hazard Level: MODERATE IWD Requirement:STANDING
Material Required?:

0067287201

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task
00672872 01
MASTER

Date: 8/10/20

Work Order Task Written To

Facility: F10 **Unit:** 550440 **Op Sys:** HW
Room: **Area:** **Sys/Cls:** HW
Equipment: **Component:**
550440 HOT WATER BOILERS
Equipment Tag: Alternate Tag:
Work item: CUB BOILERS Tech Surv Reqmt Rel: N
PEG Equip Group Type: PEG Equip Group ID:
Crit Safety Control: Property Group:
Maintenance Programs: 1: 2: 3: 4: 5:

Authorization

Start Permission				Start Date	9/14/2020	
Complete Notice		C	C	Complete Date	9.17.20	1115

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102 - Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order Task Instructions

PERFORM ANNUAL BOILER PM IN ACCORDANCE WITH O&M CRITERION 403
AND PMI 403-A, BOILER INSPECTION TESTING AND MAINTENANCE.

.

COMPLETE APPLICABLE PORTIONS OF CHECKLISTS 403-A.006
AND 403-A.002 (WATER TREATMENT).

.

REFER TO IWD PART 2 FORM 2101 FOR ENTRY AND COORDINATION REQTS. AND FOR AREA
AND CO-LOCATED HAZARDS AND CONTROLS (SEE 2101 FOR POC AND MC's CONTACT INFO).

.

DOCUMENT WORK PERFORMED AND ANY / ALL OTHER OR ADDITIONAL ITEMS NEEDING
REPAIR OR REPLACEMENT ON THE ATTACHED WORK DOCUMENTAION FORM OR CHECKLIST.

Rework Reason/Cause

Y/N

Work Order 00672872 **Task** 01

Rework Reason/Cause

		Y/N
CDSG	CUSTOMER DESIGN	N
IMCW	IMPROPER CONSTRUCTION/WORKMANSHIP	N
IMDN	IMPROPER DESIGN	N
PDMS	PARTS/MATERIAL DID NOT MEET SPECIFICATIONS	N
WR	WARRANTY REWORK/REPAIR	N

Date: Hours: Crew: Shift:

Comments: NONE

Rework/Approval

Deficiency Tag No: Location: Tag Removed:

Rework Job: N Comments:

Trouble Found/Work Performed

Completion Comments Required: N

Completed 1yr FS/WS on BHW-01, BHW-02, BHW-03,
Performed all Safety and Limits All Are Good.
Notified MC JOB WAS Completed

Continue on additional sheets? _____

Calibrated Tools

Calibrated Tool Used? [X] (Y)/N

File ID	Date Used	File ID	Date Used
111034	9-14-2020		

Work Delay Reason

			Y/N
A	ACCESS	N	Y/N
EQPT	EQUIPMENT	N	Y/N
IWD	IWD WORKABILITY	N	Y/N
MAT	MATERIAL	N	Y/N
OPS	OPERATIONS	N	Y/N
RCT	RCT AVAILABILTY	N	Y/N
SP	SAFETY PAUSE	N	Y/N

Work Order 00672872 **Task** 01

Work Delay Reason

TEL	TOOLS/EQUIP/LIFTS	N	Y/N
W	WEATHER	N	Y/N

Work Date: | Hours: | Crew: | Shift:

Comments: NONE

Major Failure/Action Taken

Major Failure:	NONE	
Major Action Taken:	NONE	
Deficiency Tag Removed:	NONE	Y/N
Deficiency Tag Location:	NONE	
Deficiency Tag ID:	NONE	
Limited Condition of Operation:	NONE	Y/N

Work Completion Signatures

Name	Function/Department	Date
Mark Millwood	Boiler Crew / LOG-CS	9-16-2020
[signature]	Log - Supv	9-16-2020
[signature]	MSS-CWF	9.17.20

Comments: (Rework?)

Equipment List Exceptions

Equipment List	Revision	Equipment List Description
CUB-BOILER	000	550440: CUB BOILERS

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F10	550440	HW	U209		HW	ML4
	Equipment:		BOILER	BHW-01			

Name: BOILER 1
Location: U209
Exception Reason:
Comments:
Equipment Tag:

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F10	550440	HW	U209		HW	ML4
	Equipment:		BOILER	BHW-02			

Name: BOILER 2
Location: U209
Exception Reason:
Comments:
Equipment Tag:

Work Order 00672872 **Task** 01

Equipment List Exceptions

Equipment List	Revision	Equipment List Description
CUB-BOILER	000	550440: CUB BOILERS

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F10	550440	HW	U209		HW	ML4
	Equipment:		BOILER	BHW-03			

Name: BOILER 3
Location: U209
Exception Reason: _____
Comments:
Equipment Tag: _____

Accounting

Percentage	Cost Center	Activity	Account No	Sub Account No
100.00	7D170C	640CL000	KGRB00	1G550440

* * * **End of Report** * * *

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-004: Attachment 1
Maintenance & Site Services
Worker Engagement Questions

672872-01

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

Topic	Completed (X)
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD #_____ Revision #:_____ **Work Release**

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Ops Mgr or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: 205531 09/14/2020

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, required initial conditions and other prerequisites are in-place.
- The assigned workers are authorized and are qualified to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers (including support workers) have been briefed.
- I have ensured coordination with any required FOD work area representatives (*e.g., area work coordinators*).

Primary PIC (Signature/Z#/Date) **Required**: 185092 9/14/2020

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff).*

Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

Pre-Job Brief Content

- What are the critical steps or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g. for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) 331693 9-14-2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 350559 9-14-2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)

Work Order/Task: 672872-01

Start Date: 9-14-2020	Completion Date: 9-16-2020

SUMMARIZE THE WORK PERFORMED	
Date	Completed 1yr. Fireside / water side PM as per PMI Checklist. Performed all Safety and Limit checks All are Good.

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED		
	Failure Mode Root Cause Code (Circle Root Causes that Apply)	
Failure Mode	Circuit Breaker Tasks	System Restoration Issues
	Digital Component Tasks	Pump Related Tasks
	Doors/Hatches	Procedure Use
	Electrical Determinations	Rigging/Lifting Tasks
	Failed Surveillance	Electrical Switches
	Fastener Tasks	Troubleshooting Issues
	FME Tasks	Valve Related Tasks
	I&C Calibration/Setpoints	Welding
	Mechanical Connections	Work Instruction Issues
	Other (Specify Root Cause)	NONE
Failure Mode Comments	(Add Details)	
	Rework Mode (Circle Rework Causes that Apply)	
Rework	Cause Indeterminate	Life Cycle Management
	Design Deficiency	PM Deficiency
	Intentionally Abbreviated Maintenance	Rule Base Human Performance Deficiency
	Instructional Deficiency	Skill Base Human Performance Deficiency
	Knowledge Based Human Performance Error	Tools/Equipment/Lifts
	Deficiency	Vendor Deficiency
	Operational Deficiency	Work Management Deficiency
		Weather
	Other (Specify Rework Mode)	
Comments	NONE	

672872-01

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW		
	As Found Conditions (Circle Conditions that Apply)	
As found	Unanticipated Failure	Within Tolerance
	Failure Not Normal Wear	(Satisfactory)
	Failure Normal Wear	Superior, Like New
	Outside of Tolerance	Not Applicable
	Reliability Degraded	
	Other (Specify As Found Condition)	
Comments	NON	
As left	ON in Auto	
Parts/Repairs	NONE	
Read/meas.	185° 25 psI	
Post test info.	185° 25 psI	
Problems Encountered (delays, safety, etc.):		
	Delay Codes (Circle Codes that Apply)	
Delay	Access	Operations
	Equipment	RCT Availability
	IWD Workability	Safety Pause
	Material	Weather
		# of Hours_____ Date(s)_____
	Other (Specify Reason for Delay)	
Comments	NONE	
Lessons Learned/Recommendations:		
	None	

Name:	**Z#**	**Signature:**	**Date:**
Mark Millwood	331693		9-16-2020

672872-01

PIC/SUPT

☑ PM has been completed in its entirety and ready for closure.

IF A PM COULD NOT BE COMPLETED:

☐ Percentage complete is 100 %

☐ Sections that did not work and need to be rescheduled

_____

Reasons why:

MAINTENANCE COORIDATOR/AREA WORK COORDINATOR

Work Package is Complete and may be closed out: YES ☒ NO ☐

IF no: State Reason

Additional Work Needed? ☐ YES ☒ NO

Document UP/WO/FSR Number: _____

ENGINEERING (FOR MD and CD Work Orders)

IF a configuration baseline has been changed, THEN indicate the changes are to be incorporated into the following documents and/or configuration baseline:

☐ Drawings	☐ FDD/SDD
☐ Procedures	☐ Master Equipment List
☐ Permits	☐ Checklists

SE Name: Signature: Date:

WORK CONTROL

Moderate/High Hazard – WMC/Planner reviewed for Lessons Learned/Feedback

☐ YES ☐ NO N/A ☐

☐ Review of the completed work package is complete per AP-WORK-005, and the work package is ready to be set to complete in CMMS.

Name: **Z#** **Signature:** **Date:**

Work Order/Task: 672872-01

Start Date: 9-14-2020	Completion Date:

ADITIONAL DETAILS ON WORK PERFORMED

Date	(Add details on As Found, Failure Mode, and Lessons Learned etc.)
9-14-2020	Completed 1yr Fire side / water side PM as per PMI Checklist. Performed all Safety and Limits all are Good, Notified MC that JOB was Completed ON BHW-03.
9-15-2020	Completed 1yr Fire side / water side PM as Per PMI Checklist. Performed all SAFety and Limits all are Good. Notified MC that job was Completed ON BHW-01.
9-16-2020	Completed 1yr Fireside / water side PM as per PMI Checklist, Performed all Safety and Limits all are good. Notified MC that JOB was Completed ON BHW-02

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Yearly Fireside/Waterside Inspection and Maintenance**
Work Order No.: 672872-01	Equipment ID No.: BHW-01

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: 0440 Room: U 209

Date Inspected: 9 / 15 / 20 Inspectors: Randy Wendt / Mark Millwood

1.0 PRE-MAINTENANCE ACTIVITIES

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-01

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.		Initials: mm

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler subject matter expert (SME) at 7-8550 with questions or concerns.

2.1	Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials: mm
2.2	Cool boiler, open air cock, and drain the boiler.		Initials: mm
2.3	Perform an internal and external inspection after thorough cleaning.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.1	Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.2	Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials: mm
2.3.3	Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.4	Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials: mm

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-01

2.3.5 On one-pass boilers (Sellers), check condition of all heat extractors.	S ☐ U ☐ N/A ☒	Initials: MM
2.3.6 Check refractory materials.	S ☒ U ☐ N/A ☐	Initials: MM
2.3.7 Replace if needed.		Initials: MM
2.4 Perform maintenance on low-water cutoff float chamber and water feeder. Disassemble to ensure freedom from obstruction and proper functioning of the working parts.		Initials: MM
2.5 Perform routine burner maintenance.		Initials: MM
2.5.1 Observe temperature and operating pressure and general conditions.	S ☒ U ☐ N/A ☐	Initials: MM
2.5.2 Fire and cycle the burner.		Initials: MM
2.6 Perform routine maintenance of circulating pump and expansion pump equipment.		Initials: MM
2.6.1 Observe condition of expansion tank.	S ☒ U ☐ N/A ☐	Initials: MM
2.6.2 Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	S ☒ U ☐ N/A ☐	Initials: MM
2.6.3 Check the air pressure on the bladder-type expansion tanks.	S ☒ U ☐ N/A ☐	Initials: MM

Remarks:
2.3.5 Boiler not a Sellees.

Work Order No.: 672872-01 Equipment ID No.: BHW-01

2.6.4 Observe operation of circulating pumps.	S ☒ U ☐ N/A ☐	Initials: mm
2.6.5 Lubricate pump motors.		Initials: mm
2.7 Perform routine maintenance of entire combustion control equipment.		Initials: mm
2.7.1 Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	S ☒ U ☐ N/A ☐	Initials: mm
2.7.2 Adjust air/fuel mixture as needed.		Initials: mm
2.7.3 Test flame detection devices on boilers with flame scanners.	S ☒ U ☐ N/A ☐	Initials: mm
2.7.4 Remove the flame scanner with the burner firing.		Initials: mm
NOTE The burner should shut off as a flame failure condition.		
2.7.5 Clean the flame scanner, reinstall and test programmer.		Initials: mm
2.7.6 Check for proper operation as boiler goes through a firing cycle and light-off.	S ☒ U ☐ N/A ☐	Initials: mm
2.7.7 Check all electrical control and circuitry.	S ☒ U ☐ N/A ☐	Initials: mm

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-01

2.7.8 Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumper tube conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	S ☒ U ☐ N/A ☐	Initials: mm
2.7.9 Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	S ☒ U ☐ N/A ☐	Initials: mm
2.7.10 Lubricate fan motors where necessary.		Initials: mm
2.8 Perform combustion and draft tests.		Initials: mm
2.8.1 Visually inspect combustion.	S ☒ U ☐ N/A ☐	Initials: mm
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.9 Perform safety relief valve(s) pop test.	S ☒ U ☐ N/A ☐	Initials: mm
2.9.1 Check pressure-reducing valve.	S ☒ U ☐ N/A ☐	Initials: mm
2.9.2 Replace the strainer in the valve if needed.		Initials: mm
2.10 Perform slow drain test of low-water cutoff.	S ☒ U ☐ N/A ☐	Initials: mm

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-01

2.11 Inspect gas piping for proper support and tightness.	S ☒ U ☐ N/A ☐	Initials: mm
2.11.1 Inspect fuel supply system and gas controls.	S ☒ U ☐ N/A ☐	Initials: mm
2.11.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	S ☒ U ☐ N/A ☐	Initials: mm
2.12 Inspect boiler room ventilation louvers and intake.	S ☒ U ☐ N/A ☐	Initials: mm
2.12.1 Listen for any unusual noises or conditions and correct as necessary.	S ☒ U ☐ N/A ☐	Initials: mm
2.12.2 Report any needed corrections to the MC for corrective maintenance.		Initials: mm
2.12.3 Check combustion air supply openings to ensure that they are not closed or stopped up.	S ☒ U ☐ N/A ☐	Initials: mm
2.12.4 Inspect conditions of stacks and rain caps.	S ☒ U ☐ N/A ☐	Initials: mm
2.12.5 Inspect flue door gaskets to ensure they are in good condition, and properly secured.	S ☒ U ☐ N/A ☐	Initials: mm
2.12.6 Replace if necessary.		Initials: mm

Remarks: NONE

Work Order No.: 672872 Equipment ID No.: BHW-01

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Close and secure front and rear flue doors.		Initials: mm
3.2	Hook up all associated piping.		Initials: mm
3.3	IF water makeup feeds boiler directly, THEN open by-pass valve to refill boiler, AND close by-pass valve when boiler reaches operating pressure. -or- IF water makeup does NOT feed boiler directly, THEN open supply and return valves to refill boiler.	By-pass ☐ -or- Supply/ Return ☒	Initials: mm
3.4	Fire up boiler and check for air, gas, and water leaks.	S ☒ U ☐ N/A ☐	Initials: mm
3.5	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	S ☒ U ☐ N/A ☐	Initials: mm
3.6	Check pilot burners and ignition equipment for proper condition and adjustment.	S ☒ U ☐ N/A ☐	Initials: mm
3.7	Visually check burner for proper combustion.	S ☒ U ☐ N/A ☐	Initials: mm
3.8	Record all mechanical maintenance data, testing data, and other notable items.		Initials: mm

NOTE Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-01

3.9	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002.	S ☒ U ☐ N/A ☐	Initials: MM
3.10	Record all mechanical maintenance data, testing data, and other notable items.		Initials: MM
3.11	Notify MC that work on the boiler system is complete.		Initials: MM

Name of Craft Worker: Harold Deakin Z Number: 351234

Signature: Harold A Deakin Date: 9 / 15 / 2020

Name of Craft Worker: Randy Wendt Z Number: 350559

Signature: Randy R Wendt Date: 9 / 15 / 2020

Foreman Verification: MARK Millwood Z Number: 331693

Signature: [signature] Date: 9 / 15 / 2020

Remarks: NONE

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.002: Hot Water Boiler Water Treatment**
Work Order No.: 672872-01	Equipment ID No.: BHW-401

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: 440 Room: U209	
Date Inspected: 9 / 16 / 2020	Inspectors: Mark Millwood / Randy Wendt

1.0 PRE-MAINTENANCE ACTIVITIES

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.	Initials: MM

2.0 MAINTENANCE

2.1	Obtain a water sample from the boiler drain or an accessible point on the hot water loop system.		Initials: MM
2.2	Check sample water for boiler water treatment chemical concentration and pH. Use orthophosphate ($O\text{-}PO_4$) field test kit. Boiler water treatment chemical concentration should be 8 to 10 ppm. PO_4: 10 pH: 8 PO_4: _____ pH: _____	S ☒ U ☐ N/A ☐	Initials: MM
2.3	If required, add Garrett-Callahan Formula 1015L or equivalent to the pot feeder.		Initials: MM

NOTE Not all boiler systems have pot feeders.

2.4	If the boiler does not have a pot feeder, isolate and drain the boiler and add boiler water treatment chemical directly into the boiler using the vent or other accessible fitting.	Initials: MM

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-01

2.5	After addition of boiler water treatment chemical, circulate the system for a minimum of 72 hours. Boilers without pot feeders must be refilled before recirculation. Obtain a sample of the boiler water and use the orthophosphate (O PO_4) kit to test the sample for PO_4 and pH. Boiler water treatment chemical concentration should be 8 to 10 ppm. PO_4: ____ pH: ____ PO_4: ____ pH: ____	S ☐ U ☐ N/A ☑	Initials: mm
2.6	Send a copy of the water treatment report to LANL Commissioned Inspector Supervisor's office, MS P291.		Initials: mm

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Notify MC that work on the boiler system is complete.	Initials: mm

Name of Craft Worker: Harold DeaKin Z Number: 351234

Signature: Harold A DeaKin Date: 9 / 15 / 2020

Name of Craft Worker: Randy Wendt Z Number: 350559

Signature: Randy R Wendt Date: 9 / 15 / 2020

Foreman Verification: Mark Millwood Z Number: 331693

Signature: [signature] Date: 9 / 15 / 2020

Remarks:
2.5 Chemical Levels ARE good. NO Chemicals ADDed To System.

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Yearly Fireside/Waterside Inspection and Maintenance**
Work Order No.: 672872-01	Equipment ID No.: BHW-02

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: 440 Room: 4209

Date Inspected: 9/16/2020 Inspectors: Mark Millwood / Randy Wright

1.0 PRE-MAINTENANCE ACTIVITIES

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-02

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.		Initials: mm
2.0	**MAINTENANCE**		
NOTE	These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler subject matter expert (SME) at 7-8550 with questions or concerns.		
2.1	Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials: mm
2.2	Cool boiler, open air cock, and drain the boiler.		Initials: mm
2.3	Perform an internal and external inspection after thorough cleaning.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.1	Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.2	Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials: mm
2.3.3	Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.4	Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials: mm

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-02

2.3.5	On one-pass boilers (Sellers), check condition of all heat extractors.	S ☐ U ☐ N/A ☒	Initials: mm
2.3.6	Check refractory materials.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.7	Replace if needed.		Initials: mm
2.4	Perform maintenance on low-water cutoff float chamber and water feeder. Disassemble to ensure freedom from obstruction and proper functioning of the working parts.		Initials: mm
2.5	Perform routine burner maintenance.		Initials: mm
2.5.1	Observe temperature and operating pressure and general conditions.	S ☒ U ☐ N/A ☐	Initials: mm
2.5.2	Fire and cycle the burner.		Initials: mm
2.6	Perform routine maintenance of circulating pump and expansion pump equipment.		Initials: mm
2.6.1	Observe condition of expansion tank.	S ☒ U ☐ N/A ☐	Initials: mm
2.6.2	Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	S ☒ U ☐ N/A ☐	Initials: mm
2.6.3	Check the air pressure on the bladder-type expansion tanks.	S ☒ U ☐ N/A ☐	Initials: mm

Remarks: 2.3.5 Boiler not A Seller's.

Work Order No.: 672872-01 Equipment ID No.: BHW-02

2.6.4 Observe operation of circulating pumps.	S ☒ U ☐ N/A ☐	Initials: mm
2.6.5 Lubricate pump motors.		Initials: mm
2.7 Perform routine maintenance of entire combustion control equipment.		Initials: mm
2.7.1 Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	S ☒ U ☐ N/A ☐	Initials: mm
2.7.2 Adjust air/fuel mixture as needed.		Initials: mm
2.7.3 Test flame detection devices on boilers with flame scanners.	S ☒ U ☐ N/A ☐	Initials: mm
2.7.4 Remove the flame scanner with the burner firing.		Initials: mm
NOTE The burner should shut off as a flame failure condition.		
2.7.5 Clean the flame scanner, reinstall and test programmer.		Initials: mm
2.7.6 Check for proper operation as boiler goes through a firing cycle and light-off.	S ☒ U ☐ N/A ☐	Initials: mm
2.7.7 Check all electrical control and circuitry.	S ☒ U ☐ N/A ☐	Initials: mm

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-02

2.7.8 Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumper tube conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	S ☒ U ☐ N/A ☐	Initials: mm
2.7.9 Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	S ☒ U ☐ N/A ☐	Initials: mm
2.7.10 Lubricate fan motors where necessary.		Initials: mm
2.8 Perform combustion and draft tests.		Initials: mm
2.8.1 Visually inspect combustion.	S ☒ U ☐ N/A ☐	Initials: mm
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.9 Perform safety relief valve(s) pop test.	S ☒ U ☐ N/A ☐	Initials: mm
2.9.1 Check pressure-reducing valve.	S ☒ U ☐ N/A ☐	Initials: mm
2.9.2 Replace the strainer in the valve if needed.		Initials: mm
2.10 Perform slow drain test of low-water cutoff.	S ☒ U ☐ N/A ☐	Initials: mm

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-02

2.11 Inspect gas piping for proper support and tightness.	S ☒ U ☐ N/A ☐	Initials: mm
2.11.1 Inspect fuel supply system and gas controls.	S ☒ U ☐ N/A ☐	Initials: mm
2.11.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	S ☒ U ☐ N/A ☐	Initials: mm
2.12 Inspect boiler room ventilation louvers and intake.	S ☒ U ☐ N/A ☐	Initials: mm
2.12.1 Listen for any unusual noises or conditions and correct as necessary.	S ☒ U ☐ N/A ☐	Initials: mm
2.12.2 Report any needed corrections to the MC for corrective maintenance.		Initials: mm
2.12.3 Check combustion air supply openings to ensure that they are not closed or stopped up.	S ☒ U ☐ N/A ☐	Initials: mm
2.12.4 Inspect conditions of stacks and rain caps.	S ☒ U ☐ N/A ☐	Initials: mm
2.12.5 Inspect flue door gaskets to ensure they are in good condition, and properly secured.	S ☒ U ☐ N/A ☐	Initials: mm
2.12.6 Replace if necessary.		Initials: mm

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-02

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Close and secure front and rear flue doors.		Initials: mm
3.2	Hook up all associated piping.		Initials: mm
3.3	IF water makeup feeds boiler directly, THEN open by-pass valve to refill boiler, AND close by-pass valve when boiler reaches operating pressure. -or- IF water makeup does NOT feed boiler directly, THEN open supply and return valves to refill boiler.	By-pass ☐ -or- Supply/ Return ☒	Initials: mm
3.4	Fire up boiler and check for air, gas, and water leaks.	S ☒ U ☐ N/A ☐	Initials: mm
3.5	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	S ☒ U ☐ N/A ☐	Initials: mm
3.6	Check pilot burners and ignition equipment for proper condition and adjustment.	S ☒ U ☐ N/A ☐	Initials: mm
3.7	Visually check burner for proper combustion.	S ☒ U ☐ N/A ☐	Initials: mm
3.8	Record all mechanical maintenance data, testing data, and other notable items.		Initials: mm

NOTE Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-02

3.9	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002.	S ☒ U ☐ N/A ☐	Initials: mm
3.10	Record all mechanical maintenance data, testing data, and other notable items.		Initials: mm
3.11	Notify MC that work on the boiler system is complete.		Initials: mm

Name of Craft Worker: Roose, Richard A Z Number: 303503

Signature: Richard A Roose Date: 09 / 16 / 20

Name of Craft Worker: Randy Wendel Z Number: 350559

Signature: Randy R Wendel Date: 9 / 16 / 20

Foreman Verification: Mark Millwood Z Number: 331693

Signature: Mark Millwood Date: 9 / 16 / 2020

Remarks: NONE

Los Alamos NATIONAL LABORATORY EST.1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.002: Hot Water Boiler Water Treatment**
Work Order No.: 672872-01	Equipment ID No.: BHW-02

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: 440 Room: U209	
Date Inspected: 9 / 16 / 2020 Inspectors: Mat Millwood	

1.0 PRE-MAINTENANCE ACTIVITIES

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.	Initials: MM

2.0 MAINTENANCE

2.1	Obtain a water sample from the boiler drain or an accessible point on the hot water loop system.		Initials: MM
2.2	Check sample water for boiler water treatment chemical concentration and pH. Use orthophosphate ($O\text{-}PO_4$) field test kit. Boiler water treatment chemical concentration should be 8 to 10 ppm. PO_4: 10 pH: 8 PO_4: _____ pH: _____	S ☒ U ☐ N/A ☐	Initials: MM
2.3	If required, add Garrett-Callahan Formula 1015L or equivalent to the pot feeder.		Initials: MM

NOTE Not all boiler systems have pot feeders.

2.4	If the boiler does not have a pot feeder, isolate and drain the boiler and add boiler water treatment chemical directly into the boiler using the vent or other accessible fitting.	Initials: MM

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-02

2.5	After addition of boiler water treatment chemical, circulate the system for a minimum of 72 hours. Boilers without pot feeders must be refilled before recirculation. Obtain a sample of the boiler water and use the orthophosphate (O PO_4) kit to test the sample for PO_4 and pH. Boiler water treatment chemical concentration should be 8 to 10 ppm. PO_4: / pH: / PO_4: / pH: /	S ☐ U ☐ N/A ☒	Initials: mm
2.6	Send a copy of the water treatment report to LANL Commissioned Inspector Supervisor's office, MS P291.		Initials: mm

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Notify MC that work on the boiler system is complete.	Initials: mm

Name of Craft Worker: Roose, Richard A. Z Number: 303503

Signature: Richard A Roose Date: 9 / 16 / 2020

Name of Craft Worker: Randy Wendt Z Number: 350559

Signature: Randy Wendt Date: 9 / 16 / 2020

Foreman Verification: Mark Millwood Z Number: 331693

Signature: Mark Millwood Date: 9 / 16 / 2020

Remarks:
2.5 NO Chemicals ADDed TO System,

Los Alamos NATIONAL LABORATORY EST 1943

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Yearly Fireside/Waterside Inspection and Maintenance

Work Order No.: 672872-01 Equipment ID No.: BHW-03

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: 440 Room: U209

Date Inspected: 9/14/2020 Inspectors: Mark Millwood / Randy Wendt

1.0 PRE-MAINTENANCE ACTIVITIES

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-03

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.	Initials: mm

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler subject matter expert (SME) at 7-8550 with questions or concerns.

2.1	Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials: mm
2.2	Cool boiler, open air cock, and drain the boiler.		Initials: mm
2.3	Perform an internal and external inspection after thorough cleaning.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.1	Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.2	Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials: mm
2.3.3	Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.4	Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials: mm

Remarks: NONE

2.3.5	On one-pass boilers (Sellers), check condition of all heat extractors.	S ☐ U ☐ N/A ☒	Initials: mm
2.3.6	Check refractory materials.	S ☒ U ☐ N/A ☐	Initials: mm
2.3.7	Replace if needed.		Initials: mm
2.4	Perform maintenance on low-water cutoff float chamber and water feeder. Disassemble to ensure freedom from obstruction and proper functioning of the working parts.		Initials: mm
2.5	Perform routine burner maintenance.		Initials: mm
2.5.1	Observe temperature and operating pressure and general conditions.	S ☒ U ☐ N/A ☐	Initials: mm
2.5.2	Fire and cycle the burner.		Initials: mm
2.6	Perform routine maintenance of circulating pump and expansion pump equipment.		Initials: mm
2.6.1	Observe condition of expansion tank.	S ☒ U ☐ N/A ☐	Initials: mm
2.6.2	Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	S ☒ U ☐ N/A ☐	Initials: mm
2.6.3	Check the air pressure on the bladder-type expansion tanks.	S ☒ U ☐ N/A ☐	Initials: mm

Remarks:
2.3.5 Boiler not a Sellers

Work Order No.: 672872-01 Equipment ID No.: BHW-03

2.6.4 Observe operation of circulating pumps.	S ☒ U ☐ N/A ☐	Initials: MM
2.6.5 Lubricate pump motors.		Initials: MM
2.7 Perform routine maintenance of entire combustion control equipment.		Initials: MM
2.7.1 Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	S ☒ U ☐ N/A ☐	Initials: MM
2.7.2 Adjust air/fuel mixture as needed.		Initials: MM
2.7.3 Test flame detection devices on boilers with flame scanners.	S ☒ U ☐ N/A ☐	Initials: MM
2.7.4 Remove the flame scanner with the burner firing.		Initials: MM
NOTE The burner should shut off as a flame failure condition.		
2.7.5 Clean the flame scanner, reinstall and test programmer.		Initials: MM
2.7.6 Check for proper operation as boiler goes through a firing cycle and light-off.	S ☒ U ☐ N/A ☐	Initials: MM
2.7.7 Check all electrical control and circuitry.	S ☒ U ☐ N/A ☐	Initials: MM

Remarks: NONE

2.7.8	Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumper tube conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	S ☒ U ☐ N/A ☐	Initials: MM
2.7.9	Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	S ☒ U ☐ N/A ☐	Initials: MM
2.7.10	Lubricate fan motors where necessary.		Initials: MM
2.8	Perform combustion and draft tests.		Initials: MM
2.8.1	Visually inspect combustion.	S ☒ U ☐ N/A ☐	Initials: MM
NOTE	Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.9	Perform safety relief valve(s) pop test.	S ☒ U ☐ N/A ☐	Initials: MM
2.9.1	Check pressure-reducing valve.	S ☒ U ☐ N/A ☐	Initials: MM
2.9.2	Replace the strainer in the valve if needed.		Initials: MM
2.10	Perform slow drain test of low-water cutoff.	S ☒ U ☐ N/A ☐	Initials: MM

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-03

2.11 Inspect gas piping for proper support and tightness.	S ☒ U ☐ N/A ☐	Initials: MM
2.11.1 Inspect fuel supply system and gas controls.	S ☒ U ☐ N/A ☐	Initials: MM
2.11.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	S ☒ U ☐ N/A ☐	Initials: MM
2.12 Inspect boiler room ventilation louvers and intake.	S ☒ U ☐ N/A ☐	Initials: MM
2.12.1 Listen for any unusual noises or conditions and correct as necessary.	S ☒ U ☐ N/A ☐	Initials: MM
2.12.2 Report any needed corrections to the MC for corrective maintenance.		Initials: MM
2.12.3 Check combustion air supply openings to ensure that they are not closed or stopped up.	S ☒ U ☐ N/A ☐	Initials: MM
2.12.4 Inspect conditions of stacks and rain caps.	S ☒ U ☐ N/A ☐	Initials: MM
2.12.5 Inspect flue door gaskets to ensure they are in good condition, and properly secured.	S ☒ U ☐ N/A ☐	Initials: MM
2.12.6 Replace if necessary.		Initials: MM

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-03

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Close and secure front and rear flue doors.		Initials: mm
3.2	Hook up all associated piping.		Initials: mm
3.3	IF water makeup feeds boiler directly, THEN open by-pass valve to refill boiler, AND close by-pass valve when boiler reaches operating pressure. -or- IF water makeup does NOT feed boiler directly, THEN open supply and return valves to refill boiler.	By-pass ☐ -or- Supply/ Return ☒	Initials: mm
3.4	Fire up boiler and check for air, gas, and water leaks.	S ☒ U ☐ N/A ☐	Initials: mm
3.5	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	S ☒ U ☐ N/A ☐	Initials: mm
3.6	Check pilot burners and ignition equipment for proper condition and adjustment.	S ☒ U ☐ N/A ☐	Initials: mm
3.7	Visually check burner for proper combustion.	S ☒ U ☐ N/A ☐	Initials: mm
3.8	Record all mechanical maintenance data, testing data, and other notable items.		Initials: mm

NOTE Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.

Remarks: NONE

Work Order No.: 672872-01 Equipment ID No.: BHW-03

3.9 Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002.	S [X] U [ ] N/A [ ]	Initials: mm
3.10 Record all mechanical maintenance data, testing data, and other notable items.		Initials: mm
3.11 Notify MC that work on the boiler system is complete.		Initials: mm

Name of Craft Worker: Randy Wendt Z Number: 350559

Signature: Randy Rwndt Date: 9 / 14 / 2020

Name of Craft Worker: Mark Millwood Z Number: 331693

Signature: Mark Millwood Date: 9 / 14 / 2020

Foreman Verification: _____ Z Number: _____

Signature: _____ Date: ___/___/___

Remarks: NONE

Los Alamos NATIONAL LABORATORY EST 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.002: Hot Water Boiler Water Treatment**
Work Order No.: 672872-01	Equipment ID No.: BHW-02

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: 440 Room: U209

Date Inspected: 9 / 15 / 2020 Inspectors: Mark McTwood / Randy Wenzt

1.0 PRE-MAINTENANCE ACTIVITIES

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.	Initials: MM

2.0 MAINTENANCE

2.1	Obtain a water sample from the boiler drain or an accessible point on the hot water loop system.		Initials: MM
2.2	Check sample water for boiler water treatment chemical concentration and pH. Use orthophosphate (O-PO_4) field test kit. Boiler water treatment chemical concentration should be 8 to 10 ppm. PO_4: 10 pH: 8 PO_4: _____ pH: _____	**S** ☒ **U** ☐ **N/A** ☐	Initials: MM
2.3	If required, add Garrett-Callahan Formula 1015L or equivalent to the pot feeder.		Initials: MM

NOTE Not all boiler systems have pot feeders.

2.4	If the boiler does not have a pot feeder, isolate and drain the boiler and add boiler water treatment chemical directly into the boiler using the vent or other accessible fitting.	Initials: MM

Remarks: NONE

2.5	After addition of boiler water treatment chemical, circulate the system for a minimum of 72 hours. Boilers without pot feeders must be refilled before recirculation. Obtain a sample of the boiler water and use the orthophosphate (O PO_4) kit to test the sample for PO_4 and pH. Boiler water treatment chemical concentration should be 8 to 10 ppm. PO_4: / pH: / PO_4: / pH: /	S ☐ U ☐ N/A ☒	Initials: mm
2.6	Send a copy of the water treatment report to LANL Commissioned Inspector Supervisor's office, MS P291.		Initials: mm

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Notify MC that work on the boiler system is complete.	Initials: mm

Name of Craft Worker: Randy Wendt Z Number: 350559

Signature: Randy Wendt Date: 9 / 14 / 2020

Name of Craft Worker: Mark Millwood Z Number: 331693

Signature: Mark Millwood Date: 9 / 14 / 2020

Foreman Verification: N/A Z Number: _____

Signature: _____ Date: ____/____/____

Remarks: 2.5 NO Chemicals Added To System.

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

1. Scope of Work

1.1 **PERFORM** – Annual HW Boiler FS/WS Inspection Testing and Maintenance PM in accordance with MSS PMI Procedure 403-A.002 and 403-A.006.

Hazard Analysis (HA) Team: Date

2. Precautions and Limitations

2.1 **IF** steps cannot be completed as described, or **IF** unforeseen situations occur, Then **PAUSE WORK** and **STABILIZE** the situation, **CONTACT** your supervisor, and **AWAIT** further instructions before proceeding.

2.2 Follow all postings when moving throughout the facility, wear appropriate PPE as listed. If postings are not understood, then **PAUSE WORK** and verify with RLUOB Operations before proceeding.

2.3 Signatures, Initials, and Place-Keeping blocks at the end of each step signifies the completion of the specific step or series of steps as an error prevention tool. Steps SHALL be signed and/or marked as required upon completion

2.4 Verify the activity is on the Plan of the Day or has received same day approval.

2.5 Perform Non-hazardous voltage checks in the vicinity where electrical work is to be performed and anytime the electrical configuration of a system is changed, including changes to LOTO configuration. Re-emphasize the need for daily Non-hazardous voltage checks.

2.6 **ENTRY CONDITIONS:**

- Ensure Facility status is compatible with work activity.
- When required, place barricades or other access control measures to exclude non-qualified workers and by standers from entering work area.
- Check in with Operations Center prior to starting any work.

3. Prerequisites/Initial Conditions

3.1 **CHECK-IN REQUIREMENTS:**

- All personnel must check in at the RLUOB Operations Center to release work and ensure work is on Plan-of-Day or receive late addition approval.

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

3.2 **WORK AREA TRAINING REQUIREMENTS:**

- Residents must complete RLUOB Site Specific Training (TP #161) and read the Building Emergency Plan or be escorted.

3.3 **OTHER BOUNDING CONDITIONS**

- Look for postings when moving through the facility such as PPE requirements. If you have any questions, ask.
- Follow announcements, alarms, alerts, and all directions from Facility Ops due to changing conditions, outages, testing activities, evacuation orders, etc.
- Conduct a Pre-job Briefing and include the following discussion:
- Determine the appropriate level of personal protective equipment (PPE) during maintenance and LOTO activities.

3.4 **REFERENCED DOCUMENTS**

- LOTO Form 2244
- SDS – Gas
- SDS – Garrett-Callahan Formula 1015L

4. SPECIAL TRAINING/MEDICAL REQUIREMENTS

4.1 The following training is required for the General Hazards Section:

- LANL Maintenance Craft Worker **Curriculum ID # 10968**

4.2 The following training is required for performing work at RLUOB:

- RLUOB Site Specific **Curriculum ID # 161**
- RLUOB 1st Floor Access Unescorted **Curriculum ID # 1768**

4.3 The following training is required for working on Boilers –Pipefitters performing work:

- General Pipefitter Requirements **Curriculum ID # 647**
- Water Treatment **Curriculum ID # 2296**
- Chemical Hazards Communication **Curriculum ID # 25418**

4.4 The following training is required for Electricians performing work:

- General Electrician Requirements **Curriculum ID # 642**
- Electrician and Facility Engineers **Curriculum ID # 2559**
  or Non-Electrician Craft **Curriculum ID # 2908**

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)	
Revision #:		**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)		**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:** / **Additional Location Description:**

Note: Q/L clearance is required for access to the Limited Area portion of facility or be escorted.

5. SPECIAL TOOLS/EQUIPMENT

5.1 **N/A**

6. WORK INSTRUCTIONS

⚠WARNING

Hazard: Noise Exposure when working in Equipment rooms
Control: Follow postings and wear hearing protection
Training: Hearing Conservation – Curriculum # 2307

6.1 **PERFORM Pre-Maintenance**

6.1.1 **Perform** Pre-Maintenance in accordance with 403-A.006, Hot Water Boiler Yearly Fireside/Waterside Inspection and Maintenance Checklist. ☒

BHW-01 ☑

BHW-02 ☑

BHW-03 ☑

6.2 **PERFORM Electrical LOTO of Boiler #1 per Ops Sequence (AS/WHEN NEEDED)**

NOTE:

- OP's to define the sequence of turning Boilers 1, 2, and 3 **OFF/ON.**
- BHW-01 has controller for all 3 Boilers. If BHW-01 is Locked Out, then Boilers 2 or 3 have to be turned ON/OFF Manually.

⚠WARNING

Hazardous Energy/Electrical Shock/Arc Flash Hazard – Potential contact with energized systems.

6.2.1 **Record** the current AS FOUND position of Boiler Switch for each Boiler.

BHW-01 Auto ☒ **BHW-02** Auto ☒ **BHW-03** Auto ☒

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

BHW-01 fed from: MCC-B Ckt # 3B, Rm U209 (480V/3Ø) Class 1.3b)	
Incident Energy (cal/cm²)	0.17
Arc Flash Boundary (in)	5
Working Distance (in)	18
Limited Approach Boundary (in)	42

HW-P-01 fed from: MCC-B Ckt # 2B, Rm U209 (480V/3Ø) Class 1.3b)	
Incident Energy (cal/cm²)	0.14
Arc Flash Boundary (in)	5
Working Distance (in)	18
Limited Approach Boundary (in)	42

6.2.2 **Perform** LOTO of **Boiler BHW-01** at MCC-B Ckt 3B and LOTO **HW Pump HW-P-01** at MCC-B Ckt # 2B located in Rm U209. ☒

- LOTO Form 2244

Breaker Manipulation PPE:

- Electrical Worker Standard Required Daily Wear Work Clothing

6.2.3 **Place** switch inside UPS in the OPEN(OFF) position. UPS is located beneath BHW-01 control Panel and apply LOTO. ☒

6.2.4 **Place** Boiler 2 or 3 in Manual position and verify accompanying pump is also in Manual positon prior to start of work on Boiler 1. ☒

6.2.5 **Notify** Operations Center that Boiler 2 or 3 have been placed in Manual position. ☒

6.2.6 **Verify** Non-Hazardous Voltage at BHW-01 Controller and at Pump local disconnect switch using NRTL, Cat. III min volt meter. ☒

Non-Hazardous Voltage Verification PPE:

- Electrical Worker Standard Required Daily Wear Work Clothing
- Di-Electric Gloves with Leather Protectors

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

- Safety Glasses
- Hearing Protection (Ear Canal Inserts)
- Two-Person Rule

HOLD POINT

Non-Hazardous Voltage Verified for **BHW-01 and HW-P-01**

Verifier _____ Z# 331693 Date 9-15-2020

6.3 **PERFORM Mechanical LOTO of Boiler # 1 Gas / Fuel Oil/ Water Valves**

⚠WARNING	**Hazard: Gas** **PPE Requirements:** Wear safety glasses with side shields, work gloves, long sleeves, long pants, use explosion proof equipment and non-sparking tools. Ensure work is occurring in well ventilated area.

6.3.1 **Close** and **Perform** LOTO to the following valves: ☒

- Natural Gas Valves **NG-V-6009D** and **NG-V-6004A**
- INLET Water Valve to **BHW-01** and **HW-V-101A**
- OUTLET Water Valve from **BHW-01** and **HW-V-101B**

NOTE:
If Required, Relieve Boiler Pressure by opening pressure relief valve and allow to drain.

- LOTO Form 2244

6.3.2 **Verify** Non-Hazardous Energy on BHW-01 Natural Gas Valves by firing boiler until boiler flame fails, this will suck out all gas within the gas line. Verify "0" psig on gas line gauge. ☒

HOLD POINT

Non-Hazardous Energy Verified for **BHW-01 Natural Gas Valves**

Verifier _____ Z# 331693 Date 9-15-2020

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

HOLD POINT

Non-Hazardous Energy Verified for **BHW-01 Inlet/ Outlet Water Valves**

Verifier _____ Z# 331693 Date 9-15-2020

6.3.3 **Proceed** to perform **TASK 6.8** in accordance with IWD and as per PMI Checklists 403-A.002 and 403-A.006. ☒

6.4 **PERFORM Electrical LOTO of Boiler # 2 per Ops Sequence (AS/WHEN NEEDED)**

⚠WARNING

Hazardous Energy/Electrical Shock/Arc Flash Hazard – Potential contact with energized systems.

BHW-02 fed from: MCC-B Ckt # 3D, Rm U209 (480V/3Ø) Class 1.3b)	
Incident Energy (cal/cm²)	**0.17**
Arc Flash Boundary (in)	**5**
Working Distance (in)	**18**
Limited Approach Boundary (in)	**42**

HW-P-02 fed from: MCC-B Ckt # 2C, Rm U209 (480V/3Ø) Class 1.3b)	
Incident Energy (cal/cm²)	**0.14**
Arc Flash Boundary (in)	**5**
Working Distance (in)	**18**
Limited Approach Boundary (in)	**42**

6.4.1 **Perform** LOTO of **Boiler BHW-02** at MCC-B Ckt 3D and LOTO **HW Pump HW-P-02** at MCC-B Ckt # 2C located in Rm U209. ☒

- LOTO Form 2244

Breaker Manipulation PPE:

- Electrical Worker Standard Required Daily Wear Work Clothing

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)	
Revision #:		**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)		**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:** / **Additional Location Description:**

6.4.2 **Verify** Non-Hazardous Voltage at BHW-02 Controller and at Pump local disconnect switch using NRTL, Cat. III min volt meter. X

Non-Hazardous Voltage Verification PPE:

- Electrical Worker Standard Required Daily Wear Work Clothing
- Di-Electric Gloves with Leather Protectors
- Safety Glasses
- Hearing Protection (Ear Canal Inserts)
- Two-Person Rule

HOLD POINT

Non-Hazardous Voltage Verified for **BHW-02 and HW-P-02**

Verifier _____ Z# 331693 Date 9-15-2020

6.5 **PERFORM Mechanical LOTO of Boiler # 2 Gas / Fuel Oil/ Water Valves**

⚠WARNING

Hazard: Gas

PPE Requirements: Wear safety glasses with side shields, work gloves, long sleeves, long pants, use explosion proof equipment and non-sparking tools. Ensure work is occurring in well ventilated area.

6.5.1 **Close** and **Perform** LOTO to the following valves: X

- Natural Gas Valves **NG-V-6010D** and **NG-V-6014A**
- INLET Water Valve to **BHW-02** and **HW-V-201A**
- OUTLET Water Valve from **BHW-02** and **HW-V-201B**

NOTE:
If Required, Relieve Boiler Pressure by opening pressure relief valve and allow to drain.

- LOTO Form 2244

6.5.2 **Verify** Non-Hazardous Energy on BHW-02 Natural Gas Valves by firing boiler until boiler flame fails, this will suck out all gas within the gas line. Verify "0" psig on gas line gauge. X

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

HOLD POINT

Non-Hazardous Energy Verified for **BHW-02 Natural Gas Valves**

Verifier _____ Z# 350559 Date 9-15-20

HOLD POINT

Non-Hazardous Energy Verified for **BHW-02 Inlet/ Outlet Water Valves**

Verifier _____ Z# 331693 Date 9-15-2020

6.5.3 **Proceed** to perform **TASK 6.8** in accordance with IWD and as per PMI Checklists 403-A.002 and 403-A.006. ☒

6.6 **PERFORM Electrical LOTO of Boiler # 3 per Ops Sequence (AS/WHEN NEEDED)**

⚠WARNING

Hazardous Energy/Electrical Shock/Arc Flash Hazard – Potential contact with energized systems.

BHW-03 fed from: MCC-B Ckt # 3F, Rm U209 (480V/3Ø) Class 1.3b)	
Incident Energy (cal/cm²)	**0.17**
Arc Flash Boundary (in)	**5**
Working Distance (in)	**18**
Limited Approach Boundary (in)	**42**

HW-P-03 fed from: MCC-B Ckt # 2D, Rm U209 (480V/3Ø) Class 1.3b)	
Incident Energy (cal/cm²)	**0.14**
Arc Flash Boundary (in)	**5**
Working Distance (in)	**18**
Limited Approach Boundary (in)	**42**

6.6.1 **Perform** LOTO of **Boiler BHW-03** at MCC-B Ckt 3F and LOTO **HW Pump HW-P-03** at MCC-B Ckt # 2D located in Rm U209. ☒

- LOTO Form 2244

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

Breaker Manipulation PPE:

- Electrical Worker Standard Required Daily Wear Work Clothing

6.2.7 **Verify** Non-Hazardous Voltage at BHW-03 Controller and at Pump local disconnect switch using NRTL, Cat. III min volt meter. ☒

Non-Hazardous Voltage Verification PPE:

- Electrical Worker Standard Required Daily Wear Work Clothing
- Di-Electric Gloves with Leather Protectors
- Safety Glasses
- Hearing Protection (Ear Canal Inserts)
- Two-Person Rule

HOLD POINT

Non-Hazardous Voltage Verified for **BHW-03 and HW-P-03**

Verifier Mark Whitmore Z# 331693 Date 9-14-2020

6.7 **PERFORM Mechanical LOTO of Boiler # 3 Gas / Fuel Oil/ Water Valves**

⚠WARNING	**Hazard: Gas** **PPE Requirements:** Wear safety glasses with side shields, work gloves, long sleeves, long pants, use explosion proof equipment and non-sparking tools. Ensure work is occurring in well ventilated area.

6.7.1 **Close** and **Perform** LOTO to the following valves: ☒

- Natural Gas Valves **NG-V-6020D** and **NG-V-6024A**
- INLET Water Valve to **BHW-03** and **HW-V-301A**
- OUTLET Water Valve from **BHW-03** and **HW-V-301B**

NOTE:
If Required, Relieve Boiler Pressure by opening pressure relief valve and allow to drain.

- LOTO Form 2244

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

6.7.2 **Verify** Non-Hazardous Energy on BHW-03 Natural Gas Valves by firing boiler until boiler flame fails, this will suck out all gas within the gas line. Verify "0" psig on gas line gauge. ☒

HOLD POINT

Non-Hazardous Energy Verified for **BHW-03 Natural Gas Valves**

Verifier RMW Z# 350559 Date 9-15-20

HOLD POINT

Non-Hazardous Energy Verified for **BHW-03 Inlet/ Outlet Water Valves**

Verifier RMW Z# 350559 Date 9-15-20

6.7.3 **Proceed** to perform **TASK 6.8** in accordance with IWD and as per PMI Checklists 403-A.002 and 403-A.006. ☒

6.8 **PERFORM PMI Work Steps**

6.8.1 **Perform** applicable steps of PMI procedure while unit is under LOTO and document results on attached checklists for each boiler. Mark unit below as work is completed. ☒

BHW-01 ☑

BHW-02 ☑

BHW-03 ☑

6.9 **REMOVE LOTO**

6.9.1 **REMOVE** Electrical LOTO and Re-Energize Boilers on **BHW-01** as they are returned to service. (Refer to **Task 6.2** for applicable LOTO points) ☒

6.9.2 **REMOVE** Electrical LOTO and Re-Energize Boilers on **BHW-02** as they are returned to service. (Refer to **Task 6.4** for applicable LOTO points) ☒

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

6.9.3 **REMOVE** Electrical LOTO and Re-Energize Boilers on **BHW-03** as they are returned to service. (Refer to **Task 6.6** for applicable LOTO points) ☒

6.9.4 **REMOVE** Mechanical LOTO and Open Valves to Boiler **BHW-01** as it is returned to service. (Refer to **Task 6.3** for applicable LOTO points) **Proceed** to **Task 7.1** for PMT. ☒

6.9.5 **REMOVE** Mechanical LOTO and Open Valves to Boiler **BHW-02** as it is returned to service. (Refer to **Task 6.5** for applicable LOTO points) **Proceed** to **Task 7.1** for PMT. ☒

6.9.6 **REMOVE** Mechanical LOTO and Open Valves to Boiler **BHW-03** as it is returned to service. (Refer to **Task 6.7** for applicable LOTO points) **Proceed** to **Task 7.1** for PMT. ☒

6.10 **PERFORM Hot Water Boiler Water Treatment**

⚠ CAUTION

Water Pressure on System 45-50 PSI
Water Temperature 160° - 170° F
Do not leave area with system open

6.10.1 **Perform** Hot Water Boiler water treatment in accordance with PMI 403-A.002 and record results. ☒

6.10.2 **IF** required, add Garrett-Callahan Formula 1015L or equivalent to Pot Feeder located in Rm U200, and follow work steps listed below: ☒

(1) **Close** Valve HW-V-01C
(2) **Close** Valve HW-V-01D
(3) **Slowly** Open Pot Feeder Drain Valve HW-V01E and relieve pressure slowly
(4) **Slowly** remove lid to Pot Feeder
(5) **Close** Drain Valve HW-V01E prior to adding chemical

(6) **DON PPE** for adding Chemical:
- Use with good ventilation
- Face Shield and Chemical Goggles for splash hazard
- Chemical Resistant Apron
- Long sleeves and long pants

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

- Nitrile Gloves
- Eyewash or Portable Eyewash available in immediate vicinity

(7) **Connect** a hose to Tepid Water supply line hose bib adjacent to Potable Hot Water Tank for immediate use and contemporary rinse station.
(8) **Slowly Add** Garrett-Callahan Formula 1015L (Clean up Spills)
(9) **Inspect** lid and seal, wipe threads, clean seal area
(10) **Close** Pot Feeder lid to snug tight
(11) **Slowly** Open Valve HW-V-01D
(12) **Slowly** Open Valve HW-V-01C
(13) **Ensure** no leaks occur from Pot Feeder, Inlet/Outlet valves, and piping.

6.10.3 **Wait** a minimum of 72 hours and RE-Test Hot Water Boiler Water Treatment per PMI 403-A.002. ☒

6.10.4 **Re-Perform** steps as needed to obtain acceptable water treatment results. ☒

7. Post Work Activities

7.1 **Perform** Post Maintenance Testing for all 3 Boilers in accordance with PMI 403-A.006. ☒

BHW-01 ☑

BHW-02 ☑

BHW-03 ☑

8. Closeout

8.1 **DISPOSE** of all waste (if any) per the direction of the Waste Management Coordinator (WMC) or designee ☒

8.2 **CLOSE** out package ☒
- Document any additional information and work performed on Work Doc Form
- Document any lessons learned in the Work Doc Form if applicable.

8.3 **CONTACT** the MC and inform them of the work completed. Fill out the required Work Ord ☒

Los Alamos NATIONAL LABORATORY	**Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)**		
Revision #:			**Activity/Task Title:** 550440 Annual Hot Water Boiler FS/WS PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Wanda J. Madrid 116672 08/21/2020
TA: 55	**Building:** 0440	**Room:**	**Additional Location Description:**

***Insert Rows above** for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls.*	The RLM, and FOD or FOD Representative approval indicates IWM has been applied appropriately, work is authorized, workers are qualified, work will be performed in accordance with ESH&Q/S&S requirements and the IWD, and facility safety basis, aggregate hazards, and collocated hazards were appropriately included in the hazard analysis and acknowledges completion of a peer review.	**RLM** (Signature/Z#/Date) **Required** 303631 9-10-2020 **FOD or Representative** (Signature/Z#/Date) **ESO Review** (Signature/Z#/Date) **If Required** 200888 Eugene A Wagner III Digitally signed by Eugene A Wagner III Date: 2020.09.10 09:02:42 -06'00' **Safety Review** (Signature/Z#/Date) **Required** See cover sheet

IWD Type ☒ Moderate-Hazard ☐ High-Hazard/Complex ☐ Standing IWD	Date when RLM re-approval is required 10-30-2021 Other Conditions for Re-Approval Change in scope, hazards or IWD (Print) Name of Primary PIC E. Garcia / 127709 Name of Alternate PIC L. Tollefson / 127558 Name of Alternate PIC D. Valdez / 185042	Any required classification review completed, DA 303631 Signature/Date

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Los Alamos NATIONAL LABORATORY EST.1943

Form 2244

Lockout/Tagout (LO/TO) Orders

Section 1: General Information

Work Document Number (e.g., Package/Procedure #): 672872-01	LO/TO Remedy ID: 99607
Location of Equipment to be Isolated: TA: 55 Bldg: 0440 Rm/Other: U209	Description of Machinery, System & Equipment (MS&E) to be worked on: BHW-02 and HW-P-02
MS&E Owner/Operator: Alex Sauregumberry Z Number: 215253 Phone: 7-7333	
Shutdown to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☑ No	Re-energize/restart to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☑ No
Reason for LO/TO: Perform 550440 Hot Water Boiler Fireside/ Waterside PM	
Group LO/TO (2 or more)? ☐ Yes ☑ No *If yes, a lead authorized worker must be appointed.*	Group lock box used? ☐ Yes ☑ No
Shift or Personnel Changes? ☐ Yes ☑ No *If yes, a description of how the continuity of LO/TO protection will be ensured must be referenced or attached to this form. (See Section 3.9.6 of P101-3 for details.)*	☑ Continuity of LO/TO protection details described in operating procedure, work instruction, or other work control document. Document Number:

Section 2: Energy Control Procedure

1. Plan the work.
2. Identify and assess hazardous energy.
3. Contact the MS&E owner/operator.
4. Obtain locks and tags from lock coordinator.
5. Notify affected workers.
6. Shutdown MS&E according to **Section 3: Shutdown Sequence**.
7. Isolate and lock out MS&E from energy source, relieve stored energy, and perform verification of isolation according to **Section 4: LO/TO Sequence**.
8. Perform the work.
9. Release MS&E from LO/TO according to **Section 5: Release MS&E from Lockout/Tagout Sequence**.

Section 3: Shutdown Sequence

☑ Perform shutdown according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:

☐ **N/A**; MS&E to be worked on will be isolated according to **Section 4: LO/TO Sequence** (e.g., cannot be shut down)
Detail the process to normally shut down the MS&E below, if not following other document referenced above or N/A.

Step No.	Action/Description	Step No.	Action/Description
☐ 1		☐ 6	
☐ 2		☐ 7	
☐ 3		☐ 8	
☐ 4		☐ 9	
☐ 5		☐ 10	

Section 4: LO/TO Sequence

☑ Perform LO/TO sequence according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:
Describe how to effectively isolate & lockout the MS&E below, if not following other document referenced above.

Isolate & Lockout (Step No.)	Equipment Descriptor (What is being locked out? e.g., machine drive motor, input power to MCC)	Energy Source (e.g., electrical, mechanical, pneumatic, hydraulic, chemical, thermal)	Energy Isolation Device (e.g., specific ID, description, circuit #, lock box #)	Location of Energy Isolation Device (e.g., room number, north wall, south wall)	Required LO/TO Position or Alignment (e.g., off, open, closed, on)	Verification Method (e.g., live/dead/live, crack open, on-off-on-off, peer checking, independent verification)	Verifier's Initials (if req'd)	See Section 5: Release (Step No.)
☑ (1)	BHW-02	Electrical	MCC-B Ckt 3D	U209	OPEN / OFF	Peer	RPW	☑
☑ (2)	HW-P-02	Electrical	MCC-B Ckt 2C	U209	OPEN/OFF	Peer	RPW	☑
☑ (3)	BHW-02	Mechanical	NG-V-6010D	U209	CLOSED	Peer	RPW	☑
☑ (4)	BHW-02	Mechanical	NG-V-6014A	U209	CLOSED	Peer	RPW	☑
☑ (5)	HW-P-02	Mechanical	HW-V-201A	U209	CLOSED	Peer	RPW	☑
☑ (6)	HW-P-02	Mechanical	HW-V-201B	U209	CLOSED	Peer	RPW	☑
☑ (7)	Lock Box	Lock Box	Lockbox 9	U209	Locked	Peer	RPW	☑
☐ (8)								☐

Section 5: Release MS&E from Lockout/Tagout Sequence

1. Check the MS&E and immediate area for items that could result in damage or danger on start-up.
2. Check the work area to ensure that all workers have been safely positioned or removed from the work area.
3. Verify that the controls are in neutral or "off" position.
4. Notify the owner/operator and affected workers that work is complete and MS&E is ready to release from LO/TO.
5. Remove the LO/TO device, and re-energize (if appropriate according to MS&E owner/operator) according to the sequence as identified above under Release in **Section 4: LO/TO Sequence** or according to operating procedure, work instruction, or other work control document identified in **Section 4**.
6. Return lock and locking device to Lock Coordinator.

Energy Control Procedure prepared by:

Preparer (print name)	Z Number	Organization	Phone	Signature/Date
Wanda J Madrid	116672	MSS WC	606-0332	Wanda J Madrid

By signing below, you acknowledge that this energy control procedure and/or referenced documents identify the isolation devices, isolation points, and methods necessary to prevent any unexpected release of hazardous energy.

Energy Control Procedure approved by:

MS&E Owner/Operator (print name)	Z Number	Organization	Phone	Signature/Date
A. Jaureguiberry	215253	RCUOB OPS	7-7333	[signature] 9/15/2020

Section 6: All Authorized Workers (anyone applying a lock for this activity)

Fill out the following information or print and attach Authorized Workers information from the Lockout/Tagout Remedy Application.

Authorized Workers Name(s)	Z Number	Date Lock Applied	Date Lock Removed
Lead: Mark Millwood	331693	9/15/2020	9-16-2020
Randy Wendt	350559	9/15/20	9-16-2020
HAROLD A DEAKIN	351234	9/15/20/20	9-16-2020
Roos_Richard A.	303563	9/16/20	9-16-2020

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Los Alamos NATIONAL LABORATORY EST.1943

Form 2244

Lockout/Tagout (LO/TO) Orders

Section 1: General Information

Work Document Number (e.g., Package/Procedure #): 672872-01	LO/TO Remedy ID: 99779
Location of Equipment to be Isolated: TA: 55 Bldg: 0440 Rm/Other: U209	Description of Machinery, System & Equipment (MS&E) to be worked on: BHW-01 and HW-P-01
MS&E Owner/Operator: Eric M. Quintana Z Number: 120321 Phone: 77333	
Shutdown to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☑ No	Re-energize/restart to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☑ No
Reason for LO/TO: Perform 550440 Hot Water Boiler Fireside/ Waterside PM	
Group LO/TO (2 or more)? ☑ Yes ☐ No *If yes, a lead authorized worker must be appointed.*	Group lock box used? ☑ Yes ☐ No
Shift or Personnel Changes? ☐ Yes ☑ No *If yes, a description of how the continuity of LO/TO protection will be ensured must be referenced or attached to this form. (See Section 3.9.6 of P101-3 for details.)*	☐ Continuity of LO/TO protection details described in operating procedure, work instruction, or other work control document. Document Number:

Section 2: Energy Control Procedure

1. Plan the work.
2. Identify and assess hazardous energy.
3. Contact the MS&E owner/operator.
4. Obtain locks and tags from lock coordinator.
5. Notify affected workers.
6. Shutdown MS&E according to **Section 3: Shutdown Sequence**.
7. Isolate and lock out MS&E from energy source, relieve stored energy, and perform verification of isolation according to **Section 4: LO/TO Sequence**.
8. Perform the work.
9. Release MS&E from LO/TO according to **Section 5: Release MS&E from Lockout/Tagout Sequence**.

Section 3: Shutdown Sequence

☐ Perform shutdown according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:

☐ **N/A**; MS&E to be worked on will be isolated according to **Section 4: LO/TO Sequence** (e.g., cannot be shut down)

Detail the process to normally shut down the MS&E below, if not following other document referenced above or N/A.

Step No.	Action/Description	Step No.	Action/Description
☐ 1		☐ 6	
☐ 2		☐ 7	
☐ 3		☐ 8	
☐ 4		☐ 9	
☐ 5		☐ 10	

Section 4: LO/TO Sequence

☐ Perform LO/TO sequence according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:
Describe how to effectively isolate & lockout the MS&E below, if not following other document referenced above.

Isolate & Lockout (Step No.)	Equipment Descriptor (What is being locked out? e.g., machine drive motor, input power to MCC)	Energy Source (e.g., electrical, mechanical, pneumatic, hydraulic, chemical, thermal)	Energy Isolation Device (e.g., specific ID, description, circuit #, lock box #)	Location of Energy Isolation Device (e.g., room number, north wall, south wall)	Required LO/TO Position or Alignment (e.g., off, open, closed, on)	Verification Method (e.g., live/dead/live, crack open, on-off-on-off, peer checking, independent verification)	Verifier's Initials (if req'd)	See Section 5: Release (Step No.)
☑ (1)	BHW-01	Electrical	MCC-B Ckt 3B	U209	OPEN / OFF	Peer	MM	☑
☑ (2)	HW-P-01	Electrical	MCC-B Ckt 2B	U209	OPEN/OFF	Peer	MM	☑
☑ (3)	UPS	Electrical	UPS Switch	U209	OPEN / OFF	Peer	MM	☑
☑ (4)	BHW-01	Mechanical	NG-V-6000D	U209	CLOSED	Peer	MM	☑
☑ (5)	BHW-01	Mechanical	NG-V-6004A	U209	CLOSED	Peer	MM	☑
☑ (6)	HW-P-01	Mechanical	HW-V-101A	U209	CLOSED	Peer	MM	☑
☑ (7)	HW-P-01	Mechanical	HW-V-101B	U209	CLOSED	Peer	MM	☑
☑ (8)	~~Lock Box #9~~ BHW-01 @	NA	Lock Box #9	U209	Locked	Peer	MM	☑

Section 5: Release MS&E from Lockout/Tagout Sequence

1. Check the MS&E and immediate area for items that could result in damage or danger on start-up.
2. Check the work area to ensure that all workers have been safely positioned or removed from the work area.
3. Verify that the controls are in neutral or "off" position.
4. Notify the owner/operator and affected workers that work is complete and MS&E is ready to release from LO/TO.
5. Remove the LO/TO device, and re-energize (if appropriate according to MS&E owner/operator) according to the sequence as identified above under Release in **Section 4: LO/TO Sequence** or according to operating procedure, work instruction, or other work control document identified in **Section 4**.
6. Return lock and locking device to Lock Coordinator.

Energy Control Procedure prepared by:

Preparer (print name)	Z Number	Organization	Phone	Signature/Date
Wanda J Madrid	1160672	MSSLLC	6060332	Wanda J Madrid 8/21/2020

By signing below, you acknowledge that this energy control procedure and/or referenced documents identify the isolation devices, isolation points, and methods necessary to prevent any unexpected release of hazardous energy.

Energy Control Procedure approved by:

MS&E Owner/Operator (print name)	Z Number	Organization	Phone	Signature/Date
Eric Quintana	120321	TA55-RLW0B	77333	Eric Quintana 09/14/2020

Section 6: All Authorized Workers (anyone applying a lock for this activity)

Fill out the following information or print and attach Authorized Workers information from the Lockout/Tagout Remedy Application.

Authorized Workers Name(s)	Z Number	Date Lock Applied	Date Lock Removed
Lead: Mark Millwood	231693	9-15-20	9-15-2020
HAROLD A DEAKIN	351234	9-15-20	9-15-20
Randy Wendt	350559	9-15-20	9-15-20

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Los Alamos NATIONAL LABORATORY EST. 1943

Form 2244

Lockout/Tagout (LO/TO) Orders

Section 1: General Information

Work Document Number (e.g., Package/Procedure #): 672872-01	LO/TO Remedy ID: 99755
Location of Equipment to be Isolated: TA: 55 Bldg: 0440 Rm/Other: U209	Description of Machinery, System & Equipment (MS&E) to be worked on: BHW-03 and HW-P-03
MS&E Owner/Operator: Eric Quintana Z Number: 120321 Phone: 77333	
Shutdown to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☑ No	Re-energize/restart to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☑ No
Reason for LO/TO: Perform 550440 Hot Water Boiler Fireside/ Waterside PM	
Group LO/TO (2 or more)? ☑ Yes ☐ No *If yes, a lead authorized worker must be appointed.*	Group lock box used? ☑ Yes ☐ No
Shift or Personnel Changes? ☐ Yes ☑ No *If yes, a description of how the continuity of LO/TO protection will be ensured must be referenced or attached to this form. (See Section 3.9.6 of P101-3 for details.)*	☐ Continuity of LO/TO protection details described in operating procedure, work instruction, or other work control document. Document Number:

Section 2: Energy Control Procedure

1. Plan the work.
2. Identify and assess hazardous energy.
3. Contact the MS&E owner/operator.
4. Obtain locks and tags from lock coordinator.
5. Notify affected workers.
6. Shutdown MS&E according to **Section 3: Shutdown Sequence**.
7. Isolate and lock out MS&E from energy source, relieve stored energy, and perform verification of isolation according to **Section 4: LO/TO Sequence**.
8. Perform the work.
9. Release MS&E from LO/TO according to **Section 5: Release MS&E from Lockout/Tagout Sequence**.

Section 3: Shutdown Sequence

☐ Perform shutdown according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:

☐ **N/A**; MS&E to be worked on will be isolated according to **Section 4: LO/TO Sequence** (e.g., cannot be shut down)

Detail the process to normally shut down the MS&E below, if not following other document referenced above or N/A.

Step No.	Action/Description	Step No.	Action/Description
☐ 1		☐ 6	
☐ 2		☐ 7	
☐ 3		☐ 8	
☐ 4		☐ 9	
☐ 5		☐ 10	

Section 4: LO/TO Sequence

☐ Perform LO/TO sequence according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:
Describe how to effectively isolate & lockout the MS&E below, if not following other document referenced above.

Isolate & Lockout (Step No.)	Equipment Descriptor (What is being locked out? e.g., machine drive motor, input power to MCC)	Energy Source (e.g., electrical, mechanical, pneumatic, hydraulic, chemical, thermal)	Energy Isolation Device (e.g., specific ID, description, circuit #, lock box #)	Location of Energy Isolation Device (e.g., room number, north wall, south wall)	Required LO/TO Position or Alignment (e.g., off, open, closed, on)	Verification Method (e.g., live/dead/live, crack open, on-off-on-off, peer checking, independent verification)	Verifier's Initials (if req'd)	See Section 5: Release (Step No.)
☑ (1)	BHW-03	Electrical	MCC-B Ckt 3F	U209	OPEN / OFF	Peer		☑
☑ (2)	HW-P-03	Electrical	MCC-B Ckt 2D	U209	OPEN/OFF	Peer		☑
☑ (3)	BHW-03	Mechanical	NG-V-6020D	U209	CLOSED	Peer		☑
☑ (4)	BHW-03	Mechanical	NG-V-6024A	U209	CLOSED	Peer		☑
☑ (5)	HW-P-03	Mechanical	HW-V-301A	U209	CLOSED	Peer		☑
☑ (6)	HW-P-03	Mechanical	HW-V-301B	U209	CLOSED	Peer		☑
☑ (7)	Lock Box #9	NA	NA	Lock Box	Locked	Peer		☑
☐ (8)								☐

Section 5: Release MS&E from Lockout/Tagout Sequence

1. Check the MS&E and immediate area for items that could result in damage or danger on start-up.
2. Check the work area to ensure that all workers have been safely positioned or removed from the work area.
3. Verify that the controls are in neutral or "off" position.
4. Notify the owner/operator and affected workers that work is complete and MS&E is ready to release from LO/TO.
5. Remove the LO/TO device, and re-energize (if appropriate according to MS&E owner/operator) according to the sequence as identified above under Release in **Section 4: LO/TO Sequence** or according to operating procedure, work instruction, or other work control document identified in **Section 4.**
6. Return lock and locking device to Lock Coordinator.

Energy Control Procedure prepared by:

Preparer (print name)	Z Number	Organization	Phone	Signature/Date
Wanda Madrid	116672	MSS-WC	606 0332	Wanda Madrid 8/21/2020

By signing below, you acknowledge that this energy control procedure and/or referenced documents identify the isolation devices, isolation points, and methods necessary to prevent any unexpected release of hazardous energy.

Energy Control Procedure approved by:

MS&E Owner/Operator (print name)	Z Number	Organization	Phone	Signature/Date
Eric Quintana	120321	TASS-RLWOB	77333	08/14/2020

Section 6: All Authorized Workers (anyone applying a lock for this activity)

Fill out the following information or print and attach Authorized Workers information from the Lockout/Tagout Remedy Application.

Authorized Workers Name(s)	Z Number	Date Lock Applied	Date Lock Removed
Lead: MARK MILLWOOD	331693	9-14-2020	9-14-2020
Randy Wendt	350559	9-14-2020	9-14-2020

Facility : F08 **Unit :** 161484 **Proj :**
Task Title : ST 1Y TA16 STEAM PLANT WATERSIDE/ FIRESIDE PM
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ FIRESIDE PM
Written To : TA16-1484 STEAM PLANT BOILERS
Task Dspln : FTTR **Due Date :** 11/30/2020
Superintendant :

Hazard : MODERATE **IWD Reqmt :** TASK SPECIFC

Work Order Task

00664380 01

MASTER

Date: 03/26/2020

Work Order Task Written To

Facility : F08 **Unit :** 161484 **Op Sys :**
Room : **Area :** **Sys/Cls :**
Equipment : **Component :**
Location :
Job Type : PM
Tag 1 : **Tag 2 :**
Work Item : TA16-1484 STM BOILER **Ops Review Reqd :**

Authorization

Start Permission : Glenn Martinez **Start Date :** 5-4-2020

Complete Notice : Glenn Martinez **Complete Date :** 10-20-2020

Work Order Task Instructions

PERFORM PM PER 76-28-010 WATERSIDE/ FIRESIDE CHECKLIST

ENGINEERING TO PROVIDE MAINTENANCE WITH SUPPORT, OVERSIGHT & TRAINING THROUGHOUT PM
.

Facility : F08 **Unit :** 161484 **Proj :**
Task Title : ST 1Y TA16 STEAM PLANT WATERSIDE/ FIRESIDE PM
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ FIRESIDE PM
Written To : TA16-1484 STEAM PLANT BOILERS
Task Dspln : FTTR **Due Date :** 11/30/2020
Superintendant :

Hazard : MODERATE **IWD Reqmt :** TASK SPECIFC

Work Order Task

00664380 01

MASTER

Date: 03/26/2020

QC Requirements / Comments

Work Completion Signatures

Name	Function/Dept.	Date
Jason Sparks	122088 10-15-2020 11:14	

Comments

(rework?)

Cost Accounting

Cost Center : 7D120C **Activity :** 640CL000

Percentage : 100 **Acct No :** XU5000 **Sub Acct :** 7E2P0016

Facility : F08 **Unit :** 161484 **Proj :**
Task Title : ST 1Y TA16 STEAM PLANT WATERSIDE/ FIRESIDE PM
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ FIRESIDE PM
Written To : TA16-1484 STEAM PLANT BOILERS
Task Dspln : FTTR **Due Date :** 11/30/2020
Superintendant :

Hazard : MODERATE **IWD Reqmt :** TASK SPECIFC

Work Order Task

00664380 01

MASTER

Date: 03/26/2020

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD # Revision #: **Work Release**

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Operations Manager or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: _____

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, and that required initial conditions and other prerequisites are in place.
- The assigned workers are authorized and are competent to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers (including support workers) have been briefed.
- I have ensured coordination with any required FOD work-area representatives (e.g., area work coordinators).

PIC (Signature/Z#/Date) **Required**: _____ Jason Sparks 122088 5-5-20202 _____

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time. *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff.)*

Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

Pre-Job Brief Content

- What are the critical steps* or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g., for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

* "Critical steps occur anytime human performance involves a substantial transfer of energy, or movement of solids, liquids, and gases, or the transmission of data and information that , if not performed under control, could cause serious harm to one or more important assets." (Performance Improvement, vol. 53, no. 9, October 2014)

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) 324726 05-05-2020 07:08	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 347468 05-05-2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 340775 05-05-2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 297205 09-17-2020 06:55	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)

AP-WORK-004: Attachment 1
Maintenance & Site Services
Worker Engagement Questions

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

Topic	Completed (X)
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

ANNUAL WATERSIDE/FIRESIDE CHECKLIST for TA-09/16 STEAM PLANTS – Revision 2

Sellers Boilers Technical Description

The original manufacturer's manual for these boilers is Sellers Immersion Fired Steam Boiler Owner's Manual. A secondary reference for this Maintenance Procedure is the *Sellers Engineering Company Owners Manual for the Model 15 Commodore & 77 Commodore Steam Boilers and Model 15 Senior Model 105 E Steam Boilers.*

The boilers at TA-09 & TA -16 are located in eight (8) boiler plants: Plant 1 (TA-16-1480), Plant 4 (TA-16-1483), Plant 5 (TA-16-1484), Plant 8 (TA-16-1487), Plant 11 (TA-16-1490), Plant 12 (TA-16-1491), Plant 13 (TA-09-0282), and Plant 14(TA-16-1492). They are Sellers brand fire tube boilers manufactured in 1995. They all have a maximum allowable working pressure (MAWP) of 150 psig. The supply natural gas pressure is nominally 5 psig. Attachment 1 and Attachment 2 have technical information for each boiler.

The inspection and maintenance will consist of replacement, or testing, of all the pressure relief safety valves, a waterside and fireside boiler inspection, cleaning of any debris or scaling inside the boiler, inspection of various plant components, steam gauge calibration, and an internal and external inspection by a NBIC boiler inspector.

Complete the checklists in Attachment 3 before the boiler is released by UI Engineering to UI Operations. The U&I system engineer must be alerted for inspection of boiler components, specifically the hold points as seen in the text below.

A flue gas analyzer will be needed for two scenarios: light off and low-NOx boiler settings. Record the O2, CO, NOx, Temperature and Efficiency. The boilers are to be run in the low-NOx mode In order to be compliant with manufacturer's instructions.

The boiler output pressure will be 80 psig, with special exception to the two boilers at Plant 12 (TA-16-1491) which will operate at 40 psig.

There are three pressure switches on top of each boiler: the high pressure steam shutdown (High Limit) switch, the operating pressure control (OPC) switch, and the Low NOx Cold Start Limit Control (CSLC) switch. The final setting for all boilers, for all boilers except for Plant 12 (16-1491): set the high pressure steam shutdown (High Limit) switch to 90 psig; set the operating pressure control (OPC) switch to 80 psig; set the low NOx steam pressure (CSLC) switch to 40 psig. The final setting for the two boilers at Plant 12 (16-1491): set the high pressure steam shutdown (High Limit) switch

to 45 psig; set the operating pressure control (OPC) switch to 40 psig; set the low NOx steam pressure (CSLC) switch to 20 psig. All steam pressure switch set point verification must be performed with a calibrated boiler pressure gauge. All gauges used for pressure switch set points must have calibration dates and those are to be recorded on the checklist in Attachment 3. **All pressure switches shall be verified that they perform the intended function. If the pressure setting on the switch varies by more than 20% of the boiler pressure gauge then the switch must be replaced.**

There are four pressure switches at the steam header: the lead, lag, and two low pressure switches. For all boilers set the switches to control the lead/lag feature of the boiler. **All pressure switches shall be verified that they perform the intended function.**

After final tuning of the boiler parameters, adjust the air flow proving switch about 2 inches water column below the blower pressure setting.

Training requirements include all pertinent training for Los Alamos National Laboratory and the site specific training (TA-09 & TA-16). It is also required that the boiler maintenance crew performing Low NOx verification receives boiler training from either the manufacturer (Sellers) or the local manufacturer's representative.

A) Boiler Operator must have a New Mexico Construction Industries Journey Classification as a Journeyman Boiler Operator – High Pressure BO2 (NMAC 14.6.6).
B) Boiler Operator Trainee shall not operate any devices except under the direct observation of a Journeyman Boiler Operator (NMAC 14.9.4.29).
C) Pressure Safety Orientation – Course #769 (LANL P-101-34)
D) Pressure Safety Advanced – Course #11459 (LANL P-101-34

Inspection/Maintenance Procedures

1) Remove and replace the Kunkle pressure relief valves. New pressure relief valves can be purchased and Attachment 2 identifies the pressure relief valves to order. If new valves are not purchased, test and repair the pressure relief valves in accordance with the Engineering Standard Manual Chapter 17.

2) Lubricate motor bearings as follows:

a) Grundfos boiler feed pumps- lubricate the Baldor motor with Polyrex EM (Mobil) grease.
b) Baldor blower motor – lubricate with Polyrex EM (Mobil) grease.

3) Clean any debris accumulated on the Neptune/Leeson chemical feed pumps and the GE/Neptune chemical mixing motors.

4) Clean out each main burner with a bottle washer.

5) Check the Low-NOx solenoid for proper operation.

6) Drill the pilot manifolds with a #53 drill bit and adjust the pilot manifold position in accordance with the Seller's Owners' Manual.

Waterside Inspection

1) Open flue door and inspect tube sheets for water leakage. It tube leakage is suspected call the system engineer for further evaluation. The narrow ligaments between tube holes are subject to tremendous stresses and should be watched for any sign of cracking mainly due to overheating.

2) Drain boiler and remove all hand hole and manhole covers, where applicable, to allow a visual check of all internal accessible areas. Example: shell, tubes and tube sheets.

Hold Point: U&I system engineer and chemical treatment company representative are required for waterside inspection. Give at least 7 days advance notice and coordinate with U&I system engineer.

3) Carefully examine waterside surfaces using a strong light and mirror where required. Look for evidence of scale, corrosion, blisters, or pitting, indicating adequacy of water treatment.

4) Use a high pressure hose to wash sediment out of the bottom and other internals of the boiler.

Hold Point: U&I system engineer and NBIC boiler inspector needed for boiler internal inspection. Give at least 7 days advance notice and coordinate with U&I system engineer.

5) Remove both head covers from the bodies of the two float operated low water cut-offs (LWC). The float-assembly and mercury switches are located on these heads. Flush out both LWC bodies. Inspect floats and replace if necessary. Reinstall head covers. Remove caps from the inspection crosses associated with both LWCs and flush out piping connected to boiler. Reinstall caps.

Fireside Inspection

1) Check gas burners for presence of dirt, lint, or foreign matter. Be sure of ports, gas passages and air passages are free of obstructions.

2) Check the fireside of furnace and firetubes for any evidence of soot formation or corrosion. Evidence of soot formation is a sign of improperly adjusted combustion. Brush and vacuum the furnace and fire tubes, if such conditions exist.

3) Check condition of all heat extractors. These devices can be pulled out individually from each of the firetubes and cleaned if necessary. Repair or replace if necessary.

4) Check flue door gaskets and other gaskets to make sure that they are in good condition and that they are properly secured. Replace, if required, the flue door gaskets. An ineffective seal may allow flue gases to escape into the boiler room and result in burned gaskets and warped flue doors.

5) Verify the gas low and high limit switches. Record values in Attachment 3.

6) After the fireside and waterside surfaces have been inspected by the U&I system engineer and by the NBIC boiler inspector, and work is completed, close and secure front and rear flue doors. Reinstall hand hole and manifold covers if applicable; hook up all associated piping and refill boiler to proper level.

7) Clean out all Y-strainers and steam traps.

8) Open up condensate return tank. Inspect for deposits and clean, if necessary.

9) Grease plug valves on gas supply line. Use Slowserve for Nordstrom Valves Type 555 (-10 to 500 °F).

Post Maintenance

1) Complete checklist in Attachment 3.

2) Verify the settings for the following steam switches: lead, lag, low boiler pressure. There are three pressure switches on top of each boiler: the high pressure steam shutdown (High Limit) switch, the operating pressure control (OPC) switch, and Low NOx Cold Start Limit Control (CSLC) switch. Upon initial startup the CSLC switch is adjusted to a pressure above the OPC switch until the initial boiler parameters have been adjusted.

For all boilers except for Plant 12 (16-1491): the final set point configuration for the high pressure steam shutdown (High Limit) switch is 90 psig; the final set point configuration for the operating pressure control (OPC) switch is 80 psig; the final set point configuration for the Low NOx Cold Start Limit Control (CSLC) switch is 40 psig.

For the two boilers at Plant 12 (16-1491): the final set point configuration for the high pressure steam shutdown (High Limit) switch is 45 psig; the final set point configuration for the operating pressure control (OPC) switch is 40 psig; the final set point configuration for the Low NOx Cold Start Limit Control (CSLC) switch is 20 psig. All steam pressure switch set point verification must be performed with a calibrated boiler pressure gauge.

3) Verify the Low NOx Cold Start Limit Control switch. Set to the aforementioned values. Verification of this switch is performed after the initial settings. Verify that the low NOx damper control motor is operating, and that the auxiliary solenoid valve on the main gas valve line de-energizes (closes).

4) Check pilot burners and ignition equipment for proper condition and adjustment.

5) Visually check burner for proper combustion. Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners. Adjust fuel/air mixture as needed. Refer to Attachment 1 for commissioning flue gas analysis results.

6) Complete the functional checklist on page 3 of Attachment 3.

Hold Point: U&I system engineer and NBIC boiler inspector needed for external boiler inspection. Give at least 7 days advance notice and coordinate with U&I system engineer.

7) Before the boiler is released to operations the U&I System engineer is to review and sign off on Attachment 3.

ATTACHMENT 1: Baseline Settings

							Lightoff Readings						Low NOx readings					
Plant #	Location	Serial #	Boiler HP	High Pilot "wc	Low Pilot "wc	Blower Pressure "wc	Manifold Pressure "wc	Combustion Chamber Pressure "wc	Main Gas Pressure "wc	O2 %	CO ppm	NOx ppm	Manifold Pressure "wc	Combustion Chamber Pressure "wc	Main Gas Pressure "wc	O2 %	CO ppm	NOx ppm
1	16-1480-A	100852-B	98	10	10	7.3	5.4	2.1	11.6	3.4	8	52	5.4	1.7	12.5	6.3	18	21
1	16-1480-B	100852-A	98	10	6	7.3	5.3	2.3	9.7	4	29	50	5.3	2	10.5	6.3	6	27
4	16-1483-A	100850-B	128	10.2	5	7.5	5.8	2.4	10.8	3.6	7	51	5.8	2.1	12.5	5.9	8	25
4	16-1483-B	100850-A	128	11	5.5	7.5	5.6	2.3	13.5	3.4	6	51	5.6	2	15	6.5	18	22
5	16-1484-A	100848-A	183	11	6.8	7.9	5.2	2.3	14	3.7	7	46	5.2	2	16	6	41	24
5	16-1484-B	100848-B	183	11.5	7	8	5.5	2.3	15	3.4	11	53	5.5	2	16	6	10	21
8	16-1487-A	100857-B	56	10	5	7.8	5.8	2.5	8.3	3.5	125	50	5.5	1.9	8.7	6.6	82	17
8	16-1487-B	100857-A	56	11	5	7.8	5.6	2.7	7	3.6	18	47	5.6	2.3	7.3	6.3	26	21
11	16-1490-A	100856-A	95	9.5	6.8	7.2	5	2.1	10.6	2.6	49	59	5	1.8	11.1	5.8	8	28
11	16-1490-B	100856-B	95	9.4	6	7.1	4.9	2	8.6	3.4	9	59	4.9	1.8	9.3	5.7	6	28
12	16-1491-A	100859-A	24	10	9	6.4	5.4	3	6.2	5.3	56	43	5.4	2.7	6.8	5.4	66	40
12	16-1491-B	100859-B	24	10	9	7.8	5.6	3.5	8.2	5.3	95	39	5.6	2.7	8.5	7	22	29
14	16-1492-A	100855-B	85	10	9	10	5.2	2.3	8.5	3	7	53	5.2	2	10.7	6.4	24	24
14	16-1492-B	100860-A	70	10	8.5	8.3	5.3	2.5	8.5	3.1	46	51	5.3	2.1	9.2	5.6	28	26
13	9-282-A	100849-A	153	10.5	10	8	5.1	2.2	13.6	3.7	11	57	5.1	1.9	15	6.4	6	27
13	9-282-B	100849-B	153	10.5	6	8.4	5.6	2.4	11.3	3.8	12	52	5.6	2.1	12.5	5.9	8	26

Attachment 2: Approved Steam Safety Valves

Plant #	Location	Serial #	ASME #	Nat'L Board #	Capacity (#/HR)	Safety Valve Inlet	Safety Valve Brand	Safety Valve to Order
1	16-1480-A	100852-B	10158	8365	3381	2" H.Coup.	Kunkle	6010HHM01-AM0100
1	16-1480-B	100852-A	10022	8359	3381	2" H.Coup.	Kunkle	6010HHM01-AM0100
4	16-1483-A	100850-B	10324	8375	4416	2" H.Coup.	Kunkle	6010HHM01-AM0100
4	16-1483-B	100850-A	10323	8386	4416	2" H.Coup.	Kunkle	6010HHM01-AM0100
5	16-1484-A	100848-A	10291	8334	6313	2" H.Coup	Kunkle	6010HHM01-AM0100
						1 1/2" H. Coup	Kunkle	6010GGM01-AM0100
5	16-1484-B	100848-B	10290	8333	6313	2" H.Coup	Kunkle	6010HHM01-AM0100
						1 1/2" H. Coup	Kunkle	6010GGM01-AM0100
8	16-1487-A	100857-B	10314	8355	1932	2" H.Coup.	Kunkle	6010HHM01-AM0100
8	16-1487-B	100857-A	10313	8354	1932	2" H.Coup.	Kunkle	6010HHM01-AM0100
11	16-1490-A	100856-A	10328	8395	3278	2" H.Coup.	Kunkle	6010HHM01-AM0100
11	16-1490-B	100856-B	10329	8388	3278	2" H.Coup.	Kunkle	6010HHM01-AM0100
12	16-1491-A	100859-A	10330	8380	828	1 1/2" H.C. 3000#	Kunkle	6010GGM01-AM0050
12	16-1491-B	100859-B	10331	8381	828	1 1/2" H.C. 3000#	Kunkle	6010GGM01-AM0050
14	16-1492-A	100855-B	10327	8387	2933	2" F. Coup	Kunkle	6010HHM01-AM0100
14	16-1492-B	100860-A	10317	8361	2415	2" F. Coup	Kunkle	6010HHM01-AM0100
13	9-282-A	100849-A	10292	8338	5278	2" H.Coup	Kunkle	6010HHM01-AM0100
						1 1/2" H. Coup	Kunkle	6010GGM01-AM0100
13	9-282-B	100849-B	10293	8342	5278	2" H.Coup	Kunkle	6010HHM01-AM0100
						1 1/2" H. Coup	Kunkle	6010GGM01-AM0100

ATTACHMENT 3: BOILER CHECKLIST

Boiler NB #_____

Boiler Location_____

Date(s) Performed_____

Safety valves replaced?_____ S/N #_____

Boiler Pressure (psig)_____ Fireside inspection:_____

Supply gas pressure (psig)_____ Waterside inspection:_____

Flue door gaskets replaced?_____

Verify shutdown switches:

High Limit_____ High Limit set point_____

High Gas_____ High Gas set point_____

Low Gas_____ Low Gas set point_____

OPC_____ OPC set point_____

LWC 1_____

LWC 2_____

Air Proving Switch_____

Boiler set in low NOx setting?_____ CSLC set point_____

Lag set point_____ Lead set point_____

Calibration date on steam boiler pressure gauge_____

Work Control: Send copy of this completed form to TA-09/TA-16 System Engineer.
Copy sent to Engineer by WCS _____ Date _____

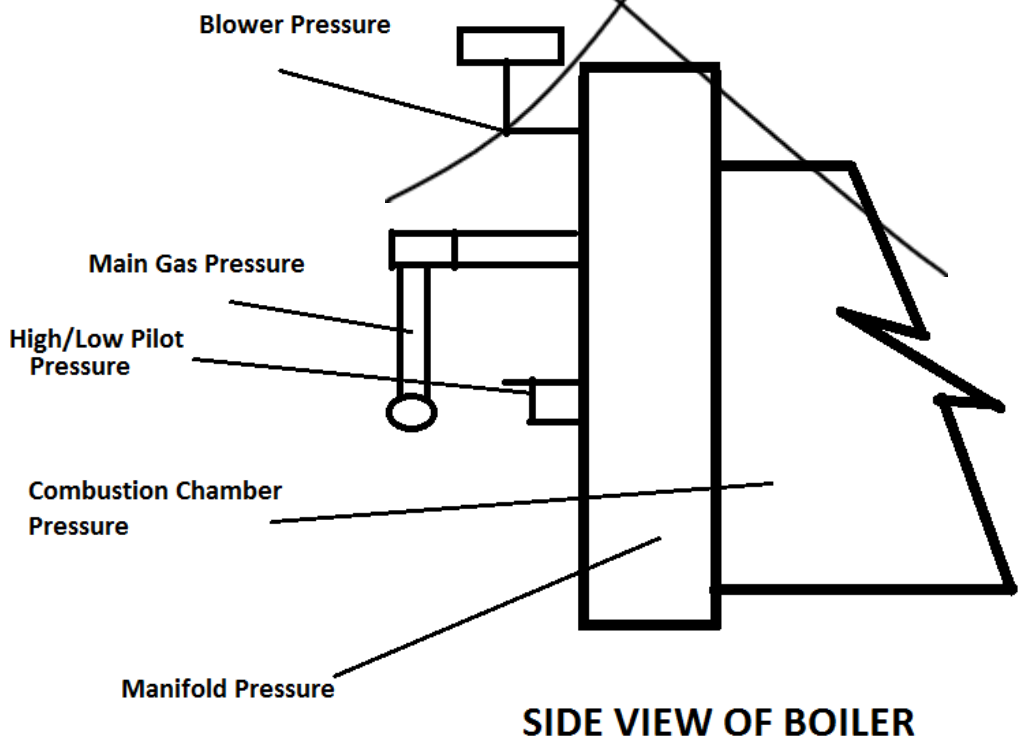
MSS Rep_____ Date_____

Released for Operations by U&I System Engineer_____ Date_____

ATTACHMENT 3: BOILER CHECKLIST

Pressure and Flue Gas Analysis: The original boiler commissioning settings are captured in Attachment 1.

	Lightoff Readings	Low NOx Readings
Manifold Pressure (“wc)		
High Pilot Pressure(“wc)		
Low Pilot Pressure (“wc)		
Blower Pressure (“wc)		
Combustion Chamber Pressure (“wc)		
Main Gas Pressure (psig)		
O2 (%)		
CO (ppm)		
NOx (ppm)		



SIDE VIEW OF BOILER

The original boiler commissioning settings are captured in Attachment 1.

Work Control: Send copy of this completed form to TA-09/TA-16 System Engineer.
Copy sent to Engineer by WCS _____ Date _____

MSS Rep_____ Date_____

Released for Operations by U&I System Engineer_____ Date_____

ATTACHMENT 3: BOILER CHECKLIST

FUNCTIONAL CHECKLIST

- ☐ Steam system
  - o Traps
  - o Y- strainers
- ☐ Condensate return system
- ☐ Gas system
- ☐ Motors operational
- ☐ Pumps operational
- ☐ Feed water system
- ☐ Chemical feed system
- ☐ Blowdown system
  - o Valve controlling continuous blowdown
- ☐ Electrical system
- ☐ Safety shutdown
- ☐ Building
  - o Lights operational
  - o Heating system
  - o Life safety

COMMENTS:_____
_____
_____
_____
_____
_____

Work Control: Send copy of this completed form to TA-09/TA-16 System Engineer.
Copy sent to Engineer by WCS _____ Date _____

MSS Rep_____ Date_____

Released for Operations by U&I System Engineer_____ Date_____

UI-PROC-71-10-201-R3

PMI – Manual Calibration of DP Flow Transmitters

Review frequency 1 yr ☐ 2 yr ☐ 3 yr ☒

Issue date 4/29/19 Next review 4/29/22

Reviewed by

Jeff Sisneros	Calibration Coordinator	
Jeff Sisneros	Digitally signed by Jeff Sisneros Date: 2019.03.19 08:09:00 -06'00'	Z-# 101408

Approved by

Blaine Collins	Maintenance Engineer	
Blaine Collins	Digitally signed by Blaine Collins Date: 2019.04.28 15:04:16 -06'00'	Z-# 317183

Derivative Classifier Review

James Liljenwall	Classification: VERIFIED UNCLASSIFIED	
James Liljenwall	Digitally signed by James Liljenwall Date: 2019.04.29 08:46:04 -06'00'	Z-# 206614

This procedure may only be worked in conjunction with a work control package that has been processed in accordance with the requirements contained in AP-WORK-002, Work Planning. The procedure may not be used as a stand-alone work control document.

The purpose of this procedure is to provide instructions for manual calibration of Differential Pressure (DP) Flow Transmitters. The procedure does not provide instructions for collecting calibration data automatically, as through the use of a Beamex Calibrator.

Personnel should be familiar with the following:

- *P330-2, Control and Calibration of Measuring and Test Equipment (M&TE)*
- *UI-PROC-71-10-255, Calibration of Pressure Indicators*

Work Steps

1 Applicability

The procedure applies to the following types of transmitters:

1. DP transmitters with voltage output devices and current output devices (4–20 mA)
2. DP flow transmitters used for water, air, and steam
   - It does not apply to transmitters for liquefied gasses or flammable liquids unless this use is reviewed and approved by the Instrumentation and Control (I&C) Superintendent.

2 Methodology

1. DP flow transmitters measure flow rate using differential pressure across a flow element (such as an orifice plate or annular element). The procedure is similar to UI-PROC-71-10-231, Calibration of Pressure Transmitters.
2. Calibration may be performed using air or water as the working fluid but is generally performed using air.
3. The air or water is applied at the same time to Pressure Standard and Test Article.
4. Data collected include the pressures applied to perform a 5-point calibration across the range of the pressure transmitter.
   a. Calibration points are selected at 0%, 25%, 50%, 75%, and 100% of scale.
   b. Data may be collected by increasing or decreasing pressure, at the discretion of the calibration technician or electrician.
5. Calibration sequence:
   a. "As-found" calibration data are collected to determine existing accuracy of the DP flow transmitter.
   b. Adjustments are made to the flow transmitter as necessary.
   c. "As-left" calibration data are collected.
6. If Test Article is inoperable or cannot be calibrated, place a REJECTED (black on red) or equivalent label on it.

   Note: The Beamex Calibrator System (not covered by this procedure) provides semi-automatic calibration of the transmitter and integrated measurement of the output signal. It can act as a level standard for the following level ranges:

   Port P1: 0 to 40 inches of water column (WC) (0 to 1.44 psig)

   Port P2: -160 to 160 inches of water column (WC) (0 to 5.7 psig)

   Port P3: -14.5 to 300 psig

   Additional ranges up to 900 psig are available using external modules that connect to the Beamex MC5 Calibrator, which may be used only when in current calibration, as verified by Calibration Coordinator.

3 Verify Instrument Calibrations

1. Verify that Pressure Standard is in current calibration and its calibration interval has not elapsed.
2. Verify that the multimeter is in current calibration and its calibration interval has not elapsed.

4 Calibration Steps

Record data on Form 60-10-110.2, UI Calibration Data Sheet (Attachment 1).

4.1 As-found Data

1. Inspect Test Article, and verify the following:

a. Good general condition

b. Good operating condition

c. Undamaged fitting threads, etc.

2. Record the following information on Form 60-10-110.2 :

a. Manufacturer

b. Model or style number

c. Identification number (e.g., serial number)

d. I&C file number if present

3. Record Pressure Standard information on Form 60-10-110.2 :

a. Manufacturer

b. Model or style number

c. Identification number (e.g., serial number)

d. Last calibration date

e. Calibration due date

f. Calibration organization

4. Open the vent valve on the test rig to ensure that all parts of the system are at atmospheric pressure.

5. Connect the “high side” of Test Article to the calibration rig in such a way that it is in parallel with Pressure Standard. Vent the “low side” of the flow transmitter to atmosphere.

6. Collect data:

a. Record Test Article reading and Pressure Standard reading on Form 60-10-110.2 under “As-found,” 0% reading.

b. Apply 25% of scale pressure to Test Article and Pressure Standard. Read Pressure Standard to adjust the pressure.

c. Record Test Article reading and Pressure Standard reading on Form 60-10-110.2 under “As-found,” 25% reading.

d. Apply 50% of scale level to Test Article and Pressure Standard. Read Pressure Standard to adjust the level

e. Record Test Article reading and Pressure Standard reading on Form 60-10-110.2 under “As-found,” 50% reading.

f. Apply 75% of scale level to Test Article and Pressure Standard. Read Pressure Standard to adjust the level.

g. Record Test Article reading and Pressure Standard reading on Form 60-10-110.2 under “As-found,” 75% reading.

h. Apply 100% of scale level to Test Article and Pressure Standard. Read Pressure Standard to adjust pressure.

k. Record Test Article reading and Pressure Standard reading on Form 60-10-110.2 under "As-found," 100% reading.

7. Release pressure on Pressure Standard and Test Article.
8. Verify that Test Article reading returns to zero.

4.2 Adjust Zero and Span

This section applies to pressure (level) transmitters that have zero and span adjustments, as most do.

1. Adjust Test Article so that correct readings are obtained at 0 and 100% scale. Zero and span adjustments interact with each other, so multiple iterations may be required.

   Note: DP flow meters have non-linear scales on engineering units displays. Control Room indications will therefore match applied pressures only at the 0 and 100% data points. The current or voltage output at the transmitter, however, will follow applied pressure.

2. Before proceeding to next section, recheck Test Article scale readings at 0% and 100% to verify that they are correct.

4.3 As-left Data

1. Apply 0% scale to Test Article.
2. Collect data:
   a. Record Test Article reading and Pressure Standard reading on Form 60-10-110.2 under "As-left Data," 0% reading.
   b. Apply 25% of scale level to Test Article and Pressure Standard. Read Pressure Standard to adjust the pressure.
   c. Record Test Article reading and Pressure Standard reading on Form 60-10-110.2 under "As-left Data," 25% reading.
   d. Apply 50% of scale level to Test Article and Pressure Standard. Read Pressure Standard to adjust the pressure.
   e. Record Test Article reading and Pressure Standard reading on Form 60-10-110.2 under "As-left Data," 50% reading.
   f. Apply 75% of scale level to Test Article and Pressure Standard. Read Pressure Standard to adjust the pressure.
   g. Record Test Article reading and Pressure Standard reading on Form 60-10-110.2 under "As-left Data," 75% reading.
   h. Apply 100% of scale level to Test Article and Pressure Standard. Read Pressure Standard to adjust the pressure.
   k. Record Test Article reading and Pressure Standard reading on Form 60-10-110.2 under "As-left Data," 100% reading.
3. Release pressure on Pressure Standard and Test Article.
4. Verify that Test Article reading returns to zero.

5 Acceptance Criteria

1. In general, the Test Article has passed calibration if the difference between the level Pressure Standard and Test Article is equal to or less than plus or minus one percent (+/- 1%) of Test Article full scale range at all calibration points.
2. Other accuracy requirements may be in effect for a particular instrument.
    a. For instance, an item may be considered calibrated if the difference between Pressure Standard and Test Article is equal to or less than specific acceptance criteria defined by engineering staff at all calibration points (using Form 60-10-110.1, Calibration Program Form).
3. Contact Calibration Coordinator if you are uncertain about applicable acceptance criteria.
4. If Test Article passes calibration, fill out a VERIFIED sticker, and affix the sticker to Test Article.
    a. The sticker may be applied to any location, but the front is preferred.
5. If Test Article fails calibration, affix a REJECTED sticker to Test Article.
    a. The sticker may be applied to any location, but the front is preferred.
    b. Do not return the instrument to the requestor. Deliver the instrument and calibration data to Calibration Coordinator for disposition.

6 Appendices and Attachments

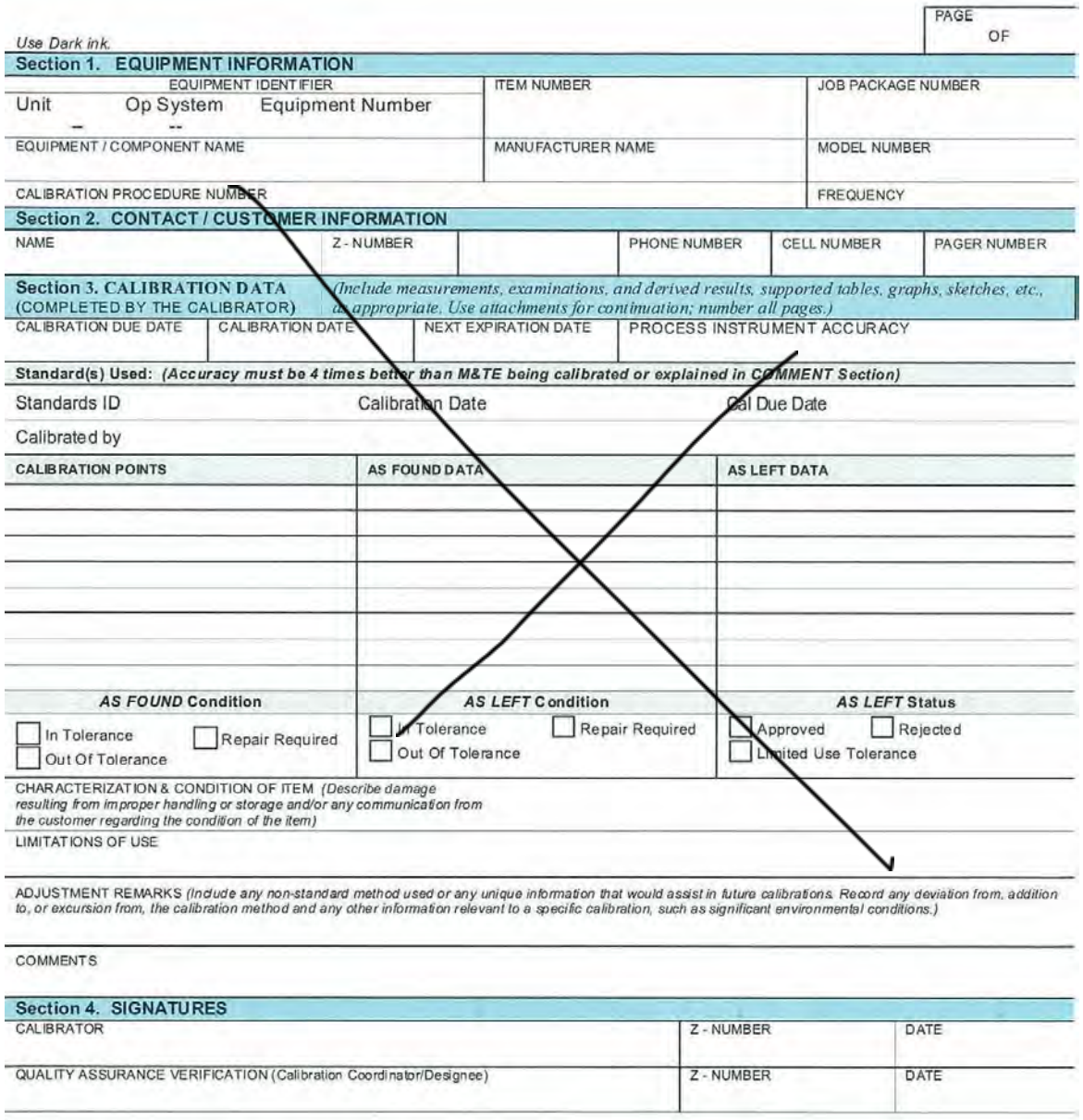
Attachment 1: Form 60-10-110.2. UI Calibration Data Sheet

History of Revisions

Document Number	Issue Date	Action
UI-PROC-71-10-201-R3	4/29/19	Review and reissue. Minor changes.
UI-PROC-71-10-201-R2	04/07/16	Convert to CMMS PMI format, with changes.
UI-PROC-71-10-201-R1	05/08/13	Review and reissue. Convert to Utilities & Institutional Facilities (UI) procedure. Minor changes.
UI-PROC-71-10-201-R0	08/25/10	Convert from KSL to U&I format. Add "Manual" to title. Minor changes.
71-10-201 Rev. 1	07/20/06	Format change.

Attachment 1. Form 60-10-110.2. UI Calibration Data Sheet

UI Calibration Data Sheet



PAGE OF

Use Dark ink.

Section 1. EQUIPMENT INFORMATION

EQUIPMENT IDENTIFIER	ITEM NUMBER	JOB PACKAGE NUMBER
Unit Op System Equipment Number		
EQUIPMENT / COMPONENT NAME	MANUFACTURER NAME	MODEL NUMBER
CALIBRATION PROCEDURE NUMBER		FREQUENCY

Section 2. CONTACT / CUSTOMER INFORMATION

NAME	Z - NUMBER		PHONE NUMBER	CELL NUMBER	PAGER NUMBER

Section 3. CALIBRATION DATA (COMPLETED BY THE CALIBRATOR) *(Include measurements, examinations, and derived results, supported tables, graphs, sketches, etc., as appropriate. Use attachments for continuation; number all pages.)*

CALIBRATION DUE DATE	CALIBRATION DATE	NEXT EXPIRATION DATE	PROCESS INSTRUMENT ACCURACY

Standard(s) Used: ***(Accuracy must be 4 times better than M&TE being calibrated or explained in COMMENT Section)***

Standards ID	Calibration Date	Cal Due Date

Calibrated by

CALIBRATION POINTS	AS FOUND DATA	AS LEFT DATA

***AS FOUND* Condition**	***AS LEFT* Condition**	***AS LEFT* Status**
☐ In Tolerance ☐ Repair Required ☐ Out Of Tolerance	☐ In Tolerance ☐ Repair Required ☐ Out Of Tolerance	☐ Approved ☐ Rejected ☐ Limited Use Tolerance

CHARACTERIZATION & CONDITION OF ITEM *(Describe damage resulting from improper handling or storage and/or any communication from the customer regarding the condition of the item)*

LIMITATIONS OF USE

ADJUSTMENT REMARKS *(Include any non-standard method used or any unique information that would assist in future calibrations. Record any deviation from, addition to, or excursion from, the calibration method and any other information relevant to a specific calibration, such as significant environmental conditions.)*

COMMENTS

Section 4. SIGNATURES

CALIBRATOR	Z - NUMBER	DATE
QUALITY ASSURANCE VERIFICATION (Calibration Coordinator/Designee)	Z - NUMBER	DATE

Form 60-10-110.2

UI-PROC-71-10-211-R3

PMI – Calibration of Electronic Level Transmitters

Review frequency: 1 yr ☐ 2 yr ☐ 3 yr ☒

Issue date 6/6/18 **Next review** 6/6/21

Reviewed by

Jeff Sisneros	I&C Technician	
Jeff Sisneros #101408	Digitally signed by Jeff Sisneros Date: 2018.05.21 13:25:29 -06'00'	Z-#: 101408

Approved by

Matt Scarborough	I&C System Engineer	
MATTHEW SCARBOROUGH (Affiliate)	Digitally signed by MATTHEW SCARBOROUGH (Affiliate) Date: 2018.06.06 08:28:16 -06'00'	Z-#: 294806

Derivative Classifier Review

Henry Vigil	Classification: VERIFIED UNCLASSIFIED	
Henry A. Vigil 089717	Digitally signed by Henry A. Vigil Date: 2018.06.06 09:54:43 -06'00'	Z-#: 089717

This procedure may only be worked in conjunction with a work control package that has been processed in accordance with the requirements contained in AP-WORK-002, Work Planning. The procedure may not be used as a stand-alone work control document.

The purpose of this procedure is to provide instructions for calibration of Electronic Level Transmitters with voltage output, an output of 4–20 mA, and the ability to be used with water or other non-flammable liquids at or close to room temperature. The procedure may NOT be used for liquefied gasses or flammable liquids unless such use is reviewed and approved by I&C Superintendent. The procedure covers manual and semi-automatic calibration (using the optional Beamex MC5 Calibrator) but not automatic calibration (a capability the Beamex also possesses).

Work Steps

A. Equipment and Materials

1. Calibration Pressure Standard (Pressure Standard) with current NIST-traceable calibration appropriate to the range of Level Transmitter being calibrated (Test Article). (NIST stands for National Institute of Standards and Technology.)
   a. Calibration Pressure Standard must have an accuracy at least 4 times better than Test Article.
2. Multimeter or other device with current calibration status to accurately measure Pressure Standard transmitter output signal.

3. Optional: Beamex MC5 Calibrator with current calibration status. This instrument may be used in place of items 1 and 2.
    a. The Beamex system provides semi-automatic calibration of the Level Transmitter and integrated measurement of output signal.
    b. The Beamex system includes the capability to act as a Pressure Standard over certain level ranges, as follows:
        - Port P1: 0 to 40 inches of water column (0 to 1.44 psig)
        - Port P2: −160 to 160 inches of water column (0 to 5.7 psig)
        - Port P3: −14.5 to 300 psig
    c. Additional level ranges, up to 900 psig, are available using external modules that connect to the Beamex MC5 Calibrator.
4. Tubing, valves, and test rig to allow application of level to both Pressure Standard and Test Article.
5. Teflon tape or other pipe thread sealant aids.

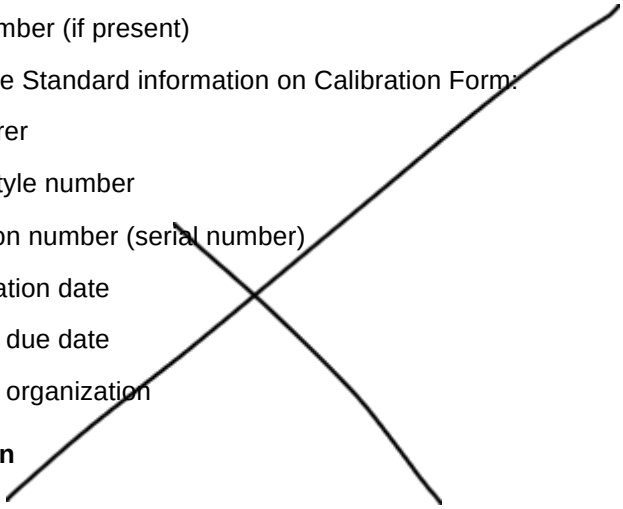
B. General Items

1. The procedure must be performed in an atmosphere free of combustible gases.
2. Most Pressure Standards actually measure liquid level using the static head pressure of the liquid. This procedure is thus very similar to pressure sensor calibration.
3. Calibrations can be performed using air or water as the working fluid, but water is generally used.
4. To collect calibration data, pressures are applied at 5 selected points across the range of the Test Article. These points are 0%, 25%, 50%, 75%, and 100% of scale.
    a. Data may be collected on increasing or decreasing pressure, at the discretion of Calibration Technician or Electrician.
5. Working fluid is applied to Pressure Standard and Test Article at the same time.
6. Data are collected as follows:
    a. “As-Found” data are collected first to document existing accuracy.
    b. Adjustments are then made to Test Article if applicable (most Pressure Transmitters can be adjusted).
    c. Finally, after adjustment, “As-Left” calibration data are collected.
7. Use Level Pressure Transmitter Calibration Form 71-10-211.1 (Attachment 1).
8. If an instrument is found to be inoperable or cannot be calibrated, place a REJECTED (black on red) label or equivalent on instrument.

C. Preliminary Steps

1. Before you begin, either the Calibration Coordinator or the I&C Superintendent must review and verbally approve the applicability of this procedure to the Test Article.
2. Inspect Test Article—including fitting connections and general condition—and verify that it appears to be in good working condition.

3. Verify that Pressure Standard is in current calibration, as determined by the Calibration Coordinator.
4. Verify that the multimeter is in current calibration, as determined by the Calibration Coordinator.
5. If using Beamex Calibrator, verify that it is in current calibration, as determined by Calibration Coordinator.
6. Record Test Article information on Calibration Form:
    a. Manufacturer
    b. Model or style number
    c. Identification number (serial number)
    d. I&C file number (if present)
7. Record Pressure Standard information on Calibration Form:
    a. Manufacturer
    b. Model or style number
    c. Identification number (serial number)
    d. Last calibration date
    e. Calibration due date
    f. Calibration organization



D. Manual Calibration

D.1. As-Found Data

1. Open vent valve on test rig to ensure all parts of system are at atmospheric level.
2. Connect Test Article to test rig so that it is connected in parallel with Pressure Standard.
3. Record Test Article reading and Pressure Standard reading on Calibration Form under “As-Found,” 0% reading.
4. Apply 25% of scale pressure to Test Article and Pressure Standard. Read Pressure Standard to adjust pressure.
5. Record Test Article reading and Pressure Standard reading on Calibration Form under “As-Found,” 25% reading.
6. Apply 50% of scale pressure to Test Article and Pressure Standard. Read Pressure Standard to adjust pressure.
7. Record Test Article reading and Pressure Standard reading on Calibration Form under “As-Found,” 50% reading.
8. Apply 75% of scale pressure to Test Article and Pressure Standard. Read Pressure Standard to adjust pressure.
9. Record Test Article reading and Pressure Standard reading on Calibration Form under “As-Found,” 75% reading.
10. Apply 100% of scale pressure to Test Article and Pressure Standard. Read Pressure Standard to adjust pressure.

11. Record Test Article reading and Pressure Standard reading on Calibration Form under “As-Found,” 100% reading.
12. Release pressure on Pressure Standard and Test Article.
13. Verify that Test Article reading returns to ZERO.

D.2. Adjust Zero and Span

1. Adjust Test Article so that proper readings are obtained at 0% and 100% scale.
    a. Most Pressure (Level) Transmitters have ZERO and SPAN adjustments, which are made at this time.
    b. ZERO and SPAN adjustments interact with each other, so multiple iterations may be required.
2. Verify proper reading at 0% and 100% of Test Article scale.

D.3. Calibration Data

1. Apply 0% scale to Test Article.
2. Record Test Article reading and Pressure Standard reading on Calibration Form under “Calibration Data,” 0% reading.
3. Apply 25% of scale pressure to Test Article and Pressure Standard. Read Pressure Standard to adjust pressure.
4. Record Test article reading and Pressure Standard reading on Calibration Form under “Calibration Data,” 25% reading.
5. Apply 50% of scale pressure to Test Article and Pressure Standard. Read Pressure Standard to adjust pressure.
6. Record Test article reading and Pressure Standard reading on Calibration Form under “Calibration Data,” 50% reading.
7. Apply 75% of scale pressure to Test Article and Pressure Standard. Read Pressure Standard to adjust pressure.
8. Record Test article reading and Pressure Standard reading on Calibration Form under “Calibration Data,” 75% reading.
9. Apply 100% of scale pressure to Test Article and Pressure Standard. Read Pressure Standard to adjust pressure.
10. Record Test Article reading and Pressure Standard reading on Calibration Form under “Calibration Data,” 100% reading.
11. Release pressure on Pressure Standard and Test Article.
12. Verify that Test Article reading returns to ZERO.

E. Acceptance Criteria

1. Test Article has passed calibration if the difference between Pressure Standard and Test Article readings is equal to or less than ± 1% of Test Article scale range at all calibration points.

    Note: Other accuracy requirements may be in effect for a particular instrument. An item is considered calibrated if the difference between Pressure Standard and Test Article is equal to or less than acceptance criteria defined by Engineering (using Calibration Form) at all calibration

points. Contact Calibration Coordinator if you are uncertain about the applicable acceptance criteria.

2. If Test Article passes calibration, fill out a VERIFIED sticker and affix it to Test Article. The sticker may be applied to any location, but the front is preferred.
3. If Test Article fails calibration, affix a REJECTED sticker to it. The sticker may be applied to any location, but the front is preferred.
   a. Do not return instrument to Requester.
   b. Deliver instrument and calibration data to Calibration Coordinator for disposition.

F. Follow-on

1. If problems are found, immediately notify appropriate personnel so corrective action can be taken.

   Will corrective action be required?

   ❑ Yes ❑ No

2. ❑ All tasks in this procedure have been completed.

_____ _____
Signature *Z-number*

_____ _____
Print name *Date*

G. Appendices and Attachments

Attachment 1. Form 71-10-211.1. Level Pressure Transmitter Calibration Form

History of Revisions

Document Number	Issue Date	Action
UI-PROC-71-10-211-R3	6/6/18	Convert to PMI with changes.
UI-PROC-71-10-211-R2	11/10/14	Review and reissue. Minor changes.
PROC-71-10-211-R1	10/05/11	Convert to new UI template. Minor revisions UI-one process owner.
UI-PROC-71-10-211-R0	02/01/11	Convert to Utilities & Institutional Facilities (UI) procedure. Minor changes to organization and formatting.
71-10-211 Rev. 1	07/20/06	Converted to KSL template. Format change.

Attachment 1. Form 71-10-211.1. Level Pressure Transmitter Calibration Form

Transmitter Data:

Application:	Level Transmitter	Date:	
ID Number:	LIT-101	Serial Number:	
Location:	Pajarito Road Tank 590014	Model:	
Specific Location:	In Pit	Manufacturer:	
		Range:	

Specific Procedure:

- ❑ Inform Operator that you will be calibrating transmitter.
- ❑ Reminder: gas pressure will be giving false indications.
- ❑ Notify Operator that the operation is completed.

Use General Procedure UI-PROC-71-10-211.

Calibration Range:	**0.00 psig – 20.00 psig**

Input Signal		**Process**	**Value**	**Xmitter**	**Output**
0%	scale	0.00	psig	4.00	mA
25%	scale	5.00	psig	8.00	mA
50%	scale	10.00	psig	12.00	mA
75%	scale	15.00	psig	16.00	mA
100%	scale	20.00	psig	20.00	mA

As-Found Value		**mA**	**MAX ±**	**As-Left Value**		**mA**
0.00	psig		0.08	0.00	psig	
5.00	psig		0.08	5.00	psig	
10.00	psig		0.08	10.00	psig	
15.00	psig		0.08	15.00	psig	
20.00	psig		0.08	20.00	psig	

Accuracy: ± 0.5% of full scale (16 MA)

Employee Name: _____ **Z #** _____

Test Equipment Calibration Expiration Date:

Inst. Name		Inst. Ser. #		Due Date	
Inst. Name		Inst. Ser. #		Due Date	
Inst. Name		Inst. Ser. #		Due Date	
Inst. Name		Inst. Ser. #		Due Date	
Inst. Name		Inst. Ser. #		Due Date	

Comments:

Form # 71-10-211.1

UI-PROC-71-10-221-R3

PMI – Calibration of Thermocouple Temperature Transmitters

Review frequency 1 yr ☐ 2 yr ☐ 3 yr ☒

Issue date 4/29/19 Next review 4/29/22

Reviewed by

Jeff Sisneros	Calibration Coordinator	
Jeff Sisneros	Digitally signed by Jeff Sisneros Date: 2019.03.19 08:12:40 -06'00'	Z-# 101408

Approved by

Blaine Collins	Maintenance Engineer	
Blaine Collins	Digitally signed by Blaine Collins Date: 2019.04.28 15:07:25 -06'00'	Z-# 317183

Derivative Classifier Review

James Liljenwall	Classification: VERIFIED UNCLASSIFIED	
James Liljenwall	Digitally signed by James Liljenwall Date: 2019.04.29 08:49:36 -06'00'	Z-# 206614

This procedure may only be worked in conjunction with a work control package that has been processed in accordance with the requirements contained in AP-WORK-002, Work Planning. The procedure may not be used as a stand-alone work control document.

The purpose of this procedure is to provide instructions for calibration of Type J and Type K Thermocouple Temperature Transmitters with voltage output or with current output of 4–20 mA. The procedure covers manual calibration, when data collection and instrument adjustment are performed manually. It also covers semi-automatic calibration using a Beamex Calibrator. It does not cover Beamex automatic calibration.

Work Steps

1 General

1. To collect the calibration data, thermocouple signals are applied at 5 selected points across the range of the Thermocouple Temperature Transmitter (Test Article). These points are 0%, 25%, 50%, 75%, and 100% of scale.
   a. Data may be collected on increasing or decreasing signals of the Test Article, at the discretion of the Calibration Technician or Electrician.
2. Data are collected as follows:
   a. "As-Found" data are collected first to document existing accuracy.

b. Adjustments are then made to the Test Article.

c. Finally, after adjustment, “As-Left” calibration data are collected.

3. Enter data on Form 60-10-110.2, UI Calibration Data Sheet (Attachment 1).

2 Preliminary Steps

1. Inspect Thermocouple Temperature Transmitter—including fitting connections and general condition—and verify that it appears to be in good working condition.
2. Verify that the Thermocouple-Simulator Calibrator is in current calibration, as determined by Calibration Coordinator.
3. Verify that the Multimeter is in current calibration, as determined by Calibration Coordinator.
4. If using Beamex Calibrator, verify that the instrument is in current calibration, as determined by Calibration Coordinator.
5. Record the Thermocouple Temperature Transmitter (Test Article) information on Form 60-10-110.2:
   a. Manufacturer
   b. Model or style number
   c. Identification number (serial number)
   d. I&C file number (if present)
6. Record the Thermocouple-Simulator Calibrator (Calibration Standard) information on Form 60-10-110.2:
   a. Manufacturer
   b. Model or style number
   c. Identification number (serial number)
   d. Last calibration date
   e. Calibration due date
   f. Calibration organization

3 Manual Calibration

3.1 As-Found Data

1. Connect Test Article input to output of Calibration Standard. Note that the RED lead of thermocouples is NEGATIVE.
2. Turn on Calibration Standard and adjust output to 0% of transmitter range.
3. Record Test Article reading and Calibration Standard reading on Form 60-10-110.2 under “As-Found,” 0% reading.
4. Adjust output of Calibration Standard to 25% of transmitter range.
5. Record Test Article reading and Calibration Standard reading on Form 60-10-110.2 under “As-Found,” 25% reading.

6. Adjust output of Calibration Standard to 50% of transmitter range.
7. Record Test Article reading and Calibration Standard reading on Form 60-10-110.2 under "As-Found," 50% reading.
8. Adjust output of Calibration Standard to 75% of transmitter range.
9. Record Test Article reading and Calibration Standard reading on Form 60-10-110.2 under "As-Found," 75% reading.
10. Adjust output of Calibration Standard to 100% of transmitter range.
11. Record Test Article reading and Calibration Standard reading on Form 60-10-110.2 under "As-Found," 100% reading.
12. Adjust output of Calibration Standard to 0% of Test Article range.
13. Verify that Test Article reading returns to 0%.

3.2 Adjust Zero and Span

1. Adjust the Thermocouple Temperature Transmitter (Test Article) so that proper readings are obtained at 0% and 100% scale.
    a. Most Thermocouple Temperature Transmitters have ZERO and SPAN adjustments, which are made at this time.
    b. ZERO and SPAN adjustments interact with each other, so multiple iterations may be required.
2. Verify proper reading at 0% and 100% of Test Article scale.

3.3 Calibration Data

1. Adjust output of Calibration Standard to 0% of Test Article range.
2. Record Test Article reading and Calibration Standard reading on Form 60-10-110.2 under "Calibration data," 0% reading.
3. Adjust output of Calibration Standard to 25% of Test Article range.
4. Record Test Article reading and Calibration Standard reading on Form 60-10-110.2 under "Calibration data," 25% reading.
5. Adjust output of Calibration Standard to 50% of Test Article range.
6. Record Test Article reading and Calibration Standard reading on Form 60-10-110.2 under "Calibration data," 50% reading.
7. Adjust output of Calibration Standard to 75% of Test Article range.
8. Record Test Article reading and Calibration Standard reading on Form 60-10-110.2 under "Calibration data," 75% reading.
9. Adjust output of Calibration Standard to 100% of Test Article range.
10. Record Test Article reading and Calibration Standard reading on Form 60-10-110.2 under "Calibration data," 100% reading.
11. Adjust output of Calibration Standard to 0% of Test Article range.
12. Verify that Test Article reading returns to 0%.

4 Acceptance Criteria

1. The Thermocouple Temperature Transmitter (Test Article) has passed calibration if the difference between Thermocouple-Simulator Calibrator and Thermocouple Temperature Transmitter readings is equal to or less than +/- one (1) percent of the Thermocouple Temperature Transmitter scale range at all calibration points.

   Note: Other accuracy requirements may be in effect for a particular instrument. An item is considered calibrated if the difference between the Calibration Standard and the Test Article is equal to or less than acceptance criteria defined by Engineering (using Form 60-10-110.1, Utilities Calibration Program Form) at all calibration points. Contact Calibration Coordinator if you are uncertain about the applicable acceptance criteria.

2. If Test Article passes calibration, fill out a VERIFIED sticker and affix it to the Test Article. The sticker may be applied to any location, but the front is preferred.

3. If Test Article fails calibration, affix a REJECTED sticker to it. The sticker may be applied to any location, but the front is preferred.

   a. Do not return instrument to Requester.

   b. Deliver instrument and calibration data to Calibration Coordinator for disposition.

5 Appendices and Attachments

Attachment 1. Form 60-10-110.2. UI Calibration Data Sheet

History of Revisions

Document Number	Issue Date	Action
UI-PROC-71-10-221-R3	4/29/19	Review and reissue. Minor changes.
UI-PROC-71-10-221-R2	04/20/16	Convert to CMMS PMI format, with changes.
UI-PROC-71-10-221-R1	04/24/14	Review and reissue. Minor changes.
UI-PROC-71-10-221-R0		Review complete
71-10-221 Rev. 1	07/20/06	Format change..

Attachment 1. Form 60-10-110.2. UI Calibration Data Sheet

UI Calibration Data Sheet

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Section 1. EQUIPMENT INFORMATION

EQUIPMENT IDENTIFIER (Unit – Op System – Equipment Number)	ITEM NUMBER	JOB PACKAGE NUMBER
EQUIPMENT / COMPONENT NAME	MANUFACTURER NAME	MODEL NUMBER
CALIBRATION PROCEDURE NUMBER		FREQUENCY

Section 2. CONTACT / CUSTOMER INFORMATION

NAME	Z - NUMBER		PHONE NUMBER	CELL NUMBER	PAGER NUMBER

Section 3. CALIBRATION DATA (COMPLETED BY THE CALIBRATOR) *(Include measurements, examinations, and derived results, supported tables, graphs, sketches, etc., as appropriate. Use attachments for continuation; number all pages.)*

CALIBRATION DUE DATE	CALIBRATION DATE	NEXT EXPIRATION DATE	PROCESS INSTRUMENT ACCURACY

Standard(s) Used: ***(Accuracy must be 4 times better than M&TE being calibrated or explained in COMMENT Section)***

Standards ID	Calibration Date	Cal Due Date

Calibrated by

CALIBRATION POINTS	AS FOUND DATA	AS LEFT DATA

***AS FOUND* Condition**	***AS LEFT* Condition**	***AS LEFT* Status**
☐ In Tolerance ☐ Repair Required ☐ Out Of Tolerance	☐ In Tolerance ☐ Repair Required ☐ Out Of Tolerance	☐ Approved ☐ Rejected ☐ Limited Use Tolerance

CHARACTERIZATION & CONDITION OF ITEM *(Describe damage resulting from improper handling or storage and/or any communication from the customer regarding the condition of the item)*

LIMITATIONS OF USE

ADJUSTMENT REMARKS *(Include any non-standard method used or any unique information that would assist in future calibrations. Record any deviation from, addition to, or excursion from, the calibration method and any other information relevant to a specific calibration, such as significant environmental conditions.)*

COMMENTS

Section 4. SIGNATURES

CALIBRATOR	Z - NUMBER	DATE
QUALITY ASSURANCE VERIFICATION (Calibration Coordinator/Designee)	Z - NUMBER	DATE

Form 60-10-110.2

UTILITIES AND INSTITUTIONAL FACILITIES

Los Alamos NATIONAL LABORATORY

UI-PROC-71-10-231-R3

PMI – Calibration of Pressure Transmitters

Review frequency 1 yr ☐ 2 yr ☐ 3 yr ■

Issue date 5/23/19 **Next review** 5/23/22

Reviewed by

Jeff Sisneros		I&C Technician
Jeff Sisneros	Digitally signed by Jeff Sisneros Date: 2019.05.15 08:22:39 -06'00'	Z-# 101408

Approved by

Matt Scarborough		I&C System Engineer
MATTHEW SCARBOROUGH (Affiliate)	Digitally signed by MATTHEW SCARBOROUGH (Affiliate) Date: 2019.05.23 09:38:30 -06'00'	Z-# 294806

Derivative Classifier Review

James Liljenwall		Classification: VERIFIED UNCLASSIFIED
James Liljenwall	Digitally signed by James Liljenwall Date: 2019.05.23 10:02:15 -06'00'	Z-# 206614

This procedure may only be worked in conjunction with a work control package that has been processed in accordance with the requirements contained in AP-WORK-002, Work Planning. The procedure may not be used as a stand-alone work control document.

The purpose of this procedure is to provide instructions for calibration of electronic pressure transmitters. This includes transmitters with current output (4 to 20 mA) and voltage output devices. The procedure applies only to pressure transmitters used for water, air, steam, or nitrogen service and is not to be used for combustible gas pressure transmitters or pressure transmitters used for oxygen service.

Work Steps

This section provides instructions for pressure transmitter calibration. "As-Found" data are first collected to document the existing accuracy. Then adjustments may be made to the pressure transmitter. Finally, "As-Left" calibration data are collected.

Data are the application of pressure to perform a 5-point calibration across the range of the transmitter. Calibration points are selected at 0%, 25%, 50%, 75%, and 100% of scale.

The working fluid is generally air for low pressures and water for higher pressures. The fluid is applied to the Pressure Standard and the test article at the same time and data are collected. The first set of data is collected before any adjustments and is referred to as the "As-Found" data. Adjustments are then made to the test article if applicable (most Pressure Transmitters can be adjusted). Final data after adjustment are referred to as "As-Left" calibration data.

Data may be collected on increasing or decreasing pressure at the discretion of the Calibration Technician or Electrician.

1 General Items

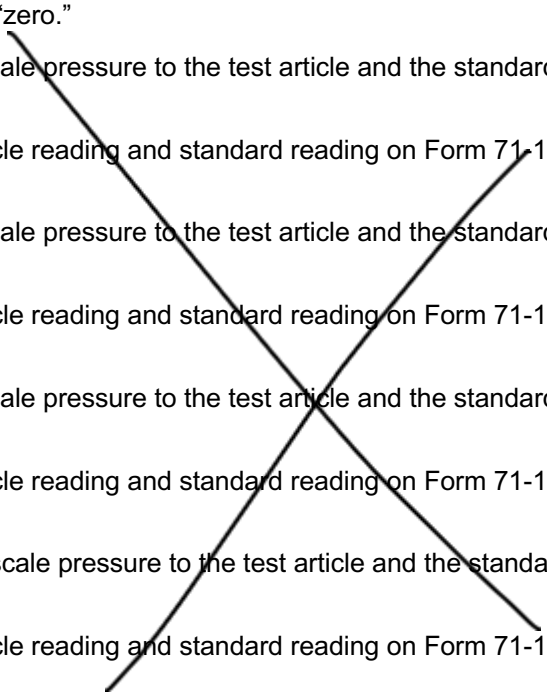
1. Use Appendix A, Form 71-10-231.1, Pressure Transmitter Calibration Form, to record data.
2. Verify the calibration interval of the Pressure Standard has not elapsed and the Pressure Standard is in current calibration.
3. Verify the calibration interval of the Multimeter has not elapsed and the Multimeter is in current calibration.
4. This procedure provides steps for “Manual” methods. In Manual methods, the adjustment of the standard, data collection, etc. is performed by the calibrating staff. The Beamex can be operated in “Automatic mode,” where the Beamex collects all calibration data. Operation in Automatic mode relieves the Operator from data collection duties. The Automatic process will be added to this instruction at a later date.

2 Manual Calibration

2.1 As-Found Data

1. Inspect the test article and verify that it appears to be in good working condition. Inspect fitting connections and general condition of the test article. If the test article was in water service, remove water using low pressure air (less than 50% of test article maximum pressure).
2. Record the test article information on Form 71-10-231.1:
    a. Manufacturer
    b. Model or style number
    c. Identification number (serial number)
    d. Instrumentation and Controls File number (if present)
3. Record the Pressure Standard information on Form 71-10-231.1:
    a. Manufacturer
    b. Model or style number
    c. Identification number (serial number)
    d. Last calibration date
    e. Calibration due date
    f. Calibration organization
4. Open the vent valve on the test rig to ensure all parts of the system are at atmospheric pressure.
5. Connect the test article to the calibration rig, such that it is in parallel connection with the Pressure standard.
6. Record test article reading and standard reading on Form 71-10-231.1 under “As-Found,” 0% reading.

Note: On some test articles, the “zero” marking is a marked width of acceptable “zero” reading, as shown below. In this case, if the pointer is within the limits of these markings, the data may be recorded as “zero.”



7. Apply 25% of scale pressure to the test article and the standard. Read the standard to adjust the pressure.
8. Record test article reading and standard reading on Form 71-10-231.1 under “As-Found,” 25% reading.
9. Apply 50% of scale pressure to the test article and the standard. Read the standard to adjust the pressure.
10. Record test article reading and standard reading on Form 71-10-231.1 under “As-Found,” 50% reading.
11. Apply 75% of scale pressure to the test article and the standard. Read the standard to adjust the pressure.
12. Record test article reading and standard reading on Form 71-10-231.1 under “As-Found,” 75% reading.
13. Apply 100% of scale pressure to the test article and the standard. Read the standard to adjust pressure.
14. Record test article reading and standard reading on Form 71-10-231.1 under “As-Found,” 100% reading.
15. Release the pressure on the standard and the test article.
16. Verify that the test article reading returns to “zero.”

2.2 Adjust Zero and Span

1. If applicable, adjust the test article so that proper readings are obtained at 0% and 100% scale. Most pressure transmitters have ZERO and SPAN adjustments, and these adjustments are made at this time. Note that ZERO and SPAN adjustments are interactive, multiple iterations may be required.
2. Verify proper reading at 0% and 100% of test article scale.

2.3 Calibration Data

1. Apply 0% scale to the test article.
2. Record test article reading and standard reading on Form 71-10-231.1 under “Calibration data,” 0% reading.
3. Apply 25% of scale pressure to the test article and the standard. Read the standard to adjust the pressure.
4. Record Test article reading and standard reading on Form 71-10-231.1 under “Calibration data,” 25% reading.
5. Apply 50% of scale pressure to the test article and the standard. Read the standard to adjust the pressure.
6. Record Test article reading and standard reading on Form 71-10-231.1 under “Calibration data,” 50% reading.

7. Apply 75% of scale pressure to the test article and the standard. Read the standard to adjust the pressure.
8. Record Test article reading and standard reading on Form 71-10-231.1 under "Calibration data," 75% reading.
9. Apply 100% of scale pressure to the test article and the standard. Read the standard to adjust the pressure.
10. Record test article reading and standard reading on Form 71-10-231.1 under "Calibration data," 100% reading.
11. Release the pressure on the standard and the test article.
12. Verify that the test article reading returns to "zero."

3 Acceptance Criteria

1. The test article has passed calibration if the difference between the Pressure Standard and the test article is equal to or less than ± 1% of the test article scale range at all calibration points.

   Note: Other accuracy requirements may be in effect for a particular instrument. An item is considered calibrated if the difference between the Pressure Standard and the test article is equal to or less than acceptance criteria defined by engineering staff (using Calibration Form 71-10-231.1) at all calibration points. Contact the Calibration Coordinator if you are uncertain regarding the applicable acceptance criteria.
2. If the test article passed calibration, fill out a "verified" sticker, and affix the sticker to the test article. The sticker may be applied to any location, although the front is preferred.
3. If the test article fails calibration, affix a "REJECTED" sticker to the test article. The sticker may be applied to any location, although the front is preferred. Do not return the instrument to the requestor. Deliver the instrument and calibration data to the Calibration Coordinator for disposition.

4 Follow-on

1. If problems are found, immediately notify appropriate personnel so corrective action can be taken.

5 Appendices and Attachments

Appendix A. Form 71-10-231.1. Pressure Transmitter Calibration Form

Appendix B. Form 71-10-231.1. Pressure Transmitter Calibration Form – Sample

History of Revisions

Document Number	Issue Date	Action
UI-PROC-71-10-232-R3	5/23/19	Review and reissue. No changes.

Document Number	Issue Date	Action
UI-PROC-71-10-232-R2	07/27/16	Convert to CMMS PMI format, with changes.
UI-PROC-71-10-232-R1	12/24/13	Review and reissue as Utilities & Institutional Facilities (UI) procedure. Minor changes
UI-PROC-71-10-232-R0	02/11/11	Convert from KSL to UI procedure. Minor changes.
71-10-232 Rev. 1	07/20/06	Format change

Appendix A. Form 71-10-231.1. Pressure Transmitter Calibration Form

Application: _____ Date: _____

ID Number: _____ Serial Number: _____

Location: _____ Model: _____

Specific Location: _____ Manufacturer: _____

Range: _____

Specific Procedure:

_____ Inform Operator that you will be calibrating the transmitter

_____ Reminder: Gas pressure will be giving false indications

_____ Notify Operator that the operation is completed

Calibration Range		psig		psig

Input Signal		Process	Value	Xmitter	Output
0%	scale		psig		mA
25%	scale		psig		mA
50%	scale		psig		mA
75%	scale		psig		mA
100%	scale		psig		mA

As Found Value		mA	MAX ±	As Left Value		mA
	psig		0.08		psig	
	psig		0.08		psig	
	psig		0.08		psig	
	psig		0.08		psig	
	psig		0.08		psig	

Accuracy: ± 0.5% of full scale (16 mA)

Employee Name: _____ Z # _____

Test Equipment Calibration Expiration Date:

Inst. Name _____ Inst. Ser. # _____ Due Date _____

Inst. Name _____ Inst. Ser. # _____ Due Date _____

Inst. Name _____ Inst. Ser. # _____ Due Date _____

Inst. Name _____ Inst. Ser. # _____ Due Date _____

Inst. Name _____ Inst. Ser. # _____ Due Date _____

Comments:

_____

_____

_____

Will corrective action be required? ❑ **Yes** ❑ **No**

_____ _____

Signature *Z-number*

_____ _____

Print name *Date*

Form 71-10-231.1

Appendix B. Form 71-10-231.1. Pressure Transmitter Calibration Form – Sample

Application: Low Pressure Gas
Date:
ID Number: PIT-101
Serial Number:
Location: TA-03-22 Power Plant
Model:
Specific Location:
Manufacturer:
Range:

Specific Procedure:

_____ Inform Operator that you will be calibrating the transmitter
_____ Reminder: Gas pressure will be giving false indications
_____ Notify Operator that the operation is completed

Calibration Range	0.00	psig	20.00	psig

Input Signal		Process	Value
0%	scale	0.00	psig
25%	scale	5.00	psig
50%	scale	10.00	psig
75%	scale	15.00	psig
100%	scale	20.00	psig

Xmitter	Output
4.00	mA
8.00	mA
12.00	mA
16.00	mA
20.00	mA

As Found Value		mA	MAX ±	As Left Value		mA
0.00	psig		0.08	0.00	psig	
5.00	psig		0.08	5.00	psig	
10.00	psig		0.08	10.00	psig	
15.00	psig		0.08	15.00	psig	
20.00	psig		0.08	20.00	psig	

Accuracy: ± 0.5% of full scale (16 mA)

Employee Name: Z #

Test Equipment Calibration Expiration Date:

Inst. Name Inst. Ser. # Due Date
Inst. Name Inst. Ser. # Due Date
Inst. Name Inst. Ser. # Due Date
Inst. Name Inst. Ser. # Due Date
Inst. Name Inst. Ser. # Due Date

Comments:

_____

_____

_____

Will corrective action be required? ❑ **Yes** ❑ **No**

_____ _____

Signature *Z-number*

_____ _____

Print name *Date*

Form 71-10-231.1

UI-PROC-71-10-232-R3

PMI – Calibration of Pressure Switches

Review frequency 1 yr ☐ 2 yr ☐ 3 yr ■

Issue date 5/23/19 **Next review** 5/23/22

Reviewed by

Jeff Sisneros	I&C Technician	
Jeff Sisneros	Digitally signed by Jeff Sisneros Date: 2019.05.15 08:15:29 -06'00'	Z-# 101408

Approved by

Matt Scarborough	I&C System Engineer	
MATTHEW SCARBOROUGH (Affiliate)	Digitally signed by MATTHEW SCARBOROUGH (Affiliate) Date: 2019.05.23 09:37:01 -06'00'	Z-# 294806

Derivative Classifier Review

James Liljenwall	Classification: VERIFIED UNCLASSIFIED	
James Liljenwall	Digitally signed by James Liljenwall Date: 2019.05.23 09:58:11 -06'00'	Z-# 206614

This procedure may only be worked in conjunction with a work control package that has been processed in accordance with the requirements contained in AP-WORK-002, Work Planning. The procedure may not be used as a stand-alone work control document.

The purpose of this procedure is to provide general guidelines for performing routine calibration of pressure switches.

Before using this calibration procedure, its applicability to the pressure switch in question must be reviewed and verbally approved by I&C Calibration Coordinator or Superintendent.

There are many types of pressure switches in service at LANL, so it is essential to review all work-request documentation, in addition to this procedure, to ensure a firm understanding of the task at hand.

Work Steps

1 General

1. Calibration of a pressure switch is accomplished by applying a known pressure below the trip point of the switch and slowly changing the pressure until the switch trips. The pressure is then changed slowly in the opposite direction until the switch resets.
   - Switches can trip on increasing or decreasing pressure.
   - Trip and reset pressure are generally not the same, due to hysteresis in the switch.

2. Obtain the range, setpoint, direction, and tolerance for a given calibration from I&C Calibration Coordinator.
    - This information will have been previously defined by UI Engineering.
3. Lockout/tagout (LO/TO) and/or Confined Space Permit may be required for some equipment.
    - These operations are not covered in this procedure. Refer to P101-3, Lockout/Tagout for Hazardous Energy Control, and P101-27, Confined Spaces.
4. Contact with and notification of Operations personnel may be required.
    - Contact and notification requirements vary; follow the requirements specific to the equipment and the facility.
5. If the pressure switch is inoperable or cannot be calibrated, place a REJECTED (black on red) or equivalent label on instrument.
6. Use Attachment 1, Form 71-10-232.1, Switch Calibration Form, to record information and data during this procedure.

2 Initial Steps

1. Obtain proper switch calibration data specific to the switch to be calibrated from I&C Calibration Coordinator.
2. Obtain a calibrated DVM.
3. Obtain calibrated pressure standard. Record information onto Form 71-10-232.1.
4. Perform notification as required to remove switch from service.
5. Determine if hazardous voltage (greater than 50 volts) or pressure is present at the switch to be calibrated, and take appropriate measures to mitigate the hazard through LO/TO.
    - Optionally, the switch may be removed from the system and bench calibrated if desired.
6. Disconnect switch leads from process and connect the switch to DVM.
7. Set DVM to measure resistance or continuity.
8. Attach pressure source and calibration pressure standard to switch.
9. Determine if switch operates on increasing or decreasing pressure.

3 As-found Data Collection

1. Using DVM, determine whether switch is open or closed.
2. Note the result (whether switch is open or closed) and whether the DVM indication matches the switch condition.
3. Attach Calibrator to switch and adjust Calibrator to put switch in its normal operating position.
4. Note reading of the DVM, and make sure it shows proper indication.
5. Slowly adjust Calibrator to cause switch to trip.
6. Record actual trip pressure and direction on Form 71-10-232.1.
7. Slowly adjust Calibrator to cause switch to reset.
8. Record actual reset pressure and direction on Form 71-10-232.1.

4 Switch Adjustment

1. Using calibrated pressure standard, adjust switch point of the switch to required calibration parameters as provided by the I&C Calibration Coordinator.
2. Note that the trip point may be adjustable, but the reset point may not be, due to hysteresis.

5 As-left Data Collection

1. Using DVM, determine whether switch is open or closed.
2. Note the result (whether switch is open or closed) and whether the DVM indication matches the switch condition.
3. Attach Calibrator to switch and adjust Calibrator to put switch in its normal operating position.
4. Note reading of the DVM, and make sure it shows the proper indication.
5. Slowly adjust Calibrator to cause switch to trip.
6. Record actual trip pressure and direction on Form 71-10-232.1.
7. Slowly adjust Calibrator to cause switch to reset.
8. Record actual reset pressure and direction on Form 71-10-232.1.

6 Return Switch to Service

1. Disconnect calibration pressure source from switch and reconnect system piping.
2. Remove DVM from switch and reconnect switch leads back to the proper places on the terminal strip.
3. Return switch to normal service.
4. Notify facility that the switch is back in service.

7 Follow-on

1. Ensure proper operation of the pressure switch. If any problem is found, notify appropriate personnel so corrective action can be taken.

8 Appendices and Attachments

Attachment 1. Form 71-10-232.1. Switch Calibration Form

History of Revisions

Document Number	Issue Date	Action
UI-PROC-71-10-232-R3	5/23/19	Review and reissue. No changes.

Document Number	Issue Date	Action
UI-PROC-71-10-232-R2	07/27/16	Convert to CMMS PMI format, with changes.
UI-PROC-71-10-232-R1	12/24/13	Review and reissue as Utilities & Institutional Facilities (UI) procedure. Minor changes
UI-PROC-71-10-232-R0	02/11/11	Convert from KSL to UI procedure. Minor changes.
71-10-232 Rev. 1	07/20/06	Format change

Attachment 1. Form 71-10-232.1. Switch Calibration Form

SWITCH DATA

Location		Manufacturer	
Service type		Type/Model #	
TAG #		Range	
Specific location		Serial #	
Switched voltage		Sensor type	

CALIBRATION DATA

Setpoint : _____ increasing / decreasing (circle one)

Reset : _____ increasing / decreasing (circle one)

Tolerance: _____

Input signal		**Tolerance**	**As-found**		**As-left**	
OPEN			INC/DEC		INC/DEC	
CLOSE			INC/DEC		INC/DEC	

TEST EQUIPMENT USED

Manufacturer		Manufacturer	
Model		Model	
Serial #		Serial #	
Cal due date		Cal due date	

Comments:

_____

_____

_____

Will corrective action be required? ❑ **Yes** ❑ **No**

_____ _____

Signature *Z-number*

_____ _____

Print name *Date*

Form 71-10-232.1

UTILITIES AND INSTITUTIONAL FACILITIES

Los Alamos NATIONAL LABORATORY

UI-PROC-76-28-010-R1

PMI – TA-09/16 Steam Plants – Annual Boiler Waterside/Fireside Checklist

Review frequency: 1 yr ☒ 2 yr ☐ 3 yr ☐

Issue date 4/10/19 **Next review** 4/10/20

Reviewed by

Glenn Martinez	Cogen Plant Maintenance Superintendent	
GLENN MARTINEZ (Affiliate)	Digitally signed by GLENN MARTINEZ (Affiliate) Date: 2018.09.20 12:44:45 -06'00'	Z-# 190429

Approved by

Blaine Collins	Cogen Plant System Engineer	
Blaine Collins	Digitally signed by Blaine Collins Date: 2019.04.04 16:52:07 -06'00'	Z-# 317183

Derivative Classifier Review

James Liljenwall	Classification: VERIFIED UNCLASSIFIED	
James Liljenwall	Digitally signed by James Liljenwall Date: 2019.04.10 08:49:33 -06'00'	Z-# 206614

This procedure may only be worked in conjunction with a work control package that has been processed in accordance with the requirements contained in AP-WORK-002, Work Planning. The procedure may not be used as a stand-alone work control document.

The purpose of this procedure is to provide instructions for performance of the Annual Boiler Waterside/Fireside Checklist at the TA-09/16 Steam Plants.

Work Steps

A. Preliminary Items

1. Required boiler training and qualifications:
   a. Boiler Operator: New Mexico Construction Industries Journey Classification as a Journeyman Boiler Operator – High Pressure BO2 (NMAC 14.6.6)

      Note: Boiler Operator Trainee may not operate any boiler devices unless under the direct observation of a Journeyman Boiler Operator (NMAC 14.9.4.29).

   b. Pressure Safety Orientation – Course #769 (LANL P101-34)

c. Pressure Safety Advanced – Course #11459 (LANL P101-34)

d. Boiler maintenance crew performing low-NOx verification: boiler training from Sellers Engineering Company or local manufacturer's representative

2. Equipment, tools, instruments:

- Flue gas analyzer
- Calibrated boiler pressure gauge

Record calibration dates on Boiler Checklist (Attachment 1).

3. Supplies, materials:

- Mobil Polyrex EM grease
- Slowserve grease

B. Boiler Overview

1. TA-09/16 Steam Plant Boilers are located at the following eight boiler plants: Plant 1 (TA-16-1480), Plant 4 (TA-16-1483), Plant 5 (TA-16-1484), Plant 8 (TA-16-1487), Plant 11 (TA-16-1490), Plant 12 (TA-16-1491), Plant 13 (TA-09-0282), and Plant 14 (TA-16-1492).
2. Boilers are Sellers Engineering Company Fire Tube Boilers, manufactured in 1995. Each has a Maximum Allowable Working Pressure (MAWP) of 150 psig. Supply natural gas pressure is nominally 5 psig. Attachments 2 and 3 contain boiler technical information.
3. Inspection and maintenance consists of the following:
   a. Testing or replacing pressure relief safety valves
   b. Waterside and fireside boiler inspection
   c. Cleaning of debris or scaling found inside the boiler
   d. Inspection of various plant components
   e. Steam gauge calibration
   f. Internal and external inspection by a National Board Inspection Code (NBIC) Boiler Inspector
4. Boiler output pressure: 80 psig

   Exception: Boiler output pressure for two boilers at Plant 12 (TA-16-1491): 40 psig
5. There are three pressure switches on top of each boiler: high pressure steam shutdown (High Limit) switch; operating pressure control (OPC) switch; Low-NOx cold start limit control (CSLC) switch.
6. Final settings for all boilers except two at Plant 12 (TA-16-1491):
   a. High pressure steam shutdown (High Limit) switch: 90 psig

b. Operating pressure control (OPC) switch: 80 psig

c. Low-NOx steam pressure (CSLC) switch: 40 psig

Exception: Final settings for two boilers at Plant 12 (TA-16-1491):

a. High pressure steam shutdown (High Limit) switch: 45 psig

b. Operating pressure control (OPC) switch: 40 psig

c. Low-NOx steam pressure (CSLC) switch: 20 psig

7. All steam pressure switch setpoint verification must be performed with a calibrated boiler pressure gauge.
   - All gauges used for pressure switch setpoints must have calibration dates, which are to be recorded on Attachment 1 checklist.
8. There are four pressure switches at the steam header: the lead, the lag, and the two low-pressure switches.
9. For all boilers, set the switches to control the lead/lag feature of the boiler.
10. Verify that all pressure switches perform their intended function.
    - If the pressure setting on a switch varies by more than 20% of the boiler pressure gauge, the switch must be replaced.
11. After final tuning of the boiler parameters, adjust the air flow proving switch to about 2 inches water column below the blower pressure setting.
12. Flue gas analyzer will be needed for two scenarios: light off and Low-NOx boiler settings. Record the O2, CO, NOx, temperature, and efficiency. The boilers are to be run in the Low-NOx mode to be compliant with manufacturer's instructions.
13. Complete the checklists in Attachment 1 before the boiler is released by UI Engineering to UI Operations. The UI System Engineer must be alerted for inspection of boiler components—specifically the Hold Points below.

C. Inspection/Maintenance

1. Remove and replace the Kunkle pressure relief valves. New pressure relief valves can be purchased and Attachment 2 identifies the pressure relief valves to order. If new valves are not purchased, test and repair the pressure relief valves in accordance with the Engineering Standard Manual Chapter 17.
2. Lubricate motor bearings as follows:
   a. Grundfos boiler feed pumps: lubricate the Baldor motor with Polyrex EM (Mobil) grease.
   b. Baldor blower motor: lubricate with Polyrex EM (Mobil) grease.
3. Clean any debris accumulated on the Neptune/Leeson chemical feed pumps and the GE/Neptune chemical mixing motors.
4. Clean out each main burner with a bottle washer.

5. Check the Low-NO_X solenoid for proper operation.

6. Drill the pilot manifolds with a #53 drill bit and adjust the pilot manifold position in accordance with the Seller's Owners' Manual.

D. Waterside Inspection

1. Open flue door and inspect tube sheets for water leakage. It tube leakage is suspected call the system engineer for further evaluation. The narrow ligaments between tube holes are subject to tremendous stresses and should be watched for any sign of cracking mainly due to overheating.

2. Drain boiler and remove all hand hole and manhole covers, where applicable, to allow a visual check of all internal accessible areas. Example: shell, tubes and tube sheets.

   HOLD POINT:

   UI System Engineer and Chemical Treatment Company Representative are needed for external boiler inspection. Give at least 7 days advance notice and coordinate with UI System Engineer.

3. Carefully examine waterside surfaces using a strong light and mirror where required. Look for evidence of scale, corrosion, blisters, or pitting, indicating adequacy of water treatment.

4. Use a high pressure hose to wash sediment out of the bottom and other internals of the boiler.

   HOLD POINT:

   UI System Engineer and NBIC Boiler Inspector are needed for internal boiler inspection. Give at least 7 days advance notice and coordinate with UI System Engineer.

5. Remove both head covers from the bodies of the two float operated low water cut-offs (LWCs). The float-assembly and mercury switches are located on these heads. Flush out both LWC bodies. Inspect floats and replace if necessary. Reinstall head covers. Remove caps from the inspection crosses associated with both LWCs and flush out piping connected to boiler. Reinstall caps.

E. Fireside Inspection

1. Check gas burners for presence of dirt, lint, or foreign matter. Be sure of ports, gas passages and air passages are free of obstructions.

2. Check the fireside of furnace and fire tubes for any evidence of soot formation or corrosion. Evidence of soot formation is a sign of improperly adjusted combustion. Brush and vacuum the furnace and fire tubes, if such conditions exist.

3. Check condition of all heat extractors. These devices can be pulled out individually from each of the fire tubes and cleaned if necessary. Repair or replace if necessary.
4. Check flue door gaskets and other gaskets to make sure that they are in good condition and that they are properly secured. Replace, if required, the flue door gaskets. An ineffective seal may allow flue gases to escape into the boiler room and result in burned gaskets and warped flue doors.
5. Verify the gas low and high limit switches. Record values in Attachment 1.
6. After the fireside and waterside surfaces have been inspected by the UI system engineer and by the NBIC boiler inspector, and work is completed, close and secure front and rear flue doors. Reinstall hand hole and manifold covers if applicable; hook up all associated piping and refill boiler to proper level.
7. Clean out all Y-strainers and steam traps.
8. Open up condensate return tank. Inspect for deposits and clean, if necessary.
9. Grease plug valves on gas supply line. Use Slowserve for Nordstrom Valves Type 555 (-10°F to 500°F).

F. Post-Maintenance

1. Complete checklist in Attachment 1.
2. Verify the settings for the following steam switches: lead, lag, low boiler pressure.
3. There are three pressure switches on top of each boiler: the high pressure steam shutdown (High Limit) switch, the operating pressure control (OPC) switch, and Low-NO_X Cold Start Limit Control (CSLC) switch.
4. Upon initial startup the CSLC switch is adjusted to a pressure above the OPC switch until the initial boiler parameters have been adjusted.
5. Final setpoint configurations:

   a. For all boilers [except two boilers at Plant 12 (16-1491)]:

   - High pressure steam shutdown (High Limit) switch: 90 psig
   - Operating pressure control (OPC) switch: 80 psig
   - Low-NO_X Cold Start Limit Control (CSLC) switch: 40 psig

   b. For the two boilers at Plant 12 (16-1491):

   - High pressure steam shutdown (High Limit) switch: 45 psig
   - Operating pressure control (OPC) switch: 40 psig
   - Low-NO_X Cold Start Limit Control (CSLC) switch: 20 psig

   All steam pressure switch setpoint verification must be performed with a calibrated boiler pressure gauge.

6. Verify the Low-NO_X Cold Start Limit Control switch.
   a. Set to the values above.
   b. Verification of this switch is performed after the initial settings.
   c. Verify that the Low-NO_X damper control motor is operating, and that the auxiliary solenoid valve on the main gas valve line de-energizes (closes).
7. Check pilot burners and ignition equipment for proper condition and adjustment.
8. Visually check burner for proper combustion.
   a. Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.
   b. Adjust fuel/air mixture as needed.
   c. Refer to Attachment 2 for commissioning flue gas analysis results.
9. Complete the functional checklist on page 3 of Attachment 1.

HOLD POINT:

UI System Engineer and NBIC Boiler Inspector are needed for external boiler inspection. Give at least 7 days advance notice and coordinate with UI System Engineer.

10. Before the boiler is released to Operations, UI System Engineer must review and sign off on Attachment 1.
    - Ensure correct operation. If problems are found, immediately notify appropriate personnel so corrective action can be taken.

G. Appendices and Attachments

Attachment 1. Form 76-28-010.1 Boiler Checklist

Attachment 2. Baseline Settings

Attachment 3. Approved Steam Safety Valves

History of Revisions

Document Number	Issue Date	Action
UI-PROC-76-28-010-R1	4/10/19	Convert to PMI with changes.
UI-PROC-76-28-010-R0	05/13/15	New procedure.

Attachment 1. Form 76-28-010.1 Boiler Checklist

Boiler NB #_____

Boiler Location_____

Date(s) Performed_____

Safety valves replaced?_____ S/N #_____

Boiler Pressure (psig)_____ Fireside inspection:_____

Supply gas pressure (psig)_____ Waterside inspection:_____

Flue door gaskets replaced?_____

Verify shutdown switches:

High Limit_____ High Limit set point_____

High Gas_____ High Gas set point_____

Low Gas_____ Low Gas set point_____

OPC_____ OPC set point_____

LWC 1_____

LWC 2_____

Air Proving Switch_____

Boiler set in low NOx setting?_____ CSLC set point_____

Lag set point_____ Lead set point_____

Calibration date on steam boiler pressure gauge_____

Work Control: Send copy of this completed form to TA-09/16 System Engineer.

Copy sent to TA-09/16 System Engineer by WCS _____ *Date* _____

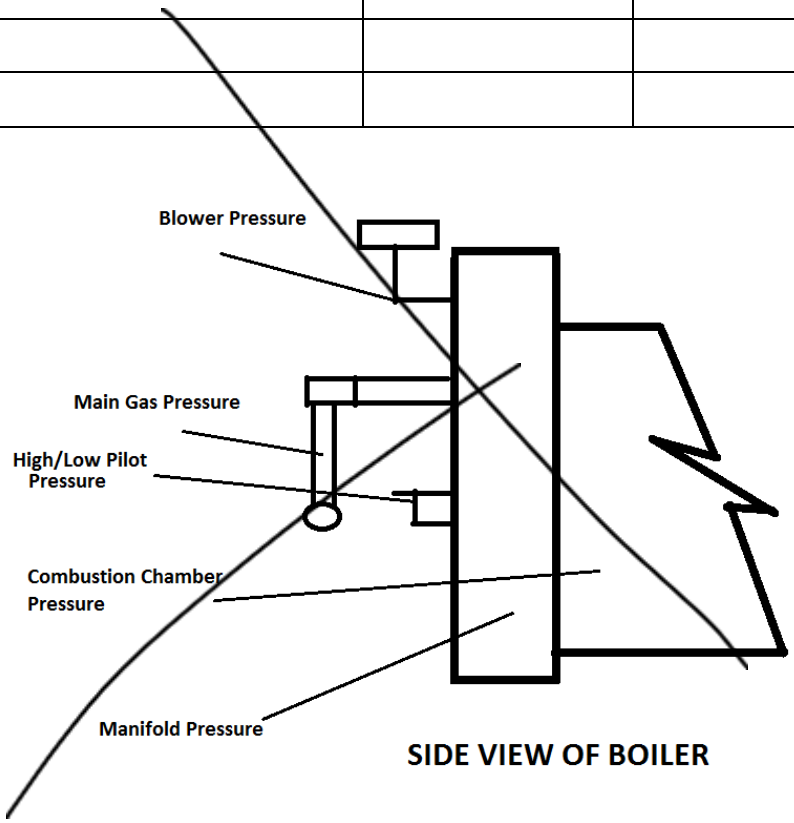
MSS Rep _____ *Date* _____

Released for Operations by System Engineer _____ *Date* _____

Pressure and Flue Gas Analysis

Original boiler commissioning settings are captured in Attachment 2.

	Lightoff Readings	Low NOx Readings
Manifold Pressure (“wc)		
High Pilot Pressure(“wc)		
Low Pilot Pressure (“wc)		
Blower Pressure (“wc)		
Main Gas Pressure (psig)		
O2 (%)		
CO (ppm)		
NOx (ppm)		



SIDE VIEW OF BOILER

Work Control: Send copy of this completed form to TA-09/16 System Engineer.

Copy sent to TA-09/16 System Engineer by WCS _____ *Date* _____

MSS Rep _____ *Date* _____

Released for Operations by System Engineer _____ *Date* _____

Form 76-28-010.1 *2/3*

FUNCTIONAL CHECKLIST

- ☐ Steam system
  - o Traps
  - o Y- strainers
- ☐ Condensate return system
- ☐ Gas system
- ☐ Motors operational
- ☐ Pumps operational
- ☐ Feed water system
- ☐ Chemical feed system
- ☐ Blowdown system
  - o Valve controlling continuous blowdown
- ☐ Electrical system
- ☐ Safety shutdown
- ☐ Building
  - o Lights operational
  - o Heating system
  - o Life safety

COMMENTS:_____
_____
_____
_____
_____
_____

Work Control: Send copy of this completed form to TA-09/16 System Engineer.

Copy sent to TA-09/16 System Engineer by WCS _____ *Date* _____

MSS Rep _____ *Date* _____

Released for Operations by System Engineer _____ *Date* _____

Form 76-28-010.1 *3/3*

Attachment 2. Baseline Settings

							Lightoff Readings						Low NOx readings					
Plant #	Location	Serial #	Boiler HP	High Pilot "wc	Low Pilot "wc	Blower Pressure "wc	Manifold Pressure "wc	Combustion Chamber Pressure "wc	Main Gas Pressure "wc	O2 %	CO ppm	NOx ppm	Manifold Pressure "wc	Combustion Chamber Pressure "wc	Main Gas Pressure "wc	O2 %	CO ppm	NOx ppm
1	16-1480-A	100852-B	98	10	10	7.3	5.4	2.1	11.6	3.4	8	52	5.4	1.7	12.5	6.3	18	21
1	16-1480-B	100852-A	98	10	6	7.3	5.3	2.3	9.7	4	29	50	5.3	2	10.5	6.3	6	27
4	16-1483-A	100850-B	128	10.2	5	7.5	5.8	2.4	10.8	3.6	7	51	5.8	2.1	12.5	5.9	8	25
4	16-1483-B	100850-A	128	11	5.5	7.5	5.6	2.3	13.5	3.4	6	51	5.6	2	15	6.5	18	22
5	16-1484-A	100848-A	183	11	6.8	7.9	5.2	2.3	14	3.7	7	46	5.2	2	16	6	41	24
5	16-1484-B	100848-B	183	11.5	7	8	5.5	2.3	15	3.4	11	53	5.5	2	16	6	10	21
8	16-1487-A	100857-B	56	10	5	7.8	5.8	2.5	8.3	3.5	125	50	5.5	1.9	8.7	6.6	82	17
8	16-1487-B	100857-A	56	11	5	7.8	5.6	2.7	7	3.6	18	47	5.6	2.3	7.3	6.3	26	21
11	16-1490-A	100856-A	95	9.5	6.8	7.2	5	2.1	10.6	2.6	49	59	5	1.8	11.1	5.8	8	28
11	16-1490-B	100856-B	95	9.4	6	7.1	4.9	2	8.6	3.4	9	59	4.9	1.8	9.3	5.7	6	28
12	16-1491-A	100859-A	24	10	9	6.4	5.4	3	6.2	5.3	56	43	5.4	2.7	6.8	5.4	66	40
12	16-1491-B	100859-B	24	10	9	7.8	5.6	3.5	8.2	5.3	95	39	5.6	2.7	8.5	7	22	29
14	16-1492-A	100855-B	85	10	9	10	5.2	2.3	8.5	3	7	53	5.2	2	10.7	6.4	24	24
14	16-1492-B	100860-A	70	10	8.5	8.3	5.3	2.5	8.5	3.1	46	51	5.3	2.1	9.2	5.6	28	26
13	9-282-A	100849-A	153	10.5	10	8	5.1	2.2	13.6	3.7	11	57	5.1	1.9	15	6.4	6	27
13	9-282-B	100849-B	153	10.5	6	8.4	5.6	2.4	11.3	3.8	12	52	5.6	2.1	12.5	5.9	8	26

Attachment 3. Approved Steam Safety Valves

Plant #	Location	Serial #	ASME #	Nat'L Board #	Capacity (#/HR)	Safety Valve Inlet	Safety Valve Brand	Safety Valve to Order
1	16-1480-A	100852-B	10158	8365	3381	2" H.Coup.	Kunkle	6010HHM01-AM0100
1	16-1480-B	100852-A	10022	8359	3381	2" H.Coup.	Kunkle	6010HHM01-AM0100
4	16-1483-A	100850-B	10324	8375	4416	2" H.Coup.	Kunkle	6010HHM01-AM0100
4	16-1483-B	100850-A	10323	8386	4416	2" H.Coup.	Kunkle	6010HHM01-AM0100
5	16-1484-A	100848-A	10291	8334	6313	2" H.Coup	Kunkle	6010HHM01-AM0100
						1 1/2" H. Coup	Kunkle	6010GGM01-AM0100
5	16-1484-B	100848-B	10290	8333	6313	2" H.Coup	Kunkle	6010HHM01-AM0100
						1 1/2" H. Coup	Kunkle	6010GGM01-AM0100
8	16-1487-A	100857-B	10314	8355	1932	2" H.Coup.	Kunkle	6010HHM01-AM0100
8	16-1487-B	100857-A	10313	8354	1932	2" H.Coup.	Kunkle	6010HHM01-AM0100
11	16-1490-A	100856-A	10328	8395	3278	2" H.Coup.	Kunkle	6010HHM01-AM0100
11	16-1490-B	100856-B	10329	8388	3278	2" H.Coup.	Kunkle	6010HHM01-AM0100
12	16-1491-A	100859-A	10330	8380	828	1 1/2" H.C. 3000#	Kunkle	6010GGM01-AM0050
12	16-1491-B	100859-B	10331	8381	828	1 1/2" H.C. 3000#	Kunkle	6010GGM01-AM0050
14	16-1492-A	100855-B	10327	8387	2933	2" F. Coup	Kunkle	6010HHM01-AM0100
14	16-1492-B	100860-A	10317	8361	2415	2" F. Coup	Kunkle	6010HHM01-AM0100
13	9-282-A	100849-A	10292	8338	5278	2" H.Coup	Kunkle	6010HHM01-AM0100
						1 1/2" H. Coup	Kunkle	6010GGM01-AM0100
13	9-282-B	100849-B	10293	8342	5278	2" H.Coup	Kunkle	6010HHM01-AM0100
						1 1/2" H. Coup	Kunkle	6010GGM01-AM0100

BOILER OPERATING PERMIT

PO Box 1663
Los Alamos, NM 87545

National Board Federal Inspection Agency

Inspection Due Date:	6/24/2021

Boiler ID No.:	TA-16-1484-BS-A		
Boiler Type:	Steam, Firetube, High Pressure		
National Board No.:	8334	Serial No.:	10291
Boiler Location:	TA-16-1484		
Max. Allowable Working Pressure (MAWP):	100 PSIG		

LANL COMMISSIONED INSPECTOR

Name & Z#:	Randall D. Austin
Signature:	Randall D. Austin
Commission No.:	10798, R, O

Issuing Organization:	MSS-MP
LANL Comm. Insp. Supervisor:	Randall Austin (Z# 334246) PH# 505-667-6740

Boiler Rooms In-Service
TA-09 and TA-16

Boiler	Description	Boiler Elec. LO/TO	Feed Water Control	Alternator	Feed Water Panel	Steam Header	Make-Up Water	Quick Fill	Cont. Blow Down Valve	Drain Valves on Oper. Boiler	Gas Valve
16-1480	BS-A Fire/Water	PPA CKT 4	N/A	N/A	N/A	Yes	Yes	Yes	Yes	4	Yes
16-1480	BS-B Fire/Water	PPA CKT 10	N/A	N/A	N/A	Yes	Yes	Yes	Yes	4	Yes
16-1487	BS-A Fire/Water	PPA CKT 10	N/A	N/A	N/A	Yes	Yes	Yes	Yes	4	Yes
16-1487	BS-B Fire/Water	PPA CKT 4	N/A	N/A	N/A	Yes	Yes	Yes	Yes	4	Yes
16-1491	BS-A Fire/Water	PPA CKT 4	N/A	N/A	N/A	Yes	Yes	Yes	Yes	4	Yes
16-1491	BS-B Fire/Water	PPA CKT 10	N/A	N/A	N/A	Yes	Yes	Yes	Yes	4	Yes
16-1492	BS-A Fire/Water	PPA CKT 4	N/A	N/A	N/A	Yes	Yes	Yes	Yes	4	Yes
16-1492	BS-B Fire/Water	PPA CKT 10	N/A	N/A	N/A	Yes	Yes	Yes	Yes	4	Yes
09-0282	BS-A Fire/Water	PPA CKT 4	N/A	N/A	N/A	Yes	Yes	Yes	Yes	4	Yes
09-0282	BS-B Fire/Water	PPA CKT 10	N/A	N/A	N/A	Yes	Yes	Yes	Yes	4	Yes

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: ____ Revision #: 0

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD	TA	Bldg.	Room	Other Location
3	**16**	**N/A**	**N/A**	**Admin Outside Areas Excluding HE areas**
FOD Designated Facility Point-of-Contact	Name **John Branch, WFO OM Designee** **Christina Archuleta-Mares, WFO OM Designee** **Ritanne Campbell, WFO OM Designee**	Phone **412-9696** **231-7583** **500-7878**	Pager	Email **jbranch@lanl.gov** **xtina@lanl.gov** **rfarmer@lanl.gov**

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☒ Security Clearance Requirements
- ☒ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ Other Bounding Conditions: ____
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☒ Work must be Scheduled
- ☒ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Work-Area Training Required
- ☒ Check in Daily
- ☒ Check out Daily

Additional Comments

Potential Contact with HE Transport Vehicles. Be aware of Vehicle Placards.

ABNORMAL EVENTS: Any injury, accident, spill, off normal occurrence, etc. MUST be reported immediately to the WFO-FOD Duty Officer @ 664-2926 AND TA-16 Access Control Office 7-9192

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				
Ionizing Radiation Work in posted radiological areas, work with radioactive materials, or work on or near radiation producing devices. **Specify Hazard:**	☐ Yes ☒ No	• N/A	• N/A	• N/A
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:**	☐ Yes ☒ No	• N/A	• N/A	• N/A
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:**	☐ Yes ☒ No	• N/A	• N/A	• N/A
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☐ Yes ☒ No	• N/A	• N/A	• N/A
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☐ Yes ☒ No	• N/A	• N/A	• N/A
ESH/S&S WORK AREA HAZARDS & CONTROLS				
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:** PRS, sensitive species – e.g. spotted owl, historical/archeological sites, and waste generation.	☒ Yes ☐ No	• PRS exists. Notify WFO Environmental Generalist, if required. • Archeological sites exist within open areas. Do not disturb any marked archeological sites. If entry into any area required contact	• Excavation Permit for soil disturbance activities	• Waste Generator Overview

		Environmental Stewardship Group. • Work during threatened and endangered species seasons will restricts outdoor activities.		
Security Requirements **Specify:** **Limited Security Area**	☒ Yes ☐ No	• Q or L clearance • Uncleared MUST be escorted	• P200-2, Physical Security • P200-1, Security Areas, Property Protection Areas, and General Access Areas	• Escort Training
Other Hazards **Specify:**	☐ Yes ☒ No	• N/A	• N/A	• N/A

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** WFO OM/Designee Signature-on-File

Date Approval Expires: 9/30/2020

BOILER INSPECTION REPORT (BIR)

NBIC NB-23, Part 2 (This report to be completed by LANL Commissioned Inspector)

SECTION I – BOILER INFORMATION

Boiler ID#:	16-1484-BS-B	Insp Date: 10/14/2020	**Expiration Date:** 10/14/2021
Boiler Area:	TA16, Bldg 1484	Ext. Inspection: ☒	Int. Inspection: ☐
National Board No.:	8333	Serial No.:	10290
Boiler Mfg.:	Sellers Engineering	Year Built:	1995
Boiler Type:	Steam ☒ Hot Water ☐ Others ☐	Firetube ☒	Watertube ☐
Safety Relief Valve (s) ID#:		Safety Valve (s) Size:	2" , 1.5" , _____ ,
Set Press:	1. 100 2. 100 3. _____ (PSI)	Capacity:	1. 4593 2. 2948 3. _____ (lbs/hr)
Safety Valve (s):	Last Tested ☐ "VR" ☐ Replaced ☒	Date:	1. 6/24/20 2. _____ 3. _____ ,
Pressure Gauge Range:	0 to 160	Heating Surface Area (sqft):	636
Boiler MAWP:	150 (PSI)		
Pressure Allowed:	This Inspection: 100 (PSI)	Previous Inspection: 100 (PSI)	
Fuel:	NG	Method of Firing:	Auto
Inspection Finding:	Major ☐ Minor ☐	Permit Issued:	Yes ☐ No ☒

SECTION II – EXTERNAL/INSERVICE INSPECTION CONDITIONS

Planning, Coordination and Safety Requirements –

No Lockout/Tagout, this is an in-service inspection.

External Casing (cracks, leakage of fluids or combustion gases …) –

No adverse conditions

Safety Valve (s) Testing and Conditions –

Good-new SV, MSVRC 5,088 lbs/hr per ASME Code, Section I, PG-70. Two SV's installed capacity 7,541 Lbs/hr, therefor acceptable.

Hangers and boiler supports Conditions –

None-good

Piping External Surfaces Conditions –

Good

Controls (Firing, Flame Detector, valves, …) Functionality Test –

All boilers controls, pressure controls, fuel train, flame failure, SSOV test Good

Low Water Cutoff Alarm Test –

All boilers controls, pressure controls, fuel train, flame failure, SSOV test Good

Other Observations / Notes –

None

SECTION III – INTERNAL INSPECTION CONDITIONS

Is the boiler prepared, drained and cleaned for internal inspection?	N/A	Yes ☐	No ☒	
Is the fuel shutoff valve locked and tagged?	N/A	Yes ☐	No ☒	
Is the boiler isolated from other boilers?	N/A	Yes ☐	No ☐	N/A ☒
Is the boiler atmosphere being monitored for safe entry (Boilers w/manway)?		Yes ☐	No ☐	N/A ☒

Is the boiler hydro tested for leaks? Yes ☐ No ☒	Pressure Test: PSIG

SECTION IV – FIRESIDE

Fire Box, Refractory, Burners, Flame Detectors Conditions –

In-Service inspection, did not inspect fireside or waterside.

Tubes External Condition (Pitting, bulging, misalignment, soot built up …) Watertube Boilers Only –

In-Service inspection, did not inspect fireside or waterside.

Tubesheets Condition (Bulging, leaks around the tubes connections, Cracks in the ligaments and weld joints) –

In-Service inspection, did not inspect fireside or waterside.

Staybolts Testing – In-Service inspection, did not inspect fireside or waterside.
Other Observations / Notes – N/A
SECTION V – WATERSIDE
Tubes External Surfaces, if possible internal surfaces – In-Service inspection, did not inspect fireside or waterside.
Water Columns, Gage Glasses, Floats Chambers Internal Surfaces or Low Water Level Rods Condition – Good
Superheater Tubes External Surfaces (Power boilers Only) – N/A
Steam Drum/Vessel Internal Surfaces (If electric boilers the condition of the electric resistant coils) – In-Service inspection, did not inspect fireside or waterside.
Mud Drum Internal Surfaces (Power boilers) – N/A
Deaerator Tank Internals (Power boilers) – N/A

Deaerator Storage Tank (Power boilers) – None
Any Repairs or Alteration Since Last Inspection (All repairs and Alteration requires 'R' Stamp R-1 or R-2 Form) – None
water Chemistry Last Checked / Notes – Unknown
SECTION VI – DEFICIENCIES SUMMARY
None
SECTION VII – RECOMMENDATIONS
None

Person Conditions Reported To and/or FSR #, If Issued: Jason Sparks	Z# 122088	Phone No.: c 500 6436, p 664 6262
LANL Commissioned Inspector Name and Signature: Randall D. Austin 	Z# 334246	National Board Commission No.: 10798, R,O (IS & AI Commission)

Reviewed By: Initial: Z# Date:

BOILER INSPECTION REPORT (BIR)

NBIC NB-23, Part 2 (This report to be completed by LANL Commissioned Inspector)

SECTION I – BOILER INFORMATION

Boiler ID#:	16-1484-BS-A	Insp Date: 10/14/2020	**Expiration Date:** 10/14/2021
Boiler Area:	TA16, Bldg 1484	Ext. Inspection: ☒	Int. Inspection: ☐
National Board No.:	8334	Serial No.:	10291
Boiler Mfg.:	Sellers Engineering	Year Built:	1995
Boiler Type:	Steam ☒ Hot Water ☐ Others ☐	Firetube ☒	Watertube ☐
Safety Relief Valve (s) ID#:		Safety Valve (s) Size:	2" , 1.5" , _____ ,
Set Press:	1. 100 2. 100 3. _____ (PSI)	Capacity:	1. 4593 2. 2948 3. _____ (lbs/hr)
Safety Valve (s):	Last Tested ☐ "VR" ☐ Replaced ☒	Date:	1. 6/2020 2. _____ 3. _____ ,
Pressure Gauge Range:	0 to 160	Heating Surface Area (sqft):	636
Boiler MAWP:	150 (PSI)		
Pressure Allowed:	This Inspection: 100 (PSI)	Previous Inspection: 150 (PSI)	
Fuel:	NG	Method of Firing:	Auto
Inspection Finding:	Major ☐ Minor ☐	Permit Issued:	Yes ☒ No ☒

SECTION II – EXTERNAL/INSERVICE INSPECTION CONDITIONS

Planning, Coordination and Safety Requirements –

No Lockout/Tagout, this is an in-service inspection.

External Casing (cracks, leakage of fluids or combustion gases …) –

No adverse conditions

Safety Valve (s) Testing and Conditions –

Good-new SV, MSVRC 5,088 lbs/hr per ASME Code, Section I, PG-70. Two SV's installed capacity 7,541 Lbs/hr, therefor acceptable.

Hangers and boiler supports Conditions –

None-good

Piping External Surfaces Conditions –

None

Controls (Firing, Flame Detector, valves, …) Functionality Test –

All boilers controls, pressure controls, fuel train, flame failure, SSOV test Good

Low Water Cutoff Alarm Test –

All boilers controls, pressure controls, fuel train, flame failure, SSOV test Good

Other Observations / Notes –

None

SECTION III – INTERNAL INSPECTION CONDITIONS

Is the boiler prepared, drained and cleaned for internal inspection?	N/A	Yes ☐	No ☒	
Is the fuel shutoff valve locked and tagged?	N/A	Yes ☐	No ☒	
Is the boiler isolated from other boilers?	N/A	Yes ☐	No ☐	N/A ☒
Is the boiler atmosphere being monitored for safe entry (Boilers w/manway)?		Yes ☐	No ☐	N/A ☒

Is the boiler hydro tested for leaks? Yes ☐ No ☒ | Pressure Test: PSIG

SECTION IV – FIRESIDE

Fire Box, Refractory, Burners, Flame Detectors Conditions –

In-Service inspection, did not inspect fireside or waterside.

Tubes External Condition (Pitting, bulging, misalignment, soot built up …) Watertube Boilers Only –

In-Service inspection, did not inspect fireside or waterside.

Tubesheets Condition (Bulging, leaks around the tubes connections, Cracks in the ligaments and weld joints) –

In-Service inspection, did not inspect fireside or waterside.

Staybolts Testing – In-Service inspection, did not inspect fireside or waterside.
Other Observations / Notes – N/A
SECTION V – WATERSIDE
Tubes External Surfaces, if possible internal surfaces – In-Service inspection, did not inspect fireside or waterside.
Water Columns, Gage Glasses, Floats Chambers Internal Surfaces or Low Water Level Rods Condition – Good
Superheater Tubes External Surfaces (Power boilers Only) – N/A
Steam Drum/Vessel Internal Surfaces (If electric boilers the condition of the electric resistant coils) – In-Service inspection, did not inspect fireside or waterside.
Mud Drum Internal Surfaces (Power boilers) – N/A
Deaerator Tank Internals (Power boilers) – N/A

Deaerator Storage Tank (Power boilers) – N/A
Any Repairs or Alteration Since Last Inspection (All repairs and Alteration requires 'R' Stamp R-1 or R-2 Form) – None
water Chemistry Last Checked / Notes – Unknown
SECTION VI – DEFICIENCIES SUMMARY
None
SECTION VII – RECOMMENDATIONS
None

Person Conditions Reported To and/or FSR #, If Issued: Jason Sparks	Z# 122088	Phone No.: c 500 6436, p 664 6262
LANL Commissioned Inspector Name and Signature: Randall D. Austin 	Z# 334246	National Board Commission No.: 10798, R,O (IS & AI Commission)

Reviewed By: Initial: Z# Date:

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: ____ Revision #: 0

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD	TA	Bldg.	Room	Other Location
3	**16**	**N/A**	**N/A**	**Outside Areas**
FOD Designated Facility Point-of-Contact	Name **John Branch, WFO OM Designee** **Christina Archuleta-Mares, WFO OM Designee** **Ritanne Campbell, WFO OM Designee**	Phone **412-9696** **231-7583** **500-7878**	Pager	Email **jbranch@lanl.gov** **xtina@lanl.gov** **rfarmer@lanl.gov**

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☒ Security Clearance Requirements
- ☒ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ Other Bounding Conditions: ____
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☒ Work must be Scheduled
- ☒ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Work-Area Training Required
- ☒ Check in Daily
- ☒ Check out Daily

Additional Comments

ACCESS CONTROL: Work within the TA-16 HE Area requires check-in first with TA-16 ACO at TA-16 Building 969. The single most important requirement that all personnel must understand is that a closed gate or other barrier must never be crossed.

CAUTION: This area is a High Explosives Area. Work group shall adhere to all local ACO instructions as to where access is allowed and where it is restricted, e.g. areas around HE facilities and magazines.

CAUTION: Non-LANS workers (outside contractors) require a HE waiver (see P101-8) to work within intraline distance of High Explosive materials if work takes longer than 8 hours.

PIC Pre-Job Brief Instructions:

For all Low and Moderate Hazard work activities, the PIC shall perform a pre-job brief prior to work start and for any new member of the work group prior to that member beginning work. For all High Hazard activities, the PIC shall perform a pre-job brief prior to work start on EVERY Day/Shift of the activity and for any new member of the work group prior to that member beginning work.

ABNORMAL EVENTS: Any injury, accident, spill, off normal occurrence, etc. MUST be reported immediately to the WFO-FOD Duty Officer @ 664-2926 AND TA-16 Access Control Office 7-9192

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				
Ionizing Radiation Work in posted radiological areas, work with radioactive materials, or work on or near radiation producing devices. **Specify Hazard:**	☐ Yes ☒ No	• N/A	• N/A	• N/A
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards: High Explosive Area**	☒ Yes ☐ No	• Spark and Flame Permit Requirements.	• P101-26, Welding, Cutting, and Other Spark- or Flame-Producing Operations	• TA-16 (11, 37) Site Specific Training for the High Explosives Area
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:**	☐ Yes ☒ No	• N/A	• N/A	• N/A
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☐ Yes ☒ No	• N/A	• N/A	• N/A
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☐ Yes ☒ No	• N/A	• N/A	• N/A
ESH/S&S WORK AREA HAZARDS & CONTROLS				
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☒ Yes ☐ No	• PRS exists. Notify WFO Environmental Generalist, if required. • Archeological sites exist within open areas. Do not disturb any marked	• Excavation Permit for soil disturbance activities	• Waste Generator Overview

PRS, sensitive species – e.g. spotted owl, historical/archeological sites, and waste generation.		archeological sites. If entry into any area required contact Environmental Stewardship Group. • Work during threatened and endangered species seasons will restricts outdoor activities.		
Security Requirements **Specify:** **Limited Security Area**	☒ Yes ☐ No	• Q or L clearance • Uncleared MUST be escorted	• P200-2, Physical Security • P200-1, Security Areas, Property Protection Areas, and General Access Areas	• Escort Training
Other Hazards **Specify:**	☐ Yes ☒ No	• N/A	• N/A	• N/A

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** _____WFO OM/Designee Signature-on-File_____

Date Approval Expires: 9/30/2020

BOILER INSPECTION REPORT (BIR)

NBIC NB-23, Part 2 (This report to be completed by LANL Commissioned Inspector)

SECTION I – BOILER INFORMATION

Boiler ID#:	16-1484-BS-A	Insp Date: 6/24/2020	**Expiration Date:** 6/24/2021
Boiler Area:	TA16, Bldg 1484	Ext. Inspection: ☐	Int. Inspection: ☒
National Board No.:	8334	Serial No.:	10291
Boiler Mfg.:	Sellers Engineering	Year Built:	1995
Boiler Type:	Steam ☒ Hot Water ☐ Others ☐	Firetube ☒	Watertube ☐
Safety Relief Valve (s) ID#:		Safety Valve (s) Size:	2" , 1.5" , _____ ,
Set Press:	1. 100 2. 100 3. _____ (PSI)	Capacity:	1. 4593 2. 2948 3. _____ (lbs/hr)
Safety Valve (s):	Last Tested ☐ "VR" ☐ Replaced ☒	Date:	1. 6/2020 2. _____ 3. _____ ,
Pressure Gauge Range:	0 to 160	Heating Surface Area (sqft):	636
Boiler MAWP:	150 (PSI)		
Pressure Allowed:	This Inspection: 100 (PSI)	Previous Inspection: 150 (PSI)	
Fuel:	NG	Method of Firing:	Auto
Inspection Finding:	Major ☐ Minor ☐	Permit Issued:	Yes ☐ No ☒

SECTION II – EXTERNAL/INSERVICE INSPECTION CONDITIONS

Planning, Coordination and Safety Requirements –

Lockout/Tagout verified

External Casing (cracks, leakage of fluids or combustion gases …) –

No adverse conditions

Safety Valve (s) Testing and Conditions –

Good-new SV, MSVRC 5,088 lbs/hr per ASME Code, Section I, PG-70

Hangers and boiler supports Conditions –

None-good

Piping External Surfaces Conditions –

None, All new BEP

Controls (Firing, Flame Detector, valves, …) Functionality Test –

N/A, boiler not in operation for internal inspection

Low Water Cutoff Alarm Test –

Boiler shut down for internal

Other Observations / Notes –

None

SECTION III – INTERNAL INSPECTION CONDITIONS

Is the boiler prepared, drained and cleaned for internal inspection?	N/A	Yes ☒	No ☐	
Is the fuel shutoff valve locked and tagged?	N/A	Yes ☒	No ☐	
Is the boiler isolated from other boilers?	N/A	Yes ☒	No ☐	N/A ☐
Is the boiler atmosphere being monitored for safe entry (Boilers w/manway)?		Yes ☐	No ☐	N/A ☒

Is the boiler hydro tested for leaks? Yes ☐ No ☐	Pressure Test: PSIG

SECTION IV – FIRESIDE

Fire Box, Refractory, Burners, Flame Detectors Conditions –

Good

Tubes External Condition (Pitting, bulging, misalignment, soot built up …) Watertube Boilers Only –

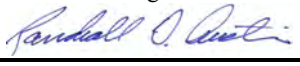
None, good

Tubesheets Condition (Bulging, leaks around the tubes connections, Cracks in the ligaments and weld joints) –

Good

Staybolts Testing – Stays good
Other Observations / Notes – N/A
SECTION V – WATERSIDE
Tubes External Surfaces, if possible internal surfaces – Good
Water Columns, Gage Glasses, Floats Chambers Internal Surfaces or Low Water Level Rods Condition – Good-clean
Superheater Tubes External Surfaces (Power boilers Only) – N/A
Steam Drum/Vessel Internal Surfaces (If electric boilers the condition of the electric resistant coils) – Good, clean
Mud Drum Internal Surfaces (Power boilers) – N/A
Deaerator Tank Internals (Power boilers) – Good

Deaerator Storage Tank (Power boilers) – Good
Any Repairs or Alteration Since Last Inspection (All repairs and Alteration requires 'R' Stamp R-1 or R-2 Form) – None
water Chemistry Last Checked / Notes – Unknown
SECTION VI – DEFICIENCIES SUMMARY
None
SECTION VII – RECOMMENDATIONS
None

Person Conditions Reported To and/or FSR #, If Issued: Jason Sparks	Z# 122088	Phone No.: c 500 6436, p 664 6262
LANL Commissioned Inspector Name and Signature: Randall D. Austin 	Z# 334246	National Board Commission No.: 10798, R,O (IS & AI Commission)

Reviewed By: Initial: Z# Date:

BOILER	Location	Serial #	Boiler HP	High Pilot	Low Pilot	Blower Pressure	Lightoff Readings						Low NOx readings					
							Manifold Pressure	Combustion Chamber Pressure	Main Gas Pressure	O2 %	CO ppm	NOx ppm	Manifold Pressure	Combustion Chamber Pressure	Main Gas Pressure	O2 %	CO ppm	NOx ppm
BS-A	16-1480-A	100852-B	98	10	10	7.3	5.4	2.1	11.6	3.4	8	52	5.4	1.7	12.5	6.3	18	21
BS-B	16-1480-B	100852-A	98	10	6	7.3	5.3	2.3	9.7	4	29	50	5.3	2	10.5	6.3	6	27
BS-A	16-1483-A	100850-B	128	10	5	7.5	5.8	2.4	10.8	3.6	7	51	5.8	2.1	12.5	5.9	8	25
BS-B	16-1483-B	100850-A	128	11	5.5	7.5	5.6	2.3	13.5	3.4	6	51	5.6	2	15	6.5	18	22
BS-A	16-1484-A	100848-A	183	11	6.8	7.9	5.2	2.3	14	3.7	7	46	5.2	2	16	6	41	24
BS-B	16-1484-B	100848-B	183	12	7	8	5.5	2.3	15	3.4	11	53	5.5	2	16	6	10	21
BS-A	16-1487-A	100857-B	56	10	5	7.8	5.8	2.5	8.3	3.5	125	50	5.5	1.9	8.7	6.6	82	17
BS-B	16-1487-B	100857-A	56	11	5	7.8	5.6	2.7	7	3.6	18	47	5.6	2.3	7.3	6.3	26	21
BS-A	16-1490-A	100856-A	95	9.5	6.8	7.2	5	2.1	10.6	2.6	49	59	5	1.8	11.1	5.8	8	28
BS-B	16-1490-B	100856-B	95	9.4	6	7.1	4.9	2	8.6	3.4	9	59	4.9	1.8	9.3	5.7	6	28
BS-A	16-1491-A	100859-A	24	10	9	6.4	5.4	3	6.2	5.3	56	43	5.4	2.7	6.8	5.4	66	40
BS-B	16-1491-B	100859-B	24	10	9	7.8	5.6	3.5	8.2	5.3	95	39	5.6	2.7	8.5	7	22	29
BS-A	16-1492-A	100855-B	85	10	9	10	5.2	2.3	10	3	7	53	5.2	2	10.7	6.4	24	24
BS-B	16-1492-B	100860-A	70	10	8.5	8.3	5.3	2.5	8.5	3.1	46	51	5.3	2.1	9.2	5.6	28	26
BS-A	9-282-A	100849-A	153	11	10	8	5.1	2.2	13.6	3.7	11	57	5.1	1.9	15	6.4	6	27
BS-B	9-282-B	100849-B	153	11	6	8.4	5.6	2.4	11.3	3.8	12	52	5.6	2.1	12.5	5.9	8	26

BOILER	TA 16 BLD 1484	High Pilot	Low Pilot	Blower Pressure	Main Gas Pressure at Low Gas Switch	Main Gas Pressure at High Gas Switch	O2 %	CO ppm	NOx ppm	Main Gas Pressure at Low Gas Switch	Main Gas Pressure at High Gas Switch	O2 %	CO ppm	NOx ppm
BS-A	DATE: 9-30-2020	8.8	6.3	6.5	13	9.9	3.1	31	53	13.3	11.2	5.8	3	42.3
BS-B	DATE: 9-30-2020	11.2	6.7	6.5	14	11.6	3.5	11	47.9	12.8	10.1	6.1	1	15.4
	DATE:													
	DATE:													
	DATE:													
	DATE:													
	DATE:													
	DATE:													

BSA 1484

BACHARACH, INC.
PCA 400
SN: 19120881

Time: 02:47:58 PM
Date: 09/30/20

Fuel
NGAS

O_2	3.1 %
CO	31 ppm
Eff	83.6 %
CO_2	10.1 %
T-Stk	359 °F
T-Air	75.8 °F
EA	15.4 %
CO(0)	36 ppm
NO	48.0 ppm
NO_2	5.2 ppm
NOx	53 ppm
NO(0)	56 ppm
NO_2(0)	6 ppm
NOx(0)	62 ppm
Flow	0.43 LPM

Comments:

BS-A 16-1484

BACHARACH, INC.
PCA 400
SN: 19120881

9-30-20

Time: 04:07:20 PM
Date: 09/30/20

Fuel
NGAS

O_2	5.8 %
CO	3 ppm
Eff	83.0 %
CO_2	8.5 %
T-Stk	348 °F
T-Air	80.1 °F
EA	34.3 %
CO(0)	4 ppm
NO	38.0 ppm
NO_2	4.3 ppm
NOx	42.3 ppm
NO(0)	53 ppm
NO_2(0)	6 ppm
NOx(0)	59 ppm
Flow	0.42 LPM

Comments:

Low NOx

Boiler B 1484

BACHARACH, INC.
PCA 400
SN: 19120881

10-5-20

Time: 12:23:44 PM
Date: 10/05/20

Fuel
NGAS

O_2	3.5 %
CO	11 ppm
Eff	83.4 %
CO_2	9.8 %
T-Stk	365 °F
T-Air	80.8 °F
EA	17.9 %
CO(0)	14 ppm
NO	42.4 ppm
NO_2	5.5 ppm
NOx	47.9 ppm
NO(0)	51 ppm
NO_2(0)	7 ppm
NOx(0)	58 ppm
Flow	0.42 LPM

Comments:

BSB 16-1484

BACHARACH, INC.
PCA 400
SN: 19120881

10-6-20

Time: 09:30:05 AM
Date: 10/07/20

Fuel
NGAS

O_2	6.1 %
CO	1 ppm
Eff	82.8 %
CO_2	8.3 %
T-Stk	346 °F
T-Air	75.0 °F
EA	36.9 %
CO(0)	2 ppm
NO	13.2 ppm
NO_2	2.2 ppm
NOx	15.4 ppm
NO(0)	19 ppm
NO_2(0)	3 ppm
NOx(0)	22 ppm
Flow	0.43 LPM

Comments:

Low NOx

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD 8	TA 9/16	Bldg. All Steam Boiler Plants (1480,1481,1483,1484,1486,1487,1488,1490, 1491 & 1492)	Room ALL	Other Location Inside Boiler Plants
FOD Designated Facility Point-of-Contact	Name Pablo C de Vaca	Phone 699-8226	Pager N/A	Email pfc@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☒ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ Other Bounding Conditions: _____
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☒ Work must be Scheduled
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Work-Area Training Required
- ☒ Check in Daily
- ☒ Check out Daily

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

All work must be approved by the Utilities FOD or UI-OPS. POD/POTW-contact Facility POC. No Smoking around Natural Gas Systems. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Observe safety signs and floor markings in all buildings and areas. If activities involve potential exposure to Water Treatment Chemicals consult with UI Safety/IH representatives to identify proper PPE. Be aware of pipe or any components on floors for tripping hazards, If insect or pests are excessive contact pest control to address.

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				
Ionizing Radiation	☐ Yes ☒ No			

Work in posted radiological areas, work with radioactive materials, or work on or near radiation producing devices. **Specify Hazard:**				

IWD No./Work Request No: _____ Revision #: _____

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:** Working near chemicals, temperature/humidity extremes: High temperature boiler equipment, High temperature Water/Steam, Boiler Water Treatment Chemicals	☒ Yes ☐ No	Required PPE: Hard hat, safety shoes, safety glasses. Hearing protection (noise > 85 dba). Avoid hot surfaces and piping. Long sleeve shirt,Ansell sleeves or coveralls when working on hot surfaces. Gloves when operating valves or contacting pipe/fitting openings where there is potential for hot water/ steam release.Be aware of chemical containers and check labeling. Be aware of piping, associated systems for any leaks. If chemical leak is noticed contact operations manager, IH&S Rep during regular working hrs. Over 5 gallon chemical spill leave area, call EM&R, and control access. Follow LANL Asbestos program/rqmts if PACM identified outside containment. For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation.	•P101-6 PPE •P101-31 Hearing Conservations/ Noise Program HAZCOM (Chemical Hazard Communication) Course # 25418 Chemical MSDS's	•LANL PPE or equivalent •Hearing protection •Site specific training •Hazcom •Read Chemical MSDSs

Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:**	☒ Yes ☐ No	Stay within established walking areas. Observe safety signage alarm lights and floor markings Identify explosive hazards and follow task specific IWD if working on plant equipment or components. If questions consult with UI system engineer, Operation Mgr. Designee, or Safety rep.	P101-13 Electrical Safety P101-3 LO/TO P101-34 Pressure, Vacuum, and Cryogenic System.	Electrical Safety LOTO if applicable to task. •Pressure Safety Awareness Read P315 admin lock/tag.
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☐ Yes ☒ No			
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	Stay within established walking areas, stairways and paths. Observe safety signage. Follow LANL Fall Protection Requirements if task on roofs or work above 4 feet.	P101-20.0	Fall Protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☐ Yes ☒ No			
Security Requirements **Specify:**	☒ Yes ☐ No	Uncleared must have Q or L escort and must sign in/out @ 16-0969/09-0021 Access Control. Meet WFO access requirements.	P200-2 Physical Security	Escort Training LANL Course # 18366
Other Hazards **Specify:** Look-alike Equipment in the vicinity of work site may contain un-controlled hazardous energy.	☒ Yes ☐ No	Adequette barriers and controls will be stablished to prevent unauthorized personnel/workers from entering job site	IWD	Pre-job briefing emphasis. Worker confirmation of look-alike potential hazards, locations and barriers set in place to identify those potential hazards.

		and encounter uncontrolled hazards.		

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** Pablo F. CdeVaca Digitally signed by Pablo F. CdeVaca DN: cn=Pablo F. CdeVaca, o=LANS, ou=UI, email=pfc@lanl.gov, c=US Date: 2017.06.26 12:00:18 -06'00'

Date Approval Expires: 09/30/2020

BOILER INSPECTION REPORT (BIR)

NBIC NB-23, Part 2 (This report to be completed by LANL Commissioned Inspector)

SECTION I – BOILER INFORMATION

Boiler ID#:	16-1484-BS-B	Insp Date: 6/24/2020	**Expiration Date:** 6/24/2021
Boiler Area:	TA16, Bldg 1484	Ext. Inspection: ☐	Int. Inspection: ☒
National Board No.:	8333	Serial No.:	10290
Boiler Mfg.:	Sellers Engineering	Year Built:	1995
Boiler Type:	Steam ☒ Hot Water ☐ Others ☐	Firetube ☒	Watertube ☐
Safety Relief Valve (s) ID#:		Safety Valve (s) Size:	2" , 1.5" , _____ ,
Set Press:	1. 100 2. 100 3. _____ (PSI)	Capacity:	1. 4593 2. 2948 3. _____ (lbs/hr)
Safety Valve (s):	Last Tested ☐ "VR" ☐ Replaced ☒	Date:	1. 6/24/20 2. _____ 3. _____ ,
Pressure Gauge Range:	0 to 160	Heating Surface Area (sqft):	636
Boiler MAWP:	150 (PSI)		
Pressure Allowed:	This Inspection: 100 (PSI)	Previous Inspection: 150 (PSI)	
Fuel:	NG	Method of Firing:	Auto
Inspection Finding:	Major ☐ Minor ☐	Permit Issued:	Yes ☐ No ☒

SECTION II – EXTERNAL/INSERVICE INSPECTION CONDITIONS

Planning, Coordination and Safety Requirements –

Lockout/Tagout verified

External Casing (cracks, leakage of fluids or combustion gases …) –

No adverse conditions

Safety Valve (s) Testing and Conditions –

Good-new, MSVRC 5,088 lbs/hr per ASME Code Section I, PG-70

Hangers and boiler supports Conditions –

None-good

Piping External Surfaces Conditions –

None, All new BEP

Controls (Firing, Flame Detector, valves, …) Functionality Test –

N/A

Low Water Cutoff Alarm Test –

Boiler shut down, N/A

Other Observations / Notes –

None

SECTION III – INTERNAL INSPECTION CONDITIONS

Is the boiler prepared, drained and cleaned for internal inspection?	N/A	Yes ☒	No ☐	
Is the fuel shutoff valve locked and tagged?	N/A	Yes ☒	No ☐	
Is the boiler isolated from other boilers?	N/A	Yes ☐	No ☐	N/A ☒
Is the boiler atmosphere being monitored for safe entry (Boilers w/manway)?		Yes ☐	No ☐	N/A ☒
Is the boiler hydro tested for leaks? Yes ☐ No ☒		Pressure Test:	PSIG	

SECTION IV – FIRESIDE

Fire Box, Refractory, Burners, Flame Detectors Conditions –

Good

Tubes External Condition (Pitting, bulging, misalignment, soot built up …) Watertube Boilers Only –

Good

Tubesheets Condition (Bulging, leaks around the tubes connections, Cracks in the ligaments and weld joints) –

Good

Staybolts Testing – Stays look good
Other Observations / Notes – N/A
SECTION V – WATERSIDE
Tubes External Surfaces, if possible internal surfaces –
Water Columns, Gage Glasses, Floats Chambers Internal Surfaces or Low Water Level Rods Condition – Good-clean
Superheater Tubes External Surfaces (Power boilers Only) – N/A
Steam Drum/Vessel Internal Surfaces (If electric boilers the condition of the electric resistant coils) – Good/ clean
Mud Drum Internal Surfaces (Power boilers) – N/A
Deaerator Tank Internals (Power boilers) – Good

Deaerator Storage Tank (Power boilers) – Good
Any Repairs or Alteration Since Last Inspection (All repairs and Alteration requires 'R' Stamp R-1 or R-2 Form) – None
water Chemistry Last Checked / Notes – Unknown
SECTION VI – DEFICIENCIES SUMMARY
None
SECTION VII – RECOMMENDATIONS
None

Person Conditions Reported To and/or FSR #, If Issued: Jason Sparks	Z# 122088	Phone No.: c 500 6436, p 664 6262
LANL Commissioned Inspector Name and Signature: Randall D. Austin 	Z# 334246	National Board Commission No.: 10798, R,O (IS & AI Commission)

Reviewed By: Initial: Z# Date:

Boilers on Summer Lay-Up
TA-09 and TA-16

Boiler	Description	Boiler Elec. LO/TO	Feed Water Control	Alternator	Feed Water Panel	Steam Header	Make-Up Water	Quick Fill	Cont. Blow Down Valve	Drain Valves on Oper. Boiler	Gas Valve
16-1483	BS-A Fire/Water	PPA CKT 5	LP1 CKT 7	LP1 CKT 7.5	PPA CKT 9?	N/A	Yes	Yes	Yes	4	Yes
16-1483	BS-B Fire/Water	PPA CKT 11	LP1 CKT 7	LP1 CKT 7.5	PPA CKT 9?	N/A	Yes	Yes	Yes	4	Yes
16-1484	BS-A Fire/Water	PPA CKT 4	LP1 CKT 7	LP1 CKT 7.5	PPA CKT 9?	N/A	Yes	Yes	Yes	4	Yes
16-1484	BS-B Fire/Water	PPA CKT 10	LP1 CKT 7	LP1 CKT 7.5	PPA CKT 9?	N/A	Yes	Yes	Yes	4	Yes
16-1490	BS-A Fire/Water	PPA CKT 4	LP1 CKT 7	LP1 CKT 7.5	PPA CKT 9?	N/A	Yes	Yes	Yes	4	Yes
16-1490	BS-B Fire/Water	PPA CKT 10	LP1 CKT 7	LP1 CKT 7.5	PPA CKT 9?	N/A	Yes	Yes	Yes	4	Yes

TA 16 Bldg 1484 wo#

TA 9&16 Boiler Limit and Control Checklist				
Steam Header Controls	**Set Point Check**		**Operational Check**	
Lead Operating Pressure Control (Range 80psig +/- 5)	80 psig		(Pass) (Fail)	
Lag Operating Pressure Control (Range 80psig +/- 5)	81 psig		(Pass) (Fail)	
Boiler Controls	**Set Point Check**		**Operational Check**	
	BSA	**BSB**	**BSA**	**BSB**
Operating Pressure Control (Range 85psig +/- 5)	89 psig	88 psig	(Pass) (Fail)	(Pass) (Fail)
High limit pressure cutoff (Range 95psig +/- 5)	92 psig	90 psig	(Pass) (Fail)	(Pass) (Fail)
High pressure Gas cut-off switch(range 15"-17" i/wc)	16 "/wc	17 "/wc	(Pass) (Fail)	(Pass) (Fail)
Low pressure Gas cut-off switch (range 3"-5" i/wc)	5 "/wc	5 "/wc	(Pass) (Fail)	(Pass) (Fail)
Air proving switch (range 3"-5" i/wc)	5 "/wc	5 "/wc	(Pass) (Fail)	(Pass) (Fail)
Lo-Nox Controler set below 68 psig	25 psi	50 psi	(ON) (OFF)	(ON) (OFF)
Boiler Controls	**Operational Checks Only**			
	BSA		**BSB**	
Primary Low water Cutoff	(Pass) (Fail)		(Pass) (Fail)	
Secondary Low Water Cut-off	(Pass) (Fail)		(Pass) (Fail)	
Pop Test Safety Relief Valve (provide date tested)	DATE: 10/14/20		DATE: 10/14/20	
Building Controls	**Operational Checks Only**			
Building Exhuast Fan	(Pass) (Fail)			
Emergency Shut down door switches	Door#1	(Pass) (Fail)	Door#2	(Pass) (Fail)

NOTE: TA16-1491 Boilers Lead and Lag operate at 40psig +-5. Boiler operator set above lead and Lag but below Highlimit. Hi Limit set at 45psig +- 3psig

Comments

NOTE: Use these buttons to print or save the form. DO NOT use the browser tool bar.

Form 2244

Los Alamos NATIONAL LABORATORY EST. 1943

Lockout/Tagout (LO/TO) Orders

Section 1: General Information

Work Document Number (e.g., Package/Procedure #): 664380-01	LO/TO Remedy ID: 95614
Location of Equipment to be Isolated: TA: 16 Bldg: 1484 Rm/Other:	Description of Machinery, System & Equipment (MS&E) to be worked on: steam plant outage BSA, BSB, Feed water tank,
MS&E Owner/Operator: Glenn Martinez Z Number: 190429	Phone: 231-8341
Shutdown to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☒ Yes ☐ No	Re-energize/restart to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☒ Yes ☐ No
Reason for LO/TO: Annual p.m. fireside/waterside	
Group LO/TO (2 or more)? ☒ Yes ☐ No *If yes, a lead authorized worker must be appointed.*	Group lock box used? ☒ Yes ☐ No
Shift or Personnel Changes? ☐ Yes ☒ No *If yes, a description of how the continuity of LO/TO protection will be ensured must be referenced or attached to this form. (See Section 3.9.6 of P101-3 for details.)*	☒ Continuity of LO/TO protection details described in operating procedure, work instruction, or other work control document. Document Number: ui-proc76-287-001-r1

Section 2: Energy Control Procedure

1. Plan the work.
2. Identify and assess hazardous energy.
3. Contact the MS&E owner/operator.
4. Obtain locks and tags from lock coordinator.
5. Notify affected workers.
6. Shutdown MS&E according to **Section 3: Shutdown Sequence**.
7. Isolate and lock out MS&E from energy source, relieve stored energy, and perform verification of isolation according to **Section 4: LO/TO Sequence**.
8. Perform the work.
9. Release MS&E from LO/TO according to **Section 5: Release MS&E from Lockout/Tagout Sequence**.

Section 3: Shutdown Sequence

☒ Perform shutdown according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number: ui-proc76-287-001-r1

☒ **N/A**; MS&E to be worked on will be isolated according to **Section 4: LO/TO Sequence** (e.g., cannot be shut down)
Detail the process to normally shut down the MS&E below, if not following other document referenced above or N/A.

Step No.	Action/Description	Step No.	Action/Description
☒ 1	shut off boiler power	☐ 6	
☒ 2	shut off gas supply	☐ 7	
☒ 3	shut off feed water supply	☐ 8	
☒ 4	turn off 3d trasar unplug unit	☐ 9	
☒ 5	unplug Chemical pump	☐ 10	

Section 4: LO/TO Sequence

☒ Perform LO/TO sequence according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number: ui-proc76-287-001-r1
Describe how to effectively isolate & lockout the MS&E below, if not following other document referenced above.

Isolate & Lockout (Step No.)	Equipment Descriptor (What is being locked out? e.g., machine drive motor, input power to MCC)	Energy Source (e.g., electrical, mechanical, pneumatic, hydraulic, chemical, thermal)	Energy Isolation Device (e.g., specific ID, description, circuit #, lock box #)	Location of Energy Isolation Device (e.g., room number, north wall, south wall)	Required LO/TO Position or Alignment (e.g., off, open, closed, on)	Verification Method (e.g., live/dead/live, crack open, on-off-on-off, peer checking, independent verification)	Verifier's Initials (if req'd)	See Section 5: Release (Step No.)
☒ (1)	BSA	electrical	PPA ckt 4	north wall	off	peer checking,		☐
☒ (2)	BSB	electrical	PPA ckt 10	north wall	off	peer checking,		☐
☒ (3)	feed water tank	electrical	PPA ckt 9	north wall	off	peer checking,		☐
☒ (4)	Lead/lag control panel	electrical	LP1-ckt7	north wall	off	peer checking,		☐
☒ (5)	Gas Supply	mechanical,	Valve1	North side of building Outside on regulator station	off	peer checking,		☐
☐ (6)								☐
☐ (7)								☐
☐ (8)								☐

Section 5: Release MS&E from Lockout/Tagout Sequence

1. Check the MS&E and immediate area for items that could result in damage or danger on start-up.
2. Check the work area to ensure that all workers have been safely positioned or removed from the work area.
3. Verify that the controls are in neutral or "off" position.
4. Notify the owner/operator and affected workers that work is complete and MS&E is ready to release from LO/TO.
5. Remove the LO/TO device, and re-energize (if appropriate according to MS&E owner/operator) according to the sequence as identified above under Release in **Section 4: LO/TO Sequence** or according to operating procedure, work instruction, or other work control document identified in **Section 4**.
6. Return lock and locking device to Lock Coordinator.

Energy Control Procedure prepared by:

Preparer (print name)	Z Number	Organization	Phone	Signature/Date
Jason Sparks 122088	122088	log-cs	500-6436	JASON SPARKS (Affiliate) Digitally signed by JASON SPARKS (Affiliate) Date: 2020.05.05 13:36:38 -06'00'

By signing below, you acknowledge that this energy control procedure and/or referenced documents identify the isolation devices, isolation points, and methods necessary to prevent any unexpected release of hazardous energy.

Energy Control Procedure approved by:

MS&E Owner/Operator (print name)	Z Number	Organization	Phone	Signature/Date
Glenn Martinez	190429	log-sup	231-8341	5-5-2020

Section 6: All Authorized Workers (anyone applying a lock for this activity)

Fill out the following information or print and attach Authorized Workers information from the Lockout/Tagout Remedy Application.

Authorized Workers Name(s)	Z Number	Date Lock Applied	Date Lock Removed
Lead: Joe Sweeney	297205	5-7-2020	9-9-20
Daniel Ortiz	283014		
David Harris	324726		
Robert Olivas	347468		
Martin Romero	340775	5-7-2020	9-9-20
Troy Byrd	340763		
Greg Donnelly	179352		
Eric Brown	305382		
Don Clark	302595		
Nocholas Gurule	345231		
Falan Cole	337764		

ATTACHMENT 1: ACCEPTABLE LEAKAGE RATE FORM

ACCEPTABLE LEAKAGE RATES

Boiler	Type	Manufacturer	Actuator Model Number	Valve Model Number	Valve Size	Acceptable Leakage Rate CC/HR	Acceptable Leakage Rate Bubbles/10 Sec
9-282-A	Primary	Maxon	250SMA11-AA11-BB21A0		2 1/2"	752	26
	Secondary	Maxon	250SMA11-AA11-BB20A0		2 1/2"	752	26
9-282-B	Primary	Maxon	250SMA11-AA11-BB21A0		2 1/2"	752	26
	Secondary	Maxon	250SMA11-AA11-BB20A0		2 1/2"	752	26
16-1480-A	Primary	Honeywell	V4055D 1019	V5055C	3"	752	26
	Secondary	Honeywell	V4055A 1031 3	V5055A	3"	752	26
16-1480-B	Primary	Honeywell	V4055D 1019 3	V5055C	3"	752	26
	Secondary	Honeywell	V4055A 1031 3	V5055A	3"	752	26
16-1483-A	Primary	Honeywell	V4055D 1019	V5055C	2"	752	26
	Secondary	Honeywell	V4055A 1031 3	V5055A	2"	752	26
16-1484-A	Primary	Maxon	2.5" 5000 0		2 1/2"	752	26
	Secondary	Maxon	250SMA11-AA11-BB20A0		2 1/2"	752	26
16-1484-B	Primary	Maxon	250SMA11-AA11-BB20A0		2 1/2"	752	26
	Secondary	Maxon	250SMA11-AA11-BB20A0		2 1/2"	752	26
16-1487-A	Primary	Honeywell	V4055A 1031 3	V5055A	2"	752	26
	Secondary	Honeywell	V4055A 1031 3	V5055A	2"	752	26
16-1487-B	Primary	Honeywell	V4055A 1031 3	V5055A	2"	752	26
	Secondary	Honeywell	V4055A 1031	V5055A	2"	752	26
16-1490-A	Primary	Honeywell	V4055D 1019 3	V5055C	3"	752	26
	Secondary	Honeywell	V4055A 1098	V5055A	3"	752	26
16-1490-B	Primary	Honeywell	V4055D 1019	V5055C	3"	752	26
	Secondary	Honeywell	V4055A 1031 3	V5055A	3"	752	26
16-1491-A	Primary	Honeywell	V4055A 1031 3	V5055A	1 1/2"	458	16
	Secondary	Honeywell	V4055A 1031 3	V5055A	1 1/2"	458	16
16-1491-B	Primary	Honeywell	V4055A 1031	V5055A	1 1/2"	458	16
	Secondary	Honeywell	V4055A 1031 3	V5055A	1 1/2"	458	16
16-1492-A	Primary	Honeywell	V4055A 1031 3	V5055A	2 1/2"	752	26
	Secondary	Honeywell	V4055A 1031 3	V5055A	2 1/2"	752	26
16-1492-B	Primary	Honeywell	V40555A 1031 3	V5055A	2 1/2"	752	26
	Secondary	Honeywell	V40555A 1031 3	V5055A	2 1/2"	752	26

DATE OF LEAK TEST 10/07/2020

Location		Boiler	Primary/Secondary	Valve Size (Inches)	Leakage Rate Bubbles/10 Sec
TA 16	**BLDG** 1484	**A**	Primary	2 1/2"	0
TA 16	**BLDG** 1484	**A**	Secondary	2 1/2"	0
TA 16	**BLDG** 1484	**B**	Primary	2 1/2"	0
TA 16	**BLDG** 1484	**B**	Secondary	2 1/2"	0

* Acceptable Leakage Rates Taken from Honeywell Document 60-0074—4, Table-1.

Acceptance of Results

Patrick McCabe Digitally signed by Patrick McCabe
Date: 2020.10.08 07:25:56 -06'00'

UI Systems Engineer Signature

The novel coronavirus (COVID-19) pandemic is an evolving situation. This guidance is subject to change based on information received. These steps are in order of priority, and guides you towards actions you may need to help prevent the spread of illness at work, and at home to ensure your safety and the safety of others.

Steps to Take to Help Mitigate COVID-19 Spread and Infection

1. **Follow New Mexico Department of Health (NMDOH) guidelines for social distancing to protect yourself when not at work. Do not come to work if you are sick.** If you are sick, stay home and call your health care provider or the **LANL COVID Hotline at (505) 606-2667** to get instructions on what to do.
2. **Ask yourself:**
   a. Today or in the past 72 hours, have you had any of the following symptoms?
      i. Fever or felt feverish?
      ii. Cough?
      iii. Difficulty breathing?
      iv. Chills and/or shaking with chills?
      v. Muscle pains (not related to physical activity)?
      vi. Headache (if you have chronic headache, something different than your chronic symptoms)?
      vii. Sore throat?
      viii. New loss of taste or smell?
   b. In the past 14 days, have you traveled out of state?
   c. In the past 14 days, have you had close contact with a person known to be infected with the COVID-19?
   d. Do you live with someone who has a COVID-19 test pending, and has a fever, felt feverish, cough, difficulty breathing, chills and/or shaking with chills, muscle pains (not related to physical activity), headache (different from chronic symptoms), sore throat, or new loss of taste or smell?
   e. Do you live with a healthcare provider who regularly comes into contact with COVID-19 patients, or patients at risk for COVID-19?
   f. Are you considered to be at high risk of complications related to COVID-19 disease (over 65, have uncontrolled diabetes, heart disease, or lung disease, or are you on medications that alter the way that your immune system works)? ***Note:*** Employees should be asking themselves this question, they should not share the specific answer(s) during the briefing

   If you respond "yes" to questions 'a, b, c, or d,' Notify your manager, go home, and call the **LANL COVID-19 Hotline at (505) 606-2667**.

   If you respond "yes" to only question 'e,' do not perform any work where the 6-ft social distancing cannot be maintained.

   If you answer "yes" to question 'f,' contact the **LANL COVID-19 Hotline at (505) 606-2667**, for guidance. The nurse will provide guidance on whether you may return to work. The nurse will also provide you and your manager with a duty disposition letter with your return-to-worksite recommendations.
3. **Use a buddy system to hold each other accountable for staying healthy.**
4. **Do not touch your face.** If you must touch your face to don personal protective equipment (PPE), wash your hands first. Ensure that your PPE that touches your face (safety glasses, respirator) has been sanitized (soap and water or alcohol wipe) before you don that PPE.
5. **Wash your hands often with soap and water for at least 20 seconds.** Wash your hands when you get to work, before eating or drinking, after using the bathroom, and before leaving the job site. Wash your hands before you don protective gloves and other PPE (if required for the activity). Wash your hands after removing PPE. If soap and water are not available, use a hand sanitizer with at least 60% alcohol, and wash your hands as soon as possible.

6. **Minimize your time within 6-ft of other people.** If you must be within 6-ft of other people due to safety or job requirements:
   a. Determine number of necessary personnel.
   b. Work side-by-side, not face-to-face.
   c. Keep as far apart as possible, unless other safety or health hazards require otherwise.
   d. Pre-plan the work to minimize interactions within 6-ft.
7. **A face mask/covering is required if you must work within 6-ft of other people.** The face mask/ covering is meant to protect other people in case you are infected.
8. **Use your own tools as much as possible.** If you must use shared tools, please clean and disinfect following guidance in OSH-ISH-QTG-028 *Cleaning and Disinfection of Work Areas, PPE, Face Masks/Coverings, and Respirators*.
9. Necessary respiratory protection for other hazards associated with the work will be identified by your industrial hygienist and health physicist.
10. **Clean and disinfect shared surfaces routinely.**

BOILER OPERATING PERMIT

PO Box 1663
Los Alamos, NM 87545

National Board Federal Inspection Agency

Inspection Due Date:	6/24/2021

Boiler ID No.:	TA-16-1484-BS-B		
Boiler Type:	Steam, Firetube, High Pressure		
National Board No.:	8333	Serial No.:	10290
Boiler Location:	TA-16-1484		
Max. Allowable Working Pressure (MAWP):	100 PSIG		

LANL COMMISSIONED INSPECTOR

Name & Z#:	Randall D. Austin
Signature:	Randall D. Austin
Commission No.:	10798, R, O

Issuing Organization:	MSS-MP
LANL Comm. Insp. Supervisor:	Randall Austin (Z# 334246) PH# 505-667-6740

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)			
Revision #: 0			**Activity/Task Title:** ST 1Y STEAM PLANT FIRESIDE / WATERSIDE PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Justin Maestas 177550 5/1/19
TA:	**Building:**	**Room:**	**Additional Location Description:** UI BOILER HOUSES

1. Scope of Work

1.1. Perform annual Waterside / Fireside PM and boiler inspections per UI Checklist / PMI. UI Engineering will provide support, oversight and training.

2. Precautions and Limitations

2.1. If steps cannot be completed as described or if unforeseen situations occur. PAUSE / STOP WORK.



STABILIZE the situation if safe to do so, CONTACT supervisor or POC and await further instructions PRIOR to proceeding

2.2. Workers shall perform Individual Hazard Analysis (IHA) for this task, which includes continual self-analysis of work scope, hazards and controls

2.3. Housekeeping shall be performed before, during and after work activities.
- 2.3.1 Control all material
- 2.3.2 Secure hoses, cords, lines, and portable equipment

2.4. Action Steps from Section 6 on **SHALL** utilize Place Keeping and be signed/marked upon completion.

3. Prerequisites/Initial Conditions

3.1. Supervisor will verify work is on the UI / FOD POD and not in conflict with other work activities

3.2. Verify all personnel have the appropriate PPE for task execution during pre-job planning
- 3.2.1. General PPE; Bump cap, safety shoes, safety glasses, hearing protection and gloves appropriate for task being performed

3.3. Barricade work area using caution tape and signs. Barricade building, room or area as discussed with PIC and other involved personnel during pre-job briefing.
- 3.2.1 Post barricades with entry/exit requirements, PPE and POC info

3.4. Verify pre-job briefing including 2101 hazards and requirements has been performed for all affected personnel

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)			
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TA:	**Building:**	**Room:**	**Additional Location Description:** UI BOILER HOUSES

4. Special Training/Medical Requirements

4.1. Curriculum ID 10968, WQ LOG Maintenance Worker
4.2. Parent Curriculum ID 647 – WQ LOG Pipefitter
  4.2.1. Endorsement Curriculum ID 718 – WQ LOG Pipefitter – Boiler Fitter
4.3. Parent Curriculum ID 642 – WQ LOG Electrician
4.4. Curriculum ID 641 – WQ LOG Carpenter
  4.4.1. Curriculum ID 726 – WQ LOG Carpenter – Scaffold Competent Person

5. Special Tools/Equipment

5.1. None

6. Work Instructions

6.1. **NOTIFY** operations of work to be performed and for permission to proceed
  6.1.1. Verify boiler is ready to be taken out of service ☐

6.2. **INSPECT** boiler
  6.2.1. Conduct initial observations and external inspections
  6.2.2. Use National Boiler Inspection Code (NBIC) standards
  6.2.3. Inspector must be certified to NBIC
  6.2.4. Wear long sleeve shirts or Ansell sleeves
  6.2.5. Use insulating blankets to protect against hot surfaces ☐

6.3. **ERECT / DISMANTLE / MOVE** scaffolding when needed to access work area
  6.3.1. Scaffold will be inspected daily by Competent Scaffold Personnel before use
  6.3.2. Only competent personnel will erect, modify or inspect scaffold
  6.3.3. Wear hardhats when working on or near scaffolding ☐

6.4. **DE-ENERGIZE** boiler
  6.4.1. Trace piping, conduits and wiring to ensure appropriate energy isolation is identified
  6.4.2. Close valves
  6.4.3. Turn Off / Open breakers or disconnects
    6.4.3.1. Wear non-melting clothing, leather gloves and remove all metallic objects when operating breakers or disconnects ☐
  6.4.4. Apply LOTO

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)			
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Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Justin Maestas 177550 5/1/19
TA:	**Building:**	**Room:**	**Additional Location Description:** UI BOILER HOUSES



WARNING

Potential injury or death due to uncontrolled release of energy.

6.5. **VERIFY** zero energy prior to performing work
- 6.5.1. Bleed residual pressure
- 6.5.2. Verify zero energy on each assumed electrically live conductor or equipment
  - 6.5.2.1. Test meter on known live circuit before and after zero energy verification
  - 6.5.2.2. 50V to 230V; Mode 1 to achieve mode 0, Class 1.2 a / b
    - 6.5.2.2.1. Wear; long shirt and pants or coveralls with rating of 4-cal or more, hard hat, hearing protection, safety glasses, class “0” dielectric gloves and remove all metallic objects
    - 6.5.2.2.2. Approach Boundaries: Limited; 3’-6”, Restricted; Avoid Contact
  - 6.5.2.3. 230V to1000V, Mode 1 to achieve Mode 0 Class 1.3a / b
    - 6.5.2.3.1. Wear 8 Cal PPE: AR coveralls with double layer switching hood, hard hat with face shield and hearing protection, safety glasses and ear canal inserts beneath hood, Class “0” dielectric gloves, remove all metallic objects
- 6.5.3. Approach Boundaries: Limited; 3’-6” Restricted; 1’-0 ☐

6.6. **OPEN** access doors and covers
- 6.6.1. Stage / store fasteners for reuse
- 6.6.2. Wear long sleeve shirts or Ansell sleeves
- 6.6.3. Use insulating blankets to protect against hot surfaces
- 6.6.4. Be aware of body positioning and lifting techniques ☐

6.7. **DETERMINATE** wiring from pressure and control switches
- 6.7.1. Label and protect wiring for re-termination
- 6.7.2. Ensure wiring and electrical devices are electrically safe ☐

6.8. **PERFORM** annual boiler maintenance
- 6.8.1. Follow approved checklists, PMIs and procedures
- 6.8.2. Notify UI engineering to provide support when needed
- 6.8.3. Calibrate gauges
- 6.8.4. Review & follow SDS for any lubricants or chemical used
- 6.8.5. Document all maintenance performed ☐

6.9. **PERFORM** internal boiler inspections
- 6.9.1. Follow NBIC ☐

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)			
Revision #: 0			**Activity/Task Title:** ST 1Y STEAM PLANT FIRESIDE / WATERSIDE PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Justin Maestas 177550 5/1/19
TA:	**Building:**	**Room:**	**Additional Location Description:** UI BOILER HOUSES

6.10. **CLOSE / REINSTALL** all doors or removed covers
- 6.10.1. Replace gaskets and fasteners on doors as needed ☐

6.11. **RECONNECT** all removed wiring and terminations
- 6.11.1. Utilize peer checking to ensure wiring is terminated properly ☐

6.12. **VERIFY** boiler is ready to be placed back into service
- 6.12.1. Inspect all work performed
- 6.12.2. Remove all tools and excess materials form boilers ☐

6.13. **REMOVE** applied LOTO
- 6.13.1. Re-Energize boiler ☐

7. Post Work Activities

7.1. **VERIFY** proper operation of boiler
- 7.1.1. Document operation per approved checklists or procedures

7.2. **PERFORM** post maintenance testing as directed by System Engineer
- 7.2.1. If any deficiencies are found document and notify supervisor

7.3. **CLEAN** work area of all debris and excess materials
- 7.3.1. Segregate all waste as required by WMC
- 7.3.2. Dispose of all generated waste in appropriate containers/locations
- 7.3.3. Remove all tools, equipment and barricades

8. Closeout

8.1. **COMPLETE** work documentation and return work package

8.2. **NOTIFY** operations and supervisor of status

Los Alamos NATIONAL LABORATORY	**Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)**		
Revision #: 0			**Activity/Task Title:** ST 1Y STEAM PLANT FIRESIDE / WATERSIDE PM
Work Document #: (WO # / Task)			**Planner/Preparer (Name/Z#/Date)** Justin Maestas 177550 5/1/19
TA:	**Building:**	**Room:**	**Additional Location Description:** UI BOILER HOUSES

***Insert Rows above** for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls.*	The RLM, and FOD or FOD Representative (if required or recommended by RLM, e.g. high hazard) approval indicates IWM has been applied appropriately, work is authorized, workers are qualified, work will be performed in accordance with ESH&Q/S&S requirements and the IWD, and facility safety basis, aggregate hazards, and collocated hazards were appropriately included in the hazard analysis and acknowledges completion of a peer review.	**RLM** (Signature/Z#/Date) **Required** GLENN MARTINEZ (Affiliate) Digitally signed by GLENN MARTINEZ (Affiliate) Date: 2019.05.02 09:04:52 -06'00' **FOD or Representative** (Signature/Z#/Date) **If Required or Recommended by RLM** Digitally signed by PHILLIP ULIBARRI (Affiliate) Date: 2019.05.08 12:28:54 -06'00' **ESO Review** (Signature/Z#/Date) **If Required** ROBERT SIMPSON (Affiliate) Digitally signed by ROBERT SIMPSON (Affiliate) Date: 2019.05.02 10:59:00 -06'00' **Safety Review** (Signature/Z#/Date) **Required** EUGENE FRESQUEZ (Affiliate) Digitally signed by EUGENE FRESQUEZ (Affiliate) Date: 2019.05.02 12:27:56 -06'00'

IWD Type ☒ Moderate-Haz ☐ High-Haz/Complex ☐ Standing IWD	Date when RLM re-approval is required_____ Other Conditions for Re-Approval_____ (Print) Name of Primary PIC Jason Sparks Name of Alternate PIC_____ Name of Alternate PIC_____	Any required classification review completed, N/A Signature/Date

BOILER INSPECTION REPORT (BIR)

NBIC NB-23, Part 2 (This report to be completed by LANL Commissioned Inspector)

SECTION I – BOILER INFORMATION

Boiler ID#:		Insp Date:	**Expiration Date:**
Boiler Area:		Ext. Inspection: ☐	Int. Inspection: ☐
National Board No.:		Serial No.:	
Boiler Mfg.:		Year Built:	
Boiler Type:	Steam ☐ Hot Water ☐ Others ☐	Firetube ☐	Watertube ☐
Safety Relief Valve (s) ID#:		Safety Valve (s) Size:	_____ , _____ , _____ ,
Set Press:	1. _____ 2. _____ 3. _____ (PSI)	Capacity:	1. _____ 2. _____ 3. _____ (lbs/hr)
Safety Valve (s):	Last Tested ☐ "VR" ☐ Replaced ☐	Date:	1. _____ 2. _____ 3. _____ ,
Pressure Gauge Range:	0 to	Heating Surface Area (sqft):	Boiler MAWP: _____ (PSI)
Pressure Allowed:	This Inspection: _____ (PSI)	Previous Inspection: _____ (PSI)	
Fuel:		Method of Firing:	
Inspection Finding: Major ☐ Minor ☐		Permit Issued: Yes ☐	No ☐

SECTION II – EXTERNAL/INSERVICE INSPECTION CONDITIONS

Planning, Coordination and Safety Requirements –

External Casing (cracks, leakage of fluids or combustion gases …) –

Safety Valve (s) Testing and Conditions –

Hangers and boiler supports Conditions –

Piping External Surfaces Conditions –
Controls (Firing, Flame Detector, valves, …) Functionality Test –
Low Water Cutoff Alarm Test –
Other Observations / Notes –

SECTION III – INTERNAL INSPECTION CONDITIONS			
Is the boiler prepared, drained and cleaned for internal inspection?	Yes ☐	No ☐	
Is the fuel shutoff valve locked and tagged?	Yes ☐	No ☐	
Is the boiler isolated from other boilers?	Yes ☐	No ☐	N/A ☐
Is the boiler atmosphere being monitored for safe entry (Boilers w/manway)?	Yes ☐	No ☐	N/A ☐
Is the boiler hydro tested for leaks? Yes ☐ No ☐	Pressure Test:	PSIG	

SECTION IV – FIRESIDE
Fire Box, Refractory, Burners, Flame Detectors Conditions –
Tubes External Condition (Pitting, bulging, misalignment, soot built up …) Watertube Boilers Only –
Tubesheets Condition (Bulging, leaks around the tubes connections, Cracks in the ligaments and weld joints) –

Staybolts Testing –
Other Observations / Notes –
SECTION V – WATERSIDE
Tubes External Surfaces, if possible internal surfaces –
Water Columns, Gage Glasses, Floats Chambers Internal Surfaces or Low Water Level Rods Condition –
Superheater Tubes External Surfaces (Power boilers Only) –
Steam Drum/Vessel Internal Surfaces (If electric boilers the condition of the electric resistant coils) –
Mud Drum Internal Surfaces (Power boilers) –
Deaerator Tank Internals (Power boilers) –

Deaerator Storage Tank (Power boilers) –
Any Repairs or Alteration Since Last Inspection (All repairs and Alteration requires 'R' Stamp R-1 or R-2 Form) –
water Chemistry Last Checked / Notes –
SECTION VI – DEFICIENCIES SUMMARY
SECTION VII – RECOMMENDATIONS

Person Conditions Reported To and/or FSR #, If Issued:	Z#	Phone No.:
LANL Commissioned Inspector Name and Signature:	Z#	National Board Commission No.:

Reviewed By: Initial: Z# Date:

TA16-1484 BSA
6/29/2020

TEST REPORT

LAM VALVES INC.

1502 Lombardy , ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE	5/12/2020
CUSTOMER	DAHL INC C/O HAJOCA
CUSTOMER PO#	193-P003807567
VALVE SIZE & TYPE	2" KUNKLE 6021HHT01-AM
SET PRESSURE	100 PSIG
MEDIUM & CODE	◯ AIR/GAS ◯ ASME UV.DIV.1
	X STEAM X ASME V
	◯ LIQUID ◯ NON-CODE

QUALITY CHECK LIST

BEFORE SETTING

Spring #.....	X
Disc.....	X
Nozzle or Seat.....	X
Stem.....	X
Body.....	X
Lever & Pin.....	X
Adjusting Rings.....	X
Adjusting Ring Lock Pin.....	X
Compression Screw.....	X
HYD Stamped.....	X
Cap/Hood.....	X

AFTER SETTINGS

Base Tight.....	X
Adjusting Rings Set.....	X
Adjusting Rings Pin Set.....	X
Compr. Screw Locknut Tight.....	X
Seals Installed.....	X
Name Tag Stamped.....	X

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
SO4125-1A	N/A	100.6 PSIG	96.7 PSIG
SO4125-1B	N/A	100.0 PSIG	96.4 PSIG

Franks 4095124

BACK PRESSURE TEST YES ◯ NO X

The material listed on your Purchase Order 600628
Meets the conformance requirements of the information contained in this document.
Inspected by : [signature]
Dahl Plumbing of Santa Fe

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2)WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 75 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TEDSTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING AND SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED: [signature]

TITLE: ◯ VALVE TECH ◯ JOEL RODRIGUEZ

ASME Assemblers Certificate of Conformance for Pressure Relief Valves
Form P-8 (Section 1)

1.) **Manufactured (or assembled) by Lam Valves Inc. 1502 Lombardy St Houston, TX 77023**

2.) **Table of Code symbol stamped items:**

ID (serial No.)	YEAR BUILT	NB	Cert#	QTY	TYPE	Size (NPS)	t Pressure, psig (nameplate)	Capacity	Test Fluid	Date	CI NAME	CI Signature
SO4125	2020	LMVA36324		2	6021HHT01-AM	2"	100 PSIG	4593 LB/HR	STEAM	5/12/2020	JOEL RODRIGUEZ	JOEL RODRIGUEZ

3.) Remarks:

Franks 4095124

The material listed on your Purchase Order 606620
Meets the conformance requirements of the information contained in this docum
Inspected by : Dahl Plumbing of Santa Fe

CERTIFICATE OF SHOP COMPLIANCE

By the signature of the Certified Individual (CI) noted above, we certify that the statements made in this report are correct and that all details for the design, material, construction, and workmanship of the pressure relief devices conform with the requirements of Section 1 of the ASME Boiler and Pressure Vessel Code.

V Certificate of Authorization No. 18515 Expires November 14, 2021

Date: 5/12/2020 Signed: _____ (responsible representive) Name: Lam Valves Inc. (Assembler)

TA 16 1484 BSA

6/29/2020

TEST REPORT

LAM VALVES INC.

1502 Lombardy , ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE	5/12/2020
CUSTOMER	DAHL INC C/O HAJOCA
CUSTOMER PO#	193-P003807567
VALVE SIZE & TYPE	1 1/2" KUNKLE 6021GGT01-AM
SET PRESSURE	100 PSIG
MEDIUM & CODE	◯ AIR/GAS ◯ ASME UV.DIV.1
	X STEAM X ASME V
	◯ LIQUID ◯ NON-CODE

QUALITY CHECK LIST

BEFORE SETTING

Spring #	X
Disc	X
Nozzle or Seat	X
Stem	X
Body	X
Lever & Pin	X
Adjusting Rings	X
Adjusting Ring Lock Pin	X
Compression Screw	X
HYD Stamped	X
Cap/Hood	X

AFTER SETTINGS

Base Tight	X
Adjusting Rings Set	X
Adjusting Rings Pin Set	X
Compr. Screw Locknut Tight	X
Seals Installed	X
Name Tag Stamped	X

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
SO4125-2A	N/A	100.4 PSIG	96.7 PSIG
SO4125-2B	N/A	101.6 PSIG	96.8 PSIG

BACK PRESSURE TEST YES ◯ NO X

Franks 4095124

The material listed on your Purchase Order 100620
Meets the conformance requirements of the information contained in this document.
Inspected by : Jam B
Dahl Plumbing of Santa Fe

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2)WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 75 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TEDSTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING AND SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED: J. Rodriguez

TITLE: ◯ VALVE TECH ◯ JOEL RODRIGUEZ

ASME Assemblers Certificate of Conformance for Pressure Relief Valves
Form P-8 (Section 1)

1.) **Manufactured (or assembled) by Lam Valves Inc. 1502 Lombardy St Houston, TX 77023**

2.) **Table of Code symbol stamped items:**

ID (serial No.)	YEAR BUILT	NB	Cert#	QTY	TYPE	Size (NPS)	Set Pressure, psig (nameplate)	Capacity	Test Fluid	Date	CI NAME	CI Signature
SO4125	2020	LMVA36324		2	6021GGT01-AM	1 1/2"	100 PSIG	2948 LB/HR	STEAM	5/12/2020	JOEL RODRIGUEZ	JOEL RODRIGUEZ

3.) Remarks:

Fricks 4095124

The material listed on your Purchase Order 600820
Meets the conformance requirements of the information contained in this document.
Inspected by : _____
Dahl Plumbing of Santa Fe

CERTIFICATE OF SHOP COMPLIANCE

By the signature of the Certified Individual (CI) noted above, we certify that the statements made in this report are correct and that all details for the design, material, construction, and workmanship of the pressure relief devices conform with the requirements of Section 1 of the ASME Boiler and Pressure Vessel Code.

V Certificate of Authorization No. 18515 Expires November 14, 2021

Date: 5/12/2020

Signed: _____ (responsible representive)

Name: Lam Valves Inc. (Assembler)

TA16 1484 BSB
6/29/2020

TEST REPORT

LAM VALVES INC.

1502 Lombardy , ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE	5/12/2020
CUSTOMER	DAHL INC C/O HAJOCA
CUSTOMER PO#	193-P003807567
VALVE SIZE & TYPE	2" KUNKLE 6021HHT01-AM
SET PRESSURE	100 PSIG
MEDIUM & CODE	◯ AIR/GAS ◯ ASME UV.DIV.1
	X STEAM X ASME V
	◯ LIQUID ◯ NON-CODE

QUALITY CHECK LIST

BEFORE SETTING

Spring #	X
Disc	X
Nozzle or Seat	X
Stem	X
Body	X
Lever & Pin	X
Adjusting Rings	X
Adjusting Ring Lock Pin	X
Compression Screw	X
HYD Stamped	X
Cap/Hood	X

AFTER SETTINGS

Base Tight	X
Adjusting Rings Set	X
Adjusting Rings Pin Set	X
Compr. Screw Locknut Tight	X
Seals Installed	X
Name Tag Stamped	X

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
SO4125-1A	N/A	100.6 PSIG	96.7 PSIG
SO4125-1B	N/A	100.0 PSIG	96.4 PSIG

BACK PRESSURE TEST YES ◯ NO X

Franks 4095124

The material listed on your Purchase Order 600620
Meets the conformance requirements of the information contained in this document.
Inspected by : _____
Dahl Plumbing of Santa Fe

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2)WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 75 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TEDSTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING AND SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED: _____

TITLE: ◯ VALVE TECH ◯ JOEL RODRIGUEZ

TA-16 1484 BSB
6/29/2020

TEST REPORT

LAM VALVES INC.

1502 Lombardy , ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE	5/12/2020
CUSTOMER	DAHL INC C/O HAJOCA
CUSTOMER PO#	193-P003807567
VALVE SIZE & TYPE	1 1/2" KUNKLE 6021GGT01-AM
SET PRESSURE	100 PSIG
MEDIUM & CODE	◯ AIR/GAS ◯ ASME UV.DIV.1
	X STEAM X ASME V
	◯ LIQUID ◯ NON-CODE

QUALITY CHECK LIST

BEFORE SETTING	
Spring #.....	X
Disc.....	X
Nozzle or Seat.....	X
Stem.....	X
Body.....	X
Lever & Pin.....	X
Adjusting Rings.....	X
Adjusting Ring Lock Pin.....	X
Compression Screw.....	X
HYD Stamped.....	X
Cap/Hood.....	X
AFTER SETTINGS	
Base Tight.....	X
Adjusting Rings Set.....	X
Adjusting Rings Pin Set.....	X
Compr. Screw Locknut Tight.....	X
Seals Installed.....	X
Name Tag Stamped.....	X

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
SO4125-2A	N/A	100.4 PSIG	96.7 PSIG
SO4125-2B	N/A	101.6 PSIG	96.8 PSIG

BACK PRESSURE TEST YES ◯ NO X

Frontes 409 5/24

The material listed on your Purchase Order 600 620
Meets the conformance requirements of the information contained in this document.
Inspected by : [signature]
Dahl Plumbing of Santa Fe

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2)WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 75 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TEDSTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING AND SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED: [signature]

TITLE: ◯ VALVE TECH ◯ JOEL RODRIGUEZ

ASME Assemblers Certificate of Conformance for Pressure Relief Valves
Form P-8 (Section 1)

1.) **Manufactured (or assembled) by Lam Valves Inc. 1502 Lombardy St Houston, TX 77023**

2.) **Table of Code symbol stamped items:**

ID (serial No.)	YEAR BUILT	NB	Cert#	QTY	TYPE	Size (NPS)	Set Pressure, psig (nameplate)	Capacity	Test Fluid	Date	CI NAME	CI Signature
SO4125	2020	LMVA36324		2	6021GGT01-AM	1 1/2"	100 PSIG	2948 LB/HR	STEAM	5/12/2020	JOEL RODRIGUEZ	JOEL RODRIGUEZ

3.) Remarks:

Events 4095/24

The material listed on your Purchase Order 606'22
Meets the conformance requirements of the information contained in this document.
Inspected by :
Dahl Plumbing of Santa Fe

CERTIFICATE OF SHOP COMPLIANCE

By the signature of the Certified Individual (CI) noted above, we certify that the statements made in this report are correct and that all details for the design, material, construction, and workmanship of the pressure relief devices conform with the requirements of Section 1 of the ASME Boiler and Pressure Vessel Code.

V Certificate of Authorization No. 18515 Expires November 14, 2021

Date: 5/12/2020

Signed: _____ (responsible representive)

Name: Lam Valves Inc. (Assembler)

Los Alamos
National Laboratory
Los Alamos, New Mexico 87545

MATERIAL INSPECTION REPORT

INSPECTION TRACKING NUMBER:	INS69699

PURCHASE ORDER (PO) NUMBER:	600620
LINE ITEM NO:	1
LINE ITEM DESCRIPTION:	KUNKLE 6021HHT01-AM0100 SAFETY RELIEF VALVE SET @ 100PSI
QUANTITY ORDERED:	2 **UNIT OF ISSUE:** Each
QUANTITY RECEIVED:	2
QUANTITY INSPECTED:	2
MANAGEMENT LEVEL (ML):	ML4IR
SUPPLIER:	FRANKS SUPPLY CO INC
ORACLE ITEM NO.:	**SUPPLIER PART NO.:** 1282477
MANUFACTURER:	Kunkle
REQUESTER:	Sparks, Jason Keith
REQUESTER ORGANIZATION/ GROUP:	LOG-CS: LOGISTICS CENTRAL SHOPS

INSPECTION RESULTS / ACTIONS

QUANTITY PASS: 2 **QUANTITY HELD:** 0

PTN	PTN QTY	QTY RELEASED	QTY REJECTED
2798085	2	2	0

ID NUMBERS (SERIAL/LOT/HEAT)

Serial Numbers: SO4125-1A, SO4125-1B
Lot Numbers: N/A
Heat Numbers: N/A

Test Name	Qty Inspected	Final Test	Pass	Fail	Qty Failed	NCR Information	Comments
QTY Validated	2	X	X				
Cleanliness	2	X	X				
Item and/or Packaging Damage	2	X	X				
PV: Basic Configuration	2	X	X				
PV: Identification and Marking	2	X	X				100psig, P/N: 6021HHT01-AM, 4593lb/hr, S/N's, ASME V Stamp
PV: Dimensional Features	2	X	X				2"
PV: Physical Features	2	X	X				
Suspect Items	2	X	X				

Test Name	Qty Inspected	Final Test	Pass	Fail	Qty Failed	NCR Information	Comments
Verification of Supplier Documentation	2	X	X				QC-06 Certificate of Conformance, QC-08 Inspection, Examination and Test Reports

COMMENTS/OBSERVATIONS

LOS ALAMOS National Laboratory Procurement Quality	**Inspector** Douglas Cummings (219533)	**Date** Jun 9, 2020 7:39 AM
	Reviewed By Evelyn Black (327715)	**Date** Jun 9, 2020 8:00 AM

Los Alamos
National Laboratory
Los Alamos, New Mexico 87545

MATERIAL INSPECTION REPORT

INSPECTION TRACKING NUMBER:	INS69719
PURCHASE ORDER (PO) NUMBER:	600620
LINE ITEM NO:	2
LINE ITEM DESCRIPTION:	KUNKLE 6021GGT01-AM0100 SAFETY REKLIEF VALVE SET @ 100PSI
QUANTITY ORDERED:	2 **UNIT OF ISSUE:** Each
QUANTITY RECEIVED:	2
QUANTITY INSPECTED:	2
MANAGEMENT LEVEL (ML):	ML4IR
SUPPLIER:	FRANKS SUPPLY CO INC
ORACLE ITEM NO.:	**SUPPLIER PART NO.:** 1173217
MANUFACTURER:	Kunkle
REQUESTER:	Sparks, Jason Keith
REQUESTER ORGANIZATION/ GROUP:	LOG-CS: LOGISTICS CENTRAL SHOPS

INSPECTION RESULTS / ACTIONS

QUANTITY PASS: 2 **QUANTITY HELD:** 0

PTN	PTN QTY	QTY RELEASED	QTY REJECTED
2798086	2	2	0

ID NUMBERS (SERIAL/LOT/HEAT)

Serial Numbers: SO4125-2A, SO4125-2B
Lot Numbers: N/A
Heat Numbers: N/A

Test Name	Qty Inspected	Final Test	Pass	Fail	Qty Failed	NCR Information	Comments
QTY Validated	2	X	X				
Cleanliness	2	X	X				
Item and/or Packaging Damage	2	X	X				
PV: Basic Configuration	2	X	X				
PV: Identification and Marking	2	X	X				100psig, P/N: 6021GGT01-AM, 2948 lb/hr, ASME V Stamp, S/N's
PV: Dimensional Features	2	X	X				1-1/2"
PV: Physical Features	2	X	X				
Suspect Items	2	X	X				

Test Name	Qty Inspected	Final Test	Pass	Fail	Qty Failed	NCR Information	Comments
Verification of Supplier Documentation	2	X	X				QC-06 Certificate of Conformance, QC-08 Inspection, Examination and Test Reports

COMMENTS/OBSERVATIONS

LOS ALAMOS National Laboratory Procurement Quality	**Inspector** Douglas Cummings (219533)	**Date** Jun 9, 2020 7:43 AM
	Reviewed By Evelyn Black (327715)	**Date** Jun 9, 2020 8:02 AM

Los Alamos
National Laboratory
Los Alamos, New Mexico 87545

Document Type:	Purchase Order
Acceptance Required: Yes	Acceptance By: 249074
Purchase Order Number: 600620	Rev. Number: 0

Supplier: FRANKS SUPPLY CO INC Address: FRANKS SUPPLY CO INC, 268 DP RD LOS ALAMOS, NM 87544 United States of America Email: Tel/Fax: Contact		Ship To:	LANL for US DOE, Bldg SM30 Bikini Atoll Road Los Alamos, NM 87545 United States of America
		Bill To:	Los Alamos National Laboratory PO Box 1663 ATTN: Accounts Payable, MS P240 Los Alamos, NM 87545 United States of America
		Buyer: Phone: Email:	Steinkamp, William James wsteinkamp@lanl.gov
Supplier GSL No: P0064601	Supplier Site Number:	PO Creation Date: 11-MAY-20	Last PO Rev Date: 11-MAY-20 / Payment Terms: Net 30
Inco Terms:	Freight Terms:		PO Currency: USD
Total Amount: 2,140.32	Title Passage: Per Purchase Terms		

Line	Qty	UOM	Description	Unit Price USD	Ext. Price USD	Tax	Required Delivery Date
1	2	Each	SUPPLIER ITEM: 1282477 ITEM: REV: DESCRIPTION: KUNKLE 6021HHT01-AM0100 SAFETY RELIEF VALVE SET @ 100PSI LONG DESCRIPTION: SHIP TO: Address at top of page	584.33	1,168.66	N	06-JUN-20
			Hazard Code: Note To Supplier:				
			Delivery Schedule:				
			Shipment: 1 Need By: 06-Jun-2020 Qty: 2 Each				
2	2	Each	SUPPLIER ITEM: 1173217 ITEM: REV: DESCRIPTION: KUNKLE 6021GGT01-AM0100	405.83	811.66	N	06-JUN-20

Line	Qty	UOM	Description	Unit Price USD	Ext. Price USD	Tax	Required Delivery Date
			SAFETY REKLIEF VALVE SET @ 100PSI LONG DESCRIPTION: SHIP TO: Address at top of page				
			Hazard Code: Note To Supplier:				
			Delivery Schedule:				
			Shipment: 1 Need By: 06-Jun-2020 Qty: 2 Each				
3	4	Each	SUPPLIER ITEM: 1444777 ITEM: REV: DESCRIPTION: 75496 CERTIFICATE OF SET PRESSURE LONG DESCRIPTION: SHIP TO: Address at top of page	20.00	80.00	N	06-JUN-20
			Hazard Code: Note To Supplier:				
			Delivery Schedule:				
			Shipment: 1 Need By: 06-Jun-2020 Qty: 4 Each				
4	4	Each	SUPPLIER ITEM: 1224140 ITEM: REV: DESCRIPTION: 75496 COC CERTIFICATE OF CONFORMANCE LONG DESCRIPTION: SHIP TO: Address at top of page	20.00	80.00	N	06-JUN-20
			Hazard Code: Note To Supplier:				
			Delivery Schedule:				
			Shipment: 1 Need By: 06-Jun-2020 Qty: 4 Each				
				Total:	2,140.32		

Revision	Line	Shipment	Field Altered	Changed From	Changed to

ASME Assemblers Certificate of Conformance for Pressure Relief Valves
Form P-8 (Section 1)

1.) Manufactured (or assembled) by Lam Valves Inc. 1502 Lombardy St Houston, TX 77023

2.) Table of Code symbol stamped items:

ID (serial No.)	YEAR BUILT	NB	Cert#	QTY	TYPE	Size (NPS)	t Pressure, psig (nameplate)	Capacity	Test Fluid	Date	CI NAME	CI Signature
SO4125	2020	LMVA36324		2	6021HHT01-AM	2"	100 PSIG	4593 LB/HR	STEAM	5/12/2020	JOEL RODRIGUEZ	JOEL RODRIGUEZ

3.) Remarks:

Freight 4045124

The material listed on your Purchase Order 60620
Meets the conformance requirements of the information contained in this docum
Inspected by :
Dahl Plumbing of Santa Fe

CERTIFICATE OF SHOP COMPLIANCE

By the signature of the Certified Individual (CI) noted above, we certify that the statements made in this report are correct and that all details for the design, material, construction, and workmanship of the pressure relief devices conform with the requirements of Section 1 of the ASME Boiler and Pressure Vessel Code.

V Certificate of Authorization No. 18515 Expires November 14, 2021

Date: 5/12/2020

Signed: _____ (responsible representive)

Name: Lam Valves Inc. (Assembler)

TEST REPORT

LAM VALVES INC.

1502 Lombardy , ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE 5/12/2020
CUSTOMER DAHL INC C/O HAJOCA
CUSTOMER PO# 193-P003807567
VALVE SIZE & TYPE 2" KUNKLE 6021HHT01-AM
SET PRESSURE 100 PSIG
MEDIUM & CODE

◯ AIR/GAS	◯ ASME UV.DIV.1
X STEAM	X ASME V
◯ LIQUID	◯ NON-CODE

QUALITY CHECK LIST

BEFORE SETTING

Spring #	X
Disc	X
Nozzle or Seat	X
Stem	X
Body	X
Lever & Pin	X
Adjusting Rings	X
Adjusting Ring Lock Pin	X
Compression Screw	X
HYD Stamped	X
Cap/Hood	X

AFTER SETTINGS

Base Tight	X
Adjusting Rings Set	X
Adjusting Rings Pin Set	X
Compr. Screw Locknut Tight	X
Seals Installed	X
Name Tag Stamped	X

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
SO4125-1A	N/A	100.6 PSIG	96.7 PSIG
SO4125-1B	N/A	100.0 PSIG	96.4 PSIG

BACK PRESSURE TEST YES ◯ NO X

Franco 4095124

The material listed on your Purchase Order 600620
Meets the conformance requirements of the information contained in this document.
Inspected by : _____
Dahl Plumbing of Santa Fe

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2)WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 75 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TEDSTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING AND SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED: _____

TITLE: ◯ VALVE TECH ◯ JOEL RODRIGUEZ

ASME Assemblers Certificate of Conformance for Pressure Relief Valves
Form P-8 (Section 1)

1.) **Manufactured (or assembled) by Lam Valves Inc. 1502 Lombardy St Houston, TX 77023**

2.) **Table of Code symbol stamped items:**

ID (serial No.)	YEAR BUILT	NB Cert#	QTY	TYPE	Size (NPS)	t Pressure, psig (nameplate)	Capacity	Test Fluid	Date	CI NAME	CI Signature
SO4125	2020	LMVA36324	2	6021HHT01-AM	2"	100 PSIG	4593 LB/HR	STEAM	5/12/2020	JOEL RODRIGUEZ	JOEL RODRIGUEZ

3.) Remarks:

Franks 4095124

The material listed on your Purchase Order 66620
Meets the conformance requirements of the information contained in this docu
Inspected by :
Dahl Plumbing of Santa Fe

CERTIFICATE OF SHOP COMPLIANCE

By the signature of the Certified Individual (CI) noted above, we certify that the statements made in this report are correct and that all details for the design, material, construction, and workmanship of the pressure relief devices conform with the requirements of Section 1 of the ASME Boiler and Pressure Vessel Code.

V Certificate of Authorization No. 18515 Expires November 14, 2021

Date: 5/12/2020

Signed: _____ (responsible representive)

Name: Lam Valves Inc. (Assembler)

TEST REPORT

LAM VALVES INC.

1502 Lombardy , ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE 5/12/2020
CUSTOMER DAHL INC C/O HAJOCA
CUSTOMER PO# 193-P003807567
VALVE SIZE & TYPE 2" KUNKLE 6021HHT01-AM
SET PRESSURE 100 PSIG
MEDIUM & CODE

◯ AIR/GAS	◯ ASME UV.DIV.1
X STEAM	X ASME V
◯ LIQUID	◯ NON-CODE

QUALITY CHECK LIST

BEFORE SETTING

Spring #	X
Disc	X
Nozzle or Seat	X
Stem	X
Body	X
Lever & Pin	X
Adjusting Rings	X
Adjusting Ring Lock Pin	X
Compression Screw	X
HYD Stamped	X
Cap/Hood	X

AFTER SETTINGS

Base Tight	X
Adjusting Rings Set	X
Adjusting Rings Pin Set	X
Compr. Screw Locknut Tight	X
Seals Installed	X
Name Tag Stamped	X

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
SO4125-1A	N/A	100.6 PSIG	96.7 PSIG
SO4125-1B	N/A	100.0 PSIG	96.4 PSIG

BACK PRESSURE TEST YES ◯ NO X

Front 4095124

The material listed on your Purchase Order 60062
Meets the conformance requirements of the information contained in this document.
Inspected by :
Dahl Plumbing of Santa Fe

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2)WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 75 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TEDSTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING AND SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED:

TITLE: ◯ VALVE TECH ◯ JOEL RODRIGUEZ

ASME Assemblers Certificate of Conformance for Pressure Relief Valves
Form P-8 (Section 1)

1.) Manufactured (or assembled) by Lam Valves Inc. 1502 Lombardy St Houston, TX 77023

2.) Table of Code symbol stamped items:

ID (serial No.)	YEAR BUILT	NB	Cert#	QTY	TYPE	Size (NPS)	Set Pressure, psig (nameplate)	Capacity	Test Fluid	Date	CI NAME	CI Signature
SO4125	2020	LMVA	36324	2	6021GGT01-AM	1 1/2"	100 PSIG	2948 LB/HR	STEAM	5/12/2020	JOEL RODRIGUEZ	JOEL RODRIGUEZ

3.) Remarks:

Frankes 4095124

The material listed on your Purchase Order 6006 20
Meets the conformance requirements of the information contained in this document.
Inspected by : [signature]
Dahl Plumbing of Santa Fe

CERTIFICATE OF SHOP COMPLIANCE

By the signature of the Certified Individual (CI) noted above, we certify that the statements made in this report are correct and that all details for the design, material, construction, and workmanship of the pressure relief devices conform with the requirements of Section 1 of the ASME Boiler and Pressure Vessel Code.

V Certificate of Authorization No. 18515 Expires November 14, 2021

Date: 5/12/2020

Signed: [signature]
(responsible representive)

Name: Lam Valves Inc.
(Assembler)

TEST REPORT

LAM VALVES INC.

1502 Lombardy , ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE 5/12/2020
CUSTOMER DAHL INC C/O HAJOCA
CUSTOMER PO# 193-P003807567
VALVE SIZE & TYPE 1 1/2" KUNKLE 6021GGT01-AM
SET PRESSURE 100 PSIG
MEDIUM & CODE

◯ AIR/GAS	◯ ASME UV.DIV.1
X STEAM	X ASME V
◯ LIQUID	◯ NON-CODE

QUALITY CHECK LIST

BEFORE SETTING

Spring #	X
Disc	X
Nozzle or Seat	X
Stem	X
Body	X
Lever & Pin	X
Adjusting Rings	X
Adjusting Ring Lock Pin	X
Compression Screw	X
HYD Stamped	X
Cap/Hood	X

AFTER SETTINGS

Base Tight	X
Adjusting Rings Set	X
Adjusting Rings Pin Set	X
Compr. Screw Locknut Tight	X
Seals Installed	X
Name Tag Stamped	X

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
SO4125-2A	N/A	100.4 PSIG	96.7 PSIG
SO4125-2B	N/A	101.6 PSIG	96.8 PSIG

BACK PRESSURE TEST YES ◯ NO X

Packed 409 5/24

The material listed on your Purchase Order 600 620
Meets the conformance requirements of the information contained in this document.
Inspected by :
Dahl Plumbing of Santa Fe

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2)WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 75 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TEDSTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING AND SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED:

TITLE: ◯ VALVE TECH ◯ JOEL RODRIGUEZ

ASME Assemblers Certificate of Conformance for Pressure Relief Valves
Form P-8 (Section 1)

1.) Manufactured (or assembled) by Lam Valves Inc. 1502 Lombardy St Houston, TX 77023

2.) Table of Code symbol stamped items:

ID (serial No.)	YEAR BUILT	NB	Cert#	QTY	TYPE	Size (NPS)	Set Pressure, psig (nameplate)	Capacity	Test Fluid	Date	CI NAME	CI Signature
SO4125	2020	LMVA36324		2	6021GGT01-AM	1 1/2"	100 PSIG	2948 LB/HR	STEAM	5/12/2020	JOEL RODRIGUEZ	JOEL RODRIGUEZ

3.) Remarks:

Frades 4095124

The material listed on your Purchase Order 600620
Meets the conformance requirements of the information contained in this document.
Inspected by : [signature]
Dahl Plumbing of Santa Fe

CERTIFICATE OF SHOP COMPLIANCE

By the signature of the Certified Individual (CI) noted above, we certify that the statements made in this report are correct and that all details for the design, material, construction, and workmanship of the pressure relief devices conform with the requirements of Section 1 of the ASME Boiler and Pressure Vessel Code.

V Certificate of Authorization No. 18515 Expires November 14, 2021

Date: 5/12/2020

Signed: [signature]
(responsible representive)

Name: Lam Valves Inc.
(Assembler)

TEST REPORT

LAM VALVES INC.

1502 Lombardy , ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE 5/12/2020
CUSTOMER DAHL INC C/O HAJOCA
CUSTOMER PO# 193-P003807567
VALVE SIZE & TYPE 1 1/2" KUNKLE 6021GGT01-AM
SET PRESSURE 100 PSIG
MEDIUM & CODE ◯ AIR/GAS ◯ ASME UV.DIV.1
X STEAM X ASME V
◯ LIQUID ◯ NON-CODE

QUALITY CHECK LIST

BEFORE SETTING

Spring #.....	X
Disc.....	X
Nozzle or Seat.....	X
Stem.....	X
Body.....	X
Lever & Pin.....	X
Adjusting Rings.....	X
Adjusting Ring Lock Pin.....	X
Compression Screw.....	X
HYD Stamped.....	X
Cap/Hood.....	X

AFTER SETTINGS

Base Tight.....	X
Adjusting Rings Set.....	X
Adjusting Rings Pin Set.....	X
Compr. Screw Locknut Tight.....	X
Seals Installed.....	X
Name Tag Stamped.....	X

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
SO4125-2A	N/A	100.4 PSIG	96.7 PSIG
SO4125-2B	N/A	101.6 PSIG	96.8 PSIG

BACK PRESSURE TEST YES ◯ NO X

Franks 4095124

The material listed on your Purchase Order 600620
Meets the conformance requirements of the information contained in this document.
Inspected by : [signature]
Dahl Plumbing of Santa Fe

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2)WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 75 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TEDSTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING AND SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED: [signature]

TITLE: ◯ VALVE TECH ◯ JOEL RODRIGUEZ

Quotation

193 DAHL SANTA FE
1000 SILER PARK LN
SANTA FE NM 87507-3116
505-471-1811 Fax 484-754-5421

QUOTE DATE	QUOTE NUMBER
05/07/20	S015354444

QUOTED BY:
193 DAHL SANTA FE
1000 SILER PARK LN
SANTA FE NM 87507-3116
505-471-1811 Fax 484-754-5421

PAGE NO: 1 of 1

Printed : 13:39:25 07 MAY 2020

QUOTE TO:
LOS ALAMOS NATL LABS
P.O BOX 1663 MSK406
URS FOR PR.S ONLY
LOS ALAMOS, NM 87544-0600

SHIP TO:
CONTRACT BID /LANL PR
P.O. BOX 1663 MSK406
USE FOR PR'S ONLY
LOS ALAMOS, NM 87544-0600
505-667-5197

QUOTED FOR	CUSTOMER PURCHASE ORDER NUMBER	CUSTOMER RELEASE NUMBER	SALESPERSON
ALEX A	WO 664380-01	JASON SPARKS	Paul Apodaca

WRITER	SHIP VIA	TERMS	EXPIRATION DATE	FREIGHT ALLOWED
Thomas Brown	OT2 OUR TRK2	NET 30 DAYS	06/21/20	No

QUOTE QTY	OUR PART #	DESCRIPTION	Net Prc	Ext Prc
2ea	1282477	KUNKLE 6021HHT01-AM0100 SAFETY RELIEF VALVE SET @ 100PSI ***** Above not returnable *****	584.330/ea	1168.66
2ea	1173217	KUNKLE 6021GGT01-AM0100 SAFETY REKLIEF VALVE SET @ 100PSI ***** Above not returnable *****	405.830/ea	811.66
4ea	1444777	75496 CERTIFICATE OF SET PRESSURE	20.000/ea	80.00
4ea	1224140	75496 COC CERTIFICATE OF CONFORMANCE	20.000/ea	80.00
		. . 16 to 18 days from p.o. . .		

Prices contained in this quote are the prices in effect at the time of quotation, and are subject to change at any time. We are not responsible for inaccurate quantity descriptions. Quantities should be checked against plans and specifications for accuracy. Special order material is non-cancellable. We are not responsible for delays not within our control.

Subtotal	2140.32
Sales Tax	0.00
Bid Total	2140.32

ADMIN-3-FM01 Relief Device Procurement Pre-approval

Form must be signed and approved by a Certified DCPSO in order to procure (per ASM Form 410).
(data for example only, delete when using form)

PSS #	TA	Bldg	Boiler ID	Boiler Make & Model#	Boiler Max Flow LB/Hr	Relief Device Make & Model#	Relief Set Press.	Boiler MAWP	Relief Flow	Relief Inlet	Relief Outlet
4023	9	282	BSA	Sellers Boiler Model#100849-A	Boiler Max capacity 5279 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"
4023	9	282	BSA	Sellers Boiler Model#100849-A	Boiler Max capacity 5279 LB/HR	Kunkle Valve M# 6021GGT01-AM0100	100 psig	150 psig	2948 LB/HR	1-1/2"	1-1/2"
4023	9	282	BSB	Sellers Boiler Model#100849-B	Boiler Max capacity 5279 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"
4023	9	282	BSB	Sellers Boiler Model#100849-B	Boiler Max capacity 5279 LB/HR	Kunkle Valve M# 6021GGT01-AM0100	100 psig	150 psig	2948 LB/HR	1-1/2"	1-1/2"
4014	16	1480	BSA	Sellers Boiler Model#100852-B	Boiler Max capacity 3381 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"
4014	16	1480	BSB	Sellers Boiler Model#100852-A	Boiler Max capacity 3381 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"
4015	16	1483	BSA	Sellers Boiler Model#100850-B	Boiler Max capacity 4416 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"
4019	16	1484	BSA	Sellers Boiler Model#100848-A	Boiler Max capacity 6314 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"
4019	16	1484	BSA	Sellers Boiler Model#100848-A	Boiler Max capacity 6314 LB/HR	Kunkle Valve M# 6021GGT01-AM0100	100 psig	150 psig	2948 LB/HR	1-1/2"	1-1/2"
4019	16	1484	BSB	Sellers Boiler Model#100848-B	Boiler Max capacity 6314 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"
4019	16	1484	BSB	Sellers Boiler Model#100848-B	Boiler Max capacity 6314 LB/HR	Kunkle Valve M# 6021GGT01-AM0100	100 psig	150 psig	2948 LB/HR	1-1/2"	1-1/2"

4017	16	1487	BSA	Sellers Boiler Model#100857-B	Boiler Max capacity 1932 LB/HR	Kunkle Valve M# 6021GGT01-AM0100	100 psig	150 psig	2948 LB/HR	1-1/2"	1-1/2"
4017	16	1487	BSB	Sellers Boiler Model#100857-A	Boiler Max capacity 1932 LB/HR	Kunkle Valve M# 6021GGT01-AM0100	100 psig	150 psig	2948 LB/HR	1-1/2"	1-1/2"
4006	16	1490	BSA	Sellers Boiler Model#100856-B	Boiler Max capacity 3278 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"
4006	16	1490	BSB	Sellers Boiler Model#100856-A	Boiler Max capacity 3278 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"
4011	16	1491	BSA	Sellers Boiler Model#100859-A	Boiler Max capacity 828 LB/HR	Kunkle Valve M# 6021GGT01-AM0050	50 psig	150 psig	1671 LB/HR	1-1/2"	1-1/2"
4011	16	1491	BSB	Sellers Boiler Model#100859-B	Boiler Max capacity 828 LB/HR	Kunkle Valve M# 6021GGT01-AM0050	50 psig	150 psig	1671 LB/HR	1-1/2"	1-1/2"
4012	16	1492	BSA	Sellers Boiler Model#100855-B	Boiler Max capacity 2933 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"
4012	16	1492	BSB	Sellers Boiler Model#100860-A	Boiler Max capacity 2415 LB/HR	Kunkle Valve M# 6021HHT01-AM0100	100 psig	150 psig	4593 LB/HR	2"	2"

DCPSO: Ari Ben Swartz Z #: 235211 Signature: Ari B Swartz Digitally signed by Ari B Swartz Date: 2020.04.28 14:23:37 -06'00' Date: _____

Preparer Note (PN):

This document contains instructions in dark red text and blue hidden text. Do not delete the dark red text or any part of sections I thru VIII of this Exhibit since it's intended to be included with the final printed/saved copy.

Asterisks highlighted in yellow (i.e., *) have been used throughout this document as placeholders to indicate where information is to be inserted (and the * removed) by the Requester/TSME. This includes but is not limited to the header date, PR#, and total page count in the footer of page 1 and page 1 of the TOC. The Solicitation/PO or Subcontract # in the footer of this page and page 1 of the TOC will be completed by Acquisition Services Management (ASM).

Do not modify the page numbering in the footer (except for adding total page numbers as indicated by *) since it's designed to be separately numbered from page 1 thru Section VIII of the Exhibit, and then separately numbered from the Table of Contents (TOC) (re-starting with page 1) thru the end of the Exhibit. You must have the blue hidden text (starting with the Table of Contents) visible in order to effectively/correctly complete this Exhibit however, it's not intended to print. To view hidden text, click on the "¶" (Show/Hide) icon on your tool bar. Alternately, see *How To Set Your Microsoft Word Application To View Hidden Text*. There is no need to delete the blue hidden text instructions as they will not affect the formatting of the printed document (except for total number of pages in the footer) and will not print unless the application's default setting is changed.

Make sure that after you delete the quality clauses you don't need and retain those you do, update the TOC before releasing this document.

This boxed-in Preparer Note may either be deleted or retained as part of this Exhibit.

INSTRUCTIONS: This Exhibit is to be completed by the Technical Subject Matter Expert (TSME) and optional Quality Subject Matter Expert (QSME) (except for weapons program procurements and procurements where Subcontractor is required to have a QA Program approved by LANL, in which case QSME signature is mandatory). The completed Exhibit H is signed and converted into Adobe pdf format and attached with the Requisition.

Exhibit H is required for:

- All on-site services (with or without items), regardless of Management Level (ML).
- All ML-1/ML-2, ML-3 item and service procurements, regardless of where work is performed.
- All weapons program (WP) procurements regardless of ML (or procurement quality level; PQL).
- ML-4 item procurements involving stand-alone circuit breakers and fasteners as defined in P840-1, *Quality Assurance for Procurements*.
- ML-4 item procurements involving hoisting, lifting, and rigging equipment as defined in P840-1, *Quality Assurance for Procurements*.

Guidance on the selection of quality clauses is included as hidden text next to each clause. As an example, the QC-27 (S/CI) clause is required for all item procurements (including services with items). QC-22 is required, as is QC-01A and QC-25 (unless compensatory measures allow otherwise) for all ML-1/ML-2 & WP procurements. QC-01B is required for all on-site procurements. QC-36 is required for all Safety Software or Risk Significant Software and WP procurements of software. QC-06 is required for all purchases of hoisting, lifting, and rigging equipment.

Complete the following sections I thru VII and use this information to complete the remainder of Exhibit H, after which, sign section VIII and scan for submittal with the procurement package.

NOTE TO ASM PROCUREMENT (or WP Processing Personnel): Pages that include sections I thru VIII of the completed Exhibit H are not intended to become part of the subcontract. These sections are intended for internal planning/documentation purposes only and should be separated from the Exhibit H and retained in the ASM or WP procurement file.

I. **Originator/Requester Name, Z#, Phone #**: Patrick McCabe, 348093, 695-5869

Technical SME Name, Z#, Phone #: Joshua Begay, 304395, 699-0253

Quality SME Name, Z#, Phone # (if applicable): N/A

Generic Item/Service Description: Relief Devices for TA-9 and TA-16 Boilers (Applicable to WO#'s 664376-01, 664378-01, 664379-01, 664380-01, 664385-01, 664386-01, 664387-01, 664388-01)

Notes to LANL Procurement Specialist: This space is either left blank, indicated as "N/A", or applicable notes to the Buyer are listed N/A

Notes to other LANL organization: This space is either left blank, indicated as "N/A", or applicable notes to the organization are listed N/A

ML Designation & Qualification of Subcontractors Designate the Management Level (ML) or Procurement Quality Level (PQL) (for WP Production Agency [PA] only) based on the applicable Master Equipment List, Drawing, Specification, Bill of Materials, etc. or per the requirements of P341, *Facility Engineering Processes Manual* and/or AP-341-502, *Management Level Determination* or applicable WP procedure(s). Then select A and/or B, B1, B2, B3, B4, B5, B6, C, C1, D1, or D2 as applicable. In some cases where an Institutional Evaluated Suppliers List (IESL) Supplier is necessary and the procurement is being sent out for competitive bid, both block A and B (with subsequent sub-block) may be selected to plan for both IESL and non-IESL suppliers to compete for procurements. To place an "X" in a check box: either double left click on the box or right click on the box and click on properties; change the default value to "Checked", and click on the OK tab.

Management Level: ☐ **ML-1** ☐ **ML-2** ☐ **ML-3** ☒ **ML-4** ☐ **PQL** *(ref. section VI)*

☐ **A.** Proposed Subcontractor(s) is/are listed on the Institutional Evaluated Suppliers List (IESL) for the approved items/services. Required (where supplier is listed on the IESL) for ML-1/ML-2 (including 3rd party Commercial Grade Dedication; CGD), Design Agency (DA) weapons program (WP) procurements, PA WP procurements (PQL1 & PQL2 only), and calibration services for instruments enrolled in the LANL Standards & Calibration Lab (S&CL) program.

☐ **B.** Proposed Subcontractor(s) is/are not listed on the Institutional Evaluated Suppliers List (IESL) for the approved items/services or if listed, do not meet the required QA Program evaluation criteria for the proposed item/service. Required (where supplier is not listed on the IESL) for ML-1/ML-2, DA WP procurements, PA WP procurements (PQL1 & PQL2 only), and calibration services for instruments enrolled in the LANL Standards & Calibration Lab (S&CL) program (also, required for IESL listed Suppliers where QA Program criteria does not satisfy item/service requirements). If block "B" is applicable, you must also select either, B1, B2, B3, B4, B5, and/or B6 below and if indicated, an approved Commercial Grade Dedication (CGD) Package and/or Technical Evaluation & Acceptance (TEA) Plan and/or Compensatory Action Plan must be included with the procurement request unless QPA-DO or WP quality personnel allow otherwise.

☐ **B1. Items and/or Services:** Quality & Performance Assurance (QPA) Division or applicable WP supplier evaluation personnel will evaluate the Subcontractor for subsequent IESL listing, prior to award/no later than start of work of subcontract. Complete on-line Form 1953 to request Supplier Evaluation and include copy with iProcurement PR unless QPA-DO allows otherwise.

☐ **B2. Items and/or Services:** Requesting Organization will dedicate items/services per, AP-341-703, *Commercial Grade Dedication*. Required (Technical Evaluation & Acceptance Plan, as a minimum) to be developed and approved prior to processing the procurement unless QPA-DO allows otherwise (B2 listed CGD Process may not be used for WP items/services).

☐ **B3. WP Items and Services Only:** Requesting Organization will complete a Compensatory Action Plan per P840-1 (see Weapons Program Procurements). Required to be developed and approved prior to processing the procurement unless WP quality personnel allow otherwise.

☐ **B4. Integrated Contractor Order (ICO) or Transfer (processed by ASM):** Requesting Organization will be obtaining items/services from another DOE/NNSA location (DOE Managing & Operating Contractor) under the controls of their DOE approved QA Program. Required for all ASM processed ICO's/Transfers between other DOE Complex locations (selection of quality clause QC-01C is all that's required).

☐ **B5. WP Integrated Contractor Order (ICO) or Transfer or Centralized Procurement Order (not processed by ASM):** Requesting Organization will be obtaining items/services from another DOE/NNSA location (DOE Managing & Operating Contractor) under the controls of their DOE approved QA Program. Required for all non-ASM processed ICO's/Transfers or Centralized Procurements between other DOE Complex locations (selection of quality clause QC-01C is all that's required).

☐ **B6. Work performed under controls of LANL QA Program (ref. SD330):** Subcontractor will perform all service work under LANL direction per LANL SD330 quality program requirements and LANL personnel will assure all necessary requirements are followed. ML-1 or ML-2 items cannot be provided by Subcontractor without a LANL generated and approved Commercial Grade Dedication (CGD). Subject controls are required to be described in the subcontract Exhibit D (Scope of Work) for on-site ML-1 or ML-2 work where the Supplier is not listed on the IESL and a CGD is not being processed *for the service*.

☒ **C.** Institutional Evaluated Suppliers List (IESL) Supplier is optional. For ML-3 or ML-4 and PA WP PQL3 items or services (this does not include calibration services for M&TE enrolled in the S&CL Program and does not include DA WP procurements). If desired or otherwise required by P840-1, also select C1.

☐ **C1. Services:** Requesting Organization will develop and implement a Compensatory Action Plan per P840-1. If applicable, the Plan is required to be developed and approved prior to processing the procurement unless QPA-DO or WP quality personnel allow otherwise.

D. Item/service is listed on ASM document 3400.00.0410, *Goods or Services Requiring Special Review/Approval*, (i.e. Form 410). Select D1 or D2 depending on whether item/service is listed on Form 410. If listed, LANL SME review/approval (e-mail acceptable) is required as part of the procurement package prior to processing procurement (or Form 410 SME organization must be listed in iProcurement approval sequence) unless QPA-DO or WP quality personnel allow otherwise.

☒ **D1. Yes:** Form 410 applies and internal review/approval is provided.

☐ **D2. No:** Form 410 does not apply to this procurement.

II. **Performance/Technical Requirements and Acceptance Criteria Identified In:** To place an "X" in a check box: either double left click on the box or right click on the box and click on properties; change the default value to "Checked", and click on the OK tab.

☐ **A.** Scope of Work and Technical Specifications (SOW) For services, complete and attach Exhibit D, *Scope of Work and Technical Specifications* to iProcurement purchase requisition (PR).

☐ **B.** LANL Procurement Specification If applicable, attach to iProcurement PR.

☐ **C.** Subcontractor Catalog page/cut sheet, quote, part #, model #, etc. If applicable, attach to iProcurement PR.

☒ **D.** Inspection Plan (e. g. Form 1952) Required for receipt inspection, attach to iProcurement PR.

☐ **E.** Other Attachment (e.g., drawings, reports, etc.) If applicable, attach to iProcurement PR.

III. **Receipt Inspection** For items only, select the applicable subsection below. Receipt inspections must be performed by QPA qualified and certified inspectors except as otherwise allowed for in Attachment E (section E.5.2) of P840-1, or by Subcontractors in accordance with a LANL approved Subcontractor QA Program/Plan, or by Subcontractor or other LANL personnel per a Compensatory Action Plan. A LANL Form 1952, *Receipt Inspection Plan and Requirements* or equivalent is required. To place an "X" in a check box: either double left click on the box or right click on the box and click on properties; change the default value to "Checked", and click on the OK tab.

☐ **A.** ML-1, ML-2, or ML-3 items (including weapons program procurements which includes PA WP PQL1 and PQL2), QPA certified receipt inspectors or WP quality personnel to perform receipt inspection (*at SM-30 unless arranged otherwise with Warehouse Receiving and/or QPA*).

☒ **B.** ML-4 item(s) with receipt inspection required (*weapons program procurements including PA WP PQL3, stand-alone circuit breakers and fasteners, and hoisting, lifting, and rigging equipment as defined in P840-1 or as requested by project or facility management*), QPA certified receipt inspectors or WP quality personnel to perform receipt inspection (*at SM-30 unless arranged otherwise with Warehouse Receiving and/or QPA/WP quality personnel*). Note that if receipt inspection is requested for ML-4 items not required by P840-1, an organizational charge number may be requested by QPA for receipt inspection performance.

☐ **C.** Subcontractor/other LANL personnel to provide receipt inspection (regardless of ML) in accordance with LANL QPA Division or WP quality personnel approved Subcontractor QA Program/Plan or approved Compensatory Action Plan.

☐ **D.** Items (regardless of ML) to be receipt inspected/verified by programmatic organization or project (or subcontractor) as defined in P840-1, Attachment E (E.5.2) (e.g. explosives, radiological materials, hazardous materials, off-site inspection, software, etc.).

☐ **E.** ML-4 item(s) with no QPA receipt inspection required.

IV. **Nuclear or Radiological Work** Failure of the items and/or services to be furnished under this subcontract may affect nuclear or radiological safety; therefore the Nuclear Hazards Indemnity

Agreement (48 CFR 952.250-70) clause (SC-14) may need to be included by the ASM Procurement Specialist in the terms and conditions of this subcontract, depending on the TSME/QSME selection of "YES" or "NO" for the below information statement (*required* to be "YES" for all ML-1 and ML-2 procurements [excluding Accelerator facilities], unless an Integrated Contractor Order [ICO] or unless *a LANL performed* CGD applies and is *likely* "YES" for ML-3 procurements if the ML-3 designation is based on Other Hazard Controls [OHC] or Radiation Protection). If *a LANL performed* CGD applies for ML-1/ML-2 items, select "NO" since under the CGD process, LANL is taking responsibility for SC-14 stated liabilities and in this case (*LANL performed* CGD), the SC-14 clause is not required to be included in the subcontract. To place an "X" in a check box: either double left click on the box or right click on the box and click on properties; change the default value to "Checked", and click on the OK tab.

☐ **A.** YES; failure of the items and/or services to be furnished under this subcontract may affect nuclear or radiological safety. Therefore, include the *Nuclear Hazards Indemnity and Price Anderson Act* clause (SC-14) in the subcontract (to be added by ASM; not part of Exhibit H).

☒ **B.** NO; failure of the items and/or services to be furnished under this subcontract will not affect nuclear or radiological safety (or *LANL performed* CGD applies). Do not include the *Nuclear Hazards Indemnity and Price Anderson Act* clause in the subcontract.

V. **ASME NQA-1** If answered "YES", the procurement records for the items and/or services to be furnished under this subcontract are governed by ASME NQA-1 (required to be "YES" for all ML-1 and ML-2 procurements [excluding Accelerator facilities]) and ASM will control open NQA-1 related records (i.e. the executed subcontract) in accordance with the requirements of NQA-1 requirement 17 and as described in Acquisition Practice 1046, *Safekeeping of Procurement Records*. Procurement Specialists should contact ASM Records Specialist for guidance.

☐ **A.** YES, the procurement records for the items and/or services to be furnished under this subcontract are governed by ASME NQA-1 and records must be stored per NQA-1 Requirement 17.

☒ **B.** NO, the procurement records for the items and/or services to be furnished under this subcontract are not governed by ASME NQA-1 and records do not need to be stored to NQA-1 requirements.

VI. **Weapon Material or Weapon-Related Material** These terms have specific definitions (from procedure P840-1, *Quality Assurance for Procurements*, as further supplemented by applicable WP Quality Assurance Plans or other procedures) which are *summarized* here: **Weapon Material**—NNSA nuclear weapons, assemblies, components software, or parts thereof. **Weapon-Related Material**—Any material including associated software, test and handling equipment, tooling, and fixtures, being developed and/or produced for or by the NNSA and intended for use in conjunction with, weapon research, development, engineering, production, surveillance, or dismantlement.

These definitions do not include research activities outside the scope of DOE weapon system development phases defined in 56XB, *DOE/NNSA Development and Production (D&P) Manual*.

If the items/services being procured meet the subject definitions and/or are intended for use in one or more of the defined phases of weapon project/system development discussed in the D&P Manual, including weapon system refurbishment and life extension programs (LEP); then the below selected check-box should be marked "YES" (with subsequent PQL indicated as applicable for the PA WP); otherwise, the below selected check-box should be marked "NO".

☐ **A.** YES, this procurement meets the definition of weapon material or weapon related material items/services and/or is intended for use in a D&P Manual defined phase of weapon system development/maintenance, including refurbishment and LEP. If PA WP procurement, additionally select appropriate PQL:

- ☐ PQL1 or PQL2 (IESL Supplier required unless Compensatory Acton Plan allows otherwise).
- ☐ PQL3 (IESL Supplier is optional).

☒ **B.** NO, this procurement does not meet the definition of weapon material or weapon related material items/services and/or is not intended for use in a D&P Manual defined phase of weapon system development/maintenance including refurbishment and LEP.

VII. **Safety Software/Risk Significant Software/Weapons Program Software** If the items and/or services to be furnished under this subcontract are considered Safety Software or Risk Significant Software (stand-alone or embedded in equipment; e.g. Programmable Logic Controllers) as defined in P1040, *Software Quality Management* and/or Engineering Standards Manual Chapter 21, *Software*, or are part of a weapons program (WP) procurement of software, selection of QC-36 is required; unless for Safety Software, a Commercial Grade Dedication allows otherwise or for WP procurements of software, a Compensatory Action Plan allows otherwise. Safety Software procurements require approval of the applicable Facility Design Authority Representative (DAR), Design Authority for Facility Engineering, Facility Responsible Associate Director, or Engineering Services Division Leader.

☐ **A.** YES, the items and/or services to be furnished under this subcontract are considered Safety Software or Risk Significant Software as defined in P1040 or are part of a weapons program procurement (as defined in P840-1) of software. Selection of quality clause QC-36 is required.

☒ **B.** NO, the items and/or services to be furnished under this subcontract are not considered Safety Software or Risk Significant Software as defined in P1040 or are not part of a weapons program procurement (as defined in P840-1) of software. Selection of quality clause QC-36 is not required.

VIII. **Approvals:** Approvals indicate agreement with: 1) completed Sections I thru VII (including the specified ML determination for which the TSME has ultimate responsibility and applicable PQL designation by appropriate PA WP personnel); 2) appropriate quality assurance requirements for this procurement (selected Quality Clauses (QC) and associated Table of Contents titles) have been included in Exhibit H.

Additional QPA-DO approval (as designated by the QPA Division Leader) is mandatory for ML-1/ML-2 procurements and can be satisfied by QPA-DO electronic approval in iProcurement. TSME approval is mandatory. QSME approval is mandatory for weapons program (WP) procurements and/or procurements where the Subcontractor is required to provide their own QA Program, as approved by LANL (this includes ML-1/ML-2 orders using an IESL Supplier). Blank signature lines should be marked as "N/A" (not applicable) as appropriate.

JOSHUA BEGAY (Affiliate) Digitally signed by JOSHUA BEGAY (Affiliate) Date: 2020.05.06 14:51:41 -06'00'

TSME (signature) | 304395 **Z Number** | 5/6/2020 **Date**

N/A

QSME (signature)
(required for weapons program procurement or where Subcontractor is working to their own QA Program as approved by LANL; otherwise optional, as determined by TSME) | **Z Number** | **Date**

N/A

QPA-DO (signature)
(only required for ML-1 or ML-2) | **Z Number** | **Date**

EXHIBIT "H"
QUALITY ASSURANCE REQUIREMENTS

TABLE OF CONTENTS

QC	Title	Page
QC-06	CERTIFICATE OF CONFORMANCE (Feb 2018)	2
QC-08	INSPECTION, EXAMINATION, AND TEST REPORTS (Mar 2016)	2
QC-27	SUSPECT/COUNTERFEIT ITEMS (S/CI) (Feb 2018)	2
QC-28	SERIALIZATION AND MARKING (Mar 2016)	3

QC-06 CERTIFICATE OF CONFORMANCE (Feb 2018)

SUBCONTRACTOR shall provide a Certificate of Conformance (C of C) for all items or services procured through this subcontract. Each C of C shall be from SUBCONTRACTOR and/or Manufacturer, shall identify CONTRACTOR'S subcontract number, and state that the item or service described thereon conforms in all respects with subcontract/manufacturer requirements, which may include any applicable specifications, drawings, marking requirements, part/model/serial number identification, or codes/standards that the item is certified to. Where applicable, the C of C shall identify the material by CONTRACTOR'S part/control number consistent with part number information in subcontract documents and/or CONTRACTOR'S specifications. Each C of C shall further identify any approved changes, waivers, or deviations to the item requirements and identify any requirements that have not been met, with a corresponding means/recommendation for resolving the nonconformance. Each C of C shall be signed or otherwise authenticated by an authorized person responsible for this function as described in SUBCONTRACTOR'S quality assurance program (or other representative of SUBCONTRACTOR and/or manufacturer if SUBCONTRACTOR is not required to have a quality assurance program). SUBCONTRACTOR personnel must assure that certificates of conformance are verified for compliance with the technical and quality requirements stated in the subcontract.

QC-08 INSPECTION, EXAMINATION, AND TEST REPORTS (Mar 2016)

SUBCONTRACTOR shall provide to CONTRACTOR, with or prior to each shipment, or as the result of on-site testing/inspection, all reports of inspections and/or tests performed on the items procured/inspected/tested. The reports shall be traceable to the subcontract number, item part/model number, item serial number (where applicable), and/or system description (when items are tested/inspected as part of an overall integrated system).

QC-27 SUSPECT/COUNTERFEIT ITEMS (S/CI) (Feb 2018)

(a) A suspect item is one in which there is an indication by visual inspection, testing, or other information that it may not conform to established Government or industry-accepted specifications or national consensus standards. A counterfeit item is a suspect item that is a copy or substitute, without legal right or authority to do so, or one whose material, performance, or characteristics are knowingly misrepresented by the vendor, supplier, distributor, or manufacturer.

(b) SUBCONTRACTOR warrants that all items, including their subassemblies, components, and parts, tendered to CONTRACTOR shall be genuine (i.e., not counterfeit), new and unused, and conform to the requirements of this subcontract, without substitution unless otherwise provided for within this subcontract or approved in writing by CONTRACTOR prior to delivery.

(1) SUBCONTRACTOR shall ensure (as applicable) that malicious software (and hardware) is prevented from entering into their supply chain for items/services to be provided to CONTRACTOR.

(c) SUBCONTRACTOR further warrants that all components, parts, materials, and supplies incorporated into CONTRACTOR'S facilities or equipment by SUBCONTRACTOR, during performance of work at LANL, shall be genuine, new and unused, and original-equipment-manufacturer items, without substitution unless otherwise provided for within this subcontract or approved by CONTRACTOR in writing as suitable for the intended purpose prior to use.

(1) If SUBCONTRACTOR discovers any S/CI items or S/CI conditions of concern for items in use (including SUBCONTRACTOR owned items) or in the process of being installed at LANL, SUBCONTRACTOR shall temporarily segregate/control the items and immediately notify CONTRACTOR. CONTRACTOR will make subsequent notifications concerning CONTRACTOR owned items in accordance with CONTRACTOR'S S/CI procedures and provide SUBCONTRACTOR direction as to S/CI disposition. For SUBCONTRACTOR owned items with S/CI concerns (e.g. tools, scaffolding, hoisting,

lifting, and rigging equipment, etc.), CONTRACTOR will provide direction to SUBCONTRACTOR up to and including the removal of such items from the LANL site.

(d) As part of the foregoing warranties, SUBCONTRACTOR also certifies that all labels and/or trademarks or logos affixed, or designed to be affixed; to items supplied or delivered to CONTRACTOR, and to certifications, affirmations, information, or documentation related to the authenticity and quality of items supplied or delivered to CONTRACTOR under this subcontract, are genuine.

(e) Falsification of information or documentation may constitute criminal conduct; accordingly, SUBCONTRACTOR grants CONTRACTOR the right to temporarily segregate items, and related paperwork, that are suspected to be S/CI, pending a determination by National Nuclear Security Administration (NNSA) or Department of Energy (DOE) officials whether the segregated items should be impounded as evidence.

(1) In the event NNSA/DOE directs CONTRACTOR to impound the segregated items, no liability shall be asserted or enforceable against CONTRACTOR, NNSA, or DOE because of the impoundment, all such liability being expressly waived by SUBCONTRACTOR or any person claiming any right or interest under this subcontract in the impounded items.

(2) CONTRACTOR shall incur no liability for failure to return impounded items to SUBCONTRACTOR and does not assume any liability for loss or damage to the items impounded or temporarily segregated pursuant to this clause regardless of the circumstances under which said loss or damage may have occurred, and whether the impounded or temporarily segregated items are in CONTRACTOR'S possession or under its control.

(f) Nothing in this clause shall limit CONTRACTOR'S right to reject S/CI, and related paperwork, as nonconforming, to deny payment for such items, to return such items to SUBCONTRACTOR once NNSA/DOE has released the items, or to assert other remedies provided under this subcontract or by law.

QC-28 SERIALIZATION AND MARKING (Mar 2016)

The manufacturer shall serialize parts, components, assemblies, and subassemblies as required by drawings, specifications, and this subcontract. The manufacturer's serial number control system shall ensure that the same serial number is not used more than once. Associated quality documents (e.g. test/inspection reports, certification documents) shall refer to any applicable serial numbers/lot numbers of the items; serial numbers/lot numbers are required to be directly marked on items or, if not feasible, the item shall be indirectly identified (e.g. tagged) with serial number/lot number.

Los Alamos NATIONAL LABORATORY EST. 1943

Form 1952

Receipt Inspection Plan and Requirements

1. Purchase Document Number	2. Management Level (ML)
664376-01, 664378-01, 664379-01, 664380-01, 664385-01, 664386-01, 664387-01, 664388-01	ML-4

3. Item Description(s) and line item number(s)

11 each - 6021HHT01-AM0100, 6 each - 6021GGT01-AM0100, 2 each - 6021GGT01-AM0050

4. Basic Inspections

Basic Inspections are performed by Qualified Receipt Inspectors. Characteristics to be inspected, methods of inspection, and acceptance criteria are listed below. If additional acceptance criteria are required, specify in section 5. If Exhibit H quality clauses apply only to specific items, this can be clarified in QC-37 in the Exhibit "H" or in the Table at the end of this Form. During inspection if any issues arise or if clarification of acceptance criteria is necessary, the Requestor will be engaged to provide guidance or clarification.

Characteristic to be Inspected	Method of Inspection	Acceptance Criteria
Item Quantity	Visual	The quantity of items received must be the same as specified in the procurement documents. (Discuss overages with Requestor/Buyer.)
Item Cleanliness of accessible external and internal areas	Visual	Accessible external and internal areas of item must be free of dirt, soil, mill scale (excluding raw material items), oil, grease, or stains. If inspection for cleanliness was performed (as evidenced by the inspection records provided by the supplier) prior to sealing and shipping, and inspection upon receipt indicates that there has been no penetration of the sealed boundary, then inspection for internal cleanliness is optional.
Item Damage	Visual	Items/components must not be broken, cracked, missing, deformed, or misaligned. Rotating parts must turn without binding, and accessible external and internal areas must be free of gouges, dents, scratches, and burrs that would be detrimental to the function of the item.
Item Configuration	Visual	Item must be configured as specified in procurement documents. Item Configuration includes: correct orientation of components and features, correct types of components, and correctly assembled as applicable.
Item Identification and Markings	Visual	Item must be identified according to procurement documents. The identification must match that specified in the shipping and/or procurement documents.
Item Dimensions	Dimensional	Verification of general features as specified in procurement documents or catalog data, such as: a) Overall length, width, height, and diameters. b) Diameter of threads and verification of thread pitch and type. Important: This inspection will only be applicable if the provided procurement documents, specifications, or standards specify dimensions and tolerances.

Suspect/Counterfeit Items	Visual	Item must not exhibit indications of being counterfeit. See P330-9, *Suspect/Counterfeit Items (S/CI)* for indications.
Supplier Documentation	Review	Applicable Supplier Documentation must meet the requirements of the Purchase Documents and be traceable to the items and procurement documents.

5. Additional Inspections (if none are required, leave this section blank)

List any required additional inspections (see section 8), the methods of inspection, and their acceptance criteria in the table below. Reference applicable drawings, specifications, and/or standards where possible. Allow for additional inspection time coincident with the scope of any requested additional inspections. (Additional fields provided after this form, attach as needed.)

Characteristic to be Inspected	Method of Inspection	Acceptance Criteria

6. Inspection Approach

Unless otherwise specified in Section 7, the Inspection will include all items in the order or a sampling of items. This will be determined by the Receipt Inspector based on factors such as the number of items in the order, the complexity of the items, and current work load. If a sampling plan is used, it will select the number of items in the procurement to be inspected for the following applicable basic inspections: cleanliness, damage, configuration, identification and marking, dimensional, and also any additional inspections. Sampling plans will be according to ANSI/ASQ Z 1.4 (latest edition) using a minimum General Inspection Level of II (Table I) and a minimum Acceptable Quality Limit of 4.0 (Table IIA). WR inspections use the sampling plan described in PA-MAP-01014.

7. Instructions and Comments for Inspections (if none apply, leave this section blank)

Indicate if the following apply:

- ☐ Hold point for TSME/QSME witness unpacking of items. (Contact TSME/QSME to make arrangements before commencing unpacking of items.)
- ☐ Item(s) are part of a Commercial Grade Dedication (CGD). If so, a CGD Pending Tag must be included with this form.
- ☐ Item(s) are a part of **WR** Compensatory Action Plan (CAP). Implement actions (i.e., inspections, tests) as required by CAP in accordance with PA-MAP-01014, *Acceptance of Procured Items and Services.*

Other comments:

8. Limitations

Receipt Inspectors perform basic inspections to provide reasonable assurance that the items received are the items that were requested. The acceptability of an Item to perform its function is determined by the Requesting Organization, and the proper procurement controls (independent dimensional inspections, source verification, supplier surveillances, supplier evaluations, etc.) should be implemented to ensure acceptability of items. If there are questions as to these limitations, contact the organization responsible for performing the receipt inspection.

The following limitations are in place on Receipt Inspections:

- Dimensional Inspections performed by Receipt Inspectors as part of the basic inspections do not constitute dimensional acceptance inspections. The scope of basic dimensional inspections is limited to those required to provide reasonable assurance that an item is what was requested and cannot require measurements with an accuracy less than .001 inches. Before requesting additional dimensional inspections, requestors must verify that the organization performing the receipt inspection (e.g., QPA-IQ, PAQ) has the capability of performing the desired inspection.
- The TSME/QSME must coordinate/arrange for Subject Matter Expert (SME) inspections of welds or weld preparations (random verification that weld preparations are in accordance with applicable drawings and specifications) and/or electrical insulation (performance of insulation resistance tests for motors, generators, and control and power cable to ensure conformance with specifications). Receipt Inspectors do not have the capability for such inspections.
- Important: For ML-4 items which are not required to be receipt inspected by P840-1, an organizational charge code may be requested by QPA for receipt inspection.

This Section Must Be Completed

9. Nonconformance Report Coordinator (NCRC)

Jeremy Valentine
Print Name

301688
Z Number

10. Owning Manager

Glenn Martinez
Print Name

190429
Z Number

11. Requester/End-User

Jason Sparks
Print Name

122088
Z Number

Signature

5-6-2020
Date

12. Technical Subject Matter Expert (TSME)

Joshua Begay
Print Name

304395
Z Number

JOSHUA BEGAY
(Affiliate)

Digitally signed by JOSHUA BEGAY (Affiliate)
Date: 2020.05.06 14:52:34 -06'00'

Signature

Date

ES-UI
Organization

K760
Mail Stop

699-0253
Phone or Other Contact Information

Los Alamos NATIONAL LABORATORY EST. 1943 iProcurement

COPY

Copy To Cart

Description	**jason sparks wo#66438001 eta 6/15/2020 ta16-1484 safety valve KUNKLE 6021HHT01-AM0100 SAFETY RELIEF VALVE SET @ 100PSI**
Created By	**Alvarez, Alejandro**
Creation Date	**11-May-2020 13:47:06**
Deliver-To	
Justification	
Status	Approved
Change History	**No**
Attachment	View
Note to Buyer	

Additional Information

Is This a Modification?	
Previous PO Number :	
Ceiling Amount :	
Directed Change Requiring Immedate Accrual	**N** NO
Additional Notification:	**Harris, David R** drharris@lanl.gov

Details

Line	Description	Need-By	Deliver-To	Unit	Quantity	Price	Amount (USD)	Details	Assigned Buyer	Order	RFQ	Delivery Details	Qty Delivered	Qty Cancelled	Open Quantity
1	KUNKLE 6021HHT01-AM0100 SAFETY RELIEF VALVE SET @ 100PSI	06-Jun-2020 17:30:00	60-0002-01U	Each	2	584.33 USD	1,168.66			600620			2	0	0
2	KUNKLE 6021GGT01-AM0100 SAFETY REKLIEF VALVE SET @ 100PSI	06-Jun-2020 17:30:00	60-0002-01U	Each	2	405.83 USD	811.66			600620			2	0	0
3	75496 CERTIFICATE OF SET PRESSURE	06-Jun-2020 17:30:00	60-0002-01U	Each	4	20 USD	80.00			600620			4	0	0
4	75496 COC CERTIFICATE OF CONFORMANCE	06-Jun-2020 17:30:00	60-0002-01U	Each	4	20 USD	80.00			600620			4	0	0

Total 2,140.32

Return

Copy To Cart

Shop Requisitions Shopping Cart Home Logout Help Preferences

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Received By

Print Name DAVID HARRIS Date 6/16/2020

Signature [signature] Z Number 324726

Issued By

Print Name Anthony Ubing Date 6/16/2020

Signature [signature] Z Number 344550

Facility : F04 **Unit :** 530365 **Proj :**
Task Title : 530365 ANNUAL BOILER MAINTENANCE
W/O Type : PM **W/O Group :** **Task Priority :** 04
Planner : 230995 MUNCY LYNDA Y
W/O Title : 530365 ANNUAL BOILER MAINTENANCE
Written To : 530365 BOILERS
Task Dspln : FTTR **Due Date :** 09/30/2020
Superintendant : Ray Richey Cell Ph. 231-4006
Hazard : MODERATE **IWD Reqmt :** TASK SPECIFC

Work Order Task

00670681 01

MASTER

Date: 06/17/2020

Work Order Task Written To

Facility : F04 **Unit :** 530365 **Op Sys :** HW
Room : **Area :** **Sys/Cls :** R
Equipment : **Component :**
Location :
Job Type : PM
Tag 1 : **Tag 2 :**
Work Item : BLDG 365 BOILERS **Ops Review Reqd :**

Authorization

Start Permission : Kenny Madrid **Start Date :** 6-25-20
Complete Notice : Kenny Madrid **Complete Date :** 11-17-20

Work Order Task Instructions

PERFORM and COMPLETE ATTACHED PMI

QC Requirements / Comments

Facility : F04 **Unit :** 530365 **Proj :**
Task Title : 530365 ANNUAL BOILER MAINTENANCE
W/O Type : PM **W/O Group :** **Task Priority :** 04
Planner : 230995 MUNCY LYNDA Y
W/O Title : 530365 ANNUAL BOILER MAINTENANCE
Written To : 530365 BOILERS
Task Dspln : FTTR **Due Date :** 09/30/2020
Superintendant : Ray Richey Cell Ph. 231-4006

Hazard : MODERATE **IWD Reqmt :** TASK SPECIFC

Work Order Task

00670681 01

MASTER

Date: 06/17/2020

Work Completion Signatures

Name	Function/Dept.	Date
Roose, Richard A. LOG- CS Boiler Crew		09/29/20
Kenny J. Valdez 095161 I WEM / MSS-LFO I		09/30/2020

Comments None.

(rework?)

Cost Accounting

Cost Center : 7D140C **Activity :** 640CL000

Percentage : 100 **Acct No :** XFM400 **Sub Acct :** 1G530365

Facility : F04 **Unit :** 530365 **Proj :**
Task Title : 530365 ANNUAL BOILER MAINTENANCE
W/O Type : PM **W/O Group :** **Task Priority :** 04
Planner : 230995 MUNCY LYNDA Y
W/O Title : 530365 ANNUAL BOILER MAINTENANCE
Written To : 530365 BOILERS
Task Dspln : FTTR **Due Date :** 09/30/2020
Superintendant :
Ray Richey Cell Ph. 231-4006
Hazard : MODERATE **IWD Reqmt :** TASK SPECIFC

Work Order Task

00670681 01

MASTER

Date: 06/17/2020

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD # Revision #: **Work Release**

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Operations Manager or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: _____

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, and that required initial conditions and other prerequisites are in place.
- The assigned workers are authorized and are competent to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers (including support workers) have been briefed.
- I have ensured coordination with any required FOD work-area representatives (e.g., area work coordinators).

PIC (Signature/Z#/Date) **Required**: Dennis Bernal 197845 09/28/20

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time. *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff.)*

Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

Pre-Job Brief Content

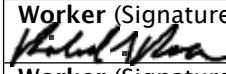
- What are the critical steps* or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g., for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

* "Critical steps occur anytime human performance involves a substantial transfer of energy, or movement of solids, liquids, and gases, or the transmission of data and information that , if not performed under control, could cause serious harm to one or more important assets." (Performance Improvement, vol. 53, no. 9, October 2014)

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date)  303503 09/28/20	**Worker** (Signature/Z#/Date) Mark Millwood 331693 09/28/20
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)

AP-WORK-004: Attachment 1
Maintenance & Site Services
Worker Engagement Questions

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

Topic	Completed (X)
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

Roose, Richard A. z# 303503 09/28/2020

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Yearly Fireside/Waterside Inspection and Maintenance**

Work Order No.: 670681-01 Equipment ID No.: BHW-010

Instructions: Enter the requested information. All items marked S or Y are satisfactory. Document all items marked U, N, or N/A in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 53 Building: 365 Room: 403 ER

Date Inspected: 09/28/20 Inspectors: MM, RR

1.0 PRE-MAINTENANCE ACTIVITIES

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

Remarks: None.

Work Order No.: 670681-01 Equipment ID No.: BHW-010

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.		Initials: RL

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler subject matter expert (SME) at 7-8550 with questions or concerns.

2.1	Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials: RK
2.2	Cool boiler, open air cock, and drain the boiler.		Initials: RR
2.3	Perform an internal and external inspection after thorough cleaning.	S ☒ U ☐ N/A ☐	Initials: RR
2.3.1	Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	S ☒ U ☐ N/A ☐	Initials: RR
2.3.2	Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials: RR
2.3.3	Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	S ☒ U ☐ N/A ☐	Initials: RR
2.3.4	Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials: RR

Remarks: None.

Work Order No.: 670681-01 Equipment ID No.: BHW-010

2.3.5 On one-pass boilers (Sellers), check condition of all heat extractors.	S ☒ U ☐ N/A ☐	Initials: RR
2.3.6 Check refractory materials.	S ☒ U ☐ N/A ☐	Initials: RR
2.3.7 Replace if needed.		Initials: RR
2.4 Perform maintenance on low-water cutoff float chamber and water feeder. Disassemble to ensure freedom from obstruction and proper functioning of the working parts.		Initials: RR
2.5 Perform routine burner maintenance.		Initials: RR
2.5.1 Observe temperature and operating pressure and general conditions.	S ☒ U ☐ N/A ☐	Initials: RR
2.5.2 Fire and cycle the burner.		Initials: RR
2.6 Perform routine maintenance of circulating pump and expansion pump equipment.		Initials: RR
2.6.1 Observe condition of expansion tank.	S ☒ U ☐ N/A ☐	Initials: RR
2.6.2 Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	S ☐ U ☐ N/A ☒	Initials: RR
2.6.3 Check the air pressure on the bladder-type expansion tanks.	S ☒ U ☐ N/A ☐	Initials: RR

Remarks: 2.6.2., BHW- 010 is equipped with a bladder type expansion tank.

Work Order No.: 670681-01 Equipment ID No.: BHW-010

2.6.4 Observe operation of circulating pumps.	S ☑ U ☐ N/A ☐	Initials: RR
2.6.5 Lubricate pump motors.		Initials: RR
2.7 Perform routine maintenance of entire combustion control equipment.		Initials: RR
2.7.1 Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	S ☐ U ☐ N/A ☒	Initials: RR
2.7.2 Adjust air/fuel mixture as needed.		Initials: RR
2.7.3 Test flame detection devices on boilers with flame scanners.	S ☒ U ☐ N/A ☐	Initials: RR
2.7.4 Remove the flame scanner with the burner firing.		Initials: RR
NOTE The burner should shut off as a flame failure condition.		
2.7.5 Clean the flame scanner, reinstall and test programmer.		Initials: RR
2.7.6 Check for proper operation as boiler goes through a firing cycle and light-off.	S ☒ U ☐ N/A ☐	Initials: RR
2.7.7 Check all electrical control and circuitry.	S ☒ U ☐ N/A ☐	Initials: RR

Remarks: 2.7.1., BHW- 010 is not equipped with gas/ air linkages.

Work Order No.: 670681-01 Equipment ID No.: BHW-010

2.7.8 Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumper tube conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	S ☒ U ☐ N/A ☐	Initials: RR
2.7.9 Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	S ☒ U ☐ N/A ☐	Initials: RR
2.7.10 Lubricate fan motors where necessary.		Initials: RR
2.8 Perform combustion and draft tests.		Initials: RR
2.8.1 Visually inspect combustion.	S ☒ U ☐ N/A ☐	Initials: RR
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.9 Perform safety relief valve(s) pop test.	S ☒ U ☐ N/A ☐	Initials: RR
2.9.1 Check pressure-reducing valve.	S ☒ U ☐ N/A ☐	Initials: RR
2.9.2 Replace the strainer in the valve if needed.		Initials: RR
2.10 Perform slow drain test of low-water cutoff.	S ☒ U ☐ N/A ☐	Initials: RR

Remarks: None.

Work Order No.: 670681-01 Equipment ID No.: BHW-010

2.11 Inspect gas piping for proper support and tightness.	S ☒ U ☐ N/A ☐	Initials: RA
2.11.1 Inspect fuel supply system and gas controls.	S ☒ U ☐ N/A ☐	Initials: RR
2.11.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	S ☒ U ☐ N/A ☐	Initials: RR
2.12 Inspect boiler room ventilation louvers and intake.	S ☒ U ☐ N/A ☐	Initials: RR
2.12.1 Listen for any unusual noises or conditions and correct as necessary.	S ☒ U ☐ N/A ☐	Initials: RR
2.12.2 Report any needed corrections to the MC for corrective maintenance.		Initials: RR
2.12.3 Check combustion air supply openings to ensure that they are not closed or stopped up.	S ☒ U ☐ N/A ☐	Initials: RA
2.12.4 Inspect conditions of stacks and rain caps.	S ☒ U ☐ N/A ☐	Initials: RR
2.12.5 Inspect flue door gaskets to ensure they are in good condition, and properly secured.	S ☒ U ☐ N/A ☐	Initials: RA
2.12.6 Replace if necessary.		Initials: RR

Remarks: None.

Work Order No.: 670681-01 Equipment ID No.: BHW-010

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Close and secure front and rear flue doors.		Initials: RR
3.2	Hook up all associated piping.		Initials: RR
3.3	IF water makeup feeds boiler directly, THEN open by-pass valve to refill boiler, AND close by-pass valve when boiler reaches operating pressure. -or- IF water makeup does NOT feed boiler directly, THEN open supply and return valves to refill boiler.	By-pass ☒ -or- Supply/ Return ☐	Initials: RR
3.4	Fire up boiler and check for air, gas, and water leaks.	S ☒ U ☐ N/A ☐	Initials: RR
3.5	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	S ☐ U ☐ N/A ☒	Initials: RR
3.6	Check pilot burners and ignition equipment for proper condition and adjustment.	S ☒ U ☐ N/A ☐	Initials: RR
3.7	Visually check burner for proper combustion.	S ☒ U ☐ N/A ☐	Initials: RR
3.8	Record all mechanical maintenance data, testing data, and other notable items.		Initials: RR

NOTE Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.

Remarks: 3.5., BHW- 010 is not equipped with gas/ air linkages.

Work Order No.: 670681-01 Equipment ID No.: BHW-010

3.9	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002.	S ☒ U ☐ N/A ☐	Initials: RR
3.10	Record all mechanical maintenance data, testing data, and other notable items.		Initials: RR
3.11	Notify MC that work on the boiler system is complete.		Initials: RR

Name of Craft Worker: Roose, Richard A. Z Number: 303503

Signature: Richard A Roose Date: 09/28/20

Name of Craft Worker: _____ Z Number: _____

Signature: _____ Date: ____/____/____

Foreman Verification: Mark Millwood Z Number: 331693

Signature: Mark Millwood Date: 09/28/20 /____

Remarks: None.

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2244
Lockout/Tagout (LO/TO) Orders

Section 1: General Information

Work Document Number (e.g., Package/Procedure #): 670681- 01	LO/TO Remedy ID: 100252
Location of Equipment to be Isolated: TA: 53 Bldg: 365 Rm/Other: 403 ER	Description of Machinery, System & Equipment (MS&E) to be worked on: BHW- 010, BHW- 011
MS&E Owner/Operator: Kenny Madrid Z Number: 117813	Phone:
Shutdown to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☒ No	Re-energize/restart to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☒ No
Reason for LO/TO: 1 yr. PM FS/WS	
Group LO/TO (2 or more)? ☒ Yes ☐ No *If yes, a lead authorized worker must be appointed.*	Group lock box used? ☒ Yes ☐ No
Shift or Personnel Changes? ☐ Yes ☒ No *If yes, a description of how the continuity of LO/TO protection will be ensured must be referenced or attached to this form. (See Section 3.9.6 of P101-3 for details.)*	☐ Continuity of LO/TO protection details described in operating procedure, work instruction, or other work control document. Document Number:

Section 2: Energy Control Procedure

1. Plan the work.
2. Identify and assess hazardous energy.
3. Contact the MS&E owner/operator.
4. Obtain locks and tags from lock coordinator.
5. Notify affected workers.
6. Shutdown MS&E according to **Section 3: Shutdown Sequence**.
7. Isolate and lock out MS&E from energy source, relieve stored energy, and perform verification of isolation according to **Section 4: LO/TO Sequence**.
8. Perform the work.
9. Release MS&E from LO/TO according to **Section 5: Release MS&E from Lockout/Tagout Sequence**.

Section 3: Shutdown Sequence

☐ Perform shutdown according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:

☐ **N/A**; MS&E to be worked on will be isolated according to **Section 4: LO/TO Sequence** (e.g., cannot be shut down)
Detail the process to normally shut down the MS&E below, if not following other document referenced above or N/A.

Step No.	Action/Description	Step No.	Action/Description
☐ 1		☐ 6	
☐ 2	N/A	☐ 7	N/A
☐ 3		☐ 8	
☐ 4		☐ 9	
☐ 5		☐ 10	

Section 4: LO/TO Sequence

☒ Perform LO/TO sequence according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:
Describe how to effectively isolate & lockout the MS&E below, if not following other document referenced above.

Isolate & Lockout (Step No.)	Equipment Descriptor (What is being locked out? e.g., machine drive motor, input power to MCC)	Energy Isolation Device (e.g., specific ID description, circuit #, lock box #)	Energy Isolation Device (Use specific ID or description, circuit number, lock box number.)	Location of Energy Isolation Device (e.g., room number, north wall, south wall)	Required LO/TO Position or Alignment (e.g., off, open, closed, on)	Verification Method (e.g., live/dead/live, crack open, on-off-on-off, peer checking, independent verification)	Verifier's Initials (if req'd)	See Section 5: Release (Step No.)
☑ (1)	Return Return Valve Return Valve 403 ER Shut Crack Open						RK	☑ 1
☑ (2)	Supply Supply Valve Supply Valve 403 ER Shut Crack Open						RK	☑
☑ (3)	Gas Gas Valve Gas Valve 403 ER Shut Crack Open						RK	☑
☑ (4)	Local Disconnect	Local Disconnect Local Disconnect 403 ER Open/ Off Live/ Dead/ Live					RK	☑
☑ (5)	Lockbox Lockbox LB- 001 403 ER Locked Peer						RK	☑
☐ (6)								☐
☐ (7)								☐
☐ (8)								☐

Section 5: Release MS&E from Lockout/Tagout Sequence

1. Check the MS&E and immediate area for items that could result in damage or danger on start-up.
2. Check the work area to ensure that all workers have been safely positioned or removed from the work area.
3. Verify that the controls are in neutral or "off" position.
4. Notify the owner/operator and affected workers that work is complete and MS&E is ready to release from LO/TO.
5. Remove the LO/TO device, and re-energize (if appropriate according to MS&E owner/operator) according to the sequence as identified above under Release in **Section 4: LO/TO Sequence** or according to operating procedure, work instruction, or other work control document identified in **Section 4**.
6. Return lock and locking device to Lock Coordinator.

Energy Control Procedure prepared by:

Preparer (print name)	Z Number	Organization	Phone	Signature/Date
Roose, Richard A.	303503	LOG- CS	350- 3927	Richard A. Roose

By signing below, you acknowledge that this energy control procedure and/or referenced documents identify the isolation devices, isolation points, and methods necessary to prevent any unexpected release of hazardous energy.

Energy Control Procedure approved by:

MS&E Owner/Operator (print name)	Z Number	Organization	Phone	Signature/Date
Kenny Madrid	117813	MSS- LFO		Kenny Madrid 09/28/20

Section 6: All Authorized Workers (anyone applying a lock for this activity)			
Fill out the following information or print and attach Authorized Workers information from the Lockout/Tagout Remedy Application.			
Authorized Workers Name(s)	**Z Number**	**Date Lock Applied**	**Date Lock Removed**
Lead: Mark Millwood 331693 09/28/20			09/29/20
Roose, Richard A 303503 09/28/20			09/29/20

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: __ Revision #: 0

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD 04	TA 53	Bldg. 0365	Room All	Other Location Outside parking lot
FOD Designated Facility Point-of-Contact	Name Anthony George	Phone 667-0242	Pager 4-6007	Email ageorge@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☐ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☒ Work must be Scheduled
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Work-Area Training Required
- ☒ Check in Daily
- ☒ Check out Daily
- ☒ Other Bounding Conditions: Experimental Area manager must be notified when work begans and ends on a daily basis.

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

All work must be approved by LANSCE FOD or designee and placed on the POD. Check LANL website for alerts and follow Fire requirments. Ensure the OMC and or the LANSCE area managers are aware of all work that is to take place in their assigned areas. TA53 SST course 57262, TA53 Bldg emergency plan Course 56903 TA 53 Facility Radiation Protection requirements Course #21395

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				
Ionizing Radiation Work in posted radiological areas, work with radioactive materials, or work on or near radiation producing devices. **Specify Hazard:** Working in posted areas	☒ Yes ☐ No	TLD in posted areas. All personell entering area must wear TLD,	Door Postings P121 Radiation protection	TA 53 SST Course 57626 RAD II TA53 Bldg emergency Plan Course 56903 unless escorted. RAD II

IWD No./Work Request No: _____ Revision #: 0

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:** Noise	☒ Yes ☐ No	Observe area safety signage, Wear Hearing protection if noise exceeds 85dba	P101-31 hearing conservation P101-6 PPE	LANL hearing protection PPE
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:** Electrical,Pressure	☒ Yes ☐ No	Follow LANS electrical/pressure safety and LOTO for hazardous energy control if applicable to task	P101-3 LOTO P101-13 Electrcial safety	LOTO If task requires
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☐ Yes ☒ No			
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	If task invloves work above 4 feet follow LANL fall protection requirments Fall plan	P101-20 Fal protection Fall plan provided by planner	LANL fall protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☐ Yes ☒ No			
Security Requirements **Specify:**	☐ Yes ☒ No			
Other Hazards **Specify:**	☐ Yes ☒ No			

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** [signature] 11/28/17 11/1/19

Date Approval Expires: 12/31/2020

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)			
Revision #: 0			**Activity/Task Title: 53-0365 2Y BOILER MAINTENANCE**
Work Document #: (WO # / Task) 6670681-01			**Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 6/17/20**
TA: 53	**Building : 0365**	**Room: 403**	**Additional Location Description:**

1. Scope of Work

1.1. **THIS PM REQUIRES SCHEDULING A BOILER INSPECTOR TO INSPECT AND CERTIFY UNIT.**

1.2. **PERFORM and COMPLETE ATTACHED PMI**

1.3. **Power source: CDD by MCC-B 53-752 3000 kva**

MC: Kenny Madrid 4-8327

Hazard Analysis (HA) Team: Troy Calloway, LANSCE IH & ESO , Lewis Mondragon

Date: 6/17/20

2. Precautions and Limitations

2.1. **IF** steps cannot be completed as described or **IF** unforeseen situations occur, **THEN PAUSE WORK** and **STABILIZE** the situation. **CONTACT** your supervisor and **AWAIT** further instructions before proceeding.

2.2. **IF** materials are required to perform this work, **THEN ASSURE** materials are available
and / or staged **PRIOR** to commencing field work.

2.3. Signatures, Initials and Place keeping blocks at the end of a step signifies the completion of that step or series of steps.

- Steps **SHALL** be signed / marked upon completion.

2.4. **ASSESS** the **ENVIRONMENTAL CONDITIONS** before performing work. Environmental conditions could increase severity

2.5. **ENSURE** unique equipment identifier. Equipment tag or unique equipment identifier (MEL ID) is used to designate which piece(s) of equipment are to be worked on.

Los Alamos NATIONAL LABORATORY EST. 1943 **Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)**			
Revision #: 0			**Activity/Task Title: 53-0365 2Y BOILER MAINTENANCE**
Work Document #: (WO # / Task) 6670681-01			**Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 6/17/20**
TA: 53	**Building : 0365**	**Room: 403**	**Additional Location Description:**

2.6. **REVIEW** any relevant plant specific, industry related experience or lessons learned applicable to required work.

2.7. **IDENTIFY** individuals to contact in case certain events occur

- **IF** there are any concerns about exposure to toxic chemicals or metals, noise, high heat, electrical or magnetic fields, or biological hazards, **CONTACT LFO-IH** for an assessment.
  - **Sylvie Adam** 695-8224
  - **Paul Martin** 667-3864 or 795-3119
  - **Daniel Evans** @ 667-8784 or 500-2158
- **WEM – Kenny Valdez** @ 667-3512 or 699-0793
- **On Call Duty Officer** @ 4-7466 or 500-2072
- **LFO-MSS Group Office** @ 665-6393

2.8. **LOCATE** and **IDENTIFY** any alarms or monitors in area (as posted at entrance)

- Check alarm / monitor and ensure it is functioning properly
- Know, review and/or discuss procedure in case of alarm sounding

2.9. **IDENTIFY** rapid or emergency actions to place equipment in likely compensatory configuration or conditions.

3. PREREQUISITES/INITIAL CONDITIONS

3.1. **VERIFY** with operations that no other activities are being conducted that could impact safe working conditions.

3.2. **IDENTIFY** required permits:

- LO/TO Attachments
- Spark and Flame Permit, form 1563

3.3. **IF** facility outage is required, **THEN NOTIFY** occupants.

Los Alamos NATIONAL LABORATORY **Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)**			
Revision #: 0			**Activity/Task Title: 53-0365 2Y BOILER MAINTENANCE**
Work Document #: (WO # / Task) 6670681-01			**Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 6/17/20**
TA: 53	**Building : 0365**	**Room: 403**	**Additional Location Description:**

3.4. **ENGAGE** Isaac Atencio, Waste Management Coordinator (WMC) prior to performing work activities to ensure all materials/equipment slated for disposal are dispositioned in accordance with EPC-WMP-FSD-001 Waste Characterization Strategy.

3.4.1. Mr. Isaac Atencio can be reached at 665-4627.

4. Special Training/Medical Requirements

4.1. TA 53 Site Specific training #57262

4.2. Training to perform maintenance work

- Curriculum ID 10968, WQ LOG Maintenance Worker
  - Low Voltage Circuit Breaker Operation #47180

4.3. Training to perform **Pipefitter** work:

- Curriculum # 647 – WQ LOG Pipefitter Maintenance

4.4.2 **Boiler Fitter**:

- Curriculum 718

5. Special Tools/Equipment

5.1. N/A

6. Work Instructions

6.1. **ERECT** and **SET** barricades at entrance to room and LOTO point. [x]

6.2. **CYCLE** boiler and inspect operations [x]

6.2.1. Only qualified personnel to perform operation of boiler

6.2.2. Coordinate efforts with facility coordinator

6.2.3. PPE per core training

6.3. **Purge** system (if necessary) per Page 1 of **PMI** [x]

6.3.1. **NO spark or flame within area**

6.3.2. HAZCOM training

Los Alamos NATIONAL LABORATORY **Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)**			
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TA: 53	**Building: 0365**	**Room: 403**	**Additional Location Description:**

6.3.3. Purge gas to outside – **IF NOT possible PAUSE WORK** and contact LANSCE IH (695-8224) for air quality monitoring and LANL Fire Marshall (670-1958)

NOTE: **Arc Flash calculations provided by LFO Engineering.**

Power Source: CDD by MCC-B Voltage: 480v
Transformer: 53-752 3000 kva
Incident energy @ 18" = 2.1 cal / sq cm
Flash Protection Boundary = 25"
Limited Approach = 42"
Restricted Approach = 12"



ELECTRIC ARC FLASH
BREAKER OPERATION CLASS 1.3b

6.4. **FILL** out applicable attachment
6.5. **TURN** off power source(s) and **APPLY** LOTO device
6.5.1. **PPE:**
Long sleeve AR shirt and AR pants (8 cal/sq cm arc rated) **OR** AR coveralls (8 cal/sq cm arc rated) over non-melting daily wear, short sleeve 100% cotton shirt, hardhat, safety glasses, hearing protection, AR face shield with AR balaclava (8 cal/sq cm) **OR** AR flash suit hood (**8** cal/sq cm arc rated). heavy duty leather gloves.
6.5.2. Ensure unit runs/starts
6.5.3. Open Disconnect / Breaker and verify the unit stops or will not start

Repeat process:
6.5.4. Close Disconnect / Breaker and ensure unit starts
6.5.5. Open Disconnect / Breaker and verify the unit stops or will not start

Los Alamos NATIONAL LABORATORY **Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)**			
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TA: 53	**Building : 0365**	**Room: 403**	**Additional Location Description:**

6.5.6. LOTO devices/tags shall be applied in accordance with P101-3

WARNING

Release of Pressurized / Flammable Gas
NO SPARKS OR FLAME WITHIN WORK AREA

6.6. **TURN** off and **APPLY** LOTO to gas supply per appropriate procedure x
- 6.6.1. Obtain locks and tags from FOD Designated Lock Coordinator
- 6.6.2. Make necessary notifications
- 6.6.3. Determine all sources of power with Equipment Owner / Operator
- 6.6.4. Turn off EQ – Close valves
- 6.6.5. LOTO devices/tags shall be applied in accordance with P101-3

DANGER

DO NOT stand in front of boiler doors or breeching when firing boiler.

6.7. **PERFORM maintenance** per PMI section 2 x
6.8. **REMOVE** and replace defective components per PMI x
- 6.8.1. Ensure all components are sufficiently cool before contact with skin
- 6.8.2. PPE per core training
- 6.8.3. Inspect all tools prior to use
- 6.8.4. Wear leather gloves and safety glasses
- 6.8.5. GFCI protection for all cords and electric devices
- 6.8.6. Inspect all cords, plugs and electric tools for damage – remove and tag if found defective
- 6.8.7. Minimize exposure to noise. Wear hearing protection as applicable.

Los Alamos NATIONAL LABORATORY **Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)**			
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TA: 53	**Building : 0365**	**Room: 403**	**Additional Location Description:**

WARNING

Soldering and Brazing Hazards:
Fire Hazard
Inhalation Hazard
Eye and Dermal Burn Hazard

6.9. Low temp **SOLDERING REPAIRS** – IF necessary [x]

- 6.9.1. **Must have approved and signed spark and flame permit in package prior to working**
- 6.9.2. Review current LANL fire danger rating, follow appropriate cautions
- 6.9.3. Review spark and flame permit
- 6.9.4. Provide fire watch if permit deems necessary
- 6.9.5. Ensure adequate ventilation in work area
- 6.9.6. Wear leather gloves, long sleeve shirt and tinted goggles
- 6.9.7. Have a 5lb (minimum) ABC fire extinguisher present
- 6.9.8. Scope area for possible flammable material within spark/flame range
- 6.9.9. Verify NEAREST eyewash capabilities

WARNING

ELECTRIC SHOCK / ARC
EQUIPMENT OPERATION CLASS 1.3b

6.10. **REMOVE** electrical LO/TO and energize equipment [x]

- 6.10.1. **PPE:**
  Long sleeve AR shirt and AR pants (8 cal/sq cm arc rated) **OR** AR coveralls (8 cal/sq cm arc rated) over non-melting daily wear, short sleeve 100% cotton shirt, hardhat, safety glasses, hearing protection, AR face shield with AR balaclava (8 cal/sq cm) **OR** AR flash suit hood (**8** cal/sq cm arc rated). heavy duty leather gloves.
- 6.10.2. Notify Designated Lock Coordinator and return locks.

6.11. **REMOVE** gas LO/TO and energize equipment [x]

Los Alamos NATIONAL LABORATORY EST. 1943 **Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)**			
Revision #: 0			**Activity/Task Title: 53-0365 2Y BOILER MAINTENANCE**
Work Document #: (WO # / Task) 6670681-01			**Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 6/17/20**
TA: 53	**Building : 0365**	**Room: 403**	**Additional Location Description:**

6.11.1. Notify Designated Lock Coordinator and return locks.

7. Post Work Activities

7.1. **PERFORM** combustion analyzer test (if required for testing or requested by MC) [x]

7.2. **PERFORM** post-maintenance activities [x]

- 7.2.1. Fire unit and verify proper operation
- 7.2.2. Verify proper operation of boiler
- 7.2.3. Verify boiler starts and fires properly.
- 7.2.4. Verify boiler stays operational for extended amount of time
- 7.2.5. Verify proper operation of flame rod
- 7.2.6. Verify no gas leakage
- 7.2.7. Verify proper operation of gauges and valves
- 7.2.8. Verify that the support or auxiliary systems related to the component are functioning properly.

7.3. **CLEAN** the work area of all work generated debris [x]

- 7.3.1. Contact and coordinate any waste disposal with Area Waste Coordinator Isaac Atencio at 665-4627

7.4. **ENSURE** all panels, doors and/or guards are re-installed and secured [x]

7.5. **REMOVE** any barricades / barriers. [x]

7.6. **DOCUMENT** work done and lesson learned on MWP Work Progress Panel or Work Completion Form (AP-WORK-002) [x]

8. Closeout

8.1. **CONTACT** the MC and Area Superintendent; **INFORM** them the work is completed

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)			
Revision #: 0			**Activity/Task Title:** **53-0365 2Y BOILER MAINTENANCE**
Work Document #: (WO # / Task) **6670681-01**			**Planner/Preparer (Name/Z#/Date)** **Troy Calloway #186163 6/17/20**
TA: **53**	**Building:** **0365**	**Room:** **403**	**Additional Location Description:**

Insert Rows above *for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls.*	The RLM, and FOD or FOD Representative approval indicates IWM has been applied appropriately, work is authorized, workers are qualified, work will be performed in accordance with ESH&Q/S&S requirements and the IWD, and facility safety basis, aggregate hazards, and collocated hazards were appropriately included in	**RLM** (Signature/Z#/Date) **Required** Kenny J. Valdez 095161 07/16/2020 **FOD or Representative** Anthony George 112877 06-25-2020 10:58 **ESO Review** (Signature/Z#/Date) **If Required** Not Required **Safety Review** (Signature/Z#/Date) **Required**

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)			
Revision #: 0			**Activity/Task Title: 53-0365 2Y BOILER MAINTENANCE**
Work Document #: (WO # / Task) 6670681-01			**Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 6/17/20**
TA: 53	**Building: 0365**	**Room: 403**	**Additional Location Description:**

	the hazard analysis and acknowledges completion of a peer review.	_____ Sylvie Adam / 334250 / 6-17-2020
IWD Type ☒ Moderate-Hazard ☐ High-Hazard/Complex ☐ Standing IWD	Date when RLM re-approval is required 12/31/2020 Other Conditions for Re-Approval If new hazards/controls are identified. (Print) Name of Primary PIC Levi Gutierrez Name of Alternate PIC Dennis Bernal Name of Alternate PIC Ralph Padilla	Any required classification review completed, NA Signature/Date

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Yearly Fireside/Waterside Inspection and Maintenance**

Work Order No.: 670681-01 Equipment ID No.: BHW-011

Instructions: Enter the requested information. All items marked S or Y are satisfactory. Document all items marked U, N, or N/A in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 53 Building: 365 Room: 403 ER

Date Inspected: 09/29/20 Inspectors: MM, RR

1.0 PRE-MAINTENANCE ACTIVITIES

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

Remarks: None.

Work Order No.: 670681-01 Equipment ID No.: BHW-011

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.		Initials: RR

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler subject matter expert (SME) at 7-8550 with questions or concerns.

2.1	Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials: RR
2.2	Cool boiler, open air cock, and drain the boiler.		Initials: RR
2.3	Perform an internal and external inspection after thorough cleaning.	S ☒ U ☐ N/A ☐	Initials: RR
2.3.1	Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	S ☒ U ☐ N/A ☐	Initials: RR
2.3.2	Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials: RR
2.3.3	Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	S ☒ U ☐ N/A ☐	Initials: RR
2.3.4	Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials: RR

Remarks: None.

Work Order No.: 670681-01 Equipment ID No.: BHW-011

2.3.5 On one-pass boilers (Sellers), check condition of all heat extractors.	S ☒ U ☐ N/A ☐	Initials: RR
2.3.6 Check refractory materials.	S ☒ U ☐ N/A ☐	Initials: RR
2.3.7 Replace if needed.		Initials: RR
2.4 Perform maintenance on low-water cutoff float chamber and water feeder. Disassemble to ensure freedom from obstruction and proper functioning of the working parts.		Initials: RR
2.5 Perform routine burner maintenance.		Initials: RR
2.5.1 Observe temperature and operating pressure and general conditions.	S ☒ U ☐ N/A ☐	Initials: RR
2.5.2 Fire and cycle the burner.		Initials: RR
2.6 Perform routine maintenance of circulating pump and expansion pump equipment.		Initials: RR
2.6.1 Observe condition of expansion tank.	S ☒ U ☐ N/A ☐	Initials: RR
2.6.2 Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	S ☐ U ☐ N/A ☒	Initials: RR
2.6.3 Check the air pressure on the bladder-type expansion tanks.	S ☒ U ☐ N/A ☐	Initials: RR

Remarks: _2.6.2., BHW- 011 is equipped with a bladder type expansion tank.

Work Order No.: 670681-01 Equipment ID No.: BHW-011

2.6.4 Observe operation of circulating pumps.	S ☑ U ☐ N/A ☐	Initials: RR
2.6.5 Lubricate pump motors.		Initials: RR
2.7 Perform routine maintenance of entire combustion control equipment.		Initials: RR
2.7.1 Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	S ☐ U ☐ N/A ☒	Initials: RR
2.7.2 Adjust air/fuel mixture as needed.		Initials: RR
2.7.3 Test flame detection devices on boilers with flame scanners.	S ☑ U ☐ N/A ☐	Initials: RR
2.7.4 Remove the flame scanner with the burner firing.		Initials: RR
NOTE The burner should shut off as a flame failure condition.		
2.7.5 Clean the flame scanner, reinstall and test programmer.		Initials: RR
2.7.6 Check for proper operation as boiler goes through a firing cycle and light-off.	S ☒ U ☐ N/A ☐	Initials: RR
2.7.7 Check all electrical control and circuitry.	S ☒ U ☐ N/A ☐	Initials: RR

Remarks: – 2.7.1., BHW- 011 is not equipped with gas/ air linkages.

Work Order No.: 670681-01 Equipment ID No.: BHW-011

2.7.8 Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumper tube conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	S ☒ U ☐ N/A ☐	Initials: RR
2.7.9 Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	S ☒ U ☐ N/A ☐	Initials: RR
2.7.10 Lubricate fan motors where necessary.		Initials: RR
2.8 Perform combustion and draft tests.		Initials: RR
2.8.1 Visually inspect combustion.	S ☒ U ☐ N/A ☐	Initials: RR
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.9 Perform safety relief valve(s) pop test.	S ☒ U ☐ N/A ☐	Initials: RR
2.9.1 Check pressure-reducing valve.	S ☒ U ☐ N/A ☐	Initials: RR
2.9.2 Replace the strainer in the valve if needed.		Initials: RR
2.10 Perform slow drain test of low-water cutoff.	S ☒ U ☐ N/A ☐	Initials: RR

Remarks: None.

Work Order No.: 670681-01 Equipment ID No.: BHW-011

2.11 Inspect gas piping for proper support and tightness.	S ☑ U ☐ N/A ☐	Initials: RR
2.11.1 Inspect fuel supply system and gas controls.	S ☒ U ☐ N/A ☐	Initials: RR
2.11.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	S ☒ U ☐ N/A ☐	Initials: RR
2.12 Inspect boiler room ventilation louvers and intake.	S ☒ U ☐ N/A ☐	Initials: RR
2.12.1 Listen for any unusual noises or conditions and correct as necessary.	S ☑ U ☐ N/A ☐	Initials: RR
2.12.2 Report any needed corrections to the MC for corrective maintenance.		Initials: RR
2.12.3 Check combustion air supply openings to ensure that they are not closed or stopped up.	S ☒ U ☐ N/A ☐	Initials: RR
2.12.4 Inspect conditions of stacks and rain caps.	S ☑ U ☐ N/A ☐	Initials: RR
2.12.5 Inspect flue door gaskets to ensure they are in good condition, and properly secured.	S ☑ U ☐ N/A ☐	Initials: RR
2.12.6 Replace if necessary.		Initials: RR

Remarks: None.

Work Order No.: 670681-01 Equipment ID No.: BHW-011

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Close and secure front and rear flue doors.		Initials: RR
3.2	Hook up all associated piping.		Initials: RR
3.3	IF water makeup feeds boiler directly, THEN open by-pass valve to refill boiler, AND close by-pass valve when boiler reaches operating pressure. -or- IF water makeup does NOT feed boiler directly, THEN open supply and return valves to refill boiler.	By-pass ☒ -or- Supply/ Return ☐	Initials: RR
3.4	Fire up boiler and check for air, gas, and water leaks.	S ☒ U ☐ N/A ☐	Initials: RR
3.5	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	S ☐ U ☐ N/A ☒	Initials: RR
3.6	Check pilot burners and ignition equipment for proper condition and adjustment.	S ☒ U ☐ N/A ☐	Initials: RR
3.7	Visually check burner for proper combustion.	S ☒ U ☐ N/A ☐	Initials: RR
3.8	Record all mechanical maintenance data, testing data, and other notable items.		Initials: RR

NOTE Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.

Remarks: 3.5., BHW-011 is not equipped with gas air linkages.

Work Order No.: 670681-01 Equipment ID No.: BHW-011

3.9	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002.	S ☒ U ☐ N/A ☐	Initials: RK
3.10	Record all mechanical maintenance data, testing data, and other notable items.		Initials: AR
3.11	Notify MC that work on the boiler system is complete.		Initials: AR

Name of Craft Worker: Roose, Richard A. Z Number: 303503

Signature: Richard A. Roose Date: 09/29/20

Name of Craft Worker: _____ Z Number: _____

Signature: _____ Date: ____/____/____

Foreman Verification: Mark Millwood Z Number: 331693

Signature: Mark Millwood Date: 09/29/20

Remarks: None.

NOTE: Use these buttons to print or save the form. DO NOT use the browser tool bar.

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2244

Lockout/Tagout (LO/TO) Orders

Section 1: General Information

Work Document Number (e.g., Package/Procedure #): G72083-01	LO/TO Remedy ID: 100080
Location of Equipment to be Isolated: TA: 53 Bldg: E Rm/Other: E309A	Description of Machinery, System & Equipment (MS&E) to be worked on: BHW-001, BHW-002, BHW-003
MS&E Owner/Operator: RANDY KING Z Number: Z02137	Phone: 795-1138
Shutdown to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☒ No	Re-energize/restart to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☒ No
Reason for LO/TO: 1yr FS/WS	
Group LO/TO (2 or more)? ☒ Yes ☐ No *If yes, a lead authorized worker must be appointed.*	Group lock box used? ☒ Yes ☐ No
Shift or Personnel Changes? ☐ Yes ☒ No *If yes, a description of how the continuity of LO/TO protection will be ensured must be referenced or attached to this form. (See Section 3.9.6 of P101-3 for details.)*	☒ Continuity of LO/TO protection details described in operating procedure, work instruction, or other work control document. Document Number:

Section 2: Energy Control Procedure

1. Plan the work.
2. Identify and assess hazardous energy.
3. Contact the MS&E owner/operator.
4. Obtain locks and tags from lock coordinator.
5. Notify affected workers.
6. Shutdown MS&E according to **Section 3: Shutdown Sequence**.
7. Isolate and lock out MS&E from energy source, relieve stored energy, and perform verification of isolation according to **Section 4: LO/TO Sequence**.
8. Perform the work.
9. Release MS&E from LO/TO according to **Section 5: Release MS&E from Lockout/Tagout Sequence**.

Section 3: Shutdown Sequence

☐ Perform shutdown according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:

☐ **N/A**; MS&E to be worked on will be isolated according to **Section 4: LO/TO Sequence** (e.g., cannot be shut down)
Detail the process to normally shut down the MS&E below, if not following other document referenced above or N/A.

Step No.	Action/Description	Step No.	Action/Description
☐ 1		☐ 6	
☐ 2		☐ 7	
☐ 3	N/A	☐ 8	N/A
☐ 4		☐ 9	
☐ 5		☐ 10	

Section 4: LO/TO Sequence

☐ Perform LO/TO sequence according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:
Describe how to effectively isolate & lockout the MS&E below, if not following other document referenced above.

Isolate & Lockout (Step No.)	Equipment Descriptor (What is being locked out? e.g., machine drive motor, input power to MCC)	Energy Source (e.g., electrical, mechanical, pneumatic, hydraulic, chemical, thermal)	Energy Isolation Device (e.g., specific ID, description, circuit #, lock box #)	Location of Energy Isolation Device (e.g., room number, north wall, south wall)	Required LO/TO Position or Alignment (e.g., off, open, closed, on)	Verification Method (e.g., live/dead/live, crack open, on-off-on-off, peer checking, independent verification)	Verifier's Initials (if req'd)	See Section 5: Release (Step No.)
☑ (1)	BHW-001/BHW-002 BHW-003	Local Disconnect	Local Disconnect	E309A	OPEN/OFF	Live/Dead/Live	MM	☑
☑ (2)	BHW-001/BHW-002 BHW-003	Pilot GAS	Pilot GAS	E309A	CLOSED/OFF	CRACK OPEN	MM	☑
☑ (3)	BHW-001/BHW-002 BHW-003	MAIN GAS	MAIN GAS	E309A	CLOSED/OFF	CRACK OPEN	MM	☑
☑ (4)	BHW-001/BHW-002 BHW-003	Return	Return Valve	E309A	CLOSED/OFF	CRACK OPEN	MM	☑
☑ (5)	BHW-001/BHW-002 BHW-003	Supply	Supply Valve	E309A	CLOSED/OFF	CRACK OPEN	MM	☑
☑ (6)	BHW-001/BHW-002 BHW-003	Lock Box	Lock Box	E309A	Locked	PEER	MM	☑
☑ (7)								☐
☐ (8)								☐

Section 5: Release MS&E from Lockout/Tagout Sequence

1. Check the MS&E and immediate area for items that could result in damage or danger on start-up.
2. Check the work area to ensure that all workers have been safely positioned or removed from the work area.
3. Verify that the controls are in neutral or "off" position.
4. Notify the owner/operator and affected workers that work is complete and MS&E is ready to release from LO/TO.
5. Remove the LO/TO device, and re-energize (if appropriate according to MS&E owner/operator) according to the sequence as identified above under Release in **Section 4: LO/TO Sequence** or according to operating procedure, work instruction, or other work control document identified in **Section 4**.
6. Return lock and locking device to Lock Coordinator.

Energy Control Procedure prepared by:

Preparer (print name)	Z Number	Organization	Phone	Signature/Date
Mark Millwood	331693	LOG-CS	4-5758	7/6

By signing below, you acknowledge that this energy control procedure and/or referenced documents identify the isolation devices, isolation points, and methods necessary to prevent any unexpected release of hazardous energy.

Energy Control Procedure approved by:

MS&E Owner/Operator (print name)	Z Number	Organization	Phone	Signature/Date
	202137	MSS4FO	795-1138	9-23-2020

Section 6: All Authorized Workers (anyone applying a lock for this activity)

Fill out the following information or print and attach Authorized Workers information from the Lockout/Tagout Remedy Application.

Authorized Workers Name(s)	Z Number	Date Lock Applied	Date Lock Removed
Lead:			
Randy Wendt	350559	9-23-20	9-24-20
Mark Millwood	331693	9-23-20	9-24-20
Roose, Richard A.	303503	09/23/20	9-24-20

Facility: F01 **Unit:** 550006 P

Task Title: 550006 (A) HOT WATER BOILER FS/WS INSP/MAINT.

W/O Type: PM W/O Group: Task Priority: 4

Planner: 218305 TRUJILLO

W/O Title: 550006 (A) HOT WATER BOILER FIRESIDE INSP/MAINT.

Written To: PF-6 HOT WATER BOILERS

Task Dspln: FTTR Due Date: 08/31/2020

Job Type: PM D-B Determination: N

Hazard Level: MODERATE IWD Requirement: STANDING

Material Required?:

0064545201

Los Alamos NATIONAL LABORATORY EST 1943

Work Order Task

00645452 01

DUPLICATE

Date: 8/6/20

Work Order Task Written To

Facility: F01 **Unit:** 550006 **Op Sys:**

Room: **Area:** **Sys/Cls:**

Equipment: **Component:**

PF-6 HOT WATER BOILERS

Equipment Tag: Alternate Tag:

Work item: PF6-BHW Tech Surv Reqmt Rel: N

PEG Equip Group Type: PEG Equip Group ID:

Crit Safety Control: Property Group:

Maintenance Programs: 1: 2: 3: 4: 5:

Authorization

Start Permission	[signature]			Start Date	8-10-20	92
Complete Notice	[signature]			Complete Date	8-27-20	92

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102 - Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order Task Instructions

Location: 550006 room 103 . Craft: PIPE FITTER, ELECTRICIAN, CARPENTER . Perform PM per: ATTACHED PMI 403-A.006 . CAUTION - Proposed work could impact a facility Technical Safety Requirement (TSR), Limiting Condition of Operation (LCO) and/or Action Statement. Check-in at the Operation Center prior to performing work. . Do not perform work beyond scope of work order. . NOTE: AS PER SE NO START-UP / LAY-UP IS REQUIRED AS THESE BOILERS OPERATE YEAR ROUND. . Caution: Proposed work could impact a facility technical safety requirement (TSR), limiting condition of operation (LCO) and /or action statement

Rework Reason/Cause

		Y/N
CDSG	CUSTOMER DESIGN	N
IMCW	IMPROPER CONSTRUCTION/WORKMANSHIP	N

Work Order 0064545 **Task** 01

Rework Reason/Cause

		Y/N
IMDN	IMPROPER DESIGN	N
PDMS	PARTS/MATERIAL DID NOT MEET SPECIFICATIONS	N
WR	WARRANTY REWORK/REPAIR	N

Date: 8-20-2020 Hours: Crew: Shift:

Comments: NONE

Rework/Approval

Deficiency Tag No: Location: Tag Removed:

Rework Job: N Comments:

Trouble Found/Work Performed

Completion Comments Required: N

NONE

Continue on additional sheets?

Calibrated Tools

Calibrated Tool Used? ☑ (Y)/N

File ID	Date Used	File ID	Date Used
Fluke 87 I #105525	8/12/20	Fluke 87 I File # 039769	8/18/20
Fluke 87 I #105525	8/11/20		

Work Delay Reason

		Y/N
A	ACCESS	N
EQPT	EQUIPMENT	N
IWD	IWD WORKABILITY	N
MAT	MATERIAL	N
OPS	OPERATIONS	N
RCT	RCT AVAILABILTY	N
SP	SAFETY PAUSE	N
TEL	TOOLS/EQUIP/LIFTS	N
W	WEATHER	N

Work Order 0064545. **Task** 01

Work Delay Reason

Work Date: 8-20-2020 Hours: Crew: Shift:

Comments: NONE

Major Failure/Action Taken

Major Failure:

Major Action Taken:

Deficiency Tag Removed: Y/N N/A

Deficiency Tag Location:

Deficiency Tag ID: 282917

Limited Condition of Operation: Y/N 8-20-2020

Work Completion Signatures

Name	Function/Department	Date
TIMOTHY FANGIO	LOG-CS	8-20-2020

Comments: (Rework?) NONE

Equipment List Exceptions

Equipment List	Revision	Equipment List Description
PF6-BHW	000	PF6-BHW

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F01	550006	VNT	103		HW	ML4

Equipment: BHW BHW-602

Name: 98' HOT WATER BOILER 602

Location: East Unit.

Exception Reason:

Comments:

Equipment Tag:

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F01	550006	VNT	103		HW	ML4

Equipment: BHW BHW-603

Name: 99' HOT WATER BOILER 603

Location: West or Central Boiler.

Exception Reason:

Comments:

Equipment Tag:

Work Order 0064545 **Task** 01

Equipment List Exceptions

Equipment List	Revision	Equipment List Description
PF6-BHW	000	PF6-BHW

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F01	550006	VNT	103		HW	ML4
	Equipment:		BHW	BHW-603-2			

Name: ORIG. HOT WATER BOILER 603
Location: Was BHW-1,12.18.98.
Exception Reason:
Comments:
Equipment Tag:

References/Document Information

Facility	Type	Sub-Type	Document Number	Sheet
LNL	PROC	STD	403-A.006	
	Title	HOT WATER BOILERS ANNUAL FIRESIDE/WATERSIDE	INSPECTION AND MAINTENANCE	

Accounting

Percentage	Cost Center	Activity	Account No	Sub Account No
100.00	7D150C	640CL000	XEPR00	M1010000

* * * **End of Report** * * *

Attachment C, TA-55 SSC Equipment Work Release and Acceptance Red Sheet (UET)

(Page 1 of 2)

CAUTION

Work Package # 645452 - 01

REQUIRED: Proposed work is on a system/component requiring formal status control, and could impact a facility Technical Safety Requirement (TSR). This work package **REQUIRES** facility Operations Center (OC) release **immediately prior to the starting** of any associated work activities/tasks.

REQUIRED: All workers working on systems requiring this attachment must attest, or their RLM/PIC attest, to having the applicable VSS briefing. If workers and/or RLM/PIC CAN NOT attest to having the applicable VSS briefing a worker who does must be present and supervising the work. Not applicable to construction jobs; OCO or PIC/RLM mark training column N/A.

OC Authorization:

Sheet ___ of ___

Worker Training Acknowledged (PIC/RLM initials/Z#)	Printed Name of OCO	OCO Signature	Date
MW / 204536	JOHN CERDIN		8-10-20
MW / 204536	TYLER		8-11-20
MW / 204536	COLLIER		8/14/20
MW / 204536	JOHN CERDINE		8-13-20
MW / 204536	COLLIER		8/17/20
MW / 204536	COLLIER		8/18/20
MW / 204536	JOHN CERDIN		8-19-20
MW / 204536	JOHN CERDIN		8-20-20

**Once all available rows have been filled out obtain a new sheet from Work Control.

REQUIRED: A **KNOWLEDGABLE** work package performer(s) is **REQUIRED** to report work package activity/task status to the Operations Center **every time workers stop work for the day.**

REQUIRED: This work package **REQUIRES** facility operations work acceptance **immediately following field completion** of the work. The following **SHALL** be complete prior to submitting for OC Acceptance.

This column to be Completed and Initialed by: Work Package Performer	**This column to be Completed and Initialed by: OCS or OCO**
N/A Steps if "not applicable"	**N/A Steps if "not applicable"**
OK PMT complete (criteria determined by appropriate CSE(s), SME or OCS; conducted under conditions emulating normal operation parameters)	N/A Applicable TSR, STP, ISI, system alignment (through operating procedure or SAC) required for the SSC to be declared OPERABLE have been completed, as applicable
N/A SSC left offline following PMT, as applicable	
N/A All LOTOs cleared (locks and lockout devices are returned to the WCCS, or OC if during off-hours)	

Operations Center Acceptance: Confirms RTS (transfer of control from Maintenance to Operations)

Printed Name of OCO	Signature	Z#	Date
COLLIER		316180	8/21/20

OCO Initial for Completion:

N/A ____ OC System Status Board updated, as applicable

Attachment C, TA-55 SSC Equipment Work Release and Acceptance Red Sheet (UET)

(Page 2 of 2)

Daily Job Update Sheet

Work Package # 645452- 01

Job Title PF 6 A Boiler Insp / Maint

REQUIRED: This sheet is to be filled out and dropped off, by a **KNOWLEDGABLE** worker, with the TA-55 Operations Center prior to commencing work each day. A **KNOWLEDGABLE** worker will pick up the sheet when work is completed for the day, and give the Operations Center a job status update. The sheet should be placed back into the work package so that it is available for the next day the job is worked.

Sheet ___ of ___

Date	Point of Contact	Pager #	Brief description of day's activities
8/10/2020	MARIO VIBARRI	695-4567	PF 6 A Boiler Insp / Maint
8/11/2020	MARIO VIBARRI	695-4567	PF 6 A Boiler Insp / Maint
8/12/2020	MARIO VIBARRI	695-4567	PF 6 A Boiler Insp / Maint
8/13/2020	MARIO VIBARRI	695-4567	PF 6 A Boiler Insp / Maint
8/17/2020	MARIO VIBARRI	695-4567	PF 6 A Boiler Insp / Maint
8/18/2020	MARIO VIBARRI	695-4567	PF 6 A Boiler Insp / Maint
8/19/2020	MARIO VIBARRI	695-4567	PF 6 A Boiler Insp / Maint
8/20/2020	MARIO VIBARRI	695-4567	PF 6 A Boiler Insp / Maint

**Once all available rows have been filled out obtain a new sheet from Work Control. Only drop off the most current sheet with the Operations Center.

NOTE: Use these buttons to print or save the form. DO NOT use the browser tool bar.

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Form 2244

Lockout/Tagout (LO/TO) Orders

Section 1: General Information

Work Document Number (e.g., Package/Procedure #): 645452-01	LO/TO Remedy ID:
Location of Equipment to be Isolated: TA: 55 Bldg: PF-6 Rm/Other: 103	Description of Machinery, System & Equipment (MS&E) to be worked on: B-603
MS&E Owner/Operator: David Loyola Z Number: 114210 Phone: 5-6812	
Shutdown to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☒ No	Re-energize/restart to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☒ No
Reason for LO/TO: (A) FIRESIDE / WATERSIDE B-603	
Group LO/TO (2 or more)? ☒ Yes ☐ No *If yes, a lead authorized worker must be appointed.*	Group lock box used? ☒ Yes ☐ No LOCKBOX # TA55-010
Shift or Personnel Changes? ☐ Yes ☒ No *If yes, a description of how the continuity of LO/TO protection will be ensured must be referenced or attached to this form. (See Section 3.9.6 of P101-3 for details.)*	☐ Continuity of LO/TO protection details described in operating procedure, work instruction, or other work control document. Document Number:

Section 2: Energy Control Procedure

1. Plan the work.
2. Identify and assess hazardous energy.
3. Contact the MS&E owner/operator.
4. Obtain locks and tags from lock coordinator.
5. Notify affected workers.
6. Shutdown MS&E according to **Section 3: Shutdown Sequence**.
7. Isolate and lock out MS&E from energy source, relieve stored energy, and perform verification of isolation according to **Section 4: LO/TO Sequence**.
8. Perform the work.
9. Release MS&E from LO/TO according to **Section 5: Release MS&E from Lockout/Tagout Sequence**.

Section 3: Shutdown Sequence

☐ Perform shutdown according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number: 645452-01

☐ **N/A**; MS&E to be worked on will be isolated according to **Section 4: LO/TO Sequence** (e.g., cannot be shut down)
Detail the process to normally shut down the MS&E below, if not following other document referenced above or N/A.

Step No.	Action/Description	Step No.	Action/Description
☐ 1		☐ 6	
☐ 2		☐ 7	
☐ 3		☐ 8	
☐ 4		☐ 9	
☐ 5		☐ 10	

Section 4: LO/TO Sequence

☐ Perform LO/TO sequence according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number:
Describe how to effectively isolate & lockout the MS&E below, if not following other document referenced above.

Isolate & Lockout (Step No.)	Equipment Descriptor (What is being locked out? e.g., machine drive motor, input power to MCC)	Energy Source (e.g., electrical, mechanical, pneumatic, hydraulic, chemical, thermal)	Energy Isolation Device (e.g., specific ID, description, circuit #, lock box #)	Location of Energy Isolation Device (e.g., room number, north wall, south wall)	Required LO/TO Position or Alignment (e.g., off, open, closed, on)	Verification Method (e.g., live/dead/live, crack open, on-off-on-off, peer checking, independent verification)	Verifier's Initials (if req'd)	See Section 5: Release (Step No.)
☐ (1)	B-603	MECHANICAL/ ELECTRICAL	NG-B603-V-1	PF-6 RM#103	CLOSED	PEER	A.U.	☐
☐ (2)	B-603	MECHANICAL/ ELECTRICAL	NG-B602/ B603-V-1	PF-6 RM#103	CLOSED	PEER	A.U.	☐
☐ (3)	B-603	MECHANICAL/ ELECTRICAL	CCHW-B603-V1	PF-6 RM#103	CLOSED	PEER	A.U.	☐
☐ (4)	B-603	MECHANICAL/ ELECTRICAL	CCHW-B603-V2	PF-6 RM#103	CLOSED	PEER	A.U.	☐
☐ (5)	B-603	MECHANICAL/ ELECTRICAL	MCC-603C COMPT A2R	PF-6 RM#101	OFF	PEER	A.U.	☐
☐ (6)	B-603	MECHANICAL/ ELECTRICAL	LOCK BOX # TA55-010	PF-6 RM#103	LOCKED	PEER	A.U.	☐
☐ (7)								☐
☐ (8)								☐

Section 5: Release MS&E from Lockout/Tagout Sequence

1. Check the MS&E and immediate area for items that could result in damage or danger on start-up.
2. Check the work area to ensure that all workers have been safely positioned or removed from the work area.
3. Verify that the controls are in neutral or "off" position.
4. Notify the owner/operator and affected workers that work is complete and MS&E is ready to release from LO/TO.
5. Remove the LO/TO device, and re-energize (if appropriate according to MS&E owner/operator) according to the sequence as identified above under Release in **Section 4: LO/TO Sequence** or according to operating procedure, work instruction, or other work control document identified in **Section 4**.
6. Return lock and locking device to Lock Coordinator.

Energy Control Procedure prepared by:

Preparer (print name)	Z Number	Organization	Phone	Signature/Date
TIMOTHY FANGIO	282917	LOG-CS	4-7292	8-17-2020

By signing below, you acknowledge that this energy control procedure and/or referenced documents identify the isolation devices, isolation points, and methods necessary to prevent any unexpected release of hazardous energy.

Energy Control Procedure approved by:

MS&E Owner/Operator (print name)	Z Number	Organization	Phone	Signature/Date
David Leyba	118210	MSSTMSS	5-6812	8-03-20

Section 6: All Authorized Workers (anyone applying a lock for this activity)

Fill out the following information or print and attach Authorized Workers information from the Lockout/Tagout Remedy Application.

Authorized Workers Name(s)	Z Number	Date Lock Applied	Date Lock Removed
Lead: TIMOTHY FANGIO	282917	8-17-2020	8-20-20
ANDREW ULIBARRI	237056	8-17-2020	8-20-20
NORMA RAMOS	291737	8-17-2020	8-20-20
RAYMOND MARTINEZ	334659	8-17-2020	8-20-20
Fabian Ivanyi	329584	8-18-2020	8-20-20

NOTE: Use these buttons to print or save the form. DO NOT use the browser tool bar.

Los Alamos NATIONAL LABORATORY EST 1943

Form 2244

Lockout/Tagout (LO/TO) Orders

Section 1: General Information

Work Document Number (e.g., Package/Procedure #): 645452-01	LO/TO Remedy ID: 98835
Location of Equipment to be Isolated: TA: 55 Bldg: PF-6 Rm/Other: 103	Description of Machinery, System & Equipment (MS&E) to be worked on: B-602
MS&E Owner/Operator: VICTOR SIERRA Z Number: Z43191 Phone: 5-7305	
Shutdown to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☒ No	Re-energize/restart to be performed by MS&E Owner/Operator (as determined by MS&E Owner/Operator) ☐ Yes ☒ No
Reason for LO/TO: (A) FIRESIDE / WATERSIDE	
Group LO/TO (2 or more)? ☒ Yes ☐ No *If yes, a lead authorized worker must be appointed.*	Group lock box used? ☒ Yes ☐ No Lock Box # TA55-010
Shift or Personnel Changes? ☐ Yes ☒ No *If yes, a description of how the continuity of LO/TO protection will be ensured must be referenced or attached to this form. (See Section 3.9.6 of P101-3 for details.)*	☐ Continuity of LO/TO protection details described in operating procedure, work instruction, or other work control document. Document Number: N/A

Section 2: Energy Control Procedure

1. Plan the work.
2. Identify and assess hazardous energy.
3. Contact the MS&E owner/operator.
4. Obtain locks and tags from lock coordinator.
5. Notify affected workers.
6. Shutdown MS&E according to **Section 3: Shutdown Sequence**.
7. Isolate and lock out MS&E from energy source, relieve stored energy, and perform verification of isolation according to **Section 4: LO/TO Sequence**.
8. Perform the work.
9. Release MS&E from LO/TO according to **Section 5: Release MS&E from Lockout/Tagout Sequence**.

Section 3: Shutdown Sequence

☒ Perform shutdown according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number: 645452-01

☐ **N/A**; MS&E to be worked on will be isolated according to **Section 4: LO/TO Sequence** (e.g., cannot be shut down)
Detail the process to normally shut down the MS&E below, if not following other document referenced above or N/A.

Step No.	Action/Description	Step No.	Action/Description
☐ 1		☐ 6	
☐ 2		☐ 7	
☐ 3		☐ 8	
☐ 4		☐ 9	
☐ 5		☐ 10	

Section 4: LO/TO Sequence

☑ Perform LO/TO sequence according to operating procedure, work instruction, or other work control document (e.g., IWD, Owner's Manual, SOP).
Document Number: 645452-01
Describe how to effectively isolate & lockout the MS&E below, if not following other document referenced above.

Isolate & Lockout (Step No.)	Equipment Descriptor (What is being locked out? e.g., machine drive motor, input power to MCC)	Energy Source (e.g., electrical, mechanical, pneumatic, hydraulic, chemical, thermal)	Energy Isolation Device (e.g., specific ID, description, circuit #, lock box #)	Location of Energy Isolation Device (e.g., room number, north wall, south wall)	Required LO/TO Position or Alignment (e.g., off, open, closed, on)	Verification Method (e.g., live/dead/live, crack open, on-off-on-off, peer checking, independent verification)	Verifier's Initials (if req'd)	See Section 5: Release (Step No.)
☐ (1)	B-602	MECHANICAL ELECTRICAL	NG-B602-V-1	PF-6 RM#103	CLOSED	PEER	AU	☐
☐ (2)	B-602	MECHANICAL ELECTRICAL	NG-B602/B603-V-1	PF-6 RM# 103	CLOSED	PEER	AU	☐
☐ (3)	B-602	MECHANICAL ELECTRICAL	CCHW-B602-V1	PF-6 RM# 103	CLOSED	PEER	AU	☐
☐ (4)	B-602	MECHANICAL ELECTRICAL	CCHW-B602-V2	PF-6 RM# 103	CLOSED	PEER	AU	☐
☐ (5)	B-602	MECHANICAL ELECTRICAL	MCC-6030 COMPT B2L	PF-6 RM# 101	OFF	PEER	AU	☐
☐ (6)	B-602	MECHANICAL ELECTRICAL	LOCKBOX# TA55-010	PF-6 RM# 103	LOCKED	PEER	AU	☐
☐ (7)								☐
☐ (8)								☐

Section 5: Release MS&E from Lockout/Tagout Sequence

1. Check the MS&E and immediate area for items that could result in damage or danger on start-up.
2. Check the work area to ensure that all workers have been safely positioned or removed from the work area.
3. Verify that the controls are in neutral or "off" position.
4. Notify the owner/operator and affected workers that work is complete and MS&E is ready to release from LO/TO.
5. Remove the LO/TO device, and re-energize (if appropriate according to MS&E owner/operator) according to the sequence as identified above under Release in **Section 4: LO/TO Sequence** or according to operating procedure, work instruction, or other work control document identified in **Section 4**.
6. Return lock and locking device to Lock Coordinator.

Energy Control Procedure prepared by:

Preparer (print name)	Z Number	Organization	Phone	Signature/Date
TIMOTHY FANGIO	282917	LOG-CS	4-7292	8/10/2020

By signing below, you acknowledge that this energy control procedure and/or referenced documents identify the isolation devices, isolation points, and methods necessary to prevent any unexpected release of hazardous energy.

Energy Control Procedure approved by:

MS&E Owner/Operator (print name)	Z Number	Organization	Phone	Signature/Date
VICTOR SERRANO	243197	MSS	5-7305	8.10.20

Section 6: All Authorized Workers (anyone applying a lock for this activity)

Fill out the following information or print and attach Authorized Workers information from the Lockout/Tagout Remedy Application.

Authorized Workers Name(s)	Z Number	Date Lock Applied	Date Lock Removed
Lead: TIMOTHY FANGIO	282917	8/10/20	8-13-2020
ANDREW ULIBARRI	237056	8/10/20	8-13-2020
RAYMOND MARTINEZ	334659	8/10/20	8-13-2020
NORMA RAMOS	291737	8/10/20	8-13-2020
SAMUEL Jaramillo	302355	8/11/20	8-13-2020
GALVIN FRAGUA	319584	8/11/20	8-13-2020
EDWIN ANGEVA	239126	8/10/20	8-13-2020

dl 11-8-20 4-11-20 4-12-20

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2103

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD # 645452-01 Revision #: _____

Work Release

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Operations Manager or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: N/A

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, and that required initial conditions and other prerequisites are in place.
- The assigned workers are authorized and are competent to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers (including support workers) have been briefed.
- I have ensured coordination with any required FOD work-area representatives (e.g., area work coordinators).

PIC (Signature/Z#/Date) **Required**: [signature] 204536 8/20/2020

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time. *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff.)*

Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

Pre-Job Brief Content

- What are the critical steps* or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g., for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

* "Critical steps occur anytime human performance involves a substantial transfer of energy, or movement of solids, liquids, and gases, or the transmission of data and information that , if not performed under control, could cause serious harm to one or more important assets." (Performance Improvement, vol. 53, no. 9, October 2014)

IWD #_____ Revision #:_____ **Work Release**

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) 237056 8/20/2020	**Worker** (Signature/Z#/Date) 334659 8/20/2020
Worker (Signature/Z#/Date) 282917 8/20/2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) Norma Ramos 291737 8.20.2020	**Worker** (Signature/Z#/Date)

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2103

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD # _____ Revision #: 645452-01

Work Release

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Operations Manager or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: n/a

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, and that required initial conditions and other prerequisites are in place.
- The assigned workers are authorized and are competent to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers (including support workers) have been briefed.
- I have ensured coordination with any required FOD work-area representatives (e.g., area work coordinators).

PIC (Signature/Z#/Date) **Required**: [signature] 204536 8/19/2020

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time. *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff.)*

Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

Pre-Job Brief Content

- What are the critical steps* or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g., for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
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IWD #_____ Revision #:_____

Work Release

Pre-Job Brief Attendance Roster

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- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) 334659 8/19/2020	**Worker** (Signature/Z#/Date) 237056 8/19/2020
Worker (Signature/Z#/Date) 282917 8/19/2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2103

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD # 645452-01 Revision #: _____

Work Release

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Operations Manager or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: N/A

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PIC (Signature/Z#/Date) **Required**: [signature] 204536 8/18/2020

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Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

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Worker (Signature/Z#/Date) 282917 8/18/2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 237056 8/18/2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) Norma Ramos 291737 8.18.2020	**Worker** (Signature/Z#/Date) 319584 8/18/20

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2103

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD #_____ Revision #:_____

Work Release

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FOD designated Operations Manager or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: N/A

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PIC (Signature/Z#/Date) **Required**: [signature] 204536 8/17/2020

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Alternate PIC (Signature/Z#/Date) **Required**: _____

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Worker (Signature/Z#/Date) 282917 8/17/20	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 237056 8/17/20	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) Norma RAMOS 291737 8·17·2020	**Worker** (Signature/Z#/Date)

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Form 2103

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD #_____ Revision #: 64545201 **Work Release**

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.
FOD designated Operations Manager or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: N/A

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PIC (Signature/Z#/Date) **Required**: [signature] 204536 5/13/2020

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Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

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Pre-Job Brief Attendance Roster

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Worker (Signature/Z#/Date) 237056 8/13/20	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 239126 08/13/20	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) Norma Ramos 291737 8.13.2020	**Worker** (Signature/Z#/Date) 319584 8/13/20

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD # _____ Revision #: 645452-01

Work Release

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FOD designated Operations Manager or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: N/A

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Worker (Signature/Z#/Date) 237056 8/12/2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 334659 8/12/2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) Norma Ramos 291737 8.12.2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date) 319584 8/12/20

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD # 645452-01 Revision #: _____

Work Release

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Signature/Z#/Date **(If required by FOD)**: M/4

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PIC (Signature/Z#/Date) **Required**: [signature] 201536 8/11/2020

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Worker (Signature/Z#/Date) 282917 8/11/2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) Norma RAMOS 291737 8.11.2020	**Worker** (Signature/Z#/Date) 319588 8/11/20
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 302355 8-11-20	**Worker** (Signature/Z#/Date) 237056 8/11/20

Form 2103

Integrated Work Document (IWD) Part 3, Validation and Work Release

Los Alamos NATIONAL LABORATORY EST. 1943

IWD #_____ Revision #:_____ **Work Release**

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Operations Manager or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: _____ 118210 8-10-20

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Alternate PIC (Signature/Z#/Date) **Required**: Vianes Valdez 8/10/20 235472

Alternate PIC (Signature/Z#/Date) **Required**: _____

Pre-Job Brief Content

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Worker (Signature/Z#/Date) 237056 8/10/2020	**Worker** (Signature/Z#/Date) 351738 8-10-20
Worker (Signature/Z#/Date) 382917 8/10/2020	**Worker** (Signature/Z#/Date) 349459 8-10-20
Worker (Signature/Z#/Date) 291737 8.10.20	**Worker** (Signature/Z#/Date) 348800 8-10-20
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 334659 8/10/2020	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 320905 8/10/20	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) 342322 8-10-20	**Worker** (Signature/Z#/Date)

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-004: Attachment 1
Maintenance & Site Services
Worker Engagement Questions

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

Topic PF 6 A Boiler Insp / maint	Completed (X)
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

[signature] 204536 8/10/2020

Vianes Valdez 235472 8/10/20

[signature] 204536 8/11/2020

[signature] 204536 8/12/2020

[signature] 204536 8/13/2020

[signature] 204536 8/17/2020

[signature] 204536 8/18/2020

[signature] 204536 8/19/2020

[signature] 204536 8/20/2020

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)	
Revision #:		**Activity/Task Title:** 550006 BHW Annual Fireside/Waterside Maintenance
Work Document #: (WO #/Task) 645452 - 01		**Planner/Preparer (Name/Z#/Date)** Martin Nowakowski Z# 194072 7/9/2020
TA: 55	**Building:** 0006	**Room:**
		Additional Location Description:

SECTION 1 – SCOPE OF WORK
SECTION 2 - PRECAUTIONS AND LIMITATIONS
SECTION 3 – PREREQUISITES/INITIAL CONDITIONS
SECTION 4 – SPECIAL TRAINING/MEDICAL REQUIREMENTS
SECTION 5 – SPECIAL TOOLS/EQUIPMENT
SECTION 6 – WORK INSTRUCTIONS
SECTION 7 – POST WORK ACTIVITIES
SECTION 8 – CLOSEOUT

1. SCOPE OF WORK

Perform annual fireside/waterside maintenance on Hot Water Boilers as per 403-A.006

Hazard Analysis (HA) Team: Martin Nowakowski, James Gallegos, Tristan McDonald, Tim Fangio

Date HA Performed : 7/2019

2. PRECAUTIONS AND LIMITATIONS

2.1. If steps cannot be completed as described, or if unforeseen situations occur, **PAUSE WORK**, stabilize the situation, contact your supervisor, and await further instructions before proceeding.

2.2. Work steps are sequenced in a logical flow to ensure that the work is performed safely, efficiently, and effectively. If work steps are required to be worked in a specific sequence, it will be identified in the applicable section of the IWD

2.3. Coordinate work to minimize equipment down time.

- Remove and reapply LOTO as needed to maintain system operability
- Refer to applicable steps in IWD for LOTO
- Verify "0" voltage every time locks are applied

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)	
Revision #:		**Activity/Task Title:** 550006 BHW Annual Fireside/Waterside Maintenance
Work Document #: (WO #/Task) 645452 – 01		**Planner/Preparer (Name/Z#/Date)** Martin Nowakowski Z# 194072 7/9/2020
TA: 55	**Building:** 0006	**Room:** **Additional Location Description:**

3. PREREQUISITES/INITIAL CONDITIONS

3.1. **Entry Conditions:**

- (PF6) Obtain authorization and NMT-79 key from Ops Center prior to entering PF6.
- Follow ALL entry postings.
- Hearing protection required.
- Be aware of automatic starting equipment.
- Further PPE requirements will be task specific.

3.2. Verify Work Order is on the schedule for work release.

3.3. Ensure ALL material and special tools are available.

3.4. Obtain ALL necessary permits prior to performing work.

3.5 General hazards and associated PPE is required:

- Safety Shoes
- Safety Glasses with Side Shields
- Cut 4 Resistant Gloves shall be worn when workers are performing maintenance or other physical work activities, when hands are exposed to hazards
- Hard Hats required when falling or flying objects may exist, overhead structures, energized conductors, or where equipment or other materials create an overhead hazard
- Further PPE requirements will be task specific

3.6 Noise:

- Wear proper hearing protection in areas posted

3.7 Fall from stepladders/ladders/scaffolding:

- Inspect the stepladder/ladders prior to use
- Maintain 3-points of contact when ascending and descending the stepladder/ladder
- Scaffolding to be inspected daily

3.8 Working with Chemicals:

- Chemical splash – Wear safety goggles
- Use of Trionic gloves
- SDS –

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)	
Revision #:		**Activity/Task Title:** 550006 BHW Annual Fireside/Waterside Maintenance
Work Document #: (WO #/Task) 645452 - 01		**Planner/Preparer (Name/Z#/Date)** Martin Nowakowski Z# 194072 7/9/2020
TA: 55	**Building:** 0006	**Room:** **Additional Location Description:**

4. Special Training/Medical Requirements

1. **The following training is required for the General Hazards**
   - CU-10968 WQ LOG Maintenance Worker
2. **The following training is required when working in posted "high noise" areas:**
   - CU- 2307 Hearing Conservation/ Noise
3. **The following training is required for WQ LOG Electrician-Maintenance**
   - CU-642 WQ LOG Electrician-Maintenance
   - Cu-2559 Electricians/Apprentices and Facility Engineer (when performing zero voltage and trouble shooting)
4. **The following training is required for WQ LOG Pipefitter-Maintenance**
   - CU-647 WQ LOG Pipefitter-Maintenance
5. **The following training is required when working chemicals**
   - CU-4261 Chemical Workers Authorized (HAZCOM)
6. **The following training is required while performing work on scaffolding:**
   - CU-9257 Fall Protection Training
   - CU-3949 Scaffold User

5. Special Tools/Equipment

NONE

6. Work Instructions

6.1 Contact the following prior to performing work.

6.1.1 Operations Center (7-3330)

6.1.2 Maintenance Coordinator David Leyba 665-6812

6.1.3 Operations Supervisor Larry Dostart (office 667-4057, cell 309-1154)

- Mobilize equipment/materials/tools to and from work site.
- Barricade designated work area using robust barrier rope/stanchion and/or signage, to establish boundaries
- Carpenters will erect and dismantle scaffolding per standing IWD as needed.

6.2 Standing IWD, located in work package

6.2.1 Scaffolding to be inspected daily

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)	
Revision #:		**Activity/Task Title:** 550006 BHW Annual Fireside/Waterside Maintenance
Work Document #: (WO #/Task) 645452 - 01		**Planner/Preparer (Name/Z#/Date)** Martin Nowakowski Z# 194072 7/9/2020
TA: 55	**Building:** 0006	**Room:**	**Additional Location Description:**

NOTE:

Ops tech to align system prior to performing work, and when work is complete.

1. Notify Operations Center prior to starting work.

LANL Boiler Inspector Randall Austin: 667-6740, cell 695-6036

Request copy of Boiler Inspection report for package.

2. Perform pre-maintenance step 1.1 as per 403-A.006

   Place and remove scaffolding as needed per standing scaffold IWD.

NOTE:

LOTO devices shall be applied in accordance with requirements of P101-3, Lockout/Tagout for Hazardous Energy Control

3. LOTO may be applied and removed LOTO as required to complete preventive maintenance and testing.

4. Step 2.1 Pipefitter (request Operations Tech to align system)

   a.) Close gas valves, apply LO/TO and verify zero energy by ensuring gas is bleed-off at union and area is well ventilated.
   located in rm.103

   B602: NG-B602-V-1, NG-B602/B603-V-1
   B603: NG-B603-V-1, NG-B602/B603-V-1

   b.) Close associated water valves, apply LO/TO and verify zero energy by opening drain valve.
   located in rm.103

   B602: CCHW-B602-V1, CCHW-B602-V2
   B603: CCHW-B603-V1, CCHW-B603-V2

   c.) Place boiler circuit in the OFF position located in rm.101 and apply LOTO and verify zero energy by attempting to start boiler.
   B602: MCC-603D compt. B1L
   B603: MCC-603C compt. A2R

Non melting long sleeve shirt and pants, safety glasses with side shields, hearing protection and leather gloves. Step 2.1 as per 403-A.006 section 2.0

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)	
Revision #:		**Activity/Task Title:** 550006 BHW Annual Fireside/Waterside Maintenance
Work Document #: (WO #/Task) 545452 - 01		**Planner/Preparer (Name/Z#/Date)** Martin Nowakowski Z# 194072 7/9/2020
TA: 55	**Building:** 0006	**Room:** / **Additional Location Description:**

5. Pipefitters ensure boiler temperature is cool to the touch prior to working on boiler. (under ≤100° F) perform preventive maintenance steps 2.2 thru 2.7.6 as per 403-A.006 section 2.0

When performing step 2.2, all boiler water and solids **MUST** be contained and not go down drain.

MSDS for Chevron SRI Grease NLGI 2, Nalco TRAC-105, and Nalco 73310.

PPE: Wear safety glasses with side shields, Nitrile rubber gloves, and use in a well-ventilated area.

Recommend chemical goggles when draining boiler water to prevent water splashing into eyes.

6. Electrician verify circuit in the OFF position and apply LOTO located in rm.101

B602: MCC-603D compt. B1L
B603: MCC-603C compt. A2R

Non melting long sleeve shirt and pants, safety glasses with side shields, hearing protection and leather gloves.
Step 2.1 as per 403-A.006 section 2.0

⚠WARNING

Electrical, contact with energized electrical system

Class 1.3b, mode 1
480v

PPE: v-rated gloves, leather gloves, non-conductive safety glasses, leather work footwear, hearing protection, FR long sleeve shirt ≥ 4 cal/cm² and FR long pants ≥ 4 cal/cm² or equivalent coveralls.
Reference Facility Electrical Hazard Analysis Record form 2193

Calibration Verification

Verify that the instrument to be used on this PM is within calibration:

Voltage meter: Manufacturer/ Model #. Fluke 87 V

File #. 105525 Cal. Due Date: 8/15/20

File# 039769 Fluke 87 V 6/23/21 → date used 8/18/20

Los Alamos	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #:			**Activity/Task Title:** 550006 BHW Annual Fireside/Waterside Maintenance
Work Document #: (WO #/Task) 645432 - 07			**Planner/Preparer (Name/Z#/Date)** Martin Nowakowski Z# 194072 7/9/2020
TA: 55	**Building:** 0006	**Room:**	**Additional Location Description:**

7. Verify "0" Voltage at line side of disconnect in room 103.

   B602: DISC-602-1

   B603: DISC-603-1

8. Electricians perform preventive maintenance steps 2.7.7 thru 2.7.8 as per 403-A.006 section 2.0

9. Pipefitters perform preventive maintenance steps 2.7.9 thru 2.7.10 as per 403-A.006 section 2.0

MSDS for Chevron SRI Grease NLGI 2

PERSONAL PROTECTIVE EQUIPMENT:
Wear safety glasses with side shields, Nitrile rubber gloves, and use in a well-ventilated area.

10. Pipefitters perform preventive maintenance steps 2.8 thru 2.12.6 as per 403-A.006 section 2.0

NOTE: When performing steps b. thru e. Boiler water and all solids MUST be contained and not go down the drain.

The following steps are needed to complete waterside maintenance.

a). Open flue door and inspect tube sheets for water leakage. It tube leakage is suspected call the system engineer for further evaluation. The narrow ligaments between tube holes are subject to tremendous stresses and should be watched for any sign of cracking mainly due to overheating.

b). Drain boiler and remove all hand hole and manhole covers, where applicable, to allow a visual check of all internal accessible areas. Example: shell, tubes and tube sheets.

c). Carefully examine waterside surfaces using a strong light and mirror where required. Look for evidence of scale, corrosion, blisters, or pitting, indicating adequacy of water treatment.

d). Use a high pressure hose to wash sediment out of the bottom and other internals of the boiler.

e). Remove both head covers from the bodies of the two float operated low water cut-offs (LWCs).

The float-assembly and mercury switches are located on these heads. Flush out both LWC bodies. Inspect floats and replace if necessary. Reinstall head covers. Remove caps from the inspection crosses associated with both LWCs and flush out piping connected to boiler. Reinstall caps.

11. Craft remove LOTO and place circuit in the **ON** position. Located in rm.101

B602: MCC-603D compt. B1L
B603: MCC-603C compt. A2R

- Non melting long sleeve shirt and pants, safety glasses with side shields, hearing protection and leather gloves.

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)	
Revision #:		**Activity/Task Title:** 550006 BHW Annual Fireside/Waterside Maintenance
Work Document #: (WO #/Task) 04945[illegible] 01		**Planner/Preparer (Name/Z#/Date)** Martin Nowakowski Z# 194072 7/9/2020
TA: 55	**Building:** 0006	**Room:**	**Additional Location Description:**

Craft remove LOTO and **OPEN** associated water valves.

Located in rm.103 B602: CCHW-B602-V1, CCHW-B602-V2
B603: CCHW-B603-V1, CCHW-B603-V2

Craft remove LOTO and **OPEN** gas valves. (Note: ensure the union used to verify zero energy is air tight.)

Located in rm.103 B602: NG-B602-V-1, NG-B602/B603-V-1
B603: NG-B603-V-1, NG-B602/B603-V-1

12. Pipefitters perform post-maintenance steps 3.1 thru 3.11 as per 403-A.006 section 3.0

NOTE:

Omit step 3.9 of PMI 403-A.006 as per C.S.E.

Water Chemistry corrections are completed using the semi-annual water treatment PM.

13. Remove all barricades and signs.

14. Notify Operations Center work is complete, inform CSE of any deficiencies found.

7. Post Work Activities

7.1 **CLEAN-UP** work area.

7.2 **REMOVE** barricades from work area.

7.3 **CONTACT** Ruben Trujillo @ 665-6378, 664-4242 (pager), 551-2737 (cell) for guidance on waste disposal. Dispose of waste per their guidance.

8. Closeout

CONTACT the MC and inform them the work is completed. Complete all the required documentation.

COMPLETE all the required documentation.

Los Alamos NATIONAL LABORATORY

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision #:			**Activity/Task Title:** 550006 BHW Annual Fireside/Waterside Maintenance
Work Document #: (WO #/Task) 845452 - 01			**Planner/Preparer (Name/Z#/Date)** Martin Nowakowski Z# 194072 7/9/2020
TA: 55	**Building:** 0006	**Room:**	**Additional Location Description:**

***Insert Rows above** for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls.*	The RLM, and FOD or FOD Representative approval indicates IWM has been applied appropriately, work is authorized, workers are qualified, work will be performed in accordance with ESH&Q/S&S requirements and the IWD, and facility safety basis, aggregate hazards, and collocated hazards were appropriately included in the hazard analysis and acknowledges completion of a peer review.	**RLM** (Signature/Z#/Date) **Required** [signature] 112737 8.6.20 **FOD or Representative** (Signature/Z#/Date) N/A [signature] 194072 7/27/20 **ESO Review** (Signature/Z#/Date) **If Required** AARON MARTINEZ (Affiliate) Digitally signed by AARON MARTINEZ (Affiliate) Date: 2020.07.16 14:51:58 -06'00' SEE IH SAFETY REVIEW **SME Review** (Signature/Z#/Date) **If Required**

IWD Type ☒ Moderate-Hazard ☐ High-Hazard/Complex ☐ Standing IWD	Date when RLM re-approval is required 8.31.21 Other Conditions for Re-Approval CHANGE IN SCOPE OR HAZARDS (Print) Name/Z# of Alternate PIC Abraham Lucero Z# 117122 Name/Z# of Alternate PIC Victor Mitchell Z# 203921 Name/Z# of Alternate PIC Jesse Sanchez Z# 118246 Name/Z# of Alternate PIC Gabriel Chavez Z# 239917 Name/Z# of Alternate PIC Mario Ulibarri Z# 204536 Name/Z# of Alternate PIC Bill Horvath Z# 151518 Name/Z# of Alternate PIC Davi Griego Z# 321332 Name/Z# of Alternate PIC Glenn Morris Z# 341154 Name/Z# of Alternate PIC Patricia Griego Z# 117137 Name/Z# of Alternate PIC Donald Schmitt Z# 350663	Any required classification review completed, Signature/Date

Indus[illegible]l Hygiene and Safety Review (D[illegible]HF-55/CMR)

Document Title: 550006 (A) FIRESIDE/WATERSIDE BOILER HOT WATER MAINT			
Document Number: 645452-01	**Revision or Issue Date:**		
Document Point of Contact: Martin Nowakowski			
Section 1: Activity/Document Screening		**Y**	**N**
1. Is the job classified as high hazard?			✓
2. Are multiple organizations involved?			✓
3. Is an IH/S designated posting required?			✓
4. Is work taking place in a Permit Required Confined Space?			✓
5. Is medical monitoring, sampling, or any type of IH/S monitoring required?		✓	
6. Is IH/S requiring respiratory protection?			✓
Continue with remainder of form 1) if any "yes" answers above, or 2) at reviewer's discretion.			
Section 2: Hazard Review		**Y**	**N**
1. The Hazard Assessment has been completed and documented per P300?		✓	
2. The appropriate IH/S Subject Matter Experts have been engaged per identified hazards?		✓	
3. Is an IH/S designated posting required?			✓
Section 3: Activity Review	**NA**	**Y**	**N**
1. Is required IH/S sampling specifically identified?	✓		
2. Are all required permits specifically identified?	✓		
3. Are all posting requirements specifically identified?	✓		
4. Are release conditions specifically identified for the required postings?	✓		
5. Are all medical monitoring requirements identified?		✓	
6. Is required PPE specifically identified? (E.g., fire resistant clothing for sparking)		✓	
7. Are administrative & engineering controls identified and when to be used? (E.g., LEV during torch cutting or welding)		✓	
8. Are IH/S requirements for sequential tasks specifically identified? (E.g, when outer PPE layer(s) must be removed period to leaving an enclosure)	✓		
9. Is a single PIC identified prior to work when multiple organizations are involved?	✓		
10. Will controls introduce new hazards or exacerbate existing conditions? (E.g., heat stress)	✓		
If yes, have those hazards been addressed?			
11. Have co-located personnel been identified and hazard communication indicated?		✓	
12. Are hazards from co-located activities anticipated and addressed?		✓	
13. Are hold points added when authorization to proceed is necessary? (E.g., additional or different controls to be determined pending sampling results)	✓		

Section 4: Issues and Comments

Complete this section for comments or any "no" questions in sections 2 and 3. Attach another sheet if needed.

Question	Issue/Comment
2.3	"No" selected for 2.3; no IH/S postings are required. Added comment per Section 4 instruction above.
1.5	"Yes" due to Hearing Conservation Program enrollment for work in high noise areas

Approval/Signature (IH/S Use Only) *(Signature indicates issues/comments are satisfactorily resolved; IWD is approved.)*

Rob Bement Digitally signed by Rob Bement
Date: 2020.07.21 09:16:02 -06'00'

Cy: Planner Martin Nowakowski
Document Requester Martin Nowakowski

Los Alamos NATIONAL LABORATORY

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision #: 6			**Activity/Task Title:** CMS-IWD-001: Standing Non PF-4 Scaffolding Erection and Disassemble
Work Document (WO # / Task)			**Planner/Preparer** Name: Amber N. Monnet-Hannon Z# 219201 Date: 06.22.18
TA: 55	**Building:** Various	**Room:**	**Additional Location Description:**

Z# 219201 3.11.19

ACTIVITY DESCRIPTION/OVERVIEW

Standing IWD for Non-PF-4 Erect and Dismantle Scaffolding

Revision 6 includes clarification on hard hat PPE on Steps 3.1 (p. 4), and Steps 4.1 & 5.2 (p. 5), a NOTE regarding the drill filings (p. 4) and updated PIC list (p. 6)

List Names of Hazard Analysis (HA) Team Michael Trujillo, Sam Maldonado, John Madore, Glen Vanderpoel, Amber N. Monnet-Hannon, James Gallegos

Date HA Performed 06.20.18

PRECAUTIONS/LIMITATIONS/PREREQUISITES:

(include training/authorizations, approved permits, and area postings)

1. **Entry Conditions for PF-6**
   - Obtain authorization and key from Op center prior to entering PF-6.
   - Room-101 None
   - Room-102 ASHARE light not activated.
     (American Society of Heating, Refrigerating, and Air-Conditioning Engineers)
   - Room-103 Automatic start equipment located in area (boilers, process air dryer automatic blow downs, air compressors)
2. **Entry Conditions for PF-8**
   - Obtain authorization and key from Op center prior to entering PF-8
   - Automatic start equipment located in area (Instrument air dryer automatic blow downs, generator air compressors)
3. **Entry Conditions for PF-10**
   - Obtain authorization and key from Op center prior to entering PF-10
   - Automatic start equipment located in area (boilers, pumps, diesel generator)
4. **Entry Conditions for PF-11**
   - Obtain authorization and key from Op center prior to entering PF-11
   - Automatic start equipment located in area (boilers, pumps, diesel generator)
5. **Entry Conditions for PF-391**
   - Obtain authorization and key from Op center prior to entering PF-11
6. **Entry Conditions for PF-1, PF-2, PF-3, PF-5, PF-39, PF-28, PF-114, PF-20, PF-18, PF-42, PF-314, PF-355, PF-142, PF-185, PF-371**
   - None
7. **If steps cannot be completed as described, or if unforeseen situations occur, PAUSE WORK, stabilize the situation, contact your Foreman/Superintendent, and await further instructions before proceeding.**
8. **Tasks may be performed in any sequence order as necessary to coordinate work at the discretion of the PIC**
9. **The following training is required for the General Hazard Section:**
   - Cu-10968 WQ-LOG Maintenance Worker
10. **The following training is required when working in posted "high noise" areas:**
    - Cu-2307 Hearing Conservation/ Noise Training Requirement

Los Alamos NATIONAL LABORATORY	**Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)**		
Revision #: 6			**Activity/Task Title:** CMS-IWD-001: Standing Non PF-4 Scaffolding Erection and Disassemble
Work Document (WO # / Task)			**Planner/Preparer** Name: Amber N. Monnet-Hannon Z# 219201 Date: 06.22.18
TA: 55	**Building:** Various	**Room:**	**Additional Location Description:**

11. The following training is required for working on or erecting and dismantling scaffolding:

- Cu-641 WQ-LOG Carpenters
- Cu-726 WQ-LOG Carpenters-Scaffold Competent Person

12. The following training is required for Hazards Conditions:

- Cu-4261 Chemical Workers, Authorized (HAZCOM)

13. The following training is required for Fire Watch:

- Cu-3065 Fire Extinguisher Portable

GENERAL HAZARDS *(identify hazards and associated controls)*

Exposure to work hazards by tenants/ adjacent personnel or public:

- Barricade work area

When working with tools that pose possible Cuts, or Abrasions, or when working with Wire or Sharp Edges

- Inspect all tools
- Wear Level 4 Cut Resistant Gloves

Noise:

- Wear proper hearing Protection in areas posted

Fall from stepladders/ladders/scaffolding:

- Inspect the stepladder/ladders prior to use
- Maintain 3-points of contact when ascending and descending the stepladder/ladder
- Scaffolding to be inspected daily

Slips, Trips and Falls

- Be aware of ground and floor conditions.
- Be aware of your surroundings and use caution in areas with uneven surfaces, holes, steep slopes, protruding items, ice, mud and snow.
- Maintain good housekeeping practices and clearly mark and identify hazards that can't be eliminated.
- Keep work path area clear of debris

Back Strains – lifting/strains/twisting

- Use proper lifting and bending technique at all times
- Keep work path area clear of debris
- Use buddy system or mechanical lifting device for lifting over 50 lbs

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision #: 6			**Activity/Task Title:** CMS-IWD-001: Standing Non PF-4 Scaffolding Erection and Disassemble
Work Document (WO # / Task)			**Planner/Preparer** Name: Amber N. Monnet-Hannon Z# 219201 Date: 06.22.18
TA: 55	**Building:** Various	**Room:**	**Additional Location Description:**

Task-1 Scaffolding Placement

NOTE

Assessment should include the determination of appropriate scaffold system to be used (Tube & clamp, Baker, Safeway, etc.)

Use tethered pouches – anything loose must be removed.

1.1 Before erecting scaffolding, perform a visual on systems, structures and components (SSC) that could be damaged while erecting scaffold. Place protective covers where possible to prevent damage to (SSC)

Task-2 Transport Scaffolding

2.1 Superintendent will notify Operations Center prior to starting work, and location of scaffolding.

2.2 Load scaffolding material and planks for transport to designated area

- **Ensure that ALL scaffolding material and planks are secured for transport**
- **Use Caution and be alert when moving scaffolding material and planks**

2.3 Unload scaffolding material and planks at designated area

- **Keep area clean and organized**

Task-3 Erect Scaffold

NOTE

Scaffolding shall be erected in such a manner that a safe egress is provided during an emergency.

- **The exit route shall be free of material or equipment**
- **The line-of-sight to an exit sign must be uninterrupted**
- **Egress must be maintained during construction and repair**
- **Egress must be maintained for electrical panels**
- **An exit route shall maintain a minimum height of 7'6" and a width of 28".as per OSHA 1910.36**

If the requirements cannot be met, Foreman/Superintendent will contact DESHF-TA-55 IH personnel for instruction/approval

Los Alamos NATIONAL LABORATORY

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision #: 6			**Activity/Task Title:** CMS-IWD-001: Standing Non PF-4 Scaffolding Erection and Disassemble
Work Document (WO # / Task)			**Planner/Preparer** Name: Amber N. Monnet-Hannon Z# 219201 Date: 06.22.18
TA: 55	**Building:** Various	**Room:**	**Additional Location Description:**

3.1 Erecting scaffold in accordance with manufacturer direction for Tube & Clamp Scaffold, Baker Scaffold, and Safeway Scaffold.

PPE is required for Erecting Scaffold and overhead obstruction

- **Safety Shoes for MSS craft**
- **Safety Glasses with side shields**
- **Level 4 Cut Resistant Gloves**
- **Hard Hats**
- **Reflective Vest for outside ONLY**

NOTE

Ensure all drill filings and other debris generated while setting up or dismantling scaffolding is cleaned up and properly disposed of prior to leaving the jobsite. Be cognizant of potential poke/cut hazards associated with filings. Level 4 Cut Resistant Gloves shall be worn.

3.2 Ensure all cross bracing is in place to prevent platform movement.

3.3 Install railing, toe boards, guardrail netting and ladder (if any of these issues may not be used, area must be barricaded).

- **Do not locate scaffold planks any closer than 18 inches below sprinklers.**
- **Planking will not be assembled greater than 4 feet wide, if so, use planks with water flow passage.**
- **Columns (i.e. vertical scaffold tube and supports) should be located at least 3X the tube diameter away from sprinklers.**

If any of the above conditions cannot be met AND the scaffolding needs to be left unattended, THEN Foreman/Superintendent will contact the Operations Center and ESTABLISH a fire watch OR PLACE scaffold planks on edge. Planks shall be secured to prevent unintentional falls. Planks may also be removed and placed on the floor in a safe configuration. Remove tag and once modify is complete inspect and re-tag. INITIATE Attachment B, TA-55 SSC Equipment Work Release and Acceptance Red Sheet if a fire watch is to be established.

NOTE: If planking is reconfigured (even temporarily), THEN a new scaffolding inspection is required by a qualified inspector.

3.4 Attach rope to the scaffolding, the rope should be of sufficient length to accommodate raising and lowering tools and materials to the floor.

NOTE

Scaffolds shall only be erected, moved, dismantled under the supervision and direction of a Competent Person qualified in scaffold erection

In accordance with (29 CFR 1926.451(f)(7).

219201 3.11.19

Los Alamos NATIONAL LABORATORY

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision #: 6			**Activity/Task Title:** CMS-IWD-001: Standing Non PF-4 Scaffolding Erection and Disassemble
Work Document (WO # / Task)			**Planner/Preparer** Name: Amber N. Monnet-Hannon Z# 219201 Date: 06.22.18
TA: 55	**Building:** Various	**Room:**	**Additional Location Description:**

Task-4 Inspect Scaffold
4.1 Competent person shall inspect scaffold daily before use. **PPE is required to** Inspect Scaffold **and overhead obstruction** • **Safety Shoes for MSS craft** • **Safety Glasses with side shields** • **Hard Hats** • **Tool pouch with tethers**
Task-5 Disassemble and Removal of Scaffolding
5.1 Remove rope from the scaffolding
5.2 Disassemble scaffold in accordance with manufacturer direction for Tube & Clamp Scaffold, Baker Scaffold, and Safeway Scaffold **PPE is required for Disassemble and Removal of Scaffold and overhead obstruction** • **Safety Shoes for MSS craft** • **Safety Glasses with side shields** • **Level 4 Cut Resistant Gloves** • **Hard Hats** • **Reflective Vest for outside ONLY**
5.3 Remove all cross bracing
5.4 Remove railing ,toe boards, and ladder
5.5 Load scaffolding material and planks then transport to designated storage area • **Ensure that ALL scaffolding material and planks are secured for transport** • **Use Caution and be alert when moving scaffolding material and planks**
5.6 Unload scaffolding material and planks at designated storage area
5.7 Superintendent will notify Operations Center when work is completed, and scaffolding has been removed.
5.8 Superintendent will contact NPI-7 Low Level Waste @ 7-7888 for guidance on waste disposal.
5.9 Superintendent will CONTACT the MC and inform them the work is completed. Complete all the required documentation and return the Master Work Package to the WMC Office.

SA #219201 3.11.19

SA #219201 3.11.19

Los Alamos NATIONAL LABORATORY

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision #: 6			**Activity/Task Title:** CMS-IWD-001: Standing Non PF-4 Scaffolding Erection and Disassemble
Work Document (WO # / Task)			**Planner/Preparer** Name: Amber N. Monnet-Hannon Z# 219201 Date: 06.22.18
TA: 55	**Building:** Various	**Room:**	**Additional Location Description:**

Insert Rows above for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls.	The RLM, and FOD or FOD Representative (if required or recommended by RLM, e.g. high hazard) approval indicates IWM has been applied appropriately, work is authorized, workers are qualified, work will be performed in accordance with ESH&Q/S&S requirements and the IWD, and facility safety basis, aggregate hazards, and collocated hazards were appropriately included in the hazard analysis and acknowledges completion of a peer review	**RLM** (Signature/Z#/Date) **Required** [signature] 112737 3.12.19 **FOD or Representative** (Signature/Z#/Date) N/A **ESO Review** (Signature/Z#/Date) **If Required** N/A **Safety Review** (Signature/Z#/Date) **Required** [signature] 124999 3/20/19

IWD Type

- ☒ Moderate-Hazard
- ☐ High-Hazard/Complex
- ☒ Standing IWD

Date RLM re-approval is required 3.11.21

Other Conditions for Re-Approval CHANGE IN SCOPE OR HAZARDS

(Print)

Name/Z# of Alternate PIC: James Gallegos Z# 182865
Name/Z# of Alternate PIC: Abraham Lucero Z# 117122
Name/Z# of Alternate PIC: Jesse Sanchez Z# 118246
Name/Z# of Alternate PIC: Arthur Trujillo Z# 111452
Name/Z# of Alternate PIC: Gabriel Chavez Z# 239917
Name/Z# of Alternate PIC: Mario Ulibarri Z# 204536
Name/Z# of Alternate PIC: Adam Epperson Z# 182493
Name/Z# of Alternate PIC Michael Tousley Z# 194881
Name/Z# of Alternate PIC: Terry Wright Z# 212239
Name/Z# of Alternate PIC: Matthew Durkin Z# 237644
Name/Z# of Alternate PIC: Ron Serros Z# 265716
Name/Z# of Alternate PIC: David Lee Z# 223221
Name/Z# of Alternate PIC: Sean Flynn Z# 149462
Name/Z# of Alternate PIC: Mario Trujillo Z# 196990
Name/Z# of Alternate PIC: Michael Trujillo Z# 212133
Name/Z# of Alternate PIC: Lucas Sanchez Z# 180945
Name/Z# of Alternate PIC: Mark Porter Z# 314870
Name/Z# of Alternate PIC: Clifford Trujillo Z# 185105
Name/Z# of Alternate PIC: Kevin Delanoy Z# 095703
Name/Z# of Alternate PIC: Jay Gallob Z# 317759
Name/Z# of Alternate PIC: Larry Leonhardt Z# 313645
Name/Z# of Alternate PIC: _____
Name/Z# of Alternate PIC: _____
Name/Z# of Alternate PIC: _____

Classification review completed, if required. unclass

[signature] 152595 3/20/19

Reviewer Signature/Z#/Date

Z# 219201 3.11.19

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Yearly Fireside/Waterside Inspection and Maintenance**

Work Order No.: 645452-01 Equipment ID No.: B-602

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: PF-6 Room: 103

Date Inspected: 8 / 11 / 2020 Inspectors: Timothy Fanelo/Andrew Ulibarri

1.0 PRE-MAINTENANCE ACTIVITIES

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

Remarks: NONE

Work Order No.: 645452-01 Equipment ID No.: B-602

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.		Initials:

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler subject matter expert (SME) at 7-8550 with questions or concerns.

2.1	Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials:
2.2	Cool boiler, open air cock, and drain the boiler.		Initials:
2.3	Perform an internal and external inspection after thorough cleaning.	Circle one: (S) U N/A	Initials:
2.3.1	Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	Circle one: (S) U N/A	Initials:
2.3.2	Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials:
2.3.3	Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	Circle one: S U (N/A)	Initials:
2.3.4	Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials:
2.3.5	On one-pass boilers (Sellers), check condition of all heat extractors.	Circle one: (S) U N/A	Initials:

Remarks: STEP 2.3.3 N/A DO NOT HYDRO TEST BOILER.

Work Order No.: 645452-01 Equipment ID No.: B-602

2.3.6 Check refractory materials.	Circle one: (S) U N/A	Initials:
2.3.7 Replace if needed.		Initials:
2.4 Perform maintenance on low-water cutoff float chamber and water feeder. Disassemble to ensure freedom from obstruction and proper functioning of the working parts.		Initials:
2.5 Perform routine burner maintenance.		Initials:
2.5.1 Observe temperature and operating pressure and general conditions.	Circle one: (S) U N/A	Initials:
2.5.2 Fire and cycle the burner.		Initials:
2.6 Perform routine maintenance of circulating pump and expansion pump equipment.		Initials:
2.6.1 Observe condition of expansion tank.	Circle one: (S) U N/A	Initials:
2.6.2 Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	Circle one: S U (N/A)	Initials:
2.6.3 Check the air pressure on the bladder-type expansion tanks.	Circle one: (S) U N/A	Initials:
2.6.4 Observe operation of circulating pumps.	Circle one: (S) U N/A	Initials:
2.6.5 Lubricate pump motors.		Initials:
2.7 Perform routine maintenance of entire combustion control equipment.		Initials:

Remarks: STEP 2.6.2 N/A DID NOT DRAIN EXPANSION TANK.

2.7.1	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: (S) U N/A	Initials:
2.7.2	Adjust air/fuel mixture as needed.		Initials:
2.7.3	Test flame detection devices on boilers with flame scanners.	Circle one: (S) U N/A	Initials:
2.7.4	Remove the flame scanner with the burner firing.		Initials:
NOTE	The burner should shut off as a flame failure condition.		
2.7.5	Clean the flame scanner, reinstall and test programmer.		Initials:
2.7.6	Check for proper operation as boiler goes through a firing cycle and light-off.	Circle one: (S) U N/A	Initials:
2.7.7	Check all electrical control and circuitry.	Circle one: (S) U N/A	Initials: GF
2.7.8	Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumper tube conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	Circle one: (S) U N/A	Initials: GF
2.7.9	Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	Circle one: (S) U N/A	Initials:
2.7.10	Lubricate fan motors where necessary.		Initials:
2.8	Perform combustion and draft tests.		Initials:

Remarks: NONE

Work Order No.: 645452-01 Equipment ID No.: B-602

2.8.1 Visually inspect combustion.	Circle one: (S) U N/A	Initials:
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.9 Perform safety relief valve(s) pop test.	Circle one: (S) U N/A	Initials:
2.9.1 Check pressure-reducing valve.	Circle one: (S) U N/A	Initials:
2.9.2 Replace the strainer in the valve if needed.		Initials:
2.10 Perform slow drain test of low-water cutoff.	Circle one: (S) U N/A	Initials:
2.11 Inspect gas piping for proper support and tightness.	Circle one: (S) U N/A	Initials:
2.11.1 Inspect fuel supply system and gas controls.	Circle one: (S) U N/A	Initials:
2.11.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	Circle one: (S) U N/A	Initials:
2.12 Inspect boiler room ventilation louvers and intake.	Circle one: (S) U N/A	Initials:
2.12.1 Listen for any unusual noises or conditions and correct as necessary.	Circle one: (S) U N/A	Initials:
2.12.2 Report any needed corrections to the MC for corrective maintenance.		Initials:

Remarks: NONE

2.12.3 Check combustion air supply openings to ensure that they are not closed or stopped up.	Circle one: (S) U N/A	Initials:
2.12.4 Inspect conditions of stacks and rain caps.	Circle one: (S) U N/A	Initials:
2.12.5 Inspect flue door gaskets to ensure they are in good condition, and properly secured.	Circle one: (S) U N/A	Initials:
2.12.6 Replace if necessary.		Initials:

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1 Close and secure front and rear flue doors.		Initials:
3.2 Hook up all associated piping and refill boiler.		Initials:
3.3 Fire up boiler and check for air, gas, and water leaks.	Circle one: (S) U N/A	Initials:
3.4 Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: (S) U N/A	Initials:
3.5 Check pilot burners and ignition equipment for proper condition and adjustment.	Circle one: (S) U N/A	Initials:
3.6 Visually check burner for proper combustion.	Circle one: (S) U N/A	Initials:
3.7 Record all mechanical maintenance data, testing data, and other notable items.		Initials:

Remarks: NONE

Los Alamos NATIONAL LABORATORY EST 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Yearly Fireside/Waterside Inspection and Maintenance**

Work Order No.: 645452-01 Equipment ID No.: B-602

NOTE	Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.		
3.8	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002.	Circle one: S U (N/A)	Initials: TJ
3.9	Record all mechanical maintenance data, testing data, and other notable items.		Initials: TJ
3.10	Notify MC that work on the boiler system is complete.		Initials: TJ

Name of Craft Worker: TIMOTHY FANGIO Z Number: 282917

Signature: [signature] Date: 8 / 17 / 2020

Name of Craft Worker: Galvin Fragua Z Number: 319584

Signature: [signature] Date: 8 / 18 / 20

Foreman Verification: TIMOTHY FANGIO Z Number: 282917

Signature: [signature] Date: 8 / 20 / 2020

Remarks: STEP 3.8 N/A WE DONT CHECK WATER CHEMICAL NALCO DOES.

Los Alamos NATIONAL LABORATORY EST 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Yearly Fireside/Waterside Inspection and Maintenance**
Work Order No.: 645452-01	Equipment ID No.: B-603

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: PF-6 Room: 103

Date Inspected: 8 / 20 / 2020 Inspectors: Timothy Fanbo / Andrew Ulibarri

1.0 PRE-MAINTENANCE ACTIVITIES

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

Remarks: NONE

Work Order No.: 645452-01 Equipment ID No.: B-603

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.		Initials:

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler subject matter expert (SME) at 7-8550 with questions or concerns.

2.1	Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials:
2.2	Cool boiler, open air cock, and drain the boiler.		Initials:
2.3	Perform an internal and external inspection after thorough cleaning.	Circle one: (S) U N/A	Initials:
2.3.1	Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	Circle one: (S) U N/A	Initials:
2.3.2	Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials:
2.3.3	Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	Circle one: S U (N/A)	Initials:
2.3.4	Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials:
2.3.5	On one-pass boilers (Sellers), check condition of all heat extractors.	Circle one: (S) U N/A	Initials:

Remarks: STEP 2.3.3 N/A DO NOT HYDRO TEST BOILER.

Work Order No.: 645452-01 Equipment ID No.: B-603

2.3.6 Check refractory materials.	Circle one: (S) U N/A	Initials:
2.3.7 Replace if needed.		Initials:
2.4 Perform maintenance on low-water cutoff float chamber and water feeder. Disassemble to ensure freedom from obstruction and proper functioning of the working parts.		Initials:
2.5 Perform routine burner maintenance.		Initials:
2.5.1 Observe temperature and operating pressure and general conditions.	Circle one: (S) U N/A	Initials:
2.5.2 Fire and cycle the burner.		Initials:
2.6 Perform routine maintenance of circulating pump and expansion pump equipment.		Initials:
2.6.1 Observe condition of expansion tank.	Circle one: (S) U N/A	Initials:
2.6.2 Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	Circle one: S U (N/A)	Initials:
2.6.3 Check the air pressure on the bladder-type expansion tanks.	Circle one: (S) U N/A	Initials:
2.6.4 Observe operation of circulating pumps.	Circle one: (S) U N/A	Initials:
2.6.5 Lubricate pump motors.		Initials:
2.7 Perform routine maintenance of entire combustion control equipment.		Initials:

Remarks: STEP 2.6.2 N/A DID NOT DRAIN EXPASION TANK

Work Order No.: 645452-01 Equipment ID No.: B-603

2.7.1	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: (S) U N/A	Initials:
2.7.2	Adjust air/fuel mixture as needed.		Initials:
2.7.3	Test flame detection devices on boilers with flame scanners.	Circle one: (S) U N/A	Initials:
2.7.4	Remove the flame scanner with the burner firing.		Initials:
NOTE	The burner should shut off as a flame failure condition.		
2.7.5	Clean the flame scanner, reinstall and test programmer.		Initials:
2.7.6	Check for proper operation as boiler goes through a firing cycle and light-off.	Circle one: (S) U N/A	Initials:
2.7.7	Check all electrical control and circuitry.	Circle one: (S) U N/A	Initials: GF
2.7.8	Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumper tube conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	Circle one: (S) U N/A	Initials: GF
2.7.9	Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	Circle one: (S) U N/A	Initials:
2.7.10	Lubricate fan motors where necessary.		Initials:
2.8	Perform combustion and draft tests.		Initials:

Remarks: N/ONE

Work Order No.: 645452-01 Equipment ID No.: B-603

2.8.1 Visually inspect combustion.	Circle one: **S U N/A**	Initials:
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.9 Perform safety relief valve(s) pop test.	Circle one: **S U N/A**	Initials:
2.9.1 Check pressure-reducing valve.	Circle one: **S U N/A**	Initials:
2.9.2 Replace the strainer in the valve if needed.		Initials:
2.10 Perform slow drain test of low-water cutoff.	Circle one: **S U N/A**	Initials:
2.11 Inspect gas piping for proper support and tightness.	Circle one: **S U N/A**	Initials:
2.11.1 Inspect fuel supply system and gas controls.	Circle one: **S U N/A**	Initials:
2.11.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	Circle one: **S U N/A**	Initials:
2.12 Inspect boiler room ventilation louvers and intake.	Circle one: **S U N/A**	Initials:
2.12.1 Listen for any unusual noises or conditions and correct as necessary.	Circle one: **S U N/A**	Initials:
2.12.2 Report any needed corrections to the MC for corrective maintenance.		Initials:

Remarks: NONE

2.12.3	Check combustion air supply openings to ensure that they are not closed or stopped up.	Circle one: (S) U N/A	Initials:
2.12.4	Inspect conditions of stacks and rain caps.	Circle one: (S) U N/A	Initials:
2.12.5	Inspect flue door gaskets to ensure they are in good condition, and properly secured.	Circle one: (S) U N/A	Initials:
2.12.6	Replace if necessary.		Initials:

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Close and secure front and rear flue doors.		Initials:
3.2	Hook up all associated piping and refill boiler.		Initials:
3.3	Fire up boiler and check for air, gas, and water leaks.	Circle one: (S) U N/A	Initials:
3.4	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: (S) U N/A	Initials:
3.5	Check pilot burners and ignition equipment for proper condition and adjustment.	Circle one: (S) U N/A	Initials:
3.6	Visually check burner for proper combustion.	Circle one: (S) U N/A	Initials:
3.7	Record all mechanical maintenance data, testing data, and other notable items.		Initials:

Remarks: NONE

Los Alamos NATIONAL LABORATORY EST 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Yearly Fireside/Waterside Inspection and Maintenance**

Work Order No.: 645452-01 Equipment ID No.: B-603

NOTE	Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.		
3.8	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002.	Circle one: S U N/A	Initials:
3.9	Record all mechanical maintenance data, testing data, and other notable items.		Initials:
3.10	Notify MC that work on the boiler system is complete.		Initials:

Name of Craft Worker: TIMOTHY FANGIO Z Number: 282917

Signature: [signature] Date: 8 / 20 / 2020

Name of Craft Worker: Galvin Fragua Z Number: 319584

Signature: [signature] Date: 8 / 18 / 20

Foreman Verification: TIMOTHY FANGIO Z Number: 282917

Signature: [signature] Date: 8 / 20 / 2020

Remarks: STEP 3.8 N/A WE DO NOT CHECK CHEMICAL NALCO DOES.

Form 2193

Los Alamos NATIONAL LABORATORY EST.1943

Facility Electrical Hazard Analysis Record

C

1. Description of circuit/equipment/job location: MCC-603D-B1/L & MCC-603D-A2/R	TA 55	Building 0006	Room(s)
Equipment ID(s): B-602 & B-603			
IWD Number:	Job Ticket Number:		

2. Brief description of work to be done (*attach additional pages as needed*):
Annual preventive maintenance of the Hot Water Boilers

3. Electrical Hazard Class(es)/Mode(s) (*Per Chapter 4 of P101-13*):
Class 1.3b mode 1

4. Results of the Shock Hazard Analysis:
480 V

5. Determination of Shock Protection Boundaries and/or the RFMW environments:
(a) Limited Approach Boundary: 3 ft- 6 in.
(b) Restricted Approach Boundary: 1 ft- 0 in.
(c) Prohibited Approach Boundary: 0 ft- 1 in.

6. Determination of Flash Protection Boundary: 2 ft- 8 in.; Based on IEEE Std 1584, NFPA 70E.

7. Flash Hazard Analysis results:
480 volts, 25.83 kA bolted fault current available, .06 sec clearing time. For the work to be performed under the IWD, indicate the worst-case calculated incident energy: 3 cal/cm^2.

8. Personal Protective Equipment (PPE) required to safely perform the work steps described above:

☑ Leather Safety Shoes	☐ Pants (long)	☐ Goggle and Face Shield*
☐ Hard hat	☑ FR long-sleeve shirt, 4 cal/cm^2	☐ Chemical-Resistant Gloves*
☑ V-rated Gloves	☑ FR pants, 4 cal/cm^2	☐ Protective Apron*
☑ Safety Glasses	☐ Flash suit jacket, 40 cal/cm^2	☐ Protective Overshoes*
☑ Leather Gloves	☐ Flash suit pants, 40 cal/cm^2	☐ Emergency Shower/Eyewash*
☐ V-rated tools	☐ Arc-rated face shield	☐ _____
☐ T-shirt (short-sleeve)	☐ Flash suit hood	☐ _____
☐ Shirt (long-sleeve)	☑ Hearing protection	☐ _____

Based on IEEE Std 1584, NFPA 70E or Hazard Classification Chapter of P101-13.
*For chemical hazards associated with batteries; refer to NFPA 70E Article 320.

9. Means to restrict the access of unqualified persons to the work area:
Barricades / Shock Hazards

10. Job-related hazards, PPE, emergency procedures, special tools, etc., to be discussed at the Pre-Job Briefing:
Standard Industrial

Worker, preparer, planner, or other filling out this form.

Organization MSS-WC	Phone 665-2822	Mail Stop
Printed Name Martin Nowakowski	Signature	Date

Qualified engineer providing Flash Hazard Analysis when performed.

Organization ES-55	Phone 6-0885	Mail Stop
Printed Name Eleazar Martinez	Signature	Date 7/25/13

Electrical Safety Officer

Organization ES-5	Phone 6-0885	Mail Stop
Printed Name Eleazar Martinez	Signature	Date 7/25/13

Form 2193 (12/10)

Los Alamos NATIONAL LABORATORY EST. 1943	TA-55 Preventive Maintenance Close Out Sheet

Work Order No.: 645452-01

Instructions: Enter the requested information prior to submitting PM package for closeout.

Maintenance Coordinator:

- Is the equipment listed for this PM: ☐ ML1 ☐ ML2 ☐ ML3 ☑ ML4
- If deficiencies were noted, provide the FSR # and WO # created to correct the PM deficiency:

FSR #: NA and WO #: NA

MC Signature/Z# & Date [signature] 118210 8-27-20

System Engineer:

If corrective action is needed, must it be completed prior to next PM performance: ☐ Yes ☐ No

SE Signature/Z# & Date [signature] 189910 8-27-20

Craft/PM Superintendent:

If inventory/supplies were utilized, were they replenished? ☐ Yes ☑ No

Signature/Z# & Date [signature] 235472 8/27/20

Verification signatures:

PM Coordinator Signature/Z# & Date 240899 [signature] 8.27.20

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 11
Maintenance and Site Services
Work Completion Form

Work Order/Task: 645452-01

Start Date: 8-10-2020	Completion Date: 8-20-2020

SUMMARIZE THE WORK PERFORMED	
Date	GOT START WORK AND PRE JOB BRIEF
8-20-2020	PERFORMED PM'S ON B-602 + B-603
	AS PER WORK PACKAGE AND TECH
	INSTRUCTIONS. NO ISSUES

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED		
	Failure Mode Root Cause Code (Circle Root Causes that Apply)	
Failure Mode	Circuit Breaker Tasks	System Restoration Issues
	Digital Component Tasks	Pump Related Tasks
	Doors/Hatches	Procedure Use
	Electrical Determinations	Rigging/Lifting Tasks
	Failed Surveillance	Electrical Switches
	Fastener Tasks	Troubleshooting Issues
	FME Tasks	Valve Related Tasks
	I&C Calibration/Setpoints	Welding
	Mechanical Connections	Work Instruction Issues
	Other (Specify Root Cause)	
Failure Mode Comments	(Add Details) NONE	
	Rework Mode (Circle Rework Causes that Apply)	
Rework	Cause Indeterminate	Life Cycle Management
	Design Deficiency	PM Deficiency
	Intentionally Abbreviated Maintenance	Rule Base Human Performance Deficiency
	Instructional Deficiency	Skill Base Human Performance Deficiency
	Knowledge Based Human Performance Error	Tools/Equipment/Lifts
	Deficiency	Vendor Deficiency
	Operational Deficiency	Work Management Deficiency
		Weather
	Other (Specify Rework Mode)	
Comments	NONE	

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW		
	As Found Conditions (Circle Conditions that Apply)	
As found	Unanticipated Failure Failure Not Normal Wear Failure Normal Wear Outside of Tolerance Reliability Degraded	Within Tolerance Satisfactory Superior, Like New Not Applicable
	Other (Specify As Found Condition)	
Comments	NONE	
As left	GOOD CONDITION	
Parts/Repairs	NONE	
Read/meas.	NONE	
Post test info.	NONE	
Problems Encountered (delays, safety, etc.):		
	Delay Codes (Circle Codes that Apply)	
Delay	Access Equipment IWD Workability Material	Operations RCT Availability Safety Pause Weather # of Hours_____ Date(s)_____
	Other (Specify Reason for Delay)	
Comments	NONE	
Lessons Learned/Recommendations: NONE		
Name: TIMOTHY FANGIO **Z#** 282917 **Signature:** [signature] **Date:** 8/20/2020		

PIC/SUPT

☑ PM has been completed in its entirety and ready for closure.

IF A PM COULD NOT BE COMPLETED:

V.V
235172

☐ Percentage complete is _____%

☐ Sections that did not work and need to be rescheduled

_____

Reasons why:

MAINTENANCE COORIDATOR/AREA WORK COORDINATOR

Work Package is Complete and may be closed out: YES ☒ NO ☐

IF no: State Reason

DJC
118210
8-27-20

Additional Work Needed? ☐ YES ☒ NO

Document UP/WO/FSR Number:_____

ENGINEERING (FOR MD and CD Work Orders)

IF a configuration baseline has been changed, THEN indicate the changes are to be incorporated into the following documents and/or configuration baseline:

☐ Drawings ☐ FDD/SDD

☐ Procedures ☐ Master Equipment List

☐ Permits ☐ Checklists

SE Name: Signature: Date:

N/A

WORK CONTROL

Moderate/High Hazard – WMC/Planner reviewed for Lessons Learned/Feedback

☒ YES ☐ NO N/A ☐

☒ Review of the completed work package is complete per AP-WORK-005, and the work package is ready to be set to complete in CMMS.

Name:	**Z#**	**Signature:**	**Date:**
Jennifer Dery ice	240892		8.27.20

Work Order/Task: 645452-01

Start Date: 8/11/20	Completion Date: 8/20/20

ADITIONAL DETAILS ON WORK PERFORMED

Date	(Add details on As Found, Failure Mode, and Lessons Learned etc.)
8/11/20 (Electricians)	Prejob by mario. Applied locks and tags. Verified zero voltage. Checked wire, terminations, and electrical components according to IWD checklist. Everything looked good no issues at all
8/12/20 (Electrician)	Prejob by mario. Verified zero voltage to make sure nothing has changed over night. Continued with PM. Checked wires for loose terminations and bad insulation. Everything looked no issues at all.
8/18/20 (Electricians)	Prejob by marion Applied locks and tags. Verified zero voltage. Checked wire, terminations, and electrical components according to IWD Checklist. Everything looked good. No issues at all on the 2nd boiler.
8/20/2020	GOT START WORK AND PRE JOB BRIEF GOT LOTO & PERFORMED PM'S ON B-602 & B-603 AS PER WORK PACKAGE. NO ISSUES.

ATTACHMENT A807.F.b.

External Combustion

Revised Maintenance Procedures for Sources listed in Table 800.A.

Revisions to procedures did not occur during this mornitoring period.

ATTACHMENT A907.A.

Chemical Usage

Chemical Purchases from ChemDB

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001639707	-	Clorox Healthcare Fuzion Cleaner Disinfectant	32	Ounces(OZ)	01-Jul-20
0001639715	-	Clorox Healthcare Fuzion Cleaner Disinfectant	32	Ounces(OZ)	01-Jul-20
0001639714	-	Clorox Healthcare Fuzion Cleaner Disinfectant	32	Ounces(OZ)	01-Jul-20
0001639713	-	Clorox Healthcare Fuzion Cleaner Disinfectant	32	Ounces(OZ)	01-Jul-20
0001639712	-	Clorox Healthcare Fuzion Cleaner Disinfectant	32	Ounces(OZ)	01-Jul-20
0001639711	-	Clorox Healthcare Fuzion Cleaner Disinfectant	32	Ounces(OZ)	01-Jul-20
0001639710	-	Clorox Healthcare Fuzion Cleaner Disinfectant	32	Ounces(OZ)	01-Jul-20
0001639709	-	Clorox Healthcare Fuzion Cleaner Disinfectant	32	Ounces(OZ)	01-Jul-20
0001639708	-	Clorox Healthcare Fuzion Cleaner Disinfectant	32	Ounces(OZ)	01-Jul-20
0001639699	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639705	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639706	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639704	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639703	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639702	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639701	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639700	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639611	-	CLR	128	Ounces(OZ)	01-Jul-20
0001639614	-	CLR	128	Ounces(OZ)	01-Jul-20
0001639612	-	CLR	128	Ounces(OZ)	01-Jul-20
0001639613	-	CLR	128	Ounces(OZ)	01-Jul-20
0001639607	-	CLR	128	Ounces(OZ)	01-Jul-20
0001639608	-	CLR	128	Ounces(OZ)	01-Jul-20
0001639609	-	MOBIL VACTRA 2	5	Gallon(GAL)	01-Jul-20
0001639610	-	MOBIL VACTRA 2	5	Gallon(GAL)	01-Jul-20
0001639532	-	Hilti HIT-HY 200-R	11.1	Ounces(OZ)	01-Jul-20
0001638603	-	HIT-RE500	11.1	Ounces(OZ)	01-Jul-20
0001638604	-	HIT-RE500	11.1	Ounces(OZ)	01-Jul-20
0001638605	-	HIT-RE500	11.1	Ounces(OZ)	01-Jul-20
0001638606	-	HIT-RE500	11.1	Ounces(OZ)	01-Jul-20
0001639687	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639695	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639692	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639691	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639698	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639696	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639694	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639697	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639688	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639689	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639690	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
0001639693	-	3M SUPER 77 SPRAY ADHESIVE	16.7	Ounces(OZ)	01-Jul-20
V0000064A9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	01-Jul-20
V0000064A8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	01-Jul-20
V0000064A2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000064A3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	01-Jul-20
V0000064A4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	01-Jul-20
V0000064A5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	01-Jul-20
V0000064A7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	01-Jul-20
V0000064A6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	01-Jul-20
0001639663	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639679	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639682	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639680	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639678	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639677	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639676	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639675	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639674	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639673	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639671	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639670	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639669	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639668	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639667	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639664	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639666	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639665	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639672	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639681	-	PURELL INSTANT HAND SANITIZER	8	Ounces(OZ)	01-Jul-20
0001639603	-	LPS PRECISION CLEAN	28	Ounces(OZ)	01-Jul-20
0001639606	-	LPS PRECISION CLEAN	28	Ounces(OZ)	01-Jul-20
0001639605	-	LPS PRECISION CLEAN	28	Ounces(OZ)	01-Jul-20
0001639604	-	LPS PRECISION CLEAN	28	Ounces(OZ)	01-Jul-20
0001639615	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639641	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639639	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639638	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639637	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639636	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639651	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639634	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639627	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639632	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639640	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639623	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639630	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639631	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639629	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639628	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001639635	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639626	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639625	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639624	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639616	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639622	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639621	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639620	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639619	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639618	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639617	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639642	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639652	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639653	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639654	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639655	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639657	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639658	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639643	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639656	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639650	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639649	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639659	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639648	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639647	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639646	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639645	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639644	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
0001639633	-	2-CYCLE ENGINE OIL	6.4	Ounces(OZ)	01-Jul-20
V0000064AB	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	01-Jul-20
V0000064AE	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	01-Jul-20
V0000064AC	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	01-Jul-20
V0000064AA	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	01-Jul-20
V0000064AD	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	01-Jul-20
V0000064B9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064B0	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064B8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064B7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064B6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064B5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064B4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064B3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064B1	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064BA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000064AF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064B2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064BE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064BD	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064BB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064BC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064C0	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064C1	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064C2	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064C3	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064BF	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	01-Jul-20
V0000064C8	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064C4	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064C5	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064C7	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064C6	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064CA	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	01-Jul-20
V0000064C9	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	01-Jul-20
V0000064CB	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064CC	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064CE	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064CD	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064D4	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064CF	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064D0	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064D1	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064D3	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064D5	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064D6	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064D2	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	01-Jul-20
V0000064DC	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064DE	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064D8	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064DF	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000064DB	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064DD	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064DA	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064D9	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
V0000064D7	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	01-Jul-20
0001625736	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625743	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625744	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625740	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625738	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625737	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625741	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625742	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625751	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625745	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625746	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625747	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625748	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625749	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625750	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625739	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625775	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625774	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625773	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625772	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625776	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625770	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625781	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625771	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625777	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625778	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625769	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625780	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625763	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625782	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625783	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625784	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625779	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625760	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625752	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001625753	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625754	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625755	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625756	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625757	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625766	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625759	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625768	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625761	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625762	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625764	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625765	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625785	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625767	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625758	-	WEST R-630 SULFITE	55	Gallon(GAL)	01-Jul-20
0001625786	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625799	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625814	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625813	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625812	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625811	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625810	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625809	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625808	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625807	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625806	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625805	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625804	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625803	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625815	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625801	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625800	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625797	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625796	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625795	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625794	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625793	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625792	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625791	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625790	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625789	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625788	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625787	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625802	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20
0001625798	-	BROMICIDE TABLETS	5	Gallon(GAL)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001455316	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	01-Jul-20
0001557178	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557205	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557197	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557198	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557199	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557200	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557201	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557202	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557212	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557204	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557194	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557206	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557207	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557208	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557209	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557210	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557203	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557187	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557179	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557180	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557181	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557182	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557183	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557184	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557196	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557186	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557195	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557188	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557189	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557190	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557191	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557192	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557193	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557213	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557185	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557240	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557211	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557233	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557234	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557235	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557236	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557237	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557231	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557239	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557230	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557241	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557242	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557243	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557245	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557247	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557248	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557249	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557238	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557222	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557214	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557215	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557216	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557217	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557218	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557219	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557232	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557221	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557244	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557223	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557224	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557225	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557226	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557227	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557228	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557229	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557220	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557246	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Jul-20
0001557250	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001557252	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001557253	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001557254	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001557255	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001557257	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557256	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001557258	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001557251	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001557259	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001557261	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001557260	-	DUSTING GAS	15	Ounces(OZ)	01-Jul-20
0001384845	-	Loctite High Performance LB N-5000	8	Ounces(OZ)	01-Jul-20
0001384846	-	Loctite High Performance LB N-5000	8	Ounces(OZ)	01-Jul-20
0001602569	67-64-1	ACETONE	4	Liters(L)	01-Jul-20
0001602570	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 1N	2.5	Liters(L)	01-Jul-20
0001602571	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 1N	2.5	Liters(L)	01-Jul-20
0001602572	79-41-4	METHACRYLIC ACID	3	Kilograms(KG)	01-Jul-20
0001602573	79-41-4	METHACRYLIC ACID	3	Kilograms(KG)	01-Jul-20
0001602574	-	SUPER GLUE	15	Gram(GM)	01-Jul-20
0001602576	-	SUPER GLUE	15	Gram(GM)	01-Jul-20
0001602575	-	SUPER GLUE	15	Gram(GM)	01-Jul-20
0001602577	1849-27-0	1 4-BIS(PHENYLETHYNYL)BENZENE	25	Gram(GM)	01-Jul-20
0001602578	7757-82-6	SODIUM SULFATE	500	Gram(GM)	01-Jul-20
0001602579	64-17-5	ETHANOL	2	Liters(L)	01-Jul-20
0001602580	64-17-5	ETHANOL	2	Liters(L)	01-Jul-20
0001602581	67-56-1	METHANOL	4	Liters(L)	01-Jul-20
0001602582	67-56-1	METHANOL	4	Liters(L)	01-Jul-20
0001602584	67-56-1	METHANOL	4	Liters(L)	01-Jul-20
0001602583	67-56-1	METHANOL	4	Liters(L)	01-Jul-20
0001602585	-	EPON RESIN 815C	5	Gallon(GAL)	01-Jul-20
0001602586	-	F.A.M.E. Mix	100	Milligram(MG)	01-Jul-20
0001602587	7440-55-3	GALLIUM INGOT	500	Gram(GM)	01-Jul-20
0001602588	118488-18-9	Na-[(9H-Fluoren-9-ylmethoxy)carbonyl]-O-tert-butyl-D-tyrosine	1	Gram(GM)	01-Jul-20
0001602589	-	ALKANE STANDARD	1	Liters(L)	01-Jul-20
0001602591	-	ALKANE STANDARD	1	Liters(L)	01-Jul-20
0001602590	-	ALKANE STANDARD	1	Liters(L)	01-Jul-20
0001602592	-	AG MP-1 (50/100 100/200 200/400)	500	Gram(GM)	01-Jul-20
0001602593	-	SILICON OIL	1	Liters(L)	01-Jul-20
0001602594	141-90-2	2-THIOURACIL	500	Gram(GM)	01-Jul-20
0001602598	-	Air Duster	1	Ounces(OZ)	01-Jul-20
0001602602	-	Air Duster	1	Ounces(OZ)	01-Jul-20
0001602601	-	Air Duster	1	Ounces(OZ)	01-Jul-20
0001602599	-	Air Duster	1	Ounces(OZ)	01-Jul-20
0001602600	-	Air Duster	1	Ounces(OZ)	01-Jul-20
0001625816	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625839	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625832	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001625840	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625838	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625837	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625836	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625835	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625834	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625833	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625817	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625818	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625830	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625820	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625821	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625822	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625823	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625824	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625825	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625826	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625827	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625828	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625831	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625829	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625841	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625819	78-48-8	DEF	2.5	Gallon(GAL)	02-Jul-20
0001625842	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
0001625846	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
0001625852	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
0001625843	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
0001625844	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
0001625845	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
0001625851	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
0001625850	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
0001625849	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
0001625848	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
0001625847	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	02-Jul-20
V0000064F4	-	PARTS PLUS HD SAE 30 PREMIUM MOTOR OIL PP3371	1	Quarts(QT)	02-Jul-20
V0000064F2	-	PARTS PLUS HD SAE 30 PREMIUM MOTOR OIL PP3371	1	Quarts(QT)	02-Jul-20
V0000064F3	-	PARTS PLUS HD SAE 30 PREMIUM MOTOR OIL PP3371	1	Quarts(QT)	02-Jul-20
0001625853	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	02-Jul-20
0001625856	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	02-Jul-20
0001625861	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	02-Jul-20
0001625858	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	02-Jul-20
0001625860	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	02-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001625855	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	02-Jul-20
0001625859	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	02-Jul-20
0001625857	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	02-Jul-20
0001625862	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	02-Jul-20
0001625854	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	02-Jul-20
V0000064F5	-	Lubriplate No. 100/105/107/110/115	10	Ounces(OZ)	02-Jul-20
V0000064F6	-	Lubriplate No. 100/105/107/110/115	10	Ounces(OZ)	02-Jul-20
V0000064F7	-	Lubriplate No. 100/105/107/110/115	10	Ounces(OZ)	02-Jul-20
V0000064F9	-	WD-40 Multi-Use Product TRIGGER PRO 50 State Compliant	20	Ounces(OZ)	02-Jul-20
V0000064F8	-	WD-40 Multi-Use Product TRIGGER PRO 50 State Compliant	20	Ounces(OZ)	02-Jul-20
0001625863	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	13	Ounces(OZ)	02-Jul-20
0001625864	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	13	Ounces(OZ)	02-Jul-20
0001625865	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	13	Ounces(OZ)	02-Jul-20
0001625866	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	13	Ounces(OZ)	02-Jul-20
0001625867	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	13	Ounces(OZ)	02-Jul-20
0001625868	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	13	Ounces(OZ)	02-Jul-20
0001625872	-	FLAT BLACK SPRAY PAINT	12	Ounces(OZ)	02-Jul-20
0001557262	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557270	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557289	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557263	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557264	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557265	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557266	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557267	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557268	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557269	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557283	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557295	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557294	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557293	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557292	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557291	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557290	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557280	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557288	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557286	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557287	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557284	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557271	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557281	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557279	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557278	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557277	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557276	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557275	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557274	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557273	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557272	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557285	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
0001557282	-	DUSTING GAS	15	Ounces(OZ)	02-Jul-20
V0000064FC	-	Polaris PS-4	1	Quarts(QT)	02-Jul-20
V0000064FA	-	Polaris PS-4	1	Quarts(QT)	02-Jul-20
V0000064FB	-	Polaris PS-4	1	Quarts(QT)	02-Jul-20
V0000064FD	-	Polaris PS-4	1	Quarts(QT)	02-Jul-20
V000006528	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000652B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000651E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000651F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006520	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000651C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006521	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000652C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006504	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000651D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006522	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006523	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006524	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006525	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006529	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000651B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006527	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006510	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006526	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000652A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000650F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000652D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006506	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000650D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006505	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V0000064FF	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006500	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000064FE	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006501	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006512	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006503	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000651A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006511	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006513	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006514	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006515	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006516	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006517	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006518	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006519	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006502	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006507	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006508	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V000006509	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000650B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000650C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000650E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
V00000650A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	02-Jul-20
0001557304	-	ARDEX-V-1200	50	Pounds(LB)	02-Jul-20
0001557305	-	ARDEX-V-1200	50	Pounds(LB)	02-Jul-20
0001557296	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	02-Jul-20
0001557299	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	02-Jul-20
0001557301	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	02-Jul-20
0001557303	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	02-Jul-20
0001557302	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	02-Jul-20
0001557298	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	02-Jul-20
0001557300	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	02-Jul-20
0001557297	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	02-Jul-20
0001557306	-	PLAZA PLUS Sealer/Finish	5	Gallon(GAL)	02-Jul-20
0001557309	-	PLAZA PLUS Sealer/Finish	5	Gallon(GAL)	02-Jul-20
0001557308	-	PLAZA PLUS Sealer/Finish	5	Gallon(GAL)	02-Jul-20
0001557307	-	PLAZA PLUS Sealer/Finish	5	Gallon(GAL)	02-Jul-20
0001594389	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	05-Jul-20
0001594393	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	05-Jul-20
0001594390	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	05-Jul-20
0001594392	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	05-Jul-20
0001594394	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	05-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001594395	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	05-Jul-20
0001594396	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	05-Jul-20
0001594391	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	05-Jul-20
0001602355	-	RESIN ION EXCHANGE AG 50W-X4	500	Gram(GM)	05-Jul-20
0001602358	-	RESIN ION EXCHANGE AG 50W-X4	500	Gram(GM)	05-Jul-20
0001602357	-	RESIN ION EXCHANGE AG 50W-X4	500	Gram(GM)	05-Jul-20
0001602356	-	RESIN ION EXCHANGE AG 50W-X4	500	Gram(GM)	05-Jul-20
0001602595	814-68-6	ACRYLOYL CHLORIDE	500	Gram(GM)	05-Jul-20
0001602597	-	Chlorine Reagent Set (Total) Ultra Low Range DPD	1.5	Pounds(LB)	05-Jul-20
0001602603	-	ETHANOL 190	16	Ounces(OZ)	05-Jul-20
0001602604	-	ETHANOL 190	16	Ounces(OZ)	05-Jul-20
0001602605	-	MasterSil 973S-LO	100	Gram(GM)	05-Jul-20
0001602606	-	FETAL BOVINE SERUM	500	Milliliter(ML)	05-Jul-20
0001602607	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602641	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602633	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602634	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602635	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602636	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602637	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602638	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602642	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602640	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602629	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602639	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602617	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602620	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602612	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602621	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602611	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602610	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602631	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602609	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602632	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602613	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602615	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602616	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602619	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602618	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602614	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602622	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602623	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602624	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602625	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602626	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602627	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602628	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602608	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602630	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	16	Ounces(OZ)	05-Jul-20
0001602643	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	05-Jul-20
0001602644	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	05-Jul-20
0001602645	107-83-5	HEXANE MIXTURE OF ISOMERS	4	Liters(L)	05-Jul-20
0001602646	-	NOA 170	6	Gram(GM)	05-Jul-20
0001602647	-	NOA 1665	6	Gram(GM)	05-Jul-20
0001602649	-	NOA 1665	6	Gram(GM)	05-Jul-20
0001602648	-	NOA 1665	6	Gram(GM)	05-Jul-20
0001602650	614-80-2	2-ACETAMIDOPHENOL	100	Gram(GM)	05-Jul-20
0001602651	614-80-2	2-ACETAMIDOPHENOL	100	Gram(GM)	05-Jul-20
0001602652	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	05-Jul-20
0001602653	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	05-Jul-20
0001602654	14985-18-3	ZIRCONYL NITRATE HYDRATE	100	Gram(GM)	05-Jul-20
0001602655	143314-17-4	1-ETHYL-3-METHYLIMIDAZOLIUM AC	5	Gram(GM)	05-Jul-20
0001602656	-	3M FLUORINERT FC-70	11	Pounds(LB)	05-Jul-20
0001602657	143-33-9	SODIUM CYANIDE	1	Gram(GM)	05-Jul-20
0001602658	761390-58-3	(R)-1-(3-Fluorophenyl)ethanamine	1	Gram(GM)	05-Jul-20
0001602659	6100-05-6	POTASSIUM CITRATE MONOHYDRATE	500	Gram(GM)	05-Jul-20
0001602660	-	ENSOLV DEGREASER	1	Gallon(GAL)	05-Jul-20
0001602661	-	ENSOLV DEGREASER	1	Gallon(GAL)	05-Jul-20
0001602662	603-35-0	TRIPHENYLPHOSPHINE	1	Kilograms(KG)	05-Jul-20
0001602663	1193-24-4	4 6-DIHYDROXYPYRIMIDINE	500	Gram(GM)	05-Jul-20
0001602664	5574-97-0	TETRABUTYLAMMONIUM PHOSPHATE	500	Milliliter(ML)	05-Jul-20
0001602665	5574-97-0	TETRABUTYLAMMONIUM PHOSPHATE	500	Milliliter(ML)	05-Jul-20
0001602668	-	M-BOND AE-10 ADHESIVE KIT	75	Gram(GM)	05-Jul-20
0001602670	-	M-BOND AE-10 ADHESIVE KIT	75	Gram(GM)	05-Jul-20
0001602669	-	M-BOND AE-10 ADHESIVE KIT	75	Gram(GM)	05-Jul-20
0001602671	7647-14-5	SODIUM CHLORIDE	500	Gram(GM)	05-Jul-20
0001602672	-	5-MINUTE EPOXY	25	Milliliter(ML)	05-Jul-20
0001602673	-	5-MINUTE EPOXY	25	Milliliter(ML)	05-Jul-20
0001602674	-	5-MINUTE EPOXY	25	Milliliter(ML)	05-Jul-20
0001602675	-	E&C STYCAST 2850FT BLACK	18	Pounds(LB)	05-Jul-20
0001602676	111-77-3	2-(2-Methoxyethoxy)ethanol	1	Liters(L)	05-Jul-20
0001602677	98-59-9	P-TOLUENESULFONYL CHLORIDE	500	Gram(GM)	06-Jul-20
0001602678	-	ARATHANE 5750-A/B	1	Quarts(QT)	06-Jul-20
0001602745	-	STYCAST 1266 PART B	7	Ounces(OZ)	06-Jul-20
0001602746	-	STYCAST 1266 PART B	1	Quarts(QT)	06-Jul-20
0001602747	-	CATALYST 9	1	Pint(PT)	06-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602748	7732-18-5	Distilled Water	5	Liters(L)	06-Jul-20
0001602749	-	TORR SEAL	118	Gram(GM)	06-Jul-20
0001602750	-	TORR SEAL	118	Gram(GM)	06-Jul-20
0001664038	-	CONTRAD 70	1	Liters(L)	06-Jul-20
0001385728	7732-18-5	PH BUFFER 4	1	Pint(PT)	07-Jul-20
0001385729	7732-18-5	PH BUFFER 4	1	Pint(PT)	07-Jul-20
0001385730	7732-18-5	PH BUFFER 7	1	Pint(PT)	07-Jul-20
0001385731	7732-18-5	PH BUFFER 7	1	Pint(PT)	07-Jul-20
0001385732	7732-18-5	PH BUFFER 10	1	Pint(PT)	07-Jul-20
0001385733	7732-18-5	PH BUFFER 10	1	Pint(PT)	07-Jul-20
0001659902	67-63-0	ISOPROPYL ALCOHOL	1	Gallon(GAL)	07-Jul-20
0001659898	-	BODY FILLER	7	Pounds(LB)	07-Jul-20
0001659899	-	BODY FILLER	7	Pounds(LB)	07-Jul-20
0001659901	-	BODY FILLER	7	Pounds(LB)	07-Jul-20
0001659900	-	BODY FILLER	7	Pounds(LB)	07-Jul-20
0001602679	1849-27-0	1 4-BIS(PHENYLETHYNYL)BENZENE	25	Gram(GM)	07-Jul-20
0001602680	-	IMJECT BOVINE SERUM ALBUMIN	25	Gram(GM)	07-Jul-20
0001602681	67-56-1	METHANOL	19	Liters(L)	07-Jul-20
0001602682	108-88-3	TOLUENE	19	Liters(L)	07-Jul-20
0001602683	67-64-1	ACETONE	19	Liters(L)	07-Jul-20
0001602684	127-17-3	PYRUVIC ACID	25	Gram(GM)	07-Jul-20
0001602685	13477-89-9	NEODYMIUM(III) CHLORIDE HEXAHYDRATE	25	Gram(GM)	07-Jul-20
0001602686	25952-53-8	N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride	5	Gram(GM)	07-Jul-20
0001602687	-	1-STEP NBT/BCIP	250	Milliliter(ML)	07-Jul-20
0001602688	-	1-STEP NBT/BCIP	250	Milliliter(ML)	07-Jul-20
0001602689	85-41-6	PHTHALIMIDE	50	Gram(GM)	07-Jul-20
0001602690	-	MASTER BOND EPOXY	0.5	Pint(PT)	07-Jul-20
0001602691	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	1	Gallon(GAL)	07-Jul-20
0001602694	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	1	Gallon(GAL)	07-Jul-20
0001602692	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	1	Gallon(GAL)	07-Jul-20
0001602693	7681-52-9	Bleach-Rite Disinfecting Spray with Bleach	1	Gallon(GAL)	07-Jul-20
0001602695	5690-24-4	1 8:4 5-Naphthalenetetracarboxdiimide	1	Gram(GM)	07-Jul-20
0001602696	7440-16-6	RHODIUM	125	Milliliter(ML)	07-Jul-20
0001602697	-	BLASTICIDIN-S HYDROCHLORIDE	1	Gram(GM)	07-Jul-20
0001602742	57-41-0	PHENYTOIN	500	Gram(GM)	07-Jul-20
0001602743	108-80-5	CYANURIC ACID	500	Gram(GM)	07-Jul-20
0001602744	121-32-4	3-Ethoxy-4-hydroxybenzaldehyde	500	Gram(GM)	07-Jul-20
0001592090	-	Hocut 8640	55	Gallon(GAL)	07-Jul-20
0001592091	-	Hocut 8640	55	Gallon(GAL)	07-Jul-20
0001592092	-	QUINTOLUBRIC 888-46	55	Gallon(GAL)	07-Jul-20
0001602698	67-64-1	ACETONE	4	Liters(L)	07-Jul-20
0001602699	108-88-3	TOLUENE	1	Liters(L)	07-Jul-20
0001602700	109-99-9	TETRAHYDROFURAN	4	Liters(L)	07-Jul-20
0001602703	109-99-9	TETRAHYDROFURAN	4	Liters(L)	07-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602702	109-99-9	TETRAHYDROFURAN	4	Liters(L)	07-Jul-20
0001602701	109-99-9	TETRAHYDROFURAN	4	Liters(L)	07-Jul-20
0001602704	67-64-1	ACETONE	4	Liters(L)	07-Jul-20
0001602705	67-64-1	ACETONE	4	Liters(L)	07-Jul-20
0001602706	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Jul-20
0001602707	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 36.5-38%	500	Milliliter(ML)	07-Jul-20
0001602710	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 36.5-38%	500	Milliliter(ML)	07-Jul-20
0001602709	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 36.5-38%	500	Milliliter(ML)	07-Jul-20
0001602708	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 36.5-38%	500	Milliliter(ML)	07-Jul-20
0001602711	-	2 Part Epoxy	0.5	Ounces(OZ)	07-Jul-20
0001602720	-	2 Part Epoxy	0.5	Ounces(OZ)	07-Jul-20
0001602719	-	2 Part Epoxy	0.5	Ounces(OZ)	07-Jul-20
0001602718	-	2 Part Epoxy	0.5	Ounces(OZ)	07-Jul-20
0001602717	-	2 Part Epoxy	0.5	Ounces(OZ)	07-Jul-20
0001602715	-	2 Part Epoxy	0.5	Ounces(OZ)	07-Jul-20
0001602713	-	2 Part Epoxy	0.5	Ounces(OZ)	07-Jul-20
0001602712	-	2 Part Epoxy	0.5	Ounces(OZ)	07-Jul-20
0001602714	-	2 Part Epoxy	0.5	Ounces(OZ)	07-Jul-20
0001602716	-	2 Part Epoxy	0.5	Ounces(OZ)	07-Jul-20
0001602721	-	2 Part Epoxy	0.25	Ounces(OZ)	07-Jul-20
0001602725	-	2 Part Epoxy	0.25	Ounces(OZ)	07-Jul-20
0001602722	-	2 Part Epoxy	0.25	Ounces(OZ)	07-Jul-20
0001602724	-	2 Part Epoxy	0.25	Ounces(OZ)	07-Jul-20
0001602730	-	2 Part Epoxy	0.25	Ounces(OZ)	07-Jul-20
0001602726	-	2 Part Epoxy	0.25	Ounces(OZ)	07-Jul-20
0001602723	-	2 Part Epoxy	0.25	Ounces(OZ)	07-Jul-20
0001602727	-	2 Part Epoxy	0.25	Ounces(OZ)	07-Jul-20
0001602728	-	2 Part Epoxy	0.25	Ounces(OZ)	07-Jul-20
0001602729	-	2 Part Epoxy	0.25	Ounces(OZ)	07-Jul-20
0001602731	58-55-9	THEOPHYLLINE	500	Gram(GM)	07-Jul-20
0001602732	7601-90-3	PERCHLORIC ACID	1	Liters(L)	07-Jul-20
0001602733	7601-90-3	PERCHLORIC ACID	1	Liters(L)	07-Jul-20
0001602735	7601-90-3	PERCHLORIC ACID	1	Liters(L)	07-Jul-20
0001602734	7601-90-3	PERCHLORIC ACID	1	Liters(L)	07-Jul-20
0001602736	-	CombiCoulomat frit	500	Milliliter(ML)	07-Jul-20
0001602737	-	CombiCoulomat frit	500	Milliliter(ML)	07-Jul-20
0001602738	-	CombiCoulomat frit	500	Milliliter(ML)	07-Jul-20
0001602740	-	CombiCoulomat frit	500	Milliliter(ML)	07-Jul-20
0001602739	-	CombiCoulomat frit	500	Milliliter(ML)	07-Jul-20
0001602741	69011-20-7	DOWEX 50WX8	100	Gram(GM)	07-Jul-20
0001602751	-	PHTHALAMIDE	500	Gram(GM)	07-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602752	-	PHTHALAMIDE	500	Gram(GM)	07-Jul-20
0001602753	-	Methyl gallate 98%	500	Gram(GM)	07-Jul-20
0001602754	83-56-7	1 5-DIHYDROXY-NAPHTHALENE	500	Gram(GM)	07-Jul-20
0001602755	106-57-0	GLYCINE ANHYDRIDE	500	Gram(GM)	07-Jul-20
0001602756	611-99-4	4 4'-Dihydroxybenzophenone	500	Gram(GM)	07-Jul-20
0001602757	120-12-7	ANTHRACENE	500	Gram(GM)	07-Jul-20
0001602758	86-74-8	CARBAZOLE	500	Gram(GM)	07-Jul-20
0001602759	301-10-0	TIN (II) 2-ETHYLHEXANOATE	100	Gram(GM)	07-Jul-20
0001602762	301-10-0	TIN (II) 2-ETHYLHEXANOATE	100	Gram(GM)	07-Jul-20
0001602763	301-10-0	TIN (II) 2-ETHYLHEXANOATE	100	Gram(GM)	07-Jul-20
0001602761	301-10-0	TIN (II) 2-ETHYLHEXANOATE	100	Gram(GM)	07-Jul-20
0001602760	301-10-0	TIN (II) 2-ETHYLHEXANOATE	100	Gram(GM)	07-Jul-20
0001602764	301-10-0	TIN (II) 2-ETHYLHEXANOATE	100	Gram(GM)	07-Jul-20
0001423695	-	2 Part Epoxy	1	Gallon(GAL)	07-Jul-20
0001423696	-	2 Part Epoxy	1	Gallon(GAL)	07-Jul-20
0001602765	25322-68-3	POLY(ETHYLENE OXIDE)	250	Gram(GM)	07-Jul-20
0001602766	9003-01-4	POLYACRYLIC ACID	5	Gram(GM)	07-Jul-20
0001602767	39409-19-3	Amberlite IRA-96 free base	250	Gram(GM)	07-Jul-20
0001602823	-	Hocut Sym-C	5	Gallon(GAL)	07-Jul-20
0001602824	-	Hocut Sym-C	5	Gallon(GAL)	07-Jul-20
0001602825	-	Hocut Sym-C	5	Gallon(GAL)	07-Jul-20
0001602827	-	Hocut Sym-C	5	Gallon(GAL)	07-Jul-20
0001602826	-	Hocut Sym-C	5	Gallon(GAL)	07-Jul-20
0001602828	-	Hocut Sym-C	5	Gallon(GAL)	07-Jul-20
0001625873	-	ULTRA GREY SILICONE GASKET MAKER	3.5	Ounces(OZ)	07-Jul-20
V000006536	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	07-Jul-20
V00000652E	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	07-Jul-20
V00000652F	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	07-Jul-20
V000006530	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	07-Jul-20
V000006531	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	07-Jul-20
V000006532	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	07-Jul-20
V000006533	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	07-Jul-20
V000006535	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	07-Jul-20
V000006534	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	07-Jul-20
0001625874	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Jul-20
0001625883	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001625878	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Jul-20
0001625877	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Jul-20
0001625880	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Jul-20
0001625879	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Jul-20
0001625882	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Jul-20
0001625876	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Jul-20
0001625875	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Jul-20
0001625881	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Jul-20
0001625884	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625889	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625893	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625899	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625901	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625897	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625902	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625904	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625885	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625888	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625887	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625890	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625896	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625891	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625898	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625886	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625903	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625894	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625892	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625900	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
0001625895	-	Parts Plus Type F ATF	1	Quarts(QT)	07-Jul-20
1646658		HydroChloric Acid 0.1M (HCl)	40	ml	08-Jul-20
0001653621	-	R-22	30	Pounds(LB)	08-Jul-20
0001653622	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653627	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653623	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653624	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653626	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653628	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653629	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001653625	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653651	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653644	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653646	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653647	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653648	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653642	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653650	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653643	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653652	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653653	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653654	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653655	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653656	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653657	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653649	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653634	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653640	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653639	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653638	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653637	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653645	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001653635	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653633	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653632	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653631	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653641	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653636	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653630	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Jul-20
0001653658	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653663	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653662	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653661	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653660	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653659	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653670	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653664	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653667	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653666	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653668	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653665	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653669	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653671	-	Compressed Air	220	Cubic Feet(CF)	08-Jul-20
0001653678	-	Compressed Air	220	Cubic Feet(CF)	08-Jul-20
0001653672	-	Compressed Air	220	Cubic Feet(CF)	08-Jul-20
0001653674	-	Compressed Air	220	Cubic Feet(CF)	08-Jul-20
0001653675	-	Compressed Air	220	Cubic Feet(CF)	08-Jul-20
0001653677	-	Compressed Air	220	Cubic Feet(CF)	08-Jul-20
0001653679	-	Compressed Air	220	Cubic Feet(CF)	08-Jul-20
0001653680	-	Compressed Air	220	Cubic Feet(CF)	08-Jul-20
0001653676	-	Compressed Air	220	Cubic Feet(CF)	08-Jul-20
0001653673	-	Compressed Air	220	Cubic Feet(CF)	08-Jul-20
0001653681	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653682	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653683	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653751	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653744	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653743	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653745	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653746	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001653747	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653748	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653750	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653752	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653760	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653754	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653764	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653755	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653763	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653756	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653757	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653758	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653759	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653753	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653762	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653749	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653761	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Jul-20
0001653684	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653685	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653732	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653726	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653735	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653734	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653733	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653730	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653729	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653721	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653722	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653723	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653724	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653725	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653731	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653727	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653728	-	ARGON COMPRESSED	220	Cubic Feet(CF)	08-Jul-20
0001653686	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
0001653691	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
0001653687	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
0001653690	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
0001653692	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
0001653693	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
0001653694	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
0001653695	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
0001653696	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
0001653697	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
0001653688	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001653689	124-38-9	CARBON DIOXIDE	50	Pounds(LB)	08-Jul-20
V000006547	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V00000654D	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006559	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006558	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006557	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006556	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006555	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006554	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006553	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006552	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006551	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006550	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006545	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V00000654E	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006542	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V00000654C	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V00000654B	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V00000654A	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006549	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006548	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006546	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V000006544	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006543	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
V00000654F	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	08-Jul-20
0001653698	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653703	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653716	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653707	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653715	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653705	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653699	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653700	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653701	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653702	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653704	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653706	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653708	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653713	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653710	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653714	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653711	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653712	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
0001653709	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Jul-20
V00000655A	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006561	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000655C	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000655D	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006565	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000655F	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006562	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000655E	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006564	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006563	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006560	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000655B	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000656A	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006571	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006570	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000656F	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000656E	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000656D	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000656B	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006569	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006568	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
V000006567	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006566	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
V00000656C	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	08-Jul-20
0001653717	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653719	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653720	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653718	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	08-Jul-20
0001653736	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Jul-20
0001653740	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Jul-20
0001653741	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Jul-20
0001653739	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Jul-20
0001653738	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Jul-20
0001653737	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Jul-20
0001653742	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Jul-20
0001653765	74-98-6	PROPANE	50	Pounds(LB)	08-Jul-20
0001653766	74-98-6	PROPANE	50	Pounds(LB)	08-Jul-20
0001653767	74-98-6	PROPANE	50	Pounds(LB)	08-Jul-20
0001653768	74-98-6	PROPANE	50	Pounds(LB)	08-Jul-20
0001653769	74-98-6	PROPANE	50	Pounds(LB)	08-Jul-20
0001653770	74-98-6	PROPANE	50	Pounds(LB)	08-Jul-20
0001653771	74-98-6	PROPANE	50	Pounds(LB)	08-Jul-20
0001653772	74-98-6	PROPANE	50	Pounds(LB)	08-Jul-20
0001653773	-	Compressed Air	105	Liters(L)	08-Jul-20
0001653774	-	HYDROGEN CHLORIDE 25 PPM/BAL NITROGEN	105	Cubic Feet(CF)	08-Jul-20
0001592513	112-80-1	OLEIC ACID	5	Milliliter(ML)	08-Jul-20
0001592514	-	POP-6 POLYMER	3.5	Milliliter(ML)	08-Jul-20
0001602768	-	LOCTITE THREADLOCKER	50	Milliliter(ML)	08-Jul-20
0001602769	-	LOCTITE THREADLOCKER	50	Milliliter(ML)	08-Jul-20
0001602770	-	LOCTITE THREADLOCKER	50	Milliliter(ML)	08-Jul-20
0001602771	-	LOCTITE THREADLOCKER	50	Milliliter(ML)	08-Jul-20
0001602772	702-82-9	3-Amino-1-adamantanol	5	Gram(GM)	08-Jul-20
0001602773	7440-56-4	GERMANIUM PIECES	100	Gram(GM)	08-Jul-20
0001602776	7440-56-4	GERMANIUM PIECES	100	Gram(GM)	08-Jul-20
0001602774	7440-31-5	TIN SHOT	500	Gram(GM)	08-Jul-20
0001602775	7440-31-5	TIN SHOT	500	Gram(GM)	08-Jul-20
0001602777	24936-68-3	POLYCARBONATE	100	Gram(GM)	08-Jul-20
0001602778	1693-74-9	TETRAHYDROFURAN D8	10	Gram(GM)	08-Jul-20
0001602779	1693-74-9	TETRAHYDROFURAN D8	10	Gram(GM)	08-Jul-20
0001602780	1076-43-3	BENZENE D6	50	Gram(GM)	08-Jul-20
0001602781	626-64-2	4-Hydroxypyridine	25	Gram(GM)	08-Jul-20
0001602782	64-17-5	ETHANOL	500	Milliliter(ML)	08-Jul-20
0001602783	4422-95-1	1 3 5-BENZENETRICARBONYL TRICHLORIDE	5	Gram(GM)	08-Jul-20
0001602784	73-40-5	GUANINE	500	Gram(GM)	08-Jul-20
0001602785	77-73-6	DICYCLOPENTADIENE	250	Gram(GM)	08-Jul-20
0001602786	50-81-7	L-ASCORBIC ACID	50	Gram(GM)	08-Jul-20
0001602787	77-92-9	CITRIC ACID ANHYDROUS	250	Pounds(LB)	08-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602788	100-25-4	1 4-DINITROBENZENE	5	Gram(GM)	08-Jul-20
0001602789	100-25-4	1 4-DINITROBENZENE	5	Gram(GM)	08-Jul-20
0001602790	100-25-4	1 4-DINITROBENZENE	5	Gram(GM)	08-Jul-20
0001602791	100-25-4	1 4-DINITROBENZENE	5	Gram(GM)	08-Jul-20
0001602792	57056-39-0	3-(carboxymethyl)pentanedioic acid	50	Milligram(MG)	08-Jul-20
0001602793	9003-05-8	POLYACRYLAMIDE	10	Gram(GM)	08-Jul-20
0001602794	12037-29-5	PRASEODYMIUM(III IV) OXIDE	50	Gram(GM)	08-Jul-20
0001602795	124-04-9	ADIPIC ACID	250	Gram(GM)	08-Jul-20
0001602796	-	SUPER GLUE	0.5	Ounces(OZ)	08-Jul-20
0001602803	-	SUPER GLUE	0.5	Ounces(OZ)	08-Jul-20
0001602802	-	SUPER GLUE	0.5	Ounces(OZ)	08-Jul-20
0001602801	-	SUPER GLUE	0.5	Ounces(OZ)	08-Jul-20
0001602800	-	SUPER GLUE	0.5	Ounces(OZ)	08-Jul-20
0001602799	-	SUPER GLUE	0.5	Ounces(OZ)	08-Jul-20
0001602797	-	SUPER GLUE	0.5	Ounces(OZ)	08-Jul-20
0001602798	-	SUPER GLUE	0.5	Ounces(OZ)	08-Jul-20
0001602804	141-82-2	MALONIC ACID	5	Gram(GM)	08-Jul-20
0001602805	107-21-1	ETHYLENE GLYCOL	1	Gallon(GAL)	08-Jul-20
0001602808	107-21-1	ETHYLENE GLYCOL	1	Gallon(GAL)	08-Jul-20
0001602806	107-21-1	ETHYLENE GLYCOL	1	Gallon(GAL)	08-Jul-20
0001602807	107-21-1	ETHYLENE GLYCOL	1	Gallon(GAL)	08-Jul-20
0001602809	121-34-6	VANILLIC ACID	500	Gram(GM)	08-Jul-20
0001602810	335159-18-7	Iron(II) perchlorate hydrate	500	Gram(GM)	08-Jul-20
0001602811	13520-61-1	NICKEL(II) PERCHLORATE HEXAHYDRATE	500	Gram(GM)	08-Jul-20
0001602812	-	MUELLER HINTON BROTH DEHYDRATED	500	Gram(GM)	08-Jul-20
0001602813	-	M9 MINIMAL SALTS 5X	1	Kilograms(KG)	08-Jul-20
0001602814	85721-33-1	CIPROFLOXACIN	5	Gram(GM)	08-Jul-20
0001602815	69-52-3	AMPICILLIN SODIUM SALT	5	Gram(GM)	08-Jul-20
0001602816	56-81-5	GLYCEROL	500	Milliliter(ML)	08-Jul-20
0001602817	109-99-9	TETRAHYDROFURAN	1	Liters(L)	08-Jul-20
0001602818	7664-39-3	HYDROFLUORIC ACID	1	Liters(L)	08-Jul-20
0001602819	7664-39-3	HYDROFLUORIC ACID	1	Liters(L)	08-Jul-20
0001602820	7664-39-3	HYDROFLUORIC ACID	1	Liters(L)	08-Jul-20
0001602821	7664-39-3	HYDROFLUORIC ACID	1	Liters(L)	08-Jul-20
0001602822	-	Dupont 4987 Epoxy Thinner Composition	500	Gram(GM)	08-Jul-20
0001602895	-	MUELLER HINTON BROTH DEHYDRATED	500	Gram(GM)	08-Jul-20
0001602896	9005-25-8	Mueller Hinton Agar	500	Gram(GM)	08-Jul-20
0001602897	1675-54-3	BISPHENOL A DIGLYCIDYL ETHER	250	Gram(GM)	08-Jul-20
0001602905	25322-68-3	POLYETHYLENE OXIDE MW 300 000	250	Gram(GM)	09-Jul-20
0001602906	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	09-Jul-20
0001602907	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602926	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602919	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602920	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602921	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602922	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602923	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602924	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602927	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602925	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602908	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602918	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602928	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602929	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602917	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602916	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602915	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602914	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602913	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602912	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602911	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602910	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602909	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001602930	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	09-Jul-20
0001653775	7440-59-7	HELIUM GAS	100	Liters(L)	09-Jul-20
0001592515	74-88-4	IODOMETHANE	100	Gram(GM)	09-Jul-20
0001602829	-	VERO MAGENTA RGD851	3.6	Kilograms(KG)	09-Jul-20
0001602830	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602836	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602839	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602848	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602847	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602845	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602838	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602843	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602842	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602849	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602840	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602846	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602837	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602835	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602834	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602833	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602832	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602831	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602841	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602844	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	09-Jul-20
0001602850	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	09-Jul-20
0001602857	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	09-Jul-20
0001602858	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	09-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602856	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	09-Jul-20
0001602855	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	09-Jul-20
0001602854	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	09-Jul-20
0001602853	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	09-Jul-20
0001602852	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	09-Jul-20
0001602851	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	09-Jul-20
0001602859	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	09-Jul-20
0001602860	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602877	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602873	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602868	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602872	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602871	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602870	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602869	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602867	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602862	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602863	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602864	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602866	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602861	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602865	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602876	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602875	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602878	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602874	-	FULLCURE 705	3.6	Kilograms(KG)	09-Jul-20
0001602879	-	VEROCLEAR RGD810	3.6	Kilograms(KG)	09-Jul-20
0001602880	-	VEROCLEAR RGD810	3.6	Kilograms(KG)	09-Jul-20
0001602881	-	VEROCLEAR RGD810	3.6	Kilograms(KG)	09-Jul-20
0001602882	-	VERO YELLOW RGD836	3.6	Kilograms(KG)	09-Jul-20
0001602943	-	PLASTIDIP	4	Ounces(OZ)	09-Jul-20
0001602944	933-20-0	2-Amino-4 6-dichlorotriazine	25	Gram(GM)	09-Jul-20
0001602945	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602950	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602951	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602949	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602952	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602947	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602946	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602948	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602953	12054-85-2	AMMONIUM MOLYBDATE(VI) TETRAHYDRATE	500	Gram(GM)	09-Jul-20
0001602954	5329-14-6	SULFAMIC ACID	500	Gram(GM)	09-Jul-20
0001602955	1266615-59-1	MES hydrate 99+%	500	Gram(GM)	09-Jul-20
0001602956	12069-32-8	BORON CARBIDE	1	Kilograms(KG)	09-Jul-20
0001602957	12069-32-8	BORON CARBIDE	1	Kilograms(KG)	09-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602958	-	ETHANOL 200 PROOF	1	Gallon(GAL)	09-Jul-20
0001602960	-	ETHANOL 200 PROOF	1	Gallon(GAL)	09-Jul-20
0001602961	-	ETHANOL 200 PROOF	1	Gallon(GAL)	09-Jul-20
0001602959	-	ETHANOL 200 PROOF	1	Gallon(GAL)	09-Jul-20
0001602962	7440-70-2	Calcium dendritic pieces	5	Gram(GM)	09-Jul-20
0001602963	7440-09-7	POTASSIUM METAL 99.95%	5	Gram(GM)	09-Jul-20
0001602964	-	Lithium bis(trifluoromethylsulfonyl)imide	10	Gram(GM)	09-Jul-20
0001602965	Multi	Buffer pH 4.01 (Pink)	500	Milliliter(ML)	09-Jul-20
0001602966	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	09-Jul-20
0001602967	2999-40-8	Phloroglucinol triacetate	5	Gallon(GAL)	09-Jul-20
0001602968	2999-40-8	Phloroglucinol triacetate	5	Gallon(GAL)	09-Jul-20
0001602969	2999-40-8	Phloroglucinol triacetate	5	Gallon(GAL)	09-Jul-20
0001602970	2999-40-8	Phloroglucinol triacetate	5	Gallon(GAL)	09-Jul-20
0001602971	2999-40-8	Phloroglucinol triacetate	5	Gallon(GAL)	09-Jul-20
0001602972	6230-01-0	CASAMINO ACIDS	500	Gram(GM)	09-Jul-20
0001602973	-	BARIUM STANDARD	125	Milliliter(ML)	09-Jul-20
0001602974	-	BARIUM STANDARD	125	Milliliter(ML)	09-Jul-20
0001602975	-	STRONTIUM STANDARD	125	Milliliter(ML)	09-Jul-20
0001602976	-	STRONTIUM STANDARD	125	Milliliter(ML)	09-Jul-20
0001602977	7761-88-8	SILVER NITRATE	50	Gram(GM)	09-Jul-20
0001602978	73513-42-5	HEXANES	500	Milliliter(ML)	09-Jul-20
0001602979	-	ULTIMA GOLD	1	Liters(L)	09-Jul-20
0001602980	75200-79-2	2 2-dimethyl-1 3-dioxaindan-5-amine hydrochloride	1	Gram(GM)	09-Jul-20
0001602981	2857-97-8	BROMOTRIMETHYLSILANE	25	Gram(GM)	09-Jul-20
0001602982	57-10-3	PALMITIC ACID	5	Gram(GM)	09-Jul-20
0001602983	9002-18-0	AGAR	250	Gram(GM)	09-Jul-20
0001653776	-	2000ppm Hydrogen Fluoride Balance Nitrogen	220	Cubic Feet(CF)	09-Jul-20
0001602984	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602990	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602995	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602994	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602993	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602991	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602989	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602988	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602987	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602986	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602985	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602992	811-97-2	DUSTER ES1017	10	Ounces(OZ)	10-Jul-20
0001602996	12439-96-2	VANADYL(IV) SULFATE HYDRATE 17-23%	100	Gram(GM)	10-Jul-20
0001602997	-	ISOPROPANOL 70%	4	Liters(L)	10-Jul-20
0001602998	-	ISOPROPANOL 70%	4	Liters(L)	10-Jul-20
0001602999	-	ADH/INS VARNISH	1	Pint(PT)	10-Jul-20
0001603000	111-40-0	DIETHYLENETRIAMINE	100	Milliliter(ML)	10-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603002	111-40-0	DIETHYLENETRIAMINE	100	Milliliter(ML)	10-Jul-20
0001603001	111-40-0	DIETHYLENETRIAMINE	100	Milliliter(ML)	10-Jul-20
0001645826	-	Member's Mark Disinfecting Wipes	250	Milliliter(ML)	10-Jul-20
0001645827	-	Member's Mark Disinfecting Wipes	250	Milliliter(ML)	10-Jul-20
0001659893	-	COLOR PIGMENT EPOXY	2	Ounces(OZ)	10-Jul-20
0001659894	-	COLOR PIGMENT EPOXY	2	Ounces(OZ)	10-Jul-20
0001659895	-	COLOR PIGMENT EPOXY	2	Ounces(OZ)	10-Jul-20
0001659879	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659884	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659888	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659887	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659889	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659885	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659883	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659882	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659881	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659880	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659886	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659891	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659892	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659890	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659869	-	Black Urethane Resin	15.4	Pounds(LB)	10-Jul-20
0001659877	-	Black Urethane Resin	15.4	Pounds(LB)	10-Jul-20
0001659870	-	Black Urethane Resin	15.4	Pounds(LB)	10-Jul-20
0001659878	-	Black Urethane Resin	15.4	Pounds(LB)	10-Jul-20
0001659872	-	Black Urethane Resin	15.4	Pounds(LB)	10-Jul-20
0001659873	-	Black Urethane Resin	15.4	Pounds(LB)	10-Jul-20
0001659874	-	Black Urethane Resin	15.4	Pounds(LB)	10-Jul-20
0001659871	-	Black Urethane Resin	15.4	Pounds(LB)	10-Jul-20
0001659875	-	Black Urethane Resin	15.4	Pounds(LB)	10-Jul-20
0001659876	-	Black Urethane Resin	15.4	Pounds(LB)	10-Jul-20
0001659865	-	1A:1B polyurethane compound	1	Gallon(GAL)	10-Jul-20
0001659867	-	1A:1B polyurethane compound	1	Gallon(GAL)	10-Jul-20
0001659866	-	1A:1B polyurethane compound	1	Gallon(GAL)	10-Jul-20
0001659868	-	1A:1B polyurethane compound	1	Gallon(GAL)	10-Jul-20
0001659864	-	EPOXY FILLER COMPOUND	3.5	Pounds(LB)	10-Jul-20
0001659863	-	EPOXY FILLER COMPOUND	15	Pounds(LB)	10-Jul-20
0001659851	-	RTV SILICONE MOLD RUBBER PART A	11	Pounds(LB)	10-Jul-20
0001659852	-	RTV SILICONE MOLD RUBBER PART A	11	Pounds(LB)	10-Jul-20
0001659849	-	M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	43.25	Pounds(LB)	10-Jul-20
0001659850	-	M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	43.25	Pounds(LB)	10-Jul-20
0001659828	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659845	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001659841	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659838	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659837	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659836	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659835	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659834	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659830	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659832	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659829	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659831	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659846	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659840	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659842	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659843	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659844	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659833	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659848	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659839	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659847	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	10-Jul-20
0001659827	-	SANDING SEALER	1	Gallon(GAL)	10-Jul-20
0001659819	-	M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	16	Pounds(LB)	10-Jul-20
0001659820	-	M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	16	Pounds(LB)	10-Jul-20
0001659821	-	M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	16	Pounds(LB)	10-Jul-20
0001659822	-	M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	16	Pounds(LB)	10-Jul-20
0001659823	-	M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	16	Pounds(LB)	10-Jul-20
0001659824	-	M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	16	Pounds(LB)	10-Jul-20
0001659825	-	M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	16	Pounds(LB)	10-Jul-20
0001659826	-	M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	16	Pounds(LB)	10-Jul-20
0001659784	-	GOO GONE	1	Quarts(QT)	10-Jul-20
0001659786	-	GOO GONE	1	Quarts(QT)	10-Jul-20
0001659785	-	GOO GONE	1	Quarts(QT)	10-Jul-20
0001659816	-	Clear Flex 30	8	Pounds(LB)	10-Jul-20
0001645962	-	Safe Shield	16	Ounces(OZ)	10-Jul-20
0001659817	-	Clear Flex 30	8	Pounds(LB)	10-Jul-20
0001659818	-	Clear Flex 30	8	Pounds(LB)	10-Jul-20
0001659787	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659791	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001659790	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659789	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659793	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659792	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659788	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659794	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659798	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659805	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659795	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659804	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659803	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659802	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659801	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659797	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659799	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659800	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659811	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659806	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659796	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659808	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659810	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659812	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659813	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659814	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659815	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659809	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659807	-	EPOXY HARDENER	2.2	Pounds(LB)	10-Jul-20
0001659783	-	MULTI-PURPOSE CLEAR SEALER - WATERBASE	6	Pounds(LB)	10-Jul-20
0001659776	-	RIGID POLYURETHANE FOAM PART A	8	Pounds(LB)	10-Jul-20
0001659777	-	RIGID POLYURETHANE FOAM PART A	8	Pounds(LB)	10-Jul-20
0001659775	25085-99-8	XTC-3D	1	Pounds(LB)	10-Jul-20
0001659778	-	RIGID POLYURETHANE FOAM PART A	8	Pounds(LB)	10-Jul-20
0001659782	-	RIGID POLYURETHANE FOAM PART A	8	Pounds(LB)	10-Jul-20
0001659781	-	RIGID POLYURETHANE FOAM PART A	8	Pounds(LB)	10-Jul-20
0001659779	-	RIGID POLYURETHANE FOAM PART A	8	Pounds(LB)	10-Jul-20
0001659780	-	RIGID POLYURETHANE FOAM PART A	8	Pounds(LB)	10-Jul-20
0001645375	-	CLEAN-GEAR II	32	Ounces(OZ)	10-Jul-20
0001645379	-	CLEAN-GEAR II	32	Ounces(OZ)	10-Jul-20
0001645376	-	CLEAN-GEAR II	32	Ounces(OZ)	10-Jul-20
0001645377	-	CLEAN-GEAR II	32	Ounces(OZ)	10-Jul-20
0001645378	-	CLEAN-GEAR II	32	Ounces(OZ)	10-Jul-20
0001455211	-	ADHESIVE CAULKING	16	Ounces(OZ)	10-Jul-20
V00000657E	-	DOW CORNING 732 MULTI-PURPOSE SEALANT BLACK	300	Milliliter(ML)	13-Jul-20
V000006588	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006589	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
V000006587	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
V000006586	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
V000006585	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
V000006584	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
V000006583	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
V000006581	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
V00000657F	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
V000006580	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
V00000658A	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
V000006582	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	13-Jul-20
0001557360	-	PSX 700 CURE	0.2	Gallon(GAL)	13-Jul-20
0001557366	-	PSX 700 CURE	0.2	Gallon(GAL)	13-Jul-20
0001557365	-	PSX 700 CURE	0.2	Gallon(GAL)	13-Jul-20
0001557361	-	PSX 700 CURE	0.2	Gallon(GAL)	13-Jul-20
0001557364	-	PSX 700 CURE	0.2	Gallon(GAL)	13-Jul-20
0001557362	-	PSX 700 CURE	0.2	Gallon(GAL)	13-Jul-20
0001557363	-	PSX 700 CURE	0.2	Gallon(GAL)	13-Jul-20
0001557368	-	PSX 700 CURE	0.2	Gallon(GAL)	13-Jul-20
0001557369	-	PSX 700 CURE	0.2	Gallon(GAL)	13-Jul-20
0001557367	-	PSX 700 CURE	0.2	Gallon(GAL)	13-Jul-20
0001557373	-	AMERLOCK SEALER HRD 00333521	1	Gallon(GAL)	13-Jul-20
0001557371	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	13-Jul-20
0001592516	917-54-4	METHYLLITHIUM	50	Milliliter(ML)	13-Jul-20
0001557372	-	AMERLOCK SEALER HRD 00333521	1	Gallon(GAL)	13-Jul-20
0001603003	-	STYCAST 2850 FT	3	Pounds(LB)	13-Jul-20
0001603004	75-05-8	ACETONITRILE ANHYDROUS	100	Milliliter(ML)	13-Jul-20
0001603005	6968-28-1	4-Bromophthalic acid	25	Gram(GM)	13-Jul-20
0001603006	-	PLASTCure Pattern 2500	10	Kilograms(KG)	13-Jul-20
0001603008	-	PLASTCure Pattern 2500	10	Kilograms(KG)	13-Jul-20
0001603007	-	PLASTCure Pattern 2500	10	Kilograms(KG)	13-Jul-20
0001603009	-	SMOOTH-ON EPOXY	1.25	Pounds(LB)	13-Jul-20
0001603010	100-39-0	BENZYL BROMIDE	25	Gram(GM)	13-Jul-20
0001603011	67-68-5	SYBR GREEN I NUCLEIC ACID	500	Microliter	13-Jul-20
0001603012	55-48-1	ATROPINE SULFATE	5	Gram(GM)	13-Jul-20
0001603013	-	4000 SERIES MONOSIZED PARTICLES	15	Milliliter(ML)	13-Jul-20
0001603014	-	4000 SERIES MONOSIZED PARTICLES	15	Milliliter(ML)	13-Jul-20
0001603015	106-95-6	ALLYL BROMIDE	100	Gram(GM)	13-Jul-20
0001603016	-	TERT-BUTANOL	100	Milliliter(ML)	13-Jul-20
0001603017	603-35-0	TRIPHENYLPHOSPHINE	25	Gram(GM)	13-Jul-20
0001603018	7782-42-5	Carbon nanohorns as-grown	250	Milligram(MG)	13-Jul-20
0001603019	429-41-4	TETRABUTYLAMMONIUM FLUORIDE	100	Milliliter(ML)	13-Jul-20
0001603020	540-69-2	AMMONIUM FORMATE	50	Gram(GM)	13-Jul-20
0001603021	57-13-6	UREA	500	Gram(GM)	13-Jul-20
0001603022	17-1313-01	SDS	100	Gram(GM)	13-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603023	-	LIQUINOX	947	Milliliter(ML)	13-Jul-20
0001603024	81-07-2	o-Sulfobenzimide	500	Gram(GM)	13-Jul-20
0001603025	2446-83-5	DIISOPROPYL AZODICARBOXYLATE	25	Gram(GM)	13-Jul-20
0001603026	67-68-5	DIMETHYL SULFOXIDE	500	Gram(GM)	13-Jul-20
0001557376	-	PSX 700 Deep Tint Resin	1	Gallon(GAL)	13-Jul-20
0001557377	-	PSX 700 Deep Tint Resin	1	Gallon(GAL)	13-Jul-20
0001557382	-	PSX 700 Deep Tint Resin	1	Gallon(GAL)	13-Jul-20
0001557383	-	PSX 700 Deep Tint Resin	1	Gallon(GAL)	13-Jul-20
0001557381	-	PSX 700 Deep Tint Resin	1	Gallon(GAL)	13-Jul-20
0001557379	-	PSX 700 Deep Tint Resin	1	Gallon(GAL)	13-Jul-20
0001557378	-	PSX 700 Deep Tint Resin	1	Gallon(GAL)	13-Jul-20
0001557380	-	PSX 700 Deep Tint Resin	1	Gallon(GAL)	13-Jul-20
V000006594	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V000006596	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V000006595	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V000006593	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V000006592	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V000006591	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V000006590	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V00000658F	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V00000658E	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V00000658D	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V00000658C	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
V00000658B	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Jul-20
0001625905	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625906	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625907	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625916	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625915	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625914	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625913	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625912	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625911	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625910	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625908	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
0001625909	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Jul-20
V0000065A6	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	14-Jul-20
V0000065A7	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	14-Jul-20
V0000065AB	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	14-Jul-20
V0000065A8	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	14-Jul-20
V0000065A9	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	14-Jul-20
V0000065AA	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	14-Jul-20
V0000065AE	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	14-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000065AD	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	14-Jul-20
V0000065AC	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	14-Jul-20
V0000065AF	-	CRYSTAL WINDSHIELD WASHER -25	2.5	Gallon(GAL)	14-Jul-20
V0000065B0	-	CRYSTAL WINDSHIELD WASHER -25	2.5	Gallon(GAL)	14-Jul-20
V0000065B1	-	CRYSTAL WINDSHIELD WASHER -25	2.5	Gallon(GAL)	14-Jul-20
V0000065B2	-	CRYSTAL WINDSHIELD WASHER -25	2.5	Gallon(GAL)	14-Jul-20
0001625917	-	GOJO ORIGINAL FORMULA Hand Cleaner	4.5	Pounds(LB)	14-Jul-20
0001625922	-	GOJO ORIGINAL FORMULA Hand Cleaner	4.5	Pounds(LB)	14-Jul-20
0001625921	-	GOJO ORIGINAL FORMULA Hand Cleaner	4.5	Pounds(LB)	14-Jul-20
0001625920	-	GOJO ORIGINAL FORMULA Hand Cleaner	4.5	Pounds(LB)	14-Jul-20
0001625919	-	GOJO ORIGINAL FORMULA Hand Cleaner	4.5	Pounds(LB)	14-Jul-20
0001625918	-	GOJO ORIGINAL FORMULA Hand Cleaner	4.5	Pounds(LB)	14-Jul-20
V0000065B5	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	14-Jul-20
V0000065B6	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	14-Jul-20
V0000065BA	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	14-Jul-20
V0000065B7	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	14-Jul-20
V0000065B8	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	14-Jul-20
V0000065B9	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	14-Jul-20
V0000065B4	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	14-Jul-20
V0000065B3	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	14-Jul-20
V0000065BB	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	14-Jul-20
V0000065BC	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	14-Jul-20
V0000065BD	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	14-Jul-20
V0000065BE	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	14-Jul-20
V0000065BF	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	14-Jul-20
0001625923	-	BRITE TOUCH General Purpose Paint Flat Black BT43	10	Ounces(OZ)	14-Jul-20
V0000065C0	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	14-Jul-20
V0000065C1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	14-Jul-20
V0000065C2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	14-Jul-20
V0000065C3	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	14-Jul-20
0001592517	-	ETHANOL ANHYDROUS	1	Gallon(GAL)	14-Jul-20
0001602666	420-04-2	CYANAMIDE	25	Gram(GM)	14-Jul-20
0001602667	420-04-2	CYANAMIDE	25	Gram(GM)	14-Jul-20
0001603027	103-84-4	ACETANILIDE	100	Gram(GM)	14-Jul-20
0001603028	7440-33-7	TUNGSTEN SLUGS	50	Gram(GM)	14-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603029	111-65-9	OCTANE	100	Milliliter(ML)	14-Jul-20
0001603031	111-65-9	OCTANE	100	Milliliter(ML)	14-Jul-20
0001603030	111-65-9	OCTANE	100	Milliliter(ML)	14-Jul-20
0001653837	-	1650ppm Oxygen/Balance Argon	220	Cubic Feet(CF)	14-Jul-20
0001653838	-	Oxygen Argon	220	Cubic Feet(CF)	14-Jul-20
V0000065CE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065CA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065C4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065C5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065C6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065C7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065C8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065C9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065D3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065DA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065D9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065D8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065D7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065D6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065CC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065D4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065CB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065D2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065D1	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065D0	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065CF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065CD	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
V0000065D5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Jul-20
0001603032	124-18-5	DECANE	100	Milliliter(ML)	14-Jul-20
0001625924	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625927	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625935	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625930	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625926	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625931	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625932	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625925	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625934	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625936	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625937	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625938	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625939	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625940	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625941	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001625929	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625928	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001625933	-	Prime Guard DEF	2.5	Gallon(GAL)	14-Jul-20
0001603033	2695-37-6	Sodium 4-vinylbenzenesulfonate	500	Gram(GM)	14-Jul-20
0001603034	41784-82-1	Thieno[2 3-b]thiophene-2 5-dicarboxaldehyde	1	Gram(GM)	14-Jul-20
0001603035	-	EGC III KOH	970	Milliliter(ML)	14-Jul-20
0001603037	-	EGC III KOH	970	Milliliter(ML)	14-Jul-20
0001603036	-	EGC III KOH	970	Milliliter(ML)	14-Jul-20
0001603038	-	EGC III KOH	970	Milliliter(ML)	14-Jul-20
0001603039	-	PHOSPHATE BUFFERED SOLUTION	100	Milliliter(ML)	14-Jul-20
0001603040	24324-17-2	9-FLUORENEMETHANOL	10	Gram(GM)	14-Jul-20
0001603041	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	14-Jul-20
0001603042	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	14-Jul-20
0001603043	64-18-6	FORMIC ACID	100	Milliliter(ML)	14-Jul-20
0001653777	-	Compressed Air	220	Cubic Feet(CF)	14-Jul-20
0001603044	506-87-6	AMMONIUM CARBONATE	500	Gram(GM)	14-Jul-20
0001653781	-	Compressed Air	220	Cubic Feet(CF)	14-Jul-20
0001653778	-	Compressed Air	220	Cubic Feet(CF)	14-Jul-20
0001653779	-	Compressed Air	220	Cubic Feet(CF)	14-Jul-20
0001653780	-	Compressed Air	220	Cubic Feet(CF)	14-Jul-20
0001603045	-	AMMONIUM PHOSPHATE MONOBASIC	500	Gram(GM)	14-Jul-20
0001653782	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653785	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653786	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653787	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653784	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653783	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001603046	30525-89-4	PARAFORMALDEHYDE	250	Milliliter(ML)	14-Jul-20
0001653832	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653824	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653825	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653826	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653827	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653828	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653829	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653831	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653823	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001653830	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Jul-20
0001603047	64-17-5	ETHANOL	500	Milliliter(ML)	14-Jul-20
0001603049	64-17-5	ETHANOL	500	Milliliter(ML)	14-Jul-20
0001603048	64-17-5	ETHANOL	500	Milliliter(ML)	14-Jul-20
0001279225	-	HEAVY DUTY PVC CEMENT GRAY 906	32	Ounces(OZ)	14-Jul-20
0001279226	-	HEAVY DUTY PVC CEMENT GRAY 906	32	Ounces(OZ)	14-Jul-20
0001603050	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001603053	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603060	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001603059	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001603058	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001603057	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001603056	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001603061	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001603054	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001603052	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001603051	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001603055	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	14-Jul-20
0001279227	-	HEAVY DUTY PVC CEMENT GRAY 906	32	Ounces(OZ)	14-Jul-20
0001279228	-	HEAVY DUTY PVC CEMENT GRAY 906	32	Ounces(OZ)	14-Jul-20
0001603062	7632-00-0	SODIUM NITRITE	5000	Gram(GM)	14-Jul-20
0001279229	-	PURPLE PRIMER FOR CPVC OR PVC	1	Pint(PT)	14-Jul-20
0001279238	-	PURPLE PRIMER FOR CPVC OR PVC	1	Pint(PT)	14-Jul-20
0001279237	-	PURPLE PRIMER FOR CPVC OR PVC	1	Pint(PT)	14-Jul-20
0001279236	-	PURPLE PRIMER FOR CPVC OR PVC	1	Pint(PT)	14-Jul-20
0001653788	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	14-Jul-20
0001653789	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	14-Jul-20
0001653790	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	14-Jul-20
0001653791	-	OXYGEN COMPRESSED GAS	20	Cubic Feet(CF)	14-Jul-20
0001653792	-	OXYGEN COMPRESSED GAS	20	Cubic Feet(CF)	14-Jul-20
0001653793	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653797	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653794	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653796	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653801	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653798	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653799	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653800	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653802	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653804	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653805	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653806	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653807	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653795	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653803	-	ARGON GAS	220	Cubic Feet(CF)	14-Jul-20
0001653808	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653812	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653813	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653809	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653811	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653822	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653821	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653820	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001653819	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653818	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653817	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653816	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653815	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653814	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653810	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	14-Jul-20
0001653833	-	HYDROGEN GAS	300	Cubic Feet(CF)	14-Jul-20
0001653835	-	HYDROGEN GAS	300	Cubic Feet(CF)	14-Jul-20
0001653834	-	HYDROGEN GAS	300	Cubic Feet(CF)	14-Jul-20
0001653836	-	Oxygen 1%/Bal. Argon	220	Cubic Feet(CF)	14-Jul-20
V0000065DB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	14-Jul-20
V0000065DC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	14-Jul-20
V0000065E0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	14-Jul-20
V0000065DF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	14-Jul-20
V0000065DE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	14-Jul-20
V0000065DD	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	14-Jul-20
0001574347	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	14-Jul-20
0001574348	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	14-Jul-20
0001574349	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	14-Jul-20
0001574669	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	14-Jul-20
0001574670	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	14-Jul-20
0001574454	-	CRC QD ELECTRONIC CLEANER	11	Ounces(OZ)	14-Jul-20
0001625942	-	CRC QD ELECTRONIC CLEANER	11	Ounces(OZ)	14-Jul-20
0001625943	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625960	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625955	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625956	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625957	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625959	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625961	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625958	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625948	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625945	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625944	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625947	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625954	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625949	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625950	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001625951	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625952	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625953	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001625946	-	Prime Guard DEF	2.5	Gallon(GAL)	15-Jul-20
0001557374	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	15-Jul-20
0001557375	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	15-Jul-20
0001592518	-	FETAL BOVINE SERUM	500	Milliliter(ML)	15-Jul-20
0001594397	1336-21-6	Ammonium Hydroxide ACS Plus	2.5	Liters(L)	15-Jul-20
0001594398	64-19-7	ACETIC ACID	2.5	Liters(L)	15-Jul-20
0001602359	6131-90-4	SODIUM ACETATE TRIHYDRATE	500	Gram(GM)	15-Jul-20
0001602360	-	AG MP-1M RESIN	500	Gram(GM)	15-Jul-20
0001602361	-	AG MP-1M RESIN	500	Gram(GM)	15-Jul-20
0001602362	-	AG MP-1M RESIN	500	Gram(GM)	15-Jul-20
0001602363	-	AG MP-1M RESIN	500	Gram(GM)	15-Jul-20
0001602364	-	AG MP-1M RESIN	500	Gram(GM)	15-Jul-20
0001602365	7447-40-7	POTASSIUM CHLORIDE	500	Milliliter(ML)	15-Jul-20
0001603063	590-17-0	BROMOACETONITRILE	25	Gram(GM)	15-Jul-20
0001603064	62-53-3	ANILINE	100	Milliliter(ML)	15-Jul-20
0001603065	67-64-1	ACETONE	4	Liters(L)	15-Jul-20
0001603066	67-64-1	ACETONE	4	Liters(L)	15-Jul-20
0001603067	67-64-1	ACETONE	4	Liters(L)	15-Jul-20
0001603068	67-64-1	ACETONE	4	Liters(L)	15-Jul-20
0001603069	-	DTT	7.7	Milligram(MG)	15-Jul-20
0001603070	-	BUTYL ACRYLATE N- (1004)	1	Liters(L)	15-Jul-20
0001603071	117-84-0	DIOCTYL PHTHALATE	500	Milliliter(ML)	15-Jul-20
0001603072	1634-04-4	TERT-BUTYL METHYL ETHER	1	Liters(L)	15-Jul-20
0001603073	54-42-2	5-IODO-2'-DEOXYURIDINE	1	Kilograms(KG)	15-Jul-20
0001603075	54-42-2	5-IODO-2'-DEOXYURIDINE	1	Kilograms(KG)	15-Jul-20
0001603074	54-42-2	5-IODO-2'-DEOXYURIDINE	1	Kilograms(KG)	15-Jul-20
0001557384	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557395	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557402	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557404	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557406	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557408	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557401	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557400	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557399	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557398	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557397	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557403	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557387	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557405	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557394	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557393	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557385	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557392	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557391	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557386	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557390	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557389	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557388	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557396	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
0001557407	-	POLYURETHANE SEALANT	10	Ounces(OZ)	15-Jul-20
V0000065E7	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	15-Jul-20
V0000065E6	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	15-Jul-20
V0000065E5	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	15-Jul-20
V0000065E4	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	15-Jul-20
V0000065E3	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	15-Jul-20
V0000065E2	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	15-Jul-20
0001625962	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	15-Jul-20
0001625965	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	15-Jul-20
0001625964	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	15-Jul-20
0001625963	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	15-Jul-20
0001625968	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	15-Jul-20
0001625969	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	15-Jul-20
0001625967	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	15-Jul-20
0001625966	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	15-Jul-20
V0000065E9	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	15-Jul-20
V0000065ED	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	15-Jul-20
V0000065EC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	15-Jul-20
V0000065EA	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	15-Jul-20
V0000065E8	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	15-Jul-20
V0000065EB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	15-Jul-20
0001421478	-	2.5% Calcium Gluconate Gel	25	Gram(GM)	15-Jul-20
0001421479	-	2.5% Calcium Gluconate Gel	25	Gram(GM)	15-Jul-20
V0000065F4	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	15-Jul-20
V0000065EE	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	15-Jul-20
V0000065EF	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	15-Jul-20
V0000065F0	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	15-Jul-20
V0000065F1	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	15-Jul-20
V0000065F2	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	15-Jul-20
V0000065F3	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	15-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000065F7	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Gallon(GAL)	15-Jul-20
V0000065FC	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Gallon(GAL)	15-Jul-20
V0000065F6	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Gallon(GAL)	15-Jul-20
V0000065F5	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Gallon(GAL)	15-Jul-20
V0000065F8	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Gallon(GAL)	15-Jul-20
V0000065F9	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Gallon(GAL)	15-Jul-20
V0000065FA	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Gallon(GAL)	15-Jul-20
V0000065FB	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Gallon(GAL)	15-Jul-20
0001557527	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	16-Jul-20
0001557529	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	16-Jul-20
0001557528	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	16-Jul-20
0001557530	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	16-Jul-20
0001557535	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	16-Jul-20
0001557531	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	16-Jul-20
0001557532	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	16-Jul-20
0001557533	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	16-Jul-20
0001557534	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	16-Jul-20
V00000660E	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	16-Jul-20
V00000660D	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	16-Jul-20
V00000660C	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	16-Jul-20
V00000660A	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	16-Jul-20
V00000660B	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	16-Jul-20
0001557536	-	SULLAIR SULLUBE	5	Gallon(GAL)	16-Jul-20
0001557537	-	SULLAIR SULLUBE	5	Gallon(GAL)	16-Jul-20
V000006613	-	ARDEX FEATHER FINISH	10	Pounds(LB)	16-Jul-20
V000006614	-	ARDEX FEATHER FINISH	10	Pounds(LB)	16-Jul-20
V000006616	-	ARDEX FEATHER FINISH	10	Pounds(LB)	16-Jul-20
V000006615	-	ARDEX FEATHER FINISH	10	Pounds(LB)	16-Jul-20
V000006611	-	ARDEX FEATHER FINISH	10	Pounds(LB)	16-Jul-20
V000006610	-	ARDEX FEATHER FINISH	10	Pounds(LB)	16-Jul-20
V00000660F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	16-Jul-20
V000006612	-	ARDEX FEATHER FINISH	10	Pounds(LB)	16-Jul-20
0001557538	68411-46-1	Atlas Copco Roto Z	4.5	Gallon(GAL)	16-Jul-20
0001592519	9002-07-7	TRYPSIN	20	Milligram(MG)	16-Jul-20
0001592521	9002-07-7	TRYPSIN	20	Milligram(MG)	16-Jul-20
0001592520	9002-07-7	TRYPSIN	20	Milligram(MG)	16-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001592522	-	Pierce Peptide Retention Time Calibration Mixture	50	Milliliter(ML)	16-Jul-20
0001592523	-	Pierce Peptide Retention Time Calibration Mixture	50	Milliliter(ML)	16-Jul-20
0001592524	-	ARATHANE 5750-A/B	1	Quarts(QT)	16-Jul-20
0001592525	-	ARATHANE 5753-A/B	1	Quarts(QT)	16-Jul-20
0001592526	27774-13-6	VANADYL SULFATE	25	Gram(GM)	16-Jul-20
0001603076	14338-32-0	2-Chloro-1-methylpyridinium iodide	10	Gram(GM)	16-Jul-20
0001603077	15715-58-9	TRIETHYLAMMONIUM BICARBONATE BUFFER PH 8.5	100	Milliliter(ML)	16-Jul-20
0001603078	10294-41-4	CERIUM(III) NITRATE HEXAHYDRATE	125	Gram(GM)	16-Jul-20
0001603079	110-54-3	HEXANE REAGENT PLUS	100	Milliliter(ML)	16-Jul-20
0001603080	6279-86-3	TRIETHYL METHANETRICARBOXYLATE	25	Gram(GM)	16-Jul-20
0001603081	1310-73-2	SODIUM HYDROXIDE PELLETS	500	Gram(GM)	16-Jul-20
0001603082	-	ACETONE ACS	1	Liters(L)	16-Jul-20
0001603085	-	ACETONE ACS	1	Liters(L)	16-Jul-20
0001603084	-	ACETONE ACS	1	Liters(L)	16-Jul-20
0001603083	-	ACETONE ACS	1	Liters(L)	16-Jul-20
0001603086	-	GENTAMICIN SOLUTION	10	Milliliter(ML)	16-Jul-20
0001603087	107-21-1	ETHYLENE GLYCOL (ETHYLENE GLYCOL ANHYDROUS)	1	Liters(L)	16-Jul-20
0001603088	9005-64-5	TWEEN 20	100	Milliliter(ML)	16-Jul-20
0001603089	-	TWEEN 80	100	Milliliter(ML)	16-Jul-20
0001603090	7632-05-5	SODIUM PHOSPHATE	100	Gram(GM)	16-Jul-20
0001603091	10124-56-8	SODIUM HEXAMETAPHOSPHATE	1	Kilograms(KG)	16-Jul-20
0001603092	623-24-5	DIBROMO-P-XYLENE	25	Gram(GM)	16-Jul-20
0001603093	33135-50-1	Poly(L-lactic acid)	1	Gram(GM)	16-Jul-20
0001603094	590-17-0	BROMOACETONITRILE	25	Gram(GM)	16-Jul-20
0001603095	10196-04-0	AMMONIUM SULFITE	500	Gram(GM)	16-Jul-20
0001603096	10196-04-0	AMMONIUM SULFITE	500	Gram(GM)	16-Jul-20
0001603097	-	VITA-D-CHLOR SLO-TABS	35	Pounds(LB)	16-Jul-20
0001603100	-	VITA-D-CHLOR SLO-TABS	35	Pounds(LB)	16-Jul-20
0001603099	-	VITA-D-CHLOR SLO-TABS	35	Pounds(LB)	16-Jul-20
0001603098	-	VITA-D-CHLOR SLO-TABS	35	Pounds(LB)	16-Jul-20
0001603101	-	IMUTHANE PET-90A	45	Pounds(LB)	16-Jul-20
0001603102	106264-79-3	Ethacure-300	40	Pounds(LB)	16-Jul-20
0001603103	-	LN RESIN	100	Gram(GM)	16-Jul-20
0001603104	-	LN RESIN	100	Gram(GM)	16-Jul-20
0001603105	132705-51-2	Bromo-tris-pyrrolidino-phosphonium hexafluorophosphate	25	Gram(GM)	16-Jul-20
0001603106	132705-51-2	Bromo-tris-pyrrolidino-phosphonium hexafluorophosphate	25	Gram(GM)	16-Jul-20
0001603107	7693-46-1	4-NITROPHENYL CHLOROFORMATE	25	Gram(GM)	16-Jul-20
0001603108	-	CONDUCTIVITY STANDARD	500	Milliliter(ML)	16-Jul-20
0001603109	121-43-7	TRIMETHYL BORATE	250	Milliliter(ML)	16-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603110	-	TaqMan RNA-to-CT 1-Step Kit	250	Milliliter(ML)	16-Jul-20
0001603111	-	Hellmanex III Liquid Cleaning Concentrate	1.4	Kilograms(KG)	16-Jul-20
0001603112	89831-40-3	3 4-Dimethyl-1H-pyrazole-5-carboxylic acid	1	Gram(GM)	16-Jul-20
0001603113	-	DNeasy PowerSoil HTP 96 Kit	250	Milliliter(ML)	16-Jul-20
0001603115	-	DNeasy PowerSoil HTP 96 Kit	250	Milliliter(ML)	16-Jul-20
0001603114	-	DNeasy PowerSoil HTP 96 Kit	250	Milliliter(ML)	16-Jul-20
0001603116	8002-74-2	PARAFFIN	2.5	Liters(L)	16-Jul-20
0001603117	8002-74-2	PARAFFIN	2.5	Liters(L)	16-Jul-20
0001603118	97-88-1	BUTYL METHACRYLATE	1	Liters(L)	16-Jul-20
0001603119	103-11-7	2-ETHYLHEXYL ACRYLATE	1	Kilograms(KG)	16-Jul-20
0001645237	-	BUFFER SOLUTION PH 7.0	5	Gallon(GAL)	16-Jul-20
0001645238	-	H2SO4 PRESERVATION KIT FOR 250 ML CONTAINER	100	Milliliter(ML)	16-Jul-20
0001645240	-	H2SO4 PRESERVATION KIT FOR 250 ML CONTAINER	100	Milliliter(ML)	16-Jul-20
0001645239	-	H2SO4 PRESERVATION KIT FOR 250 ML CONTAINER	100	Milliliter(ML)	16-Jul-20
0001645241	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	16-Jul-20
0001645248	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	16-Jul-20
0001645244	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	16-Jul-20
0001645245	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	16-Jul-20
0001645246	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	16-Jul-20
0001645242	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	16-Jul-20
0001645250	-	HNO3 PRESERVATION FOR 250 ML	4	Milliliter(ML)	16-Jul-20
0001645249	-	HNO3 PRESERVATION FOR 125 ML	100	Milliliter(ML)	16-Jul-20
0001557559	-	COTE ALL SAFETY YELLOW	1	Gallon(GAL)	16-Jul-20
0001557551	-	COTE ALL SAFETY YELLOW	1	Gallon(GAL)	16-Jul-20
0001557557	-	COTE ALL SAFETY YELLOW	1	Gallon(GAL)	16-Jul-20
0001557553	-	COTE ALL SAFETY YELLOW	1	Gallon(GAL)	16-Jul-20
0001557552	-	COTE ALL SAFETY YELLOW	1	Gallon(GAL)	16-Jul-20
0001557554	-	COTE ALL SAFETY YELLOW	1	Gallon(GAL)	16-Jul-20
0001557558	-	COTE ALL SAFETY YELLOW	1	Gallon(GAL)	16-Jul-20
0001557556	-	COTE ALL SAFETY YELLOW	1	Gallon(GAL)	16-Jul-20
0001557555	-	COTE ALL SAFETY YELLOW	1	Gallon(GAL)	16-Jul-20
0001645251	-	HNO3 PRESERVATION FOR 250 ML	100	Milliliter(ML)	16-Jul-20
0001645253	-	HNO3 PRESERVATION FOR 250 ML	4	Milliliter(ML)	16-Jul-20
0001645252	-	HNO3 PRESERVATION FOR 250 ML	4	Milliliter(ML)	16-Jul-20
0001645285	-	ORP STANDARD SOLUTION	1	Liters(L)	17-Jul-20
0001645286	7664-93-9	H2SO4 Preservation for a 125 ml Container	100	Milliliter(ML)	17-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001645287	7664-93-9	H2SO4 Preservation for a 125 ml Container	100	Milliliter(ML)	17-Jul-20
0001645288	-	H2SO4 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	17-Jul-20
0001645290	-	HNO3 PRESERVATION KIT FOR 1 GAL CONTAINER	100	Milliliter(ML)	17-Jul-20
0001645297	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645300	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645292	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645298	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645296	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645295	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645294	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645293	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645291	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645299	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645301	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	17-Jul-20
0001645302	-	HNO3 PRESERVATION KIT FOR 1 GAL CONTAINER	100	Milliliter(ML)	17-Jul-20
0001645303	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	17-Jul-20
0001645304	-	HNO3 PRESERVATION FOR 125 ML	100	Milliliter(ML)	17-Jul-20
0001645305	7697-37-2	HNO3 Preservation for 500 ml Container	100	Milliliter(ML)	17-Jul-20
0001645308	7697-37-2	HNO3 Preservation for 500 ml Container	100	Milliliter(ML)	17-Jul-20
0001645306	7697-37-2	HNO3 Preservation for 500 ml Container	100	Milliliter(ML)	17-Jul-20
0001645307	7697-37-2	HNO3 Preservation for 500 ml Container	100	Milliliter(ML)	17-Jul-20
0001645309	-	Hydrochloric Acid	125	Milliliter(ML)	17-Jul-20
0001645310	-	Hydrochloric Acid	125	Milliliter(ML)	17-Jul-20
0001645311	1310-73-2	NaOH Preservation for 250 ml Container	4	Milliliter(ML)	17-Jul-20
0001645312	1310-73-2	NaOH Preservation for 250 ml Container	4	Milliliter(ML)	17-Jul-20
0001645313	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645317	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645323	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645322	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645321	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645320	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645318	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645316	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645315	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645324	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645319	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	17-Jul-20
0001645325	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645326	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645336	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645331	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645340	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001645338	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645334	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645332	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645327	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645328	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645329	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645330	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645339	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001557560	-	Tarkett 965	4	Gallon(GAL)	17-Jul-20
0001645341	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645342	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645348	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645350	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645349	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645347	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645346	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645345	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645343	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001645344	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	17-Jul-20
0001557561	-	Austin's Ammonia	1	Gallon(GAL)	17-Jul-20
0001557564	-	Austin's Ammonia	1	Gallon(GAL)	17-Jul-20
0001557562	-	Austin's Ammonia	1	Gallon(GAL)	17-Jul-20
0001557563	-	Austin's Ammonia	1	Gallon(GAL)	17-Jul-20
0001557539	-	PSX 700 pearl gray resin	1	Gallon(GAL)	17-Jul-20
0001557540	-	PSX 700 CURE	1	Quarts(QT)	17-Jul-20
0001557544	-	PSX 700 CURE	1	Quarts(QT)	17-Jul-20
0001557543	-	PSX 700 CURE	1	Quarts(QT)	17-Jul-20
0001557541	-	PSX 700 CURE	1	Quarts(QT)	17-Jul-20
0001557542	-	PSX 700 CURE	1	Quarts(QT)	17-Jul-20
0001557545	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Jul-20
0001557546	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Jul-20
0001557547	-	PSX 700 pearl gray resin	1	Gallon(GAL)	17-Jul-20
0001557548	-	PSX 700 pearl gray resin	1	Gallon(GAL)	17-Jul-20
0001557549	-	PSX 700 pearl gray resin	1	Gallon(GAL)	17-Jul-20
0001557550	-	PSX 700 pearl gray resin	1	Gallon(GAL)	17-Jul-20
0001557565	-	ACID Magic Advanced Formula	1	Gallon(GAL)	17-Jul-20
0001557566	-	ACID Magic Advanced Formula	1	Gallon(GAL)	17-Jul-20
0001557567	-	ACID Magic Advanced Formula	1	Gallon(GAL)	17-Jul-20
0001557568	-	ACID Magic Advanced Formula	1	Gallon(GAL)	17-Jul-20
0001557409	-	ARDEX-V-1200	50	Pounds(LB)	17-Jul-20
0001557411	-	ARDEX-V-1200	50	Pounds(LB)	17-Jul-20
0001557417	-	ARDEX-V-1200	50	Pounds(LB)	17-Jul-20
0001557412	-	ARDEX-V-1200	50	Pounds(LB)	17-Jul-20
0001557410	-	ARDEX-V-1200	50	Pounds(LB)	17-Jul-20
0001557416	-	ARDEX-V-1200	50	Pounds(LB)	17-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557415	-	ARDEX-V-1200	50	Pounds(LB)	17-Jul-20
0001557414	-	ARDEX-V-1200	50	Pounds(LB)	17-Jul-20
0001557413	-	ARDEX-V-1200	50	Pounds(LB)	17-Jul-20
0001557418	-	ARDEX-V-1200	50	Pounds(LB)	17-Jul-20
V000006626	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V000006629	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V000006628	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V000006627	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V000006621	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V000006624	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V000006622	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V000006620	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V00000661F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V00000661E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V000006625	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
V000006623	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Jul-20
0001603120	7782-40-3	Diamond Powder	10	Gram(GM)	18-Jul-20
0001603121	7782-40-3	Diamond Powder	10	Gram(GM)	18-Jul-20
0001603122	71-43-2	BENZENE	1	Liters(L)	18-Jul-20
0001603123	71-43-2	BENZENE	1	Liters(L)	18-Jul-20
0001603124	93-61-8	N-Methylformanilide	25	Gram(GM)	18-Jul-20
0001603125	4224-70-8	6-BROMOHEXANOIC ACID	25	Gram(GM)	18-Jul-20
0001603126	35737-15-6	N-ALPHA-FMOC-L-TRYPTOPHAN	5	Gram(GM)	18-Jul-20
0001603127	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603135	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603134	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603133	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603132	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603131	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603130	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603128	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603137	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603138	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603136	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603139	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603140	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603141	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603129	-	LOCTITE REMOVABLE THREADLOCKER 242	10	Milliliter(ML)	18-Jul-20
0001603142	7440-33-7	TUNGSTEN POWDER	500	Gram(GM)	18-Jul-20
0001603143	7664-39-3	HYDROFLUORIC ACID	500	Milliliter(ML)	18-Jul-20
0001603144	67-56-1	METHANOL	4	Liters(L)	18-Jul-20
0001603145	67-56-1	METHANOL	4	Liters(L)	18-Jul-20
0001603146	67-56-1	METHANOL	4	Liters(L)	18-Jul-20
0001603147	67-56-1	METHANOL	4	Liters(L)	18-Jul-20
0001603148	75-05-8	ACETONITRILE HPLC	1	Liters(L)	18-Jul-20
0001603153	75-05-8	ACETONITRILE HPLC	1	Liters(L)	18-Jul-20
0001603149	75-05-8	ACETONITRILE HPLC	1	Liters(L)	18-Jul-20
0001603150	75-05-8	ACETONITRILE HPLC	1	Liters(L)	18-Jul-20
0001603151	75-05-8	ACETONITRILE HPLC	1	Liters(L)	18-Jul-20
0001603152	75-05-8	ACETONITRILE HPLC	1	Liters(L)	18-Jul-20
0001603154	75-05-8	ACETONITRILE OPTIMA	4	Liters(L)	18-Jul-20
0001603155	75-05-8	ACETONITRILE OPTIMA	4	Liters(L)	18-Jul-20
0001603156	75-05-8	ACETONITRILE OPTIMA	4	Liters(L)	18-Jul-20
0001603157	75-05-8	ACETONITRILE OPTIMA	4	Liters(L)	18-Jul-20
0001603158	67-63-0	PROPANOL-2	4	Liters(L)	18-Jul-20
0001603159	67-63-0	PROPANOL-2	4	Liters(L)	18-Jul-20
0001603160	76-05-1	TRIFLUOROACETIC ACID	10	Milliliter(ML)	18-Jul-20
0001603161	64-17-5	ETHYL ALCOHOL	4	Liters(L)	18-Jul-20
0001603162	13813-40-6	TERBIUM(III) IODIDE	1	Gram(GM)	18-Jul-20
0001603163	13572-98-0	GADOLINIUM IODIDE ANHYDROUS	1	Gram(GM)	18-Jul-20
0001603164	-	LDH Cytotoxicity Assay	23	Milliliter(ML)	18-Jul-20
0001603165	50-69-1	D-RIBOSE	1	Gram(GM)	18-Jul-20
0001603166	75-05-8	ACETONITRILE OPTIMA	1	Liters(L)	18-Jul-20
0001603167	75-05-8	ACETONITRILE OPTIMA	1	Liters(L)	18-Jul-20
0001603168	462-06-6	FLUOROBENZENE	500	Gram(GM)	18-Jul-20
0001603169	462-06-6	FLUOROBENZENE	500	Gram(GM)	18-Jul-20
0001603170	3945-69-5	4-(4 6-Dimethoxy-1 3 5-triazin-2-yl)-4-methylmorpholinium Chloride	5	Gram(GM)	18-Jul-20
0001603171	144-48-9	IODOACETAMIDE	9.3	Milligram(MG)	18-Jul-20
0001603172	603-33-8	Triphenylbismuth	1	Gram(GM)	18-Jul-20
0001603173	603-33-8	Triphenylbismuth	1	Gram(GM)	18-Jul-20
0001603174	603-33-8	Triphenylbismuth	1	Gram(GM)	18-Jul-20
0001603175	11070-73-8	INSULIN FROM BOVINE PANCREAS	5	Milliliter(ML)	18-Jul-20
0001603183	56-81-5	FastDigest KfII	20	Milliliter(ML)	18-Jul-20
0001603184	7447-40-7	POTASSIUM CHLORIDE	250	Milliliter(ML)	18-Jul-20
0001625970	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625972	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625984	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001625983	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625981	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625979	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625978	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625977	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625976	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625975	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625973	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625971	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625982	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625985	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625974	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
0001625980	-	RANGER PRO HERBICIDE	2.5	Gallon(GAL)	20-Jul-20
V000006635	-	GROUNDED (ADJUVANT)	2.5	Gallon(GAL)	20-Jul-20
V00000663B	-	GROUNDED (ADJUVANT)	2.5	Gallon(GAL)	20-Jul-20
V00000663A	-	GROUNDED (ADJUVANT)	2.5	Gallon(GAL)	20-Jul-20
V000006639	-	GROUNDED (ADJUVANT)	2.5	Gallon(GAL)	20-Jul-20
V000006638	-	GROUNDED (ADJUVANT)	2.5	Gallon(GAL)	20-Jul-20
V000006636	-	GROUNDED (ADJUVANT)	2.5	Gallon(GAL)	20-Jul-20
V000006634	-	GROUNDED (ADJUVANT)	2.5	Gallon(GAL)	20-Jul-20
V000006633	-	GROUNDED (ADJUVANT)	2.5	Gallon(GAL)	20-Jul-20
V000006632	-	GROUNDED (ADJUVANT)	2.5	Gallon(GAL)	20-Jul-20
V000006637	-	GROUNDED (ADJUVANT)	2.5	Gallon(GAL)	20-Jul-20
V00000663C	-	Spray Indicator XL	1	Gallon(GAL)	20-Jul-20
V000006640	-	Spray Indicator XL	1	Gallon(GAL)	20-Jul-20
V00000663F	-	Spray Indicator XL	1	Gallon(GAL)	20-Jul-20
V00000663E	-	Spray Indicator XL	1	Gallon(GAL)	20-Jul-20
V00000663D	-	Spray Indicator XL	1	Gallon(GAL)	20-Jul-20
0001625986	-	AXXE Broad Spectrum Herbicide	2.5	Gallon(GAL)	20-Jul-20
0001625987	-	AXXE Broad Spectrum Herbicide	2.5	Gallon(GAL)	20-Jul-20
0001625989	-	AXXE Broad Spectrum Herbicide	2.5	Gallon(GAL)	20-Jul-20
0001625990	-	AXXE Broad Spectrum Herbicide	2.5	Gallon(GAL)	20-Jul-20
0001625991	-	AXXE Broad Spectrum Herbicide	2.5	Gallon(GAL)	20-Jul-20
0001625992	-	AXXE Broad Spectrum Herbicide	2.5	Gallon(GAL)	20-Jul-20
0001625993	-	AXXE Broad Spectrum Herbicide	2.5	Gallon(GAL)	20-Jul-20
0001625994	-	AXXE Broad Spectrum Herbicide	2.5	Gallon(GAL)	20-Jul-20
0001625995	-	AXXE Broad Spectrum Herbicide	2.5	Gallon(GAL)	20-Jul-20
0001625988	-	AXXE Broad Spectrum Herbicide	2.5	Gallon(GAL)	20-Jul-20
V000006646	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V000006645	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V000006649	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006648	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V000006644	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V000006643	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V000006642	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V000006641	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V000006647	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
0001625996	-	PERMATEX BLUE RTV	1.69	Ounces(OZ)	20-Jul-20
V00000664A	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	20-Jul-20
V00000664B	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	20-Jul-20
V000006666	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000666E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000666D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000666C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000666B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000666A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006669	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000666F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006667	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006674	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006665	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006668	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006670	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006671	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006673	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006650	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006675	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006676	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006677	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006678	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006679	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000667A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006664	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006672	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006658	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000664C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000664D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000664E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000664F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000667D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006651	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000667C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006653	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006654	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006655	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006652	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006657	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006663	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006659	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000665A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000665B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000665C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000665D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000665E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000665F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006660	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006661	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006662	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006656	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V00000667B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Jul-20
V000006686	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V00000668F	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V00000668E	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V00000668D	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V00000668C	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V00000668B	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V00000668A	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006689	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006690	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006687	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006682	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006685	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006684	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006683	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006681	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V00000667F	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V00000667E	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006688	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006692	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006693	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006694	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006680	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20
V000006691	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	20-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000669B	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V00000669C	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V00000669A	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V000006699	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V000006698	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V000006697	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V000006696	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V000006695	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V0000066A7	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066A2	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066AE	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066AD	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066AC	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066AB	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066AA	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066A8	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066A3	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V00000669F	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066A5	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066A4	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V00000669E	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066A1	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066A0	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066A9	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066A6	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V00000669D	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066C8	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066C6	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066C9	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066C4	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066CE	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066C3	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066C2	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066C5	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066CA	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000066CB	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066CD	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066CF	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066D2	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066D1	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066BE	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066C1	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066D0	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066CC	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066B9	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066B0	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066B1	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066B2	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066B3	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066B4	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066B5	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066B6	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066B8	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066C0	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066BB	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066BF	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066C7	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000066B7	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066BC	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066AF	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066BA	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
V0000066BD	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	20-Jul-20
0001625997	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626008	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626002	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626009	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626006	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626007	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626010	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626005	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626004	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626003	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626000	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001625999	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001625998	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626001	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001626011	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Jul-20
0001384862	-	LOCTITE ADHESIVE	0.7	Ounces(OZ)	20-Jul-20
0001384847	-	LOCTITE ADHESIVE	0.7	Ounces(OZ)	20-Jul-20
0001384848	-	LOCTITE ADHESIVE	0.7	Ounces(OZ)	20-Jul-20
0001384849	-	LOCTITE ADHESIVE	0.7	Ounces(OZ)	20-Jul-20
0001384853	-	LOCTITE ADHESIVE	0.7	Ounces(OZ)	20-Jul-20
0001384858	-	LOCTITE ADHESIVE	0.7	Ounces(OZ)	20-Jul-20
0001384857	-	LOCTITE ADHESIVE	0.7	Ounces(OZ)	20-Jul-20
0001384856	-	LOCTITE ADHESIVE	0.7	Ounces(OZ)	20-Jul-20
0001384855	-	LOCTITE ADHESIVE	0.7	Ounces(OZ)	20-Jul-20
0001384854	-	LOCTITE ADHESIVE	0.7	Ounces(OZ)	20-Jul-20
V0000066D9	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066D4	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066D5	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066DC	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066D6	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066DA	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066D3	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066D8	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066D7	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	20-Jul-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000066DB	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	20-Jul-20
0001603176	10196-18-6	ZINC NITRATE HEXAHYDRATE	500	Gram(GM)	20-Jul-20
0001603177	75-98-9	TRIMETHYLACETIC ACID	100	Milliliter(ML)	20-Jul-20
0001603178	1310-66-3	LITHIUM HYDROXIDE MONOHYDRATE	25	Gram(GM)	20-Jul-20
0001603179	36945-08-1	n-Butylammonium iodide	25	Gram(GM)	20-Jul-20
0001603180	39430-51-8	CHROMIUM(III) ACETATE HYDROXIDE	250	Gram(GM)	20-Jul-20
0001603181	6268-49-1	4-Dimethylaminoazobenzene-4'-carboxylic acid	5	Gram(GM)	20-Jul-20
0001603182	7440-66-6	ZINC	250	Gram(GM)	20-Jul-20
0001603255	8042-47-5	WHITE MINERAL OIL	1	Liters(L)	20-Jul-20
0001603256	8042-47-5	WHITE MINERAL OIL	1	Liters(L)	20-Jul-20
0001603257	-	L-TARTARIC ACID	100	Gram(GM)	20-Jul-20
0001603258	-	L-TARTARIC ACID	100	Gram(GM)	20-Jul-20
0001603259	872-50-4	1-METHYL-2-PYRROLIDINONE	1	Liters(L)	20-Jul-20
0001603260	872-50-4	1-METHYL-2-PYRROLIDINONE	1	Liters(L)	20-Jul-20
V0000066E1	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V0000066E0	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V0000066DE	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V0000066DD	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
V0000066DF	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20
0001603261	-	Hydrazine-2-Cl-Trt-Resin SS 100-200 mesh	5	Gram(GM)	20-Jul-20
V0000066E2	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	20-Jul-20
V0000066E4	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V0000066E5	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V0000066EE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V0000066ED	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V0000066EC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V0000066EB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V0000066EA	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V0000066E9	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V0000066E8	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V0000066E7	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
V0000066E6	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000066E3	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	20-Jul-20
0001603262	13048-33-4	1 6-HEXANEDIOL DIACRYLATE	50	Gram(GM)	20-Jul-20
0001603263	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	500	Milliliter(ML)	20-Jul-20
0001603264	108-90-7	CHLOROBENZENE	100	Milliliter(ML)	20-Jul-20
0001603267	108-90-7	CHLOROBENZENE	100	Milliliter(ML)	20-Jul-20
0001603266	108-90-7	CHLOROBENZENE	100	Milliliter(ML)	20-Jul-20
0001603265	108-90-7	CHLOROBENZENE	100	Milliliter(ML)	20-Jul-20
0001603268	7440-46-2	CESIUM	125	Milliliter(ML)	20-Jul-20
0001603271	-	Chemical Oxygen Demand (COD) Mercury-Free TNTplus Vial Test	1000	Milligram(MG)	20-Jul-20
0001603274	-	Chemical Oxygen Demand (COD) Mercury-Free TNTplus Vial Test	1000	Milligram(MG)	20-Jul-20
0001603275	-	Chemical Oxygen Demand (COD) Mercury-Free TNTplus Vial Test	1000	Milligram(MG)	20-Jul-20
0001603276	-	Chemical Oxygen Demand (COD) Mercury-Free TNTplus Vial Test	1000	Milligram(MG)	20-Jul-20
0001603273	-	Chemical Oxygen Demand (COD) Mercury-Free TNTplus Vial Test	1000	Milligram(MG)	20-Jul-20
0001603272	-	Chemical Oxygen Demand (COD) Mercury-Free TNTplus Vial Test	1000	Milligram(MG)	20-Jul-20
0001603277	67-64-1	ACETONE	4	Liters(L)	20-Jul-20
0001603278	67-64-1	ACETONE	4	Liters(L)	20-Jul-20
0001603279	67-64-1	ACETONE	4	Liters(L)	20-Jul-20
0001603280	67-64-1	ACETONE	4	Liters(L)	20-Jul-20
0001603281	-	SANIHOL 70 DENATURED ETHANOL	1	Gallon(GAL)	20-Jul-20
0001603284	-	SANIHOL 70 DENATURED ETHANOL	1	Gallon(GAL)	20-Jul-20
0001603282	-	SANIHOL 70 DENATURED ETHANOL	1	Gallon(GAL)	20-Jul-20
0001603283	-	SANIHOL 70 DENATURED ETHANOL	1	Gallon(GAL)	20-Jul-20
0001603285	27178-16-1	DIISODECYL ADIPATE	25	Milliliter(ML)	20-Jul-20
0001603286	5888-33-5	Isobornyl acrylate	25	Gram(GM)	20-Jul-20
0001626012	-	HH-66 VINYL CEMENT	1	Pint(PT)	20-Jul-20
0001626013	-	HH-66 VINYL CEMENT	1	Pint(PT)	20-Jul-20
0001626014	-	HH-66 VINYL CEMENT	1	Pint(PT)	20-Jul-20
0001626015	-	HH-66 VINYL CEMENT	1	Pint(PT)	20-Jul-20
0001626016	-	HH-66 VINYL CEMENT	1	Pint(PT)	20-Jul-20
0001626017	-	HH-66 VINYL CEMENT	1	Pint(PT)	20-Jul-20
0001603287	121-32-4	3-Ethoxy-4-hydroxybenzaldehyde	100	Gram(GM)	20-Jul-20
0001603288	-	PLATINUM CHLORIDE SOLUTION 10%	25	Milliliter(ML)	20-Jul-20
0001603289	-	Single-Walled Carbon Nanotube Freeze Dried Powder	1	Gram(GM)	20-Jul-20
0001603290	7782-42-5	MULTI-WALLED CARBON NANOTUBES	5	Gram(GM)	20-Jul-20
0001603292	7782-42-5	MULTI-WALLED CARBON NANOTUBES	5	Gram(GM)	20-Jul-20
0001603293	7782-42-5	MULTI-WALLED CARBON NANOTUBES	5	Gram(GM)	20-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603291	7782-42-5	MULTI-WALLED CARBON NANOTUBES	5	Gram(GM)	20-Jul-20
0001603294	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603295	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603296	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603297	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603298	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603299	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603300	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603301	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603305	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603302	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603303	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603304	-	Iradecon	32	Ounces(OZ)	20-Jul-20
0001603306	865-48-5	SODIUM TERT-BUTOXIDE	5	Gram(GM)	20-Jul-20
0001626018	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	20-Jul-20
0001626020	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	20-Jul-20
0001626021	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	20-Jul-20
0001626022	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	20-Jul-20
0001626023	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	20-Jul-20
0001626019	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	20-Jul-20
0001626024	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626032	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626025	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626026	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626027	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626028	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626029	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626031	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626033	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626034	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626035	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626036	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626037	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626038	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626030	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	20-Jul-20
0001626039	-	Parts Plus Type F ATF	1	Quarts(QT)	20-Jul-20
0001626044	-	Parts Plus Type F ATF	1	Quarts(QT)	20-Jul-20
0001626043	-	Parts Plus Type F ATF	1	Quarts(QT)	20-Jul-20
0001626042	-	Parts Plus Type F ATF	1	Quarts(QT)	20-Jul-20
0001626040	-	Parts Plus Type F ATF	1	Quarts(QT)	20-Jul-20
0001626041	-	Parts Plus Type F ATF	1	Quarts(QT)	20-Jul-20
V0000066EF	-	Valvoline¿ DEXRON-VI FULL SYNTHETIC AUTOMATIC TRANSMISSION FLUID	1	Quarts(QT)	20-Jul-20
V0000066F0	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	20-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000066F2	-	PARTS PLUS HD SAE 30 PREMIUM MOTOR OIL PP3371	1	Quarts(QT)	20-Jul-20
V0000066F1	-	PARTS PLUS HD SAE 30 PREMIUM MOTOR OIL PP3371	1	Quarts(QT)	20-Jul-20
V0000066F3	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066F7	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066F6	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066F5	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	20-Jul-20
V0000066F4	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	20-Jul-20
0001147052	-	RTV SLICONE SEALANT	300	Milliliter(ML)	20-Jul-20
0001147053	-	RTV SLICONE SEALANT	300	Milliliter(ML)	20-Jul-20
0001626045	-	Pyroil CARB & THROTTLE BODY CLEANER PYC16	13	Ounces(OZ)	20-Jul-20
0001626046	-	BRITE TOUCH SPRAY PAINT B12/B42 B13/B43 B14/B44	10	Ounces(OZ)	20-Jul-20
0001626048	-	BRITE TOUCH SPRAY PAINT B12/B42 B13/B43 B14/B44	10	Ounces(OZ)	20-Jul-20
V0000066F8	-	WD-40 Multi-Use Product TRIGGER PRO 50 State Compliant	20	Ounces(OZ)	20-Jul-20
0001626047	Multi	The Right Stuff	7.5	Ounces(OZ)	20-Jul-20
0001626051	-	ULTRA BLACK GASKET MAKER	3.5	Ounces(OZ)	20-Jul-20
0001626049	-	ULTRA BLACK GASKET MAKER	3.5	Ounces(OZ)	20-Jul-20
0001626050	-	ULTRA BLACK GASKET MAKER	3.5	Ounces(OZ)	20-Jul-20
0001646392	-	FIX A FLAT	16	Ounces(OZ)	20-Jul-20
0001646395	-	FIX A FLAT	16	Ounces(OZ)	20-Jul-20
0001646394	-	FIX A FLAT	16	Ounces(OZ)	20-Jul-20
0001646393	-	FIX A FLAT	16	Ounces(OZ)	20-Jul-20
0001646410	-	FIX A FLAT	16	Ounces(OZ)	20-Jul-20
0001646406	-	Tree Tracer Paint	1	Gallon(GAL)	20-Jul-20
0001646407	-	Tree Tracer Paint	1	Gallon(GAL)	20-Jul-20
0001646409	-	Tree Tracer Paint	1	Gallon(GAL)	20-Jul-20
0001646408	-	Tree Tracer Paint	1	Gallon(GAL)	20-Jul-20
0001557166	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557171	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557177	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557176	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557175	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557174	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557172	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557170	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557168	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557167	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557173	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557169	-	Simple Green All-Purpose Cleaner	5	Gallon(GAL)	21-Jul-20
0001557310	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557311	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557319	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557318	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557312	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557313	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557314	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557315	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557316	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557317	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557320	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557328	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557326	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557325	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557327	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557329	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557324	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557322	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557321	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557323	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	21-Jul-20
0001557330	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557331	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557332	-	GacoFlex 2-Part Epoxy Primer/Filler - Part B	5	Gallon(GAL)	21-Jul-20
0001557333	-	GacoFlex 2-Part Epoxy Primer/Filler - Part B	5	Gallon(GAL)	21-Jul-20
0001557334	-	GacoFlex 2-Part Epoxy Primer/Filler - Part B	5	Gallon(GAL)	21-Jul-20
0001557335	-	GacoFlex 2-Part Epoxy Primer/Filler - Part B	5	Gallon(GAL)	21-Jul-20
0001557336	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557351	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557352	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557353	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557337	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557341	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557348	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557345	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557350	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557349	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557355	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557347	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557354	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557338	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557340	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557346	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557342	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557343	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557344	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557339	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	21-Jul-20
0001557356	-	GACO E5320 EPOXY PRIMER PART A	5	Gallon(GAL)	21-Jul-20
0001557357	-	GACO E5320 EPOXY PRIMER PART A	5	Gallon(GAL)	21-Jul-20
0001557358	-	GACO E5320 EPOXY PRIMER PART B	5	Gallon(GAL)	21-Jul-20
0001557419	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557447	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557448	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557449	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557450	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557451	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557452	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557453	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557455	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557445	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557457	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557454	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557456	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557460	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557459	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557458	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557446	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557472	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557485	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557484	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557483	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557482	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557481	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557480	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557479	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557478	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557477	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557476	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557475	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557466	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557473	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557461	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557471	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557470	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557469	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557468	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557426	-	SODA ASH	50	Pounds(LB)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557467	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557444	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557465	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557464	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557463	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557462	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557474	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557427	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557424	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557428	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557423	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557443	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557422	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557421	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557420	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557425	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557429	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557430	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557431	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557438	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557442	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557441	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557486	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557439	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557432	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557437	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557436	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557435	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557434	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557433	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557440	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557501	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557490	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557503	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557504	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557505	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557506	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557502	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557500	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557499	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557498	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557497	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557496	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557495	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557494	-	SODA ASH	50	Pounds(LB)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557493	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557491	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557489	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557488	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557487	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557492	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557515	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557507	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557512	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557511	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557513	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557514	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557510	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557509	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557508	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557516	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557517	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557525	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557518	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557522	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557519	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557521	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557520	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557524	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001557523	-	SODA ASH	50	Pounds(LB)	21-Jul-20
0001626052	-	RED INSULATING VARNISH	2	Ounces(OZ)	21-Jul-20
0001626054	-	RED INSULATING VARNISH	2	Ounces(OZ)	21-Jul-20
0001626053	-	RED INSULATING VARNISH	2	Ounces(OZ)	21-Jul-20
0001626055	-	STEEL EPOXY	1	Ounces(OZ)	21-Jul-20
V000006704	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V0000066FC	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V0000066FE	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V0000066FF	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006700	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006701	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006714	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006703	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000671A	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006715	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006716	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006717	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V0000066FB	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006718	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006719	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006702	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000670D	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006709	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V0000066FD	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006708	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V0000066FA	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006707	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006706	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000670A	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000670C	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006705	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000670E	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000670F	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006710	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006711	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006712	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006713	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000670B	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000671D	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006722	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006721	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	21-Jul-20
V000006720	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000671E	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000671C	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000671B	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	21-Jul-20
V00000671F	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	21-Jul-20
0001557575	-	ACID Magic Advanced Formula	1	Gallon(GAL)	21-Jul-20
0001557576	-	ACID Magic Advanced Formula	1	Gallon(GAL)	21-Jul-20
0001557577	-	ACID Magic Advanced Formula	1	Gallon(GAL)	21-Jul-20
0001557578	-	ACID Magic Advanced Formula	1	Gallon(GAL)	21-Jul-20
V000006723	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006724	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006725	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006726	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006739	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006730	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006737	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006733	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006738	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V00000672A	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006732	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006734	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006736	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006728	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006731	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006727	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V00000672F	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V00000672E	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V00000672D	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V00000672C	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V00000673A	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V00000672B	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006729	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
V000006735	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	21-Jul-20
0001646396	-	MARKING PAINT FLUORESCENT GREEN	12	Ounces(OZ)	21-Jul-20
0001646403	-	SEMI-GLOSS PAINT	12	Ounces(OZ)	21-Jul-20
0001646399	-	MARKING PAINT FLUORESCENT PINK	12	Ounces(OZ)	21-Jul-20
0001646400	-	MARKING PAINT FLUORESCENT PINK	12	Ounces(OZ)	21-Jul-20
0001646402	-	SEMI-GLOSS PAINT	12	Ounces(OZ)	21-Jul-20
0001646404	-	SEMI-GLOSS PAINT	12	Ounces(OZ)	21-Jul-20
0001646405	-	SEMI-GLOSS PAINT	12	Ounces(OZ)	21-Jul-20
0001646401	-	SEMI-GLOSS PAINT	12	Ounces(OZ)	21-Jul-20
0001646397	-	MARKING PAINT FLUORESCENT GREEN	12	Ounces(OZ)	21-Jul-20
0001646398	-	MARKING PAINT FLUORESCENT ORANGE	12	Ounces(OZ)	21-Jul-20
V000006742	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V000006740	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V00000673D	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V00000673F	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V00000673B	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V00000673C	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V000006746	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V000006745	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V00000673E	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V000006744	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V00000674C	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V000006741	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V00000674E	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V00000674B	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V000006743	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V00000674A	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V000006749	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V000006748	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V000006747	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000674D	-	MOBILITH SHC 220	13.4	Ounces(OZ)	21-Jul-20
V000006753	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V000006757	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V00000674F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V000006750	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V000006754	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V000006756	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V000006758	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V000006759	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V000006751	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V000006752	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V00000675A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
V000006755	-	ARDEX FEATHER FINISH	10	Pounds(LB)	21-Jul-20
0001557579	-	ARDEX-V-1200	50	Pounds(LB)	21-Jul-20
0001557580	-	ARDEX-V-1200	50	Pounds(LB)	21-Jul-20
0001557581	-	ARDEX-V-1200	50	Pounds(LB)	21-Jul-20
0001557582	-	ARDEX-V-1200	50	Pounds(LB)	21-Jul-20
0001557583	-	ARDEX-V-1200	50	Pounds(LB)	21-Jul-20
0001626056	-	Prime Guard DEF	2.5	Gallon(GAL)	21-Jul-20
0001626057	-	Prime Guard DEF	2.5	Gallon(GAL)	21-Jul-20
0001557569	31336-21-6	Aqua Ammonia Solutions	1	Gallon(GAL)	21-Jul-20
0001557570	31336-21-6	Aqua Ammonia Solutions	1	Gallon(GAL)	21-Jul-20
0001557571	31336-21-6	Aqua Ammonia Solutions	1	Gallon(GAL)	21-Jul-20
0001557572	31336-21-6	Aqua Ammonia Solutions	1	Gallon(GAL)	21-Jul-20
0001557573	-	Gerfix TPS+	4	Gallon(GAL)	21-Jul-20
0001557574	-	Gerfix TPS+	4	Gallon(GAL)	21-Jul-20
0001645351	-	ORP Standard 220 mV	1	Liters(L)	21-Jul-20
0001645358	-	ORP Standard 220 mV	1	Liters(L)	21-Jul-20
0001645353	-	ORP Standard 220 mV	1	Liters(L)	21-Jul-20
0001645354	-	ORP Standard 220 mV	1	Liters(L)	21-Jul-20
0001645355	-	ORP Standard 220 mV	1	Liters(L)	21-Jul-20
0001645357	-	ORP Standard 220 mV	1	Liters(L)	21-Jul-20
0001645356	-	ORP Standard 220 mV	1	Liters(L)	21-Jul-20
0001645254	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	21-Jul-20
0001603185	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603193	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603198	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603191	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603199	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603186	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603197	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603196	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603195	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603192	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603190	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603189	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603188	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603187	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603194	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001603200	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	17	Ounces(OZ)	21-Jul-20
0001654003	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Jul-20
0001603307	Multi	Buffer pH 4.01 (Pink)	500	Milliliter(ML)	21-Jul-20
0001603310	Multi	Buffer pH 4.01 (Pink)	500	Milliliter(ML)	21-Jul-20
0001603308	Multi	Buffer pH 4.01 (Pink)	500	Milliliter(ML)	21-Jul-20
0001603309	Multi	Buffer pH 4.01 (Pink)	500	Milliliter(ML)	21-Jul-20
0001603311	-	BUFFER PH 7 (YELLOW BUFFER)	500	Milliliter(ML)	21-Jul-20
0001603312	-	BUFFER PH 7 (YELLOW BUFFER)	500	Milliliter(ML)	21-Jul-20
0001603313	-	BUFFER PH 7 (YELLOW BUFFER)	500	Milliliter(ML)	21-Jul-20
0001603314	-	BUFFER PH 7 (YELLOW BUFFER)	500	Milliliter(ML)	21-Jul-20
0001603315	-	BUFFER PH 10.01	500	Milliliter(ML)	21-Jul-20
0001603316	-	BUFFER PH 10.01	500	Milliliter(ML)	21-Jul-20
0001653839	-	R-22	30	Cubic Feet(CF)	21-Jul-20
0001653843	-	R-22	30	Cubic Feet(CF)	21-Jul-20
0001653840	-	R-22	30	Cubic Feet(CF)	21-Jul-20
0001653842	-	R-22	30	Cubic Feet(CF)	21-Jul-20
0001653841	-	R-22	30	Cubic Feet(CF)	21-Jul-20
0001653844	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653862	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653865	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653864	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653866	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653863	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653861	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653860	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653859	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653858	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653857	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653856	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653855	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653845	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653853	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653852	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653851	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653850	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653849	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653848	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653847	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653867	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653846	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653854	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001653868	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653869	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001653870	-	ARGON GAS	220	Cubic Feet(CF)	21-Jul-20
0001603327	-	TEFLON FEPD 121 DISPERSION	250	Milliliter(ML)	21-Jul-20
0001603328	-	Teflon PTFE fluoropolymer	250	Milliliter(ML)	21-Jul-20
0001653871	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653887	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653882	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653899	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653898	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653897	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653896	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653895	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653894	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653893	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653892	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653891	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653890	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653889	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653888	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653900	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653876	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653884	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653886	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653872	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653873	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653875	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653877	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653878	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653879	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653880	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653881	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653883	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653885	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653874	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001603329	-	CONTRAD 70	1	Liters(L)	21-Jul-20
0001653916	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653926	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653932	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653933	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653931	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653930	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653929	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653928	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653927	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001653925	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653924	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653923	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653922	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653921	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653920	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653918	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653917	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653934	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001653919	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Jul-20
0001603330	10043-01-3	ALUMINUM SULFATE 18-HYDRATE	500	Milliliter(ML)	21-Jul-20
0001653901	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653915	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653902	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653903	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653904	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653905	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653906	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653907	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653908	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653909	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653910	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653911	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653912	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653913	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001653914	-	6% Hydrogen 94% Argon	220	Cubic Feet(CF)	21-Jul-20
0001603331	-	LANL-69 Custom Solution	250	Milliliter(ML)	21-Jul-20
0001653935	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	21-Jul-20
0001653936	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	21-Jul-20
0001653937	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	21-Jul-20
0001653938	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	21-Jul-20
0001653939	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	21-Jul-20
0001653940	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	21-Jul-20
0001603332	7440-42-8	BORON POWDER	1	Kilograms(KG)	21-Jul-20
0001603335	7440-42-8	BORON POWDER	1	Kilograms(KG)	21-Jul-20
0001603333	7440-42-8	BORON POWDER	1	Kilograms(KG)	21-Jul-20
0001603334	7440-42-8	BORON POWDER	1	Kilograms(KG)	21-Jul-20
0001653985	-	OXYGEN COMPRESSED GAS	20	Cubic Feet(CF)	21-Jul-20
0001653986	-	OXYGEN COMPRESSED GAS	20	Cubic Feet(CF)	21-Jul-20
0001603336	7757-83-7	Silica 3 Reagent Powder Pillows	5	Milligram(MG)	21-Jul-20
0001603338	7757-83-7	Silica 3 Reagent Powder Pillows	5	Milligram(MG)	21-Jul-20
0001603339	7757-83-7	Silica 3 Reagent Powder Pillows	5	Milligram(MG)	21-Jul-20
0001603340	7757-83-7	Silica 3 Reagent Powder Pillows	5	Milligram(MG)	21-Jul-20
0001603337	7757-83-7	Silica 3 Reagent Powder Pillows	5	Milligram(MG)	21-Jul-20
0001603341	-	Low Velocity Powdered Smoke	50	Milligram(MG)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603343	-	Low Velocity Powdered Smoke	50	Milligram(MG)	21-Jul-20
0001603347	-	Low Velocity Powdered Smoke	50	Milligram(MG)	21-Jul-20
0001603350	-	Low Velocity Powdered Smoke	50	Milligram(MG)	21-Jul-20
0001603349	-	Low Velocity Powdered Smoke	50	Milligram(MG)	21-Jul-20
0001603348	-	Low Velocity Powdered Smoke	50	Milligram(MG)	21-Jul-20
0001603344	-	Low Velocity Powdered Smoke	50	Milligram(MG)	21-Jul-20
0001603345	-	Low Velocity Powdered Smoke	50	Milligram(MG)	21-Jul-20
0001603342	-	Low Velocity Powdered Smoke	50	Milligram(MG)	21-Jul-20
0001603346	-	Low Velocity Powdered Smoke	50	Milligram(MG)	21-Jul-20
0001603351	865-49-6	CHLOROFORM D1	100	Milliliter(ML)	21-Jul-20
0001603352	865-49-6	CHLOROFORM D1	100	Milliliter(ML)	21-Jul-20
0001653941	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	21-Jul-20
0001653943	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	21-Jul-20
0001653944	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	21-Jul-20
0001653942	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	21-Jul-20
0001653945	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653956	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653959	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653957	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653955	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653954	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653953	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653952	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653950	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653949	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653948	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653947	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653946	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653951	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653958	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001653962	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653972	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653971	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653970	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653969	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653968	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653967	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653966	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653964	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653960	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653973	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653963	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653965	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653983	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653974	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653961	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653982	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653981	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653980	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653979	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653978	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653977	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001653976	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653975	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653984	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	21-Jul-20
0001653987	-	HYDROGEN 2% BALANCE AIR	220	Cubic Feet(CF)	21-Jul-20
0001603353	109-66-0	PENTANE	4	Liters(L)	21-Jul-20
0001603356	109-66-0	PENTANE	4	Liters(L)	21-Jul-20
0001603354	109-66-0	PENTANE	4	Liters(L)	21-Jul-20
0001603355	109-66-0	PENTANE	4	Liters(L)	21-Jul-20
0001653988	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653997	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653993	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653998	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653996	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653995	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653994	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653991	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653990	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653989	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653992	74-98-6	PROPANE	11	Cubic Feet(CF)	21-Jul-20
0001653999	-	Compressed Air	220	Cubic Feet(CF)	21-Jul-20
0001603357	108-21-4	ISOPROPYL ACETATE	4	Liters(L)	21-Jul-20
0001603358	108-21-4	ISOPROPYL ACETATE	4	Liters(L)	21-Jul-20
0001603359	108-21-4	ISOPROPYL ACETATE	4	Liters(L)	21-Jul-20
0001603360	108-21-4	ISOPROPYL ACETATE	4	Liters(L)	21-Jul-20
0001603361	75-05-8	ACETONITRILE OPTIMA	4	Liters(L)	21-Jul-20
0001603364	75-05-8	ACETONITRILE OPTIMA	4	Liters(L)	21-Jul-20
0001603363	75-05-8	ACETONITRILE OPTIMA	4	Liters(L)	21-Jul-20
0001603362	75-05-8	ACETONITRILE OPTIMA	4	Liters(L)	21-Jul-20
0001603365	67-56-1	METHANOL	4	Liters(L)	21-Jul-20
0001603366	67-56-1	METHANOL	4	Liters(L)	21-Jul-20
0001603367	67-56-1	METHANOL	4	Liters(L)	21-Jul-20
0001603368	67-56-1	METHANOL	4	Liters(L)	21-Jul-20
0001603369	-	SODIUM HYDRIDE 60%	100	Gram(GM)	21-Jul-20
0001603370	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603379	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603380	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603378	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603377	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603376	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603374	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603373	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603372	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603371	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603381	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603375	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	21-Jul-20
0001603382	78-10-4	TETRAETHYL ORTHOSILICATE	500	Milliliter(ML)	21-Jul-20
0001603386	78-10-4	TETRAETHYL ORTHOSILICATE	500	Milliliter(ML)	21-Jul-20
0001603387	78-10-4	TETRAETHYL ORTHOSILICATE	500	Milliliter(ML)	21-Jul-20
0001603385	78-10-4	TETRAETHYL ORTHOSILICATE	500	Milliliter(ML)	21-Jul-20
0001603384	78-10-4	TETRAETHYL ORTHOSILICATE	500	Milliliter(ML)	21-Jul-20
0001603383	78-10-4	TETRAETHYL ORTHOSILICATE	500	Milliliter(ML)	21-Jul-20
0001603388	-	Regeneration solution	25	Milliliter(ML)	21-Jul-20
0001603389	501-52-0	3-Phenylpropionic acid	100	Gram(GM)	21-Jul-20
0001603390	108-88-3	TOLUENE ANHYDROUS	1	Liters(L)	21-Jul-20
0001603391	108-88-3	TOLUENE ANHYDROUS	1	Liters(L)	21-Jul-20
0001603392	108-88-3	TOLUENE ANHYDROUS	1	Liters(L)	21-Jul-20
0001603393	2019-34-3	3-(4-Chlorophenyl)propionic acid	5	Gram(GM)	21-Jul-20
0001603394	123333-94-8	4-Styrenesulfonic acid sodium salt hydrate	500	Gram(GM)	21-Jul-20
0001603395	-	STYCAST 1266	9	Ounces(OZ)	21-Jul-20
0001603396	-	STYCAST 1266	9	Ounces(OZ)	21-Jul-20
0001603397	-	STYCAST 2850 FT	1	Quarts(QT)	21-Jul-20
0001603398	13494-80-9	TELLURIUM	125	Milliliter(ML)	21-Jul-20
0001603399	32364-72-0	2 2'-Bithiophene-5 5'-dicarboxaldehyde	5	Gram(GM)	21-Jul-20
0001603400	32364-72-0	2 2'-Bithiophene-5 5'-dicarboxaldehyde	5	Gram(GM)	21-Jul-20
0001603401	63231-67-4	SILICA GEL	1	Kilograms(KG)	21-Jul-20
0001603402	63231-67-4	SILICA GEL	1	Kilograms(KG)	21-Jul-20
0001603403	112-40-3	DODECANE	500	Milliliter(ML)	21-Jul-20
0001603404	112-40-3	DODECANE	500	Milliliter(ML)	21-Jul-20
0001603406	-	INSULATING VARNISH	1	Pint(PT)	21-Jul-20
0001603407	-	INSULATING VARNISH	1	Pint(PT)	21-Jul-20
0001603408	-	INSULATING VARNISH	1	Pint(PT)	21-Jul-20
0001419459	-	AeroTron-100	1	Gallon(GAL)	22-Jul-20
0001419460	-	AeroTron-100	1	Gallon(GAL)	22-Jul-20
0001063233	-	SULFATE STANDARD	125	Milliliter(ML)	22-Jul-20
0001063234	7631-99-4	NITRATE STANDARD	125	Milliliter(ML)	22-Jul-20
0001557597	-	Paramount Ext. 100% Acrylic Flat M/B	4.75	Gallon(GAL)	22-Jul-20
0001063235	-	PHOSPHATE STANDARD	125	Milliliter(ML)	22-Jul-20
0001557601	-	Paramount Ext. 100% Acrylic Flat M/B	4.75	Gallon(GAL)	22-Jul-20
0001557603	-	Paramount Ext. 100% Acrylic Flat M/B	4.75	Gallon(GAL)	22-Jul-20
0001557605	-	Paramount Ext. 100% Acrylic Flat M/B	4.75	Gallon(GAL)	22-Jul-20
0001557606	-	Paramount Ext. 100% Acrylic Flat M/B	4.75	Gallon(GAL)	22-Jul-20
0001557604	-	Paramount Ext. 100% Acrylic Flat M/B	4.75	Gallon(GAL)	22-Jul-20
0001557599	-	Paramount Ext. 100% Acrylic Flat M/B	4.75	Gallon(GAL)	22-Jul-20
0001557598	-	Paramount Ext. 100% Acrylic Flat M/B	4.75	Gallon(GAL)	22-Jul-20
0001557600	-	Paramount Ext. 100% Acrylic Flat M/B	4.75	Gallon(GAL)	22-Jul-20
0001557602	-	Paramount Ext. 100% Acrylic Flat M/B	4.75	Gallon(GAL)	22-Jul-20
0001063236	7647-14-5	CHLORIDE STANDARD	125	Milliliter(ML)	22-Jul-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001063237	-	FLUORIDE STANDARD	125	Milliliter(ML)	22-Jul-20
0001063238	-	CARBONATE STANDARD SOLUTION	125	Milliliter(ML)	22-Jul-20
0001063239	-	LITHIUM STANDARD	125	Milliliter(ML)	22-Jul-20
0001557607	-	PERMACRYL EXTERIOR SEMI-GLOSS NEUTRAL BASE	4.75	Gallon(GAL)	22-Jul-20
0001063240	-	MAGNESIUM STANDARD	125	Milliliter(ML)	22-Jul-20
0001063241	-	CALCIUM STANDARD	125	Milliliter(ML)	22-Jul-20
0001063242	-	POTASSIUM STANDARD	125	Milliliter(ML)	22-Jul-20
0001557608	-	PERMACRYL EXTERIOR SEMI-GLOSS NEUTRAL BASE	4.75	Gallon(GAL)	22-Jul-20
0001557611	-	PERMACRYL EXTERIOR SEMI-GLOSS NEUTRAL BASE	4.75	Gallon(GAL)	22-Jul-20
0001557610	-	PERMACRYL EXTERIOR SEMI-GLOSS NEUTRAL BASE	4.75	Gallon(GAL)	22-Jul-20
0001557609	-	PERMACRYL EXTERIOR SEMI-GLOSS NEUTRAL BASE	4.75	Gallon(GAL)	22-Jul-20
0001063243	7732-18-5	Ammonium Standard Solution	125	Milliliter(ML)	22-Jul-20
0001063244	-	SODIUM STANDARD	125	Milliliter(ML)	22-Jul-20
0001557612	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	4.75	Gallon(GAL)	22-Jul-20
0001557613	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	4.75	Gallon(GAL)	22-Jul-20
0001557614	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	4.75	Gallon(GAL)	22-Jul-20
0001557616	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	4.75	Gallon(GAL)	22-Jul-20
0001557615	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	4.75	Gallon(GAL)	22-Jul-20
0001557617	-	PERMACRYL EXTERIOR SEMI-GLOSS WHITE BASE	4.75	Gallon(GAL)	22-Jul-20
0001602366	7447-40-7	POTASSIUM CHLORIDE	500	Milliliter(ML)	22-Jul-20
0001557618	-	PERMACRYL EXTERIOR SEMI-GLOSS WHITE BASE	4.75	Gallon(GAL)	22-Jul-20
0001557620	-	PERMACRYL EXTERIOR SEMI-GLOSS WHITE BASE	4.75	Gallon(GAL)	22-Jul-20
0001557621	-	PERMACRYL EXTERIOR SEMI-GLOSS WHITE BASE	4.75	Gallon(GAL)	22-Jul-20
0001557619	-	PERMACRYL EXTERIOR SEMI-GLOSS WHITE BASE	4.75	Gallon(GAL)	22-Jul-20
0001603409	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603414	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603420	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603419	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603418	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603417	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603415	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603413	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603412	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603411	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603410	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603416	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	22-Jul-20
0001603421	12027-67-7	AMMONIUM MOLYBDATE TETRAHYDRATE	100	Gram(GM)	22-Jul-20
0001603422	7758-98-7	COPPER(II) SULFATE ANHYDROUS	10	Gram(GM)	22-Jul-20
0001603423	7705-08-0	IRON(III) CHLORIDE	5	Gram(GM)	22-Jul-20
0001603424	78-10-4	TETRAETHYL ORTHOSILICATE	500	Milliliter(ML)	22-Jul-20
0001603425	75-12-7	FORMAMIDE	250	Milliliter(ML)	22-Jul-20
0001603426	-	TEFLON FEPD 121 DISPERSION	250	Milliliter(ML)	22-Jul-20
0001603427	-	Teflon PTFE fluoropolymer	250	Milliliter(ML)	22-Jul-20
0001603428	110-54-3	HEXANE (HEXANE ANHYDROUS)	1	Liters(L)	22-Jul-20
0001603429	110-71-4	1 2-DIMETHOXYETHANE	2.5	Liters(L)	22-Jul-20
0001603430	110-71-4	1 2-DIMETHOXYETHANE	2.5	Liters(L)	22-Jul-20
0001603431	109-99-9	TETRAHYDROFURAN	1	Liters(L)	22-Jul-20
0001603433	109-99-9	TETRAHYDROFURAN	1	Liters(L)	22-Jul-20
0001603435	109-99-9	TETRAHYDROFURAN	1	Liters(L)	22-Jul-20
0001603432	109-99-9	TETRAHYDROFURAN	1	Liters(L)	22-Jul-20
0001603434	109-99-9	TETRAHYDROFURAN	1	Liters(L)	22-Jul-20
0001603436	109-99-9	TETRAHYDROFURAN	1	Liters(L)	22-Jul-20
0001603437	-	CHLOROTRIMETHYLSILANE	100	Milliliter(ML)	22-Jul-20
0001603438	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	22-Jul-20
0001603441	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	22-Jul-20
0001603440	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	22-Jul-20
0001603439	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	22-Jul-20
0001603442	203258-44-0	2-(2-Aminoethyl)-1 3-di-Boc-guanidine	1	Gram(GM)	22-Jul-20
0001626058	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001603444	-	POP-7 Polymer for 3130/3130xl Genetic Analyzers	3500	Microliter	22-Jul-20
0001603446	-	POP-7 Polymer for 3130/3130xl Genetic Analyzers	3500	Microliter	22-Jul-20
0001603445	-	POP-7 Polymer for 3130/3130xl Genetic Analyzers	3500	Microliter	22-Jul-20
0001626060	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001626059	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001603447	7631-86-9	SAND	1	Kilograms(KG)	22-Jul-20
0001626061	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001626067	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001626064	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001626068	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001626066	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001626065	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001626063	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626062	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001626069	-	Mobil 1 5W-40	4	Quarts(QT)	22-Jul-20
0001603448	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603451	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603459	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603458	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603457	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603455	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603454	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603452	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603450	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603449	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603456	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001603453	-	3M ScotchWeld Epoxy Adhesive EC-2216 B/A Gray Part B	43	Milliliter(ML)	22-Jul-20
0001626070	-	MOBIL 1 5W-50	1	Quarts(QT)	22-Jul-20
0001603462	-	FrostaLife Cryopreservation Solution	100	Milliliter(ML)	22-Jul-20
0001626071	-	MOBIL 1 5W-50	1	Quarts(QT)	22-Jul-20
0001626072	-	MOBIL 1 5W-50	1	Quarts(QT)	22-Jul-20
0001626077	-	MOBIL 1 5W-50	1	Quarts(QT)	22-Jul-20
0001626076	-	MOBIL 1 5W-50	1	Quarts(QT)	22-Jul-20
0001626075	-	MOBIL 1 5W-50	1	Quarts(QT)	22-Jul-20
0001626073	-	MOBIL 1 5W-50	1	Quarts(QT)	22-Jul-20
0001626074	-	MOBIL 1 5W-50	1	Quarts(QT)	22-Jul-20
0001603463	-	FrostaLife Cryopreservation Solution	100	Milliliter(ML)	22-Jul-20
0001603464	-	FrostaLife Cryopreservation Solution	100	Milliliter(ML)	22-Jul-20
0001603465	-	FrostaLife Cryopreservation Solution	100	Milliliter(ML)	22-Jul-20
0001603466	7440-45-1	CERIUM POWDER	25	Gram(GM)	22-Jul-20
0001626078	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626085	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626082	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626088	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626079	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626080	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626081	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626089	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626083	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626084	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626086	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626087	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
0001626090	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	22-Jul-20
V00000675E	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V00000675F	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006766	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006765	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006760	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006762	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006763	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006764	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006761	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
0001557622	-	Cote All M/B	1	Gallon(GAL)	22-Jul-20
0001557625	-	Cote All M/B	1	Gallon(GAL)	22-Jul-20
0001557623	-	Cote All M/B	1	Gallon(GAL)	22-Jul-20
0001557624	-	Cote All M/B	1	Gallon(GAL)	22-Jul-20
0001557626	-	Cote All N/B	1	Gallon(GAL)	22-Jul-20
0001557633	-	Cote All N/B	1	Gallon(GAL)	22-Jul-20
0001557629	-	Cote All N/B	1	Gallon(GAL)	22-Jul-20
0001557628	-	Cote All N/B	1	Gallon(GAL)	22-Jul-20
0001557630	-	Cote All N/B	1	Gallon(GAL)	22-Jul-20
0001557631	-	Cote All N/B	1	Gallon(GAL)	22-Jul-20
0001557632	-	Cote All N/B	1	Gallon(GAL)	22-Jul-20
0001557627	-	Cote All N/B	1	Gallon(GAL)	22-Jul-20
0001456978	7782-42-5	CARBON GRAPHITE POWDER -20 +60 MESH	250	Gram(GM)	22-Jul-20
V000006768	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V00000676C	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V00000676E	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V00000676B	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V00000676D	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006769	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006767	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V00000676A	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
0001557634	-	COTE ALL WHITE BASE	1	Gallon(GAL)	22-Jul-20
0001557637	-	COTE ALL WHITE BASE	1	Gallon(GAL)	22-Jul-20
0001557636	-	COTE ALL WHITE BASE	1	Gallon(GAL)	22-Jul-20
0001557635	-	COTE ALL WHITE BASE	1	Gallon(GAL)	22-Jul-20
0001557638	-	COTE ALL WHITE BASE	1	Gallon(GAL)	22-Jul-20
0001557639	-	COTE ALL WHITE BASE	1	Gallon(GAL)	22-Jul-20
0001557640	-	COTE ALL WHITE BASE	1	Gallon(GAL)	22-Jul-20
0001557641	-	COTE ALL WHITE BASE	1	Gallon(GAL)	22-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006776	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006772	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006773	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006775	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006771	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006770	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V00000676F	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
V000006774	-	Permacryl Ext Latex Semi-Gloss N/B	1	Gallon(GAL)	22-Jul-20
0001557642	-	Cote All J.D. (Safety) Yellow AZ-3433	1	Gallon(GAL)	22-Jul-20
0001557645	-	Cote All J.D. (Safety) Yellow AZ-3433	1	Gallon(GAL)	22-Jul-20
0001557644	-	Cote All J.D. (Safety) Yellow AZ-3433	1	Gallon(GAL)	22-Jul-20
0001557643	-	Cote All J.D. (Safety) Yellow AZ-3433	1	Gallon(GAL)	22-Jul-20
0001557646	-	Cote All J.D. (Safety) Yellow AZ-3433	1	Gallon(GAL)	22-Jul-20
0001423697	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	20	Gram(GM)	22-Jul-20
0001557648	-	Cote All J.D. (Safety) Yellow AZ-3433	1	Gallon(GAL)	22-Jul-20
0001557649	-	Cote All J.D. (Safety) Yellow AZ-3433	1	Gallon(GAL)	22-Jul-20
0001557647	-	Cote All J.D. (Safety) Yellow AZ-3433	1	Gallon(GAL)	22-Jul-20
0001423703	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	20	Gram(GM)	22-Jul-20
0001423699	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	20	Gram(GM)	22-Jul-20
0001423700	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	20	Gram(GM)	22-Jul-20
0001423701	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	20	Gram(GM)	22-Jul-20
0001423702	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	20	Gram(GM)	22-Jul-20
0001423704	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	20	Gram(GM)	22-Jul-20
0001423705	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	20	Gram(GM)	22-Jul-20
0001423698	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	20	Gram(GM)	22-Jul-20
0001557650	-	Cote All M/B	1	Gallon(GAL)	22-Jul-20
0001557653	-	Cote All M/B	1	Gallon(GAL)	22-Jul-20
0001557652	-	Cote All M/B	1	Gallon(GAL)	22-Jul-20
0001557651	-	Cote All M/B	1	Gallon(GAL)	22-Jul-20
0001557654	-	STARTEX PAINT THINNER	1	Gallon(GAL)	22-Jul-20
0001557655	-	STARTEX PAINT THINNER	1	Gallon(GAL)	22-Jul-20
0001557658	-	STARTEX PAINT THINNER	1	Gallon(GAL)	22-Jul-20
0001557657	-	STARTEX PAINT THINNER	1	Gallon(GAL)	22-Jul-20
0001557656	-	STARTEX PAINT THINNER	1	Gallon(GAL)	22-Jul-20
0001456979	7782-42-5	CARBON GRAPHITE POWDER 325 MESH	250	Gram(GM)	22-Jul-20
1646454	7647-01-0	HydroChloric Acid 0.1M	325	ml	23-Jul-20
1646463	1310-73-2	Sodium Hydroxide 0.1M	100	ml	23-Jul-20
1646462	1310-73-2	Sodium Hydroxide 0.1M	900	ml	23-Jul-20
1646465	1310-73-2	Sodium Hydroxide 0.1M	200	ml	23-Jul-20
1646464	1310-73-2	Sodium Hydroxide 0.1M	20	ml	23-Jul-20
1646455	1310-73-2	Sodium Hydroxide 0.1M	350	ml	23-Jul-20
1646461	7647-01-0	HydroChloric Acid 0.1M	16.25	ml	23-Jul-20
1646460	7647-01-0	HydroChloric Acid 0.1M	160	ml	23-Jul-20
1646459	7647-01-0	HydroChloric Acid 0.1M	160	ml	23-Jul-20
1646458	7647-01-0	HydroChloric Acid 0.1M	160	ml	23-Jul-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
1646457	7647-01-0	HydroChloric Acid 0.1M	160	ml	23-Jul-20
1646456	7647-01-0	HydroChloric Acid 0.1M	160	ml	23-Jul-20
0001654000	-	hydrogen 500ppm/Bal. air	105	Cubic Feet(CF)	23-Jul-20
0001654001	-	CARBON MONOXIDE IN HELIUM	20	Cubic Feet(CF)	23-Jul-20
0001557596	7681-38-1	Green Gobbler	55	Gallon(GAL)	23-Jul-20
0001557591	-	ARDEX-V-1200	50	Pounds(LB)	23-Jul-20
0001557595	-	ARDEX-V-1200	50	Pounds(LB)	23-Jul-20
0001557594	-	ARDEX-V-1200	50	Pounds(LB)	23-Jul-20
0001557592	-	ARDEX-V-1200	50	Pounds(LB)	23-Jul-20
0001557593	-	ARDEX-V-1200	50	Pounds(LB)	23-Jul-20
V000006787	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Jul-20
V000006788	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Jul-20
V000006789	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Jul-20
V00000678A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Jul-20
V000006786	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Jul-20
0001557584	-	LUBRIMATIC WHITE LITHIUM GREASE (11350 - 11354 - 11355 - 11356 - 11357 - 11358 - 11359 - 11360 - 11395 - 11484 - 11487)	12	Ounces(OZ)	23-Jul-20
0001557588	-	LUBRIMATIC WHITE LITHIUM GREASE (11350 - 11354 - 11355 - 11356 - 11357 - 11358 - 11359 - 11360 - 11395 - 11484 - 11487)	12	Ounces(OZ)	23-Jul-20
0001557587	-	LUBRIMATIC WHITE LITHIUM GREASE (11350 - 11354 - 11355 - 11356 - 11357 - 11358 - 11359 - 11360 - 11395 - 11484 - 11487)	12	Ounces(OZ)	23-Jul-20
0001557586	-	LUBRIMATIC WHITE LITHIUM GREASE (11350 - 11354 - 11355 - 11356 - 11357 - 11358 - 11359 - 11360 - 11395 - 11484 - 11487)	12	Ounces(OZ)	23-Jul-20
0001557585	-	LUBRIMATIC WHITE LITHIUM GREASE (11350 - 11354 - 11355 - 11356 - 11357 - 11358 - 11359 - 11360 - 11395 - 11484 - 11487)	12	Ounces(OZ)	23-Jul-20
0001557590	-	LUBRIMATIC WHITE LITHIUM GREASE (11350 - 11354 - 11355 - 11356 - 11357 - 11358 - 11359 - 11360 - 11395 - 11484 - 11487)	12	Ounces(OZ)	23-Jul-20
0001557589	-	LUBRIMATIC WHITE LITHIUM GREASE (11350 - 11354 - 11355 - 11356 - 11357 - 11358 - 11359 - 11360 - 11395 - 11484 - 11487)	12	Ounces(OZ)	23-Jul-20
0001557659	-	Roto-Xtend Duty Fluid	5	Gallon(GAL)	23-Jul-20
0001557662	-	Roto-Xtend Duty Fluid	5	Gallon(GAL)	23-Jul-20
0001557660	-	Roto-Xtend Duty Fluid	5	Gallon(GAL)	23-Jul-20
0001557661	-	Roto-Xtend Duty Fluid	5	Gallon(GAL)	23-Jul-20
0001557663	-	QUIN-CIP RECIPROCATING OIL ISO-100	1	Gallon(GAL)	23-Jul-20
0001557665	-	QUIN-CIP RECIPROCATING OIL ISO-100	1	Gallon(GAL)	23-Jul-20
0001557666	-	QUIN-CIP RECIPROCATING OIL ISO-100	1	Gallon(GAL)	23-Jul-20
0001557664	-	QUIN-CIP RECIPROCATING OIL ISO-100	1	Gallon(GAL)	23-Jul-20
0001654002	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	23-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001601949	7664-38-2	O-PHOSPHORIC ACID 85%	500	Milliliter(ML)	23-Jul-20
0001603548	1313-84-4	SODIUM SULFIDE NONAHYDRATE	1	Kilograms(KG)	23-Jul-20
0001603460	110199-17-2	(R)-4-Benzylthiazolidine-2-thione	1	Gram(GM)	23-Jul-20
0001603461	26690-80-2	tert-Butyl N-(2-hydroxyethyl)carbamate	25	Milliliter(ML)	23-Jul-20
0001603467	7718-54-9	NICKEL(II) CHLORIDE	250	Gram(GM)	23-Jul-20
0001603543	148-53-8	O-VANILLIN	100	Gram(GM)	23-Jul-20
0001603544	10025-82-8	INDIUM(III) CHLORIDE	10	Gram(GM)	23-Jul-20
0001603545	1321-74-0	DIVINYLBENZENE	1	Liters(L)	23-Jul-20
0001603546	1321-74-0	DIVINYLBENZENE	1	Liters(L)	23-Jul-20
0001603547	7631-86-9	SILICAGEL FOR COLUMN CHROMATOGRAPHY 0.030-0.075MM	5	Kilograms(KG)	23-Jul-20
0001603549	-	DOWSIL 3145 Silicone Adhesive	90	Milliliter(ML)	23-Jul-20
0001603553	-	DOWSIL 3145 Silicone Adhesive	90	Milliliter(ML)	23-Jul-20
0001603551	-	DOWSIL 3145 Silicone Adhesive	90	Milliliter(ML)	23-Jul-20
0001603550	-	DOWSIL 3145 Silicone Adhesive	90	Milliliter(ML)	23-Jul-20
0001603552	-	DOWSIL 3145 Silicone Adhesive	90	Milliliter(ML)	23-Jul-20
0001603554	26299-14-9	PYRIDINIUM CHLOROCHROMATE	100	Gram(GM)	23-Jul-20
0001603556	993-13-5	METHYLPHOSPHONIC ACID	2.5	Gram(GM)	23-Jul-20
0001603557	993-13-5	METHYLPHOSPHONIC ACID	2.5	Gram(GM)	23-Jul-20
0001603558	-	STRONTIUM STANDARD	125	Milliliter(ML)	23-Jul-20
0001603559	1184-78-7	TRIMETHYLAMINE N-OXIDE	1	Gram(GM)	23-Jul-20
0001603560	-	Zinc chloride anhydrous 98% (assay) 99.99% (metals basis)	5	Gram(GM)	23-Jul-20
0001603561	7718-98-1	VANADIUM(III) CHLORIDE	5	Gram(GM)	23-Jul-20
0001603562	7529-22-8	4-METHYLMORTHOLINE 4-OXIDE	5	Gram(GM)	23-Jul-20
0001603563	4028-23-3	ALLYDIMETHYLCHLOROSILANE	10	Gram(GM)	23-Jul-20
0001603564	1719-58-0	Chloro(dimethyl)vinylsilane	25	Milliliter(ML)	23-Jul-20
0001603565	Multi	Molecular Sieve Gas Purifier	5.5	Kilograms(KG)	23-Jul-20
0001603566	-	COPPER CATALYST	4.5	Kilograms(KG)	23-Jul-20
0001603567	7790-87-6	CERIUM(III) IODIDE ANHYDROUS	1	Gram(GM)	23-Jul-20
0001603568	7-14-1	1-PENTANOL	100	Milliliter(ML)	23-Jul-20
0001603569	7782-49-2	SELENIUM POWDER	50	Gram(GM)	23-Jul-20
0001557667	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557670	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557669	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557668	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557671	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557682	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557672	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557684	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557688	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557678	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557677	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557676	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557675	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557674	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557673	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557683	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557690	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557689	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557687	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557685	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557679	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557680	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557681	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557686	-	STIHL MOTOMIX HIgh Performance Patented Fuel	1	Quarts(QT)	24-Jul-20
0001557691	-	STIHL MOTOMIX HIgh Performance Patented Fuel	64	Ounces(OZ)	24-Jul-20
0001557692	-	STIHL MOTOMIX HIgh Performance Patented Fuel	64	Ounces(OZ)	24-Jul-20
0001557694	-	STIHL MOTOMIX HIgh Performance Patented Fuel	64	Ounces(OZ)	24-Jul-20
0001557693	-	STIHL MOTOMIX HIgh Performance Patented Fuel	64	Ounces(OZ)	24-Jul-20
0001602369	-	ICP-MS-1 STANDARD	125	Milliliter(ML)	24-Jul-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602370	-	ICP-MS-1 STANDARD	125	Milliliter(ML)	24-Jul-20
0001602371	-	LANL-ICP-MS-2 STANDARD SOLUTION	125	Milliliter(ML)	24-Jul-20
0001602372	-	LANL-ICP-MS-2 STANDARD SOLUTION	125	Milliliter(ML)	24-Jul-20
0001602373	-	LANL-TM-10 STANDARD SOLUTION	125	Milliliter(ML)	24-Jul-20
0001603201	-	GLASS WOOL	250	Gram(GM)	24-Jul-20
0001603204	-	GLASS WOOL	250	Gram(GM)	24-Jul-20
0001603203	-	GLASS WOOL	250	Gram(GM)	24-Jul-20
0001603202	-	GLASS WOOL	250	Gram(GM)	24-Jul-20
0001603570	-	CONFLIKT	1	Gallon(GAL)	24-Jul-20
0001603573	-	CONFLIKT	1	Gallon(GAL)	24-Jul-20
0001603571	-	CONFLIKT	1	Gallon(GAL)	24-Jul-20
0001603572	-	CONFLIKT	1	Gallon(GAL)	24-Jul-20
0001603574	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	24-Jul-20
0001603575	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	24-Jul-20
0001603576	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	24-Jul-20
0001603577	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	24-Jul-20
0001603578	98-95-3	NITROBENZENE	1	Liters(L)	24-Jul-20
0001603579	5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	250	Gram(GM)	24-Jul-20
0001603582	5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	250	Gram(GM)	24-Jul-20
0001603580	5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	250	Gram(GM)	24-Jul-20
0001603581	5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	250	Gram(GM)	24-Jul-20
0001626091	-	HYDREX XV ALL SEASON	54.2	Gallon(GAL)	24-Jul-20
0001626092	-	HYDREX XV ALL SEASON	54.2	Gallon(GAL)	24-Jul-20
0001626093	-	HYDREX XV ALL SEASON	54.2	Gallon(GAL)	24-Jul-20
0001626094	-	HYDREX XV ALL SEASON	54.2	Gallon(GAL)	24-Jul-20
0001603583	78560-45-9	Trichloro(1H 1H 2H 2H-perfluorooctyl)silane	10	Gram(GM)	24-Jul-20
0001603584	110-54-3	HEXANE (HEXANE ANHYDROUS)	2	Liters(L)	24-Jul-20
0001603585	-	CHLOROTRIMETHYLSILANE	25	Milliliter(ML)	24-Jul-20
0001557695	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	5	Gallon(GAL)	24-Jul-20
0001603586	75-05-8	ACETONITRILE ANHYDROUS	1	Liters(L)	24-Jul-20
0001603687	110-85-0	PIPERAZINE	5	Gram(GM)	24-Jul-20
0001557696	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	5	Gallon(GAL)	24-Jul-20
0001557697	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	5	Gallon(GAL)	24-Jul-20
0001557698	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	5	Gallon(GAL)	24-Jul-20
0001557699	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	5	Gallon(GAL)	24-Jul-20
0001557700	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	5	Gallon(GAL)	24-Jul-20
0001603688	-	HBSS	500	Milliliter(ML)	24-Jul-20
0001603690	-	HBSS	500	Milliliter(ML)	24-Jul-20
0001603691	-	HBSS	500	Milliliter(ML)	24-Jul-20

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0001603689	-	HBSS	500	Milliliter(ML)	24-Jul-20
0001603692	923884-15-5	3-methyl-6-phenyl-[1 2]oxazolo[5 4-b]pyridine-4-carboxylic acid	1	Gram(GM)	24-Jul-20
0001603693	993-13-5	METHYLPHOSPHONIC ACID	5	Gram(GM)	24-Jul-20
0001603694	4923-84-6	tert-Butylphophonic Acid	1	Gram(GM)	24-Jul-20
0001603695	22722-98-1	RED-AL [SODIUM BIS(2-METHOXYETHOXY)ALUMINUM HYDRIDE IN TOLUENE]	50	Gram(GM)	24-Jul-20
0001603696	79-20-9	METHYL ACETATE	2	Liters(L)	24-Jul-20
0001603700	79-20-9	METHYL ACETATE	2	Liters(L)	24-Jul-20
0001603699	79-20-9	METHYL ACETATE	2	Liters(L)	24-Jul-20
0001603698	79-20-9	METHYL ACETATE	2	Liters(L)	24-Jul-20
0001603697	79-20-9	METHYL ACETATE	2	Liters(L)	24-Jul-20
0001603701	141-78-6	ETHYL ACETATE	2	Liters(L)	24-Jul-20
0001603705	141-78-6	ETHYL ACETATE	2	Liters(L)	24-Jul-20
0001603704	141-78-6	ETHYL ACETATE	2	Liters(L)	24-Jul-20
0001603703	141-78-6	ETHYL ACETATE	2	Liters(L)	24-Jul-20
0001603702	141-78-6	ETHYL ACETATE	2	Liters(L)	24-Jul-20
0001603706	1314-11-0	STRONTIUM OXIDE	10	Gram(GM)	24-Jul-20
0001603707	999-97-3	1 1 1 3 3 3-HEXAMETHYLDISILAZANE	1	Liters(L)	24-Jul-20
0001557717	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	5	Gallon(GAL)	24-Jul-20
0001557707	-	Avalon Premium 100% Acrylic Interior Satin W/B	5	Gallon(GAL)	24-Jul-20
0001557712	-	Avalon Premium 100% Acrylic Interior Satin W/B	5	Gallon(GAL)	24-Jul-20
0001557716	-	Avalon Premium 100% Acrylic Interior Satin W/B	5	Gallon(GAL)	24-Jul-20
0001557715	-	Avalon Premium 100% Acrylic Interior Satin W/B	5	Gallon(GAL)	24-Jul-20
0001557713	-	Avalon Premium 100% Acrylic Interior Satin W/B	5	Gallon(GAL)	24-Jul-20
0001557711	-	Avalon Premium 100% Acrylic Interior Satin W/B	5	Gallon(GAL)	24-Jul-20
0001557710	-	Avalon Premium 100% Acrylic Interior Satin W/B	5	Gallon(GAL)	24-Jul-20
0001557709	-	Avalon Premium 100% Acrylic Interior Satin W/B	5	Gallon(GAL)	24-Jul-20
0001557708	-	Avalon Premium 100% Acrylic Interior Satin W/B	5	Gallon(GAL)	24-Jul-20
0001557714	-	Avalon Premium 100% Acrylic Interior Satin W/B	5	Gallon(GAL)	24-Jul-20
0001557721	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	24-Jul-20
0001557725	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	24-Jul-20
0001557724	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	24-Jul-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557723	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	24-Jul-20
0001557722	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	24-Jul-20
0001645255	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001557733	107-41-5	ChemSafe Gold	5	Gallon(GAL)	24-Jul-20
0001645280	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645264	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645263	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645262	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645261	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645265	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645259	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645278	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645256	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645257	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645284	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645283	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645282	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645281	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645260	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645258	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645274	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645273	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645272	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645271	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645270	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645268	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645275	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645267	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645266	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645276	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645279	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645277	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001645269	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	24-Jul-20
0001557718	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	5	Gallon(GAL)	24-Jul-20
0001557719	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	5	Gallon(GAL)	24-Jul-20
0001557720	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	5	Gallon(GAL)	24-Jul-20
0000744474	7664-39-3	HYDROFLUORIC ACID	250	Milliliter(ML)	27-Jul-20
0001626095	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626096	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626100	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626098	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626099	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20

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0001626110	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626101	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626102	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626103	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626104	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626105	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626106	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626107	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626108	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626109	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001626097	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	27-Jul-20
0001603205	-	EPO-TEK 353ND	8	Ounces(OZ)	27-Jul-20
0001603634	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603640	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603651	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603650	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603649	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603648	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603647	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603646	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603645	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603644	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603643	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603641	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603639	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603638	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603637	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603636	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603635	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603653	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603654	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603642	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603674	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603681	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603680	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603679	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603678	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603677	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603652	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603675	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603673	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603672	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603671	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603670	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603669	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20

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0001603668	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603655	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603666	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603665	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603664	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603663	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603662	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603676	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603661	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603660	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603659	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603658	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603657	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603656	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603667	64-17-5	ETHANOL	1	Pint(PT)	27-Jul-20
0001603682	-	WHITE LITHIUM GREASE	1.5	Ounces(OZ)	27-Jul-20
0001603683	777-81-8	DRIERITE	5	Pounds(LB)	27-Jul-20
0001603684	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	27-Jul-20
0001603685	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	27-Jul-20
0001603686	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	27-Jul-20
0001603708	-	SODIUM HYDROXIDE	500	Gram(GM)	27-Jul-20
0001603709	77-86-1	TRIZMA BASE	1	Kilograms(KG)	27-Jul-20
0001603710	6117-80-2	CIS-2-BUTENE-1 4-DIOL	25	Gram(GM)	27-Jul-20
0001603711	75-47-8	IODOFORM	100	Gram(GM)	27-Jul-20
0001603712	-	3M FLUORINERT FC-70	100	Milliliter(ML)	27-Jul-20
0001603713	-	3M FLUORINERT FC-70	100	Milliliter(ML)	27-Jul-20
0001603714	-	3M FLUORINERT FC-70	100	Milliliter(ML)	27-Jul-20
0001603716	-	3M FLUORINERT FC-70	100	Milliliter(ML)	27-Jul-20
0001603717	-	3M FLUORINERT FC-70	100	Milliliter(ML)	27-Jul-20
0001603715	-	3M FLUORINERT FC-70	100	Milliliter(ML)	27-Jul-20
0001603718	10035-04-8	CALCIUM CHLORIDE DIHYDRATE	25	Gram(GM)	27-Jul-20
0001603720	10035-04-8	CALCIUM CHLORIDE DIHYDRATE	25	Gram(GM)	27-Jul-20
0001603721	98-00-0	FURFURYL ALCOHOL	5	Kilograms(KG)	27-Jul-20
0001603722	98-00-0	FURFURYL ALCOHOL	5	Kilograms(KG)	27-Jul-20
0001603723	007697-37-2	NITRIC ACID	1	Liters(L)	27-Jul-20
0001603728	007697-37-2	NITRIC ACID	1	Liters(L)	27-Jul-20
0001603724	007697-37-2	NITRIC ACID	1	Liters(L)	27-Jul-20
0001603725	007697-37-2	NITRIC ACID	1	Liters(L)	27-Jul-20
0001603726	007697-37-2	NITRIC ACID	1	Liters(L)	27-Jul-20
0001603727	007697-37-2	NITRIC ACID	1	Liters(L)	27-Jul-20
0001603729	-	AMMONIUM HYDROXIDE SOLUTION	250	Milliliter(ML)	27-Jul-20
0001603730	-	AMMONIUM HYDROXIDE SOLUTION	250	Milliliter(ML)	27-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603731	-	Eichrom Ln Resin	50	Gram(GM)	27-Jul-20
0001603732	-	ALCONOX DETERGENT	1.8	Kilograms(KG)	27-Jul-20
0001603733	-	AMMONIUM ACETATE	250	Gram(GM)	27-Jul-20
0001603734	-	AMMONIUM ACETATE	250	Gram(GM)	27-Jul-20
0001603735	-	WATER LC-MS	4	Liters(L)	27-Jul-20
0001603738	-	WATER LC-MS	4	Liters(L)	27-Jul-20
0001603737	-	WATER LC-MS	4	Liters(L)	27-Jul-20
0001603736	-	WATER LC-MS	4	Liters(L)	27-Jul-20
0001654004	-	Oxygen Nitrogen	34	Cubic Feet(CF)	27-Jul-20
0001654005	124-38-9	CARBON DIOXIDE	0.461	Cubic Feet(CF)	27-Jul-20
0001654006	811-97-2	TETRAFLUOROETHANE	25	Pounds(LB)	27-Jul-20
0001654007	811-97-2	TETRAFLUOROETHANE	25	Pounds(LB)	27-Jul-20
0001654008	-	PENTAFLUOROETHANE	25	Cubic Feet(CF)	27-Jul-20
0001654009	-	PENTAFLUOROETHANE	25	Cubic Feet(CF)	27-Jul-20
0001654010	-	PENTAFLUOROETHANE	25	Cubic Feet(CF)	27-Jul-20
0001423247	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	0.7	Ounces(OZ)	28-Jul-20
0001423251	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	0.7	Ounces(OZ)	28-Jul-20
0001423250	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	0.7	Ounces(OZ)	28-Jul-20
0001423255	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	0.7	Ounces(OZ)	28-Jul-20
0001423253	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	0.7	Ounces(OZ)	28-Jul-20
0001423256	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	0.7	Ounces(OZ)	28-Jul-20
0001423252	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	0.7	Ounces(OZ)	28-Jul-20
0001423249	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	0.7	Ounces(OZ)	28-Jul-20
0001423248	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	0.7	Ounces(OZ)	28-Jul-20
0001423254	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	0.7	Ounces(OZ)	28-Jul-20
0000984925	-	Semi-Synthetic Industrial Gear Lube 460	1	Quarts(QT)	28-Jul-20
0000984926	-	Semi-Synthetic Industrial Gear Lube 460	1	Quarts(QT)	28-Jul-20
0001557734	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
0001557739	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
0001557740	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
0001557742	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
0001557744	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
0001557745	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
0001557743	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
0001557737	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
0001557741	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557736	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
0001557735	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
0001557738	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	28-Jul-20
V0000067AB	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V00000679D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067A2	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067A7	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067A6	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067B3	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067AD	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V00000679A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067A9	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V00000679C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067AA	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V00000679E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V00000679F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067A0	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067A1	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067A4	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067A3	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067B2	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V00000679B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067B1	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067B4	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067B5	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067B6	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067B7	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067B8	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067B9	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067BA	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067BB	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067A8	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067BD	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067B0	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067AF	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067AE	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067A5	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067AC	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
V0000067BC	-	ARDEX FEATHER FINISH	10	Pounds(LB)	28-Jul-20
0001419470	-	ARATHANE 5753 A	140	Gram(GM)	28-Jul-20
0001419468	-	ARATHANE 5750A	140	Gram(GM)	28-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001419469	-	ARATHANE 5753 B	700	Gram(GM)	28-Jul-20
0001419461	-	ARATHANE 5750B	780	Gram(GM)	28-Jul-20
0001603739	64-17-5	ETHYL ALCOHOL	1	Liters(L)	28-Jul-20
0001603740	-	CUSTOM STANDARD MULTI ELEMENT SOLUTION	100	Milliliter(ML)	28-Jul-20
0001603741	-	CUSTOM STANDARD MULTI ELEMENT SOLUTION	100	Milliliter(ML)	28-Jul-20
0001603742	-	HisPur Cobalt Superflow Agarose	50	Milliliter(ML)	28-Jul-20
0001603743	7758-94-3	IRON(II) CHLORIDE	50	Gram(GM)	28-Jul-20
0001603744	7705-08-0	IRON(III) CHLORIDE	100	Gram(GM)	28-Jul-20
0001603745	-	MCA-2 M-PREP CONDITIONER A	16	Ounces(OZ)	28-Jul-20
0001603749	-	MCA-2 M-PREP CONDITIONER A	16	Ounces(OZ)	28-Jul-20
0001603748	-	MCA-2 M-PREP CONDITIONER A	16	Ounces(OZ)	28-Jul-20
0001603746	-	MCA-2 M-PREP CONDITIONER A	16	Ounces(OZ)	28-Jul-20
0001603747	-	MCA-2 M-PREP CONDITIONER A	16	Ounces(OZ)	28-Jul-20
0001603750	-	MN5A-2 M-PREP NEUTRALIZER	16	Ounces(OZ)	28-Jul-20
0001603753	-	MN5A-2 M-PREP NEUTRALIZER	16	Ounces(OZ)	28-Jul-20
0001603754	-	MN5A-2 M-PREP NEUTRALIZER	16	Ounces(OZ)	28-Jul-20
0001603752	-	MN5A-2 M-PREP NEUTRALIZER	16	Ounces(OZ)	28-Jul-20
0001603751	-	MN5A-2 M-PREP NEUTRALIZER	16	Ounces(OZ)	28-Jul-20
0001603755	-	M-BOND 200 ADHESIVE KIT	10	Gram(GM)	28-Jul-20
0001603759	-	M-BOND 200 ADHESIVE KIT	10	Gram(GM)	28-Jul-20
0001603757	-	M-BOND 200 ADHESIVE KIT	10	Gram(GM)	28-Jul-20
0001603756	-	M-BOND 200 ADHESIVE KIT	10	Gram(GM)	28-Jul-20
0001603758	-	M-BOND 200 ADHESIVE KIT	10	Gram(GM)	28-Jul-20
0001603760	-	M-BOND 200 CATALYST	30	Milliliter(ML)	28-Jul-20
0001603761	-	M-BOND 200 CATALYST	30	Milliliter(ML)	28-Jul-20
0001603762	-	M-BOND 200 CATALYST	30	Milliliter(ML)	28-Jul-20
0001603763	-	M-BOND 200 CATALYST	30	Milliliter(ML)	28-Jul-20
0001603764	-	M-BOND 200 CATALYST	30	Milliliter(ML)	28-Jul-20
0001603765	-	M-COAT A POLYURETHANE COA	1	Ounces(OZ)	28-Jul-20
0001603766	-	M-COAT A POLYURETHANE COA	1	Ounces(OZ)	28-Jul-20
0001603769	-	M-COAT A POLYURETHANE COA	1	Ounces(OZ)	28-Jul-20
0001603767	-	M-COAT A POLYURETHANE COA	1	Ounces(OZ)	28-Jul-20
0001603768	-	M-COAT A POLYURETHANE COA	1	Ounces(OZ)	28-Jul-20
0001603770	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603777	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603771	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603772	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603773	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603774	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603783	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603793	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603791	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603789	-	BLEACH	1	Gallon(GAL)	28-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603788	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603787	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603786	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603775	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603784	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603776	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603782	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603781	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603780	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603779	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603778	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603790	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603785	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603792	-	BLEACH	1	Gallon(GAL)	28-Jul-20
0001603794	107-21-1	ETHYLENE GLYCOL	4	Liters(L)	28-Jul-20
0001603795	107-21-1	ETHYLENE GLYCOL	4	Liters(L)	28-Jul-20
0001603796	107-21-1	ETHYLENE GLYCOL	4	Liters(L)	28-Jul-20
0001603797	107-21-1	ETHYLENE GLYCOL	4	Liters(L)	28-Jul-20
0001603798	64-19-7	ACETIC ACID (VINEGAR ACID) GLACIAL	2.5	Liters(L)	28-Jul-20
0001603802	64-19-7	ACETIC ACID (VINEGAR ACID) GLACIAL	2.5	Liters(L)	28-Jul-20
0001603799	64-19-7	ACETIC ACID (VINEGAR ACID) GLACIAL	2.5	Liters(L)	28-Jul-20
0001603801	64-19-7	ACETIC ACID (VINEGAR ACID) GLACIAL	2.5	Liters(L)	28-Jul-20
0001603803	64-19-7	ACETIC ACID (VINEGAR ACID) GLACIAL	2.5	Liters(L)	28-Jul-20
0001603800	64-19-7	ACETIC ACID (VINEGAR ACID) GLACIAL	2.5	Liters(L)	28-Jul-20
0001603804	67-56-1	METHANOL	1	Liters(L)	28-Jul-20
0001603805	7697-37-2	NITRIC ACID	2.5	Liters(L)	28-Jul-20
0001603806	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	4	Liters(L)	28-Jul-20
0001603807	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	4	Liters(L)	28-Jul-20
0001603808	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	4	Liters(L)	28-Jul-20
0001603809	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	4	Liters(L)	28-Jul-20
0001603810	Multi	EPO-TEK H2OE Part A	11	Ounces(OZ)	28-Jul-20
0001603811	Multi	EPO-TEK H2OE Part A	11	Ounces(OZ)	28-Jul-20
0001603813	-	CLOROX	121	Ounces(OZ)	28-Jul-20
0001603815	-	CLOROX	121	Ounces(OZ)	28-Jul-20
0001603814	-	CLOROX	121	Ounces(OZ)	28-Jul-20
0001603816	556-52-5	GLYCIDOL	100	Gram(GM)	28-Jul-20
0001603817	95-54-5	O-PHENYLENEDIAMINE	5	Gram(GM)	28-Jul-20
0001603818	111-42-2	DIETHANOLAMINE	250	Gram(GM)	28-Jul-20
0001603819	4488-22-6	1 1'-Binaphthyl-2 2'-diamine	1	Gram(GM)	28-Jul-20
0001603820	4488-22-6	1 1'-Binaphthyl-2 2'-diamine	1	Gram(GM)	28-Jul-20
0001603821	3167-63-3	DIETHYL CHLOROMETHYLPHOSPHONATE	1	Milliliter(ML)	28-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603822	16352-18-4	4 4 5 5-Tetramethyl-1 3 2-dioxaphospholane 2-oxide	1	Gram(GM)	28-Jul-20
0001603823	762-04-9	DIETHYL PHOSPHITE	250	Gram(GM)	28-Jul-20
0001654011	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654025	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654012	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654013	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654015	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654016	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654017	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654018	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654019	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654020	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654021	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654022	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654024	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654014	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654023	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654044	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654035	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654029	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654043	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654042	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654041	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654040	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654039	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654038	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654046	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654036	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654047	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654034	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654033	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654032	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654031	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654030	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654026	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654027	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654028	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654037	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654045	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Jul-20
0001654048	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	28-Jul-20
0001654049	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	28-Jul-20
0001654050	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	28-Jul-20
0001654051	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	28-Jul-20
0001654052	-	ARGON GAS	220	Cubic Feet(CF)	28-Jul-20
0001654053	-	Compressed Air	220	Cubic Feet(CF)	28-Jul-20
0001654056	-	Compressed Air	220	Cubic Feet(CF)	28-Jul-20
0001654057	-	Compressed Air	220	Cubic Feet(CF)	28-Jul-20
0001654055	-	Compressed Air	220	Cubic Feet(CF)	28-Jul-20
0001654054	-	Compressed Air	220	Cubic Feet(CF)	28-Jul-20
0001654058	-	Oxygen 21% Helium balance	220	Cubic Feet(CF)	28-Jul-20
0001654059	-	Oxygen 21% Helium balance	220	Cubic Feet(CF)	28-Jul-20
0001654060	-	Oxygen 21% Helium balance	220	Cubic Feet(CF)	28-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654061	-	Oxygen 21% Helium balance	220	Cubic Feet(CF)	28-Jul-20
0001654062	-	Oxygen 21% Helium balance	220	Cubic Feet(CF)	28-Jul-20
0001654063	-	Hydrogen Argon	220	Cubic Feet(CF)	28-Jul-20
0001654064	-	Hydrogen Argon	220	Cubic Feet(CF)	28-Jul-20
0001654065	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	28-Jul-20
0001654066	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654089	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654090	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654091	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654094	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654092	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654088	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654087	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654086	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654085	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654084	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654083	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654082	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654081	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654080	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654072	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654093	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654067	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654069	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654079	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654071	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654068	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654073	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654074	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654075	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654076	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654077	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654078	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654070	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654101	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654100	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654097	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654096	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654098	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654099	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654095	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Jul-20
0001654102	74-98-6	PROPANE	11	Gallon(GAL)	28-Jul-20
0001654103	74-98-6	PROPANE	11	Gallon(GAL)	28-Jul-20
0001654104	74-98-6	PROPANE	11	Gallon(GAL)	28-Jul-20
0001654105	74-98-6	PROPANE	11	Gallon(GAL)	28-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654106	74-98-6	PROPANE	11	Gallon(GAL)	28-Jul-20
0001654107	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	28-Jul-20
0001654108	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	28-Jul-20
0001654109	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	28-Jul-20
0001654110	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	28-Jul-20
0001654111	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	28-Jul-20
0001654112	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	28-Jul-20
0001654113	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	28-Jul-20
0001654114	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	28-Jul-20
0001654115	74-86-2	ACETYLENE STABILIZED	240	Cubic Feet(CF)	28-Jul-20
0001654116	74-86-2	ACETYLENE STABILIZED	240	Cubic Feet(CF)	28-Jul-20
0001654117	74-86-2	ACETYLENE STABILIZED	130	Cubic Feet(CF)	28-Jul-20
0001654118	74-86-2	ACETYLENE STABILIZED	130	Cubic Feet(CF)	28-Jul-20
0001654119	7440-59-7	HELIUM GAS	100	Liters(L)	28-Jul-20
0001557746	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Jul-20
0001557747	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Jul-20
0001557726	-	GARDZ	5	Gallon(GAL)	29-Jul-20
0001557727	-	GARDZ	5	Gallon(GAL)	29-Jul-20
0001557728	-	GARDZ	5	Gallon(GAL)	29-Jul-20
0001557729	-	GARDZ	5	Gallon(GAL)	29-Jul-20
0001557730	-	GARDZ	5	Gallon(GAL)	29-Jul-20
0001557731	-	GARDZ	5	Gallon(GAL)	29-Jul-20
0001557732	-	GARDZ	5	Gallon(GAL)	29-Jul-20
0001603206	14293-70-0	POTASSIUM NITROSODISULFONATE	1	Gram(GM)	29-Jul-20
0001603824	-	E-900L Ball Screw Lube	1	Quarts(QT)	29-Jul-20
0001603825	64-17-5	ETHANOL	500	Milliliter(ML)	29-Jul-20
0001603829	64-17-5	ETHANOL	500	Milliliter(ML)	29-Jul-20
0001603830	64-17-5	ETHANOL	500	Milliliter(ML)	29-Jul-20
0001603828	64-17-5	ETHANOL	500	Milliliter(ML)	29-Jul-20
0001603827	64-17-5	ETHANOL	500	Milliliter(ML)	29-Jul-20
0001603826	64-17-5	ETHANOL	500	Milliliter(ML)	29-Jul-20
0001603831	10035-10-6	HYDROBROMIC ACID	500	Milliliter(ML)	29-Jul-20
0001603832	-	BROMCRESOL GREEN-METHYL RED	100	Milliliter(ML)	29-Jul-20
0001603841	-	BROMCRESOL GREEN-METHYL RED	100	Milliliter(ML)	29-Jul-20
0001603840	-	BROMCRESOL GREEN-METHYL RED	100	Milliliter(ML)	29-Jul-20
0001603839	-	BROMCRESOL GREEN-METHYL RED	100	Milliliter(ML)	29-Jul-20
0001603838	-	BROMCRESOL GREEN-METHYL RED	100	Milliliter(ML)	29-Jul-20
0001603837	-	BROMCRESOL GREEN-METHYL RED	100	Milliliter(ML)	29-Jul-20
0001603836	-	BROMCRESOL GREEN-METHYL RED	100	Milliliter(ML)	29-Jul-20
0001603835	-	BROMCRESOL GREEN-METHYL RED	100	Milliliter(ML)	29-Jul-20
0001603833	-	BROMCRESOL GREEN-METHYL RED	100	Milliliter(ML)	29-Jul-20
0001603834	-	BROMCRESOL GREEN-METHYL RED	100	Milliliter(ML)	29-Jul-20
0001603842	-	Manver 2 Hardness Indicator	100	Milliliter(ML)	29-Jul-20
0001603843	-	Manver 2 Hardness Indicator	100	Milliliter(ML)	29-Jul-20
0001603844	-	Manver 2 Hardness Indicator	100	Milliliter(ML)	29-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603845	-	Manver 2 Hardness Indicator	100	Milliliter(ML)	29-Jul-20
0001603846	-	Manver 2 Hardness Indicator	100	Milliliter(ML)	29-Jul-20
0001603847	538-62-5	DIPHENYLCARBAZONE	100	Milliliter(ML)	29-Jul-20
0001603854	538-62-5	DIPHENYLCARBAZONE	100	Milliliter(ML)	29-Jul-20
0001603848	538-62-5	DIPHENYLCARBAZONE	100	Milliliter(ML)	29-Jul-20
0001603849	538-62-5	DIPHENYLCARBAZONE	100	Milliliter(ML)	29-Jul-20
0001603850	538-62-5	DIPHENYLCARBAZONE	100	Milliliter(ML)	29-Jul-20
0001603851	538-62-5	DIPHENYLCARBAZONE	100	Milliliter(ML)	29-Jul-20
0001603853	538-62-5	DIPHENYLCARBAZONE	100	Milliliter(ML)	29-Jul-20
0001603855	538-62-5	DIPHENYLCARBAZONE	100	Milliliter(ML)	29-Jul-20
0001603856	538-62-5	DIPHENYLCARBAZONE	100	Milliliter(ML)	29-Jul-20
0001603852	538-62-5	DIPHENYLCARBAZONE	100	Milliliter(ML)	29-Jul-20
0001603857	-	BUFFER SOLUTION HARDNESS 1 PH 10.1	100	Milliliter(ML)	29-Jul-20
0001603862	-	BUFFER SOLUTION HARDNESS 1 PH 10.1	100	Milliliter(ML)	29-Jul-20
0001603858	-	BUFFER SOLUTION HARDNESS 1 PH 10.1	100	Milliliter(ML)	29-Jul-20
0001603859	-	BUFFER SOLUTION HARDNESS 1 PH 10.1	100	Milliliter(ML)	29-Jul-20
0001603861	-	BUFFER SOLUTION HARDNESS 1 PH 10.1	100	Milliliter(ML)	29-Jul-20
0001603863	-	BUFFER SOLUTION HARDNESS 1 PH 10.1	100	Milliliter(ML)	29-Jul-20
0001603864	-	BUFFER SOLUTION HARDNESS 1 PH 10.1	100	Milliliter(ML)	29-Jul-20
0001603865	-	BUFFER SOLUTION HARDNESS 1 PH 10.1	100	Milliliter(ML)	29-Jul-20
0001603866	-	BUFFER SOLUTION HARDNESS 1 PH 10.1	100	Milliliter(ML)	29-Jul-20
0001603860	-	BUFFER SOLUTION HARDNESS 1 PH 10.1	100	Milliliter(ML)	29-Jul-20
0001603867	8014-95-7	SULFURIC ACID (DILUT IT)	100	Milliliter(ML)	29-Jul-20
0001603868	8014-95-7	SULFURIC ACID (DILUT IT)	100	Milliliter(ML)	29-Jul-20
0001603869	8014-95-7	SULFURIC ACID (DILUT IT)	100	Milliliter(ML)	29-Jul-20
0001603870	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603880	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603877	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603881	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603871	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603879	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603878	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603875	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603874	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603873	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603872	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603876	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	Quarts(QT)	29-Jul-20
0001603882	1314-36-9	YTTRIUM OXIDE	50	Gram(GM)	29-Jul-20
0001603883	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603888	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603904	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603903	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603892	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603895	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603893	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603902	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603889	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603897	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603886	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603887	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603891	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603901	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603900	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603898	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603896	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603907	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603906	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603905	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603885	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603884	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603894	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603890	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603899	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	25	Gram(GM)	29-Jul-20
0001603908	37380-43-1	AMBERLITE	100	Gram(GM)	29-Jul-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603910	13598-36-2	PHOSPHOROUS ACID	100	Gram(GM)	29-Jul-20
0001603911	109-76-2	1 3-DIAMINOPROPANE	25	Gram(GM)	29-Jul-20
0001603912	220498-02-2	(R)-N-Fmoc-3-Amino-3-phenylpropanoic acid	5	Gram(GM)	29-Jul-20
0001603913	2941-69-7	5-Methoxy-2-methylbenzothiazole	5	Gram(GM)	29-Jul-20
0001603914	1573-17-7	1 4-Diacetoxy-2-butyne	25	Gram(GM)	29-Jul-20
0001603915	-	TORR SEAL EPOXY	118	Gram(GM)	29-Jul-20
0001603916	-	TORR SEAL EPOXY	118	Gram(GM)	29-Jul-20
0001557752	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Jul-20
0001557754	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Jul-20
0001557755	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Jul-20
0001557753	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Jul-20
0001603917	86123-11-7	FMOC-D-TRP-OH	5	Gram(GM)	29-Jul-20
V0000067C3	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Jul-20
V0000067C4	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Jul-20
V0000067C5	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Jul-20
V0000067C2	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Jul-20
V0000067C7	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Jul-20
V0000067C6	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Jul-20
0001603918	107-83-5	HEXANE MIXTURE OF ISOMERS	2	Liters(L)	29-Jul-20
0001603919	75-05-8	ACETONITRILE ANHYDROUS	2	Liters(L)	29-Jul-20
0001603920	8014-95-7	SULFURIC ACID (DILUT IT)	2.5	Liters(L)	29-Jul-20
0001603921	1391728-13-4	1-Fluoro-3 3-dimethyl-1 2-benziodoxole	1	Gram(GM)	29-Jul-20
0001603922	1391728-13-4	1-Fluoro-3 3-dimethyl-1 2-benziodoxole	1	Gram(GM)	29-Jul-20
0001603923	5580-80-3	2 3 4 5-TETRAFLUOROANILINE	1	Gram(GM)	29-Jul-20
0001603925	5580-80-3	2 3 4 5-TETRAFLUOROANILINE	1	Gram(GM)	29-Jul-20
0001603924	5580-80-3	2 3 4 5-TETRAFLUOROANILINE	1	Gram(GM)	29-Jul-20
0001603926	5580-80-3	2 3 4 5-TETRAFLUOROANILINE	1	Gram(GM)	29-Jul-20
0001603927	-	ISOTON III DILUENT	200	Liters(L)	29-Jul-20
0001603928	-	Tellurium broken ingot - FRENCH	500	Gram(GM)	29-Jul-20
0001603929	-	Tellurium broken ingot - FRENCH	500	Gram(GM)	29-Jul-20
0001603930	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603940	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603939	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603938	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603937	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603936	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603935	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603934	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603933	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603941	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603932	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603931	100-51-6	BENZYL ALCOHOL	1	Liters(L)	29-Jul-20
0001603942	872-50-4	N-METHYLPYRROLIDONE	4	Liters(L)	29-Jul-20
0001603943	872-50-4	N-METHYLPYRROLIDONE	4	Liters(L)	29-Jul-20
0001603944	872-50-4	N-METHYLPYRROLIDONE	4	Liters(L)	29-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603945	872-50-4	N-METHYLPYRROLIDONE	4	Liters(L)	29-Jul-20
0001603946	64-17-5	ETHYL ALCOHOL	2	Liters(L)	29-Jul-20
0001603949	64-17-5	ETHYL ALCOHOL	2	Liters(L)	29-Jul-20
0001603953	64-17-5	ETHYL ALCOHOL	2	Liters(L)	29-Jul-20
0001603952	64-17-5	ETHYL ALCOHOL	2	Liters(L)	29-Jul-20
0001603950	64-17-5	ETHYL ALCOHOL	2	Liters(L)	29-Jul-20
0001603947	64-17-5	ETHYL ALCOHOL	2	Liters(L)	29-Jul-20
0001603948	64-17-5	ETHYL ALCOHOL	2	Liters(L)	29-Jul-20
0001603951	64-17-5	ETHYL ALCOHOL	2	Liters(L)	29-Jul-20
0001603954	67-56-1	METHANOL	2	Liters(L)	29-Jul-20
0001557757	-	Excelsior AW-510	4	Gallon(GAL)	29-Jul-20
0001603955	67-56-1	METHANOL	2	Liters(L)	29-Jul-20
0001603956	67-56-1	METHANOL	2	Liters(L)	29-Jul-20
0001603961	67-56-1	METHANOL	2	Liters(L)	29-Jul-20
0001603960	67-56-1	METHANOL	2	Liters(L)	29-Jul-20
0001603959	67-56-1	METHANOL	2	Liters(L)	29-Jul-20
0001603957	67-56-1	METHANOL	2	Liters(L)	29-Jul-20
0001603958	67-56-1	METHANOL	2	Liters(L)	29-Jul-20
0001603962	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603971	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603968	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603970	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603972	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603969	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001557758	-	Excelsior AW-510	4	Gallon(GAL)	29-Jul-20
0001603973	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603967	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603966	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603965	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603964	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603963	-	2-PROPANOL	1	Liters(L)	29-Jul-20
0001603974	-	ACETONE ACS	2.5	Liters(L)	29-Jul-20
0001557760	-	Excelsior AW-510	4	Gallon(GAL)	29-Jul-20
0001603975	-	ACETONE ACS	2.5	Liters(L)	29-Jul-20
0001603976	-	ACETONE ACS	2.5	Liters(L)	29-Jul-20
0001603977	-	ACETONE ACS	2.5	Liters(L)	29-Jul-20
0001603978	26628-22-8	SODIUM AZIDE	2	Kilograms(KG)	29-Jul-20
0001603979	-	M-BOND 200 KIT	1	Quarts(QT)	29-Jul-20
0001603980	-	M-BOND 200 KIT	1	Quarts(QT)	29-Jul-20
0001603981	-	M-BOND 200 CATALYST	30	Milliliter(ML)	29-Jul-20
0001603982	-	M-BOND 200 CATALYST	30	Milliliter(ML)	29-Jul-20
0001603983	1318-93-0	MONTMORILLONITE	100	Gram(GM)	29-Jul-20
0001603984	24937-79-9	POLYVINYLIDENE FLUORIDE	100	Gram(GM)	29-Jul-20
0001603985	24937-79-9	POLYVINYLIDENE FLUORIDE	5	Gram(GM)	29-Jul-20
V0000067CA	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000067C9	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Jul-20
V0000067C8	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Jul-20
0001557756	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	29-Jul-20
0001557759	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	29-Jul-20
0001603986	-	2 3-PYRAZINEDICARBOXYLIC ACID	25	Gram(GM)	29-Jul-20
0001603987	122-05-4	Pyrazine-2 5-dicarboxylic acid	25	Gram(GM)	29-Jul-20
0001384863	-	POWERLINE 3040	1	Gallon(GAL)	29-Jul-20
0001557763	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557769	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557767	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557783	64743-05-1	Ultrafill	40	Pounds(LB)	29-Jul-20
0001557782	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557781	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557780	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557779	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557778	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557765	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557775	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557768	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557774	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557766	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557777	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557771	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557772	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557773	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557776	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557770	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557764	-	Excelsior EN-610-Part A/B	13.5	Ounces(OZ)	29-Jul-20
0001557761	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Jul-20
0001557762	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Jul-20
0001557748	-	ARDEX K 10	50	Pounds(LB)	30-Jul-20
0001557751	-	ARDEX K 10	50	Pounds(LB)	30-Jul-20
0001557749	-	ARDEX K 10	50	Pounds(LB)	30-Jul-20
0001557750	-	ARDEX K 10	50	Pounds(LB)	30-Jul-20
0001557701	-	Avalon Premium 100% Acrylic Interior Eggshell M/B	5	Gallon(GAL)	30-Jul-20
0001557704	-	Avalon Premium 100% Acrylic Interior Eggshell M/B	5	Gallon(GAL)	30-Jul-20
0001557706	-	Avalon Premium 100% Acrylic Interior Eggshell M/B	5	Gallon(GAL)	30-Jul-20
0001557705	-	Avalon Premium 100% Acrylic Interior Eggshell M/B	5	Gallon(GAL)	30-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557702	-	Avalon Premium 100% Acrylic Interior Eggshell M/B	5	Gallon(GAL)	30-Jul-20
0001557703	-	Avalon Premium 100% Acrylic Interior Eggshell M/B	5	Gallon(GAL)	30-Jul-20
0001602374	-	AG MP-1M RESIN	500	Gram(GM)	30-Jul-20
0001602376	-	AG MP-1M RESIN	500	Gram(GM)	30-Jul-20
0001602381	-	AG MP-1M RESIN	500	Gram(GM)	30-Jul-20
0001602375	-	AG MP-1M RESIN	500	Gram(GM)	30-Jul-20
0001602377	-	AG MP-1M RESIN	500	Gram(GM)	30-Jul-20
0001602378	-	AG MP-1M RESIN	500	Gram(GM)	30-Jul-20
0001602379	-	AG MP-1M RESIN	500	Gram(GM)	30-Jul-20
0001602380	-	AG MP-1M RESIN	500	Gram(GM)	30-Jul-20
0001603988	75-09-2	DICHLOROMETHANE	4	Liters(L)	30-Jul-20
0001603989	75-09-2	DICHLOROMETHANE	4	Liters(L)	30-Jul-20
0001603990	75-09-2	DICHLOROMETHANE	4	Liters(L)	30-Jul-20
0001603991	75-09-2	DICHLOROMETHANE	4	Liters(L)	30-Jul-20
0001603992	-	DICHLOROMETHANE ANHYDROS 1L	100	Milliliter(ML)	30-Jul-20
0001603996	-	DICHLOROMETHANE ANHYDROS 1L	100	Milliliter(ML)	30-Jul-20
0001603997	-	DICHLOROMETHANE ANHYDROS 1L	100	Milliliter(ML)	30-Jul-20
0001603993	-	DICHLOROMETHANE ANHYDROS 1L	100	Milliliter(ML)	30-Jul-20
0001603995	-	DICHLOROMETHANE ANHYDROS 1L	100	Milliliter(ML)	30-Jul-20
0001603994	-	DICHLOROMETHANE ANHYDROS 1L	100	Milliliter(ML)	30-Jul-20
0001603998	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604003	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604009	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604008	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604007	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604006	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604004	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604002	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604001	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604000	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001603999	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604005	67-56-1	METHANOL	4	Liters(L)	30-Jul-20
0001604010	67-66-3	CHLOROFORM	2.5	Liters(L)	30-Jul-20
0001604011	67-66-3	CHLOROFORM	2.5	Liters(L)	30-Jul-20
0001604012	603-34-9	TRIPHENYLAMINE	100	Gram(GM)	30-Jul-20
0001604013	7647-14-5	SODIUM CHLORIDE	10	Kilograms(KG)	30-Jul-20
0001604014	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	30-Jul-20
0001604015	-	PHOSPHORIC ACID	2.5	Liters(L)	30-Jul-20
0001604016	7646-69-7	SODIUM HYDRIDE	10	Gram(GM)	30-Jul-20
0001604017	112-40-3	DODECANE	2.5	Liters(L)	30-Jul-20
0001604018	112-40-3	DODECANE	2.5	Liters(L)	30-Jul-20
0001604019	112-40-3	DODECANE	2.5	Liters(L)	30-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604020	-	SR RESIN	50	Gram(GM)	30-Jul-20
0001604021	-	SR RESIN	50	Gram(GM)	30-Jul-20
0001604022	7440-48-4	COBALT FOIL	100	Milligram(MG)	30-Jul-20
0001604023	7440-48-4	COBALT FOIL	100	Milligram(MG)	30-Jul-20
0001604024	7440-48-4	COBALT FOIL	100	Milligram(MG)	30-Jul-20
0001604025	12125-02-9	AMMONIUM CHLORIDE	50	Gram(GM)	30-Jul-20
0001604026	-	Eichrom Ln Resin	50	Gram(GM)	30-Jul-20
0001604027	772-28-4	HYDROGEN PEROXIDE - 30%	500	Milliliter(ML)	30-Jul-20
0001604028	-	RF EMI LIQUID SILVR COND COATING	800	Milliliter(ML)	30-Jul-20
0001604029	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	30-Jul-20
0001604032	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	30-Jul-20
0001604031	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	30-Jul-20
0001604030	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	30-Jul-20
0001604033	132201-32-2	(2R 3S)-3-Phenylisoserine HCl	10	Gram(GM)	30-Jul-20
0001604034	68-12-2	N N-DIMETHYLFORMAMIDE	100	Milliliter(ML)	30-Jul-20
0001604035	68-12-2	N N-DIMETHYLFORMAMIDE	100	Milliliter(ML)	30-Jul-20
0001604036	75-05-8	ACETONITRILE ANHYDROUS	100	Milliliter(ML)	30-Jul-20
0001604037	75-05-8	ACETONITRILE ANHYDROUS	100	Milliliter(ML)	30-Jul-20
0001604038	26266-58-0	Span 85	250	Milliliter(ML)	30-Jul-20
0001604039	67-56-1	METHANOL ANHYDROUS	2	Liters(L)	30-Jul-20
0001604040	1310-73-2	SODIUM HYDROXIDE PELLETS	25	Gram(GM)	30-Jul-20
0001604041	291-64-5	CYCLOHEPTANE	25	Gram(GM)	30-Jul-20
0001604042	291-64-5	CYCLOHEPTANE	25	Gram(GM)	30-Jul-20
0001604043	502-42-1	Cycloheptanone	100	Gram(GM)	30-Jul-20
0001604044	-	Struers additive for cooling fluid	4	Liters(L)	30-Jul-20
0001604045	-	Struers additive for cooling fluid	4	Liters(L)	30-Jul-20
0001604046	-	Struers additive for cooling fluid	4	Liters(L)	30-Jul-20
0001604047	110-71-4	1 2-DIMETHOXYETHANE	1	Liters(L)	30-Jul-20
0001604048	110-71-4	1 2-DIMETHOXYETHANE	1	Liters(L)	30-Jul-20
0001604050	110-71-4	1 2-DIMETHOXYETHANE	1	Liters(L)	30-Jul-20
0001604049	110-71-4	1 2-DIMETHOXYETHANE	1	Liters(L)	30-Jul-20
0001604051	488-86-8	Croconic acid	500	Milligram(MG)	30-Jul-20
0001604052	488-86-8	Croconic acid	500	Milligram(MG)	30-Jul-20
0001557808	-	Startex Xylene	1	Gallon(GAL)	30-Jul-20
0001557810	-	Startex Xylene	1	Gallon(GAL)	30-Jul-20
0001557812	-	Startex Xylene	1	Gallon(GAL)	30-Jul-20
0001557811	-	Startex Xylene	1	Gallon(GAL)	30-Jul-20
0001557809	-	Startex Xylene	1	Gallon(GAL)	30-Jul-20
0001557790	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557800	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557791	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557792	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557793	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557794	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557795	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557796	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557797	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557799	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557801	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557802	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557806	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557805	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557798	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557807	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557803	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557804	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	30-Jul-20
0001557785	-	Startex Lacquer Thinner	1	Gallon(GAL)	30-Jul-20
0001557789	-	Startex Lacquer Thinner	1	Gallon(GAL)	30-Jul-20
0001557786	-	Startex Lacquer Thinner	1	Gallon(GAL)	30-Jul-20
0001557787	-	Startex Lacquer Thinner	1	Gallon(GAL)	30-Jul-20
0001557788	-	Startex Lacquer Thinner	1	Gallon(GAL)	30-Jul-20
0001557813	-	Startex Denatured Alcohol	1	Gallon(GAL)	30-Jul-20
0001557817	-	Startex Denatured Alcohol	1	Gallon(GAL)	30-Jul-20
0001557815	-	Startex Denatured Alcohol	1	Gallon(GAL)	30-Jul-20
0001557814	-	Startex Denatured Alcohol	1	Gallon(GAL)	30-Jul-20
0001557816	-	Startex Denatured Alcohol	1	Gallon(GAL)	30-Jul-20
0001557818	-	MOBIL SHC GEAR 460	5	Gallon(GAL)	30-Jul-20
0001557819	-	MOBIL SHC GEAR 460	5	Gallon(GAL)	30-Jul-20
0001557822	-	MOBIL SHC GEAR 460	5	Gallon(GAL)	30-Jul-20
0001557820	-	MOBIL SHC GEAR 460	5	Gallon(GAL)	30-Jul-20
0001557821	-	MOBIL SHC GEAR 460	5	Gallon(GAL)	30-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000067DB	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	30-Jul-20
V0000067D7	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	30-Jul-20
V0000067D8	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	30-Jul-20
V0000067D9	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	30-Jul-20
V0000067DA	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	30-Jul-20
V0000067D6	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	30-Jul-20
V0000067DC	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	30-Jul-20
V0000067DD	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	30-Jul-20
V0000067DF	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	30-Jul-20
V0000067DE	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	30-Jul-20
0001602382	7647-01-0	RHODIUM HCl	125	Milliliter(ML)	31-Jul-20
0001602383	7440-20-2	SCANDIUM	125	Milliliter(ML)	31-Jul-20
0001603207	10025-87-3	PHOSPHORUS(V) OXYCHLORIDE	250	Gram(GM)	31-Jul-20
0001603208	51905-34-1	LITHIUM PENTAMETHYLCYCLOP	1	Gram(GM)	31-Jul-20
0001603209	51905-34-1	LITHIUM PENTAMETHYLCYCLOP	1	Gram(GM)	31-Jul-20
0001603210	-	ETHANOL 200 PROOF	1	Pint(PT)	31-Jul-20
0001603211	7440-48-4	COBALT FOIL	50	Milligram(MG)	31-Jul-20
0001603213	7440-48-4	COBALT FOIL	50	Milligram(MG)	31-Jul-20
0001603212	7440-48-4	COBALT FOIL	50	Milligram(MG)	31-Jul-20
0001603214	7664-41-7	AMMONIA	475	Milliliter(ML)	31-Jul-20
0001603216	7664-41-7	AMMONIA	475	Milliliter(ML)	31-Jul-20
0001603215	7664-41-7	AMMONIA	475	Milliliter(ML)	31-Jul-20
0001603217	7664-41-7	AMMONIA	475	Milliliter(ML)	31-Jul-20
0001603218	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	31-Jul-20
0001603220	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	31-Jul-20
0001603219	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	31-Jul-20
0001603221	1344-28-1	ALUMINUM OXIDE	500	Gram(GM)	31-Jul-20
0001603222	75-09-2	DICHLOROMETHANE	4	Liters(L)	31-Jul-20
0001603223	75-09-2	DICHLOROMETHANE	4	Liters(L)	31-Jul-20
0001603224	75-09-2	DICHLOROMETHANE	4	Liters(L)	31-Jul-20
0001603225	-	71 SODIUM METABISULFATE 35% SOLUTION 04036291	10000	Gram(GM)	31-Jul-20
0001603226	-	71 SODIUM METABISULFATE 35% SOLUTION 04036291	10000	Gram(GM)	31-Jul-20
0001603227	82419-36-1	OFLOXACIN	1	Gram(GM)	31-Jul-20
0001603228	65-61-2	ACRIDINE ORANGE	10	Milliliter(ML)	31-Jul-20
0001603229	830-13-7	Cyclododecanone	100	Gram(GM)	31-Jul-20
0001603230	830-13-7	Cyclododecanone	100	Gram(GM)	31-Jul-20
0001603231	127-09-3	SODIUM ACETATE	10	Gram(GM)	31-Jul-20
0001603232	127-09-3	SODIUM ACETATE	10	Gram(GM)	31-Jul-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001423257	-	LAP SEALANT BLACK	10.3	Ounces(OZ)	03-Aug-20
0001423265	-	LAP SEALANT BLACK	10.3	Ounces(OZ)	03-Aug-20
0001423260	-	LAP SEALANT BLACK	10.3	Ounces(OZ)	03-Aug-20
0001423266	-	LAP SEALANT BLACK	10.3	Ounces(OZ)	03-Aug-20
0001423263	-	LAP SEALANT BLACK	10.3	Ounces(OZ)	03-Aug-20
0001423261	-	LAP SEALANT BLACK	10.3	Ounces(OZ)	03-Aug-20
0001423259	-	LAP SEALANT BLACK	10.3	Ounces(OZ)	03-Aug-20
0001423258	-	LAP SEALANT BLACK	10.3	Ounces(OZ)	03-Aug-20
0001423264	-	LAP SEALANT BLACK	10.3	Ounces(OZ)	03-Aug-20
0001423262	-	LAP SEALANT BLACK	10.3	Ounces(OZ)	03-Aug-20
0001423267	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423273	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423270	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423278	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423277	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423269	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423271	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423268	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423274	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423272	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423276	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001423275	-	CP 618 Firestop Putty Stick	295	Milliliter(ML)	03-Aug-20
0001603471	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603473	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603481	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603475	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603488	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603487	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603486	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603485	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603484	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603490	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603482	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603491	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603480	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603479	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603478	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603477	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603476	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603474	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603472	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603483	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603492	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603493	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603494	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603495	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603496	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603489	-	Novec 72DE Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603497	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603500	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603511	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603508	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603507	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603506	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603505	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603504	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603503	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603501	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603510	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603499	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603498	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603502	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001603509	-	3M Novec 7100 Engineered Fluid	1	Gallon(GAL)	03-Aug-20
0001604053	-	DICHLOROMETHANE ANHYDROS 1L	100	Milliliter(ML)	03-Aug-20
0001604054	-	DICHLOROMETHANE ANHYDROS 1L	100	Milliliter(ML)	03-Aug-20
0001604055	-	AMMONIUM BICARBONATE POWDER	500	Gram(GM)	03-Aug-20
0001604056	362-76-5	2' 3'-o-Isopropylideneguanosine	5	Gram(GM)	03-Aug-20
0001604057	26780-50-7	Resomer RG 653 H Poly(D L-lactide-co-glycolide)	1	Gram(GM)	03-Aug-20
0001604058	26780-50-7	Resomer RG 653 H Poly(D L-lactide-co-glycolide)	1	Gram(GM)	03-Aug-20
0001604061	75-09-2	DICHLOROMETHANE	1	Liters(L)	03-Aug-20
0001604064	75-09-2	DICHLOROMETHANE	1	Liters(L)	03-Aug-20
0001604065	75-09-2	DICHLOROMETHANE	1	Liters(L)	03-Aug-20
0001604063	75-09-2	DICHLOROMETHANE	1	Liters(L)	03-Aug-20
0001604062	75-09-2	DICHLOROMETHANE	1	Liters(L)	03-Aug-20
0001604066	75-09-2	DICHLOROMETHANE	1	Liters(L)	03-Aug-20
0001604067	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	100	Milliliter(ML)	03-Aug-20
0001604068	3153-26-2	VANADYL ACETYLACETONATE	50	Gram(GM)	03-Aug-20
0001604069	3153-26-2	VANADYL ACETYLACETONATE	50	Gram(GM)	03-Aug-20
0001604070	8000-34-8	CLOVE OIL	100	Milliliter(ML)	03-Aug-20
0001604071	90045-28-6	Wintergreen Oil	1	Kilograms(KG)	03-Aug-20
0001604072	8006-90-4	PEPPERMINT OIL	1	Kilograms(KG)	03-Aug-20
0001604073	8023-88-9	Costus oil	1	Kilograms(KG)	03-Aug-20
0001604074	8007-20-3	CEDAR LEAF OIL	1	Kilograms(KG)	03-Aug-20
0001604075	8008-45-5	Nutmeg oil	1	Kilograms(KG)	03-Aug-20
0001604076	8000-29-1	OIL OF CITRONELLA	1	Kilograms(KG)	03-Aug-20
0001604077	-	Antimony (III) oxide	100	Gram(GM)	03-Aug-20
0001604078	811-98-3	METHANOL D4	0.6	Milliliter(ML)	03-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604080	811-98-3	METHANOL D4	0.6	Milliliter(ML)	03-Aug-20
0001604079	811-98-3	METHANOL D4	0.6	Milliliter(ML)	03-Aug-20
0001604081	9002-18-0	AGAR	500	Gram(GM)	03-Aug-20
0001604082	961-38-6	2 4 6-TRI-TERT-BUTYLANILINE	1	Gram(GM)	03-Aug-20
0001604083	-	Diamond Powder GMM 10-20	1	Kilograms(KG)	03-Aug-20
0001604084	-	Diamond Powder GMM 10-20	1	Kilograms(KG)	03-Aug-20
0001604085	-	Diamond Powder GMM 10-20	1	Kilograms(KG)	03-Aug-20
0001604086	7782-40-3	Diamond Powder	1	Kilograms(KG)	03-Aug-20
0001604094	7782-40-3	Diamond Powder	1	Kilograms(KG)	03-Aug-20
0001604095	7782-40-3	Diamond Powder	1	Kilograms(KG)	03-Aug-20
0001604093	7782-40-3	Diamond Powder	1	Kilograms(KG)	03-Aug-20
0001604092	7782-40-3	Diamond Powder	1	Kilograms(KG)	03-Aug-20
0001604091	7782-40-3	Diamond Powder	1	Kilograms(KG)	03-Aug-20
0001604090	7782-40-3	Diamond Powder	1	Kilograms(KG)	03-Aug-20
0001604089	7782-40-3	Diamond Powder	1	Kilograms(KG)	03-Aug-20
0001604088	7782-40-3	Diamond Powder	1	Kilograms(KG)	03-Aug-20
0001604087	7782-40-3	Diamond Powder	1	Kilograms(KG)	03-Aug-20
0001604096	109-99-9	TETRAHYDROFURAN	100	Milliliter(ML)	03-Aug-20
0001604097	109-99-9	TETRAHYDROFURAN	100	Milliliter(ML)	03-Aug-20
0001604098	108-88-3	TOLUENE	100	Milliliter(ML)	03-Aug-20
0001604099	108-88-3	TOLUENE	100	Milliliter(ML)	03-Aug-20
0001604100	108-88-3	TOLUENE	100	Milliliter(ML)	03-Aug-20
0001604101	123-86-4	BUTYL ACETATE	100	Milliliter(ML)	03-Aug-20
0001604102	123-86-4	BUTYL ACETATE	100	Milliliter(ML)	03-Aug-20
0001604103	123-86-4	BUTYL ACETATE	100	Milliliter(ML)	03-Aug-20
0001604104	165729-81-7	Poly(ethylene glycol) 2-mercaptoethyl ether acetic acid	500	Milligram(MG)	03-Aug-20
0001604105	75-09-2	DICHLOROMETHANE	4	Liters(L)	03-Aug-20
0001604106	1304-76-3	BISMUTH (III) OXIDE	100	Gram(GM)	03-Aug-20
0001654194	-	ARGON GAS	220	Cubic Feet(CF)	04-Aug-20
0001654199	-	ARGON GAS	220	Cubic Feet(CF)	04-Aug-20
0001654203	-	ARGON GAS	220	Cubic Feet(CF)	04-Aug-20
0001654201	-	ARGON GAS	220	Cubic Feet(CF)	04-Aug-20
0001654202	-	ARGON GAS	220	Cubic Feet(CF)	04-Aug-20
0001654197	-	ARGON GAS	220	Cubic Feet(CF)	04-Aug-20
0001654200	-	ARGON GAS	220	Cubic Feet(CF)	04-Aug-20
0001654195	-	ARGON GAS	220	Cubic Feet(CF)	04-Aug-20
0001654196	-	ARGON GAS	220	Cubic Feet(CF)	04-Aug-20
0001654198	-	ARGON GAS	220	Cubic Feet(CF)	04-Aug-20
0001654204	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654209	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654205	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654206	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654208	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654210	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654211	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654212	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654207	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654213	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654214	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654217	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654215	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654216	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654218	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654219	74-98-6	PROPANE	220	Cubic Feet(CF)	04-Aug-20
0001654220	630-08-0	CARBON MONOXIDE	220	Cubic Feet(CF)	04-Aug-20
0001654222	-	100PPM OXYGEN/BAL. HELIUM	250	Cubic Feet(CF)	04-Aug-20
0001654223	-	100PPM OXYGEN/BAL. HELIUM	250	Cubic Feet(CF)	04-Aug-20
0001654224	-	Hydrogen 10 % Bal Argon	220	Cubic Feet(CF)	04-Aug-20
0001654120	115-11-7	ISOBUTYLENE	0.13	Cubic Feet(CF)	04-Aug-20
0001654121	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654140	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654137	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654125	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654122	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654124	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654126	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654127	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654128	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654129	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654130	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654131	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654132	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654133	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654134	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654142	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654136	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654153	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654138	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654139	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654141	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654143	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654144	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654145	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654146	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654147	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654148	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654149	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654150	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654151	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654152	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654135	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654123	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654161	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654154	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654155	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654156	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654157	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654158	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654159	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654160	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Aug-20
0001654162	-	Compressed Air	220	Cubic Feet(CF)	04-Aug-20
0001654163	-	Compressed Air	220	Cubic Feet(CF)	04-Aug-20
0001654164	-	Compressed Air	220	Cubic Feet(CF)	04-Aug-20
0001654165	-	Compressed Air	220	Cubic Feet(CF)	04-Aug-20
0001654166	-	Compressed Air	220	Cubic Feet(CF)	04-Aug-20
0001654167	-	Compressed Air	220	Cubic Feet(CF)	04-Aug-20
0001654168	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	04-Aug-20
0001654169	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	04-Aug-20
0001654170	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	04-Aug-20
0001654171	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654179	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654184	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654183	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654182	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654181	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654180	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654178	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654177	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654176	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654185	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654173	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654174	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654175	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654187	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654188	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654189	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654190	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654191	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654192	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654193	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654172	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001654186	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	04-Aug-20
0001604108	007697-37-2	NITRIC ACID	500	Milliliter(ML)	04-Aug-20
0001604111	007697-37-2	NITRIC ACID	500	Milliliter(ML)	04-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604110	007697-37-2	NITRIC ACID	500	Milliliter(ML)	04-Aug-20
0001604109	007697-37-2	NITRIC ACID	500	Milliliter(ML)	04-Aug-20
0001604112	-	SULFURIC ACID ACS	2.5	Liters(L)	04-Aug-20
0001664039	69430-24-6	DIMETHYL CYCLOSILOXANES	52	Milliliter(ML)	04-Aug-20
0001604113	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	4	Liters(L)	04-Aug-20
0001604114	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	4	Liters(L)	04-Aug-20
0001604115	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	04-Aug-20
0001604116	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	04-Aug-20
0001604117	7440-45-1	CERIUM INGOT	25	Gram(GM)	04-Aug-20
0001664040	-	ZIRCONIUM (II) HYDRIDE	0.1	Kilograms(KG)	04-Aug-20
0001604118	-	TEMPO	5	Gram(GM)	04-Aug-20
0001604119	110-26-9	N N'-METHYLENEBISACRYLAMIDE	100	Gram(GM)	04-Aug-20
0001604120	-	Poly(3 4-ethylenedioxythiophene)-poly(styrenesulfonate) dry redispersible pellets	1	Gram(GM)	04-Aug-20
0001604121	155090-83-8	POLY(3 4-ETHYLENEDIOXYTHIOPHENE)-POLY(STYRENESULFONATE) 2.2-2.6% IN H2O	100	Gram(GM)	04-Aug-20
0001604122	7681-57-4	SODIUM METABISULFITE	10000	Gram(GM)	04-Aug-20
0001604123	7681-57-4	SODIUM METABISULFITE	10000	Gram(GM)	04-Aug-20
0001604124	57-13-6	UREA	500	Gram(GM)	04-Aug-20
0001604125	110-54-3	HEXANE HPLC	2	Liters(L)	04-Aug-20
0001604126	110-54-3	HEXANE HPLC	2	Liters(L)	04-Aug-20
0001604127	110-54-3	HEXANE HPLC	2	Liters(L)	04-Aug-20
0001604128	110-54-3	HEXANE HPLC	2	Liters(L)	04-Aug-20
0001604129	67-56-1	METHANOL ANHYDROUS	2	Liters(L)	04-Aug-20
0001604130	67-56-1	METHANOL ANHYDROUS	2	Liters(L)	04-Aug-20
0001604131	67-56-1	METHANOL ANHYDROUS	2	Liters(L)	04-Aug-20
0001604132	67-56-1	METHANOL ANHYDROUS	2	Liters(L)	04-Aug-20
0001604133	108-88-3	TOLUENE	1	Liters(L)	04-Aug-20
0001604134	108-88-3	TOLUENE	1	Liters(L)	04-Aug-20
0001604135	108-88-3	TOLUENE	1	Liters(L)	04-Aug-20
0001604136	108-88-3	TOLUENE	1	Liters(L)	04-Aug-20
0001604137	108-88-3	TOLUENE	1	Liters(L)	04-Aug-20
0001604138	108-88-3	TOLUENE	1	Liters(L)	04-Aug-20
0001604139	-	LEYBONOL LVO 100	5	Liters(L)	04-Aug-20
0001604140	-	LEYBONOL LVO 100	5	Liters(L)	04-Aug-20
0001604141	57260-70-5	1-Boc-(4-benzyl)piperazine	5	Gram(GM)	04-Aug-20
0001604142	9002-89-5	POLY VINYL ALCOHOL	500	Gram(GM)	04-Aug-20
0001659910	-	FOAM SEALANT	16	Ounces(OZ)	04-Aug-20
0001659911	-	FOAM SEALANT	16	Ounces(OZ)	04-Aug-20
0001659912	-	FOAM SEALANT	16	Ounces(OZ)	04-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001659913	-	FOAM SEALANT	16	Ounces(OZ)	04-Aug-20
0001557846	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557864	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557857	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557858	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557859	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557860	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557861	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557856	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557863	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557865	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557866	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557868	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557869	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557862	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557848	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557867	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557855	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557849	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557847	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557850	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557851	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557852	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557853	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557854	-	CONCRETE MIX	60	Pounds(LB)	04-Aug-20
0001557784	64743-05-1	Ultrafill	40	Pounds(LB)	05-Aug-20
0001557870	-	ASONIC GHY 72	400	Gram(GM)	05-Aug-20
0001557871	-	ASONIC GHY 72	400	Gram(GM)	05-Aug-20
0001557872	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557880	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557873	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557874	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557876	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557877	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557878	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557883	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557875	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557881	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557882	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001557879	-	Blue Def	2.5	Gallon(GAL)	05-Aug-20
0001646471	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	05-Aug-20
0001542658	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001542669	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542670	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542671	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542672	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542677	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542673	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542674	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542675	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542676	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542681	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542680	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542679	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542678	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542665	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542666	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542667	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542664	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542663	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542662	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542661	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542660	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542659	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001542668	-	INDUSTREX SINGLE PART DEVELOPER REPLENISHER	20	Liters(L)	05-Aug-20
0001542682	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542689	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542696	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542694	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542693	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542692	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542698	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542690	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542703	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542688	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542691	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542699	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542700	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542687	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542702	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542695	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542704	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542705	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542706	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542707	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542708	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542709	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542710	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542711	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542701	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542684	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542683	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542697	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542685	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001542686	-	INDUSTREX FIXER AND REPLENISHER	20	Liters(L)	05-Aug-20
0001603233	-	Pelco Carbon Conductive Tabs	1	Pounds(LB)	05-Aug-20
0001603234	-	Pelco Carbon Conductive Tabs	1	Pounds(LB)	05-Aug-20
0001603237	-	Pelco Carbon Conductive Tabs	1	Pounds(LB)	05-Aug-20
0001603235	-	Pelco Carbon Conductive Tabs	1	Pounds(LB)	05-Aug-20
0001603236	-	Pelco Carbon Conductive Tabs	1	Pounds(LB)	05-Aug-20
0001604143	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 1N	500	Milliliter(ML)	05-Aug-20
0001604144	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 1N	500	Milliliter(ML)	05-Aug-20
0001604145	7738-94-5	CHROMIC ACID	500	Gram(GM)	05-Aug-20
0001604146	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	05-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604147	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	05-Aug-20
0001604148	97-96-1	2-ETHYLBUTYRALDEHYDE	100	Milliliter(ML)	05-Aug-20
0001604149	76-05-1	TRIFLUOROACETIC ACID	100	Milliliter(ML)	05-Aug-20
0001604150	-	ETHANOL 190	1	Ounces(OZ)	05-Aug-20
0001604151	-	ETHANOL 190	1	Ounces(OZ)	05-Aug-20
0001604152	1333-86-4	CARBON BLACK	1	Pounds(LB)	05-Aug-20
0001604153	1333-86-4	CARBON BLACK	1	Pounds(LB)	05-Aug-20
0001604156	-	2-PROPANOL	4	Liters(L)	05-Aug-20
0001604157	-	2-PROPANOL	4	Liters(L)	05-Aug-20
0001604158	67-66-3	CHLOROFORM W/PENTENE HPLC	4	Liters(L)	05-Aug-20
0001604160	67-66-3	CHLOROFORM W/PENTENE HPLC	4	Liters(L)	05-Aug-20
0001604159	67-66-3	CHLOROFORM W/PENTENE HPLC	4	Liters(L)	05-Aug-20
0001604161	67-66-3	CHLOROFORM W/PENTENE HPLC	4	Liters(L)	05-Aug-20
0001604162	60-29-7	DIETHYL ETHER ANHYDROUS	1	Liters(L)	05-Aug-20
0001604163	-	Nitric Acid ACS Grade 50-70%	2.5	Liters(L)	05-Aug-20
0001604166	-	Nitric Acid ACS Grade 50-70%	2.5	Liters(L)	05-Aug-20
0001604165	-	Nitric Acid ACS Grade 50-70%	2.5	Liters(L)	05-Aug-20
0001604168	-	Nitric Acid ACS Grade 50-70%	2.5	Liters(L)	05-Aug-20
0001604169	-	Nitric Acid ACS Grade 50-70%	2.5	Liters(L)	05-Aug-20
0001604170	-	Nitric Acid ACS Grade 50-70%	2.5	Liters(L)	05-Aug-20
0001604164	-	Nitric Acid ACS Grade 50-70%	2.5	Liters(L)	05-Aug-20
0001604167	-	Nitric Acid ACS Grade 50-70%	2.5	Liters(L)	05-Aug-20
0001604171	-	ULTIMA GOLD AB	10	Liters(L)	05-Aug-20
0001604172	-	ULTIMA GOLD AB	10	Liters(L)	05-Aug-20
0001604173	4542-77-2	2 6-Bis(bromomethyl)naphthalene	1	Gram(GM)	05-Aug-20
0001604174	1449-46-3	BENZYLTRIPHERYLPHOSPHONIUM BROMIDE	50	Gram(GM)	05-Aug-20
0001604175	36276-24-1	3-Bromo-4-methylbenzaldehyde	5	Gram(GM)	05-Aug-20
0001604176	36276-24-1	3-Bromo-4-methylbenzaldehyde	5	Gram(GM)	05-Aug-20
0001604177	71-48-7	COBALT(II) ACETATE	1	Gram(GM)	05-Aug-20
0001604178	-	AVICEL PH-101	1	Kilograms(KG)	05-Aug-20
0001604184	93-61-8	N-Methylformanilide	100	Gram(GM)	05-Aug-20
0001604185	626-39-1	1 3 5-TRIBROMOBENZENE	100	Gram(GM)	05-Aug-20
0001604186	540-37-4	4-IODOANILINE	100	Gram(GM)	05-Aug-20
0001604187	18226-42-1	1 3 5-Tris(bromomethyl)benzene	10	Gram(GM)	05-Aug-20
0001604188	555-16-8	4-NITROBENZALDEHYDE	100	Gram(GM)	05-Aug-20
0001604189	9002-89-5	POLY VINYL ALCOHOL	250	Gram(GM)	05-Aug-20
0001604190	125-20-2	THYMOLPHTHALEIN	500	Gram(GM)	05-Aug-20
0001604191	-	Ammonia TNTplus HR	250	Milliliter(ML)	05-Aug-20
0001604200	-	Ammonia TNTplus HR	250	Milliliter(ML)	05-Aug-20
0001604199	-	Ammonia TNTplus HR	250	Milliliter(ML)	05-Aug-20
0001604198	-	Ammonia TNTplus HR	250	Milliliter(ML)	05-Aug-20
0001604197	-	Ammonia TNTplus HR	250	Milliliter(ML)	05-Aug-20
0001604194	-	Ammonia TNTplus HR	250	Milliliter(ML)	05-Aug-20
0001604192	-	Ammonia TNTplus HR	250	Milliliter(ML)	05-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604193	-	Ammonia TNTplus HR	250	Milliliter(ML)	05-Aug-20
0001604195	-	Ammonia TNTplus HR	250	Milliliter(ML)	05-Aug-20
0001604196	-	Ammonia TNTplus HR	250	Milliliter(ML)	05-Aug-20
0001604201	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	1	Gallon(GAL)	05-Aug-20
0001604202	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	1	Gallon(GAL)	05-Aug-20
0001604203	110-54-3	HEXANE CERTIFIED ACS	1	Liters(L)	05-Aug-20
0001604204	110-54-3	HEXANE CERTIFIED ACS	1	Liters(L)	05-Aug-20
0001604205	7440-42-8	BORON POWDER	25	Gram(GM)	05-Aug-20
0001604206	95-50-1	1 2-DICHLOROBENZENE	2500	Gram(GM)	05-Aug-20
0001604207	95-50-1	1 2-DICHLOROBENZENE	2500	Gram(GM)	05-Aug-20
0001602384	1310-73-2	SODIUM HYDROXIDE PELLETS	12	Kilograms(KG)	06-Aug-20
0001602385	1310-73-2	SODIUM HYDROXIDE PELLETS	12	Kilograms(KG)	06-Aug-20
0001602386	527-07-1	SODIUM GLUCONATE	10	Kilograms(KG)	06-Aug-20
0001602387	527-07-1	SODIUM GLUCONATE	10	Kilograms(KG)	06-Aug-20
0001603239	-	APIEZON N GREASE	25	Gram(GM)	06-Aug-20
0001603240	-	APIEZON N GREASE	25	Gram(GM)	06-Aug-20
0001603241	-	APIEZON GREASE H	25	Gram(GM)	06-Aug-20
0001603242	-	APIEZON GREASE H	25	Gram(GM)	06-Aug-20
0001603243	-	APIEZON GREASE H	25	Gram(GM)	06-Aug-20
0001603244	-	APIEZON GREASE TYPE L	50	Gram(GM)	06-Aug-20
0001603512	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603521	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603519	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603529	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603528	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603527	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603526	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603524	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603530	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603520	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603525	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603518	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603517	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603516	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603515	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603514	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603513	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603522	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603532	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603533	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603534	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603535	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
0001603523	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001603531	7732-18-5	WATER	16	Ounces(OZ)	06-Aug-20
V000006800	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067F1	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V000006805	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067EA	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067EB	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067EC	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067ED	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067EE	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067EF	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067F0	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067F3	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067F8	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V000006804	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067FF	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067FE	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067FD	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067FC	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067FB	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067F2	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067F9	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V000006803	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067F7	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067F6	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067F5	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067F4	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V000006801	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V000006802	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
V0000067FA	-	ARDEX FEATHER FINISH	10	Pounds(LB)	06-Aug-20
0001603536	7664-39-3	HYDROFLUORIC ACID	10	Pounds(LB)	06-Aug-20
0001603537	7664-39-3	HYDROFLUORIC ACID	10	Pounds(LB)	06-Aug-20
0001603538	7664-39-3	HYDROFLUORIC ACID	10	Pounds(LB)	06-Aug-20
0001603539	7664-39-3	HYDROFLUORIC ACID	10	Pounds(LB)	06-Aug-20
0001604209	108-67-8	MESITYLENE	50	Milliliter(ML)	06-Aug-20
0001604210	109-99-9	TETRAHYDROFURAN	1	Liters(L)	06-Aug-20
0001604211	109-99-9	TETRAHYDROFURAN	1	Liters(L)	06-Aug-20
0001604212	285138-86-5	Trimethylsilyl acetylene-13C2	25	Gram(GM)	06-Aug-20
0001604213	285138-86-5	Trimethylsilyl acetylene-13C2	25	Gram(GM)	06-Aug-20
0001604214	122-52-1	TRIETHYL PHOSPHITE	500	Milliliter(ML)	06-Aug-20
0001604215	-	Nano 19 graphite nanoplatelets	1	Pounds(LB)	06-Aug-20
0001604216	-	Nano 47 graphite nanoplatelets	1	Pounds(LB)	06-Aug-20
0001604217	-	Nano 99 graphite nanoplatelets	1	Pounds(LB)	06-Aug-20
0001604218	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604227	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604226	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604225	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604224	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604223	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604222	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604221	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604219	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604229	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604228	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604220	-	CiDehol 70 70% Isopropyl Alcohol Solution	16	Ounces(OZ)	06-Aug-20
0001604230	13450-90-3	GALLIUM(III) CHLORIDE	5	Gram(GM)	06-Aug-20
0001604231	13450-90-3	GALLIUM(III) CHLORIDE	5	Gram(GM)	06-Aug-20
0001604232	-	MiraCLEAN Endotoxin Removal Kit	10	Milligram(MG)	06-Aug-20
0001604233	-	BacTiter-Glo Microbial Cell Viability Assay	100	Milliliter(ML)	06-Aug-20
0001604234	7681-52-9	SODIUM HYPOCHLORITE	1	Liters(L)	06-Aug-20
0001604235	-	ADHESIVE (PERMABOND 910)	1	Ounces(OZ)	06-Aug-20
0001604236	85186-71-6	DRISELASE FROM BASIDIOMYCETES	5	Gram(GM)	06-Aug-20
0001604237	-	HEPTANES	4	Liters(L)	06-Aug-20
0001604238	-	HEPTANES	4	Liters(L)	06-Aug-20
0001604240	-	HEPTANES	4	Liters(L)	06-Aug-20
0001604239	-	HEPTANES	4	Liters(L)	06-Aug-20
0001604241	26093-31-2	7-AMINO-4-METHYLCOUMARIN	10	Gram(GM)	06-Aug-20
0001604242	-	Loctite Titefoam	12	Cubic Centimeter (CC)	06-Aug-20
0001604246	-	Loctite Titefoam	12	Cubic Centimeter (CC)	06-Aug-20
0001604244	-	Loctite Titefoam	12	Cubic Centimeter (CC)	06-Aug-20
0001604243	-	Loctite Titefoam	12	Cubic Centimeter (CC)	06-Aug-20
0001604247	-	Loctite Titefoam	12	Cubic Centimeter (CC)	06-Aug-20
0001604245	-	Loctite Titefoam	12	Cubic Centimeter (CC)	06-Aug-20
0001604249	-	Loctite Titefoam	12	Cubic Centimeter (CC)	06-Aug-20
0001604248	-	Loctite Titefoam	12	Cubic Centimeter (CC)	06-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604250	10025-69-1	TIN(II) CHLORIDE DIHYDRATE	100	Gram(GM)	06-Aug-20
0001604251	79-10-7	ACRYLIC ACID	500	Gram(GM)	06-Aug-20
0001604252	2997-92-4	2 2'-AZOBIS(2-METHYLPROPIONAMIDINE) DIHYDROCHLORIDE	25	Gram(GM)	06-Aug-20
0001604253	107-46-0	HEXAMETHYLDISILOXANE	1	Liters(L)	06-Aug-20
0001604254	142-82-5	HEPTANE (HEPTANE ANHYDROUS)	1	Liters(L)	06-Aug-20
0001604255	142-82-5	HEPTANE (HEPTANE ANHYDROUS)	1	Liters(L)	06-Aug-20
0001604263	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604273	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604285	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604266	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604276	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604278	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604275	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604274	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604277	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604272	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604271	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604270	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604269	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604267	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604265	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604264	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604279	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604268	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604281	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604282	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604284	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604280	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604286	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604287	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604283	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604304	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604309	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604308	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604299	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604300	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604301	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604310	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604303	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604297	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604305	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604306	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604302	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604294	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604288	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604289	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604290	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604291	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604293	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604307	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604295	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604296	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604298	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001604292	007697-37-2	NITRIC ACID	7	Pounds(LB)	06-Aug-20
0001557884	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	06-Aug-20
0001557885	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	06-Aug-20
0001539912	-	Chemlube 800	4	Quarts(QT)	07-Aug-20
0001539913	-	Chemlube 800	4	Quarts(QT)	07-Aug-20
0001539919	-	Chemlube 800	4	Quarts(QT)	07-Aug-20
0001539928	-	Chemlube 800	4	Quarts(QT)	07-Aug-20
0001539937	-	Chemlube 800	4	Quarts(QT)	07-Aug-20
0001539946	-	Chemlube 800	4	Quarts(QT)	07-Aug-20
0001644901	-	770-WASTELOCK-ABSORBANT	50	Pounds(LB)	07-Aug-20
0001626111	-	Do it Best Bar and Chain Oil	1	Quarts(QT)	07-Aug-20
0001664041	9051-49-4	POLYOXYPROPYLENE PENTAERYTHRITOL-POLYETHER POLYOL	250	Milliliter(ML)	07-Aug-20
0001626114	-	Do it Best Bar and Chain Oil	1	Quarts(QT)	07-Aug-20
0001626115	-	Do it Best Bar and Chain Oil	1	Quarts(QT)	07-Aug-20
0001626119	-	Do it Best Bar and Chain Oil	1	Quarts(QT)	07-Aug-20
0001626117	-	Do it Best Bar and Chain Oil	1	Quarts(QT)	07-Aug-20
0001626112	-	Do it Best Bar and Chain Oil	1	Quarts(QT)	07-Aug-20
0001626116	-	Do it Best Bar and Chain Oil	1	Quarts(QT)	07-Aug-20
0001626118	-	Do it Best Bar and Chain Oil	1	Quarts(QT)	07-Aug-20
0001626113	-	Do it Best Bar and Chain Oil	1	Quarts(QT)	07-Aug-20
0001626120	-	Brakleen Brake Parts Cleaner (aerosol)	538	Gram(GM)	07-Aug-20
0001626129	-	Brakleen Brake Parts Cleaner (aerosol)	538	Gram(GM)	07-Aug-20
0001626121	-	Brakleen Brake Parts Cleaner (aerosol)	538	Gram(GM)	07-Aug-20
0001626122	-	Brakleen Brake Parts Cleaner (aerosol)	538	Gram(GM)	07-Aug-20
0001626123	-	Brakleen Brake Parts Cleaner (aerosol)	538	Gram(GM)	07-Aug-20
0001626124	-	Brakleen Brake Parts Cleaner (aerosol)	538	Gram(GM)	07-Aug-20
0001626125	-	Brakleen Brake Parts Cleaner (aerosol)	538	Gram(GM)	07-Aug-20
0001626126	-	Brakleen Brake Parts Cleaner (aerosol)	538	Gram(GM)	07-Aug-20
0001626127	-	Brakleen Brake Parts Cleaner (aerosol)	538	Gram(GM)	07-Aug-20
0001626128	-	Brakleen Brake Parts Cleaner (aerosol)	538	Gram(GM)	07-Aug-20
0001603238	-	Pierce LAL Chromogenic Endotoxin Quantitation Kit	300	Milliliter(ML)	07-Aug-20
0001604208	-	EP29LPSP	1	Ounces(OZ)	07-Aug-20
0001604256	-	2-AMINOTHIAZOLE	25	Gram(GM)	07-Aug-20
0001604257	42140-95-4	2-(Thiophen-2-yl)-1 3-thiazole	1	Gram(GM)	07-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604258	3034-53-5	2-BROMOTHIAZOLE	25	Gram(GM)	07-Aug-20
0001664042	10034-85-2	HYDRIODIC ACID 55%	1	Liters(L)	07-Aug-20
0001664043	10034-85-2	HYDRIODIC ACID 55%	1	Liters(L)	07-Aug-20
0001664044	10034-85-2	HYDRIODIC ACID 55%	1	Liters(L)	07-Aug-20
0001664045	10034-85-2	HYDRIODIC ACID 55%	1	Liters(L)	07-Aug-20
0001664046	10034-85-2	HYDRIODIC ACID 55%	1	Liters(L)	07-Aug-20
0001604259	82358-09-6	2-Mercaptothiazole	5	Gram(GM)	07-Aug-20
0001664047	10034-85-2	HYDRIODIC ACID 55%	1	Liters(L)	07-Aug-20
0001604260	850852-85-6	2-Aminomethylthiazole HCl	5	Gram(GM)	07-Aug-20
0001604261	553-26-4	4 4-DIPYRIDYL (4 4-BIPYRIDINE)	10	Gram(GM)	07-Aug-20
0001604262	6156-78-1	MANGANESE ACETATE TETRAHYDRATE	25	Gram(GM)	07-Aug-20
0001604335	-	Ammonia TNTplus HR	250	Milliliter(ML)	07-Aug-20
0001604336	10026-13-8	PHOSPHORUS PENTACHLORIDE	50	Gram(GM)	07-Aug-20
0001604337	139-13-9	NITRILOTRIACETIC ACID	500	Gram(GM)	07-Aug-20
0001604338	70131-67-8	PLY-7609 SILICONE FLUID	1	Gallon(GAL)	07-Aug-20
0001604339	70131-67-8	PLY-7609 SILICONE FLUID	1	Gallon(GAL)	07-Aug-20
0001604340	99627-05-1	3 4 5-Trifluorophenol	25	Gram(GM)	07-Aug-20
0001604341	36629-42-2	Methyl pentafluorobenzoate	25	Gram(GM)	07-Aug-20
0001604342	1450-85-7	2-MERCAPTOPYRIMIDINE	10	Gram(GM)	07-Aug-20
0001604343	15059-52-6	DYSPROSIUM(III) CHLORIDE HEXAHYDRATE	5	Gram(GM)	07-Aug-20
0001604344	75-09-2	DICHLOROMETHANE	2.5	Liters(L)	07-Aug-20
0001604345	-	Essential 8 Flex Medium Kit	10	Milliliter(ML)	07-Aug-20
0001604346	-	Essential 8 Medium	500	Milliliter(ML)	07-Aug-20
0001604347	-	ZINC STANDARD	125	Milliliter(ML)	07-Aug-20
0001604349	-	ZINC STANDARD	125	Milliliter(ML)	07-Aug-20
0001604348	-	ZINC STANDARD	125	Milliliter(ML)	07-Aug-20
0001604350	-	GALLIUM STANDARD	125	Milliliter(ML)	07-Aug-20
0001604351	-	GALLIUM STANDARD	125	Milliliter(ML)	07-Aug-20
0001604352	-	GALLIUM STANDARD	125	Milliliter(ML)	07-Aug-20
0001604353	-	GALLIUM STANDARD	125	Milliliter(ML)	07-Aug-20
0001604354	-	GALLIUM STANDARD	125	Milliliter(ML)	07-Aug-20
0001604355	576-83-0	2-BROMOMESITYLENE	100	Gram(GM)	07-Aug-20
0001604356	77-92-9	CITRIC ACID	250	Gram(GM)	07-Aug-20
0001604357	6132-04-3	Sodium citrate tribasic dihydrate	250	Gram(GM)	07-Aug-20
0001604358	-	Buehler Metadi Supreme Polycrystalline Diamond Susp. 1 micron	8	Ounces(OZ)	07-Aug-20
0001604359	-	Buehler Metadi Supreme Polycrystalline Diamond Susp. 1 micron	8	Ounces(OZ)	07-Aug-20
0001604360	7778-18-9	DRIERITE	250	Gram(GM)	07-Aug-20
0001604361	5949-29-1	CITRIC ACID MONOHYDRATE	5	Kilograms(KG)	07-Aug-20
0001604362	10-64-7	4-CHLOROANILINE	5	Gram(GM)	07-Aug-20
0001604363	171877-39-7	(S)-4-Benzylthiazolidine-2-thione	1	Gram(GM)	07-Aug-20
0001604364	21524-34-5	1-BROMO-2 4 6-TRIISOPROPYLBENZENE	25	Gram(GM)	07-Aug-20
0001604365	576-22-7	2-BROMO-M-XYLENE	25	Gram(GM)	07-Aug-20
0001604366	556-96-7	1-BROMO-3 5-DIMETHYL-BENZENE	25	Gram(GM)	07-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604367	9001-06-3	Chitinase	251	Gram(GM)	07-Aug-20
0001604368	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
V000006819	-	Mobil 1 5W-40	4	Quarts(QT)	07-Aug-20
V000006814	-	Mobil 1 5W-40	4	Quarts(QT)	07-Aug-20
V000006812	-	Mobil 1 5W-40	4	Quarts(QT)	07-Aug-20
V000006813	-	Mobil 1 5W-40	4	Quarts(QT)	07-Aug-20
V000006818	-	Mobil 1 5W-40	4	Quarts(QT)	07-Aug-20
V000006817	-	Mobil 1 5W-40	4	Quarts(QT)	07-Aug-20
V000006816	-	Mobil 1 5W-40	4	Quarts(QT)	07-Aug-20
V000006815	-	Mobil 1 5W-40	4	Quarts(QT)	07-Aug-20
V00000681A	-	Mobil 1 5W-40	4	Quarts(QT)	07-Aug-20
0001604398	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604389	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604390	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604378	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604392	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604394	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604395	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604406	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604397	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604386	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604399	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604400	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604401	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604402	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604403	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604404	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604405	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604396	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604379	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604369	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604370	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604371	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604372	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604373	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604374	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604375	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604388	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604377	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604387	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604380	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604381	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604382	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604383	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604384	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604385	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604393	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604376	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604407	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604391	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Aug-20
0001604408	-	DUPONT KRYTOX FLUORINATED LUBRICANT	2	Ounces(OZ)	07-Aug-20
0001604409	-	DUPONT KRYTOX FLUORINATED LUBRICANT	2	Ounces(OZ)	07-Aug-20
V000006823	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000681B	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006826	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006824	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006822	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006821	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006820	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000681F	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000681E	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000681D	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000681C	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006825	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006828	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006832	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006831	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006830	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000682F	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000682E	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000682D	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000682C	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000682B	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006829	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006827	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V00000682A	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	07-Aug-20
V000006838	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006841	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006840	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V00000683E	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V00000683C	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V00000683B	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006842	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006839	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V00000683F	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006837	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006836	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006835	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006834	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006833	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V00000683A	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006844	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006845	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V000006843	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
V00000683D	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	07-Aug-20
0001626130	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626185	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626148	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626147	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626146	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626152	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626144	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626142	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626141	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626189	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626188	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626186	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626184	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626183	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626182	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626181	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626180	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626149	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626179	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626145	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626187	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626161	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626170	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626169	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626168	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626150	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626166	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626143	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626164	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626171	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626162	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626167	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626160	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626159	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626158	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626157	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626156	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626155	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626154	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626153	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626163	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626132	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626140	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626151	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626165	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626131	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626172	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626133	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626134	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626135	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626136	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626173	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626138	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626139	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626178	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626177	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626176	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626175	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626174	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001626137	-	Parts Plus HIGH PERFORMANCE SAE 5W-20 Motor Oil	1	Quarts(QT)	07-Aug-20
0001539955	-	LOCTITE 242 THREADLOCKER	1.69	Ounces(OZ)	07-Aug-20
0001539964	-	LOCTITE 222MS THREADLOCKER	0.34	Ounces(OZ)	07-Aug-20
0001626190	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626200	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626199	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626198	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626197	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626196	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626195	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626194	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626193	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626201	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626191	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626214	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626192	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626209	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626212	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626202	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626213	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626210	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626208	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626207	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626206	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626205	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626204	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626203	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001626211	-	Prime Guard DEF	2.5	Gallon(GAL)	07-Aug-20
0001004987	-	Resbond Ceramic Binder	1	Quarts(QT)	10-Aug-20
0001423707	-	380 INSTANT ADHESIVE	1	Ounces(OZ)	10-Aug-20
0001423709	-	380 INSTANT ADHESIVE	1	Ounces(OZ)	10-Aug-20
0001423711	-	380 INSTANT ADHESIVE	1	Ounces(OZ)	10-Aug-20
0001423708	-	380 INSTANT ADHESIVE	1	Ounces(OZ)	10-Aug-20
0001423710	-	380 INSTANT ADHESIVE	1	Ounces(OZ)	10-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604311	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604325	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604328	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604330	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604329	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604312	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604326	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604324	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604323	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604322	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604321	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604320	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604319	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604318	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604317	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604316	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604315	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604327	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604313	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604314	-	Novec 71IPA Engineered Fluid	1	Gallon(GAL)	10-Aug-20
0001604410	108-88-3	TOLUENE	1	Liters(L)	10-Aug-20
0001604411	108-88-3	TOLUENE	1	Liters(L)	10-Aug-20
0001604412	108-88-3	TOLUENE	1	Liters(L)	10-Aug-20
0001604413	108-88-3	TOLUENE	1	Liters(L)	10-Aug-20
0001604414	110-71-4	1 2-DIMETHOXYETHANE	1	Liters(L)	10-Aug-20
0001604415	109-99-9	TETRAHYDROFURAN	1	Liters(L)	10-Aug-20
0001604416	109-99-9	TETRAHYDROFURAN	1	Liters(L)	10-Aug-20
0001604417	109-99-9	TETRAHYDROFURAN	1	Liters(L)	10-Aug-20
0001604418	60-29-7	DIETHYL ETHER	1	Liters(L)	10-Aug-20
0001604419	60-29-7	DIETHYL ETHER	1	Liters(L)	10-Aug-20
0001604420	96-47-9	2-METHYLTETRAHYDROFURAN	1	Liters(L)	10-Aug-20
0001604421	109-66-0	PENTANE ANHYDROUS	1	Liters(L)	10-Aug-20
0001604422	109-66-0	PENTANE ANHYDROUS	1	Liters(L)	10-Aug-20
0001604423	71-43-2	BENZENE	100	Milliliter(ML)	10-Aug-20
0001604424	71-43-2	BENZENE	100	Milliliter(ML)	10-Aug-20
0001604425	-	Diethyl ether HPLC Grade	1	Liters(L)	10-Aug-20
0001604426	88495-54-9	(S)-1-Boc-piperidine-3-carboxylic acid	5	Gram(GM)	10-Aug-20
0001604427	8042-97-5	PUMP OIL ULTRAGRADE 19	1	Liters(L)	10-Aug-20
0001604428	8042-97-5	PUMP OIL ULTRAGRADE 19	1	Liters(L)	10-Aug-20
0001604429	8042-97-5	PUMP OIL ULTRAGRADE 19	1	Liters(L)	10-Aug-20
0001604430	8042-97-5	PUMP OIL ULTRAGRADE 19	1	Liters(L)	10-Aug-20
0001604431	8042-97-5	PUMP OIL ULTRAGRADE 19	1	Liters(L)	10-Aug-20
0001604432	1310-73-2	SODIUM HYDROXIDE	1	Liters(L)	10-Aug-20
0001604433	144-55-8	SODIUM BICARBONATE	500	Gram(GM)	10-Aug-20
0001604434	144-55-8	SODIUM BICARBONATE	500	Gram(GM)	10-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604435	497-19-8	SODIUM CARBONATE	500	Gram(GM)	10-Aug-20
0001604436	497-19-8	SODIUM CARBONATE	500	Gram(GM)	10-Aug-20
0001604437	79-10-7	ACRYLIC ACID	1	Liters(L)	10-Aug-20
0001604438	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604441	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604439	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604448	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604440	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604455	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604462	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604461	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604460	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604459	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604458	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604456	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604454	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604453	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604442	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604445	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604457	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604444	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604452	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604446	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604447	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604449	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604450	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604451	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604443	-	HYSOL	200	Milliliter(ML)	10-Aug-20
0001604463	7681-11-0	POTASSIUM IODIDE	250	Gram(GM)	10-Aug-20
0001604464	772-28-4	HYDROGEN PEROXIDE - 30%	500	Milliliter(ML)	10-Aug-20
0001604465	1317-61-9	COPPER(I) OXIDE	2	Kilograms(KG)	10-Aug-20
0001604466	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	10-Aug-20
0001604467	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604472	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604470	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604469	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604471	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604474	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604468	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604475	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604473	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604476	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604477	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20
0001604478	-	CiDehol ST	16	Ounces(OZ)	10-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604479	5768-39-8	Benzo[d][1 3]dioxole-4-carboxylic acid	1	Gram(GM)	10-Aug-20
0001604480	26628-22-8	Agencourt AMPure XP	60	Milliliter(ML)	10-Aug-20
0001604481	109-99-9	TETRAHYDROFURAN	1	Liters(L)	10-Aug-20
0001604482	109-99-9	TETRAHYDROFURAN	1	Liters(L)	10-Aug-20
0001604483	71-23-8	1-PROPANOL	1	Liters(L)	10-Aug-20
0001604484	71-23-8	1-PROPANOL	1	Liters(L)	10-Aug-20
0001604505	-	DUCO CEMENT	29	Milliliter(ML)	10-Aug-20
0001604487	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604488	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604503	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604499	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604498	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604502	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604504	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604501	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604491	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604497	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604496	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604495	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604494	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604493	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604492	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604489	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604500	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604490	-	TACFLUX 012	25	Gram(GM)	10-Aug-20
0001604485	-	BlueGrip S2	30	Cubic Centimeter (CC)	10-Aug-20
0001604486	-	BlueGrip S2	30	Cubic Centimeter (CC)	10-Aug-20
V000006851	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
V000006853	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
V00000684E	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
V000006850	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
V000006852	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
V000006855	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
V000006856	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
V000006857	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
V000006858	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
V000006854	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
V00000684F	-	Henry 430 ClearPro Clear VCT Floor Adhesive	4	Gallon(GAL)	11-Aug-20
0001557886	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557931	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557897	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557933	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557907	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557906	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557905	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557904	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557903	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557902	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557901	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557900	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557909	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557898	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557910	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557896	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557895	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557894	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557893	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557892	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557891	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557890	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557889	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557888	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557887	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557899	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557921	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557932	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557930	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557929	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557928	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557927	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557926	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557925	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557924	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557908	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557922	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557920	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557919	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557918	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557917	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557916	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557915	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557914	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557913	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557912	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557911	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001557923	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	11-Aug-20
0001654335	-	HYDROGEN GAS	100	Liters(L)	11-Aug-20
0001654340	-	HYDROGEN GAS	100	Liters(L)	11-Aug-20
0001654339	-	HYDROGEN GAS	100	Liters(L)	11-Aug-20
0001654338	-	HYDROGEN GAS	100	Liters(L)	11-Aug-20
0001654337	-	HYDROGEN GAS	100	Liters(L)	11-Aug-20
0001654336	-	HYDROGEN GAS	100	Liters(L)	11-Aug-20
0000801678	57-55-6	PROPYLENE GLYCOL	2	Liters(L)	11-Aug-20
0000801687	57-55-6	PROPYLENE GLYCOL	2	Liters(L)	11-Aug-20
0001659619	-	3M SUPER 77 SPRAY ADHESIVE	16.75	Ounces(OZ)	11-Aug-20
0001659620	-	3M SUPER 77 SPRAY ADHESIVE	16.75	Ounces(OZ)	11-Aug-20
0001659624	-	3M SUPER 77 SPRAY ADHESIVE	16.75	Ounces(OZ)	11-Aug-20
0001659628	-	3M SUPER 77 SPRAY ADHESIVE	16.75	Ounces(OZ)	11-Aug-20
0001659623	-	3M SUPER 77 SPRAY ADHESIVE	16.75	Ounces(OZ)	11-Aug-20
0001659625	-	3M SUPER 77 SPRAY ADHESIVE	16.75	Ounces(OZ)	11-Aug-20
0001659627	-	3M SUPER 77 SPRAY ADHESIVE	16.75	Ounces(OZ)	11-Aug-20
0001659626	-	3M SUPER 77 SPRAY ADHESIVE	16.75	Ounces(OZ)	11-Aug-20
0001659621	-	3M SUPER 77 SPRAY ADHESIVE	16.75	Ounces(OZ)	11-Aug-20
0001659622	-	3M SUPER 77 SPRAY ADHESIVE	16.75	Ounces(OZ)	11-Aug-20
0001604506	-	CALCIUM STANDARD	125	Milliliter(ML)	11-Aug-20
0001604507	-	MAGNESIUM STANDARD	125	Milliliter(ML)	11-Aug-20
0001604508	-	ALUMINUM STANDARD	125	Milliliter(ML)	11-Aug-20
0001604509	-	IRON STANDARD	125	Milliliter(ML)	11-Aug-20
0001604510	-	POTASSIUM STANDARD	1000	Milligram(MG)	11-Aug-20
0001604511	-	LITHIUM STANDARD	125	Milliliter(ML)	11-Aug-20
0001604512	-	MANGANESE STANDARD	125	Milliliter(ML)	11-Aug-20
0001604513	7440-21-3	SILICON STANDARD	125	Milliliter(ML)	11-Aug-20
0001604514	-	STRONTIUM STANDARD	125	Milliliter(ML)	11-Aug-20
0001604515	-	BARIUM STANDARD	125	Milliliter(ML)	11-Aug-20
0001604516	-	CHROMIUM STANDARD	125	Milliliter(ML)	11-Aug-20
0001604517	-	TITANIUM STANDARD	125	Milliliter(ML)	11-Aug-20
0001604518	-	ZINC STANDARD	125	Milliliter(ML)	11-Aug-20
0001604519	-	SPILL-X-A ACID NEUTRALIZER	55	Pounds(LB)	11-Aug-20
0001604520	12024-21-4	GALLIUM(III) OXIDE	5	Gram(GM)	11-Aug-20
0001604521	12024-21-4	GALLIUM(III) OXIDE	5	Gram(GM)	11-Aug-20
0001604522	7631-99-4	SODIUM NITRATE	50	Gram(GM)	11-Aug-20
0001604523	7631-99-4	SODIUM NITRATE	50	Gram(GM)	11-Aug-20
0001604524	7631-99-4	SODIUM NITRATE	50	Gram(GM)	11-Aug-20
0001604525	7631-99-4	SODIUM NITRATE	50	Gram(GM)	11-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604526	-	DOW CORNING 93-500 SPACE GRADE ENCAPSULANT	110	Gram(GM)	11-Aug-20
0001604527	-	PHENOLIC MICROSPHERES	5	Gallon(GAL)	11-Aug-20
0001604528	7697-37-2	ICP Tuning Solution	125	Milliliter(ML)	11-Aug-20
0001604529	7783-90-6	ION CHROMATOGRAPHY ICP MS	125	Milliliter(ML)	11-Aug-20
0001604530	-	ICP-MS REFRACTORY STANDARD	125	Milliliter(ML)	11-Aug-20
0001604531	-	PRECIOUS METALS STANDARD	125	Milliliter(ML)	11-Aug-20
0001604532	-	INTERNAL STANDARD	125	Milliliter(ML)	11-Aug-20
0001604533	-	LITHIUM STANDARD	125	Milliliter(ML)	11-Aug-20
0001604534	-	iCAP Q Calibration Solution	250	Milliliter(ML)	11-Aug-20
0001604536	007697-37-2	NITRIC ACID	500	Milliliter(ML)	11-Aug-20
0001604537	007697-37-2	NITRIC ACID	500	Milliliter(ML)	11-Aug-20
0001604552	-	FMOC-TYR(TBU)-OH	250	Gram(GM)	11-Aug-20
0001604553	-	FMOC-CYS(ACM)	100	Gram(GM)	11-Aug-20
0001604554	-	FMOC-TRP	250	Gram(GM)	11-Aug-20
0001604555	-	FMOC-CYS(TRT)-OH	250	Gram(GM)	11-Aug-20
0001604556	-	FMOC-PHE-WANG RESIN	5	Gram(GM)	11-Aug-20
0001604557	-	FMOC-TRP	5	Gram(GM)	11-Aug-20
0001604558	-	Fmoc-Tyr(tBu)-Wang Resin	5	Gram(GM)	11-Aug-20
0001604559	-	RINK AMIDE AM RESIN LL	25	Gram(GM)	11-Aug-20
0001604560	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	11-Aug-20
0001604562	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	11-Aug-20
0001604561	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	11-Aug-20
0001604563	-	EPO-TEK 353ND	8	Ounces(OZ)	11-Aug-20
0001604564	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604578	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604568	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604569	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604570	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604571	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604572	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604573	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604574	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604575	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604566	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604577	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604565	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604579	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604580	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604581	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604582	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604583	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604584	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604585	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604586	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604587	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604576	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604567	-	FOGPRUF	4	Ounces(OZ)	11-Aug-20
0001604588	777-81-8	DRIERITE	50	Pounds(LB)	11-Aug-20
0001604592	777-81-8	DRIERITE	50	Pounds(LB)	11-Aug-20
0001604589	777-81-8	DRIERITE	50	Pounds(LB)	11-Aug-20
0001604591	777-81-8	DRIERITE	50	Pounds(LB)	11-Aug-20
0001604593	777-81-8	DRIERITE	50	Pounds(LB)	11-Aug-20
0001604594	777-81-8	DRIERITE	50	Pounds(LB)	11-Aug-20
0001604595	777-81-8	DRIERITE	50	Pounds(LB)	11-Aug-20
0001604590	777-81-8	DRIERITE	50	Pounds(LB)	11-Aug-20
0001557934	68411-46-1	Atlas Copco Roto Z	5	Gallon(GAL)	11-Aug-20
0001557935	68411-46-1	Atlas Copco Roto Z	5	Gallon(GAL)	11-Aug-20
0001604596	-	INDICATING DRIERITE	1	Pounds(LB)	11-Aug-20
0001604598	-	INDICATING DRIERITE	1	Pounds(LB)	11-Aug-20
0001604597	-	INDICATING DRIERITE	1	Pounds(LB)	11-Aug-20
0001557936	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557943	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557942	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557938	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557946	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557937	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557944	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557945	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557939	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557940	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557941	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001557947	-	GREASELESS LUBRICANT (LPS 1)	379	Milliliter(ML)	11-Aug-20
0001654225	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	11-Aug-20
0001654226	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	11-Aug-20
0001654227	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	11-Aug-20
0001654228	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	11-Aug-20
0001654229	-	Compressed Air	220	Cubic Feet(CF)	11-Aug-20
0001654233	-	Compressed Air	220	Cubic Feet(CF)	11-Aug-20
0001654232	-	Compressed Air	220	Cubic Feet(CF)	11-Aug-20
0001654231	-	Compressed Air	220	Cubic Feet(CF)	11-Aug-20
0001654230	-	Compressed Air	220	Cubic Feet(CF)	11-Aug-20
0001654234	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654235	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654237	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654238	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654236	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654241	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654270	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654239	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654271	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654272	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654242	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654243	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654244	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654275	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654274	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654273	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654240	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654257	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654245	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654246	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654247	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654248	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654249	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654250	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654251	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654252	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654253	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654254	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654268	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654256	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654269	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654258	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654259	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654260	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654261	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654262	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654263	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654264	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654265	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654266	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654267	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654255	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654334	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	11-Aug-20
0001654276	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654278	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654289	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654279	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654290	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654288	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654287	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654286	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654285	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654283	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654282	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654281	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654280	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654277	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654284	-	ARGON 94% BALANCE HYDROGEN	220	Cubic Feet(CF)	11-Aug-20
0001654291	-	NITROGEN 95% / CARBON DIOXIDE 5%	220	Cubic Feet(CF)	11-Aug-20
0001654293	-	NITROGEN 95% / CARBON DIOXIDE 5%	220	Cubic Feet(CF)	11-Aug-20
0001654299	-	NITROGEN 95% / CARBON DIOXIDE 5%	220	Cubic Feet(CF)	11-Aug-20
0001654298	-	NITROGEN 95% / CARBON DIOXIDE 5%	220	Cubic Feet(CF)	11-Aug-20
0001654297	-	NITROGEN 95% / CARBON DIOXIDE 5%	220	Cubic Feet(CF)	11-Aug-20
0001654296	-	NITROGEN 95% / CARBON DIOXIDE 5%	220	Cubic Feet(CF)	11-Aug-20
0001654294	-	NITROGEN 95% / CARBON DIOXIDE 5%	220	Cubic Feet(CF)	11-Aug-20
0001654292	-	NITROGEN 95% / CARBON DIOXIDE 5%	220	Cubic Feet(CF)	11-Aug-20
0001654295	-	NITROGEN 95% / CARBON DIOXIDE 5%	220	Cubic Feet(CF)	11-Aug-20
0001654300	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654303	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654302	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654301	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654304	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654312	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654305	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654306	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654307	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654308	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654309	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654310	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654311	-	ARGON GAS	220	Cubic Feet(CF)	11-Aug-20
0001654313	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654315	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654314	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654327	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654332	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654331	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654330	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654329	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654328	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654333	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654316	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654323	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654326	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654324	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654317	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654322	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654321	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654320	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654319	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654318	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654325	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	11-Aug-20
0001654221	630-08-0	CARBON MONOXIDE	220	Cubic Feet(CF)	11-Aug-20
0001626215	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	12-Aug-20
0001626220	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	12-Aug-20
0001626216	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	12-Aug-20
0001626217	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	12-Aug-20
0001626218	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	12-Aug-20
0001626219	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	12-Aug-20
0001626221	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	12-Aug-20
0001626222	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	12-Aug-20
0001626223	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	12-Aug-20
0001626224	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	12-Aug-20
0001626225	-	KRYLON SPRAY PAINT	12	Ounces(OZ)	12-Aug-20
0001626226	-	KRYLON SPRAY PAINT	12	Ounces(OZ)	12-Aug-20
0001592089	75-04-7	ETHYLAMINE	100	Milliliter(ML)	12-Aug-20
0001604599	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604601	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604602	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604603	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604604	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604605	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604606	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604607	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604608	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604609	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604600	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604610	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Aug-20
0001604611	-	(1R 5S)-3-Azabicyclo[3.3.1]nonane hydrochloride	1	Gram(GM)	12-Aug-20
0001604612	501-53-1	BENZYL CHLOROFORMATE (CARBOBENZOXY CHLORIDE)	25	Gram(GM)	12-Aug-20
0001604613	54120-02-4	a-(Aminomethyl)-cyclopropanemethanol HCl	1	Gram(GM)	12-Aug-20
0001604614	-	3140 RTV COATING	90	Milliliter(ML)	12-Aug-20
0001604615	-	3140 RTV COATING	90	Milliliter(ML)	12-Aug-20
0001604616	-	3140 RTV COATING	90	Milliliter(ML)	12-Aug-20
0001604617	-	EDTA TETRASODIUM SALT DIHYDRATE	500	Gram(GM)	12-Aug-20
0001604618	23978-09-8	KRYPTOFIX 222	5	Gram(GM)	12-Aug-20
0001604619	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	Gram(GM)	12-Aug-20
0001604621	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	Gram(GM)	12-Aug-20
0001604628	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	Gram(GM)	12-Aug-20
0001604627	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	Gram(GM)	12-Aug-20
0001604626	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	Gram(GM)	12-Aug-20
0001604625	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	Gram(GM)	12-Aug-20
0001604624	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	Gram(GM)	12-Aug-20
0001604623	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	Gram(GM)	12-Aug-20
0001604620	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	Gram(GM)	12-Aug-20
0001604622	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	Gram(GM)	12-Aug-20
0001604629	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604648	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604636	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604637	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604638	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604639	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604642	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604641	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604645	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604647	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604653	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604650	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604652	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604649	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604643	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604644	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604646	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604635	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604640	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604633	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604632	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604631	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604630	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604651	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604634	-	HYSOL 9359.3 SEMPAK	50	Milliliter(ML)	12-Aug-20
0001604654	007697-37-2	NITRIC ACID	2.5	Liters(L)	12-Aug-20
0001604655	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	12-Aug-20
0001604656	1321-74-0	DIVINYLBENZENE	250	Milliliter(ML)	12-Aug-20
0001604657	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	12-Aug-20
0001604658	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	12-Aug-20
0001604659	-	DGA RESIN	1	Gram(GM)	12-Aug-20
0001604660	9001-75-6	PEPSIN	250	Milliliter(ML)	12-Aug-20
0001604661	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	12-Aug-20
0001604664	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	12-Aug-20
0001604662	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	12-Aug-20
0001604663	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	12-Aug-20
0001604665	-	VeroClear RGD810	3.6	Kilograms(KG)	12-Aug-20
0001604666	-	VeroClear RGD810	3.6	Kilograms(KG)	12-Aug-20
0001604667	123334-20-3	VANADIUM(IV) SULFATE OXIDE HYDRATE	2	Kilograms(KG)	12-Aug-20
0001604668	-	Cy3-CTP	100	Milliliter(ML)	12-Aug-20
0001604669	56-81-5	Vitronectin	1	Milliliter(ML)	12-Aug-20
0001604670	56-81-5	Vitronectin	1	Milliliter(ML)	12-Aug-20
0001604671	56-81-5	Vitronectin	1	Milliliter(ML)	12-Aug-20
0001604672	-	LDH Cytotoxicity Assay	500	Milliliter(ML)	12-Aug-20
0001604673	67-64-1	ACETONE	4	Liters(L)	12-Aug-20
0001604674	67-64-1	ACETONE	4	Liters(L)	12-Aug-20
0001604675	-	CLEAR CASTING RESIN	32	Ounces(OZ)	12-Aug-20
0001604678	-	CLEAR CASTING RESIN	32	Ounces(OZ)	12-Aug-20
0001604677	-	CLEAR CASTING RESIN	32	Ounces(OZ)	12-Aug-20
0001604676	-	CLEAR CASTING RESIN	32	Ounces(OZ)	12-Aug-20
0001604679	1640-39-7	2 3 3-TRIMETHYLINDOLENINE	25	Milliliter(ML)	12-Aug-20
0001604680	-	ISOPROPANOL	500	Milliliter(ML)	12-Aug-20
0001604681	-	ISOPROPANOL	500	Milliliter(ML)	12-Aug-20
0001557948	-	SULLAIR SULLUBE	5	Gallon(GAL)	12-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557949	-	SULLAIR SULLUBE	5	Gallon(GAL)	12-Aug-20
0001604682	9011-14-7	POLY METHYL METHACRYLATE POLYMERIZED	500	Gram(GM)	12-Aug-20
0001604683	127-19-5	N N-DIMETHYLACETAMIDE	2	Liters(L)	12-Aug-20
0001604684	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	12-Aug-20
0001604685	67-64-1	ACETONE	4	Liters(L)	12-Aug-20
0001604686	67-64-1	ACETONE	4	Liters(L)	12-Aug-20
0001604687	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604689	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604698	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604697	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604696	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604695	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604694	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604693	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604692	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604690	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604688	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604691	75-09-2	DICHLOROMETHANE	1	Liters(L)	12-Aug-20
0001604699	-	ETHANOL 200 PROOF	4	Liters(L)	12-Aug-20
0001604700	-	ETHANOL 200 PROOF	4	Liters(L)	12-Aug-20
0001604701	886-86-2	Tricaine-S Topical Anesthetic	10	Gram(GM)	12-Aug-20
0001604702	886-86-2	Tricaine-S Topical Anesthetic	10	Gram(GM)	12-Aug-20
0001459555	25036-25-3	EPOXY RESIN	6	Pint(PT)	13-Aug-20
0001459556	25036-25-3	EPOXY RESIN	6	Pint(PT)	13-Aug-20
0001459558	25036-25-3	EPOXY RESIN	6	Pint(PT)	13-Aug-20
0001459559	25036-25-3	EPOXY RESIN	6	Pint(PT)	13-Aug-20
0001459560	25036-25-3	EPOXY RESIN	6	Pint(PT)	13-Aug-20
0001459557	25036-25-3	EPOXY RESIN	6	Pint(PT)	13-Aug-20
0001459561	-	POLYAMIDE RESIN CURING AGENT	6	Pint(PT)	13-Aug-20
0001459564	-	POLYAMIDE RESIN CURING AGENT	6	Pint(PT)	13-Aug-20
0001459565	-	POLYAMIDE RESIN CURING AGENT	6	Pint(PT)	13-Aug-20
0001459563	-	POLYAMIDE RESIN CURING AGENT	6	Pint(PT)	13-Aug-20
0001459562	-	POLYAMIDE RESIN CURING AGENT	6	Pint(PT)	13-Aug-20
0001646411	7727-37-9	NITROGEN GAS	300	Cubic Feet(CF)	13-Aug-20
0001646412	7440-59-7	HELIUM GAS	300	Cubic Feet(CF)	13-Aug-20
0001659629	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001328654	-	INDUSTRIAL SUPREME ANTIFREEZE/COOLANT	1	Gallon(GAL)	13-Aug-20
0001659646	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659652	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659651	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001659650	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659639	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659632	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659631	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659630	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659634	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659635	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659636	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659648	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659638	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659649	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659640	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659641	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659642	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659643	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659645	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659637	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659633	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659644	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001659647	-	Husky 814 Q/T Tuberculocidal Spray Disinfectant Cleaner	32	Ounces(OZ)	13-Aug-20
0001328655	-	INDUSTRIAL SUPREME ANTIFREEZE/COOLANT	1	Gallon(GAL)	13-Aug-20
0001063213	-	Kester EP256HA Solder Paste	500	Gram(GM)	13-Aug-20
0001063214	-	SOLDER PASTE	35	Gram(GM)	13-Aug-20
0001063215	-	SOLDER PASTE	35	Gram(GM)	13-Aug-20
0001063211	156-60-5	PWR-4 Flux Remover	1	Gallon(GAL)	13-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001063212	156-60-5	PWR-4 Flux Remover	1	Gallon(GAL)	13-Aug-20
0001328657	8042-47-5	Mueller Hydrant Lubricant	1	Gallon(GAL)	13-Aug-20
0001383775	-	Heat Block	1	Gallon(GAL)	13-Aug-20
0001485551	-	INDUSTRIAL SUPREME ANTIFREEZE/COOLANT	1	Gallon(GAL)	13-Aug-20
0001485552	-	INDUSTRIAL SUPREME ANTIFREEZE/COOLANT	1	Gallon(GAL)	13-Aug-20
0001575391	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575392	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575441	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575440	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575400	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575442	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575398	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575439	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575438	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575437	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575436	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575399	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575451	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575461	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575459	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575458	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575457	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575456	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575455	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575454	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575443	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575452	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575460	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575450	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575449	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575448	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575447	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575446	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575435	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575445	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575444	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575453	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575409	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575393	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575417	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575416	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575415	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575414	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575413	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575412	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575419	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575410	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575420	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575408	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575407	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575406	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575405	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575404	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575403	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575402	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575401	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575411	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575428	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575395	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575396	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575434	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575433	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575432	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575431	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575418	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575429	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575394	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575427	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575426	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575425	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575424	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575423	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575422	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575421	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575397	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575430	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575478	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575472	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575483	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575482	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575481	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575480	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575479	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575476	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575477	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575475	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575462	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575473	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575471	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575470	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575469	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575468	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575467	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575466	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575465	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575464	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575463	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001575474	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000687F	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006891	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006890	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000688F	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000688E	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000688D	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000688C	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000688B	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000688A	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006889	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006874	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006887	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006885	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006883	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006882	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006880	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000687E	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006878	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006877	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006876	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006892	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006879	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000687A	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000687B	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006875	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006881	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000687C	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000687D	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006884	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068B4	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068B6	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068AB	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068AC	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068AD	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068AE	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068AF	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000068B0	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068B1	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068A9	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068B3	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068A8	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068B5	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006873	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068B7	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006886	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068B8	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068B9	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068BA	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068BB	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068BC	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068B2	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000689E	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006894	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006895	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006896	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006897	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006898	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006899	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000689A	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000689B	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068AA	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000689D	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006893	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000689F	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068A0	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068A1	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068A2	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068A3	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068A4	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068A5	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068A6	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V0000068A7	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000689C	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006863	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006872	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006888	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006862	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006864	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006865	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006866	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006867	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006868	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000686A	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000686B	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000686C	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000686D	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000686E	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006871	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V00000686F	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006870	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
V000006869	-	Mule-Hide JTS 1	10	Ounces(OZ)	13-Aug-20
0001603245	-	FORMULA 2011	55	Gallon(GAL)	13-Aug-20
0001603247	-	FORMULA 2011	55	Gallon(GAL)	13-Aug-20
0001603248	-	FORMULA 2011	55	Gallon(GAL)	13-Aug-20
0001603246	-	FORMULA 2011	55	Gallon(GAL)	13-Aug-20
0001646413	462-06-6	FLUOROBENZENE	300	Cubic Feet(CF)	13-Aug-20
0001604703	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	13-Aug-20
0001604704	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	13-Aug-20
0001604705	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	13-Aug-20
0001604706	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	13-Aug-20
0001604707	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	13-Aug-20
0001604708	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	13-Aug-20
0001604709	110-54-3	HEXANE (HEXANE ANHYDROUS)	1	Liters(L)	13-Aug-20
0001604714	110-54-3	HEXANE (HEXANE ANHYDROUS)	1	Liters(L)	13-Aug-20
0001604710	110-54-3	HEXANE (HEXANE ANHYDROUS)	1	Liters(L)	13-Aug-20
0001604711	110-54-3	HEXANE (HEXANE ANHYDROUS)	1	Liters(L)	13-Aug-20
0001604713	110-54-3	HEXANE (HEXANE ANHYDROUS)	1	Liters(L)	13-Aug-20
0001604712	110-54-3	HEXANE (HEXANE ANHYDROUS)	1	Liters(L)	13-Aug-20
0001604715	-	2-PROPANOL	4	Liters(L)	13-Aug-20
0001604716	-	2-PROPANOL	4	Liters(L)	13-Aug-20
0001604717	-	2-PROPANOL	4	Liters(L)	13-Aug-20
0001604718	-	2-PROPANOL	4	Liters(L)	13-Aug-20
0001604719	89972-75-8	4'-(4-Chlorophenyl)-2 2':6' 2 -terpyridine	1	Gram(GM)	13-Aug-20
0001604720	1148-79-4	2 2':6' 2''-TERPYRIDINE	250	Milligram(MG)	13-Aug-20
0001604721	-	A-12 Epoxy	100	Gram(GM)	13-Aug-20
0001626227	-	ACRYLIC ENAMEL	12	Ounces(OZ)	13-Aug-20
0001604722	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001626228	-	ACRYLIC ENAMEL	12	Ounces(OZ)	13-Aug-20
0001604732	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001604731	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001604723	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001604730	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001604729	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001604728	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001604727	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001604726	67-64-1	ACETONE	4	Liters(L)	13-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604725	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001604724	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001604733	67-64-1	ACETONE	4	Liters(L)	13-Aug-20
0001604734	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001626229	-	HYDREX XV	55	Gallon(GAL)	13-Aug-20
0001626230	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Aug-20
0001626232	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Aug-20
0001626233	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Aug-20
0001626234	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Aug-20
0001626235	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Aug-20
0001626236	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Aug-20
0001626237	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Aug-20
0001626238	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Aug-20
0001626231	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Aug-20
0001604744	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604741	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604745	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604743	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604742	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604739	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604738	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604737	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604736	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604740	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604735	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604746	7697-37-2	NITRIC ACID 70-71%	475	Milliliter(ML)	13-Aug-20
0001604747	-	THERMALLY CONDUCTIVE EPOXY ADHESIVE	1	Quarts(QT)	13-Aug-20
0001604748	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604778	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604771	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604772	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604769	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604782	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604768	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604773	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604770	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604774	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604775	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604777	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604779	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604780	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604781	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604767	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604757	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604776	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604752	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604749	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604759	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604751	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604766	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604753	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604754	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604755	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604758	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604760	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604761	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604762	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604763	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604764	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604765	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604756	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604750	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604783	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	13-Aug-20
0001604784	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	13-Aug-20
0001604786	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	13-Aug-20
0001604788	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	13-Aug-20
0001604789	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	13-Aug-20
0001604790	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	13-Aug-20
0001604791	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	13-Aug-20
0001604792	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	13-Aug-20
0001604793	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	13-Aug-20
0001604785	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	13-Aug-20
0001604787	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	13-Aug-20
0001604794	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604802	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604813	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604812	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604811	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604810	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604809	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604808	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604807	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604806	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604805	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604803	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604801	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604800	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604799	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604798	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604797	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604796	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604795	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001604804	-	PERMABOND 910 FS ADHESIVE	1	Ounces(OZ)	13-Aug-20
0001626239	-	Johnsens Starting Fluid 25%	10.7	Ounces(OZ)	13-Aug-20
0001604814	8006-87-9	Sandalwood oil	2	Milliliter(ML)	13-Aug-20
0001604815	8006-81-3	Ylang-ylang oil	2	Milliliter(ML)	13-Aug-20
0001604816	8022-96-6	Jasmin absolute	2	Milliliter(ML)	13-Aug-20
0001626240	-	PB PENETRATING CATALYST	11	Ounces(OZ)	13-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626241	-	PB PENETRATING CATALYST	11	Ounces(OZ)	13-Aug-20
0001604817	94-36-0	Luperox A98 Benzoyl peroxide	50	Gram(GM)	13-Aug-20
0001604818	-	APIEZON GREASE H	25	Gram(GM)	13-Aug-20
0001604819	-	APIEZON GREASE TYPE M	25	Gram(GM)	13-Aug-20
0001604820	-	APIEZON N GREASE	25	Gram(GM)	13-Aug-20
V0000068C7	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068BF	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068C3	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068BE	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068CA	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068C8	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068C6	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068C5	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068C2	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068C1	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068BD	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068C0	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068C4	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V0000068C9	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
0001604821	-	APIEZON N GREASE	25	Gram(GM)	13-Aug-20
0001604822	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604825	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604838	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604837	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604836	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604835	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604834	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604833	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604832	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604831	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604830	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604827	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604828	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604824	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604823	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604839	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604829	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604826	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604840	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604845	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604844	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604842	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604841	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604843	-	ETHANOL 200 PROOF	1	Pint(PT)	13-Aug-20
0001604846	141-78-6	ETHYL ACETATE	4	Liters(L)	13-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604847	141-78-6	ETHYL ACETATE	4	Liters(L)	13-Aug-20
0001604848	141-78-6	ETHYL ACETATE	4	Liters(L)	13-Aug-20
0001604849	141-78-6	ETHYL ACETATE	4	Liters(L)	13-Aug-20
V0000068CE	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068CB	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068CC	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068CD	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
0001604850	107-98-2	PROPYLENE GLYCOL MONOMETHYL ETHER	1	Liters(L)	13-Aug-20
0001604851	999-97-3	1 1 1 3 3 3-HEXAMETHYLDISILAZANE	100	Milliliter(ML)	13-Aug-20
0001604852	57709-61-2	1 10-Phenanthroline-2 9-dicarboxylic acid	1	Gram(GM)	13-Aug-20
0001604853	5980-97-2	2 4 6-Trimethylphenylboronic acid	25	Gram(GM)	13-Aug-20
V0000068D2	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	13-Aug-20
V0000068CF	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	13-Aug-20
V0000068D1	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	13-Aug-20
V0000068D0	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	13-Aug-20
0001604854	2893-78-9	SODIUM DICHLOROISOCYANURATE	25	Gram(GM)	13-Aug-20
V0000068D3	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068D4	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068D5	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068D6	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068D7	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068D8	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068D9	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068DA	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Aug-20
0001604855	7632-00-0	SODIUM NITRITE	100	Gram(GM)	13-Aug-20
0001604856	108-01-0	2-DIMETHYLAMINOETHANOL	1	Liters(L)	13-Aug-20
V0000068E0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Aug-20
V0000068DB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Aug-20
V0000068DD	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Aug-20
V0000068DF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Aug-20
V0000068E1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000068E2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Aug-20
V0000068DE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Aug-20
V0000068DC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Aug-20
0001626242	-	BRITE TOUCH General Purpose Paint Flat Black BT43	10	Ounces(OZ)	13-Aug-20
0001604857	207857-15-6	1 3-Di-Boc-2-(trifluoromethylsulfonyl)guanidine	1	Gram(GM)	13-Aug-20
0001604858	207857-15-6	1 3-Di-Boc-2-(trifluoromethylsulfonyl)guanidine	1	Gram(GM)	13-Aug-20
0001604859	-	COBALT(II) CHLORIDE HEXAHYDRATE ACS	100	Gram(GM)	13-Aug-20
V0000068ED	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068EC	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068EB	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068EA	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068E9	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068E8	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068E7	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068E6	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068E5	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068E4	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068EE	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
V0000068E3	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Aug-20
0001604860	33454-82-9	LITHIUM TRIFLUOROMETHANESULFONATE 97%	25	Gram(GM)	13-Aug-20
0001604861	7718-98-1	VANADIUM(III) CHLORIDE	5	Gram(GM)	13-Aug-20
0001604862	7718-98-1	VANADIUM(III) CHLORIDE	5	Gram(GM)	13-Aug-20
V0000068EF	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	13-Aug-20
V0000068F0	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	13-Aug-20
0001604863	-	RNASE ZAP	125	Milliliter(ML)	13-Aug-20
0001626244	-	VERSACHEM SUPER CLEAR SILICONE	10.3	Ounces(OZ)	13-Aug-20
0001626245	-	VERSACHEM SUPER CLEAR SILICONE	10.3	Ounces(OZ)	13-Aug-20
0001626246	-	VERSACHEM SUPER CLEAR SILICONE	10.3	Ounces(OZ)	13-Aug-20
0001626247	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20
0001626248	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20
0001626249	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20
0001626250	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20
0001626251	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20
0001626252	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20
0001626253	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20
0001626256	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20
0001626255	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20
0001626257	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626254	-	Prime Guard DEF	2.5	Gallon(GAL)	13-Aug-20
V0000068F2	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V00000690C	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V00000690B	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V00000690A	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006909	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006908	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006907	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006906	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006905	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006904	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006903	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006902	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006900	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068FD	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068FE	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068FC	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068FB	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068FA	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068F9	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068F8	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068F7	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068F6	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068F5	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068F4	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068F3	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006901	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068F1	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V0000068FF	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006912	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V00000690D	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V00000690E	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V00000690F	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006911	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006910	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Aug-20
V000006922	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006923	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000692B	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006921	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006920	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000691F	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000691E	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000691D	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006924	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006925	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006926	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006927	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006928	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006934	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000693E	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000693D	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000693C	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000693B	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000693A	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006939	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006938	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006937	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006929	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006935	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000692A	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006933	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006932	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006931	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006930	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000692F	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000692E	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000692D	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000692C	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006919	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006936	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000691A	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006918	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006917	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006916	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006915	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006914	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006913	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000691B	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V00000691C	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	13-Aug-20
V000006942	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Aug-20
V000006943	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Aug-20
V00000693F	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Aug-20
V000006941	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Aug-20
V000006940	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Aug-20
0001557950	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557955	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557951	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557954	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557958	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557956	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557957	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557952	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557953	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557968	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557964	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557961	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557962	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557960	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557963	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557965	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557966	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557969	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557970	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557959	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001557967	-	Matrix 102 SBS Membrane Adhesive	4.75	Gallon(GAL)	14-Aug-20
0001603249	-	COMPLETE MINI PROTEASE INHIBITOR COCKTAIL TABLETS LYCOL	250	Milligram(MG)	16-Aug-20
0001603250	-	COMPLETE MINI PROTEASE INHIBITOR COCKTAIL TABLETS LYCOL	250	Milligram(MG)	16-Aug-20
0001603251	-	COMPLETE MINI PROTEASE INHIBITOR COCKTAIL TABLETS LYCOL	250	Milligram(MG)	16-Aug-20
0001604864	67-63-0	ISOPROPYL ALCOHOL	8	Kilograms(KG)	16-Aug-20
0001604865	-	1 3 5-TRIOXANE	500	Gram(GM)	16-Aug-20
0001604866	1310-73-2	SODIUM HYDROXIDE PELLETS	500	Gram(GM)	16-Aug-20
0001604867	-	C7 - C40 Saturated Alkanes Standard	1	Milliliter(ML)	16-Aug-20
0001604869	-	C7 - C40 Saturated Alkanes Standard	1	Milliliter(ML)	16-Aug-20
0001604868	-	C7 - C40 Saturated Alkanes Standard	1	Milliliter(ML)	16-Aug-20
0001604870	593-56-6	METHOXYAMINE HYDROCHLORIDE	1	Gram(GM)	16-Aug-20
0001604871	593-56-6	METHOXYAMINE HYDROCHLORIDE	1	Gram(GM)	16-Aug-20
0001604872	111-87-5	1-OCTANOL	2	Liters(L)	16-Aug-20
0001604873	-	Methoxylamine hydrochloride	25	Gram(GM)	16-Aug-20
0001604874	553-03-7	3 4-Dihydro-2(1H)-quinolinone	1	Gram(GM)	16-Aug-20
0001604875	-	WST-1 CELL PROLIFERATION ASSAY PREMIX	8	Milliliter(ML)	16-Aug-20
0001604876	-	WST-1 CELL PROLIFERATION ASSAY PREMIX	8	Milliliter(ML)	16-Aug-20
0001604877	-	BSK-H Medium Complete	1	Liters(L)	16-Aug-20
0001604878	-	HYDROBROMIC ACID OPTIMA	2	Liters(L)	16-Aug-20
0001604882	-	HYDROBROMIC ACID OPTIMA	2	Liters(L)	16-Aug-20
0001604881	-	HYDROBROMIC ACID OPTIMA	2	Liters(L)	16-Aug-20
0001604880	-	HYDROBROMIC ACID OPTIMA	2	Liters(L)	16-Aug-20
0001604879	-	HYDROBROMIC ACID OPTIMA	2	Liters(L)	16-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604883	-	HYDROBROMIC ACID OPTIMA	2	Liters(L)	16-Aug-20
0001604884	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	16-Aug-20
0001604885	26628-22-8	SODIUM AZIDE	100	Gram(GM)	16-Aug-20
0001604886	109-66-0	PENTANE	1	Liters(L)	16-Aug-20
0001604887	109-66-0	PENTANE	1	Liters(L)	16-Aug-20
0001604888	64-17-5	ALCOHOL REAGENT	1	Liters(L)	16-Aug-20
0001604889	64-17-5	ALCOHOL REAGENT	1	Liters(L)	16-Aug-20
0001604890	64-17-5	ALCOHOL REAGENT	1	Liters(L)	16-Aug-20
0001604891	64-17-5	ALCOHOL REAGENT	1	Liters(L)	16-Aug-20
0001604892	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	1	Liters(L)	16-Aug-20
0001604893	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	1	Liters(L)	16-Aug-20
0001604894	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	1	Liters(L)	16-Aug-20
0001604895	-	2-PROPANOL	20	Liters(L)	16-Aug-20
0001604896	-	2-PROPANOL	20	Liters(L)	16-Aug-20
0001604897	-	2-PROPANOL	20	Liters(L)	16-Aug-20
0001604898	-	2-PROPANOL	20	Liters(L)	16-Aug-20
0001604899	65039-09-0	1-ETHYL-3-METHYLIMIDAZOLIUM CHLORIDE	25	Gram(GM)	16-Aug-20
0001604900	112-89-9	1-OCTADECENE TECH 90%	1	Liters(L)	16-Aug-20
0001604901	112-89-9	1-OCTADECENE TECH 90%	1	Liters(L)	16-Aug-20
0001604902	16523-54-9	CHLORODICYCLOHEXYLPHOSPHINE	10	Gram(GM)	16-Aug-20
0001604903	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Aug-20
0001604904	27774-13-6	VANADYL SULFATE	25	Gram(GM)	16-Aug-20
0001604905	2926-30-9	SODIUM TRIFLUOROMETHANESULFONATE	25	Gram(GM)	16-Aug-20
0001604906	2926-27-4	POTASSIUM TRIFLUOROMETHANESULFONATE	25	Gram(GM)	16-Aug-20
0001604907	95-50-1	1 2-DICHLOROBENZENE	1	Liters(L)	16-Aug-20
0001604908	95-50-1	1 2-DICHLOROBENZENE	1	Liters(L)	16-Aug-20
0001604909	1341-49-7	AMMONIUM HYDROGEN FLUORIDE	100	Gram(GM)	16-Aug-20
0001646414	462-06-6	FLUOROBENZENE	300	Cubic Feet(CF)	17-Aug-20
0001646415	7727-37-9	NITROGEN GAS	300	Cubic Feet(CF)	17-Aug-20
0001646417	7727-37-9	NITROGEN GAS	300	Cubic Feet(CF)	17-Aug-20
0001646416	462-06-6	FLUOROBENZENE	300	Cubic Feet(CF)	17-Aug-20
0001604911	544-92-3	COPPER(I) CYANIDE	100	Gram(GM)	17-Aug-20
0001604912	917-54-4	METHYLLITHIUM	100	Milliliter(ML)	17-Aug-20
0001604913	8000-48-4	OIL OF EUCALYPTUS	2	Milliliter(ML)	17-Aug-20
0001646418	7631-99-4	IONIC STRENGTH ADJUSTOR	475	Milliliter(ML)	17-Aug-20
0001604915	83732-68-7	2 3-dichloro-6-methoxy-Pyridine	5	Gram(GM)	17-Aug-20
0001604916	83732-68-7	2 3-dichloro-6-methoxy-Pyridine	5	Gram(GM)	17-Aug-20
0001604917	83732-68-7	2 3-dichloro-6-methoxy-Pyridine	5	Gram(GM)	17-Aug-20
0001604918	83732-68-7	2 3-dichloro-6-methoxy-Pyridine	5	Gram(GM)	17-Aug-20
0001604919	83732-68-7	2 3-dichloro-6-methoxy-Pyridine	5	Gram(GM)	17-Aug-20
0001646419	-	PH 7.00 BUFFER	475	Milliliter(ML)	17-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604920	-	CS Resin AMP PAN	200	Milliliter(ML)	17-Aug-20
0001604921	68-12-2	N N-DIMETHYLFORMAMIDE	2	Liters(L)	17-Aug-20
0001646420	-	ROSS Storage Solution	475	Milliliter(ML)	17-Aug-20
0001604922	4731-53-7	TRIOCTYLPHOSPHINE	100	Milliliter(ML)	17-Aug-20
0001604923	4731-53-7	TRIOCTYLPHOSPHINE	100	Milliliter(ML)	17-Aug-20
0001604924	89972-77-0	4-(4-METHYLPHENYL)-2 2:6 2-TERPYRIDINE	5	Gram(GM)	17-Aug-20
0001604925	18511-71-2	4 4'-Dibromo-2 2'-bipyridyl	10	Gram(GM)	17-Aug-20
0001604926	60177-39-1	AG1-8-X RESIN	500	Gram(GM)	17-Aug-20
0001604927	-	AG MP-1 RESIN	500	Gram(GM)	17-Aug-20
0001604929	7782-63-0	IRON(II) SULFATE HEPTAHYDRATE	250	Gram(GM)	17-Aug-20
0001604930	10034-96-5	MANGANESE(II) SULFATE MONOHYDRATE	25	Gram(GM)	17-Aug-20
0001604931	-	Cobalt(II) sulfate heptahydrate 99+%	100	Gram(GM)	17-Aug-20
0001604932	570-22-9	4 5-IMIDAZOLEDICARBOXYLIC ACID	25	Gram(GM)	17-Aug-20
0001604933	10294-33-4	BORON TRIBROMIDE	100	Gram(GM)	17-Aug-20
0001604934	110-86-1	PYRIDINE	2.5	Liters(L)	17-Aug-20
0001604935	-	ALEXA FLUOR 546 CARBOXYLIC ACID	25	Microliter	17-Aug-20
0001604936	777-81-8	DRIERITE	5	Pounds(LB)	17-Aug-20
0001604937	83-56-7	1 5-DIHYDROXY-NAPHTHALENE	500	Gram(GM)	17-Aug-20
0001604939	-	Gold nanoparticles	25	Milliliter(ML)	17-Aug-20
0001604940	-	Gold nanoparticles	25	Milliliter(ML)	17-Aug-20
0001604941	7782-42-5	GRAPHENE NANO PLATELETS	250	Gram(GM)	17-Aug-20
0001604942	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	17-Aug-20
0001604943	-	OBJET VEROBLUE RGD840	3.6	Kilograms(KG)	17-Aug-20
0001604944	-	FULLCURE 705	3.6	Kilograms(KG)	17-Aug-20
0001604945	-	FULLCURE 705	3.6	Kilograms(KG)	17-Aug-20
0001626258	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	17-Aug-20
0001626263	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	17-Aug-20
0001626259	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	17-Aug-20
0001626260	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	17-Aug-20
0001626262	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	17-Aug-20
0001626264	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	17-Aug-20
0001626265	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	17-Aug-20
0001626261	-	Castrol Go! 4T 10W-40	1	Quarts(QT)	17-Aug-20
0001646429	-	NITRITE STANDARD SOLUTION	500	Milliliter(ML)	17-Aug-20
0001646430	-	Iodide Standard for IC	100	Milliliter(ML)	17-Aug-20
0001557971	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001542633	-	JB WATER WELD	2	Ounces(OZ)	18-Aug-20
0001542634	-	JB WATER WELD	2	Ounces(OZ)	18-Aug-20
0001542635	-	JB WATER WELD	2	Ounces(OZ)	18-Aug-20
0001542636	-	JB WATER WELD	2	Ounces(OZ)	18-Aug-20
0001542637	-	JB WATER WELD	2	Ounces(OZ)	18-Aug-20
0001542638	-	JB WATER WELD	2	Ounces(OZ)	18-Aug-20
0001542639	-	JB WATER WELD	2	Ounces(OZ)	18-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557984	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557990	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557985	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557986	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557983	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557988	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557989	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557992	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557993	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557997	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557994	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557996	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557995	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557987	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557981	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557980	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557979	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557978	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557977	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557976	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557975	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557974	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001557973	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557972	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557991	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001557982	-	TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	Gallon(GAL)	18-Aug-20
0001646431	-	HYDROCHLORIC ACID SOLUTION	0.25	Milliliter(ML)	18-Aug-20
0001646432	-	HYDROCHLORIC ACID SOLUTION	0.25	Milliliter(ML)	18-Aug-20
0001254023	-	NORDSTROM 167 Bulk Sealant	5	Quarts(QT)	18-Aug-20
0013833788	-	NORDSTROM 167 Bulk Sealant	5	Quarts(QT)	18-Aug-20
0001423787	-	RectorSeal Tru-Blu	4	Ounces(OZ)	18-Aug-20
0001423788	-	RectorSeal Tru-Blu	4	Ounces(OZ)	18-Aug-20
0001423789	-	RectorSeal Tru-Blu	4	Ounces(OZ)	18-Aug-20
0001423797	-	RectorSeal Tru-Blu	4	Ounces(OZ)	18-Aug-20
0001423798	-	RectorSeal Tru-Blu	4	Ounces(OZ)	18-Aug-20
0001423807	-	RectorSeal Tru-Blu	4	Ounces(OZ)	18-Aug-20
0001423814	-	RectorSeal Tru-Blu	4	Ounces(OZ)	18-Aug-20
0001423816	-	RectorSeal Tru-Blu	4	Ounces(OZ)	18-Aug-20
0001383705	-	LOCTITE NICKEL ANTISEIZE	8	Ounces(OZ)	18-Aug-20
0001659903	25085-99-8	EpoxAcast 655	12	Pounds(LB)	18-Aug-20
0001659908	25085-99-8	EpoxAcast 655	12	Pounds(LB)	18-Aug-20
0001659904	25085-99-8	EpoxAcast 655	12	Pounds(LB)	18-Aug-20
0001659907	25085-99-8	EpoxAcast 655	12	Pounds(LB)	18-Aug-20
0001659906	25085-99-8	EpoxAcast 655	12	Pounds(LB)	18-Aug-20
0001659905	25085-99-8	EpoxAcast 655	12	Pounds(LB)	18-Aug-20
0001659917	25085-99-8	EpoxAcast 655	12	Pounds(LB)	18-Aug-20
0001659918	25085-99-8	EpoxAcast 655	12	Pounds(LB)	18-Aug-20
0001659909	269850-63-0	103 SLOW Hardnener	2.2	Pounds(LB)	18-Aug-20
0001659916	269850-63-0	103 SLOW Hardnener	2.2	Pounds(LB)	18-Aug-20
0001659915	269850-63-0	103 SLOW Hardnener	2.2	Pounds(LB)	18-Aug-20
0001659914	269850-63-0	103 SLOW Hardnener	2.2	Pounds(LB)	18-Aug-20
0001386884	-	RIDGID THREAD CUTTING OIL	1	Gallon(GAL)	18-Aug-20
0001454392	-	SYNTHETIC SAWING COOLANT	1	Gallon(GAL)	18-Aug-20
0001646433	-	CONDUCTIVITY STANDARD	5	Gallon(GAL)	18-Aug-20
0001646434	-	CHROMAVER 3	500	Milliliter(ML)	18-Aug-20
0001646438	-	CHROMAVER 3	500	Milliliter(ML)	18-Aug-20
0001646435	-	CHROMAVER 3	500	Milliliter(ML)	18-Aug-20
0001646437	-	CHROMAVER 3	500	Milliliter(ML)	18-Aug-20
0001646439	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	18-Aug-20
0001317080	-	PASCO 9046 Pipe Primer	1	Quarts(QT)	18-Aug-20
0001646441	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	18-Aug-20
0001646440	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	18-Aug-20
0001646442	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	18-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001646444	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	18-Aug-20
0001646445	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	18-Aug-20
0001646446	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	18-Aug-20
0001646447	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	18-Aug-20
0001646443	-	NITRAVER 5 NITRATE REAGENT	250	Milliliter(ML)	18-Aug-20
0001646421	-	IONPLUS B FILLING SOLUTIO	60	Milliliter(ML)	18-Aug-20
0001646450	-	CHROMIUM HEXAVALENT STANDARD SOLUTION	100	Milliliter(ML)	18-Aug-20
0001646451	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	18-Aug-20
0001646452	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	18-Aug-20
0001604946	-	VACSEAL HIGH VACUUM LEAK SEALANT	3	Ounces(OZ)	18-Aug-20
0001604947	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	18-Aug-20
0001604948	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	18-Aug-20
0001604949	-	ALKANE STANDARD	1	Milliliter(ML)	18-Aug-20
0001604950	-	ALKANE STANDARD	1	Milliliter(ML)	18-Aug-20
0001604951	-	ALKANE STANDARD	1	Milliliter(ML)	18-Aug-20
0001604952	-	Silver Composition	100	Gram(GM)	18-Aug-20
0001604953	-	LIQUID LEAK DETECTOR (SNOOP)	8	Ounces(OZ)	18-Aug-20
0001604954	1871-76-7	DIPHENYLACETYLCHLORIDE	5	Gram(GM)	18-Aug-20
0001646453	-	Aervoe Survey Marking Paint - Aerosol	17	Ounces(OZ)	18-Aug-20
0001646466	-	HNO3 PRESERVATION FOR 250 ML	100	Milliliter(ML)	18-Aug-20
0001646467	-	HNO3 PRESERVATION FOR 250 ML	100	Milliliter(ML)	18-Aug-20
0001646468	-	HNO3 PRESERVATION FOR 250 ML	100	Milliliter(ML)	18-Aug-20
0001646469	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	18-Aug-20
0001646470	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	18-Aug-20
0001646472	-	HNO3 PRESERVATION KIT FOR 1 GAL CONTAINER	100	Milliliter(ML)	18-Aug-20
0001654459	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	18-Aug-20
0001654468	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	18-Aug-20
0001654467	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	18-Aug-20
0001654466	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	18-Aug-20
0001654465	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	18-Aug-20
0001654460	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	18-Aug-20
0001654461	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	18-Aug-20
0001654462	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	18-Aug-20
0001654463	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	18-Aug-20
0001654464	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	18-Aug-20
0001654451	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	18-Aug-20
0001654449	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	18-Aug-20
0001654450	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	18-Aug-20
0001654458	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	18-Aug-20
0001654457	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	18-Aug-20
0001654456	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	18-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654455	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	18-Aug-20
0001654454	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	18-Aug-20
0001654453	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	18-Aug-20
0001654452	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	18-Aug-20
0001654469	-	Refrigerant R22	25	Cubic Feet(CF)	18-Aug-20
0001654341	74-98-6	PROPANE	500	Pounds(LB)	18-Aug-20
0001654342	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654346	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654345	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654344	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654343	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654353	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654348	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654347	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654350	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654352	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654351	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654349	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001654354	-	Compressed Air	220	Cubic Feet(CF)	18-Aug-20
0001654355	-	Compressed Air	220	Cubic Feet(CF)	18-Aug-20
0001654356	-	Compressed Air	220	Cubic Feet(CF)	18-Aug-20
0001654357	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654358	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654363	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654362	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654359	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654361	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654360	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654366	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654367	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654364	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654365	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654369	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654368	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654387	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654408	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654409	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654410	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654411	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654406	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654388	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654405	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654386	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654385	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654384	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654383	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654389	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654396	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654390	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654391	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654392	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654393	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654407	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654395	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654404	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654397	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654398	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654399	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654400	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654401	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654402	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654403	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654394	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Aug-20
0001654370	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654375	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654374	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654373	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654371	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654372	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654412	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654414	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654413	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654427	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654428	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654429	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654430	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654431	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654415	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654435	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654432	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654434	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654436	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654437	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654438	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654439	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654440	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654441	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654433	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654419	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654417	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654426	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654418	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654416	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654420	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654421	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654422	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654423	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654424	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654425	-	ARGON GAS	220	Cubic Feet(CF)	18-Aug-20
0001654376	-	25% ARGON 75% CARBON DIOXIDE	220	Cubic Feet(CF)	18-Aug-20
0001654377	-	25% ARGON 75% CARBON DIOXIDE	220	Cubic Feet(CF)	18-Aug-20
0001654378	-	25% ARGON 75% CARBON DIOXIDE	220	Cubic Feet(CF)	18-Aug-20
0001654379	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	18-Aug-20
0001654380	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	18-Aug-20
0001654381	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	18-Aug-20
0001654382	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	18-Aug-20
0001654442	-	Methane/Ethane	300	Cubic Feet(CF)	18-Aug-20
0001646479	7664-93-9	H2SO4 500ML PRESERVATION VIALS	100	Milliliter(ML)	18-Aug-20
0001646485	-	ORP Standard 220 mV	1	Liters(L)	18-Aug-20
0001646486	-	ORP Standard 220 mV	1	Liters(L)	18-Aug-20
0001646487	-	ORP Standard 220 mV	1	Liters(L)	18-Aug-20
0001646488	-	ORP Standard 220 mV	1	Liters(L)	18-Aug-20
0001646489	-	TURBIDITY STANDARD	1	Gallon(GAL)	18-Aug-20
0001646490	-	TURBIDITY STANDARD	1	Gallon(GAL)	18-Aug-20
0001604956	78-50-2	TRIOCTYLPHOSPHINE OXIDE	100	Gram(GM)	18-Aug-20
0001604957	78-50-2	TRIOCTYLPHOSPHINE OXIDE	100	Gram(GM)	18-Aug-20
0001604958	1310-73-2	SODIUM HYDROXIDE	1000	Milliliter(ML)	18-Aug-20
0001604962	1310-73-2	SODIUM HYDROXIDE	1000	Milliliter(ML)	18-Aug-20
0001604961	1310-73-2	SODIUM HYDROXIDE	1000	Milliliter(ML)	18-Aug-20
0001604960	1310-73-2	SODIUM HYDROXIDE	1000	Milliliter(ML)	18-Aug-20
0001604959	1310-73-2	SODIUM HYDROXIDE	1000	Milliliter(ML)	18-Aug-20
0001604963	-	ETHANOL 200 PROOF	1	Gallon(GAL)	18-Aug-20
0001604964	-	ETHANOL 200 PROOF	1	Gallon(GAL)	18-Aug-20
0001604966	-	ETHANOL 200 PROOF	1	Gallon(GAL)	18-Aug-20
0001604965	-	ETHANOL 200 PROOF	1	Gallon(GAL)	18-Aug-20
0001604967	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604973	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604968	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604971	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604976	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604970	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604972	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604969	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604974	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604975	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604981	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604980	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604979	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604978	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604977	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001604982	71-43-2	Benzene Kovats Probe Standard	250	MicroGram(UGM)	18-Aug-20
0001605055	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1000	Milliliter(ML)	18-Aug-20
0001605059	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1000	Milliliter(ML)	18-Aug-20
0001605056	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1000	Milliliter(ML)	18-Aug-20
0001605057	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1000	Milliliter(ML)	18-Aug-20
0001605058	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1000	Milliliter(ML)	18-Aug-20
0001605060	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	18-Aug-20
0001605061	-	AMMONIUM HYDROXIDE SOLUTION	1	Liters(L)	18-Aug-20
0001605062	67-68-5	DIMETHYL SULFOXIDE	4	Liters(L)	18-Aug-20
0001605063	7782-42-5	GRAPHITE POWDER	227	Gram(GM)	18-Aug-20
0001605064	7782-42-5	GRAPHITE POWDER	227	Gram(GM)	18-Aug-20
0001605065	7647-14-5	SODIUM CHLORIDE	100	Gram(GM)	18-Aug-20
0001605066	10043-52-4	CALCIUM CHLORIDE ANHYDROUS	50	Gram(GM)	18-Aug-20
0001605067	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1000	Milliliter(ML)	18-Aug-20
0001605070	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1000	Milliliter(ML)	18-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605071	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1000	Milliliter(ML)	18-Aug-20
0001605068	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1000	Milliliter(ML)	18-Aug-20
0001605069	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1000	Milliliter(ML)	18-Aug-20
0001605073	109-99-9	TETRAHYDROFURAN	2	Liters(L)	18-Aug-20
0001605074	10035-10-6	HYDROBROMIC ACID	1	Liters(L)	18-Aug-20
0001605075	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	450	Milliliter(ML)	18-Aug-20
0001605078	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	450	Milliliter(ML)	18-Aug-20
0001605077	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	450	Milliliter(ML)	18-Aug-20
0001605076	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	450	Milliliter(ML)	18-Aug-20
0001605079	56-23-5	CARBON TETRACHLORIDE	1	Liters(L)	18-Aug-20
0001605080	112-30-1	1-DECANOL	500	Gram(GM)	18-Aug-20
0001605081	112-30-1	1-DECANOL	500	Gram(GM)	18-Aug-20
0001605082	89-32-7	PYROMELLITIC DIANHYDRIDE	500	Gram(GM)	18-Aug-20
0001605083	1336-21-6	Ammonium Hydroxide ACS Plus	500	Milliliter(ML)	18-Aug-20
0001605084	141-78-6	ETHYL ACETATE	4	Liters(L)	18-Aug-20
0001605085	-	General Purpose Viscosity Standards-N10200	500	Milliliter(ML)	18-Aug-20
0001605086	-	General Purpose Viscosity Standards-N10200	500	Milliliter(ML)	18-Aug-20
0001605087	2353-33-5	5-AZA-2'-DEOXYCYTIDINE	50	Milligram(MG)	18-Aug-20
0001605088	2353-33-5	5-AZA-2'-DEOXYCYTIDINE	50	Milligram(MG)	18-Aug-20
0001605089	101-80-4	4 4'-OXYDIANILINE	500	Gram(GM)	18-Aug-20
0001605090	101-80-4	4 4'-OXYDIANILINE	500	Gram(GM)	18-Aug-20
0001605091	101-80-4	4 4'-OXYDIANILINE	500	Gram(GM)	18-Aug-20
0001605092	101-80-4	4 4'-OXYDIANILINE	500	Gram(GM)	18-Aug-20
0001605093	13813-44-0	YTTERBIUM(II) IODIDE POWDER	1	Gram(GM)	18-Aug-20
0001605094	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605096	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605102	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605097	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605101	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605098	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605100	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605095	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605108	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605099	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605104	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605105	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605103	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605107	67-64-1	ACETONE	4	Liters(L)	18-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605109	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001605106	67-64-1	ACETONE	4	Liters(L)	18-Aug-20
0001558044	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558090	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558059	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558091	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558069	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558068	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558061	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558065	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558062	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558089	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558063	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558083	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558064	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558066	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558067	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558076	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558058	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558071	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558057	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558072	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558073	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558085	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558075	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558088	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558081	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558082	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558070	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558084	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558086	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558087	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558074	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558050	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558052	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558056	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558053	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558054	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558055	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558060	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558051	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558049	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558078	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558079	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558048	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001558045	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558047	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558046	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558080	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558077	-	STRIPE WHITE TRAFFIC MARKER	18	Ounces(OZ)	19-Aug-20
0001558092	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558105	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558097	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558096	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558098	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558099	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558100	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558101	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558102	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558104	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558106	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558107	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558103	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558093	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558094	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001558095	-	Startex Lacquer Thinner	5	Gallon(GAL)	19-Aug-20
0001317186	-	Enerpac LX Hydraulic Oil	1	Gallon(GAL)	19-Aug-20
0001558108	-	WHITE TRAFFIC PAINT	640	Ounces(OZ)	19-Aug-20
0001558109	-	WHITE TRAFFIC PAINT	640	Ounces(OZ)	19-Aug-20
0001558112	-	WHITE TRAFFIC PAINT	640	Ounces(OZ)	19-Aug-20
0001558111	-	WHITE TRAFFIC PAINT	640	Ounces(OZ)	19-Aug-20
0001558110	-	WHITE TRAFFIC PAINT	640	Ounces(OZ)	19-Aug-20
0001654443	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	19-Aug-20
0001654444	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	19-Aug-20
0001654445	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	19-Aug-20
0001654446	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	19-Aug-20
0001654447	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	19-Aug-20
0001654448	10024-97-2	NITROUS OXIDE	40	Cubic Feet(CF)	19-Aug-20
0001605072	108-65-6	MICROPOSIT S1818 G2 POSITIVE PHOTORESIST	1	Quarts(QT)	19-Aug-20
0001603253	-	TEVA RESIN	1	Milliliter(ML)	19-Aug-20
0001605110	556-82-1	3-METHYL-2-BUTEN-1-OL	4	Kilograms(KG)	19-Aug-20
0001605111	7782-40-3	Diamond Powder	250	Milligram(MG)	19-Aug-20
0001605113	7782-40-3	Diamond Powder	250	Milligram(MG)	19-Aug-20
0001605117	7782-40-3	Diamond Powder	250	Milligram(MG)	19-Aug-20
0001605112	7782-40-3	Diamond Powder	250	Milligram(MG)	19-Aug-20
0001605116	7782-40-3	Diamond Powder	250	Milligram(MG)	19-Aug-20
0001605115	7782-40-3	Diamond Powder	250	Milligram(MG)	19-Aug-20
0001605114	7782-40-3	Diamond Powder	250	Milligram(MG)	19-Aug-20
0001605118	-	ethanol alcohol	1	Liters(L)	19-Aug-20
0001605119	-	ethanol alcohol	1	Liters(L)	19-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605120	-	Colloidal Silica	5	Liters(L)	19-Aug-20
0001605121	-	Colloidal Silica	5	Liters(L)	19-Aug-20
0001605122	1344-28-1	ALUMINA POWDER	1	Kilograms(KG)	19-Aug-20
0001605123	143314-17-4	1-ETHYL-3-METHYLIMIDAZOLIUM AC	5	Gram(GM)	19-Aug-20
0001605124	143314-17-4	1-ETHYL-3-METHYLIMIDAZOLIUM AC	5	Gram(GM)	19-Aug-20
0001605125	6147-53-1	COBALT(II) ACETATE TETRAHYDRATE	50	Gram(GM)	19-Aug-20
0001646449	-	NITRATE NITROGEN STANDARD SOLUTION	500	Milliliter(ML)	19-Aug-20
0001605126	84-74-2	DIBUTYL PHTHALATE	2.5	Kilograms(KG)	19-Aug-20
0001646423	-	IONPLUS B FILLING SOLUTIO	60	Milliliter(ML)	19-Aug-20
0001646426	-	IONPLUS B FILLING SOLUTIO	60	Milliliter(ML)	19-Aug-20
0001646424	-	IONPLUS B FILLING SOLUTIO	60	Milliliter(ML)	19-Aug-20
0001646422	-	IONPLUS B FILLING SOLUTIO	60	Milliliter(ML)	19-Aug-20
0001646425	-	IONPLUS B FILLING SOLUTIO	60	Milliliter(ML)	19-Aug-20
0001605127	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605132	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605128	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605129	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605135	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605130	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605131	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605134	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605133	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605136	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605151	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605152	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605153	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605156	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605154	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605158	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605160	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605162	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605163	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605161	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605144	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605137	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605139	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605140	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605164	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605141	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605159	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605143	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605142	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605150	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605155	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605145	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605146	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605147	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605148	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605149	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605138	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605157	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605165	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605166	007697-37-2	NITRIC ACID	2.5	Liters(L)	19-Aug-20
0001605167	872-50-4	N-METHYLPYRROLIDONE	4	Liters(L)	19-Aug-20
0001605168	872-50-4	N-METHYLPYRROLIDONE	4	Liters(L)	19-Aug-20
0001605169	872-50-4	N-METHYLPYRROLIDONE	4	Liters(L)	19-Aug-20
0001605170	872-50-4	N-METHYLPYRROLIDONE	4	Liters(L)	19-Aug-20
0001605172	110-82-7	CYCLOHEXANE	4	Liters(L)	19-Aug-20
0001605177	110-82-7	CYCLOHEXANE	4	Liters(L)	19-Aug-20
0001605178	110-82-7	CYCLOHEXANE	4	Liters(L)	19-Aug-20
0001605176	110-82-7	CYCLOHEXANE	4	Liters(L)	19-Aug-20
0001605175	110-82-7	CYCLOHEXANE	4	Liters(L)	19-Aug-20
0001605174	110-82-7	CYCLOHEXANE	4	Liters(L)	19-Aug-20
0001605173	110-82-7	CYCLOHEXANE	4	Liters(L)	19-Aug-20
0001605179	110-82-7	CYCLOHEXANE	4	Liters(L)	19-Aug-20
0001605199	7143-01-3	METHANESULFONIC ANHYDRIDE	25	Gram(GM)	19-Aug-20
0001605200	480-63-7	2 4 6-TRIMETHYLBENZOIC ACID	10	Gram(GM)	19-Aug-20
0001605202	39416-48-3	PYRIDINIUM TRIBROMIDE	100	Gram(GM)	19-Aug-20
0001646428	-	ELECTRODE FILLING SOLUTION	60	Milliliter(ML)	19-Aug-20
0001605205	-	STANDBY V-100 EPOXY GROUT X22	22	Pounds(LB)	19-Aug-20
0001605206	-	STANDBY V-100 EPOXY GROUT X22	22	Pounds(LB)	19-Aug-20
0001646427	7681-52-9	PH ELECTRODE CLEANER	60	Milliliter(ML)	19-Aug-20
0001558113	-	STARTEX PAINT THINNER	5	Gallon(GAL)	19-Aug-20
0001558121	-	STARTEX PAINT THINNER	5	Gallon(GAL)	19-Aug-20
0001558120	-	STARTEX PAINT THINNER	5	Gallon(GAL)	19-Aug-20
0001558118	-	STARTEX PAINT THINNER	5	Gallon(GAL)	19-Aug-20
0001558117	-	STARTEX PAINT THINNER	5	Gallon(GAL)	19-Aug-20
0001558116	-	STARTEX PAINT THINNER	5	Gallon(GAL)	19-Aug-20
0001558115	-	STARTEX PAINT THINNER	5	Gallon(GAL)	19-Aug-20
0001558114	-	STARTEX PAINT THINNER	5	Gallon(GAL)	19-Aug-20
0001558119	-	STARTEX PAINT THINNER	5	Gallon(GAL)	19-Aug-20
0001605207	67-66-3	CHLOROFORM	1	Liters(L)	19-Aug-20
0001605208	-	COPPER(II) TRIFLUOROACETYLACETONATE	5	Gram(GM)	19-Aug-20
0001605209	-	NICKEL(II) ACETYLACETONATE	25	Gram(GM)	19-Aug-20
0001605210	57199-00-5	2 4 6-Triisopropylbenzoyl chloride	25	Gram(GM)	19-Aug-20
0001605211	13473-90-0	ALUMINUM NITRATE	500	Gram(GM)	19-Aug-20
0001605216	13473-90-0	ALUMINUM NITRATE	500	Gram(GM)	19-Aug-20
0001605215	13473-90-0	ALUMINUM NITRATE	500	Gram(GM)	19-Aug-20
0001605214	13473-90-0	ALUMINUM NITRATE	500	Gram(GM)	19-Aug-20
0001605213	13473-90-0	ALUMINUM NITRATE	500	Gram(GM)	19-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605212	13473-90-0	ALUMINUM NITRATE	500	Gram(GM)	19-Aug-20
0001605217	124-38-9	CARBON DIOXIDE	12	Gram(GM)	19-Aug-20
0001605221	124-38-9	CARBON DIOXIDE	12	Gram(GM)	19-Aug-20
0001605220	124-38-9	CARBON DIOXIDE	12	Gram(GM)	19-Aug-20
0001605219	124-38-9	CARBON DIOXIDE	12	Gram(GM)	19-Aug-20
0001605218	124-38-9	CARBON DIOXIDE	12	Gram(GM)	19-Aug-20
0001605226	7646-85-7	ZINC CHLORIDE	5	Gram(GM)	19-Aug-20
0001605229	7646-85-7	ZINC CHLORIDE	5	Gram(GM)	19-Aug-20
0001605228	7646-85-7	ZINC CHLORIDE	5	Gram(GM)	19-Aug-20
0001605227	7646-85-7	ZINC CHLORIDE	5	Gram(GM)	19-Aug-20
0001605230	1306-38-3	CERIUM(IV) OXIDE	10	Gram(GM)	19-Aug-20
0001605271	-	3-(aminomethyl)piperidine	1	Gram(GM)	19-Aug-20
0001605272	-	3-(aminomethyl)piperidine	1	Gram(GM)	19-Aug-20
0001605273	10034-85-2	HYDRIODIC ACID	250	Milliliter(ML)	19-Aug-20
0001605274	10034-85-2	HYDRIODIC ACID	250	Milliliter(ML)	19-Aug-20
0001605275	-	3-(aminomethyl)piperidine	1	Gram(GM)	19-Aug-20
0001435446	-	Spears CPVC-24 Low VOC CPVC Plastic Pipe Cement	1	Pint(PT)	20-Aug-20
0001435447	-	HOSE LUBRICANT FOR BREDEL HOSE PUMP - Food Grade	5	Gallon(GAL)	20-Aug-20
0001435448	-	HOSE LUBRICANT FOR BREDEL HOSE PUMP - Food Grade	5	Gallon(GAL)	20-Aug-20
0001435449	7681-38-1	Green Gobbler	55	Gallon(GAL)	20-Aug-20
0001435451	-	HERCULES PURPLE PVC PRIMER	1	Pint(PT)	20-Aug-20
0001435450	-	Oatey All Purpose Clear Cement	1	Pint(PT)	20-Aug-20
0001435454	-	NOKORODE AQUA FLUX	4	Ounces(OZ)	20-Aug-20
0001435452	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435453	-	Megaloc	0.5	Pint(PT)	20-Aug-20
0001435426	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435427	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435429	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435441	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435445	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435444	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435442	-	Blue Monster PTFE Thread Seal Tape	10	Milligram(MG)	20-Aug-20
0001435443	-	Blue Monster PTFE Thread Seal Tape	10	Milligram(MG)	20-Aug-20
0001435425	-	Blue Monster PTFE Thread Seal Tape	10	Milligram(MG)	20-Aug-20
0001435428	-	Blue Monster PTFE Thread Seal Tape	10	Milligram(MG)	20-Aug-20
0001435430	-	Blue Monster PTFE Thread Seal Tape	10	Milligram(MG)	20-Aug-20
0001435431	-	SILA-SEAL Clear Professional Grade Silicone Sealant	10.1	Ounces(OZ)	20-Aug-20
0001435435	-	SILA-SEAL Clear Professional Grade Silicone Sealant	10.1	Ounces(OZ)	20-Aug-20
0001435433	-	SILA-SEAL Clear Professional Grade Silicone Sealant	10.1	Ounces(OZ)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001435434	-	SILA-SEAL Clear Professional Grade Silicone Sealant	10.1	Ounces(OZ)	20-Aug-20
0001435436	-	SILA-SEAL Clear Professional Grade Silicone Sealant	10.1	Ounces(OZ)	20-Aug-20
0001435437	-	SILA-SEAL Clear Professional Grade Silicone Sealant	10.1	Ounces(OZ)	20-Aug-20
0001435438	-	SILA-SEAL Clear Professional Grade Silicone Sealant	10.1	Ounces(OZ)	20-Aug-20
0001435439	-	SILA-SEAL Clear Professional Grade Silicone Sealant	10.1	Ounces(OZ)	20-Aug-20
0001435440	-	SILA-SEAL Clear Professional Grade Silicone Sealant	10.1	Ounces(OZ)	20-Aug-20
0001435432	-	SILA-SEAL Clear Professional Grade Silicone Sealant	10.1	Ounces(OZ)	20-Aug-20
0001435415	-	silvabrite 100	1	Pounds(LB)	20-Aug-20
0001435416	-	silvabrite 100	1	Pounds(LB)	20-Aug-20
0001435417	-	silvabrite 100	1	Pounds(LB)	20-Aug-20
0001435424	-	silvabrite 100	1	Pounds(LB)	20-Aug-20
0001435423	-	silvabrite 100	1	Pounds(LB)	20-Aug-20
0001435421	-	silvabrite 100	1	Pounds(LB)	20-Aug-20
0001435419	-	silvabrite 100	1	Pounds(LB)	20-Aug-20
0001435422	-	silvabrite 100	1	Pounds(LB)	20-Aug-20
0001435418	-	silvabrite 100	1	Pounds(LB)	20-Aug-20
0001435420	-	silvabrite 100	1	Pounds(LB)	20-Aug-20
0001435414	-	HERCULES CLEAR PVC PIPE CEMENT	1	Quarts(QT)	20-Aug-20
0001435413	-	HERCULES PURPLE PVC PRIMER	1	Quarts(QT)	20-Aug-20
0001435401	-	RX11-FLUSH	1	Pounds(LB)	20-Aug-20
0001435402	-	RX11-FLUSH	1	Pounds(LB)	20-Aug-20
0001435390	-	Blue Monster PTFE Thread Seal Tape	10	Milligram(MG)	20-Aug-20
0001435394	-	Blue Monster PTFE Thread Seal Tape	10	Milligram(MG)	20-Aug-20
0001435391	-	Blue Monster PTFE Thread Seal Tape	10	Milligram(MG)	20-Aug-20
0001435392	-	Blue Monster PTFE Thread Seal Tape	10	Milligram(MG)	20-Aug-20
0001435393	-	Blue Monster PTFE Thread Seal Tape	10	Milligram(MG)	20-Aug-20
0001420793	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	Liters(L)	20-Aug-20
0001435400	-	Megaloc	1	Pint(PT)	20-Aug-20
0001435386	-	Spears LW-5 One-Step Low VOC Cement for LabWaste CPVC Systems	1	Quarts(QT)	20-Aug-20
0001435389	-	Spears LW-5 One-Step Low VOC Cement for LabWaste CPVC Systems	1	Quarts(QT)	20-Aug-20
0001435387	-	Spears LW-5 One-Step Low VOC Cement for LabWaste CPVC Systems	1	Quarts(QT)	20-Aug-20
0001435388	-	Spears LW-5 One-Step Low VOC Cement for LabWaste CPVC Systems	1	Quarts(QT)	20-Aug-20
0001435380	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435382	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001435383	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435384	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435385	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001435381	-	Bridgit Lead Free Solder	1	Pounds(LB)	20-Aug-20
0001626266	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626279	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626267	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626268	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626269	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626270	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626271	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626272	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626273	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626274	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626275	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626276	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626277	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626278	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001626280	-	Prime Guard DEF	2.5	Gallon(GAL)	20-Aug-20
0001435340	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435364	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435367	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435371	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435350	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435370	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435341	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435369	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435362	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435360	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435368	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435359	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435365	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435374	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435375	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435376	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435377	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435366	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435378	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435379	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435363	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435342	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435349	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435348	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435347	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435346	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001435345	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435351	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435344	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435343	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435361	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435353	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435354	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435373	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435355	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435356	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435372	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435357	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435358	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001435352	-	Tribol GR 100-2 PD	41	Ounces(OZ)	20-Aug-20
0001639931	-	HARDMAN DOUBLE/BUBBLE EPOXY	3.5	Gram(GM)	20-Aug-20
0001639935	-	HARDMAN DOUBLE/BUBBLE EPOXY	3.5	Gram(GM)	20-Aug-20
0001639939	-	HARDMAN DOUBLE/BUBBLE EPOXY	3.5	Gram(GM)	20-Aug-20
0001639940	-	HARDMAN DOUBLE/BUBBLE EPOXY	3.5	Gram(GM)	20-Aug-20
0001639936	-	HARDMAN DOUBLE/BUBBLE EPOXY	3.5	Gram(GM)	20-Aug-20
0001639934	-	HARDMAN DOUBLE/BUBBLE EPOXY	3.5	Gram(GM)	20-Aug-20
0001639938	-	HARDMAN DOUBLE/BUBBLE EPOXY	3.5	Gram(GM)	20-Aug-20
0001639933	-	HARDMAN DOUBLE/BUBBLE EPOXY	3.5	Gram(GM)	20-Aug-20
0001639932	-	HARDMAN DOUBLE/BUBBLE EPOXY	3.5	Gram(GM)	20-Aug-20
0001639937	-	HARDMAN DOUBLE/BUBBLE EPOXY	3.5	Gram(GM)	20-Aug-20
0001639941	-	3145 RTV ADHESIVE/SEALANT	90	Milliliter(ML)	20-Aug-20
0001639894	-	Steel Reinforced Epoxy Resin	1	Ounces(OZ)	20-Aug-20
0001639895	-	Steel Reinforced Epoxy Resin	1	Ounces(OZ)	20-Aug-20
0001639897	-	Steel Reinforced Epoxy Resin	1	Ounces(OZ)	20-Aug-20
0001639896	-	Steel Reinforced Epoxy Resin	1	Ounces(OZ)	20-Aug-20
0001638243	-	WD-40	5	Gallon(GAL)	20-Aug-20
0001638244	-	WD-40	5	Gallon(GAL)	20-Aug-20
0001639903	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639911	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639914	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639904	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639912	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639910	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639909	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639908	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639907	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639906	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639905	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001639913	-	Tap Magic EP-Xtra Cutting Fluid	16	Ounces(OZ)	20-Aug-20
0001488646	-	BLASOCUT 2000 Universal	5	Gallon(GAL)	20-Aug-20
0001488648	-	BLASOCUT 2000 Universal	5	Gallon(GAL)	20-Aug-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001488647	-	BLASOCUT 2000 Universal	5	Gallon(GAL)	20-Aug-20
0001488649	-	BLASOCUT 2000 Universal	5	Gallon(GAL)	20-Aug-20
0001639893	107-41-5	GREENLUBE POLISHING LUBRICANT	32	Ounces(OZ)	20-Aug-20
0001639883	-	MOBIL VACTRA OIL NO. 2	5	Gallon(GAL)	20-Aug-20
0001639886	-	MOBIL VACTRA OIL NO. 2	5	Gallon(GAL)	20-Aug-20
0001639891	-	MOBIL VACTRA OIL NO. 2	5	Gallon(GAL)	20-Aug-20
0001639885	-	MOBIL VACTRA OIL NO. 2	5	Gallon(GAL)	20-Aug-20
0001639887	-	MOBIL VACTRA OIL NO. 2	5	Gallon(GAL)	20-Aug-20
0001639888	-	MOBIL VACTRA OIL NO. 2	5	Gallon(GAL)	20-Aug-20
0001639889	-	MOBIL VACTRA OIL NO. 2	5	Gallon(GAL)	20-Aug-20
0001639890	-	MOBIL VACTRA OIL NO. 2	5	Gallon(GAL)	20-Aug-20
0001639884	-	MOBIL VACTRA OIL NO. 2	5	Gallon(GAL)	20-Aug-20
0001639892	-	MOBIL VACTRA OIL NO. 2	5	Gallon(GAL)	20-Aug-20
0001626282	-	Blaw-Kote	5	Gallon(GAL)	20-Aug-20
0001626285	-	Blaw-Kote	5	Gallon(GAL)	20-Aug-20
0001626284	-	Blaw-Kote	5	Gallon(GAL)	20-Aug-20
0001626283	-	Blaw-Kote	5	Gallon(GAL)	20-Aug-20
0001639880	67-63-0	ISOPROPYL ALCOHOL	1	Gallon(GAL)	20-Aug-20
0001639882	67-63-0	ISOPROPYL ALCOHOL	1	Gallon(GAL)	20-Aug-20
0001639881	67-63-0	ISOPROPYL ALCOHOL	1	Gallon(GAL)	20-Aug-20
V000006953	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Aug-20
V000006952	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	20-Aug-20
0001639879	-	Blasocut BC 940	55	Gallon(GAL)	20-Aug-20
0001639855	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639861	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639869	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639858	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639862	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639863	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639857	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639864	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639865	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639866	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639867	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639868	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639860	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639878	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639871	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639872	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639873	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639874	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639875	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639876	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639877	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639870	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001639859	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639856	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	20-Aug-20
0001639759	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639780	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639777	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639778	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639786	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639779	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639776	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639781	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639782	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639783	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639775	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639785	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639768	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639787	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639788	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639789	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639784	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639765	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639760	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639825	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639808	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639790	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639761	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639762	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639770	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639764	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639774	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639766	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639767	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639769	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639771	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639772	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639773	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639763	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639836	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639823	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639839	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639838	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639824	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639837	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639841	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639827	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639842	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001639835	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639834	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639833	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639832	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639831	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639830	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639826	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639849	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639854	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639853	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639852	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639851	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639806	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639840	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639791	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639829	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639848	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639847	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639846	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639845	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639844	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639843	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639850	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639804	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639821	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639820	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639819	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639818	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639817	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639816	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639815	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639814	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639813	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639812	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639810	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639828	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639822	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639805	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639811	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639803	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639802	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639801	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639800	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639799	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639798	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001639797	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639796	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639795	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639794	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639793	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639792	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639807	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639809	-	2-stroke engine oil	6.4	Ounces(OZ)	20-Aug-20
0001639722	-	DENATURED ALCOHOL	1	Gallon(GAL)	20-Aug-20
0001639729	-	DENATURED ALCOHOL	1	Gallon(GAL)	20-Aug-20
0001639724	-	DENATURED ALCOHOL	1	Gallon(GAL)	20-Aug-20
0001639725	-	DENATURED ALCOHOL	1	Gallon(GAL)	20-Aug-20
0001639726	-	DENATURED ALCOHOL	1	Gallon(GAL)	20-Aug-20
0001639727	-	DENATURED ALCOHOL	1	Gallon(GAL)	20-Aug-20
0001639728	-	DENATURED ALCOHOL	1	Gallon(GAL)	20-Aug-20
0001639723	-	DENATURED ALCOHOL	1	Gallon(GAL)	20-Aug-20
0001639738	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639748	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639749	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639750	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639751	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639752	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639754	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639747	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639756	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639757	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639746	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639742	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639753	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639741	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639740	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639739	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639743	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639744	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639755	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001639745	-	WD-40	3	Ounces(OZ)	20-Aug-20
0001420794	7697-37-2	NITRIC ACID 69-71%	2	Liters(L)	20-Aug-20
0001639732	-	LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	Ounces(OZ)	20-Aug-20
0001639736	-	LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	Ounces(OZ)	20-Aug-20
0001639735	-	LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	Ounces(OZ)	20-Aug-20
0001639734	-	LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	Ounces(OZ)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001639733	-	LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	Ounces(OZ)	20-Aug-20
0001639737	-	LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	Ounces(OZ)	20-Aug-20
0001639683	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	20-Aug-20
0001639684	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	20-Aug-20
0001639685	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	20-Aug-20
0001639686	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	20-Aug-20
V000006962	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V00000695A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V00000695B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V00000695C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V000006957	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V000006954	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V000006955	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V00000695E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V000006958	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V000006959	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V00000695D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V000006961	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V000006960	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V00000695F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
V000006956	-	ARDEX FEATHER FINISH	10	Pounds(LB)	20-Aug-20
0001603252	107-14-2	CHLOROACETONITRILE	100	Gram(GM)	20-Aug-20
0001603254	-	UTEVA RESIN	550	Milliliter(ML)	20-Aug-20
0001604983	-	NOVEC ENGINEERED FLUID	1	Gallon(GAL)	20-Aug-20
0001604984	-	NOVEC ENGINEERED FLUID	1	Gallon(GAL)	20-Aug-20
0001604990	-	NOVEC ENGINEERED FLUID	1	Gallon(GAL)	20-Aug-20
0001604992	-	NOVEC ENGINEERED FLUID	1	Gallon(GAL)	20-Aug-20
0001604991	-	NOVEC ENGINEERED FLUID	1	Gallon(GAL)	20-Aug-20
0001604989	-	NOVEC ENGINEERED FLUID	1	Gallon(GAL)	20-Aug-20
0001604986	-	NOVEC ENGINEERED FLUID	1	Gallon(GAL)	20-Aug-20
0001604988	-	NOVEC ENGINEERED FLUID	1	Gallon(GAL)	20-Aug-20
0001604987	-	NOVEC ENGINEERED FLUID	1	Gallon(GAL)	20-Aug-20
0001604985	-	NOVEC ENGINEERED FLUID	1	Gallon(GAL)	20-Aug-20
0001605180	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	4	Liters(L)	20-Aug-20
0001605182	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	4	Liters(L)	20-Aug-20
0001605181	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	4	Liters(L)	20-Aug-20
0001605183	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	4	Liters(L)	20-Aug-20
0001605184	67-64-1	ACETONE	4	Liters(L)	20-Aug-20
0001605187	67-64-1	ACETONE	4	Liters(L)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605186	67-64-1	ACETONE	4	Liters(L)	20-Aug-20
0001605185	67-64-1	ACETONE	4	Liters(L)	20-Aug-20
0001605188	141-78-6	ETHYL ACETATE	4	Liters(L)	20-Aug-20
0001605190	141-78-6	ETHYL ACETATE	4	Liters(L)	20-Aug-20
0001605191	141-78-6	ETHYL ACETATE	4	Liters(L)	20-Aug-20
0001605189	141-78-6	ETHYL ACETATE	4	Liters(L)	20-Aug-20
0001605192	67-56-1	METHANOL	4	Liters(L)	20-Aug-20
0001605194	67-56-1	METHANOL	4	Liters(L)	20-Aug-20
0001605195	67-56-1	METHANOL	4	Liters(L)	20-Aug-20
0001605193	67-56-1	METHANOL	4	Liters(L)	20-Aug-20
0001605196	6381-92-6	SOD ETLEDMINTETAC	500	Gram(GM)	20-Aug-20
0001605197	6381-92-6	SOD ETLEDMINTETAC	500	Gram(GM)	20-Aug-20
0001605198	7558-79-4	SODIUM PHOSPHATE DIBASIC	500	Gram(GM)	20-Aug-20
0001605231	75-09-2	DICHLOROMETHANE	20	Liters(L)	20-Aug-20
0001605232	502-72-7	Cyclopentadecanone	5	Gram(GM)	20-Aug-20
0001605236	502-72-7	Cyclopentadecanone	5	Gram(GM)	20-Aug-20
0001605233	502-72-7	Cyclopentadecanone	5	Gram(GM)	20-Aug-20
0001605234	502-72-7	Cyclopentadecanone	5	Gram(GM)	20-Aug-20
0001605235	502-72-7	Cyclopentadecanone	5	Gram(GM)	20-Aug-20
0001605237	16941-12-1	CHLOROPLATINIC ACID	5	Gram(GM)	20-Aug-20
0001605238	9002-89-5	POLY VINYL ALCOHOL	500	Gram(GM)	20-Aug-20
0001605239	938-18-1	2 4 6-TRIMETHYLBENZOYL CHLORIDE	25	Gram(GM)	20-Aug-20
0001605240	7786-30-3	MAGNESIUM CHLORIDE	100	Gram(GM)	20-Aug-20
0001605241	22691-02-7	CALCIUM CHLORIDE HYDRATE	50	Gram(GM)	20-Aug-20
0001605242	7447-40-7	POTASSIUM CHLORIDE	250	Gram(GM)	20-Aug-20
0001605243	56038-13-2	Sucralose	100	Gram(GM)	20-Aug-20
0001605244	67-56-1	METHANOL	25	Gram(GM)	20-Aug-20
0001605245	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	20-Aug-20
0001605246	1310-73-2	SODIUM HYDROXIDE	20	Liters(L)	20-Aug-20
0001605247	1310-73-2	SODIUM HYDROXIDE	20	Liters(L)	20-Aug-20
0001605248	1310-73-2	SODIUM HYDROXIDE SOLUTION	1000	Milliliter(ML)	20-Aug-20
0001605251	1310-73-2	SODIUM HYDROXIDE SOLUTION	1000	Milliliter(ML)	20-Aug-20
0001605250	1310-73-2	SODIUM HYDROXIDE SOLUTION	1000	Milliliter(ML)	20-Aug-20
0001605252	1310-73-2	SODIUM HYDROXIDE SOLUTION	1000	Milliliter(ML)	20-Aug-20
0001605249	1310-73-2	SODIUM HYDROXIDE SOLUTION	1000	Milliliter(ML)	20-Aug-20
0001605253	121-44-8	TRIETHYLAMINE	500	Milliliter(ML)	20-Aug-20
0001605254	1310-73-2	SODIUM HYDROXIDE	500	Gram(GM)	20-Aug-20
0001605255	1310-73-2	SODIUM HYDROXIDE	500	Gram(GM)	20-Aug-20
0001605256	-	EPOXY ADHESIVE	25	Milliliter(ML)	20-Aug-20
0001605261	-	EPOXY ADHESIVE	25	Milliliter(ML)	20-Aug-20
0001605257	-	EPOXY ADHESIVE	25	Milliliter(ML)	20-Aug-20
0001605258	-	EPOXY ADHESIVE	25	Milliliter(ML)	20-Aug-20
0001605259	-	EPOXY ADHESIVE	25	Milliliter(ML)	20-Aug-20
0001605260	-	EPOXY ADHESIVE	25	Milliliter(ML)	20-Aug-20
0001605262	-	BORON 5MG IN H2O	125	Milliliter(ML)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605263	-	Norland Optical Adhesive 71	100	Gram(GM)	20-Aug-20
0001605264	37895-73-1	1 2-Dibromo-4 5-dimethoxybenzene	25	Gram(GM)	20-Aug-20
0001605265	4612-26-4	1 4-Phenylenediboronic acid	25	Gram(GM)	20-Aug-20
0001605266	-	TCEP HCL	5	Gram(GM)	20-Aug-20
0001605267	-	Rosetta 2(DE3) Singles Competent Cells - Novagen	2	Milligram(MG)	20-Aug-20
0001605268	-	TaqPath 1-Step RT-qPCR Master Mix CG	5	Milliliter(ML)	20-Aug-20
0001605269	-	Acetic Acid Sodium Salt	500	Gram(GM)	20-Aug-20
0001558250	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558253	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558258	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558257	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558256	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558254	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558252	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558251	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558259	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558260	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558261	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558262	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558263	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558264	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558255	-	ARDEX-V-1200	50	Pounds(LB)	20-Aug-20
0001558122	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558127	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558138	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558123	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558124	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558125	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558126	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558128	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558130	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558131	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558132	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558133	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558134	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558135	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558129	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558137	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558145	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558151	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558150	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558149	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558148	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558136	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001558146	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558152	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558144	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558143	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558142	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558141	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558140	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558139	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558147	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558183	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558214	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558184	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558204	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558205	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558207	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558208	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558209	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558210	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558211	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558206	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558213	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558224	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558215	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558216	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558217	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558218	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558219	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558220	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558221	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558222	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558223	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558212	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558192	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558244	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558245	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558201	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558186	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558199	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558198	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558197	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558196	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558195	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558243	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558193	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558202	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001558203	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558191	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558190	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558189	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558188	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558187	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558185	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558247	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558249	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558248	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558194	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558230	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558238	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558237	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558236	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558235	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558234	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558233	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558239	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558231	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558228	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558229	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558242	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558227	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558200	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558225	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558246	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558232	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558226	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558241	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558240	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	20-Aug-20
0001558265	-	Ardex P 51	1	Gallon(GAL)	20-Aug-20
0001605343	110-54-3	HEXANE	4	Liters(L)	20-Aug-20
0001605346	110-54-3	HEXANE	4	Liters(L)	20-Aug-20
0001605345	110-54-3	HEXANE	4	Liters(L)	20-Aug-20
0001605344	110-54-3	HEXANE	4	Liters(L)	20-Aug-20
0001605347	67-56-1	METHANOL	4	Liters(L)	20-Aug-20
0001605349	67-56-1	METHANOL	4	Liters(L)	20-Aug-20
0001605350	67-56-1	METHANOL	4	Liters(L)	20-Aug-20
0001605348	67-56-1	METHANOL	4	Liters(L)	20-Aug-20
0001605415	67-66-3	CHLOROFORM	4	Liters(L)	20-Aug-20
0001605416	865-49-6	CHLOROFORM D1	50	Gram(GM)	20-Aug-20
0001605417	865-49-6	CHLOROFORM D1	50	Gram(GM)	20-Aug-20
0001626286	64742-52-5	NAPA SAE 90 Mineral Gear Oil	1	Gallon(GAL)	20-Aug-20
0001605418	75-09-2	DICHLOROMETHANE	4	Liters(L)	20-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605419	75-09-2	DICHLOROMETHANE	4	Liters(L)	20-Aug-20
0001605421	75-09-2	DICHLOROMETHANE	4	Liters(L)	20-Aug-20
0001605420	75-09-2	DICHLOROMETHANE	4	Liters(L)	20-Aug-20
0001457544	-	ZIRBLAST	55	Pounds(LB)	20-Aug-20
0001558266	-	GacoFlex SeamSeal Solvent-Free Silicone Sealant	5	Gallon(GAL)	21-Aug-20
0001558267	-	GacoFlex SeamSeal Solvent-Free Silicone Sealant	5	Gallon(GAL)	21-Aug-20
0001558268	-	GacoFlex SeamSeal Solvent-Free Silicone Sealant	5	Gallon(GAL)	21-Aug-20
0001558269	-	GacoFlex SeamSeal Solvent-Free Silicone Sealant	5	Gallon(GAL)	21-Aug-20
0001558270	-	GacoFlex SeamSeal Solvent-Free Silicone Sealant	5	Gallon(GAL)	21-Aug-20
0001558271	-	GacoFlex SeamSeal Solvent-Free Silicone Sealant	5	Gallon(GAL)	21-Aug-20
0001605281	57583-56-9	HYPOPHOSPHOROUS ACID	500	Gram(GM)	21-Aug-20
0001605282	26570-48-9	POLY(ETHYLENE GLYCOL)DIACRYLATE	500	Milliliter(ML)	21-Aug-20
0001605283	26570-48-9	POLY(ETHYLENE GLYCOL)DIACRYLATE	500	Milliliter(ML)	21-Aug-20
0001654470	7440-59-7	HELIUM GAS	100	Liters(L)	21-Aug-20
0001654474	7440-59-7	HELIUM GAS	100	Liters(L)	21-Aug-20
0001654471	7440-59-7	HELIUM GAS	100	Liters(L)	21-Aug-20
0001654473	7440-59-7	HELIUM GAS	100	Liters(L)	21-Aug-20
0001654475	7440-59-7	HELIUM GAS	100	Liters(L)	21-Aug-20
0001654472	7440-59-7	HELIUM GAS	100	Liters(L)	21-Aug-20
0001654476	-	Oxygen Nitrogen	34	Liters(L)	21-Aug-20
0001605423	75-05-8	ACETONITRILE	4	Liters(L)	21-Aug-20
0001605424	75-05-8	ACETONITRILE	4	Liters(L)	21-Aug-20
0001605425	75-05-8	ACETONITRILE	4	Liters(L)	21-Aug-20
0001605426	75-05-8	ACETONITRILE	4	Liters(L)	21-Aug-20
0001605427	67-56-1	METHANOL	4	Liters(L)	21-Aug-20
0001605430	67-56-1	METHANOL	4	Liters(L)	21-Aug-20
0001605429	67-56-1	METHANOL	4	Liters(L)	21-Aug-20
0001605428	67-56-1	METHANOL	4	Liters(L)	21-Aug-20
0001605431	67-64-1	ACETONE	4	Liters(L)	21-Aug-20
0001605434	67-64-1	ACETONE	4	Liters(L)	21-Aug-20
0001605433	67-64-1	ACETONE	4	Liters(L)	21-Aug-20
0001605432	67-64-1	ACETONE	4	Liters(L)	21-Aug-20
0001605435	-	2-PROPANOL	4	Liters(L)	21-Aug-20
0001664050	10034-85-2	HYDRIODIC ACID	250	Milliliter(ML)	24-Aug-20
0001664051	10034-85-2	HYDRIODIC ACID	250	Milliliter(ML)	24-Aug-20
0001664052	57583-56-9	HYPOPHOSPHOROUS ACID 50 WT. % SOLUTION IN WATER	415	Milliliter(ML)	24-Aug-20
V000006969	-	Alex Plus Clear	10.1	Ounces(OZ)	24-Aug-20
V000006968	-	Alex Plus Clear	10.1	Ounces(OZ)	24-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006966	-	Alex Plus Clear	10.1	Ounces(OZ)	24-Aug-20
V000006967	-	Alex Plus Clear	10.1	Ounces(OZ)	24-Aug-20
0001575484	-	3M MULTI-PURPOSE SPRAY ADHESIVE	16.7	Ounces(OZ)	24-Aug-20
0001575485	-	3M MULTI-PURPOSE SPRAY ADHESIVE	16.7	Ounces(OZ)	24-Aug-20
0001575487	-	3M MULTI-PURPOSE SPRAY ADHESIVE	16.7	Ounces(OZ)	24-Aug-20
0001575486	-	3M MULTI-PURPOSE SPRAY ADHESIVE	16.7	Ounces(OZ)	24-Aug-20
0001558272	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558285	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558273	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558275	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558276	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558277	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558278	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558279	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558280	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558283	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558286	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558287	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558288	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558289	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558290	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558284	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558274	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558281	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558305	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558298	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558297	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558296	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558300	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558301	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558302	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558303	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558304	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558306	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558282	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558295	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558294	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558293	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558292	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558291	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558307	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001558299	-	Black Stripe Extra	18	Ounces(OZ)	25-Aug-20
0001605576	-	COPPER CATALYST	1	Kilograms(KG)	25-Aug-20
0001605578	-	COPPER CATALYST	1	Kilograms(KG)	25-Aug-20
0001605577	-	COPPER CATALYST	1	Kilograms(KG)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605579	-	ION CHROMATOGRAPHY NITRITE STANDARD	125	Milliliter(ML)	25-Aug-20
0001605580	-	ION CHROMATOGRAPHY BROMIDE STANDARD	125	Milliliter(ML)	25-Aug-20
0001605581	-	ION CHROMATOGRAPHY NITRATE STANDARD	125	Milliliter(ML)	25-Aug-20
0001605582	-	OXALATE STANDARD	1125	Milliliter(ML)	25-Aug-20
0001605583	-	ION CHROMATOGRAPHY FLUORIDE STANDARD	125	Milliliter(ML)	25-Aug-20
0001605584	-	ION CHROMATOGRAPHY SULFATE STANDARD	125	Milliliter(ML)	25-Aug-20
0001605585	-	ION CHROMATOGRAPHY CHLORIDE STANDARD	125	Milliliter(ML)	25-Aug-20
0001605586	-	IC INSTRUMENT CHECK STANDARD 1	125	Milliliter(ML)	25-Aug-20
0001605587	60-31-1	ACETYLCHOLINE CHLORIDE	25	Gram(GM)	25-Aug-20
0001605588	56-12-2	GAMA-AMINO-N-BUTYRIC ACID	25	Gram(GM)	25-Aug-20
0001605589	56-86-0	L-GLUTAMIC ACID	250	Gram(GM)	25-Aug-20
0001605590	62-31-7	DOPAMINE HYDROCHLORIDE	10	Gram(GM)	25-Aug-20
0001558308	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558324	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558313	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558309	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558310	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558311	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558312	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558329	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558318	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558320	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558322	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558323	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558321	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558325	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558326	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558328	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558314	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558330	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558331	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558332	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558317	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558316	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558315	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558327	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001558319	-	PSX700 CURE PART B	0.2	Gallon(GAL)	25-Aug-20
0001605591	-	EDTA Titrant	1	Liters(L)	25-Aug-20
0001605592	-	EDTA Titrant	1	Liters(L)	25-Aug-20
0001605593	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	4	Liters(L)	25-Aug-20
0001605594	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	4	Liters(L)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605595	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	4	Liters(L)	25-Aug-20
0001605596	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	4	Liters(L)	25-Aug-20
0001605597	-	MF-CD-26	1	Gallon(GAL)	25-Aug-20
0001605600	-	MF-CD-26	1	Gallon(GAL)	25-Aug-20
0001605599	-	MF-CD-26	1	Gallon(GAL)	25-Aug-20
0001605598	-	MF-CD-26	1	Gallon(GAL)	25-Aug-20
0001605601	-	2-PROPANOL	500	Milliliter(ML)	25-Aug-20
0001605602	772-28-4	HYDROGEN PEROXIDE - 30%	500	Milliliter(ML)	25-Aug-20
0001605603	772-28-4	HYDROGEN PEROXIDE - 30%	500	Milliliter(ML)	25-Aug-20
0001605604	772-28-4	HYDROGEN PEROXIDE - 30%	500	Milliliter(ML)	25-Aug-20
0001605605	75-09-2	DICHLOROMETHANE	4	Liters(L)	25-Aug-20
0001605607	75-09-2	DICHLOROMETHANE	4	Liters(L)	25-Aug-20
0001605608	75-09-2	DICHLOROMETHANE	4	Liters(L)	25-Aug-20
0001605606	75-09-2	DICHLOROMETHANE	4	Liters(L)	25-Aug-20
0001605609	18346-57-1	Cobalt(II) bromide dibromo(1 2-dimethoxyethane)	5	Gram(GM)	25-Aug-20
0001423712	-	BIG BLUE MICRO LEAK DETECTOR SOLUTION	1	Gallon(GAL)	25-Aug-20
0001605610	9002-07-7	TRYPSIN	500	Milliliter(ML)	25-Aug-20
0001605611	9002-07-7	TRYPSIN	500	Milliliter(ML)	25-Aug-20
0001423714	-	BIG BLUE MICRO LEAK DETECTOR SOLUTION	1	Gallon(GAL)	25-Aug-20
0001423713	-	BIG BLUE MICRO LEAK DETECTOR SOLUTION	1	Gallon(GAL)	25-Aug-20
0001605612	9029-47-4	PROTOCATECHUATE 3 4-DIOXYGENASE	150	Milligram(MG)	25-Aug-20
0001605613	38275-57-9	5-Bromopyrimidine-2-carbonitrile	25	Gram(GM)	25-Aug-20
0001605614	38275-57-9	5-Bromopyrimidine-2-carbonitrile	25	Gram(GM)	25-Aug-20
0001654477	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654489	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654496	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654487	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654478	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654506	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654505	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654504	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654503	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654502	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654501	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654500	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654499	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654497	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654495	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654494	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654484	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654479	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654480	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654481	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654498	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654483	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654493	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654485	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654486	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654488	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654490	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654491	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654492	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654482	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654514	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654507	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654518	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654517	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654516	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654515	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654512	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654511	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654510	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654508	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654513	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654509	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654597	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654593	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654606	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654605	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654604	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654603	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654602	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654601	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654600	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654598	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654596	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654594	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654592	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654591	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654590	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654599	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001654595	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	25-Aug-20
0001605615	10320-42-0	2-Chloro-5-nitropyrimidine	100	Gram(GM)	25-Aug-20
0001605616	22536-65-8	2-chloro-5-methoxypyrimidine	25	Gram(GM)	25-Aug-20
0001654519	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001605617	-	YEAST NITROGEN BASE W/O ANIMO ACIDS	1	Kilograms(KG)	25-Aug-20
0001654527	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654533	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654532	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654531	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654530	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654528	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654526	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654524	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654529	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654523	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654522	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654521	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654520	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654525	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654587	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654588	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	25-Aug-20
0001654534	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654543	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654535	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654536	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654537	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654538	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654539	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654542	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654544	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654545	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654546	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654547	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654548	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654540	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654541	-	ARGON GAS	220	Cubic Feet(CF)	25-Aug-20
0001654549	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654551	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654563	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654562	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654561	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654560	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654559	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654558	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654556	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654554	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654552	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654550	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654555	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654553	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20
0001654557	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654564	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654573	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654565	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654566	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654567	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654568	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654569	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654570	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654572	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654578	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654574	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654575	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654576	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654577	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654571	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654579	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654580	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654581	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654582	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654583	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654584	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654585	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654586	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001605618	12060-58-1	SAMARIUM(III) OXIDE	25	Gram(GM)	25-Aug-20
0001605619	-	ALKANE STANDARD	5	Milliliter(ML)	25-Aug-20
0001654589	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	25-Aug-20
0001654607	-	Compressed Air	220	Cubic Feet(CF)	25-Aug-20
0001654611	-	Compressed Air	220	Cubic Feet(CF)	25-Aug-20
0001654610	-	Compressed Air	220	Cubic Feet(CF)	25-Aug-20
0001654609	-	Compressed Air	220	Cubic Feet(CF)	25-Aug-20
0001654608	-	Compressed Air	220	Cubic Feet(CF)	25-Aug-20
0001605620	-	COMPLETE MINI PROTEASE INHIBITOR COCKTAIL TABLETS LYCOL	25	Gram(GM)	25-Aug-20
0001605621	70-18-8	L-Glutathione reduced	50	Gram(GM)	25-Aug-20
0001605622	51-41-2	NOREPINEPHRINE	1	Gram(GM)	25-Aug-20
0001558333	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	25-Aug-20
0001558335	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	25-Aug-20
0001558334	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	25-Aug-20
0001558337	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	25-Aug-20
0001558336	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	25-Aug-20
0001558340	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	25-Aug-20
0001558339	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	25-Aug-20
0001558338	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	25-Aug-20
0001605623	-	LIPOPROTEIN	10	Milligram(MG)	25-Aug-20
0001605624	-	LIPOPROTEIN	10	Milligram(MG)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605625	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605639	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605640	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605638	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605633	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605630	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605637	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605636	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605634	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605632	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605631	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605626	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605627	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605628	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605629	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605635	-	CiDehol 70 70% Isopropyl Alcohol Solution	1	Gallon(GAL)	25-Aug-20
0001605641	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605652	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605645	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605649	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605650	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605651	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605646	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605644	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605642	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605643	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605647	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605648	-	CiDehol ST	16	Ounces(OZ)	25-Aug-20
0001605653	376-90-9	2 2 3 3 4 4-HEXAFLUORO-1 5-PENTANDEDIOL	5	Gram(GM)	25-Aug-20
0001605654	1148-79-4	2 2':6' 2''-TERPYRIDINE	1	Gram(GM)	25-Aug-20
0001654612	-	HYDROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654617	-	HYDROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654613	-	HYDROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654615	-	HYDROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654614	-	HYDROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001654616	-	HYDROGEN GAS	220	Cubic Feet(CF)	25-Aug-20
0001605655	75-50-3	TRIMETHYLAMINE	1	Liters(L)	25-Aug-20
0001654618	630-08-0	CARBON MONOXIDE	40	Cubic Feet(CF)	25-Aug-20
0001654619	630-08-0	CARBON MONOXIDE	40	Cubic Feet(CF)	25-Aug-20
0001605656	-	SODIUM CHLORIDE ULTRA PURE	100	Gram(GM)	25-Aug-20
0001605657	-	N-DODECANE	250	Milliliter(ML)	25-Aug-20
0001605658	1306-38-3	CERIUM(IV) OXIDE	500	Gram(GM)	25-Aug-20
0001605659	1306-38-3	CERIUM(IV) OXIDE	500	Gram(GM)	25-Aug-20
0001605660	1306-38-3	CERIUM(IV) OXIDE	500	Gram(GM)	25-Aug-20
0001605661	1306-38-3	CERIUM(IV) OXIDE	500	Gram(GM)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001558341	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	25-Aug-20
0001558344	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	25-Aug-20
0001558345	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	25-Aug-20
0001558343	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	25-Aug-20
0001558346	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	25-Aug-20
0001558342	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	25-Aug-20
0001605662	-	MAGNESIUM TURNINGS	50	Gram(GM)	25-Aug-20
0001605663	10043-52-4	CALCIUM CHLORIDE ANHYDROUS	2.5	Kilograms(KG)	25-Aug-20
0001605665	10043-52-4	CALCIUM CHLORIDE ANHYDROUS	2.5	Kilograms(KG)	25-Aug-20
0001605664	10043-52-4	CALCIUM CHLORIDE ANHYDROUS	2.5	Kilograms(KG)	25-Aug-20
0001605666	10043-52-4	CALCIUM CHLORIDE ANHYDROUS	2.5	Kilograms(KG)	25-Aug-20
0001605667	10043-52-4	CALCIUM CHLORIDE ANHYDROUS	2.5	Kilograms(KG)	25-Aug-20
0001605668	10043-52-4	CALCIUM CHLORIDE ANHYDROUS	2.5	Kilograms(KG)	25-Aug-20
0001605669	2243-62-1	1 5-DIAMINONAPHTHALENE	100	Gram(GM)	25-Aug-20
0001605670	67-64-1	ACETONE	1	Liters(L)	25-Aug-20
0001605671	67-64-1	ACETONE	1	Liters(L)	25-Aug-20
0001605675	67-64-1	ACETONE	1	Liters(L)	25-Aug-20
0001605672	67-64-1	ACETONE	1	Liters(L)	25-Aug-20
0001605674	67-64-1	ACETONE	1	Liters(L)	25-Aug-20
0001605673	67-64-1	ACETONE	1	Liters(L)	25-Aug-20
0001558347	-	Armstrong S-525 Biobased Tile Adhesive	4	Gallon(GAL)	25-Aug-20
0001558348	-	Armstrong S-525 Biobased Tile Adhesive	4	Gallon(GAL)	25-Aug-20
V00000697E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069A4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006988	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000698A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006987	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006986	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006985	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006984	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006983	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006982	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006989	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006981	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006980	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000697F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000697D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000697C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000697B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000697A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000699E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000699F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069A0	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069A1	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000698B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069A3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006997	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069A5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069A6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069A7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069A2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069B4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000699D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000699C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000699A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069AA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069AB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069A9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069AC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069AD	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069AE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069AF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069B0	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069B1	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006995	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069B3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000698C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069B5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006999	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006998	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006996	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069A8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006994	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006993	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006992	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006991	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V000006990	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000698F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000698E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000698D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V0000069B2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
V00000699B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	25-Aug-20
0001558349	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001558356	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558355	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558354	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558357	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558358	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558359	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558360	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558362	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558353	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558369	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558361	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558352	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558351	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558350	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558365	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558366	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558363	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558368	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558364	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558370	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558371	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558372	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
0001558367	-	GE5050 SILICONE II ALUMINUM	10.1	Ounces(OZ)	25-Aug-20
V0000069BC	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069B8	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069B7	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069B6	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069BA	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069C1	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069C0	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069BF	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069BE	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069B9	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069BD	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000069BB	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	25-Aug-20
V0000069C2	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	25-Aug-20
V0000069C6	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	25-Aug-20
V0000069C5	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	25-Aug-20
V0000069C4	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	25-Aug-20
V0000069C3	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	25-Aug-20
0001654621	74-85-1	ETHYLENE	40	Cubic Feet(CF)	25-Aug-20
0001654622	74-85-1	ETHYLENE	40	Cubic Feet(CF)	25-Aug-20
0001654623	7664-39-3	HYDROGEN FLUORIDE	40	Cubic Feet(CF)	25-Aug-20
0001654624	7647-01-0	HYDROGEN CHLORIDE	40	Cubic Feet(CF)	25-Aug-20
0001654625	74-98-6	PROPANE	11	Gallon(GAL)	25-Aug-20
0001654628	74-98-6	PROPANE	11	Gallon(GAL)	25-Aug-20
0001654630	74-98-6	PROPANE	11	Gallon(GAL)	25-Aug-20
0001654626	74-98-6	PROPANE	11	Gallon(GAL)	25-Aug-20
0001654627	74-98-6	PROPANE	11	Gallon(GAL)	25-Aug-20
0001654632	74-98-6	PROPANE	11	Gallon(GAL)	25-Aug-20
0001654633	74-98-6	PROPANE	11	Gallon(GAL)	25-Aug-20
0001654634	74-98-6	PROPANE	11	Gallon(GAL)	25-Aug-20
0001654631	74-98-6	PROPANE	11	Gallon(GAL)	25-Aug-20
0001654629	74-98-6	PROPANE	11	Gallon(GAL)	25-Aug-20
0001654635	74-98-6	PROPANE	5	Gallon(GAL)	25-Aug-20
0001654636	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654647	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654637	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654638	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654639	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654640	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654641	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654643	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654646	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654642	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654648	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654649	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654650	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654651	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654652	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654653	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654654	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654655	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654656	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654645	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654644	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	25-Aug-20
0001654657	7440-59-7	HELIUM GAS	100	Liters(L)	25-Aug-20
0001654659	7440-59-7	HELIUM GAS	100	Liters(L)	25-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654662	7440-59-7	HELIUM GAS	100	Liters(L)	25-Aug-20
0001654660	7440-59-7	HELIUM GAS	100	Liters(L)	25-Aug-20
0001654658	7440-59-7	HELIUM GAS	100	Liters(L)	25-Aug-20
0001654661	7440-59-7	HELIUM GAS	100	Liters(L)	25-Aug-20
0001654620	-	ETHANE	40	Cubic Feet(CF)	25-Aug-20
0001558373	-	Finium DTM-AT S/G Acrylic W/B	114	Ounces(OZ)	26-Aug-20
0001558376	-	Finium DTM-AT S/G Acrylic W/B	114	Ounces(OZ)	26-Aug-20
0001558375	-	Finium DTM-AT S/G Acrylic W/B	114	Ounces(OZ)	26-Aug-20
0001558374	-	Finium DTM-AT S/G Acrylic W/B	114	Ounces(OZ)	26-Aug-20
0001558378	-	Finium DTM-AT S/G Acrylic W/B	114	Ounces(OZ)	26-Aug-20
0001558379	-	Finium DTM-AT S/G Acrylic W/B	114	Ounces(OZ)	26-Aug-20
0001558380	-	Finium DTM-AT S/G Acrylic W/B	114	Ounces(OZ)	26-Aug-20
0001558377	-	Finium DTM-AT S/G Acrylic W/B	114	Ounces(OZ)	26-Aug-20
0001605171	-	PermaTreat PC-510T	55	Gallon(GAL)	26-Aug-20
0001558381	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	26-Aug-20
0001558383	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	26-Aug-20
0001558388	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	26-Aug-20
0001558387	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	26-Aug-20
0001558385	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	26-Aug-20
0001558382	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	26-Aug-20
0001558384	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	26-Aug-20
0001558386	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	26-Aug-20
0001605676	7631-86-9	SAND	1	Kilograms(KG)	26-Aug-20
V0000069CC	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	26-Aug-20
V0000069D3	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	26-Aug-20
V0000069CB	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	26-Aug-20
V0000069D2	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	26-Aug-20
V0000069CA	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	26-Aug-20
V0000069CD	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	26-Aug-20
V0000069CE	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	26-Aug-20
V0000069CF	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	26-Aug-20
V0000069D0	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	26-Aug-20
V0000069D1	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	26-Aug-20
0001558389	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	26-Aug-20
0001558396	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	26-Aug-20
0001558392	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	26-Aug-20
0001558393	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	26-Aug-20
0001558394	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	26-Aug-20
0001558390	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	26-Aug-20
0001558397	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	26-Aug-20
0001558398	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	26-Aug-20
0001558391	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	26-Aug-20
0001558395	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	26-Aug-20
0001605677	-	Kester 186 Soldering Flux	1	Gallon(GAL)	26-Aug-20
0001605679	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605681	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605686	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605680	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605683	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605684	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605685	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605682	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605687	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605693	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605694	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605692	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605691	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605690	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605689	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605688	-	BARCO BOND EPOXY KIT	0.25	Gram(GM)	26-Aug-20
0001605695	-	BARCO BOND EPOXY KIT MB-185	4	Ounces(OZ)	26-Aug-20
0001605696	-	BARCO BOND EPOXY KIT MB-185	4	Ounces(OZ)	26-Aug-20
0001605697	7601-89-0	SODIUM PERCHLORATE	100	Gram(GM)	26-Aug-20
0001605698	7601-89-0	SODIUM PERCHLORATE	100	Gram(GM)	26-Aug-20
0001605699	57-09-0	HEXADECYLTRIMETHYLAMMONIUM BROMIDE	500	Gram(GM)	26-Aug-20
0001565599	-	Cote All D/B	118	Ounces(OZ)	26-Aug-20
0001565606	-	Cote All D/B	118	Ounces(OZ)	26-Aug-20
0001565605	-	Cote All D/B	118	Ounces(OZ)	26-Aug-20
0001565601	-	Cote All D/B	118	Ounces(OZ)	26-Aug-20
0001565600	-	Cote All D/B	118	Ounces(OZ)	26-Aug-20
0001565602	-	Cote All D/B	118	Ounces(OZ)	26-Aug-20
0001565603	-	Cote All D/B	118	Ounces(OZ)	26-Aug-20
0001565607	-	Cote All D/B	118	Ounces(OZ)	26-Aug-20
0001565608	-	Cote All D/B	118	Ounces(OZ)	26-Aug-20
0001565604	-	Cote All D/B	118	Ounces(OZ)	26-Aug-20
0001605700	9012-36-6	AGAROSE (NUSIEVE GTG)	125	Gram(GM)	26-Aug-20
0001605285	1344-09-8	29L Low Expansion Cement	8	Ounces(OZ)	26-Aug-20
V0000069DB	-	COTE ALL WHITE BASE	123.9	Ounces(OZ)	26-Aug-20
V0000069DA	-	COTE ALL WHITE BASE	123.9	Ounces(OZ)	26-Aug-20
V0000069D9	-	COTE ALL WHITE BASE	123.9	Ounces(OZ)	26-Aug-20
V0000069D8	-	COTE ALL WHITE BASE	123.9	Ounces(OZ)	26-Aug-20
V0000069D7	-	COTE ALL WHITE BASE	123.9	Ounces(OZ)	26-Aug-20
V0000069D6	-	COTE ALL WHITE BASE	123.9	Ounces(OZ)	26-Aug-20
V0000069D5	-	COTE ALL WHITE BASE	123.9	Ounces(OZ)	26-Aug-20
V0000069D4	-	COTE ALL WHITE BASE	123.9	Ounces(OZ)	26-Aug-20
V0000069DD	-	COTE ALL WHITE BASE	123.9	Ounces(OZ)	26-Aug-20
V0000069DC	-	COTE ALL WHITE BASE	123.9	Ounces(OZ)	26-Aug-20
0001565609	-	Megaloc	8	Ounces(OZ)	26-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605701	15201-61-3	IRON(III) PERCHLORATE HYDRATE	500	Gram(GM)	26-Aug-20
0001605702	110-71-4	1 2-DIMETHOXYETHANE	2	Liters(L)	26-Aug-20
0001605703	-	2-PROPANOL	1	Liters(L)	26-Aug-20
0001605704	64-17-5	ETHYL ALCOHOL ABSOLUTE	1	Liters(L)	26-Aug-20
0001605705	64-17-5	ETHYL ALCOHOL ABSOLUTE	1	Liters(L)	26-Aug-20
0001605706	-	AG 50W-X8 RESIN	500	Gram(GM)	26-Aug-20
0001605707	101-80-4	4 4'-OXYDIANILINE	500	Gram(GM)	26-Aug-20
0001605709	101-80-4	4 4'-OXYDIANILINE	500	Gram(GM)	26-Aug-20
0001605708	101-80-4	4 4'-OXYDIANILINE	500	Gram(GM)	26-Aug-20
0001605710	16288-26-7	PHENYLBIS(2 4 6-TRIMETHYLBENZOYL) PHOSPHINE OXIDE	10	Gram(GM)	26-Aug-20
0001605713	16288-26-7	PHENYLBIS(2 4 6-TRIMETHYLBENZOYL) PHOSPHINE OXIDE	10	Gram(GM)	26-Aug-20
0001605714	16288-26-7	PHENYLBIS(2 4 6-TRIMETHYLBENZOYL) PHOSPHINE OXIDE	10	Gram(GM)	26-Aug-20
0001605716	16288-26-7	PHENYLBIS(2 4 6-TRIMETHYLBENZOYL) PHOSPHINE OXIDE	10	Gram(GM)	26-Aug-20
0001605717	16288-26-7	PHENYLBIS(2 4 6-TRIMETHYLBENZOYL) PHOSPHINE OXIDE	10	Gram(GM)	26-Aug-20
0001605718	16288-26-7	PHENYLBIS(2 4 6-TRIMETHYLBENZOYL) PHOSPHINE OXIDE	10	Gram(GM)	26-Aug-20
0001605711	16288-26-7	PHENYLBIS(2 4 6-TRIMETHYLBENZOYL) PHOSPHINE OXIDE	10	Gram(GM)	26-Aug-20
0001605712	16288-26-7	PHENYLBIS(2 4 6-TRIMETHYLBENZOYL) PHOSPHINE OXIDE	10	Gram(GM)	26-Aug-20
0001605719	16288-26-7	PHENYLBIS(2 4 6-TRIMETHYLBENZOYL) PHOSPHINE OXIDE	10	Gram(GM)	26-Aug-20
0001605715	16288-26-7	PHENYLBIS(2 4 6-TRIMETHYLBENZOYL) PHOSPHINE OXIDE	10	Gram(GM)	26-Aug-20
0001605720	772-28-4	HYDROGEN PEROXIDE - 30%	4	Liters(L)	26-Aug-20
0001565610	107-41-5	ChemSafe Gold	5	Gallon(GAL)	26-Aug-20
0001605721	75-05-8	ACETONITRILE	4	Liters(L)	26-Aug-20
0001605724	75-05-8	ACETONITRILE	4	Liters(L)	26-Aug-20
0001605722	75-05-8	ACETONITRILE	4	Liters(L)	26-Aug-20
0001605723	75-05-8	ACETONITRILE	4	Liters(L)	26-Aug-20
0001605725	79-20-9	METHYL ACETATE	2	Liters(L)	26-Aug-20
0001605726	79-20-9	METHYL ACETATE	2	Liters(L)	26-Aug-20
0001605727	79-20-9	METHYL ACETATE	2	Liters(L)	26-Aug-20
0001605728	79-20-9	METHYL ACETATE	2	Liters(L)	26-Aug-20
0001565611	107-41-5	ChemSafe Gold	5	Gallon(GAL)	26-Aug-20
0001605729	67-68-5	CellEvent Caspase-3/7 Green Detection Reagent	100	Microliter	26-Aug-20
0001605730	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605746	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605735	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605747	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605740	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605744	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605743	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605742	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605749	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605741	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605731	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605745	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605739	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605738	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605736	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605734	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605733	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605750	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605732	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605753	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605752	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605751	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605748	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605737	-	HIGH VACUUM GREASE (SILICONE)	5.3	Ounces(OZ)	26-Aug-20
0001605754	1303-86-2	BORIC ANHYDRIDE	1	Kilograms(KG)	26-Aug-20
0001605755	38274-14-5	2 2'-Bis(bromomethyl)-1 1'-biphenyl	5	Gram(GM)	26-Aug-20
0001605756	1068-55-9	ISOPROPYLMAGNESIUM CHLORIDE	100	Milliliter(ML)	26-Aug-20
0001605757	1068-55-9	ISOPROPYLMAGNESIUM CHLORIDE	100	Milliliter(ML)	26-Aug-20
0001605758	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605768	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605769	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605767	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605766	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605763	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605760	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605762	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605764	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605759	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605765	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605761	-	ULTIMA GOLD	5	Liters(L)	26-Aug-20
0001605770	7440-46-2	CESIUM 99.98% (METAL BASIS)	25	Gram(GM)	26-Aug-20
0001605772	7440-46-2	CESIUM 99.98% (METAL BASIS)	25	Gram(GM)	26-Aug-20
0001605773	7440-46-2	CESIUM 99.98% (METAL BASIS)	25	Gram(GM)	26-Aug-20
0001605771	7440-46-2	CESIUM 99.98% (METAL BASIS)	25	Gram(GM)	26-Aug-20
0001605774	7440-46-2	CESIUM 99.98% (METAL BASIS)	25	Gram(GM)	26-Aug-20
0001565612	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565626	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565659	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565627	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565660	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565661	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565649	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565650	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565651	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565652	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565628	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565629	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565613	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565614	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565615	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565616	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565620	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565618	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565625	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565619	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565658	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565621	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565622	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565623	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565624	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565617	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565630	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565635	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565634	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565633	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565631	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565657	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565654	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565655	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565653	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565636	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565637	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565638	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565639	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565632	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565641	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565642	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565656	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565647	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565643	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565644	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565646	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565648	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565640	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565645	-	Blue Def	2.5	Gallon(GAL)	26-Aug-20
0001565662	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565682	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565681	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565680	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565679	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565677	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565676	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565678	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565675	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565684	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565670	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565685	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565686	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565727	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565726	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565725	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565724	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565723	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565683	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565722	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565663	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565664	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565730	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565731	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565732	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565665	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565666	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565728	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565690	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565674	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565667	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565668	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565669	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565729	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565671	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565672	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565673	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565733	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565697	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565694	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565703	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565702	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565689	-	LFP	5	Gallon(GAL)	26-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565701	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565700	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565705	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565698	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565706	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565696	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565691	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565692	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565687	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565695	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565688	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565699	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565713	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565721	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565720	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565719	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565718	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565717	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565716	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565704	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565714	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565693	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565712	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565711	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565710	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565709	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565708	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565707	-	LFP	5	Gallon(GAL)	26-Aug-20
0001565715	-	LFP	5	Gallon(GAL)	26-Aug-20
0001604334	326-91-0	THENOYLTRIFLUOROACETONE	100	Gram(GM)	26-Aug-20
0001605284	10294-33-4	BORON TRIBROMIDE	5	Gram(GM)	26-Aug-20
0001605775	-	NITRIC ACID TRACE METAL	2.5	Liters(L)	26-Aug-20
0001605778	-	NITRIC ACID TRACE METAL	2.5	Liters(L)	26-Aug-20
0001605777	-	NITRIC ACID TRACE METAL	2.5	Liters(L)	26-Aug-20
0001605776	-	NITRIC ACID TRACE METAL	2.5	Liters(L)	26-Aug-20
0001605779	-	2-PROPANOL	4	Liters(L)	26-Aug-20
0001605780	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	26-Aug-20
0001605781	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	26-Aug-20
0001605782	141-78-6	ETHYL ACETATE	4	Liters(L)	26-Aug-20
0001605789	141-78-6	ETHYL ACETATE	4	Liters(L)	26-Aug-20
0001605783	141-78-6	ETHYL ACETATE	4	Liters(L)	26-Aug-20
0001605784	141-78-6	ETHYL ACETATE	4	Liters(L)	26-Aug-20
0001605785	141-78-6	ETHYL ACETATE	4	Liters(L)	26-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605786	141-78-6	ETHYL ACETATE	4	Liters(L)	26-Aug-20
0001605787	141-78-6	ETHYL ACETATE	4	Liters(L)	26-Aug-20
0001605788	141-78-6	ETHYL ACETATE	4	Liters(L)	26-Aug-20
0001605790	67-56-1	GR ACS Methanol Anhydrous	1	Liters(L)	26-Aug-20
0001605791	67-56-1	GR ACS Methanol Anhydrous	1	Liters(L)	26-Aug-20
0001605792	67-64-1	ACETONE	1	Liters(L)	26-Aug-20
0001605793	67-64-1	ACETONE	1	Liters(L)	26-Aug-20
0001605794	67-64-1	ACETONE	1	Liters(L)	26-Aug-20
0001605795	67-64-1	ACETONE	1	Liters(L)	26-Aug-20
0001605796	67-64-1	ACETONE	1	Liters(L)	26-Aug-20
0001605797	67-64-1	ACETONE	1	Liters(L)	26-Aug-20
0001605798	-	ION CHROMATOGRAPHY PHOSPHATE STANDARD	125	Milliliter(ML)	26-Aug-20
0001605799	-	LEYBOLD VACUUM PUMP OIL	5	Liters(L)	26-Aug-20
0001605801	-	LEYBOLD VACUUM PUMP OIL	5	Liters(L)	26-Aug-20
0001605800	-	LEYBOLD VACUUM PUMP OIL	5	Liters(L)	26-Aug-20
0001605802	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605812	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605810	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605811	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605809	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605808	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605807	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605806	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605805	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605804	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605803	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605813	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	26-Aug-20
0001605814	10294-41-4	CERIUM(III) NITRATE HEXAHYDRATE	50	Gram(GM)	26-Aug-20
0001605815	63148-62-9	Silicone oil for oil baths	2.5	Kilograms(KG)	26-Aug-20
0001605816	584-08-7	SULFURIC ACID TRACE METAL	500	Milliliter(ML)	26-Aug-20
0001605817	584-08-7	SULFURIC ACID TRACE METAL	500	Milliliter(ML)	26-Aug-20
0001605818	79-10-7	ACRYLIC ACID	1	Liters(L)	26-Aug-20
0001605819	79-10-7	ACRYLIC ACID	1	Liters(L)	26-Aug-20
0001605820	79-41-4	METHACRYLIC ACID	2.5	Liters(L)	26-Aug-20
0001605821	79-41-4	METHACRYLIC ACID	2.5	Liters(L)	26-Aug-20
0001605822	-	ESI Positive Calibration Solution	100	Milliliter(ML)	26-Aug-20
0001605823	499-12-7	ACONITIC ACID	100	Milligram(MG)	26-Aug-20
0001605824	-	ULTRAGRADE 19 PUMP OIL	1	Liters(L)	26-Aug-20
0001605825	-	ULTRAGRADE 19 PUMP OIL	1	Liters(L)	26-Aug-20
0001605826	-	ULTRAGRADE 19 PUMP OIL	1	Liters(L)	26-Aug-20
0001605827	-	ULTRAGRADE 19 PUMP OIL	1	Liters(L)	26-Aug-20
0001605828	-	ULTRAGRADE 19 PUMP OIL	1	Liters(L)	26-Aug-20
0001605829	-	ULTRAGRADE 19 PUMP OIL	1	Liters(L)	26-Aug-20
0001605830	-	ULTRAGRADE 19 PUMP OIL	1	Liters(L)	26-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605831	-	PlatSil Gel-25 U16	16	Pounds(LB)	26-Aug-20
0001605832	-	PlatSil Gel-25 U16	16	Pounds(LB)	26-Aug-20
0001605833	-	CERIUM(III) CHLORIDE HYDRATE	50	Gram(GM)	26-Aug-20
0001605834	6153-56-6	OXALIC ACID DIHYDRATE	250	Gram(GM)	26-Aug-20
0001605835	15137-09-4	Ethylenediaminetetraacetic Acid Disodium Cobalt Salt Hydrate	25	Gram(GM)	26-Aug-20
0001605836	110-86-1	PYRIDINE (PYRIDINE ANHYDROUS)	100	Milliliter(ML)	26-Aug-20
0001605837	67-56-1	METHYL ALCOHOL ANHYDROUS	1	Liters(L)	26-Aug-20
0001605838	-	TITANIUM STANDARD	125	Milliliter(ML)	26-Aug-20
0001605839	-	IRON STANDARD	125	Milliliter(ML)	26-Aug-20
0001605840	-	CALCIUM STANDARD	125	Milliliter(ML)	26-Aug-20
0001605841	-	COPPER STANDARD	125	Milliliter(ML)	26-Aug-20
0001605842	7440-66-6	ZINC ICP STANDARD 1000PPM	125	Milliliter(ML)	26-Aug-20
0001059438	-	APIEZON L GREASE	25	Gram(GM)	26-Aug-20
0001059439	-	APIEZON L GREASE	25	Gram(GM)	26-Aug-20
0001059440	-	APIEZON L GREASE	25	Gram(GM)	26-Aug-20
0001059442	-	APIEZON L GREASE	25	Gram(GM)	26-Aug-20
0001059441	-	APIEZON L GREASE	25	Gram(GM)	26-Aug-20
V0000069DE	-	Do it Best Bar and Chain Oil	1	Gallon(GAL)	27-Aug-20
V0000069E1	-	Do it Best Bar and Chain Oil	1	Gallon(GAL)	27-Aug-20
V0000069E0	-	Do it Best Bar and Chain Oil	1	Gallon(GAL)	27-Aug-20
V0000069DF	-	Do it Best Bar and Chain Oil	1	Gallon(GAL)	27-Aug-20
0001626287	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626379	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626380	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626360	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626381	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626374	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626359	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626358	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626357	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626356	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626361	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626355	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626375	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626376	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626377	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626378	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626354	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626352	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626353	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626350	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626333	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626351	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626338	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626348	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626347	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626346	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626345	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626344	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626343	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626342	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626341	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626331	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626339	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626373	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626337	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626336	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626335	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626334	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626332	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626382	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626330	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626329	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626372	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626340	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626303	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626311	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626325	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626326	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626327	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626296	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626297	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626298	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626299	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626328	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626300	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626323	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626302	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626322	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626304	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626305	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626308	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626307	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626365	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626366	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626367	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626368	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626369	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626370	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626306	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626301	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626319	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626362	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626363	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626364	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626318	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626317	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626316	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626315	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626314	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626313	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626312	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626324	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626310	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626371	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626309	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626288	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626289	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626290	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626291	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626292	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626293	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626294	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626295	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626320	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626321	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001626349	-	Prime Guard DEF	2.5	Gallon(GAL)	27-Aug-20
0001565734	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565736	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565740	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565748	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565747	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565746	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565745	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565744	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565743	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565749	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565741	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565739	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565750	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565737	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565738	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565751	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565735	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565742	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565752	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565753	-	PSX 700 Deep Tint Resin	0.72	Gallon(GAL)	27-Aug-20
0001565754	-	AMERLOCK SEALER HRD 00333521	1	Gallon(GAL)	27-Aug-20
0001565755	-	AMERLOCK SEALER HRD 00333521	1	Gallon(GAL)	27-Aug-20
0001565756	-	AMERLOCK SEALER HRD 00333521	1	Gallon(GAL)	27-Aug-20
0001565757	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	27-Aug-20
0001565759	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	27-Aug-20
0001565758	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	27-Aug-20
0001565760	-	LACQUER THINNER	1	Gallon(GAL)	27-Aug-20
0001565761	-	LACQUER THINNER	1	Gallon(GAL)	27-Aug-20
0001565762	-	LACQUER THINNER	1	Gallon(GAL)	27-Aug-20
0001565763	-	LACQUER THINNER	1	Gallon(GAL)	27-Aug-20
0001603540	-	2-PROPANOL	4	Liters(L)	27-Aug-20
0001626383	-	Blaw-Kote	5	Gallon(GAL)	27-Aug-20
0001626384	-	Blaw-Kote	5	Gallon(GAL)	27-Aug-20
0001605286	-	Gel Loading Dye Purple	4	Milliliter(ML)	27-Aug-20
0001605843	692-49-9	Opteon SF33 Specialty Cleaning Fluid	5	Gallon(GAL)	27-Aug-20
0001605844	7789-23-3	POTASSIUM FLUORIDE ANHYDROUS	500	Gram(GM)	27-Aug-20
0001605845	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	27-Aug-20
0001605847	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	27-Aug-20
0001605853	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	27-Aug-20
0001605852	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	27-Aug-20
0001605851	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	27-Aug-20
0001605850	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	27-Aug-20
0001605848	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	27-Aug-20
0001605846	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	27-Aug-20
0001605854	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	27-Aug-20
0001605849	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	27-Aug-20
0001605855	110-82-7	CYCLOHEXANE	4	Liters(L)	27-Aug-20
0001605857	110-82-7	CYCLOHEXANE	4	Liters(L)	27-Aug-20
0001605858	110-82-7	CYCLOHEXANE	4	Liters(L)	27-Aug-20
0001605856	110-82-7	CYCLOHEXANE	4	Liters(L)	27-Aug-20
0001605859	75-09-2	DICHLOROMETHANE	2.5	Liters(L)	27-Aug-20
0001605860	75-09-2	DICHLOROMETHANE	2.5	Liters(L)	27-Aug-20
0001605861	75-09-2	DICHLOROMETHANE	2.5	Liters(L)	27-Aug-20
0001605862	75-09-2	DICHLOROMETHANE	2.5	Liters(L)	27-Aug-20
0001605863	71-43-2	BENZENE	4	Liters(L)	27-Aug-20
0001423715	-	BONDING ADHESIVE	5	Gallon(GAL)	27-Aug-20
0001423716	64742-89-8	Weathered Membrane Cleaner	1	Gallon(GAL)	27-Aug-20
0001605864	56-75-7	CHLORAMPHENICOL	25	Gram(GM)	27-Aug-20
0001605865	1404-93-9	VANCOMYCIN HYDROCHLORIDE	5	Gram(GM)	27-Aug-20
0001605866	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	250	Milliliter(ML)	27-Aug-20
0001605867	007697-37-2	NITRIC ACID	500	Milliliter(ML)	27-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605868	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605872	60177-39-1	AG1-8-X RESIN	500	Gram(GM)	27-Aug-20
0001605873	-	AG 50W-X8 -325 MESH	500	Gram(GM)	27-Aug-20
0001605874	-	AG 50W-X8 -325 MESH	500	Gram(GM)	27-Aug-20
0001605875	-	AG MP-1M RESIN	500	Gram(GM)	27-Aug-20
0001605876	-	AG MP-1M RESIN	500	Gram(GM)	27-Aug-20
0001605877	153-96-0	Serotonin hydrochloride	1	Gram(GM)	27-Aug-20
0001605878	-	2 6-DIMETHOXYPHENOL	25	Gram(GM)	27-Aug-20
0001605879	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605887	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605880	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605890	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605889	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605888	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605885	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605884	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605883	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605886	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605881	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605882	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	27-Aug-20
0001605891	67-64-1	ACETONE	4	Liters(L)	27-Aug-20
0001605894	67-64-1	ACETONE	4	Liters(L)	27-Aug-20
0001605892	67-64-1	ACETONE	4	Liters(L)	27-Aug-20
0001605893	67-64-1	ACETONE	4	Liters(L)	27-Aug-20
0001605895	39450-01-6	PROTEINASE K (FROM TRITIRACHIUM ALBUMIN)	5	Milliliter(ML)	27-Aug-20
0001605896	-	100BP DNA LADDER	1.25	Milliliter(ML)	27-Aug-20
0001605899	-	100BP DNA LADDER	1.25	Milliliter(ML)	27-Aug-20
0001605900	-	100BP DNA LADDER	1.25	Milliliter(ML)	27-Aug-20
0001605901	-	100BP DNA LADDER	1.25	Milliliter(ML)	27-Aug-20
0001605897	-	100BP DNA LADDER	1.25	Milliliter(ML)	27-Aug-20
0001605898	-	100BP DNA LADDER	1.25	Milliliter(ML)	27-Aug-20
0001605902	-	ACETOIN (186)	1000	Milligram(MG)	27-Aug-20
0001605903	69-72-7	SALICYLIC ACID	100	Milligram(MG)	27-Aug-20
0001605904	-	JASMONIC ACID	10	Milligram(MG)	27-Aug-20
0001605905	513-85-9	2 3-BUTANEDIOL	250	Milligram(MG)	27-Aug-20
0001605906	21293-29-8	ABSCISIC ACID	25	Milligram(MG)	27-Aug-20
0001605907	563-96-2	GLYOXYLIC ACID MONOHYDRATE	10	Gram(GM)	27-Aug-20
0001605908	124-20-9	SPERMIDINE	100	Milligram(MG)	27-Aug-20
0001605909	114-63-6	P-HYDROXYBENZOIC ACID SODIUM	25	Gram(GM)	27-Aug-20
0001605910	67-48-1	CHOLINE CHLORIDE	5	Gram(GM)	27-Aug-20
0001605911	140-10-3	T-CINNAMIC ACID	50	Milligram(MG)	27-Aug-20
0001605912	532-91-2	6-Methoxy-2-benzoxazolinone	1	Gram(GM)	27-Aug-20
0001605913	13114-27-7	ZEATIN	5	Milligram(MG)	27-Aug-20
0001605914	119-36-8	METHYL SALICYLATE	1	Milliliter(ML)	27-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605915	-	STAINLESS STEEL 18/8	10	Milligram(MG)	27-Aug-20
0001605916	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605917	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605926	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605938	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605937	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605936	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605935	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605933	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605931	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605930	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605929	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605939	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605927	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605934	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605925	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605924	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605923	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605922	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605921	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605920	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605919	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605918	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605928	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605932	007697-37-2	NITRIC ACID	2.5	Liters(L)	27-Aug-20
0001605940	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605956	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605963	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605961	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605962	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605960	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605959	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605957	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605941	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605955	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605954	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605953	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605952	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605944	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605942	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605958	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605943	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605951	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605945	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605946	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605950	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605947	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605948	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001605949	811-97-2	DUSTER ES1017	10	Ounces(OZ)	27-Aug-20
0001420784	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	Liters(L)	28-Aug-20
0001603541	7726-95-6	BROMINE	50	Milliliter(ML)	30-Aug-20
0001605287	63231-69-6	MOLECULAR SIEVES	5	Kilograms(KG)	30-Aug-20
0001605964	12069-32-8	BORON CARBIDE	1	Kilograms(KG)	30-Aug-20
0001605965	12069-32-8	BORON CARBIDE	1	Kilograms(KG)	30-Aug-20
0001605966	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001605967	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001605968	-	HEPES	100	Gram(GM)	30-Aug-20
0001605969	7786-30-3	MAGNESIUM CHLORIDE	500	Gram(GM)	30-Aug-20
0001605970	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	30-Aug-20
0001605971	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	30-Aug-20
0001605979	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	30-Aug-20
0001605976	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	30-Aug-20
0001605977	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	30-Aug-20
0001605973	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	30-Aug-20
0001605974	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	30-Aug-20
0001605975	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	30-Aug-20
0001605972	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	30-Aug-20
0001605978	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	30-Aug-20
0001605980	-	Indium ingot polycrystalline	50	Gram(GM)	30-Aug-20
0001605981	-	Indium ingot polycrystalline	50	Gram(GM)	30-Aug-20
0001605982	-	Indium ingot polycrystalline	50	Gram(GM)	30-Aug-20
0001605983	1493-13-6	TRIFLUOROMETHANESULONIC ACID	50	Gram(GM)	30-Aug-20
0001605984	21062-20-4	2 2'-Oxydiacetyl Chloride	5	Gram(GM)	30-Aug-20
0001605985	59-23-4	D-GALACTOSE	50	Gram(GM)	30-Aug-20
0001605986	4877-80-9	2 3 6 7 10 11-Hexahydroxytriphenylene Hydrate	5	Gram(GM)	30-Aug-20
0001605987	111-65-9	OCTANE (OCTANE ANHYDROUS)	1	Liters(L)	30-Aug-20
0001605988	67-64-1	ACETONE	1	Liters(L)	30-Aug-20
0001605991	67-64-1	ACETONE	1	Liters(L)	30-Aug-20
0001605990	67-64-1	ACETONE	1	Liters(L)	30-Aug-20
0001605989	67-64-1	ACETONE	1	Liters(L)	30-Aug-20
0001605992	10043-35-3	BORIC ACID	100	Gram(GM)	30-Aug-20
0001605993	95-50-1	1 2-DICHLOROBENZENE	100	Milliliter(ML)	30-Aug-20
0001605994	95-50-1	1 2-DICHLOROBENZENE	100	Milliliter(ML)	30-Aug-20
0001605995	110-82-7	CYCLOHEXANE ANHYDROUS 99.5%	100	Milliliter(ML)	30-Aug-20
0001605996	110-82-7	CYCLOHEXANE ANHYDROUS 99.5%	100	Milliliter(ML)	30-Aug-20
0001605997	108-90-7	CHLOROBENZENE	1	Liters(L)	30-Aug-20
0001605998	75-05-8	ACETONITRILE ANHYDROUS	1	Liters(L)	30-Aug-20
0001605999	75-05-8	ACETONITRILE ANHYDROUS	1	Liters(L)	30-Aug-20
0001606000	67-56-1	METHANOL ANHYDROUS	1	Liters(L)	30-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606001	108-88-3	TOLUENE ANHYDROUS	1	Liters(L)	30-Aug-20
0001606002	110-54-3	HEXANE (HEXANE ANHYDROUS)	1	Liters(L)	30-Aug-20
0001606003	141-43-5	ETHANOLAMINE	100	Milliliter(ML)	30-Aug-20
0001606004	109-73-9	BUTYLAMINE	250	Milliliter(ML)	30-Aug-20
0001606005	111-26-2	HEXYLAMINE	100	Milliliter(ML)	30-Aug-20
0001606006	111-86-4	OCTYLAMINE	100	Gram(GM)	30-Aug-20
0001606007	-	DRIERITE DESSICANT	5	Pounds(LB)	30-Aug-20
0001606008	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606015	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606009	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606011	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606010	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606013	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606014	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606012	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606016	109-99-9	TETRAHYDROFURAN	1	Liters(L)	30-Aug-20
0001606021	109-99-9	TETRAHYDROFURAN	1	Liters(L)	30-Aug-20
0001606017	109-99-9	TETRAHYDROFURAN	1	Liters(L)	30-Aug-20
0001606018	109-99-9	TETRAHYDROFURAN	1	Liters(L)	30-Aug-20
0001606019	109-99-9	TETRAHYDROFURAN	1	Liters(L)	30-Aug-20
0001606020	109-99-9	TETRAHYDROFURAN	1	Liters(L)	30-Aug-20
0001606022	107-83-5	HEXANE MIXTURE OF ISOMERS	4	Liters(L)	30-Aug-20
0001606029	107-83-5	HEXANE MIXTURE OF ISOMERS	4	Liters(L)	30-Aug-20
0001606028	107-83-5	HEXANE MIXTURE OF ISOMERS	4	Liters(L)	30-Aug-20
0001606027	107-83-5	HEXANE MIXTURE OF ISOMERS	4	Liters(L)	30-Aug-20
0001606026	107-83-5	HEXANE MIXTURE OF ISOMERS	4	Liters(L)	30-Aug-20
0001606025	107-83-5	HEXANE MIXTURE OF ISOMERS	4	Liters(L)	30-Aug-20
0001606024	107-83-5	HEXANE MIXTURE OF ISOMERS	4	Liters(L)	30-Aug-20
0001606023	107-83-5	HEXANE MIXTURE OF ISOMERS	4	Liters(L)	30-Aug-20
0001606030	6132-04-3	SODIUM CITRATE DIHYDRATE	500	Gram(GM)	30-Aug-20
0001606031	-	NUCLEASE-FREE WATER	1000	Milliliter(ML)	30-Aug-20
0001606032	-	NUCLEASE-FREE WATER	1000	Milliliter(ML)	30-Aug-20
0001606034	-	NUCLEASE-FREE WATER	1000	Milliliter(ML)	30-Aug-20
0001606036	-	NUCLEASE-FREE WATER	1000	Milliliter(ML)	30-Aug-20
0001606035	-	NUCLEASE-FREE WATER	1000	Milliliter(ML)	30-Aug-20
0001606033	-	NUCLEASE-FREE WATER	1000	Milliliter(ML)	30-Aug-20
0001606037	-	HIGH VACUUM GREASE	8	Pounds(LB)	30-Aug-20
0001606038	-	HIGH VACUUM GREASE	8	Pounds(LB)	30-Aug-20
0001606039	110-54-3	N-HEXANE	4	Liters(L)	30-Aug-20
0001606040	110-54-3	N-HEXANE	4	Liters(L)	30-Aug-20
0001606041	110-54-3	N-HEXANE	4	Liters(L)	30-Aug-20
0001606042	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606047	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606043	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606044	67-64-1	ACETONE	4	Liters(L)	30-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606046	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606048	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606049	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606045	67-64-1	ACETONE	4	Liters(L)	30-Aug-20
0001606050	107-15-3	ETHYLENEDIAMINE 99+%	1	Liters(L)	30-Aug-20
0001606051	777-81-8	DRIERITE	1	Pounds(LB)	30-Aug-20
0001606052	-	AG 1-X8 50-100 100-200 200-400 chloride resin	500	Gram(GM)	30-Aug-20
0001606053	-	1-Step Ultra TMB-ELISA Substrate Solution	250	Milliliter(ML)	30-Aug-20
0001606054	-	AG 1-X8 50-100 100-200 200-400 chloride resin	500	Gram(GM)	30-Aug-20
0001606055	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606062	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606070	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606069	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606068	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606067	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606066	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606065	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606063	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606061	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606060	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606059	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606058	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606057	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606056	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
0001606064	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	30-Aug-20
V0000069F7	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069F6	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069F5	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069F4	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069F3	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069F2	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069FA	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069F8	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069FB	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069FC	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069FD	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069FE	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069FF	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V000006A00	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
V0000069F9	-	ARDEX FEATHER FINISH	10	Pounds(LB)	31-Aug-20
0001565764	-	Ardex P 51	1	Gallon(GAL)	31-Aug-20
0001565765	-	Ardex P 51	1	Gallon(GAL)	31-Aug-20
0001565766	-	Ardex P 51	1	Gallon(GAL)	31-Aug-20
0001565767	-	Ardex P 51	1	Gallon(GAL)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006A01	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	31-Aug-20
V000006A02	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	31-Aug-20
V000006A03	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	31-Aug-20
0001565768	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	31-Aug-20
0001565769	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	31-Aug-20
0001565771	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	31-Aug-20
0001565770	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	31-Aug-20
0001565773	-	SULLUBE COMPRESSOR FLUID	5	Gallon(GAL)	31-Aug-20
0001459567	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459591	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459572	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459585	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459587	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459588	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459584	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459590	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459589	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459568	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459571	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459570	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459569	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459586	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459592	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459583	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459573	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459574	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459582	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459576	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459577	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459578	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459579	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459580	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459581	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459575	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459600	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459599	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459598	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459597	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459596	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459601	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459594	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459595	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459593	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001459603	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459604	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459605	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459606	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001459602	-	HALTHANE 73-18 2 PART KIT	40	Ounces(OZ)	31-Aug-20
0001063259	-	FORMULA 314T	5	Gallon(GAL)	31-Aug-20
0001063260	-	FORMULA 2011	55	Gallon(GAL)	31-Aug-20
V000006A09	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A1E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A19	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A27	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A10	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A11	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A0C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A12	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A0B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A1C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A1A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A26	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A18	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A17	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A16	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A15	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A14	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A13	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A1B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A0E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A0A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A08	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A07	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A06	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A05	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A0F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A0D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A1D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A1F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A20	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A21	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A22	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A23	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A24	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A25	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20
V000006A04	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006A2F	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A2D	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A2E	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A30	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A31	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A32	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A33	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A2B	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A2A	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A29	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A28	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A2C	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	31-Aug-20
V000006A3A	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	31-Aug-20
V000006A39	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	31-Aug-20
V000006A35	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	31-Aug-20
V000006A34	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	31-Aug-20
V000006A3C	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	31-Aug-20
V000006A3D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	31-Aug-20
V000006A3B	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	31-Aug-20
V000006A37	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	31-Aug-20
V000006A36	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	31-Aug-20
V000006A38	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	31-Aug-20
V000006A3F	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A3E	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A40	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	31-Aug-20
V000006A41	-	PARTS PLUS HD SAE 30 PREMIUM MOTOR OIL PP3371	1	Quarts(QT)	31-Aug-20
V000006A42	-	PARTS PLUS HD SAE 30 PREMIUM MOTOR OIL PP3371	1	Quarts(QT)	31-Aug-20
0001626385	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	31-Aug-20
0001626388	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	31-Aug-20
0001626386	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	31-Aug-20
0001626387	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	31-Aug-20
V000006A45	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006A49	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A46	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A4E	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A47	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A48	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A43	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A4D	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A4C	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A4B	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A4A	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A44	-	Alex Plus Clear	10.1	Ounces(OZ)	31-Aug-20
V000006A50	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	31-Aug-20
V000006A51	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	31-Aug-20
V000006A4F	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	31-Aug-20
V000006A52	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	31-Aug-20
V000006A53	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006A57	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006A56	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006A54	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006A55	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006A59	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006A5A	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006A58	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
0001626389	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	31-Aug-20
0001626390	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	31-Aug-20
0001626391	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	31-Aug-20
0001626392	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	31-Aug-20
0001626393	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	31-Aug-20
0001626394	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	31-Aug-20
0001626395	-	266 Threadlocker High Strength	10	Milliliter(ML)	31-Aug-20
0001626396	-	266 Threadlocker High Strength	10	Milliliter(ML)	31-Aug-20
0001606104	15278-97-4	CHLORO(TRIMETHYLPHOSPHINE) GOLD(I)	500	Milligram(MG)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605352	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605362	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605359	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605363	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605358	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605357	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605356	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605355	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605354	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605353	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605360	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001605361	-	JB WELD	1	Ounces(OZ)	31-Aug-20
0001606071	39924-52-2	Methyl jasmonate	25	Gram(GM)	31-Aug-20
0001606072	-	GSTRAP FF 1X5ML	5	Milliliter(ML)	31-Aug-20
V000006A5B	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	31-Aug-20
0001606073	-	EP21TDC-2LO	0.5	Pint(PT)	31-Aug-20
0001606074	-	BARIUM STANDARD	125	Milliliter(ML)	31-Aug-20
0001606075	-	BARIUM STANDARD	125	Milliliter(ML)	31-Aug-20
V000006A70	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A64	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A6E	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A6C	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A72	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A6A	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A69	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A68	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A67	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A6F	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A65	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A6D	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A63	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A62	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A61	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A60	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A5F	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A5E	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A5D	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A5C	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A66	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A73	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A6B	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A71	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	31-Aug-20
V000006A7C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006A75	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A76	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A77	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A78	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A79	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A7A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A7B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A7D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A7E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A7F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A80	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A81	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A82	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A83	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A84	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A85	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
V000006A74	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	31-Aug-20
0001606076	-	COPPER WIRE	10	Gram(GM)	31-Aug-20
0001606077	64-17-5	ETHYL ALCOHOL	1	Pint(PT)	31-Aug-20
V000006A93	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006AA6	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006AA5	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006AA4	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006AA3	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A8D	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A99	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A98	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A97	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A96	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A94	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A92	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A91	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A9A	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A8F	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A8E	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A8B	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A8A	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A89	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A88	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A87	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A86	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A95	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006AA2	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006A90	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006AA0	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A8C	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006AA1	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A9B	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A9F	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A9E	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A9C	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
V000006A9D	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	31-Aug-20
0001606078	-	Kromagen Ink	100	Gram(GM)	31-Aug-20
0001606079	-	Kromagen Ink	100	Gram(GM)	31-Aug-20
0001606080	-	Kromagen Ink	100	Gram(GM)	31-Aug-20
0001606081	-	Kromagen Ink	100	Gram(GM)	31-Aug-20
0001606082	-	Kromagen Ink	100	Gram(GM)	31-Aug-20
0001606083	80-73-9	1 3-DIMETHYL-2-IMIDAZOLIDINONE	100	Gram(GM)	31-Aug-20
0001606084	12125-02-9	AMMONIA	1	Pint(PT)	31-Aug-20
0001606087	12125-02-9	AMMONIA	1	Pint(PT)	31-Aug-20
0001606086	12125-02-9	AMMONIA	1	Pint(PT)	31-Aug-20
0001606085	12125-02-9	AMMONIA	1	Pint(PT)	31-Aug-20
V000006AC4	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AD0	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AD1	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AD2	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AC8	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AC7	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ACF	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AC5	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ACC	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AC3	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AC2	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AC1	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006AC0	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ABF	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ABE	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ABD	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ABC	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AC6	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AED	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AE6	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AE7	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AE8	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AE9	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AB6	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AEA	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ABB	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ACE	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AEC	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ACB	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AEE	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AE4	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AE3	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ACA	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AC9	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006AE5	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ACD	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AEB	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AAE	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AE0	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AE1	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AE2	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AB3	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AB2	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AB1	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ADF	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ABA	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AAF	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AB8	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AAC	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AAB	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AAA	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AA9	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AA8	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AA7	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AB0	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AD4	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006AAD	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ADE	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AB9	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AB7	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AB5	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AD3	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AD5	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AD6	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AD7	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AD8	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AD9	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ADA	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ADB	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ADC	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006ADD	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
V000006AB4	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	31-Aug-20
0001606088	Multi	Buffer EB	250	Milliliter(ML)	31-Aug-20
0001606091	Multi	Buffer EB	250	Milliliter(ML)	31-Aug-20
0001606089	Multi	Buffer EB	250	Milliliter(ML)	31-Aug-20
0001606090	Multi	Buffer EB	250	Milliliter(ML)	31-Aug-20
V000006AEF	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006AF5	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006AFA	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006AF9	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006AF8	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006AF7	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006AF6	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006AF3	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006AF2	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006AF0	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006AF4	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
V000006AF1	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	31-Aug-20
0001606092	1305-78-8	CALCIUM OXIDE 99.995%	250	Gram(GM)	31-Aug-20
0001606093	7783-90-6	SILVER CHLORIDE	100	Gram(GM)	31-Aug-20
0001606094	1336-21-6	AMMONIUM HYDROXIDE OPTIMA	250	Milliliter(ML)	31-Aug-20
0001606095	58-86-6	D-XYLOSE	500	Gram(GM)	31-Aug-20
0001626397	-	Castrol Transynd Allison Transmission Fluid	5	Gallon(GAL)	31-Aug-20
0001606096	-	AMINO ACIDS STANDARD SOLU	2	Milliliter(ML)	31-Aug-20
0001606097	373-44-4	1 8-DIAMINOOCTANE	25	Gram(GM)	31-Aug-20
0001606098	153891-46-4	PAMAM DENDRIMER ETHYLENEDIAMINE CORE GENERATION 3.0 SOLUTION	1	Gram(GM)	31-Aug-20
0001606099	-	BORANE TETRAHYDROFURAN	100	Milliliter(ML)	31-Aug-20
0001606100	-	BORANE TETRAHYDROFURAN	100	Milliliter(ML)	31-Aug-20
0001606101	7440-55-3	GALLIUM INGOT	500	Gram(GM)	31-Aug-20
0001606102	-	HARDMAN EXTRA-FAST SETTING EPOXY KIT	4	Gram(GM)	31-Aug-20
0001606103	-	HARDMAN EXTRA-FAST SETTING EPOXY KIT	4	Gram(GM)	31-Aug-20
0001606105	-	Clean Room Grease	2	Ounces(OZ)	31-Aug-20
0001606106	-	INDIUM INGOT	50	Gram(GM)	31-Aug-20
0001606107	-	INDIUM INGOT	50	Gram(GM)	31-Aug-20
0001606108	-	INDIUM INGOT	50	Gram(GM)	31-Aug-20
0001606109	-	INDIUM INGOT	50	Gram(GM)	31-Aug-20
0001606110	59163-91-6	IRON(II) TRIFLUOROMETHANE	100	Gram(GM)	31-Aug-20
0001606111	10196-18-6	ZINC NITRATE HEXAHYDRATE	250	Gram(GM)	31-Aug-20
0001606112	110-91-8	MORPHOLINE	500	Milliliter(ML)	31-Aug-20
0001606113	110-54-3	N-HEXANE	4	Liters(L)	31-Aug-20
0001606114	-	PEROXIDE TEST KIT	50	Milligram(MG)	31-Aug-20
0001606115	-	DIMETHYL SULFOXIDE D6	0.5	Milliliter(ML)	31-Aug-20
0001606116	-	DIMETHYL SULFOXIDE D6	0.5	Milliliter(ML)	31-Aug-20
0001606117	67-56-1	METHANOL	2	Liters(L)	31-Aug-20
0001606118	67-56-1	METHANOL	2	Liters(L)	31-Aug-20
0001606119	67-56-1	METHANOL	2	Liters(L)	31-Aug-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606120	67-56-1	METHANOL	2	Liters(L)	31-Aug-20
0001606121	1693-74-9	TETRAHYDROFURAN-D8	10	Milliliter(ML)	31-Aug-20
0001606351	110-82-7	CYCLOHEXANE	4	Liters(L)	31-Aug-20
0001606352	110-82-7	CYCLOHEXANE	4	Liters(L)	31-Aug-20
0001606354	110-82-7	CYCLOHEXANE	4	Liters(L)	31-Aug-20
0001606353	110-82-7	CYCLOHEXANE	4	Liters(L)	31-Aug-20
0001606355	10025-77-1	IRON(III) CHLORIDE HEXAHYDRATE	500	Gram(GM)	31-Aug-20
0001423279	-	FOAM SEALANT	250	Milliliter(ML)	31-Aug-20
0001423281	-	FOAM SEALANT	250	Milliliter(ML)	31-Aug-20
0001423280	-	FOAM SEALANT	250	Milliliter(ML)	31-Aug-20
0001423282	-	FOAM SEALANT	250	Milliliter(ML)	31-Aug-20
0001565774	-	Marlite C551 Solvent Free FRP Adhesive	3.5	Gallon(GAL)	01-Sep-20
0001565776	-	Marlite C551 Solvent Free FRP Adhesive	3.5	Gallon(GAL)	01-Sep-20
0001565775	-	Marlite C551 Solvent Free FRP Adhesive	3.5	Gallon(GAL)	01-Sep-20
V000006B0A	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B14	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B13	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B12	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B11	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B10	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B0F	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B0B	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B0E	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B15	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B0D	-	SH-46	1	Gallon(GAL)	01-Sep-20
V000006B0C	-	SH-46	1	Gallon(GAL)	01-Sep-20
0001565777	-	Dynaflex Ultra Advanced Exterior Sealant - All Colors	10.1	Ounces(OZ)	01-Sep-20
0001565786	-	Dynaflex Ultra Advanced Exterior Sealant - All Colors	10.1	Ounces(OZ)	01-Sep-20
0001565778	-	Dynaflex Ultra Advanced Exterior Sealant - All Colors	10.1	Ounces(OZ)	01-Sep-20
0001565779	-	Dynaflex Ultra Advanced Exterior Sealant - All Colors	10.1	Ounces(OZ)	01-Sep-20
0001565780	-	Dynaflex Ultra Advanced Exterior Sealant - All Colors	10.1	Ounces(OZ)	01-Sep-20
0001565781	-	Dynaflex Ultra Advanced Exterior Sealant - All Colors	10.1	Ounces(OZ)	01-Sep-20
0001565782	-	Dynaflex Ultra Advanced Exterior Sealant - All Colors	10.1	Ounces(OZ)	01-Sep-20
0001565783	-	Dynaflex Ultra Advanced Exterior Sealant - All Colors	10.1	Ounces(OZ)	01-Sep-20
0001565785	-	Dynaflex Ultra Advanced Exterior Sealant - All Colors	10.1	Ounces(OZ)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565784	-	Dynaflex Ultra Advanced Exterior Sealant - All Colors	10.1	Ounces(OZ)	01-Sep-20
0001565787	-	SULLUBE COMPRESSOR FLUID	5	Gallon(GAL)	01-Sep-20
0001565788	-	ISO-100 SAE 30 RECIPROCATING COMPRESSOR LUBRICANT	1	Gallon(GAL)	01-Sep-20
0001660137	-	Synergy 735	55	Gallon(GAL)	01-Sep-20
0001565789	-	ISO-100 SAE 30 RECIPROCATING COMPRESSOR LUBRICANT	1	Gallon(GAL)	01-Sep-20
0001660138	-	Blasoclean AF	5	Gallon(GAL)	01-Sep-20
V000006B22	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B21	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B26	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B27	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B28	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B29	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B2D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B24	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B23	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B1F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B25	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B19	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B2A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B1A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B2B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B18	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B17	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B16	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B1D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B1C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B1B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B20	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B2C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
V000006B1E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Sep-20
0001565790	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565820	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565809	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565810	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565811	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565813	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565815	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565816	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565817	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565808	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565819	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565812	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565821	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565822	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565823	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565824	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565825	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565818	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565795	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565791	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565792	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565814	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565794	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565807	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565796	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565797	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565798	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565799	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565801	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565802	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565806	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565803	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565804	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565805	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565800	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565793	-	4592 PRO GRADE - AEROSOL WALL TEXTURE WATER BASED - ORANGE PEEL	25	Ounces(OZ)	01-Sep-20
0001565826	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	01-Sep-20
0001565827	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	01-Sep-20
0001565833	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	01-Sep-20
0001565832	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	01-Sep-20
0001565831	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	01-Sep-20
0001565830	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	01-Sep-20
0001565828	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	01-Sep-20
0001565829	-	COTE ALL NEUTRAL BASE	116	Ounces(OZ)	01-Sep-20
V000006B35	-	Permacryl Int Latex Semi-Gloss N/B	114	Ounces(OZ)	01-Sep-20
V000006B34	-	Permacryl Int Latex Semi-Gloss N/B	114	Ounces(OZ)	01-Sep-20
V000006B33	-	Permacryl Int Latex Semi-Gloss N/B	114	Ounces(OZ)	01-Sep-20
V000006B32	-	Permacryl Int Latex Semi-Gloss N/B	114	Ounces(OZ)	01-Sep-20
V000006B31	-	Permacryl Int Latex Semi-Gloss N/B	114	Ounces(OZ)	01-Sep-20
V000006B30	-	Permacryl Int Latex Semi-Gloss N/B	114	Ounces(OZ)	01-Sep-20
V000006B2F	-	Permacryl Int Latex Semi-Gloss N/B	114	Ounces(OZ)	01-Sep-20
V000006B2E	-	Permacryl Int Latex Semi-Gloss N/B	114	Ounces(OZ)	01-Sep-20
0001565834	-	Startex Lacquer Thinner	1	Gallon(GAL)	01-Sep-20
0001565837	-	Startex Lacquer Thinner	1	Gallon(GAL)	01-Sep-20
0001565838	-	Startex Lacquer Thinner	1	Gallon(GAL)	01-Sep-20
0001565836	-	Startex Lacquer Thinner	1	Gallon(GAL)	01-Sep-20
0001565839	-	Startex Lacquer Thinner	1	Gallon(GAL)	01-Sep-20
0001565840	-	Startex Lacquer Thinner	1	Gallon(GAL)	01-Sep-20
0001565841	-	Startex Lacquer Thinner	1	Gallon(GAL)	01-Sep-20
0001565835	-	Startex Lacquer Thinner	1	Gallon(GAL)	01-Sep-20
V000006B36	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
V000006B3A	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
V000006B37	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
V000006B3B	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
V000006B3C	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006B3D	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
V000006B3E	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
V000006B3F	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
V000006B40	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
V000006B41	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
V000006B38	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
V000006B39	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	01-Sep-20
0001565842	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565856	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565857	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565858	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565859	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565860	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565855	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565862	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565863	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565864	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565866	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565861	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565845	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565865	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565854	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565844	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565846	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565847	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565848	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565849	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565850	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565851	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565852	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565853	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565843	-	Permaflex Elastomeric W/B	608	Ounces(OZ)	01-Sep-20
0001565867	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565871	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565876	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565881	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565880	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565879	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565878	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565877	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565874	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565872	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565870	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565869	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565868	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565875	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
0001565873	-	Sure Grip Exterior Latex Primer White	608	Ounces(OZ)	01-Sep-20
V000006B4C	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B46	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B47	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B53	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B43	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B42	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B44	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B48	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B57	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B58	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B59	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B56	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B54	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B4D	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B4E	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B4F	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B50	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B49	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B45	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B51	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B52	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006B4B	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B4A	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
V000006B55	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	01-Sep-20
0001660279	-	TIGER FOAM INSULATION - TF200FR PART A	44.7	Pounds(LB)	01-Sep-20
0001660281	-	TIGER FOAM INSULATION - TF200FR PART A	44.7	Pounds(LB)	01-Sep-20
0001660280	-	TIGER FOAM INSULATION - TF200FR PART A	44.7	Pounds(LB)	01-Sep-20
0001660282	-	TIGER FOAM INSULATION - TF200FR PART A	44.7	Pounds(LB)	01-Sep-20
0001640029	-	Loctite LB 8150 SV	8	Ounces(OZ)	01-Sep-20
0001640028	64742-52-5	No. 1200-2	14.5	Ounces(OZ)	01-Sep-20
0001654752	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654703	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654685	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654686	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654687	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654689	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654702	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654704	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654705	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654706	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654707	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654708	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654701	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654694	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654700	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654679	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654690	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654691	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654684	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654693	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654695	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654696	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654682	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654692	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654683	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654697	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654681	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654680	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654688	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654699	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001654698	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20
0001640142	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001654769	-	ARGON GAS	220	Cubic Feet(CF)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001640143	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640144	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640145	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640146	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640147	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640148	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640162	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640152	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640157	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640153	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640154	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640158	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640159	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640151	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640161	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640156	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640163	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640164	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640165	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640155	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640150	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640149	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640160	-	Uvex Clear Solution	16	Ounces(OZ)	01-Sep-20
0001640024	-	WAY OIL	5	Gallon(GAL)	01-Sep-20
0001640027	-	WAY OIL	5	Gallon(GAL)	01-Sep-20
0001640026	-	WAY OIL	5	Gallon(GAL)	01-Sep-20
0001640025	-	WAY OIL	5	Gallon(GAL)	01-Sep-20
0001654753	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	01-Sep-20
0001640047	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640057	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640048	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640058	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640056	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640055	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640054	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640053	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640052	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640051	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640049	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640050	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001654756	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	01-Sep-20
0001654754	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	01-Sep-20
0001654755	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	01-Sep-20
0001640059	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640067	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001640084	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640087	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640065	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640085	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640083	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640082	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640081	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640080	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640079	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640078	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640077	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640076	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640075	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640074	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640062	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640086	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640073	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640060	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640061	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640063	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640064	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640066	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640068	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640069	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640070	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640071	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640072	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640104	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640091	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640097	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640102	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640101	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640100	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640099	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640098	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640103	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640096	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640095	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640094	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640092	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640090	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640089	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640088	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001640093	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	01-Sep-20
0001654663	-	Refrigerant R22	25	Cubic Feet(CF)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654666	-	Refrigerant R22	25	Cubic Feet(CF)	01-Sep-20
0001654665	-	Refrigerant R22	25	Cubic Feet(CF)	01-Sep-20
0001654664	-	Refrigerant R22	25	Cubic Feet(CF)	01-Sep-20
0001640000	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640008	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640014	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640002	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640004	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640006	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640005	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640007	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640009	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640010	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640011	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640001	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640013	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640003	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640015	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640016	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640017	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640018	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640019	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640020	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640021	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640022	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640023	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640012	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001654667	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654678	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654677	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654675	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654674	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654673	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654672	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654671	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654669	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654668	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654676	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0001654670	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	01-Sep-20
0000140119	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640128	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640126	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640127	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640129	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640120	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001640121	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640122	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640123	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640125	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640124	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640130	-	Stihl HP 2-Cycle Engine Oil	2.6	Ounces(OZ)	01-Sep-20
0001640131	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640137	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640141	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640140	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640139	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640138	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640136	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640135	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640134	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640132	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001640133	-	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	Quarts(QT)	01-Sep-20
0001654709	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654712	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654710	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001639999	-	HIT-HY 270	11.11	Ounces(OZ)	01-Sep-20
0001654711	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654714	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654713	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654731	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654722	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654738	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654737	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654736	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654735	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654730	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654729	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654728	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654727	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654726	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654725	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654732	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654723	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654715	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654720	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654719	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654718	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654717	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654716	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654734	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654721	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654724	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001654733	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Sep-20
0001639995	-	CIMPULSE 49MP CUTTING FLUID	5	Gallon(GAL)	01-Sep-20
0001639996	-	CIMPULSE 49MP CUTTING FLUID	5	Gallon(GAL)	01-Sep-20
0001639997	-	CIMPULSE 49MP CUTTING FLUID	5	Gallon(GAL)	01-Sep-20
0001639998	-	CIMPULSE 49MP CUTTING FLUID	5	Gallon(GAL)	01-Sep-20
0001639955	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001654739	74-98-6	PROPANE	100	Pounds(LB)	01-Sep-20
0001639964	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639971	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639962	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639956	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639974	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639972	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639970	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639969	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639968	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639967	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639958	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639965	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639963	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639961	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639960	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639957	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639959	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639966	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001639973	-	LHL-X100	400	Milliliter(ML)	01-Sep-20
0001654740	74-98-6	PROPANE	100	Pounds(LB)	01-Sep-20
0001654741	74-98-6	PROPANE	100	Pounds(LB)	01-Sep-20
0001654742	74-98-6	PROPANE	100	Pounds(LB)	01-Sep-20
0001654743	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	01-Sep-20
0001639975	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639983	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639978	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639976	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639979	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639980	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639981	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639982	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639984	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639985	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639986	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639987	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639988	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001639989	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639990	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639991	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639993	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639977	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639992	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639994	-	Citrax EP No. 1	5	Milliliter(ML)	01-Sep-20
0001639954	-	Tri-Flow Lubricant	12	Ounces(OZ)	01-Sep-20
0001654744	-	Compressed Air	220	Cubic Feet(CF)	01-Sep-20
0001654746	-	Compressed Air	220	Cubic Feet(CF)	01-Sep-20
0001654751	-	Compressed Air	220	Cubic Feet(CF)	01-Sep-20
0001654750	-	Compressed Air	220	Cubic Feet(CF)	01-Sep-20
0001654749	-	Compressed Air	220	Cubic Feet(CF)	01-Sep-20
0001654747	-	Compressed Air	220	Cubic Feet(CF)	01-Sep-20
0001654745	-	Compressed Air	220	Cubic Feet(CF)	01-Sep-20
0001654748	-	Compressed Air	220	Cubic Feet(CF)	01-Sep-20
0001639952	-	CimCool CIMPERIAL 1070	5	Gallon(GAL)	01-Sep-20
0001639953	-	CimCool CIMPERIAL 1070	5	Gallon(GAL)	01-Sep-20
0001639942	-	LOCTITE THREADLOCKER	50	Milliliter(ML)	01-Sep-20
0001639943	-	LOCTITE THREADLOCKER	50	Milliliter(ML)	01-Sep-20
0001639944	-	HIT-RE 500 V3	11.1	Ounces(OZ)	01-Sep-20
0001639947	-	HIT-RE 500 V3	11.1	Ounces(OZ)	01-Sep-20
0001639946	-	HIT-RE 500 V3	11.1	Ounces(OZ)	01-Sep-20
0001639948	-	HIT-RE 500 V3	11.1	Ounces(OZ)	01-Sep-20
0001639949	-	HIT-RE 500 V3	11.1	Ounces(OZ)	01-Sep-20
0001639945	-	HIT-RE 500 V3	11.1	Ounces(OZ)	01-Sep-20
0001654757	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	01-Sep-20
0001654758	74-86-2	ACETYLENE STABILIZED	130	Cubic Feet(CF)	01-Sep-20
0001654760	74-86-2	ACETYLENE STABILIZED	130	Cubic Feet(CF)	01-Sep-20
0001654759	74-86-2	ACETYLENE STABILIZED	130	Cubic Feet(CF)	01-Sep-20
0001654762	74-86-2	ACETYLENE STABILIZED	240	Cubic Feet(CF)	01-Sep-20
0001654761	74-86-2	ACETYLENE STABILIZED	240	Cubic Feet(CF)	01-Sep-20
0001654764	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	01-Sep-20
0001654763	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	01-Sep-20
0001654765	-	Methane/Nitrogen	220	Cubic Feet(CF)	01-Sep-20
0001654766	-	Methane/Nitrogen	220	Cubic Feet(CF)	01-Sep-20
0001654768	-	Methane/Nitrogen	220	Cubic Feet(CF)	01-Sep-20
0001654767	-	Methane/Nitrogen	220	Cubic Feet(CF)	01-Sep-20
V000006B60	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B66	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B64	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B67	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B63	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B62	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B61	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006B65	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B5F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B5E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B5D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B5C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B5B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B74	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B68	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B77	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B75	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B5A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B72	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B69	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B73	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B71	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B70	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B6F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B6E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B6D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B6C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B6B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B6A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
V000006B76	-	ARDEX FEATHER FINISH	10	Pounds(LB)	01-Sep-20
0001418062	-	3M INDUSTRIAL ADHESIVE 4799	5	Ounces(OZ)	01-Sep-20
V000006B7F	-	HENRY 440 Cove Base Adhesive	10	Pounds(LB)	01-Sep-20
V000006B7C	-	HENRY 440 Cove Base Adhesive	10	Pounds(LB)	01-Sep-20
V000006B7E	-	HENRY 440 Cove Base Adhesive	10	Pounds(LB)	01-Sep-20
V000006B7D	-	HENRY 440 Cove Base Adhesive	10	Pounds(LB)	01-Sep-20
V000006B78	-	HENRY 440 Cove Base Adhesive	10	Pounds(LB)	01-Sep-20
V000006B79	-	HENRY 440 Cove Base Adhesive	10	Pounds(LB)	01-Sep-20
V000006B7A	-	HENRY 440 Cove Base Adhesive	10	Pounds(LB)	01-Sep-20
V000006B7B	-	HENRY 440 Cove Base Adhesive	10	Pounds(LB)	01-Sep-20
V000006B82	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	01-Sep-20
V000006B81	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	01-Sep-20
V000006B80	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	01-Sep-20
0001565882	-	SHAW 4100	4	Gallon(GAL)	02-Sep-20
0001565883	-	SHAW 4100	4	Gallon(GAL)	02-Sep-20
0001565884	-	SHAW 4100	4	Gallon(GAL)	02-Sep-20
0001565885	-	SULLAIR SRF 1/4000	5	Gallon(GAL)	02-Sep-20
0001565886	-	SULLAIR SRF 1/4000	5	Gallon(GAL)	02-Sep-20
V000006BA0	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006B9F	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006B9E	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006B9D	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006B9C	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006B9B	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006B9A	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006BA1	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006BA2	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006B99	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006B98	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006B96	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006BA3	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006BA4	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
V000006B97	-	Cote All Satin Black	128	Ounces(OZ)	02-Sep-20
0001565887	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565894	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565898	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565901	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565899	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565897	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565896	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565895	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565888	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565892	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565891	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565890	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565889	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565893	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565900	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565911	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565912	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565913	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565914	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565915	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565918	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565910	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565902	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565916	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565909	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565908	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565907	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565906	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565905	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565920	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565903	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565919	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565904	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565921	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565917	-	OM Poly Plastic Penetrating Sealer	1	Gallon(GAL)	02-Sep-20
0001565922	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	02-Sep-20
0001565925	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	02-Sep-20
0001565924	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	02-Sep-20
0001565923	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	02-Sep-20
0001565927	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	02-Sep-20
0001565926	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	02-Sep-20
0001606122	7647-14-5	SODIUM CHLORIDE	2.5	Kilograms(KG)	02-Sep-20
0001606356	7697-37-2	NITRIC ACID	2.5	Liters(L)	02-Sep-20
0001606359	7697-37-2	NITRIC ACID	2.5	Liters(L)	02-Sep-20
0001606361	7697-37-2	NITRIC ACID	2.5	Liters(L)	02-Sep-20
0001606357	7697-37-2	NITRIC ACID	2.5	Liters(L)	02-Sep-20
0001606358	7697-37-2	NITRIC ACID	2.5	Liters(L)	02-Sep-20
0001606360	7697-37-2	NITRIC ACID	2.5	Liters(L)	02-Sep-20
0001606362	1489-69-6	Cyclopropanecarboxaldehyde	5	Gram(GM)	02-Sep-20
0001606363	7782-63-0	IRON(II) SULFATE HEPTAHYDRATE	500	Gram(GM)	02-Sep-20
0001606364	-	HIT-RE 500 V3	11	Ounces(OZ)	02-Sep-20
0001606367	-	HIT-RE 500 V3	11	Ounces(OZ)	02-Sep-20
0001606366	-	HIT-RE 500 V3	11	Ounces(OZ)	02-Sep-20
0001606365	-	HIT-RE 500 V3	11	Ounces(OZ)	02-Sep-20
0001606368	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	02-Sep-20
0001606373	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	02-Sep-20
0001606374	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	02-Sep-20
0001606372	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	02-Sep-20
0001606371	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	02-Sep-20
0001606370	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	02-Sep-20
0001606369	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	02-Sep-20
0001606375	-	J-B WELD	1	Ounces(OZ)	02-Sep-20
0001606376	-	J-B WELD	1	Ounces(OZ)	02-Sep-20
0001606381	-	J-B WELD	1	Ounces(OZ)	02-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606380	-	J-B WELD	1	Ounces(OZ)	02-Sep-20
0001606379	-	J-B WELD	1	Ounces(OZ)	02-Sep-20
0001606377	-	J-B WELD	1	Ounces(OZ)	02-Sep-20
0001606382	-	J-B WELD	1	Ounces(OZ)	02-Sep-20
0001606378	-	J-B WELD	1	Ounces(OZ)	02-Sep-20
0001606383	59-52-9	2 3-DIMERCAPTO-1-PROPANOL	5	Milliliter(ML)	02-Sep-20
0001606384	628-77-3	1 5-DIIODOPENTANE	10	Gram(GM)	02-Sep-20
0001606386	7758-99-8	COPPER(II) SULFATE PENTAHYDRATE	500	Gram(GM)	03-Sep-20
0001606387	13106-76-8	AMMONIUM MOLYBDATE	500	Gram(GM)	03-Sep-20
0001606388	10028-24-7	SODIUM PHOSPHATE DIBASIC	500	Gram(GM)	03-Sep-20
0001606389	7791-13-1	COBALT CHLORIDE HEXAHYDRATE	100	Gram(GM)	03-Sep-20
0001606390	13446-34-9	MANGANESE(II) CHLORIDE TETRAHYDRATE	500	Gram(GM)	03-Sep-20
0001660351	-	ClearWeld	40	Milliliter(ML)	03-Sep-20
0001540677	007697-37-2	NITRIC ACID	2	Liters(L)	03-Sep-20
0001606391	84-67-3	2 2'-Dimethyl-[1 1'-biphenyl]-4 4'-diamine	2	Kilograms(KG)	03-Sep-20
0001606392	84-67-3	2 2'-Dimethyl-[1 1'-biphenyl]-4 4'-diamine	2	Kilograms(KG)	03-Sep-20
0001606393	84-67-3	2 2'-Dimethyl-[1 1'-biphenyl]-4 4'-diamine	2	Kilograms(KG)	03-Sep-20
0001606394	84-67-3	2 2'-Dimethyl-[1 1'-biphenyl]-4 4'-diamine	2	Kilograms(KG)	03-Sep-20
0001606395	75-05-8	ACETONITRILE	1	Liters(L)	03-Sep-20
0001606400	75-05-8	ACETONITRILE	1	Liters(L)	03-Sep-20
0001606396	75-05-8	ACETONITRILE	1	Liters(L)	03-Sep-20
0001606397	75-05-8	ACETONITRILE	1	Liters(L)	03-Sep-20
0001606398	75-05-8	ACETONITRILE	1	Liters(L)	03-Sep-20
0001606399	75-05-8	ACETONITRILE	1	Liters(L)	03-Sep-20
0001606401	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) IN SOLUTION	500	Milliliter(ML)	03-Sep-20
0001606402	7705-08-0	FERRIC CHLORIDE	500	Gram(GM)	03-Sep-20
0001606403	7705-08-0	FERRIC CHLORIDE	500	Gram(GM)	03-Sep-20
0001606404	67-64-1	ACETONE	2.5	Liters(L)	03-Sep-20
0001606405	67-64-1	ACETONE	2.5	Liters(L)	03-Sep-20
0001606406	67-64-1	ACETONE	2.5	Liters(L)	03-Sep-20
0001606407	67-64-1	ACETONE	2.5	Liters(L)	03-Sep-20
0001606408	64-17-5	ETHYL ALCOHOL	1	Liters(L)	03-Sep-20
0001606409	-	2-PROPANOL	4	Liters(L)	03-Sep-20
0001606411	-	2-PROPANOL	4	Liters(L)	03-Sep-20
0001606412	-	2-PROPANOL	4	Liters(L)	03-Sep-20
0001606410	-	2-PROPANOL	4	Liters(L)	03-Sep-20
0001606413	-	HYDRANAL COULOMAT AG-H	500	Milliliter(ML)	03-Sep-20
0001606416	-	HYDRANAL COULOMAT AG-H	500	Milliliter(ML)	03-Sep-20
0001606414	-	HYDRANAL COULOMAT AG-H	500	Milliliter(ML)	03-Sep-20
0001606415	-	HYDRANAL COULOMAT AG-H	500	Milliliter(ML)	03-Sep-20
0001606417	-	HYDRANAL COULOMAT AG-H	500	Milliliter(ML)	03-Sep-20
0001606418	-	HYDRANAL COULOMAT AG-H	500	Milliliter(ML)	03-Sep-20
0001660360	-	MarineWeld Syringe	40	Milliliter(ML)	03-Sep-20
0001423717	-	1300 RUBBER AND GASKET ADHESIVE	3	Gram(GM)	03-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001423719	-	1300 RUBBER AND GASKET ADHESIVE	3	Gram(GM)	03-Sep-20
0001423718	-	1300 RUBBER AND GASKET ADHESIVE	3	Gram(GM)	03-Sep-20
0001423722	-	1300 RUBBER AND GASKET ADHESIVE	3	Gram(GM)	03-Sep-20
0001423721	-	1300 RUBBER AND GASKET ADHESIVE	3	Gram(GM)	03-Sep-20
0001423720	-	1300 RUBBER AND GASKET ADHESIVE	3	Gram(GM)	03-Sep-20
0001423724	-	1300 RUBBER AND GASKET ADHESIVE	3	Gram(GM)	03-Sep-20
0001423725	-	1300 RUBBER AND GASKET ADHESIVE	3	Gram(GM)	03-Sep-20
0001423726	-	1300 RUBBER AND GASKET ADHESIVE	3	Gram(GM)	03-Sep-20
0001423723	-	1300 RUBBER AND GASKET ADHESIVE	3	Gram(GM)	03-Sep-20
0001606419	603-35-0	TRIPHENYLPHOSPHINE	5	Kilograms(KG)	04-Sep-20
0001606420	23814-12-2	Benzotriazole-5-carboxylic acid	25	Gram(GM)	04-Sep-20
0001606421	23814-12-2	Benzotriazole-5-carboxylic acid	25	Gram(GM)	04-Sep-20
0001606422	7534-94-3	Isobornyl methacrylate	1	Liters(L)	04-Sep-20
0001606423	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606437	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606424	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606425	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606426	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606427	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606428	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606430	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606438	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606436	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606433	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606431	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606432	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606434	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606429	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20
0001606435	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	1	Liters(L)	04-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606439	-	BLANK 2% HNO3	500	Milliliter(ML)	04-Sep-20
0001606440	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Sep-20
0001606445	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Sep-20
0001606444	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Sep-20
0001606443	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Sep-20
0001606442	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Sep-20
0001606441	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Sep-20
0001606446	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606455	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606451	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606452	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606454	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606448	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606456	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606457	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606458	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606459	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606460	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606461	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606462	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606463	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606464	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606465	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606453	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606450	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606447	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606449	64-17-5	ETHYL ALCOHOL	4	Gallon(GAL)	04-Sep-20
0001606466	3811-04-9	POTASSIUM CHLORATE	1	Kilograms(KG)	04-Sep-20
0001605288	75-12-7	FORMAMIDE	250	Milliliter(ML)	04-Sep-20
0001605289	75-12-7	FORMAMIDE	250	Milliliter(ML)	04-Sep-20
0001605364	67-64-1	ACETONE	4	Liters(L)	04-Sep-20
0001605365	67-64-1	ACETONE	4	Liters(L)	04-Sep-20
0001605366	67-64-1	ACETONE	4	Liters(L)	04-Sep-20
0001605367	67-64-1	ACETONE	4	Liters(L)	04-Sep-20
0001606467	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606490	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606480	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606479	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606482	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606478	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606483	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606481	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606487	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606485	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606489	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606484	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606475	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606476	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606486	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606488	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606474	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606477	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606473	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606472	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606471	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606470	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606469	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606468	-	ETHANOL 200 PROOF	1	Pint(PT)	04-Sep-20
0001606491	95-14-7	BENZOTRIAZOLE	750	Gram(GM)	04-Sep-20
0001606492	7697-37-2	NITRIC ACID	1	Liters(L)	04-Sep-20
0001606493	-	ALUMINA POLISHING SUSPENSION TYPE 0.1CR ALPHA	64	Ounces(OZ)	04-Sep-20
0001606495	64-17-5	ETHYL ALCOHOL	4	Liters(L)	04-Sep-20
0001606496	1076-43-3	BENZENE-D6	50	Gram(GM)	04-Sep-20
0001606497	75621-03-3	CHAPS	1	Milliliter(ML)	04-Sep-20
0001606498	9012-36-6	SIGMACOTE SILICONE SOLUTION	100	Milliliter(ML)	04-Sep-20
0001606499	-	PELCO SILVER PASTE	50	Gram(GM)	04-Sep-20
0001606500	7647-14-5	SODIUM CHLORIDE	10	Kilograms(KG)	04-Sep-20
0001606501	57-13-6	UREA	500	Gram(GM)	04-Sep-20
0001606502	79-10-7	ACRYLIC ACID	500	Gram(GM)	04-Sep-20
0001606503	79-10-7	ACRYLIC ACID	500	Gram(GM)	04-Sep-20
0001606504	97-63-2	ETHYL METHACRYLATE	1	Liters(L)	04-Sep-20
0001606505	80-62-6	METHYL METHACRYLATE	1	Liters(L)	04-Sep-20
0001606506	-	RED INSULATING VARNISH	2	Ounces(OZ)	04-Sep-20
0001606508	-	RED INSULATING VARNISH	2	Ounces(OZ)	04-Sep-20
0001606507	-	RED INSULATING VARNISH	2	Ounces(OZ)	04-Sep-20
0001606509	-	RED INSULATING VARNISH	2	Ounces(OZ)	04-Sep-20
0001606510	29463-77-2	1 1 1 3 3 3-Hexafluoroisopropanol	25	Milliliter(ML)	04-Sep-20
0001606511	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606525	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606522	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606523	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606530	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606524	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606529	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606527	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606528	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606521	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606520	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606519	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606518	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606517	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606515	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606514	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606513	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606512	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606526	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
0001606516	-	SILICON SEALANT	3	Ounces(OZ)	04-Sep-20
V000006BAD	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	04-Sep-20
V000006BAF	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	04-Sep-20
V000006BB0	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	04-Sep-20
V000006BAC	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	04-Sep-20
V000006BAA	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	04-Sep-20
V000006BAE	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	04-Sep-20
V000006BB2	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	04-Sep-20
V000006BB1	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	04-Sep-20
V000006BAB	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	04-Sep-20
V000006BB3	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	04-Sep-20
V000006BB4	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	04-Sep-20
V000006BB5	-	Valvoline Dexron-VI Full Synthetic ATF	1	Quarts(QT)	04-Sep-20
V000006BC1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BBA	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BC0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BBF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BBE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BBB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BB9	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BBD	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006BC2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BB8	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BB7	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BB6	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BBC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	04-Sep-20
V000006BC3	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	04-Sep-20
V000006BC4	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	04-Sep-20
V000006BC5	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	04-Sep-20
V000006BC6	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	04-Sep-20
V000006BCA	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	04-Sep-20
V000006BC7	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	04-Sep-20
V000006BC8	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	04-Sep-20
V000006BC9	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	04-Sep-20
0001626398	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626409	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626405	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626406	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626404	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626403	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626402	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626399	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626400	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626401	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626408	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626407	-	PREMIUM STARTING FLUID	10.7	Ounces(OZ)	04-Sep-20
0001626410	-	HEAVY DUTY SILICONE	7.5	Ounces(OZ)	04-Sep-20
0001626411	-	HEAVY DUTY SILICONE	7.5	Ounces(OZ)	04-Sep-20
0001626412	-	Brakleen Brake Parts Cleaner (aerosol)	14	Ounces(OZ)	04-Sep-20
0001626413	-	Brakleen Brake Parts Cleaner (aerosol)	14	Ounces(OZ)	04-Sep-20
0001626414	-	3M Brand Super Trim Adhesive PN 08090	19	Ounces(OZ)	04-Sep-20
0001626415	-	3M SUPER TRIM ADHESIVE	19	Ounces(OZ)	04-Sep-20
0001626416	-	3M SUPER TRIM ADHESIVE	19	Ounces(OZ)	04-Sep-20
0001626417	-	Pyroil CARB & THROTTLE BODY CLEANER PYC16	13	Ounces(OZ)	04-Sep-20
0001626418	-	PB PENETRATING CATALYST	11	Ounces(OZ)	04-Sep-20
0001626419	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626428	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626426	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626420	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626421	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626422	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626423	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626430	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626425	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626427	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626429	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626424	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	04-Sep-20
0001626431	-	COPPER ANTI-SEIZE LUBRICANT	16	Ounces(OZ)	04-Sep-20
0001626432	-	COPPER ANTI-SEIZE LUBRICANT	16	Ounces(OZ)	04-Sep-20
0001626433	-	FUEL STABILIZER	8	Ounces(OZ)	04-Sep-20
0001626434	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626467	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626453	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626454	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626455	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626456	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626457	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626458	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626459	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626460	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626461	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626462	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626463	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626464	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626466	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626445	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626465	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626444	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626435	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626436	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626437	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626438	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626439	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626440	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626441	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626447	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626443	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626452	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626478	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626446	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626468	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626448	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626449	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626450	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626451	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626442	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626483	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626470	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626471	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626472	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626473	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626474	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626475	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626477	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626469	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626479	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626480	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626481	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626482	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626476	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	04-Sep-20
0001626484	-	THREAD SEALANT	1	Ounces(OZ)	04-Sep-20
0001626485	-	ULTRA BLACK GASKET MAKER	3.35	Ounces(OZ)	04-Sep-20
0001626486	-	HIGH-TEMP RED RTV SILICONE	3	Ounces(OZ)	04-Sep-20
0001565959	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001664048	-	5% NITRIC ACID IN WATER	1	Liters(L)	04-Sep-20
0001565960	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565995	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565994	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565993	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565992	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565991	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565990	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565996	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565988	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566000	-	SODA ASH	50	Pounds(LB)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565987	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565989	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565997	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565986	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565999	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565981	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566001	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566002	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566003	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566004	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566005	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566006	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566007	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566008	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565998	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565971	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565966	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565965	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566016	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565964	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566009	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565963	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565962	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565961	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565967	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565968	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565983	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565970	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565985	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565972	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565973	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565974	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565975	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565976	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565977	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565978	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565979	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565980	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565982	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565984	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001565969	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566029	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566058	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566035	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566034	-	SODA ASH	50	Pounds(LB)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566014	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566032	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566037	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566030	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566038	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566028	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566053	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566054	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566055	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566056	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566057	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566010	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566045	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566046	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566047	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566048	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566049	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566050	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566036	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566052	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566031	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566044	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566043	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566042	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566041	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566040	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566039	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566051	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566023	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566022	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566013	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566020	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566021	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566019	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566033	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566015	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566012	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566018	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566059	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566024	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566017	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566025	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566026	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566027	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566011	-	SODA ASH	50	Pounds(LB)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566060	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566062	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566063	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566064	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566065	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566066	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001566061	-	SODA ASH	50	Pounds(LB)	04-Sep-20
0001575607	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575614	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575648	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575615	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575636	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575610	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575616	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575612	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575628	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575613	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575635	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575611	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575626	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575609	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575608	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575621	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575620	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575619	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575622	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575623	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575630	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575625	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575617	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575627	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575629	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575631	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575632	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575633	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575634	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575618	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575624	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575685	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575694	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575654	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575653	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575652	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575679	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575680	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575681	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575682	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575656	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575684	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575677	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575686	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575687	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575688	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575689	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575690	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575691	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575692	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575658	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575683	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575669	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575659	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575660	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575661	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575662	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575663	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575664	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575665	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575666	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575655	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575668	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575695	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575670	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575671	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575672	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575673	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575674	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575657	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575675	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575676	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575667	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575642	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575638	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575639	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575640	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575650	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575637	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575693	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575641	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575678	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575643	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575644	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575645	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575646	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575647	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575701	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575700	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575698	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575697	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575649	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575699	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575696	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575702	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575703	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575704	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575705	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575706	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575651	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575707	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575765	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575757	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575710	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575759	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575756	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575761	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575762	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575770	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575764	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575766	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575767	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575768	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575769	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575763	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575786	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575773	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575776	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575794	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575793	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575792	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575779	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575774	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575778	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575795	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575785	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575784	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575783	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575782	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575781	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575780	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575777	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575802	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575772	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575791	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575790	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575806	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575758	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575805	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575775	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575803	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575771	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575801	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575800	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575799	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575798	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575797	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575796	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575804	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575711	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575737	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575708	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575709	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575736	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575735	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575734	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575732	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575730	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575729	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575728	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575727	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575726	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575725	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575738	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575716	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575720	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575721	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575760	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575719	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575789	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575724	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575717	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575723	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575715	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575714	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575713	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575712	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575722	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575733	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575718	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575731	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575741	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575742	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575743	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575744	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575745	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575746	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575740	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575749	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575748	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575751	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575752	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575753	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575787	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575788	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575754	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575755	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575747	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575739	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575750	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575807	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575810	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575812	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575809	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575808	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575813	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575814	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575815	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575820	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575821	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575822	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575816	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575819	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575817	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575811	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575818	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575535	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575541	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575537	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575536	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575538	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575539	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001575540	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BF4	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C08	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C1A	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C19	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C18	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C17	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C0C	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C16	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C1B	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C15	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C14	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C13	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C12	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C11	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C10	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C0F	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C07	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C0D	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C25	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C0B	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C0A	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C0E	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C28	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C09	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C02	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C03	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C2E	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C04	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C05	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C2D	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C2C	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C23	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C06	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C1C	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C27	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C26	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C24	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C22	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C21	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C20	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006C1F	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C1E	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C1D	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C2A	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BD6	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BE3	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BE2	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BE1	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BE0	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BDF	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BDE	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BDD	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BDC	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BDB	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BDA	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BD9	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BF6	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BD7	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BE6	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BD5	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BD4	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BD3	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BD2	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BD1	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BD0	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BCF	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BCE	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BCD	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BCC	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BCB	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BD8	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BF2	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C00	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BFF	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BFE	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BFD	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BFC	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BFB	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BFA	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BF9	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006BF8	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BF7	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BF5	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BE4	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BF3	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BE5	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BF1	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BF0	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BEF	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BEE	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BED	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BEC	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BEB	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BEA	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BE9	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BE8	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006BE7	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C01	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C2B	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C29	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C6C	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C78	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C77	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C76	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C75	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C74	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C73	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C72	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C71	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C70	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C6F	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C2F	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C6D	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C7B	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C6B	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C6A	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C69	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C89	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C67	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C65	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C8A	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C64	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C63	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C62	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C6E	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006C85	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C60	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C92	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C91	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C90	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C8F	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C8E	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C8D	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C8C	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C8B	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C88	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C79	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C86	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C7A	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C84	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C83	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C82	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C81	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C80	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C7F	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C7E	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C7D	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C7C	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C66	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C87	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C54	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C48	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C49	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C4A	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C4B	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C30	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C4D	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C68	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C4F	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C50	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C51	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C47	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C53	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C4C	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C55	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C56	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C57	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C58	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C59	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C5A	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006C5B	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C5C	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C5D	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C5E	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C5F	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C52	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C37	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C31	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C32	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C33	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C34	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C35	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C4E	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C36	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C46	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C38	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C39	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C3A	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C3B	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C41	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C3C	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C44	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C42	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C40	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C3F	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C3E	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C61	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C3D	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C45	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C43	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C9C	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006CA6	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C9D	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C9E	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C9F	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006CA0	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006CA1	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006CA2	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006CA3	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C97	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006CA5	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006CA7	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006CA9	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006CA8	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006CA4	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006C98	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C99	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C9A	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C96	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C95	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C94	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C93	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
V000006C9B	-	Stihl HP 2-Cycle Engine Oil	6.4	Ounces(OZ)	04-Sep-20
0001606531	007697-37-2	NITRIC ACID	2.5	Liters(L)	04-Sep-20
0001606532	007697-37-2	NITRIC ACID	2.5	Liters(L)	04-Sep-20
0001606533	56-81-5	GLYCEROL	500	Milliliter(ML)	04-Sep-20
0001606539	69011-17-2	AG MP-1M Anion Exchange Resin	500	Gram(GM)	04-Sep-20
0001606540	69011-17-2	AG MP-1M Anion Exchange Resin	500	Gram(GM)	04-Sep-20
0001606541	7440-22-4	FAST DRYING SILVER PAINT	30	Gram(GM)	04-Sep-20
0001606542	-	PELCO SILVER 415	30	Gram(GM)	04-Sep-20
0001606543	77-86-1	TRIS-HYDROXYMETHYL-AMINO-METHANE CRYSTALLINE	100	Gram(GM)	04-Sep-20
0001606544	9048-46-8	BOVINE SERUM ALBUMIN	1	Milliliter(ML)	04-Sep-20
0001606547	9048-46-8	BOVINE SERUM ALBUMIN	1	Milliliter(ML)	04-Sep-20
0001606546	9048-46-8	BOVINE SERUM ALBUMIN	1	Milliliter(ML)	04-Sep-20
0001606548	9048-46-8	BOVINE SERUM ALBUMIN	1	Milliliter(ML)	04-Sep-20
0001606545	9048-46-8	BOVINE SERUM ALBUMIN	1	Milliliter(ML)	04-Sep-20
0001606549	11110-52-4	SODIUM MERCURY AMALGAM BEADS 99.9+% (5% NA)	50	Gram(GM)	04-Sep-20
0001606552	7778-50-9	POTASSIUM DICHROMATE	250	Gram(GM)	04-Sep-20
0001606553	7718-54-9	NICKEL(II) CHLORIDE	5	Gram(GM)	04-Sep-20
0001606554	7718-54-9	NICKEL(II) CHLORIDE	5	Gram(GM)	04-Sep-20
0001606555	10025-73-7	CHROMIUM(III) CHLORIDE SUBLIMED ANHYDROUS	25	Gram(GM)	04-Sep-20
0001606556	10108-64-2	CADMIUM CHLORIDE	10	Gram(GM)	04-Sep-20
0001606557	7758-95-4	LEAD(II) CHLORIDE	10	Gram(GM)	04-Sep-20
0001606558	7447-39-4	COPPER(II) CHLORIDE	25	Gram(GM)	04-Sep-20
0001606559	7646-85-7	ZINC CHLORIDE	10	Gram(GM)	04-Sep-20
0001605290	-	Tin granules	1	Pounds(LB)	06-Sep-20
0001606217	-	TEVA RESIN	2	Milliliter(ML)	06-Sep-20
0001606218	-	TEVA RESIN	2	Milliliter(ML)	06-Sep-20
0001606219	-	TEVA RESIN	2	Milliliter(ML)	06-Sep-20
0001606220	-	TEVA RESIN	2	Milliliter(ML)	06-Sep-20
0001606221	-	TEVA RESIN	2	Milliliter(ML)	06-Sep-20
0001606222	-	TEVA RESIN	2	Milliliter(ML)	06-Sep-20
0001606223	64742-55-8	Parabar 10312	100	Milliliter(ML)	06-Sep-20
0001606224	64742-55-8	Parabar 10312	100	Milliliter(ML)	06-Sep-20
0001606225	62-31-7	DOPAMINE HYDROCHLORIDE	100	Gram(GM)	06-Sep-20
0001606226	7440-50-8	COPPER	1	Pounds(LB)	06-Sep-20
0001606227	7440-50-8	COPPER	1	Pounds(LB)	06-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606228	-	Tin granules	1	Pounds(LB)	06-Sep-20
0001606229	-	4-AMINOBENZYL ALCOHOL	25	Gram(GM)	06-Sep-20
0001606230	-	4-AMINOBENZYL ALCOHOL	25	Gram(GM)	06-Sep-20
0001606231	7664-41-7	AMMONIA	100	Milliliter(ML)	06-Sep-20
0001606232	7664-41-7	AMMONIA	100	Milliliter(ML)	06-Sep-20
0001606233	67-64-1	ACETONE	4	Liters(L)	06-Sep-20
0001606236	67-64-1	ACETONE	4	Liters(L)	06-Sep-20
0001606235	67-64-1	ACETONE	4	Liters(L)	06-Sep-20
0001606234	67-64-1	ACETONE	4	Liters(L)	06-Sep-20
0001606237	67-64-1	ACETONE	4	Liters(L)	06-Sep-20
0001606240	67-64-1	ACETONE	4	Liters(L)	06-Sep-20
0001606238	67-64-1	ACETONE	4	Liters(L)	06-Sep-20
0001606239	67-64-1	ACETONE	4	Liters(L)	06-Sep-20
0001606241	-	ALCOJET	1.8	Kilograms(KG)	06-Sep-20
0001606242	-	ALCOJET	1.8	Kilograms(KG)	06-Sep-20
0001606243	-	ALCOJET	1.8	Kilograms(KG)	06-Sep-20
0001606244	-	ALCOJET	1.8	Kilograms(KG)	06-Sep-20
0001606245	-	ALCOJET	1.8	Kilograms(KG)	06-Sep-20
0001606246	-	ALCOJET	1.8	Kilograms(KG)	06-Sep-20
0001606247	-	NORLAND OPTICAL ADHESIVE	1	Ounces(OZ)	06-Sep-20
0001606560	-	PELCO Conductive Carbon Glue	30	Gram(GM)	06-Sep-20
0001606561	-	PELCO Conductive Carbon Glue	30	Gram(GM)	06-Sep-20
0001606562	-	PELCO CONDUCTIVE GRAPHITE	20	Gram(GM)	06-Sep-20
0001606563	-	PELCO CONDUCTIVE GRAPHITE	20	Gram(GM)	06-Sep-20
0001606564	7429-90-5	ALUMINUM	1	Pounds(LB)	06-Sep-20
0001606565	7429-90-5	ALUMINUM	1	Pounds(LB)	06-Sep-20
0001606566	-	Castrol Braycote 601 EF Beige Low-Temperature Rocket Propellant Compatible Rust Preventive Grease	2	Ounces(OZ)	06-Sep-20
0001606567	-	SUPER GLUE	15	Gram(GM)	06-Sep-20
0001606568	7664-41-7	AMMONIA	475	Milliliter(ML)	06-Sep-20
0001606571	7664-41-7	AMMONIA	475	Milliliter(ML)	06-Sep-20
0001606569	7664-41-7	AMMONIA	475	Milliliter(ML)	06-Sep-20
0001606570	7664-41-7	AMMONIA	475	Milliliter(ML)	06-Sep-20
0001606572	-	ALL-IN-ONE STANDARD PH BUFFER	60	Milliliter(ML)	06-Sep-20
0001606573	-	IPA -Isopropyl Alcohol	500	Milliliter(ML)	07-Sep-20
0001606574	-	IPA -Isopropyl Alcohol	500	Milliliter(ML)	07-Sep-20
0001606579	16674-78-5	MAGNESIUM ACETATE TETRAHYDRATE	25	Gram(GM)	07-Sep-20
0001606580	6484-52-2	AMMONIUM NITRATE	2.5	Kilograms(KG)	07-Sep-20
0001606581	-	DNASE I	500	Milliliter(ML)	07-Sep-20
0001606582	-	DNASE I	500	Milliliter(ML)	07-Sep-20
0001606583	-	FluoroBrite DMEM	500	Milliliter(ML)	07-Sep-20
0001606586	629-03-8	1 6-DIBROMOHEXANE 98%	100	Milliliter(ML)	07-Sep-20
0001606587	80-62-6	METHYL METHACRYLATE	1	Liters(L)	07-Sep-20
0001606588	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	07-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606589	63231-69-6	MOLECULAR SIEVES	1	Kilograms(KG)	07-Sep-20
0001606590	429-42-5	TETRABUTYLAMMONIUM TETRAFLUOROBORATE	25	Gram(GM)	07-Sep-20
0001606591	429-42-5	TETRABUTYLAMMONIUM TETRAFLUOROBORATE	25	Gram(GM)	07-Sep-20
0001606592	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606593	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606594	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606595	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606599	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606596	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606600	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606601	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606602	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606603	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606604	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606605	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606597	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606598	-	DIAMOND SUSPENSION	16	Ounces(OZ)	07-Sep-20
0001606606	-	EPOXY KIT	1	Quarts(QT)	07-Sep-20
0001606607	-	EPOXY KIT	1	Quarts(QT)	07-Sep-20
0001606608	12069-32-8	BORON CARBIDE 800	1	Kilograms(KG)	07-Sep-20
0001565928	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	08-Sep-20
0001565932	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	08-Sep-20
0001565930	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	08-Sep-20
0001565929	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	08-Sep-20
0001565931	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	08-Sep-20
V000006CB8	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CB6	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CB0	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CB9	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CB5	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CB7	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CB4	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CB3	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CB2	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CB1	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CAE	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
V000006CAF	-	ARDEX FEATHER FINISH	10	Pounds(LB)	08-Sep-20
0001654818	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654819	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654853	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654820	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654852	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654854	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654855	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654857	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654858	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654821	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654856	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654840	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654849	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654848	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654846	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654839	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654844	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654843	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654842	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654850	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654841	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654847	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654831	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654832	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654833	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654834	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654835	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654836	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654837	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654838	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654822	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654825	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654830	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654829	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654823	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654828	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654827	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654826	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654824	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654845	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654851	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	08-Sep-20
0001654770	7440-59-7	HELIUM GAS	11	Gram(GM)	08-Sep-20
0001654771	7440-59-7	HELIUM GAS	11	Gram(GM)	08-Sep-20
0001654772	7440-59-7	HELIUM GAS	100	Liters(L)	08-Sep-20
0001654773	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654776	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654774	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654777	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654775	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654782	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654783	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654784	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654785	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654787	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654778	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654779	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654780	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654781	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654786	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Sep-20
0001654788	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654795	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654802	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654801	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654800	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654799	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654798	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654789	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654796	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654794	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654793	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654792	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654791	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654790	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654797	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Sep-20
0001654803	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654811	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654812	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654817	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654816	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654815	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654814	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654809	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654813	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654810	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654808	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654807	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654805	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654804	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001654806	-	ARGON GAS	220	Cubic Feet(CF)	08-Sep-20
0001606534	65039-09-0	1-ETHYL-3-METHYLIMIDAZOLIUM CHLORIDE	500	Gram(GM)	09-Sep-20
0001606535	174899-82-2	1-ethyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide	500	Gram(GM)	09-Sep-20
0001606536	382150-50-7	1-Hexyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide	250	Gram(GM)	09-Sep-20
0001606537	82113-65-3	BIS(TRIFLUOROMETHANE)SULFONIMIC	1	Kilograms(KG)	09-Sep-20
0001606538	608140-12-1	1-Methyl-1-propylpiperidinium bis(trifluoromethylsulfonyl)imide 99%	500	Gram(GM)	09-Sep-20
0001606550	1383436-85-8	1-Methyl-1-propylpiperidinium chloride 99%	500	Gram(GM)	09-Sep-20
0001606551	171058-17-6	1-n-Hexyl-3-methylimidazolium chloride	1	Kilograms(KG)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001565933	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	09-Sep-20
0001565935	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	09-Sep-20
0001565936	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	09-Sep-20
0001565937	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	09-Sep-20
0001565938	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	09-Sep-20
0001565939	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	09-Sep-20
0001565941	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	09-Sep-20
0001565940	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	09-Sep-20
0001565934	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	09-Sep-20
0001565942	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	09-Sep-20
0001565943	-	SHERWIN-WILLIAMS HARDENER	1	Gallon(GAL)	09-Sep-20
0001565945	-	SHERWIN-WILLIAMS HARDENER	1	Gallon(GAL)	09-Sep-20
0001565944	-	SHERWIN-WILLIAMS HARDENER	1	Gallon(GAL)	09-Sep-20
0001565946	-	SHERWIN-WILLIAMS HARDENER	1	Gallon(GAL)	09-Sep-20
0001606584	1831-63-6	Carboxymethyldiphenylphosphine oxide; 97%	1	Gram(GM)	09-Sep-20
0001606585	1831-63-6	Carboxymethyldiphenylphosphine oxide; 97%	1	Gram(GM)	09-Sep-20
0001606248	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606255	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606249	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606250	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606261	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606263	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606253	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606262	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606251	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606260	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606259	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606258	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606257	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606256	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606254	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606252	75-05-8	ACETONITRILE	4	Liters(L)	09-Sep-20
0001606264	-	Gibco PBS pH 7.2	500	Milliliter(ML)	09-Sep-20
0001606265	10387-40-3	POTASSIUM THIOACETATE	25	Gram(GM)	09-Sep-20
0001606266	75-36-5	ACETYL CHLORIDE	25	Gram(GM)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606267	-	Dodecyl Sulfate Sodium Salt	25	Gram(GM)	09-Sep-20
0001606268	7558-80-7	SODIUM PHOSPHATE MONOBASIC	25	Gram(GM)	09-Sep-20
0001606269	10035-10-6	HYDROBROMIC ACID	500	Milliliter(ML)	09-Sep-20
0001606270	10035-10-6	HYDROBROMIC ACID	500	Milliliter(ML)	09-Sep-20
0001606272	10035-10-6	HYDROBROMIC ACID	500	Milliliter(ML)	09-Sep-20
0001606271	10035-10-6	HYDROBROMIC ACID	500	Milliliter(ML)	09-Sep-20
0001606273	11-12-7	1-hexanol	1	Liters(L)	09-Sep-20
0001606274	141-78-6	ETHYL ACETATE	1	Liters(L)	09-Sep-20
0001606275	-	MED-6731 HIGH CONSISTENCY FLUOROSILICONE GREASE	6	Ounces(OZ)	09-Sep-20
0001558153	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558163	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558154	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558155	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558156	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558157	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558158	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558159	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558160	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558162	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558180	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558164	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558165	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558166	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558167	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558168	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558169	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558170	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558161	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558175	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558179	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558178	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558174	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558173	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558172	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558176	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558177	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558181	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558171	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001558182	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	09-Sep-20
0001606276	6232-88-8	ALPHA-BROMO-P-TOLUIC ACID	10	Gram(GM)	09-Sep-20
0001606277	7447-41-8	LITHIUM CHLORIDE ANHYDROUS	50	Gram(GM)	09-Sep-20
0001606278	-	LDH Cytotoxicity Assay	46	Milliliter(ML)	09-Sep-20
0001606279	1341-49-7	AMMONIUM BIFLUORIDE	4	Liters(L)	09-Sep-20
0001606280	-	ETHANOL ANHYDROUS	1	Gallon(GAL)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606281	653-34-9	2 3 4 5 6-PENTAFLUOROSTYRENE	25	Gram(GM)	09-Sep-20
0001606282	1497-49-0	Glutaconaldehydedianil Hydrochloride	25	Gram(GM)	09-Sep-20
0001606283	77-92-9	CITRIC ACID	500	Milliliter(ML)	09-Sep-20
0001606284	67-68-5	DIMETHYL SULFOXIDE	2.5	Liters(L)	09-Sep-20
0001606285	8020-83-5	MINERAL OIL WHITE HEAVY OR LIGHT (PARAFFIN OIL)	1	Liters(L)	09-Sep-20
0001606288	8020-83-5	MINERAL OIL WHITE HEAVY OR LIGHT (PARAFFIN OIL)	1	Liters(L)	09-Sep-20
0001606289	8020-83-5	MINERAL OIL WHITE HEAVY OR LIGHT (PARAFFIN OIL)	1	Liters(L)	09-Sep-20
0001606286	8020-83-5	MINERAL OIL WHITE HEAVY OR LIGHT (PARAFFIN OIL)	1	Liters(L)	09-Sep-20
0001606287	8020-83-5	MINERAL OIL WHITE HEAVY OR LIGHT (PARAFFIN OIL)	1	Liters(L)	09-Sep-20
0001606290	67-68-5	DIMETHYL SULFOXIDE	1	Liters(L)	09-Sep-20
0001606291	-	ZINC ACETATE DIHYDRATE 2	250	Gram(GM)	09-Sep-20
0001606292	-	AG 1-X4 RESIN	500	Gram(GM)	09-Sep-20
0001606293	-	AG 1-X8	500	Gram(GM)	09-Sep-20
0001606294	10424-65-4	TETRAMETHYLAMMONIUM HYDROXIDE PENTAHYDRATE	25	Gram(GM)	09-Sep-20
0001606638	24937-79-9	POLYVINYLIDENE FLUORIDE	100	Gram(GM)	09-Sep-20
0001606639	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606728	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606686	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606702	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606672	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606673	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606674	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606675	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606676	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606677	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606678	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606679	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606680	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606681	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606682	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606683	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606670	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606693	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606701	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606700	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606699	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606698	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606697	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606684	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606695	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606685	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606691	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606690	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606689	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606688	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606687	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606669	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606696	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606655	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606640	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606641	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606642	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606643	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606644	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606645	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606646	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606647	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606648	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606649	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606650	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606651	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606652	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606671	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606661	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606668	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606667	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606666	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606665	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606664	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606653	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606662	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606654	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606660	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606659	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606658	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606657	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606656	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606694	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606663	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606730	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606719	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606720	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606721	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606722	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606723	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606724	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606718	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606727	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606729	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606732	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606733	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606734	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606703	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606692	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606726	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606725	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606709	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606705	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606706	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606731	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606717	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606707	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606708	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606710	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606704	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606713	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606711	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606716	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606715	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606712	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606714	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606735	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606769	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606768	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606767	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606762	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606763	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606761	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606770	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606759	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606777	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606760	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606766	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606771	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606772	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606773	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606774	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606776	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606778	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606758	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606741	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606779	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606781	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606780	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606775	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606746	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606784	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606764	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606765	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606736	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606737	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606738	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606739	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606740	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606742	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606743	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606745	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606757	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606747	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606748	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606749	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606750	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606751	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606752	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606753	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606754	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606755	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606756	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606744	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606820	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606808	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606809	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606810	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606811	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606812	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606813	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606814	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606815	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606816	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606807	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606783	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606817	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606821	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606822	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606823	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606824	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606825	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606826	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606827	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606828	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606829	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606830	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606818	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606785	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606819	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606782	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606806	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606786	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606787	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606788	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606789	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606790	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606791	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606792	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606793	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606794	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606801	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606805	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606804	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606795	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606802	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606800	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606799	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606798	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606797	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606796	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606803	-	POLYVINYLSILOXANE	50	Milliliter(ML)	09-Sep-20
0001606831	333-93-7	PUTRESCINE	100	Milligram(MG)	09-Sep-20
0001606832	97-59-6	ALLANTOIN	50	Milligram(MG)	09-Sep-20
0001606833	77-06-5	GIBBERELLIC ACID	250	Milligram(MG)	09-Sep-20
0001606834	4136-37-2	Stachydrine chloride	25	Milligram(MG)	09-Sep-20
0001606835	501-16-6	trans-Caffeic acid	50	Milligram(MG)	09-Sep-20
0001606836	537-98-4	trans-Ferulic acid	50	Milligram(MG)	09-Sep-20
0001606837	2893-33-6	Pyridine-2 6-dicarbonitrile	5	Gram(GM)	09-Sep-20
0001606838	112-40-3	DODECANE	1	Liters(L)	09-Sep-20
0001606839	112-40-3	DODECANE	1	Liters(L)	09-Sep-20
0001606840	-	TRU RESIN	2	Milliliter(ML)	09-Sep-20
0001606841	-	TRU RESIN	2	Milliliter(ML)	09-Sep-20
0001606842	-	TRU RESIN	2	Milliliter(ML)	09-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606843	-	TRU RESIN	2	Milliliter(ML)	09-Sep-20
0001606844	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	09-Sep-20
0001606846	-	CloneJET PCR Cloning Kit	10	Milliliter(ML)	09-Sep-20
0001606847	-	HARDMAN DOUBLE/BUBBLE EPOXY	4	Gram(GM)	09-Sep-20
0001606848	-	HARDMAN DOUBLE/BUBBLE EPOXY	4	Gram(GM)	09-Sep-20
0001606849	-	HARDMAN EXTRA-FAST SETTING EPOXY KIT	4	Gram(GM)	09-Sep-20
0001606850	-	HARDMAN EXTRA-FAST SETTING EPOXY KIT	4	Gram(GM)	09-Sep-20
0001664049	7440-62-2	VANADIUM	400	Gram(GM)	09-Sep-20
0001606851	611-35-8	4-Chloroquinoline	1	Gram(GM)	09-Sep-20
0001606852	106-89-8	EPICHLOROHYDRIN	500	Milliliter(ML)	09-Sep-20
0001606853	109-99-9	TETRAHYDROFURAN	1	Liters(L)	09-Sep-20
0001606854	64-19-7	ACETIC ACID	500	Milliliter(ML)	09-Sep-20
0001606855	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606898	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606856	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606905	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606904	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606903	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606902	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606901	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606907	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606899	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606908	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606897	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606896	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606895	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606894	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606893	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606892	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606900	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606916	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606926	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606925	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606923	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606921	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606920	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606919	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606906	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606917	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606889	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606915	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606914	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606913	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606912	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606911	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606910	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606909	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606918	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606862	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606870	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606869	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606868	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606867	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606866	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606865	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606891	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606863	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606873	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606861	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606860	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606859	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606858	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606857	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606922	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606864	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606880	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606888	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606887	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606886	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606885	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606884	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606883	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606871	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606881	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606872	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606879	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606878	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606877	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606876	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606875	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606874	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606890	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606882	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001606924	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2.5	Liters(L)	09-Sep-20
0001459607	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459615	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459625	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459624	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459623	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459622	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459621	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459620	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459619	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459646	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459628	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459614	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459613	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459612	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459611	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459610	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459609	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459608	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459617	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459636	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459645	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001459644	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459643	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459642	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459641	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459640	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459639	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459626	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459637	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459627	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459635	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459634	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459633	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459632	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459631	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459630	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459629	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459616	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459638	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001459618	-	BENDIX HGH-18 CURING AGENT	40	Ounces(OZ)	09-Sep-20
0001605370	-	AZ 1518 Photoresist	1	Gallon(GAL)	09-Sep-20
0001606295	-	LB BROTH MILLER	500	Gram(GM)	09-Sep-20
0001606296	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606298	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606299	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606300	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606301	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606302	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606303	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606304	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606305	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606306	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606307	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606297	-	MICRO BLAST CANNED AIR	10	Ounces(OZ)	09-Sep-20
0001606308	16454-60-7	NEODYMIUM (III) NITRATE HEXHYDRATE	25	Gram(GM)	09-Sep-20
0001606309	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606319	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606320	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606317	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606316	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606311	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606318	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606310	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606315	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606312	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606313	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606314	-	L ASCORBIC ACID	100	Gram(GM)	09-Sep-20
0001606321	-	VACUUM PUMP OIL	4	Liters(L)	09-Sep-20
0001606324	-	VACUUM PUMP OIL	4	Liters(L)	09-Sep-20
0001606322	-	VACUUM PUMP OIL	4	Liters(L)	09-Sep-20
0001606323	-	VACUUM PUMP OIL	4	Liters(L)	09-Sep-20
0001606325	64-17-5	ALCOHOL REAGENT	4	Liters(L)	09-Sep-20
0001606326	64-17-5	ALCOHOL REAGENT	4	Liters(L)	09-Sep-20
0001606328	64-17-5	ALCOHOL REAGENT	4	Liters(L)	09-Sep-20
0001606327	64-17-5	ALCOHOL REAGENT	4	Liters(L)	09-Sep-20
0001606329	007697-37-2	NITRIC ACID	2.5	Liters(L)	09-Sep-20
0001606331	007697-37-2	NITRIC ACID	2.5	Liters(L)	09-Sep-20
0001606330	007697-37-2	NITRIC ACID	2.5	Liters(L)	09-Sep-20
0001606332	007697-37-2	NITRIC ACID	2.5	Liters(L)	09-Sep-20
0001606333	-	Benefect Botanical Disinfectant	1	Gallon(GAL)	09-Sep-20
0001606340	-	Benefect Botanical Disinfectant	1	Gallon(GAL)	09-Sep-20
0001606335	-	Benefect Botanical Disinfectant	1	Gallon(GAL)	09-Sep-20
0001606334	-	Benefect Botanical Disinfectant	1	Gallon(GAL)	09-Sep-20
0001606336	-	Benefect Botanical Disinfectant	1	Gallon(GAL)	09-Sep-20
0001606338	-	Benefect Botanical Disinfectant	1	Gallon(GAL)	09-Sep-20
0001606337	-	Benefect Botanical Disinfectant	1	Gallon(GAL)	09-Sep-20
0001606339	-	Benefect Botanical Disinfectant	1	Gallon(GAL)	09-Sep-20
0001606341	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	09-Sep-20
0001606342	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	09-Sep-20
0001606343	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	09-Sep-20
0001606344	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	09-Sep-20
0001606345	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	09-Sep-20
0001606346	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	09-Sep-20
0001606349	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	09-Sep-20
0001606348	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	09-Sep-20
0001606347	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	09-Sep-20
0001606350	2420-87-3	3 3' 4 4'-BIPHENYLTETRACARBOXYLIC DIANHYDRIDE	500	Gram(GM)	09-Sep-20
0001606927	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606934	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606938	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606928	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606929	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606930	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606931	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606933	-	ACETONE ACS	4	Liters(L)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606935	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606936	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606937	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606932	-	ACETONE ACS	4	Liters(L)	09-Sep-20
0001606939	-	EPON 815C RESIN	1	Liters(L)	09-Sep-20
0001606940	-	EPON 815C RESIN	1	Liters(L)	09-Sep-20
0001423309	-	910 FS METAL BONDING ADHESIVE	1	Ounces(OZ)	09-Sep-20
0001423314	-	910 FS METAL BONDING ADHESIVE	1	Ounces(OZ)	09-Sep-20
0001423315	-	910 FS METAL BONDING ADHESIVE	1	Ounces(OZ)	09-Sep-20
0001423313	-	910 FS METAL BONDING ADHESIVE	1	Ounces(OZ)	09-Sep-20
0001423316	-	910 FS METAL BONDING ADHESIVE	1	Ounces(OZ)	09-Sep-20
0001423310	-	910 FS METAL BONDING ADHESIVE	1	Ounces(OZ)	09-Sep-20
0001423317	-	910 FS METAL BONDING ADHESIVE	1	Ounces(OZ)	09-Sep-20
0001423318	-	910 FS METAL BONDING ADHESIVE	1	Ounces(OZ)	09-Sep-20
0001423312	-	910 FS METAL BONDING ADHESIVE	1	Ounces(OZ)	09-Sep-20
0001423311	-	910 FS METAL BONDING ADHESIVE	1	Ounces(OZ)	09-Sep-20
0001423727	-	RUBBER ADHESIVE	5	Ounces(OZ)	09-Sep-20
0001423734	-	RUBBER ADHESIVE	5	Ounces(OZ)	09-Sep-20
0001423733	-	RUBBER ADHESIVE	5	Ounces(OZ)	09-Sep-20
0001423731	-	RUBBER ADHESIVE	5	Ounces(OZ)	09-Sep-20
0001423730	-	RUBBER ADHESIVE	5	Ounces(OZ)	09-Sep-20
0001423735	-	RUBBER ADHESIVE	5	Ounces(OZ)	09-Sep-20
0001423729	-	RUBBER ADHESIVE	5	Ounces(OZ)	09-Sep-20
0001423728	-	RUBBER ADHESIVE	5	Ounces(OZ)	09-Sep-20
0001423732	-	RUBBER ADHESIVE	5	Ounces(OZ)	09-Sep-20
0001606941	-	INSTANT BONDING ADHESIVE	15	Gram(GM)	09-Sep-20
0001606942	25322-68-3	POLYETHYLENE GLYCOL 400	1	Liters(L)	09-Sep-20
0001606943	138564-59-7	5-Methyl-2-[(2-nitrophenyl)amino]-3-thiophenecarbonitrile	2.5	Gram(GM)	09-Sep-20
0001606944	937-14-4	3-CHLOROPEROXYBENZOIC ACID	25	Gram(GM)	09-Sep-20
0001606945	17014-71-0	POTASSIUM PEROXIDE	250	Gram(GM)	09-Sep-20
0001606946	7440-09-7	POTASSIUM	5	Gram(GM)	09-Sep-20
0001606947	7440-09-7	POTASSIUM	5	Gram(GM)	09-Sep-20
0001606948	7440-09-7	POTASSIUM	5	Gram(GM)	09-Sep-20
0001606949	7440-09-7	POTASSIUM	5	Gram(GM)	09-Sep-20
0001606950	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606954	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606951	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606952	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606953	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606969	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606981	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606980	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606979	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606978	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606977	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606976	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606975	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606974	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606973	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606972	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606964	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606970	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606955	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606968	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606967	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606966	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606965	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606963	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606962	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606961	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606960	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606959	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606958	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606957	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606956	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606971	-	DeconGel 1108 1127 1128	1	Liters(L)	09-Sep-20
0001606982	67-68-5	CellEvent Caspase-3/7 Green Detection Reagent	100	Milliliter(ML)	09-Sep-20
0001565947	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565958	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565949	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565950	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565951	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565952	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565953	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565954	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565955	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565956	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565957	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001565948	-	VACUUM PUMP OIL	1	Quarts(QT)	10-Sep-20
0001566067	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part B) Hardener	1	Gallon(GAL)	10-Sep-20
0001566068	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part B) Hardener	1	Gallon(GAL)	10-Sep-20
0001566070	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part B) Hardener	1	Gallon(GAL)	10-Sep-20
0001566069	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part B) Hardener	1	Gallon(GAL)	10-Sep-20
0001606983	7786-30-3	MAGNESIUM CHLORIDE	1	Kilograms(KG)	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001606984	76-05-1	TRIFLUOROACETIC ACID	500	Gram(GM)	10-Sep-20
0001566071	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	10-Sep-20
0001566074	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	10-Sep-20
0001566073	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	10-Sep-20
0001566075	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	10-Sep-20
0001566076	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	10-Sep-20
0001566077	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	10-Sep-20
0001566078	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	10-Sep-20
0001566072	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	10-Sep-20
0001606985	-	ANION EXCHANGE AG1-X8 100-200 MESH	500	Gram(GM)	10-Sep-20
0001606986	-	BORANE TETRAHYDROFURAN	800	Milliliter(ML)	10-Sep-20
0001606987	6477-29-8	1 3-Dimesityl-1 3-propanedione	1	Gram(GM)	10-Sep-20
0001606988	7789-20-0	DEUTERIUM OXIDE	500	Gram(GM)	10-Sep-20
0001566079	-	SULLUBE COMPRESSOR FLUID	5	Gallon(GAL)	10-Sep-20
0001606989	123-86-4	N-BUTYL ACETATE	1	Liters(L)	10-Sep-20
0001606990	-	SODIUM DODECYL SULFATE	250	Gram(GM)	10-Sep-20
0001606991	7647-17-8	CESIUM CHLORIDE	25	Gram(GM)	10-Sep-20
V000006CC2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CE6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CE7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CE8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CE9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CC7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CEA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CEB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CEC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CC6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CC5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CE5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CC9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CC3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CC8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CCB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CED	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CEE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CEF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CF0	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006CF1	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CF2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CF3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CC4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CD0	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CCC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CCD	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CCA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CCF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CE4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CD1	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CD2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CD3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CD4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CD5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CD6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CD7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CD8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CDC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CD9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CE2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CE1	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CDA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CDB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CE0	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CCE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CDF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CDE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CE3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
V000006CDD	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	10-Sep-20
0001606992	429-42-5	TETRABUTYLAMMONIUM TETRAFLUOROBORATE	25	Gram(GM)	10-Sep-20
0001606993	5888-33-5	Isobornyl acrylate	1	Liters(L)	10-Sep-20
0001606994	-	No Clean Rosin Flux	10	Milligram(MG)	10-Sep-20
0001606995	-	No Clean Rosin Flux	10	Milligram(MG)	10-Sep-20
0001606996	-	No Clean Rosin Flux	10	Milligram(MG)	10-Sep-20
0001606997	-	No Clean Rosin Flux	10	Milligram(MG)	10-Sep-20
0001606998	-	ACETONE ACS	4	Liters(L)	10-Sep-20
0001607000	-	ACETONE ACS	4	Liters(L)	10-Sep-20
0001606999	-	ACETONE ACS	4	Liters(L)	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607001	-	ACETONE ACS	4	Liters(L)	10-Sep-20
0001566080	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001607002	67-64-1	ACETONE	4	Liters(L)	10-Sep-20
0001566091	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566096	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566095	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566094	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566092	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566085	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566090	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566089	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566088	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566087	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566086	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566081	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566082	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566083	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566084	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566093	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566099	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566103	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566102	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566101	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566097	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566100	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001566098	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	10-Sep-20
0001607003	-	2-PROPANOL	4	Liters(L)	10-Sep-20
0001607004	9002-18-0	AGAR	500	Gram(GM)	10-Sep-20
0001607005	144-62-7	OXALIC ACID	100	Gram(GM)	10-Sep-20
0001607006	56-23-5	CARBON TETRACHLORIDE	1	Liters(L)	10-Sep-20
0001607007	10026-11-6	ZIRCONIUM(IV) CHLORIDE	5	Gram(GM)	10-Sep-20
0001607008	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	10-Sep-20
0001607016	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	10-Sep-20
0001607009	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	10-Sep-20
0001607017	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	10-Sep-20
0001607015	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	10-Sep-20
0001607014	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	10-Sep-20
0001607013	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	10-Sep-20
0001607012	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	10-Sep-20
0001607011	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	10-Sep-20
0001607010	-	DULBECCO'S PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	10-Sep-20
0001607018	-	Neurobasal Medium	500	Milliliter(ML)	10-Sep-20
0001607019	67-68-5	CellEvent Caspase-3/7 Green Detection Reagent	25	Microliter	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607020	67-68-5	CellEvent Caspase-3/7 Green Detection Reagent	25	Microliter	10-Sep-20
0001607021	67-63-0	ISOPROPYL ALCOHOL	8	Kilograms(KG)	10-Sep-20
0001607022	7664-39-3	HYDROFLUORIC ACID	100	Milliliter(ML)	10-Sep-20
0001607141	-	TRU RESIN	2	Milliliter(ML)	10-Sep-20
0001607142	-	TRU RESIN	2	Milliliter(ML)	10-Sep-20
0001566104	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566113	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566114	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566112	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566111	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566110	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566109	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566108	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566107	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566106	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566105	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	10-Sep-20
0001566115	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566118	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566125	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566124	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566123	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566122	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566121	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566119	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566117	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566116	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566120	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	10-Sep-20
0001566126	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
0001566133	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
0001566132	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
0001566131	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
0001566130	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
0001566129	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
0001566128	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
0001566127	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
V000006CF7	-	SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
V000006CF6	-	SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
V000006CF9	-	SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
V000006CFA	-	SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006CFB	-	SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
V000006CF5	-	SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
V000006CF8	-	SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
V000006CF4	-	SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	10-Sep-20
0001602388	-	ZIRCONIA THERMAL SPRAY PS	10	Gram(GM)	10-Sep-20
0001602389	-	ZIRCONIA THERMAL SPRAY PS	10	Gram(GM)	10-Sep-20
0001602390	-	ZIRCONIA THERMAL SPRAY PS	10	Gram(GM)	10-Sep-20
0001605023	-	THERMAL SPRAY POWDER (ACICULAR)	14	Gram(GM)	10-Sep-20
0001605025	-	THERMAL SPRAY POWDER (ACICULAR)	14	Gram(GM)	10-Sep-20
0001605024	-	THERMAL SPRAY POWDER (ACICULAR)	14	Gram(GM)	10-Sep-20
0001605291	-	E. coli RNA Polymerase Holoenzyme	100	Milliliter(ML)	10-Sep-20
0001607023	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	10-Sep-20
0001607027	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	10-Sep-20
0001607028	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	10-Sep-20
0001607025	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	10-Sep-20
0001607029	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	10-Sep-20
0001607030	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	10-Sep-20
0001607024	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	10-Sep-20
0001607026	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	10-Sep-20
0001607031	-	Phosphorus (Reactive) TNT Reagent Set Low Range	100	Milliliter(ML)	10-Sep-20
0001607038	-	Phosphorus (Reactive) TNT Reagent Set Low Range	100	Milliliter(ML)	10-Sep-20
0001607037	-	Phosphorus (Reactive) TNT Reagent Set Low Range	100	Milliliter(ML)	10-Sep-20
0001607036	-	Phosphorus (Reactive) TNT Reagent Set Low Range	100	Milliliter(ML)	10-Sep-20
0001607035	-	Phosphorus (Reactive) TNT Reagent Set Low Range	100	Milliliter(ML)	10-Sep-20
0001607034	-	Phosphorus (Reactive) TNT Reagent Set Low Range	100	Milliliter(ML)	10-Sep-20
0001607033	-	Phosphorus (Reactive) TNT Reagent Set Low Range	100	Milliliter(ML)	10-Sep-20
0001607040	-	Phosphorus (Reactive) TNT Reagent Set Low Range	100	Milliliter(ML)	10-Sep-20
0001607039	-	Phosphorus (Reactive) TNT Reagent Set Low Range	100	Milliliter(ML)	10-Sep-20
0001607032	-	Phosphorus (Reactive) TNT Reagent Set Low Range	100	Milliliter(ML)	10-Sep-20
0001607041	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607064	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607052	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607069	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607068	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607067	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607065	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607063	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607062	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607061	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607059	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607057	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607056	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607055	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607070	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607053	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607060	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607051	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607050	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607049	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607048	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607047	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607046	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607045	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607044	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607043	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607042	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607066	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607054	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607058	-	INSTANT ADHESIVE	25	Milliliter(ML)	10-Sep-20
0001607071	-	EPOXY	0.85	Ounces(OZ)	10-Sep-20
0001607072	-	EPOXY	0.85	Ounces(OZ)	10-Sep-20
0001607073	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607085	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607084	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607083	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607082	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607081	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607080	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607079	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607078	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607077	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607076	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607074	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607089	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607088	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607093	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607098	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607097	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607096	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607095	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607094	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607092	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607087	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607090	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607075	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607091	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607086	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	10-Sep-20
0001607099	25928-81-8	Polybenzimidazole	1	Pounds(LB)	10-Sep-20
0001607100	-	NucBlue Fixed Cell ReadyProbes Reagent	2.5	Milliliter(ML)	10-Sep-20
0001607101	1914-99-4	CHLOROPHOSPHONAZO III	100	Milligram(MG)	10-Sep-20
0001607102	326-91-0	THENOYLTRIFLUOROACETONE	100	Gram(GM)	10-Sep-20
0001607103	-	POLY ETHER-ETHER KETONE (PEEK)	1000	Gram(GM)	10-Sep-20
0001607104	10294-33-4	BORON TRIBROMIDE	50	Gram(GM)	10-Sep-20
0001607105	-	PHOSPHOROUS TRICHLORIDE REAGENT PLUS	50	Gram(GM)	10-Sep-20
0001607106	516-12-1	N-IODOSUCCINIMIDE	100	Gram(GM)	10-Sep-20
0001607107	3058-39-7	4-Iodobenzonitrile	10	Gram(GM)	10-Sep-20
0001607108	10200-59-6	2-Thiazolecarboxaldehyde	5	Gram(GM)	10-Sep-20
0001607109	-	SULFURIC ACID N/50	1	Quarts(QT)	10-Sep-20
0001607110	-	SULFURIC ACID N/50	1	Quarts(QT)	10-Sep-20
0001607111	-	SULFURIC ACID N/50	1	Quarts(QT)	10-Sep-20
0001607113	-	SULFURIC ACID N/50	1	Quarts(QT)	10-Sep-20
0001607116	-	SULFURIC ACID N/50	1	Quarts(QT)	10-Sep-20
0001607115	-	SULFURIC ACID N/50	1	Quarts(QT)	10-Sep-20
0001607114	-	SULFURIC ACID N/50	1	Quarts(QT)	10-Sep-20
0001607112	-	SULFURIC ACID N/50	1	Quarts(QT)	10-Sep-20
0001607118	-	PELCO CONDUCTIVE GRAPHITE	30	Gram(GM)	10-Sep-20
0001607121	-	PELCO CONDUCTIVE GRAPHITE	30	Gram(GM)	10-Sep-20
0001607120	-	PELCO CONDUCTIVE GRAPHITE	30	Gram(GM)	10-Sep-20
0001607119	-	PELCO CONDUCTIVE GRAPHITE	30	Gram(GM)	10-Sep-20
0001607122	57-55-6	PROPYLENE GLYCOL	1	Liters(L)	10-Sep-20
0001607123	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Sep-20
0001607125	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Sep-20
0001607124	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Sep-20
0001607132	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Sep-20
0001607131	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Sep-20
0001607126	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Sep-20
0001607130	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Sep-20
0001607129	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Sep-20
0001607128	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Sep-20
0001607127	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Sep-20
0001607133	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607137	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607139	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607134	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607135	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607136	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607138	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607140	64-18-6	FORMIC ACID	10	Milliliter(ML)	10-Sep-20
0001606629	56-81-5	GLYCEROL	1000	Milliliter(ML)	10-Sep-20
0001606630	-	MANGANESE(II) ACETATE TETRAHYDRATE	5	Gram(GM)	10-Sep-20
0001606631	-	MANGANESE(II) ACETATE TETRAHYDRATE	5	Gram(GM)	10-Sep-20
0001606632	75-89-8	2 2 2-TRIFLUOROETHANOL	100	Gram(GM)	10-Sep-20
0001606633	75-89-8	2 2 2-TRIFLUOROETHANOL	100	Gram(GM)	10-Sep-20
0001542272	87-66-1	PYROGALLOL	25	Gram(GM)	10-Sep-20
0001606634	-	SOLUTION A	100	Milligram(MG)	10-Sep-20
0001606635	63231-66-3	POLYETHYLENE CHLORINATED	250	Gram(GM)	10-Sep-20
0001542273	-	3 4-Dihydroxybenzoic acid 97%	25	Gram(GM)	10-Sep-20
0001606636	109-78-4	3-HYDROXYPROPIONITRILE (ETHYLENE CYANOHYDRIN HYDRACRYLONITRILE)	250	Gram(GM)	10-Sep-20
0001606637	10026-11-6	ZIRCONIUM(IV) CHLORIDE	25	Gram(GM)	10-Sep-20
0001542274	100-21-0	TEREPHTHALIC ACID	100	Gram(GM)	10-Sep-20
0001542275	120-80-9	1 2-Dihydroxybenzene	100	Gram(GM)	10-Sep-20
0001575542	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575566	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575567	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575575	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575568	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575564	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575569	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575565	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575570	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575571	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575572	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575574	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575576	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575577	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575563	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575573	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575551	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575543	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575545	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575546	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575547	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575548	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575544	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575550	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575562	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575552	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575553	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575554	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575555	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575556	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575557	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575558	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575559	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575561	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575549	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575560	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
V000006CFF	-	LOW VISCOSITY WHITE WATER BASED WEATHER BARRIER COATING	1	Gallon(GAL)	10-Sep-20
V000006D00	-	LOW VISCOSITY WHITE WATER BASED WEATHER BARRIER COATING	1	Gallon(GAL)	10-Sep-20
V000006CFE	-	LOW VISCOSITY WHITE WATER BASED WEATHER BARRIER COATING	1	Gallon(GAL)	10-Sep-20
V000006CFD	-	LOW VISCOSITY WHITE WATER BASED WEATHER BARRIER COATING	1	Gallon(GAL)	10-Sep-20
V000006CFC	-	LOW VISCOSITY WHITE WATER BASED WEATHER BARRIER COATING	1	Gallon(GAL)	10-Sep-20
0001566134	-	Startex Xylene	128	Ounces(OZ)	10-Sep-20
0001566136	-	Startex Xylene	128	Ounces(OZ)	10-Sep-20
0001566135	-	Startex Xylene	128	Ounces(OZ)	10-Sep-20
0001566137	-	Startex Xylene	128	Ounces(OZ)	10-Sep-20
0001575578	-	VULKEM 116 POLYURETHANE SEALANT	10.1	Ounces(OZ)	10-Sep-20
0001575579	-	VULKEM 116 POLYURETHANE SEALANT	10.1	Ounces(OZ)	10-Sep-20
0001575580	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575582	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001575581	-	ABC Fiberspray	8	Ounces(OZ)	10-Sep-20
0001566138	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566159	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566161	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566160	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566149	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566139	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566141	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566142	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566143	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566144	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566145	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566146	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566148	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566150	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566151	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566152	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566153	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566154	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566156	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566147	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566157	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566155	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566158	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
0001566140	-	Finium DTM-AT S/G Acrylic W/B	121.6	Ounces(OZ)	10-Sep-20
V000006D09	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	10-Sep-20
V000006D0A	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	10-Sep-20
V000006D03	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	10-Sep-20
V000006D04	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	10-Sep-20
V000006D05	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	10-Sep-20
V000006D02	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	10-Sep-20
V000006D06	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	10-Sep-20
V000006D08	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	10-Sep-20
V000006D01	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	10-Sep-20
V000006D07	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	10-Sep-20
V000006D0B	-	AMERCOAT 880 GLASSFLAKE ADDITIVE	0.55	Gallon(GAL)	10-Sep-20
V000006D0C	-	AMERCOAT 880 GLASSFLAKE ADDITIVE	0.55	Gallon(GAL)	10-Sep-20
V000006D0D	-	AMERCOAT 880 GLASSFLAKE ADDITIVE	0.55	Gallon(GAL)	10-Sep-20
V000006D0E	-	AMERCOAT 880 GLASSFLAKE ADDITIVE	0.55	Gallon(GAL)	10-Sep-20
V000006D0F	-	AMERCOAT 880 GLASSFLAKE ADDITIVE	0.55	Gallon(GAL)	10-Sep-20
V000006D10	-	AMERCOAT 880 GLASSFLAKE ADDITIVE	0.55	Gallon(GAL)	10-Sep-20
V000006D12	-	AMERCOAT 880 GLASSFLAKE ADDITIVE	0.55	Gallon(GAL)	10-Sep-20
V000006D11	-	AMERCOAT 880 GLASSFLAKE ADDITIVE	0.55	Gallon(GAL)	10-Sep-20
V000006D13	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	10-Sep-20
V000006D14	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	10-Sep-20
V000006D15	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	10-Sep-20
V000006D16	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	10-Sep-20
V000006D17	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	10-Sep-20
V000006D18	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	10-Sep-20
V000006D19	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	10-Sep-20
V000006D1A	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	10-Sep-20
0001566162	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	10-Sep-20
0001566168	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	10-Sep-20
0001566167	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	10-Sep-20
0001566166	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	10-Sep-20
0001566165	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	10-Sep-20
0001566164	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	10-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566163	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	10-Sep-20
0001566169	-	Finium DTM-AT S/G Acrylic N/B	114	Ounces(OZ)	10-Sep-20
V000006D31	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D26	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D2C	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D1B	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D1C	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D1D	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D1E	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D1F	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D20	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D21	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D22	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D23	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D25	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D27	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D28	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D29	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D2A	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D2B	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D32	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D30	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D2F	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D2E	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D2D	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
V000006D24	-	SKID-TEX ST30 ANTI SLIP	1	Pounds(LB)	10-Sep-20
0001604993	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605022	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605004	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605007	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001604995	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001604996	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001604997	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001604998	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001604999	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605000	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605001	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605002	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605003	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001604994	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605012	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605005	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605006	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605010	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605009	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605011	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605013	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605014	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605015	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605008	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605017	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605018	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605019	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605020	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605021	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605016	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	12-Sep-20
0001605026	-	IRON STANDARD 1000 10 000 UG/ML	125	Milliliter(ML)	12-Sep-20
0001605027	-	IRON STANDARD 1000 10 000 UG/ML	125	Milliliter(ML)	12-Sep-20
0001605028	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605030	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605038	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605047	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605032	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605033	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605034	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605035	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605036	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605037	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605031	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605039	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605040	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605041	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605042	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605043	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605044	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605046	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605029	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605045	64-17-5	ETHYL ALCOHOL	1	Gallon(GAL)	12-Sep-20
0001605292	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605295	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605294	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605293	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605298	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605296	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605303	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605300	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605302	67-56-1	METHANOL	4	Liters(L)	12-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605301	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605299	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605297	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001605304	-	PSC Cryopreservation Kit	50	Milliliter(ML)	12-Sep-20
0001605305	-	PSC Cryopreservation Kit	50	Milliliter(ML)	12-Sep-20
0001605306	-	Copper(II) sulfate	500	Gram(GM)	12-Sep-20
0001605372	67-56-1	METHANOL	1	Gallon(GAL)	12-Sep-20
0001605374	67-56-1	METHANOL	1	Gallon(GAL)	12-Sep-20
0001605375	67-56-1	METHANOL	1	Gallon(GAL)	12-Sep-20
0001605373	67-56-1	METHANOL	1	Gallon(GAL)	12-Sep-20
0001605376	772-28-4	HYDROGEN PEROXIDE - 30%	500	Milliliter(ML)	12-Sep-20
0001605377	772-28-4	HYDROGEN PEROXIDE - 30%	500	Milliliter(ML)	12-Sep-20
0001605378	60-29-7	ETHYL ETHER	4	Liters(L)	12-Sep-20
0001605379	60-29-7	ETHYL ETHER	4	Liters(L)	12-Sep-20
0001605380	60-29-7	ETHYL ETHER	4	Liters(L)	12-Sep-20
0001605381	60-29-7	ETHYL ETHER	4	Liters(L)	12-Sep-20
0001605382	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605387	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605393	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605392	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605391	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605390	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605388	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605384	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605386	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605385	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605383	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605389	877-24-7	BUFFER PH 4 (RED BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605394	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605400	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605398	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605405	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605404	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605403	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605402	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605401	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605399	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605397	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605396	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605395	-	BUFFER PH 10 (BLUE BUFFER)	500	Milliliter(ML)	12-Sep-20
0001605406	-	Ethyl Acetate Reagent ACS	4	Liters(L)	12-Sep-20
0001605409	-	Ethyl Acetate Reagent ACS	4	Liters(L)	12-Sep-20
0001605407	-	Ethyl Acetate Reagent ACS	4	Liters(L)	12-Sep-20
0001605408	-	Ethyl Acetate Reagent ACS	4	Liters(L)	12-Sep-20
0001605410	73513-42-5	HEXANES	4	Liters(L)	12-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001605413	73513-42-5	HEXANES	4	Liters(L)	12-Sep-20
0001605412	73513-42-5	HEXANES	4	Liters(L)	12-Sep-20
0001605411	73513-42-5	HEXANES	4	Liters(L)	12-Sep-20
0001605414	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	500	Milliliter(ML)	12-Sep-20
0001607143	13266-83-6	Cerium (III) oxalate nonahydrate	50	Gram(GM)	12-Sep-20
0001607144	120-12-7	ANTHRACENE	25	Gram(GM)	12-Sep-20
0001607145	10075-85-1	9 10-BIS(PHENYLETHYNYL)ANTHRACENE	5	Gram(GM)	12-Sep-20
0001607146	92-71-7	2 5-DIPHENYLOXAZOLE	100	Gram(GM)	12-Sep-20
0001607147	92-94-4	P-TERPHENYL	50	Gram(GM)	12-Sep-20
0001607148	7732-18-5	ULTRASONIC CLEANING SOLUTION	1	Gallon(GAL)	12-Sep-20
0001607149	107-21-1	ETHYLENE GLYCOL	5	Liters(L)	12-Sep-20
0001607150	123-75-1	PYRROLIDINE	500	Milliliter(ML)	12-Sep-20
0001607155	123-75-1	PYRROLIDINE	500	Milliliter(ML)	12-Sep-20
0001607151	123-75-1	PYRROLIDINE	500	Milliliter(ML)	12-Sep-20
0001607152	123-75-1	PYRROLIDINE	500	Milliliter(ML)	12-Sep-20
0001607154	123-75-1	PYRROLIDINE	500	Milliliter(ML)	12-Sep-20
0001607153	123-75-1	PYRROLIDINE	500	Milliliter(ML)	12-Sep-20
0001607156	7447-40-7	POTASSIUM CHLORIDE	500	Gram(GM)	12-Sep-20
0001607157	26628-22-8	SODIUM AZIDE	25	Gram(GM)	12-Sep-20
0001607158	24424-99-5	Di-tert-butyl pyrocarbonate	1	Kilograms(KG)	12-Sep-20
0001607159	60-29-7	ETHYL ETHER	1	Liters(L)	12-Sep-20
0001607160	7664-39-3	HYDROFLUORIC ACID OPTIMA	250	Milliliter(ML)	12-Sep-20
0001607161	108-93-0	CYCLOHEXANOL	2.5	Liters(L)	12-Sep-20
0001607162	-	STRONTIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607163	-	STRONTIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607164	-	YTTRIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607165	-	YTTRIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607166	-	ZIRCONIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607167	-	ZIRCONIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607168	-	MOLYBDENUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607169	-	MOLYBDENUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607170	-	SILVER STANDARD	125	Milliliter(ML)	12-Sep-20
0001607171	-	SILVER STANDARD	125	Milliliter(ML)	12-Sep-20
0001607172	-	CESIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607173	-	CESIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607174	7440-43-9	CADMIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607175	7440-43-9	CADMIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607176	-	BARIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607177	-	BARIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607178	-	CERIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607179	-	CERIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607180	-	NEODYMIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607181	-	NEODYMIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607182	-	SAMARIUM STANDARD	125	Milliliter(ML)	12-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607183	-	SAMARIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607184	-	EUROPIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607185	-	EUROPIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607186	-	TERBIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607187	-	TERBIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607188	-	ETHANOL 190	2.5	Liters(L)	12-Sep-20
0001607191	-	ETHANOL 190	2.5	Liters(L)	12-Sep-20
0001607190	-	ETHANOL 190	2.5	Liters(L)	12-Sep-20
0001607189	-	ETHANOL 190	2.5	Liters(L)	12-Sep-20
0001607192	75-11-6	DIIODOMETHANE	500	Gram(GM)	12-Sep-20
0001607193	64-17-5	ETHYL ALCOHOL	4	Liters(L)	12-Sep-20
0001607194	-	1-ETHYL-3-METHYLIMIDAZOLIUM	5	Gram(GM)	12-Sep-20
0001607203	-	1-ETHYL-3-METHYLIMIDAZOLIUM	5	Gram(GM)	12-Sep-20
0001607200	-	1-ETHYL-3-METHYLIMIDAZOLIUM	5	Gram(GM)	12-Sep-20
0001607201	-	1-ETHYL-3-METHYLIMIDAZOLIUM	5	Gram(GM)	12-Sep-20
0001607195	-	1-ETHYL-3-METHYLIMIDAZOLIUM	5	Gram(GM)	12-Sep-20
0001607196	-	1-ETHYL-3-METHYLIMIDAZOLIUM	5	Gram(GM)	12-Sep-20
0001607197	-	1-ETHYL-3-METHYLIMIDAZOLIUM	5	Gram(GM)	12-Sep-20
0001607198	-	1-ETHYL-3-METHYLIMIDAZOLIUM	5	Gram(GM)	12-Sep-20
0001607199	-	1-ETHYL-3-METHYLIMIDAZOLIUM	5	Gram(GM)	12-Sep-20
0001607202	-	1-ETHYL-3-METHYLIMIDAZOLIUM	5	Gram(GM)	12-Sep-20
0001607204	-	TITANIUM STANDARD	125	Milliliter(ML)	12-Sep-20
0001607205	79-27-6	1 1 2 2-TETRABROMOETHANE	250	Gram(GM)	12-Sep-20
0001607206	-	PHOSPHORIC ACID	1	Liters(L)	12-Sep-20
0001607209	-	PHOSPHORIC ACID	1	Liters(L)	12-Sep-20
0001607207	-	PHOSPHORIC ACID	1	Liters(L)	12-Sep-20
0001607208	-	PHOSPHORIC ACID	1	Liters(L)	12-Sep-20
0001607210	-	PHOTORESIST	5	Liters(L)	12-Sep-20
0001607211	-	PHOTORESIST	5	Liters(L)	12-Sep-20
0001607212	-	PHOTORESIST	5	Liters(L)	12-Sep-20
0001607213	-	PHOTORESIST	5	Liters(L)	12-Sep-20
0001607214	-	MOLECULAR SIEVE	1	Kilograms(KG)	12-Sep-20
0001607215	811-97-2	DUSTER	10	Ounces(OZ)	12-Sep-20
0001607217	811-97-2	DUSTER	10	Ounces(OZ)	12-Sep-20
0001607216	811-97-2	DUSTER	10	Ounces(OZ)	12-Sep-20
0001607218	21062-20-4	2 2'-Oxydiacetyl Chloride	5	Gram(GM)	12-Sep-20
0001607225	21062-20-4	2 2'-Oxydiacetyl Chloride	5	Gram(GM)	12-Sep-20
0001607220	21062-20-4	2 2'-Oxydiacetyl Chloride	5	Gram(GM)	12-Sep-20
0001607221	21062-20-4	2 2'-Oxydiacetyl Chloride	5	Gram(GM)	12-Sep-20
0001607222	21062-20-4	2 2'-Oxydiacetyl Chloride	5	Gram(GM)	12-Sep-20
0001607223	21062-20-4	2 2'-Oxydiacetyl Chloride	5	Gram(GM)	12-Sep-20
0001607224	21062-20-4	2 2'-Oxydiacetyl Chloride	5	Gram(GM)	12-Sep-20
0001607226	21062-20-4	2 2'-Oxydiacetyl Chloride	5	Gram(GM)	12-Sep-20
0001607219	21062-20-4	2 2'-Oxydiacetyl Chloride	5	Gram(GM)	12-Sep-20
0001607227	68-12-2	N N-DIMETHYLFORMAMIDE	1	Liters(L)	12-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607230	68-12-2	N N-DIMETHYLFORMAMIDE	1	Liters(L)	12-Sep-20
0001607229	68-12-2	N N-DIMETHYLFORMAMIDE	1	Liters(L)	12-Sep-20
0001607228	68-12-2	N N-DIMETHYLFORMAMIDE	1	Liters(L)	12-Sep-20
0001607231	7722-84-1	HYDROGEN PEROXIDE	3.7	Liters(L)	12-Sep-20
0001607232	123-91-1	1 4-DIOXANE	1	Liters(L)	12-Sep-20
0001607233	123-91-1	1 4-DIOXANE	1	Liters(L)	12-Sep-20
0001607234	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607235	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607236	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607237	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607238	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607239	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607240	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607241	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607251	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607258	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607257	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607256	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607255	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607254	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607243	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607252	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607245	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607250	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607249	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607248	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607247	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607246	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607242	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607253	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607244	-	AngstromBond 9110LV	2.5	Gram(GM)	12-Sep-20
0001607259	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001607260	67-56-1	METHANOL	4	Liters(L)	12-Sep-20
0001607261	-	BIS(1 5-CYCLOOCTADIENE) N	2	Gram(GM)	12-Sep-20
0001607262	98-01-1	FURFURAL	500	Gram(GM)	12-Sep-20
0001607263	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	12-Sep-20
0001607264	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	12-Sep-20
0001607265	107-84-6	1-CHLORO-3-METHYLBUTANE	500	Milliliter(ML)	12-Sep-20
0001607266	-	N-TER Nanoparticle siRNA Transfection System	120	Microliter	12-Sep-20
0001607267	007697-37-2	NITRIC ACID	2.5	Liters(L)	12-Sep-20
0001607269	007697-37-2	NITRIC ACID	2.5	Liters(L)	12-Sep-20
0001607268	007697-37-2	NITRIC ACID	2.5	Liters(L)	12-Sep-20
0001607270	007697-37-2	NITRIC ACID	2.5	Liters(L)	12-Sep-20
0001654859	-	Pentafluoroethane/Difluoromethane	25	Pounds(LB)	14-Sep-20
0001654860	811-97-2	TETRAFLUOROETHANE	300	Cubic Feet(CF)	14-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654862	811-97-2	TETRAFLUOROETHANE	300	Cubic Feet(CF)	14-Sep-20
0001654861	811-97-2	TETRAFLUOROETHANE	300	Cubic Feet(CF)	14-Sep-20
0001654864	811-97-2	TETRAFLUOROETHANE	300	Cubic Feet(CF)	14-Sep-20
0001654863	811-97-2	TETRAFLUOROETHANE	300	Cubic Feet(CF)	14-Sep-20
0001654865	-	Pentafluoroethane/Difluoromethane	25	Pounds(LB)	14-Sep-20
0001654869	-	Pentafluoroethane/Difluoromethane	25	Pounds(LB)	14-Sep-20
0001654868	-	Pentafluoroethane/Difluoromethane	25	Pounds(LB)	14-Sep-20
0001654867	-	Pentafluoroethane/Difluoromethane	25	Pounds(LB)	14-Sep-20
0001654866	-	Pentafluoroethane/Difluoromethane	25	Pounds(LB)	14-Sep-20
0001654870	-	LIQUID LEAK DETECTOR (SNOOP)	1	Gallon(GAL)	14-Sep-20
0001654872	-	LIQUID LEAK DETECTOR (SNOOP)	1	Gallon(GAL)	14-Sep-20
0001654873	-	LIQUID LEAK DETECTOR (SNOOP)	1	Gallon(GAL)	14-Sep-20
0001654871	-	LIQUID LEAK DETECTOR (SNOOP)	1	Gallon(GAL)	14-Sep-20
0001654874	7440-59-7	HELIUM GAS	100	Liters(L)	14-Sep-20
0001654875	7440-59-7	HELIUM GAS	100	Liters(L)	14-Sep-20
0001566170	-	Startex Lacquer Thinner	128	Ounces(OZ)	14-Sep-20
0001566173	-	Startex Lacquer Thinner	128	Ounces(OZ)	14-Sep-20
0001566174	-	Startex Lacquer Thinner	128	Ounces(OZ)	14-Sep-20
0001566172	-	Startex Lacquer Thinner	128	Ounces(OZ)	14-Sep-20
0001566171	-	Startex Lacquer Thinner	128	Ounces(OZ)	14-Sep-20
0001566175	-	Startex Lacquer Thinner	128	Ounces(OZ)	14-Sep-20
0001566180	-	RHOMA-SOL	5	Gallon(GAL)	14-Sep-20
0001566181	-	RHOMA-SOL	5	Gallon(GAL)	14-Sep-20
0001640225	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640237	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640227	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640228	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640229	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640230	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640231	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640232	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640226	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640233	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640236	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640238	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640239	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640240	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640244	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640243	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640242	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640241	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640234	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
0001640235	-	FS-One Max	10.1	Ounces(OZ)	14-Sep-20
V000006D40	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	14-Sep-20
V000006D3B	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	14-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006D3C	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	14-Sep-20
V000006D3D	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	14-Sep-20
V000006D3F	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	14-Sep-20
V000006D41	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	14-Sep-20
V000006D42	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	14-Sep-20
V000006D43	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	14-Sep-20
V000006D3A	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	14-Sep-20
V000006D3E	-	PROSEAL PROSEAL SPRAY FIBERSEAL	1	Gallon(GAL)	14-Sep-20
0001566182	-	MOBIL SHC 626	5	Gallon(GAL)	14-Sep-20
0001542271	934-00-9	3-Methoxycatechol	5	Gram(GM)	14-Sep-20
0001605368	-	Intellipack SmartFoam A	55	Gallon(GAL)	14-Sep-20
0001605369	-	Intellipack SmartFoam B	55	Gallon(GAL)	14-Sep-20
0001607271	-	NITRAVER TEST N TUBE REAGENT SET	100	Milliliter(ML)	14-Sep-20
0001607273	-	NITRAVER TEST N TUBE REAGENT SET	100	Milliliter(ML)	14-Sep-20
0001607274	-	NITRAVER TEST N TUBE REAGENT SET	100	Milliliter(ML)	14-Sep-20
0001607278	-	NITRAVER TEST N TUBE REAGENT SET	100	Milliliter(ML)	14-Sep-20
0001607277	-	NITRAVER TEST N TUBE REAGENT SET	100	Milliliter(ML)	14-Sep-20
0001607279	-	NITRAVER TEST N TUBE REAGENT SET	100	Milliliter(ML)	14-Sep-20
0001607280	-	NITRAVER TEST N TUBE REAGENT SET	100	Milliliter(ML)	14-Sep-20
0001607276	-	NITRAVER TEST N TUBE REAGENT SET	100	Milliliter(ML)	14-Sep-20
0001607275	-	NITRAVER TEST N TUBE REAGENT SET	100	Milliliter(ML)	14-Sep-20
0001607272	-	NITRAVER TEST N TUBE REAGENT SET	100	Milliliter(ML)	14-Sep-20
0001607281	-	MAGNAFLUX MAGNAGLOW 14A GREEN FLUORESCENT POWDER	9.3	Ounces(OZ)	14-Sep-20
0001607284	865-49-6	CHLOROFORM-D	50	Gram(GM)	14-Sep-20
0001607285	865-49-6	CHLOROFORM-D	50	Gram(GM)	14-Sep-20
0001607286	2206-27-1	DIMETHYL SULFOXIDE-D6	25	Gram(GM)	14-Sep-20
0001607288	2206-27-1	DIMETHYL SULFOXIDE-D6	25	Gram(GM)	14-Sep-20
0001607287	2206-27-1	DIMETHYL SULFOXIDE-D6	25	Gram(GM)	14-Sep-20
0001607289	2206-27-1	DIMETHYL SULFOXIDE-D6	25	Gram(GM)	14-Sep-20
0001607290	108-88-3	TOLUENE ANHYDROUS	2	Liters(L)	14-Sep-20
0001607292	108-88-3	TOLUENE ANHYDROUS	2	Liters(L)	14-Sep-20
0001607291	108-88-3	TOLUENE ANHYDROUS	2	Liters(L)	14-Sep-20
0001607293	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	14-Sep-20
0001607300	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	14-Sep-20
0001607299	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	14-Sep-20
0001607298	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	14-Sep-20
0001607297	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	14-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607296	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	14-Sep-20
0001607295	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	14-Sep-20
0001607294	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	14-Sep-20
0001607301	-	TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	Milliliter(ML)	14-Sep-20
0001607302	-	TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	Milliliter(ML)	14-Sep-20
0001607304	-	TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	Milliliter(ML)	14-Sep-20
0001607303	-	TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	Milliliter(ML)	14-Sep-20
0001607306	-	TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	Milliliter(ML)	14-Sep-20
0001607307	-	TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	Milliliter(ML)	14-Sep-20
0001607308	-	TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	Milliliter(ML)	14-Sep-20
0001607305	-	TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	Milliliter(ML)	14-Sep-20
0001607309	-	DPD TOTAL CHLORINE REAGENT	473	Milliliter(ML)	14-Sep-20
0001607312	-	DPD TOTAL CHLORINE REAGENT	473	Milliliter(ML)	14-Sep-20
0001607311	-	DPD TOTAL CHLORINE REAGENT	473	Milliliter(ML)	14-Sep-20
0001607313	-	DPD TOTAL CHLORINE REAGENT	473	Milliliter(ML)	14-Sep-20
0001607314	-	DPD TOTAL CHLORINE REAGENT	473	Milliliter(ML)	14-Sep-20
0001607315	-	DPD TOTAL CHLORINE REAGENT	473	Milliliter(ML)	14-Sep-20
0001607316	-	DPD TOTAL CHLORINE REAGENT	473	Milliliter(ML)	14-Sep-20
0001607310	-	DPD TOTAL CHLORINE REAGENT	473	Milliliter(ML)	14-Sep-20
0001607317	67-64-1	ACETONE	1	Gallon(GAL)	14-Sep-20
0001607318	67-64-1	ACETONE	1	Gallon(GAL)	14-Sep-20
0001607320	67-64-1	ACETONE	1	Gallon(GAL)	14-Sep-20
0001607319	67-64-1	ACETONE	1	Gallon(GAL)	14-Sep-20
0001607321	67-66-3	Chloroform HiPerSolv CHROMANORM for HPLC	4	Liters(L)	14-Sep-20
0001607324	67-66-3	Chloroform HiPerSolv CHROMANORM for HPLC	4	Liters(L)	14-Sep-20
0001607323	67-66-3	Chloroform HiPerSolv CHROMANORM for HPLC	4	Liters(L)	14-Sep-20
0001607322	67-66-3	Chloroform HiPerSolv CHROMANORM for HPLC	4	Liters(L)	14-Sep-20
0001607325	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607337	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607332	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607333	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607334	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607331	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607336	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607326	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607338	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607339	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607340	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607341	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607342	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607343	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607344	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607345	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607346	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607347	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607335	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607329	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607327	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607349	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607350	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607348	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607351	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607352	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607330	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607353	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607328	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607354	-	FREEZE SPRAY	11	Ounces(OZ)	14-Sep-20
0001607355	13477-89-9	NEODYMIUM(III) CHLORIDE HEXAHYDRATE	5	Gram(GM)	14-Sep-20
0001607356	10465-81-3	1 1-(AZODICARBONYL)-DIPIPERIDINE	25	Gram(GM)	14-Sep-20
0001607357	1405-10-3	NEOMYCIN SULFATE	5	Gram(GM)	14-Sep-20
0001607358	83-88-5	RIBOFLAVIN	5	Gram(GM)	14-Sep-20
0001607359	74896-24-5	4-Amino-3 5-dimethylbenzonitrile	5	Gram(GM)	14-Sep-20
0001607360	7681-65-4	COPPER(I) IODIDE	50	Gram(GM)	14-Sep-20
0001607361	7757-82-6	SODIUM SULFATE	2.5	Kilograms(KG)	14-Sep-20
0001607362	-	4-IODOPHENOL	10	Gram(GM)	14-Sep-20
0001607363	-	FMOC-ALA-OH	1	Gram(GM)	14-Sep-20
0001607364	-	FMOC-ALA-OH	1	Gram(GM)	14-Sep-20
0001607365	1439-07-2	TRANS-STILBENE	100	Gram(GM)	14-Sep-20
0001607366	10024-93-8	NEODYMIUM (III) CHLORIDE	5	Gram(GM)	14-Sep-20
0001607367	2498-25-1	2-(DIMETHYLAMINO)-ETHANOL HYDROCHLORIDE	250	Milligram(MG)	14-Sep-20
0001607368	2498-25-1	2-(DIMETHYLAMINO)-ETHANOL HYDROCHLORIDE	250	Milligram(MG)	14-Sep-20
0001607369	146-14-5	FLAVIN ADENINE DINUCLEOTIDE	100	Milligram(MG)	14-Sep-20
0001607370	51093-55-1	Roseoflavin	5	Milligram(MG)	14-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607371	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2	Liters(L)	14-Sep-20
V000006D46	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Sep-20
V000006D47	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Sep-20
V000006D48	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Sep-20
V000006D49	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Sep-20
V000006D4A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Sep-20
V000006D4B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Sep-20
V000006D4C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Sep-20
V000006D44	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Sep-20
V000006D45	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Sep-20
0001626487	-	Purus AW Hydraulic Oil AW 32 AW 46 AW 68 AW 100	5	Gallon(GAL)	14-Sep-20
V000006D4E	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	14-Sep-20
V000006D4F	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	14-Sep-20
V000006D51	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	14-Sep-20
V000006D4D	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	14-Sep-20
V000006D50	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	14-Sep-20
V000006D5F	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D60	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D61	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D62	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D63	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D64	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D66	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D68	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D5E	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D67	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D69	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D5D	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D5C	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D5B	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D5A	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D59	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D57	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D56	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D55	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D54	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D53	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D52	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
V000006D58	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006D65	-	BIG STRETCH CAULK	10.5	Ounces(OZ)	14-Sep-20
0001566183	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566194	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566193	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566192	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566184	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566185	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566186	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566187	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566188	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566189	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566190	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566191	-	808-0422 COLORTREND V MAGENTA	32	Ounces(OZ)	14-Sep-20
0001566195	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566197	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566206	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566205	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566204	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566203	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566202	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566200	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566196	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566198	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566199	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566201	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	14-Sep-20
0001566207	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	14-Sep-20
0001566211	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	14-Sep-20
0001566212	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	14-Sep-20
0001566210	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	14-Sep-20
0001566209	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	14-Sep-20
0001566208	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	14-Sep-20
0001566213	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	14-Sep-20
0001566214	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	14-Sep-20
0001566215	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	14-Sep-20
0001566216	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	14-Sep-20
0001566217	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	14-Sep-20
0001566218	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	14-Sep-20
0001566219	-	Avalon Ultra Premium Latex Enamel W/B	608	Ounces(OZ)	14-Sep-20
V000006D7B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	15-Sep-20
V000006D76	-	ARDEX FEATHER FINISH	10	Pounds(LB)	15-Sep-20
V000006D77	-	ARDEX FEATHER FINISH	10	Pounds(LB)	15-Sep-20
V000006D78	-	ARDEX FEATHER FINISH	10	Pounds(LB)	15-Sep-20
V000006D79	-	ARDEX FEATHER FINISH	10	Pounds(LB)	15-Sep-20
V000006D7A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	15-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566220	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566225	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566221	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566238	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566246	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566247	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566248	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566249	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566243	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566242	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566241	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566245	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566239	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566222	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566237	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566244	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566236	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566227	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566224	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566240	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566235	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566223	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566226	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566228	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566229	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566230	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566231	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566232	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566233	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566234	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566250	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566253	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566258	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566257	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566256	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566259	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566254	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566260	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566251	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566283	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566261	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566252	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566292	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566279	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566280	-	SODA ASH	50	Pounds(LB)	15-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566282	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566284	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566285	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566286	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566303	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566288	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566281	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566278	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566291	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566287	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566293	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566294	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566295	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566296	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566297	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566298	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566299	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566300	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566301	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566255	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566290	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566263	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566302	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566289	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566277	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566262	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566264	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566265	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566266	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566267	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566274	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566269	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566270	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566271	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566272	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566273	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566276	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566268	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001566275	-	SODA ASH	50	Pounds(LB)	15-Sep-20
0001418722	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418731	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418732	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418733	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418734	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418735	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001418736	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418740	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418738	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418739	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418730	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418737	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418729	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418724	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418725	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418726	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418727	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418728	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001418723	-	MOBIL DTE 26 HYDRAULIC OIL	1	Gallon(GAL)	15-Sep-20
0001664053	-	47 BLEND #23 SPECIAL PRINTING INK SOLVENT 04009812	7.6	Liters(L)	15-Sep-20
0001607372	67-64-1	ACETONE	4	Liters(L)	15-Sep-20
0001607373	67-64-1	ACETONE	4	Liters(L)	15-Sep-20
0001607374	67-64-1	ACETONE	4	Liters(L)	15-Sep-20
0001607375	67-64-1	ACETONE	4	Liters(L)	15-Sep-20
0001607376	298-12-4	GLYOXYLIC ACID	500	Gram(GM)	15-Sep-20
0001607377	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	15-Sep-20
0001607378	109-99-9	TETRAHYDROFURAN ANHYDROUS 99.9%	2	Liters(L)	15-Sep-20
0001607379	121-44-8	TRIETHYLAMINE	2	Liters(L)	15-Sep-20
0001607380	76-05-1	TRIFLUOROACETIC ACID	500	Gram(GM)	15-Sep-20
0001607384	76-05-1	TRIFLUOROACETIC ACID	500	Gram(GM)	15-Sep-20
0001607383	76-05-1	TRIFLUOROACETIC ACID	500	Gram(GM)	15-Sep-20
0001607381	76-05-1	TRIFLUOROACETIC ACID	500	Gram(GM)	15-Sep-20
0001607382	76-05-1	TRIFLUOROACETIC ACID	500	Gram(GM)	15-Sep-20
0001607385	109-66-0	PENTANE	4	Liters(L)	15-Sep-20
0001607386	142-82-5	HEPTANE	4	Liters(L)	15-Sep-20
0001607387	142-82-5	HEPTANE	4	Liters(L)	15-Sep-20
0001607388	7439-93-2	LITHIUM ROD	50	Gram(GM)	15-Sep-20
0001607389	7439-93-2	LITHIUM ROD	50	Gram(GM)	15-Sep-20
0001607391	7439-93-2	LITHIUM ROD	50	Gram(GM)	15-Sep-20
0001607390	7439-93-2	LITHIUM ROD	50	Gram(GM)	15-Sep-20
0001607392	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2	Liters(L)	15-Sep-20
0001607393	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	2	Liters(L)	15-Sep-20
0001607394	13965-03-2	BIS(TRIPHENYLPHOSPHINE)PALLADIUM(II) CHLORIDE	25	Gram(GM)	15-Sep-20
0001607396	540-37-4	4-IODOANILINE	100	Gram(GM)	15-Sep-20
0001607397	105496-31-9	N-(9-FLUORENYLMETHOXYCARBONYL) ETHANOL AMINE	5	Gram(GM)	15-Sep-20
0001607398	16004-15-2	4-Iodobenzyl bromide	5	Gram(GM)	15-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607399	-	2-(METHYLAMINO)-ETHANOL	25	Milliliter(ML)	15-Sep-20
0001607400	816-94-4	1 2-Distearoyl-sn-glycero-3-phosphocholine	100	Milligram(MG)	15-Sep-20
0001607401	1069-79-0	1 2-Distearoyl-sn-glycero-3-phosphoethanolamine	100	Milligram(MG)	15-Sep-20
0001607402	-	1 2-dioleoyl-sn-glycero-3-phosphoethanolamine	100	Milligram(MG)	15-Sep-20
0001607403	57-88-5	CHOLESTEROL	5	Gram(GM)	15-Sep-20
0001607404	7440-42-8	BORON	5	Gram(GM)	15-Sep-20
0001607412	7440-42-8	BORON	5	Gram(GM)	15-Sep-20
0001607409	7440-42-8	BORON	5	Gram(GM)	15-Sep-20
0001607411	7440-42-8	BORON	5	Gram(GM)	15-Sep-20
0001607410	7440-42-8	BORON	5	Gram(GM)	15-Sep-20
0001607407	7440-42-8	BORON	5	Gram(GM)	15-Sep-20
0001607406	7440-42-8	BORON	5	Gram(GM)	15-Sep-20
0001607413	7440-42-8	BORON	5	Gram(GM)	15-Sep-20
0001607405	7440-42-8	BORON	5	Gram(GM)	15-Sep-20
0001607408	7440-42-8	BORON	5	Gram(GM)	15-Sep-20
0001607414	-	Pierce LTQ ESI Positive Ion Calibration Solution	10	Milliliter(ML)	15-Sep-20
0001607423	-	GLYCINE ETHYL ESTER HYDROCHLORID	25	Gram(GM)	15-Sep-20
V000006D8D	-	Alex Plus Clear	10.1	Ounces(OZ)	15-Sep-20
V000006D8C	-	Alex Plus Clear	10.1	Ounces(OZ)	15-Sep-20
V000006D8A	-	Alex Plus Clear	10.1	Ounces(OZ)	15-Sep-20
V000006D8B	-	Alex Plus Clear	10.1	Ounces(OZ)	15-Sep-20
0001607424	-	AG MP-1M RESIN	500	Gram(GM)	15-Sep-20
0001607425	-	AG MP-1M RESIN	500	Gram(GM)	15-Sep-20
0001607426	-	2-PROPANOL	1	Gallon(GAL)	15-Sep-20
0001607433	-	2-PROPANOL	1	Gallon(GAL)	15-Sep-20
0001607432	-	2-PROPANOL	1	Gallon(GAL)	15-Sep-20
0001607431	-	2-PROPANOL	1	Gallon(GAL)	15-Sep-20
0001607430	-	2-PROPANOL	1	Gallon(GAL)	15-Sep-20
0001607429	-	2-PROPANOL	1	Gallon(GAL)	15-Sep-20
0001607428	-	2-PROPANOL	1	Gallon(GAL)	15-Sep-20
0001607427	-	2-PROPANOL	1	Gallon(GAL)	15-Sep-20
0001607434	75-09-2	DICHLOROMETHANE	4	Liters(L)	15-Sep-20
0001607435	75-09-2	DICHLOROMETHANE	4	Liters(L)	15-Sep-20
0001607436	-	Ethyl Acetate Reagent ACS	4	Liters(L)	15-Sep-20
0001566304	-	PSX700 CURE PART B	0.2	Ounces(OZ)	15-Sep-20
0001566308	-	PSX700 CURE PART B	0.2	Ounces(OZ)	15-Sep-20
0001566307	-	PSX700 CURE PART B	0.2	Ounces(OZ)	15-Sep-20
0001566306	-	PSX700 CURE PART B	0.2	Ounces(OZ)	15-Sep-20
0001566305	-	PSX700 CURE PART B	0.2	Ounces(OZ)	15-Sep-20
0001566309	-	PSX700 CURE PART B	0.2	Ounces(OZ)	15-Sep-20
0001607437	-	DPD TOTAL CHLORINE REAGENT	100	Milligram(MG)	15-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607442	-	DPD TOTAL CHLORINE REAGENT	100	Milligram(MG)	15-Sep-20
0001607438	-	DPD TOTAL CHLORINE REAGENT	100	Milligram(MG)	15-Sep-20
0001607439	-	DPD TOTAL CHLORINE REAGENT	100	Milligram(MG)	15-Sep-20
0001607441	-	DPD TOTAL CHLORINE REAGENT	100	Milligram(MG)	15-Sep-20
0001607443	-	DPD TOTAL CHLORINE REAGENT	100	Milligram(MG)	15-Sep-20
0001607444	-	DPD TOTAL CHLORINE REAGENT	100	Milligram(MG)	15-Sep-20
0001607445	-	DPD TOTAL CHLORINE REAGENT	100	Milligram(MG)	15-Sep-20
0001607446	-	DPD TOTAL CHLORINE REAGENT	100	Milligram(MG)	15-Sep-20
0001607440	-	DPD TOTAL CHLORINE REAGENT	100	Milligram(MG)	15-Sep-20
0001607415	-	DIPAMAT LEGEND INK FWh01	0.9	Liters(L)	15-Sep-20
0001607416	-	DIPAMAT LEGEND INK FWh01	0.9	Liters(L)	15-Sep-20
0001607417	-	DIPAMAT LEGEND INK Wh 04	0.9	Liters(L)	15-Sep-20
0001607418	-	DIPAMAT LEGEND INK Wh 04	0.9	Liters(L)	15-Sep-20
0001607419	-	DIPAMAT SOLDERMASK	1	Liters(L)	15-Sep-20
0001607420	-	DIPAMAT SOLDERMASK	1	Liters(L)	15-Sep-20
0001607421	-	Dipamat Cleaning Solution	1	Liters(L)	15-Sep-20
0001607422	-	Dipamat Cleaning Solution	1	Liters(L)	15-Sep-20
0001245349	536-74-3	PHENYLACETYLENE	25	Ounces(OZ)	16-Sep-20
0001187921	7757-79-1	POTASSIUM NITRATE	500	Gram(GM)	16-Sep-20
0001664054	7732-18-5	NITRIC ACID SOLUTION	500	Milliliter(ML)	16-Sep-20
0015663200	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566338	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566333	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566334	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566335	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566337	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566330	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566339	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566340	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566341	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566323	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566336	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566342	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566331	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566343	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566329	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566328	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566327	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566326	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566325	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566324	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566321	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566322	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001566332	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	16-Sep-20
0001605307	584-08-7	POTASSIUM CARBONATE ANHYDROUS	500	Gram(GM)	16-Sep-20
0001566344	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	16-Sep-20
0001607447	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607458	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607448	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607449	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607450	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607451	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607452	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607453	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607454	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607455	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607456	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607457	75-09-2	DICHLOROMETHANE	4	Liters(L)	16-Sep-20
0001607459	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001607460	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001607461	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001607462	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001607463	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001607464	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001607465	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607466	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001607467	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001607468	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001607469	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001607470	67-64-1	ACETONE	100	Milliliter(ML)	16-Sep-20
0001566345	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	16-Sep-20
0001607471	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607482	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607481	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607472	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607473	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607474	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607475	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607476	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607477	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607478	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607484	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607480	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607483	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607485	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607486	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607479	-	Ultrasonic Cleaning Solutions Branson	1	Gallon(GAL)	16-Sep-20
0001607487	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	100	Milliliter(ML)	16-Sep-20
0001607492	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	100	Milliliter(ML)	16-Sep-20
0001607488	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	100	Milliliter(ML)	16-Sep-20
0001607489	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	100	Milliliter(ML)	16-Sep-20
0001607490	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	100	Milliliter(ML)	16-Sep-20
0001607491	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) (25 X 1 ML)	100	Milliliter(ML)	16-Sep-20
0001607493	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607515	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607506	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607495	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607496	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607498	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607508	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607500	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607501	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607502	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607503	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607494	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607505	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607497	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607516	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607507	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607514	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607513	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607512	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607511	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607510	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607509	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607504	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607499	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	Ounces(OZ)	16-Sep-20
0001607517	7550-35-8	LITHIUM BROMIDE	500	Gram(GM)	16-Sep-20
0001607518	7550-35-8	LITHIUM BROMIDE	500	Gram(GM)	16-Sep-20
0001607519	7789-78-8	CALCIUM HYDRIDE	100	Gram(GM)	16-Sep-20
0001607520	7789-78-8	CALCIUM HYDRIDE	100	Gram(GM)	16-Sep-20
0001607521	7789-78-8	CALCIUM HYDRIDE	100	Gram(GM)	16-Sep-20
0001607522	-	PELCO COLLOIDAL SILVER 30G	30	Gram(GM)	16-Sep-20
0001607523	-	PELCO COLLOIDAL SILVER 30G	30	Gram(GM)	16-Sep-20
0001607524	-	MAGNAFLUX MAGNAGLOW 14A GREEN FLUORESCENT POWDER	9.3	Ounces(OZ)	16-Sep-20
0001607528	-	MAGNAFLUX MAGNAGLOW 14A GREEN FLUORESCENT POWDER	9.3	Ounces(OZ)	16-Sep-20
0001607532	-	MAGNAFLUX MAGNAGLOW 14A GREEN FLUORESCENT POWDER	9.3	Ounces(OZ)	16-Sep-20
0001607531	-	MAGNAFLUX MAGNAGLOW 14A GREEN FLUORESCENT POWDER	9.3	Ounces(OZ)	16-Sep-20
0001607529	-	MAGNAFLUX MAGNAGLOW 14A GREEN FLUORESCENT POWDER	9.3	Ounces(OZ)	16-Sep-20
0001607527	-	MAGNAFLUX MAGNAGLOW 14A GREEN FLUORESCENT POWDER	9.3	Ounces(OZ)	16-Sep-20
0001607526	-	MAGNAFLUX MAGNAGLOW 14A GREEN FLUORESCENT POWDER	9.3	Ounces(OZ)	16-Sep-20
0001607525	-	MAGNAFLUX MAGNAGLOW 14A GREEN FLUORESCENT POWDER	9.3	Ounces(OZ)	16-Sep-20
0001607530	-	MAGNAFLUX MAGNAGLOW 14A GREEN FLUORESCENT POWDER	9.3	Ounces(OZ)	16-Sep-20
0001607533	-	EP30HT	1	Pint(PT)	16-Sep-20
0001607534	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607541	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607544	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607545	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607543	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607542	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607536	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607539	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607538	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607535	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607537	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607540	-	CL17 Free Chlorine Buffer Solution	473	Milliliter(ML)	16-Sep-20
0001607546	1309-48-4	MAGNESIUM OXIDE	1	Kilograms(KG)	16-Sep-20
0001607547	67-56-1	METHANOL	4	Liters(L)	16-Sep-20
0001607550	67-56-1	METHANOL	4	Liters(L)	16-Sep-20
0001607548	67-56-1	METHANOL	4	Liters(L)	16-Sep-20
0001607549	67-56-1	METHANOL	4	Liters(L)	16-Sep-20
0001607551	1310-58-3	POTASSIUM HYDROXIDE	1	Kilograms(KG)	16-Sep-20
0001607552	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	16-Sep-20
0001607555	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	16-Sep-20
0001607553	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	16-Sep-20
0001607554	110-54-3	HEXANES (CERTIFIED ACS)	4	Liters(L)	16-Sep-20
0001607556	-	Ethyl Acetate Reagent ACS	4	Liters(L)	16-Sep-20
0001607558	-	Ethyl Acetate Reagent ACS	4	Liters(L)	16-Sep-20
0001607559	-	Ethyl Acetate Reagent ACS	4	Liters(L)	16-Sep-20
0001607557	-	Ethyl Acetate Reagent ACS	4	Liters(L)	16-Sep-20
0001607560	-	TRYPSIN MODIFIED SEQUENCING GRADE	100	Milligram(MG)	16-Sep-20
0001607561	-	TRYPSIN MODIFIED SEQUENCING GRADE	100	Milligram(MG)	16-Sep-20
0001607562	-	TRYPSIN MODIFIED SEQUENCING GRADE	100	Milligram(MG)	16-Sep-20
0001607563	25137-00-2	(R)-(-)-3-Piperidinecarboxylic Acid	5	Gram(GM)	16-Sep-20
0001607564	-	MACRON 805 Cooling Oil	1	Gallon(GAL)	16-Sep-20
0001607565	7732-18-5	WATER HPLC GRADE	4	Liters(L)	16-Sep-20
0001607568	7732-18-5	WATER HPLC GRADE	4	Liters(L)	16-Sep-20
0001607567	7732-18-5	WATER HPLC GRADE	4	Liters(L)	16-Sep-20
0001607566	7732-18-5	WATER HPLC GRADE	4	Liters(L)	16-Sep-20
0001607572	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607574	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607573	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607580	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607588	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607578	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607589	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607575	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607587	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607586	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607585	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607584	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607582	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607581	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607590	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607579	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607577	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607576	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607583	-	TITRAVER (EDTA) HARDNESS TITRANT	100	Milliliter(ML)	16-Sep-20
0001607591	122-39-4	DIPHENYLAMINE	100	Gram(GM)	16-Sep-20
0001607592	-	TOC CALIBRATION KIT	100	Milliliter(ML)	16-Sep-20
0001607593	-	NITRATE NITROGEN STANDARD	100	Milliliter(ML)	16-Sep-20
0001566346	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	16-Sep-20
0001566347	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	16-Sep-20
0001566348	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	16-Sep-20
0001566349	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	16-Sep-20
0001566350	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	16-Sep-20
V000006D9E	-	SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	16-Sep-20
V000006D9F	-	SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	16-Sep-20
0001566351	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566354	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566369	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566352	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566353	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566363	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566373	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566372	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566371	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566370	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566368	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566367	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566366	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566355	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566364	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566374	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566362	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566361	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566360	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566359	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566358	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566357	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566356	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566365	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566375	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566402	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566395	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566396	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566397	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566398	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566399	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566400	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566410	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566409	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566384	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566403	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566404	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566405	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566406	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566407	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566408	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566394	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566401	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566382	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566376	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566377	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566378	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566379	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566386	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566381	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566393	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566383	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566385	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566387	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566388	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566389	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566390	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566391	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566392	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001566380	-	FLEETGUARD ES	1	Gallon(GAL)	16-Sep-20
0001655116	-	HYDROGEN GAS	5	Pounds(LB)	17-Sep-20
0001607594	-	Polyimide Sealing Resin	5	Gram(GM)	17-Sep-20
0001607595	1074-82-4	POTASSIUM 1 3-DIOXOISOINDOLIN-2-DE	25	Gram(GM)	17-Sep-20
0001566411	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566412	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566442	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566452	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566419	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566418	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566417	-	WEST C-358	536	Pounds(LB)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566416	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566415	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566414	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566421	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566441	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566422	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566443	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566444	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566446	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566447	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566448	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566449	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566450	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566413	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566430	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566439	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566438	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566437	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566436	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566435	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566434	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566433	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566420	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566431	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566445	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566429	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566428	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566427	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566426	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566425	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566424	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566423	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566432	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566440	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001566451	-	WEST C-358	536	Pounds(LB)	17-Sep-20
0001607596	-	2-(1H-pyrazol-5-yl)ethanamine	1	Gram(GM)	17-Sep-20
0001566453	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566463	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566458	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566462	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566464	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566465	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566466	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566467	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566468	-	WEST R-630	595	Pounds(LB)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566469	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566457	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566459	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566456	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566461	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566460	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566454	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001566455	-	WEST R-630	595	Pounds(LB)	17-Sep-20
0001607597	14267-92-6	5-Chloro-1-pentyne	25	Gram(GM)	17-Sep-20
0001607598	-	ANION EXCHANGE AG1-X8 100-200 MESH	500	Gram(GM)	17-Sep-20
0001607599	-	ANION EXCHANGE AG1-X8 100-200 MESH	500	Gram(GM)	17-Sep-20
0001607600	7647-14-5	SODIUM CHLORIDE	2.5	Kilograms(KG)	17-Sep-20
0001607601	75-09-2	DICHLOROMETHANE	4	Liters(L)	17-Sep-20
0001607602	1344-28-1	ALUMINUM OXIDE (GAMMA ALUMINA POWDER)	100	Gram(GM)	17-Sep-20
0001607603	1344-28-1	ALUMINUM OXIDE (ALPHA MICROPOLISH)	500	Gram(GM)	17-Sep-20
0001607604	1344-28-1	ALUMINUM OXIDE (ALPHA ALUMINA POWDER)	100	Gram(GM)	17-Sep-20
0001607605	1344-28-1	ALUMINUM OXIDE (ALPHA ALUMINA POWDER)	100	Gram(GM)	17-Sep-20
0001607606	376-90-9	2 2 3 3 4 4-HEXAFLUORO-1 5-PENTANDEDIOL	25	Gram(GM)	17-Sep-20
0001607607	109-99-9	TETRAHYDROFURAN ANHYDROUS	2	Liters(L)	17-Sep-20
0001607608	5292-43-3	TERT-BUTYL BROMOACETATE 98%	250	Gram(GM)	17-Sep-20
0001607609	134-03-2	(+)-Sodium L-ascorbate	100	Gram(GM)	17-Sep-20
0001607610	134-03-2	(+)-Sodium L-ascorbate	100	Gram(GM)	17-Sep-20
0001607611	7758-99-8	COPPER(II) SULFATE PENTAHYDRATE	250	Gram(GM)	17-Sep-20
0001607612	7681-82-5	SODIUM IODIDE	100	Gram(GM)	17-Sep-20
0001607613	103-33-3	AZOBENZENE	5	Gram(GM)	17-Sep-20
0001607614	39994-75-7	L-Threonine methyl ester hydrochloride	25	Gram(GM)	17-Sep-20
0001607615	39994-75-7	L-Threonine methyl ester hydrochloride	25	Gram(GM)	17-Sep-20
0001607616	1344-28-1	ALUMINUM OXIDE (GAMMA ALUMINA POWDER)	100	Gram(GM)	17-Sep-20
0001607617	-	NITROGEN STANDARD	120	Milliliter(ML)	17-Sep-20
0001607618	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607620	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607621	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607622	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607623	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607624	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607625	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607626	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607627	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607628	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607629	-	STATICIDE	11	Ounces(OZ)	17-Sep-20
0001607619	-	STATICIDE	11	Ounces(OZ)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607630	-	2-PROPANOL	1	Liters(L)	17-Sep-20
0001607631	-	2-PROPANOL	1	Liters(L)	17-Sep-20
V000006DB6	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DB2	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DB3	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DBE	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DC8	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DC6	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DC5	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DC4	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DC3	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DC2	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DC1	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DB4	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DBF	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DB5	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DBD	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DBC	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DBB	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DBA	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DB9	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DB8	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DB7	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006DC7	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DC0	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DC9	-	LN-903 LIQUID NAILS MULTIPURPOSE CONSTRUCTION ADHESIVE	10	Ounces(OZ)	17-Sep-20
V000006DD1	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DD7	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DD6	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DD5	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DD4	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DCA	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DD2	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DD8	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DD0	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DCF	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DCE	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DCD	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DCC	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DCB	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DD3	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	17-Sep-20
V000006DDA	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DDB	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DDC	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DDE	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DDF	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DE0	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006DE1	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DE2	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DE3	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DE4	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DE5	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DE6	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DE7	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DE8	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DD9	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
V000006DDD	-	DOWSIL 795 Silicone Building Sealant Gray	20	Ounces(OZ)	17-Sep-20
0001566470	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566483	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566489	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566478	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566471	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566472	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566473	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566474	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566475	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566486	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566477	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566485	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566479	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566480	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566481	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566482	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566484	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566488	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566476	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
0001566487	-	Weather-Plate Exterior Satin W/B	608	Ounces(OZ)	17-Sep-20
V000006DE9	-	Lubriplate No. 100/105/107/110/115	16	Ounces(OZ)	17-Sep-20
V000006DEB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Sep-20
V000006DF3	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Sep-20
V000006DF2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Sep-20
V000006DF1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Sep-20
V000006DF0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Sep-20
V000006DEF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006DEE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Sep-20
V000006DEC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Sep-20
V000006DEA	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Sep-20
V000006DED	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	17-Sep-20
V000006DFF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E00	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E01	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E03	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E05	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E06	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DFE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E08	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E02	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E09	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E0A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E0B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E0C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E0D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E0E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E07	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DF6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E04	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DFD	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DF5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DF7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DF8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DF9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DFA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DFB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DFC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006DF4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Sep-20
V000006E1F	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E20	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E2B	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E27	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E21	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E22	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E23	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E24	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E25	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006E29	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E0F	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E16	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E2E	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E2C	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E2A	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E1E	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E26	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E2D	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E13	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E28	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E14	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E12	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E11	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E10	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E17	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E18	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E19	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E1A	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E1B	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E1C	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E1D	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E15	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Sep-20
V000006E37	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E3A	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E33	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E34	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E35	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E36	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E2F	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E30	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E32	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E38	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E31	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006E39	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	17-Sep-20
V000006E56	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E51	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E3C	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E3B	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E52	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E53	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E40	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E55	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E58	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E59	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E5A	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E5B	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E5C	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E5E	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E5D	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E54	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E46	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E44	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E43	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E57	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E42	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006E3D	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E41	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E45	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E47	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E48	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E4E	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E4A	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E4B	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E4C	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E3E	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E4D	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E49	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E3F	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E4F	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
V000006E50	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	17-Sep-20
00 1654876	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654877	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654887	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654886	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654885	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654883	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654882	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654888	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654897	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654881	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654884	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654902	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654889	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654890	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654891	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654892	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654893	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654894	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654896	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654898	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654899	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654900	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654901	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654904	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654880	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654895	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654914	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654923	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654922	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654921	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654920	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654919	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654918	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654917	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654924	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654915	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654909	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654913	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654912	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654911	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654910	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654908	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654906	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654879	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654916	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654903	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654905	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654907	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654925	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654878	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	17-Sep-20
0001654929	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654928	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654927	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654926	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654930	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654951	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654961	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654957	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001654954	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654956	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654952	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654958	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654950	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654960	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654953	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654962	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654963	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654941	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654943	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654942	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654959	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654933	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654944	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654931	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654955	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654932	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654949	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654934	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654945	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654935	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654936	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654937	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654938	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654939	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654948	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654947	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654940	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001654946	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Sep-20
0001566490	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566497	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566491	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566492	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566493	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566494	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566496	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566498	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566499	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566500	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566501	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001566495	-	SBS FLASHING CEMENT MATRIX 202	4.75	Gallon(GAL)	17-Sep-20
0001605351	819-19-2	DI-TERT-BUTYLPHOSPHINE	5	Gram(GM)	18-Sep-20
0001607632	1344-28-1	ALUMINUM OXIDE (ALPHA ALUMINA POWDER)	100	Gram(GM)	18-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607633	1344-28-1	ALUMINUM OXIDE (ALPHA ALUMINA POWDER)	100	Gram(GM)	18-Sep-20
0001607634	-	In100 Pure Indium Solder Spheres	10	Gram(GM)	18-Sep-20
0001607638	-	ISOAMYL ETHER (560)	500	Milliliter(ML)	18-Sep-20
0001607640	-	ISOAMYL ETHER (560)	500	Milliliter(ML)	18-Sep-20
0001607641	-	ISOAMYL ETHER (560)	500	Milliliter(ML)	18-Sep-20
0001607642	-	ISOAMYL ETHER (560)	500	Milliliter(ML)	18-Sep-20
0001607643	-	ISOAMYL ETHER (560)	500	Milliliter(ML)	18-Sep-20
0001607644	-	ISOAMYL ETHER (560)	500	Milliliter(ML)	18-Sep-20
0001607645	-	ISOAMYL ETHER (560)	500	Milliliter(ML)	18-Sep-20
0001607646	-	ISOAMYL ETHER (560)	500	Milliliter(ML)	18-Sep-20
0001607647	-	ISOAMYL ETHER (560)	500	Milliliter(ML)	18-Sep-20
0001607639	-	ISOAMYL ETHER (560)	500	Milliliter(ML)	18-Sep-20
0001607648	57-09-0	HEXADECYLTRIMETHYLAMMONIUM BROMIDE	100	Gram(GM)	18-Sep-20
0001607649	80731-10-8	D(-)3-PHOSPHOGLYCERIC ACID	1	Gram(GM)	18-Sep-20
0001607650	1074-82-4	PHTHALIMIDE POTASSIUM SALT	500	Gram(GM)	18-Sep-20
0001607651	-	DICHLOROMETHANE ANHYDROS 1L	1	Liters(L)	18-Sep-20
0001607652	25322-68-3	POLYETHYLENE GLYCOL	1	Kilograms(KG)	18-Sep-20
0001607653	765-87-7	1 2-CYCLOHEXANEDIONE	5	Gram(GM)	18-Sep-20
0001607654	694-28-0	2-Chlorocyclopentanone	25	Gram(GM)	18-Sep-20
0001607655	12092-47-6	CHLORO(1 5-CYCLOOCTADIENE)RHODIUM (I) DIMER	5	Gram(GM)	18-Sep-20
0001607656	-	AVISTACLEAN MF 1000	350	Pounds(LB)	18-Sep-20
0001607660	-	AVISTACLEAN MF 1000	350	Pounds(LB)	18-Sep-20
0001607659	-	AVISTACLEAN MF 1000	350	Pounds(LB)	18-Sep-20
0001607658	-	AVISTACLEAN MF 1000	350	Pounds(LB)	18-Sep-20
0001607657	-	AVISTACLEAN MF 1000	350	Pounds(LB)	18-Sep-20
0001607661	-	AVISTACLEAN MF 1000	350	Pounds(LB)	18-Sep-20
0001654972	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Sep-20
0001654969	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	18-Sep-20
0001654966	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	18-Sep-20
0001654970	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	18-Sep-20
0001654968	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	18-Sep-20
0001654967	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	18-Sep-20
0001654965	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	18-Sep-20
0001654964	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	18-Sep-20
0001654971	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	18-Sep-20
0001654978	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Sep-20
0001654973	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Sep-20
0001654974	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Sep-20
0001654975	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Sep-20
0001654976	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Sep-20
0001654977	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	18-Sep-20
0001423283	-	Sikadur 32 Hi Mod Epoxy	1	Gallon(GAL)	18-Sep-20
0001423285	-	Sikadur 32 Hi Mod Epoxy	1	Gallon(GAL)	18-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001423286	-	Sikadur 32 Hi Mod Epoxy	1	Gallon(GAL)	18-Sep-20
0001423284	-	Sikadur 32 Hi Mod Epoxy	1	Gallon(GAL)	18-Sep-20
0001423287	-	Sikadur 32 Hi Mod Epoxy	1	Gallon(GAL)	18-Sep-20
0001423288	-	Sikadur 32 Hi Mod Epoxy	1	Gallon(GAL)	18-Sep-20
0001423289	-	Sikadur 32 Hi Mod Epoxy	1	Gallon(GAL)	18-Sep-20
0001626488	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626498	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626511	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626502	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626503	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626504	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626506	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626496	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626508	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626501	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626510	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626505	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626512	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626513	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626514	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626515	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626516	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626517	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626509	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626490	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626507	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626500	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626489	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626491	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626492	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626493	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626494	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626495	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626497	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001626499	-	ES COMPLEAT	1	Gallon(GAL)	18-Sep-20
0001655101	-	Oxygen Nitrogen	220	Cubic Feet(CF)	21-Sep-20
0001655111	-	5% CARBON DIOXIDE BAL AIR	220	Cubic Feet(CF)	21-Sep-20
0001655112	7727-37-9	NITROGEN GAS	5	Cubic Feet(CF)	21-Sep-20
0001655087	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655077	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655085	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655084	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655083	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655086	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655082	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655081	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655078	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655076	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655075	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655080	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655079	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655108	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655109	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655110	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655102	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655103	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655104	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655105	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655106	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655107	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655115	7727-37-9	NITROGEN GAS	5	Cubic Feet(CF)	21-Sep-20
0001655055	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655056	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655064	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655065	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655058	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655057	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655059	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655062	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655063	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655060	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655061	74-98-6	PROPANE	220	Cubic Feet(CF)	21-Sep-20
0001655066	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	21-Sep-20
0001655067	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	21-Sep-20
0001655068	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	21-Sep-20
0001655069	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	21-Sep-20
0001655070	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	21-Sep-20
0001655071	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	21-Sep-20
0001655072	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	21-Sep-20
0001655073	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	21-Sep-20
0001655074	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	21-Sep-20
0001566502	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566511	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566503	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566517	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566516	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566515	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566514	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566513	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566512	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566509	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566508	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566507	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566506	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566504	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566510	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001566505	-	QUARTZ | Quartz ColorGranules	50	Pounds(LB)	21-Sep-20
0001655088	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001655091	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001655092	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001655090	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001655089	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001655093	-	5% HYDROGEN/95% ARGON	220	Cubic Feet(CF)	21-Sep-20
0001655095	-	5% HYDROGEN/95% ARGON	220	Cubic Feet(CF)	21-Sep-20
0001655100	-	5% HYDROGEN/95% ARGON	220	Cubic Feet(CF)	21-Sep-20
0001655096	-	5% HYDROGEN/95% ARGON	220	Cubic Feet(CF)	21-Sep-20
0001655094	-	5% HYDROGEN/95% ARGON	220	Cubic Feet(CF)	21-Sep-20
0001655097	-	5% HYDROGEN/95% ARGON	220	Cubic Feet(CF)	21-Sep-20
0001655099	-	5% HYDROGEN/95% ARGON	220	Cubic Feet(CF)	21-Sep-20
0001655098	-	5% HYDROGEN/95% ARGON	220	Cubic Feet(CF)	21-Sep-20
0001654979	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654984	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654990	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654989	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654988	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654987	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654985	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654994	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654983	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654982	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654981	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654980	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654986	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654991	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654993	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654995	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654996	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654997	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654998	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654999	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001655000	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001655001	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001655002	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001654992	-	ARGON GAS	220	Cubic Feet(CF)	21-Sep-20
0001655003	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	21-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655007	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	21-Sep-20
0001655008	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	21-Sep-20
0001655006	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	21-Sep-20
0001655004	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	21-Sep-20
0001655009	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	21-Sep-20
0001655005	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	21-Sep-20
0001655010	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655024	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655015	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655030	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655029	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655028	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655027	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655025	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655023	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655014	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655019	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655016	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655017	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655026	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655018	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655013	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655020	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655021	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655022	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655011	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655012	-	Compressed Air	220	Cubic Feet(CF)	21-Sep-20
0001655031	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655037	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655042	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655032	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655033	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655034	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655035	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655036	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655050	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655040	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655051	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655038	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655049	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655048	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655047	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655045	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655044	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655043	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655041	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655039	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655046	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655052	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Sep-20
0001655053	74-98-6	PROPANE	25	Pounds(LB)	21-Sep-20
0001655054	74-98-6	PROPANE	25	Pounds(LB)	21-Sep-20
0001655117	7440-59-7	HELIUM GAS	100	Liters(L)	21-Sep-20
0001655118	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655119	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655120	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655121	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Sep-20
0001655122	124-38-9	CARBON DIOXIDE	50	Cubic Feet(CF)	21-Sep-20
0001655113	7727-37-9	NITROGEN GAS	5	Cubic Feet(CF)	21-Sep-20
0001655114	7727-37-9	NITROGEN GAS	5	Cubic Feet(CF)	21-Sep-20
0001566518	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	22-Sep-20
0001566522	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	22-Sep-20
0001566521	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	22-Sep-20
0001566519	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	22-Sep-20
0001566520	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part A) Clear	4	Gallon(GAL)	22-Sep-20
0001566523	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part B) Hardener	1	Gallon(GAL)	22-Sep-20
0001566524	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part B) Hardener	1	Gallon(GAL)	22-Sep-20
0001566525	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part B) Hardener	1	Gallon(GAL)	22-Sep-20
0001566526	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part B) Hardener	1	Gallon(GAL)	22-Sep-20
0001566527	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part B) Standard Hardener	1	Gallon(GAL)	22-Sep-20
0001566528	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part B) Standard Hardener	1	Gallon(GAL)	22-Sep-20
0001566530	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part B) Standard Hardener	1	Gallon(GAL)	22-Sep-20
0001566531	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part B) Standard Hardener	1	Gallon(GAL)	22-Sep-20
0001566529	-	GENERAL POLYMERS 3561 Epoxy Resin Glaze (Part B) Standard Hardener	1	Gallon(GAL)	22-Sep-20
0001566532	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	22-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566536	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	22-Sep-20
0001566540	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	22-Sep-20
0001566539	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	22-Sep-20
0001566537	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	22-Sep-20
0001566535	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	22-Sep-20
0001566534	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	22-Sep-20
0001566533	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	22-Sep-20
0001566538	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	22-Sep-20
0001566541	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part B) Hardener	1	Gallon(GAL)	22-Sep-20
0001566542	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part B) Hardener	1	Gallon(GAL)	22-Sep-20
0001566543	-	STEEL EPOXY	1	Gallon(GAL)	22-Sep-20
0001566544	-	STEEL EPOXY	1	Gallon(GAL)	22-Sep-20
0001566545	-	STEEL EPOXY	1.5	Gallon(GAL)	22-Sep-20
0001605308	-	Mesa Labs Prospore Self-Contained Biological Indicator	50	Milliliter(ML)	22-Sep-20
0001566546	-	STEEL EPOXY	1.5	Gallon(GAL)	22-Sep-20
0001566547	-	PSX 700 CURE US	0.2	Gallon(GAL)	22-Sep-20
0001566548	-	PSX 700 CURE US	0.2	Gallon(GAL)	22-Sep-20
0001566549	-	PSX 700 CURE US	0.2	Gallon(GAL)	22-Sep-20
0001566550	-	PSX 700 CURE US	0.2	Gallon(GAL)	22-Sep-20
V000006E68	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	22-Sep-20
V000006E66	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	22-Sep-20
V000006E6B	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	22-Sep-20
V000006E69	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	22-Sep-20
V000006E67	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	22-Sep-20
V000006E6C	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	22-Sep-20
V000006E6A	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	22-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006E6D	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	22-Sep-20
0001566551	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566553	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566564	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566565	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566566	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566567	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566568	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566569	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566573	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566563	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566571	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566572	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566570	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566556	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566552	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566555	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566554	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566562	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566557	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566558	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566559	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566560	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566561	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001566574	-	ABC Fiberspray	8	Ounces(OZ)	22-Sep-20
0001605309	9011-14-7	TRANSACRYLIC COMPRESSION MOUNTING POWDER	5	Pounds(LB)	22-Sep-20
0001605310	-	CHLOROFORM-D (D 99.8%)	500	Milliliter(ML)	22-Sep-20
0001605311	330645-87-9	HCTU	100	Gram(GM)	22-Sep-20
0001605312	123333-53-9	HOBt hydrate	100	Gram(GM)	22-Sep-20
0001605313	25952-53-8	1-(3-DIMETHYLAMINOPROPYL)-3-ETHYLCARBODIIMIDE HYDROCHLORIDE	250	Gram(GM)	22-Sep-20
0001605314	501-98-4	trans-p-Coumaric acid	50	Milligram(MG)	22-Sep-20
0001605315	64-17-5	ETHYL ALCOHOL	1	Liters(L)	22-Sep-20
0001605316	76-05-1	TRIFLUOROACETIC ACID	100	Milliliter(ML)	22-Sep-20
0001605317	598-21-0	BROMOACETYL BROMIDE	100	Gram(GM)	22-Sep-20
0001607662	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	22-Sep-20
0001607668	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	22-Sep-20
0001607669	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	22-Sep-20
0001607667	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	22-Sep-20
0001607666	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	22-Sep-20
0001607665	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	22-Sep-20
0001607664	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	22-Sep-20
0001607663	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	22-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607670	-	FREEZE SPRAY	11	Ounces(OZ)	22-Sep-20
0001607671	-	FREEZE SPRAY	11	Ounces(OZ)	22-Sep-20
0001607672	-	FREEZE SPRAY	11	Ounces(OZ)	22-Sep-20
0001607673	-	FREEZE SPRAY	11	Ounces(OZ)	22-Sep-20
0001607674	-	FREEZE SPRAY	11	Ounces(OZ)	22-Sep-20
0001607675	-	FREEZE SPRAY	11	Ounces(OZ)	22-Sep-20
0001607676	-	LOCTITE SUPER BONDER	1	Ounces(OZ)	22-Sep-20
0001607682	-	LOCTITE SUPER BONDER	1	Ounces(OZ)	22-Sep-20
0001607685	-	LOCTITE SUPER BONDER	1	Ounces(OZ)	22-Sep-20
0001607684	-	LOCTITE SUPER BONDER	1	Ounces(OZ)	22-Sep-20
0001607683	-	LOCTITE SUPER BONDER	1	Ounces(OZ)	22-Sep-20
0001607680	-	LOCTITE SUPER BONDER	1	Ounces(OZ)	22-Sep-20
0001607679	-	LOCTITE SUPER BONDER	1	Ounces(OZ)	22-Sep-20
0001607678	-	LOCTITE SUPER BONDER	1	Ounces(OZ)	22-Sep-20
0001607677	-	LOCTITE SUPER BONDER	1	Ounces(OZ)	22-Sep-20
0001607681	-	LOCTITE SUPER BONDER	1	Ounces(OZ)	22-Sep-20
0001607686	57-11-4	STEARIC ACID	25	Gram(GM)	22-Sep-20
0001607687	777-81-8	DRIERITE	4.5	Pounds(LB)	22-Sep-20
0001607688	777-81-8	DRIERITE	4.5	Pounds(LB)	22-Sep-20
0001607689	-	Brady Acid and Base Neutralizing Polymers	2	Pounds(LB)	22-Sep-20
0001607691	-	Brady Acid and Base Neutralizing Polymers	2	Pounds(LB)	22-Sep-20
0001607690	-	Brady Acid and Base Neutralizing Polymers	2	Pounds(LB)	22-Sep-20
0001607692	25322-68-3	POLYETHYLENE GLYCOL	100	Milliliter(ML)	22-Sep-20
0001607693	37380-43-1	AMBERLITE	1	Kilograms(KG)	22-Sep-20
0001607694	31694-16-3	Polyetheretherketone	1000	Gram(GM)	22-Sep-20
0001607695	82113-65-3	BIS(TRIFLUOROMETHANE)SULFONIMIC	5	Gram(GM)	22-Sep-20
0001607696	693-98-1	2-METHYLIMIDAZOLE	100	Gram(GM)	22-Sep-20
0001607719	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607747	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607737	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607738	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607739	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607740	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607741	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607742	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607743	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607744	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607735	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607746	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607734	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607748	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607749	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607750	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607754	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607751	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607752	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607753	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607745	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607724	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607720	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607721	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607736	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607723	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607733	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607725	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607726	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607727	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607729	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607730	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607731	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607732	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607722	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607728	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	Liters(L)	22-Sep-20
0001607697	-	SODIUM HYPOCHLORITE 12.5%	54	Gallon(GAL)	22-Sep-20
0001607791	924-44-7	Ethyl glyoxylate	100	Gram(GM)	22-Sep-20
0001607792	924-44-7	Ethyl glyoxylate	100	Gram(GM)	22-Sep-20
0001607793	13450-90-3	GALLIUM(III) CHLORIDE	5	Gram(GM)	22-Sep-20
0001607794	13450-90-3	GALLIUM(III) CHLORIDE	5	Gram(GM)	22-Sep-20
0001607796	288-32-4	IMIDAZOLE	25	Gram(GM)	22-Sep-20
0001607797	931-36-2	2-ETHYL-4-METHYLIMIDAZOLE	100	Gram(GM)	22-Sep-20
0001607795	7226-23-5	1 3-Dimethyl-3 4 5 6-tetrahydro-2(1H)-pyrimidinone	25	Gram(GM)	22-Sep-20
0001607798	7689-03-4	CAMPTOTHECIN	100	Milligram(MG)	22-Sep-20
0001607799	20830-75-5	DIGOXIN	100	Milligram(MG)	22-Sep-20
0001607800	1934-75-4	SODIUM DICYANAMIDE	100	Gram(GM)	22-Sep-20
0001607801	17292-62-5	SODIUM HYDROGENCYANAMIDE	25	Gram(GM)	22-Sep-20
0001607802	39139-87-2	Tetrabutylammonium cyanate	5	Gram(GM)	22-Sep-20
0001607803	3674-54-2	Tetrabutylammonium thiocyanate	10	Gram(GM)	22-Sep-20
0001607804	9048-46-8	BOVINE SERUM ALBUMIN	50	Gram(GM)	22-Sep-20
0001607805	9048-46-8	BOVINE SERUM ALBUMIN	50	Gram(GM)	22-Sep-20
0001607806	9048-46-8	BOVINE SERUM ALBUMIN	50	Gram(GM)	22-Sep-20
0001607808	9048-46-8	BOVINE SERUM ALBUMIN	50	Gram(GM)	22-Sep-20
0001607807	9048-46-8	BOVINE SERUM ALBUMIN	50	Gram(GM)	22-Sep-20
0001607809	370865-89-7	1-Ethyl-3-methylimidazolium dicyanamide	100	Gram(GM)	22-Sep-20
0001607810	27178-16-1	DIISODECYL ADIPATE	500	Milliliter(ML)	22-Sep-20
0001566575	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	608	Gallon(GAL)	22-Sep-20
0001566576	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	608	Gallon(GAL)	22-Sep-20
0001566578	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	608	Gallon(GAL)	22-Sep-20
0001566580	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	608	Gallon(GAL)	22-Sep-20
0001566579	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	608	Gallon(GAL)	22-Sep-20
0001566577	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	608	Gallon(GAL)	22-Sep-20
0001566581	-	Avalon Premium 100% Acrylic Interior Flat W/B	608	Ounces(OZ)	22-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566582	-	Avalon Premium 100% Acrylic Interior Flat W/B	608	Ounces(OZ)	22-Sep-20
0001566586	-	Avalon Premium 100% Acrylic Interior Flat W/B	608	Ounces(OZ)	22-Sep-20
0001566585	-	Avalon Premium 100% Acrylic Interior Flat W/B	608	Ounces(OZ)	22-Sep-20
0001566584	-	Avalon Premium 100% Acrylic Interior Flat W/B	608	Ounces(OZ)	22-Sep-20
0001566583	-	Avalon Premium 100% Acrylic Interior Flat W/B	608	Ounces(OZ)	22-Sep-20
0001566587	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	22-Sep-20
0001566588	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	22-Sep-20
0001566589	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	22-Sep-20
0001566590	-	Avalon Premium 100% Acrylic Interior Eggshell W/B - DE-1631	608	Ounces(OZ)	22-Sep-20
0001566591	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001566600	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001566593	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001566592	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001566595	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001566598	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001566596	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001566599	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001566594	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001566601	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001566597	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	22-Sep-20
0001607811	540-72-7	SODIUM THIOCYANATE	100	Gram(GM)	22-Sep-20
0001607812	333-20-0	POTASSIUM THIOCYANATE	100	Gram(GM)	22-Sep-20
0001607813	590-28-3	POTASSIUM CYANATE	100	Gram(GM)	22-Sep-20
0001607814	1762-95-4	AMMONIUM THIOCYANATE	100	Gram(GM)	22-Sep-20
0001607815	16800-67-2	N-Acetylindol-3-yl acetate	5	Gram(GM)	22-Sep-20
0001607816	-	2-Chloro-6-Methoxy-3-nitropyridine	25	Gram(GM)	22-Sep-20
0001607817	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607819	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607827	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607828	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607825	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607824	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607826	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607821	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607823	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607822	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607820	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607818	-	LOCTITE ABLESTIK 2902	2.65	Gram(GM)	22-Sep-20
0001607829	57260-73-8	tert-Butyl N-(2-aminoethyl)carbamate	100	Gram(GM)	22-Sep-20
0001607830	82911-69-1	N-(9-FLUORENYLMETHOXYCARBONYLOXY)-SUCCINIMIDE	500	Gram(GM)	22-Sep-20
0001607831	68076-36-8	N-Boc-1 4-butanediamine	25	Gram(GM)	22-Sep-20
0001607832	75178-96-0	N-Boc-1 3-diaminopropane	100	Gram(GM)	22-Sep-20
0001607833	75-09-2	DICHLOROMETHANE	4	Liters(L)	22-Sep-20
0001607835	75-09-2	DICHLOROMETHANE	4	Liters(L)	22-Sep-20
0001607834	75-09-2	DICHLOROMETHANE	4	Liters(L)	22-Sep-20
0001607836	57-24-9	STRYCHNINE	5	Gram(GM)	22-Sep-20
0001607837	357-57-3	BRUCINE	5	Gram(GM)	22-Sep-20
0001607838	483-04-5	Ajmalicine	10	Milligram(MG)	22-Sep-20
0001607839	4429-63-4	Tabersonine	10	Milligram(MG)	22-Sep-20
0001607840	465-21-4	Bufalin	10	Milligram(MG)	22-Sep-20
0001607841	17575-22-3	Lanatoside C	100	Milligram(MG)	22-Sep-20
0001607842	1672-46-4	Digoxigenin	25	Milligram(MG)	22-Sep-20
0001566602	-	HERCULES PURPLE PVC PRIMER	32	Ounces(OZ)	22-Sep-20
0001566603	-	HERCULES CLEAR PVC PIPE CEMENT	32	Ounces(OZ)	22-Sep-20
0001349857	-	ULTIMA GOLD AB	5	Liters(L)	23-Sep-20
0001605318	-	Fiber Optic Cleaning Solution	2	Ounces(OZ)	23-Sep-20
0001605319	-	Fiber Optic Cleaning Solution	2	Ounces(OZ)	23-Sep-20
0001605320	-	Fiber Optic Cleaning Solution	2	Ounces(OZ)	23-Sep-20
0001605321	-	Fiber Optic Cleaning Solution	2	Ounces(OZ)	23-Sep-20
0001607635	7087-68-5	N N-DIISOPROPYLETHYLAMINE	1	Liters(L)	23-Sep-20
0001607636	74-88-4	IODOMETHANE	100	Gram(GM)	23-Sep-20
0001607637	-	2-CHLOROETHANOL (182)	50	Gram(GM)	23-Sep-20
0001607843	-	NORLAND OPTICAL ADHESIVE 61	10	Gram(GM)	23-Sep-20
0001607844	-	NORLAND OPTICAL ADHESIVE 61	10	Gram(GM)	23-Sep-20
0001607845	-	NORLAND OPTICAL ADHESIVE 68	10	Gram(GM)	23-Sep-20
0001607846	-	NORLAND OPTICAL ADHESIVE 68	10	Gram(GM)	23-Sep-20
0001607847	-	Norland Optical Adhesive 68T	10	Gram(GM)	23-Sep-20
0001607848	-	Norland Optical Adhesive 68T	10	Gram(GM)	23-Sep-20
0001566604	-	ABC Fiberspray	5	Gallon(GAL)	23-Sep-20
0001566610	-	ABC Fiberspray	5	Gallon(GAL)	23-Sep-20
0001566613	-	ABC Fiberspray	5	Gallon(GAL)	23-Sep-20
0001566611	-	ABC Fiberspray	5	Gallon(GAL)	23-Sep-20
0001566609	-	ABC Fiberspray	5	Gallon(GAL)	23-Sep-20
0001566608	-	ABC Fiberspray	5	Gallon(GAL)	23-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566607	-	ABC Fiberspray	5	Gallon(GAL)	23-Sep-20
0001566606	-	ABC Fiberspray	5	Gallon(GAL)	23-Sep-20
0001566605	-	ABC Fiberspray	5	Gallon(GAL)	23-Sep-20
0001566612	-	ABC Fiberspray	5	Gallon(GAL)	23-Sep-20
0001607849	-	Norland Ultraviolet Sealant 91	10	Gram(GM)	23-Sep-20
0001607850	-	Norland Ultraviolet Sealant 91	10	Gram(GM)	23-Sep-20
0001607855	6106-24-7	SODIUM TARTRATE DIHYDRATE	100	Gram(GM)	23-Sep-20
0001607856	-	TOTAL ORGANIC CARBON REAG	120	Milliliter(ML)	23-Sep-20
0001607857	63231-67-4	SILICA GEL	2.5	Kilograms(KG)	23-Sep-20
0001566614	107-41-5	ChemSafe Gold	5	Gallon(GAL)	23-Sep-20
0001607858	64-18-6	FORMIC ACID	50	Milliliter(ML)	23-Sep-20
0001566616	107-41-5	ChemSafe Gold	5	Gallon(GAL)	23-Sep-20
0001566617	107-41-5	ChemSafe Gold	5	Gallon(GAL)	23-Sep-20
0001566618	107-41-5	ChemSafe Gold	5	Gallon(GAL)	23-Sep-20
0001566620	107-41-5	ChemSafe Gold	5	Gallon(GAL)	23-Sep-20
0001566621	107-41-5	ChemSafe Gold	5	Gallon(GAL)	23-Sep-20
0001566622	107-41-5	ChemSafe Gold	5	Gallon(GAL)	23-Sep-20
0001566623	107-41-5	ChemSafe Gold	5	Gallon(GAL)	23-Sep-20
0001566615	107-41-5	ChemSafe Gold	5	Gallon(GAL)	23-Sep-20
0001566619	107-41-5	ChemSafe Gold	5	Gallon(GAL)	23-Sep-20
0001607859	-	Indium ingot polycrystalline	50	Gram(GM)	23-Sep-20
0001607860	-	OP-S NonDry	1	Liters(L)	23-Sep-20
0001607862	-	OP-S NonDry	1	Liters(L)	23-Sep-20
0001607861	-	OP-S NonDry	1	Liters(L)	23-Sep-20
0001607863	9011-14-7	TRANSACRYLIC COMPRESSION MOUNTING POWDER	5	Pounds(LB)	23-Sep-20
0001607864	1310-73-2	SODIUM HYDROXIDE	1	Kilograms(KG)	23-Sep-20
0001607865	13048-33-4	1 6-HEXANEDIOL DIACRYLATE	250	Gram(GM)	23-Sep-20
0001607866	-	IC INSTRUMENT CHECK STANDARD 3	125	Milliliter(ML)	23-Sep-20
0001607867	-	AG 1-X4 50-100 100-200 200-400 chloride resin	500	Gram(GM)	23-Sep-20
0001607868	-	AG 1-X4 50-100 100-200 200-400 chloride resin	500	Gram(GM)	23-Sep-20
0001607869	-	AG 1-X4 50-100 100-200 200-400 chloride resin	500	Gram(GM)	23-Sep-20
0001566624	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566628	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566625	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566629	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566630	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566631	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566632	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566633	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566634	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566635	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566636	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566637	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566638	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566639	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566626	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001566627	-	ALL-PURPOSE JOINT COMPOUND	4.5	Gallon(GAL)	23-Sep-20
0001063220	-	Kester EP256 Easy Profile No-Clean Solder Paste	500	Milligram(MG)	24-Sep-20
V000006E7C	-	Sta-Lube Air Tool Oil	15	Ounces(OZ)	24-Sep-20
V000006E7D	-	Sta-Lube Air Tool Oil	15	Ounces(OZ)	24-Sep-20
V000006E7B	-	Sta-Lube Air Tool Oil	15	Ounces(OZ)	24-Sep-20
V000006E7A	-	Sta-Lube Air Tool Oil	15	Ounces(OZ)	24-Sep-20
V000006E7E	-	Sta-Lube Air Tool Oil	15	Ounces(OZ)	24-Sep-20
V000006EB7	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EBE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EC6	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EC5	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EC4	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EC3	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EC2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EC1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EC0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EBF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EBD	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EBC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EBB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EBA	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EC7	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EB8	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ECC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006EB5	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EB3	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EB2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EB1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EB9	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ED7	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EB4	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EB0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EE2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EE1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EE0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EDF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EDE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EDD	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EDC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EDB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EDA	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ECA	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ED8	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EC8	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ED6	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ED5	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006ED4	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ED3	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ED2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ED1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ED0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ECF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ECE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ECD	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ECB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EC9	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006ED9	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E8E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E94	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E8F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EA2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EB6	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EA1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EA0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E9F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E9E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E9D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E93	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006E8C	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EA3	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EAC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EA4	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E9C	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E9B	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E9A	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E99	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E98	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E97	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E96	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E95	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E90	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E91	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E92	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E8D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EAA	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E85	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E86	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EAD	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EAE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E83	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006E82	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EAF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E81	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E80	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E84	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E7F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E8B	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E87	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E88	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E89	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006E8A	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EA9	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EA8	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EA7	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EA6	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EA5	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
V000006EAB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	24-Sep-20
0001566640	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566641	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566648	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566646	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566671	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566654	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566653	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566652	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566651	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566650	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566649	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566656	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566669	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566657	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566647	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566668	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566667	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566642	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566643	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566644	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566645	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566666	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566681	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566678	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566677	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566676	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566675	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566674	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566673	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566679	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566672	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566684	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566655	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566682	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566670	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566680	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566665	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566664	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566663	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566662	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566661	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566660	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566659	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566658	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001566683	-	C6: Portland Cement Based Concrete Products	60	Pounds(LB)	24-Sep-20
0001607851	110-54-3	HEXANE (HEXANE ANHYDROUS)	4	Liters(L)	24-Sep-20
0001607853	110-54-3	HEXANE (HEXANE ANHYDROUS)	4	Liters(L)	24-Sep-20
0001607852	110-54-3	HEXANE (HEXANE ANHYDROUS)	4	Liters(L)	24-Sep-20
0001607854	110-54-3	HEXANE (HEXANE ANHYDROUS)	4	Liters(L)	24-Sep-20
0001607870	7440-21-3	SILICON STANDARD	30	Milliliter(ML)	24-Sep-20
0001607871	-	TITANIUM STANDARD	30	Milliliter(ML)	24-Sep-20
0001607872	-	SCANDIUM STANDARD	30	Milliliter(ML)	24-Sep-20
0001607873	67-64-1	ACETONE	1	Liters(L)	24-Sep-20
0001607874	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	24-Sep-20
0001607875	-	Armstrong A-2 Epoxy Adhesive A-E Off-White C-Kit	82	Gram(GM)	24-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607877	-	Armstrong A-2 Epoxy Adhesive A-E Off-White C-Kit	82	Gram(GM)	24-Sep-20
0001607878	-	Armstrong A-2 Epoxy Adhesive A-E Off-White C-Kit	82	Gram(GM)	24-Sep-20
0001607879	-	Armstrong A-2 Epoxy Adhesive A-E Off-White C-Kit	82	Gram(GM)	24-Sep-20
0001607876	-	Armstrong A-2 Epoxy Adhesive A-E Off-White C-Kit	82	Gram(GM)	24-Sep-20
0001607880	-	AQUARIUM SEALANT	2.8	Ounces(OZ)	24-Sep-20
0001607881	-	Uraplex	125	Milliliter(ML)	24-Sep-20
0001607882	1310-73-2	SODIUM HYDROXIDE	500	Gram(GM)	24-Sep-20
0001607883	1310-73-2	SODIUM HYDROXIDE PELLETS	500	Gram(GM)	24-Sep-20
0001607884	1310-73-2	SODIUM HYDROXIDE PELLETS	500	Gram(GM)	24-Sep-20
0001607885	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	24-Sep-20
0001607886	1122-58-3	4-DIMETHYLAMINOPYRIDINE	25	Gram(GM)	24-Sep-20
0001607887	1122-58-3	4-DIMETHYLAMINOPYRIDINE	25	Gram(GM)	24-Sep-20
0001607888	110-86-1	PYRIDINE	500	Milliliter(ML)	24-Sep-20
0001607889	110-86-1	PYRIDINE	500	Milliliter(ML)	24-Sep-20
0001660378	-	DEFOAMER	1	Pint(PT)	24-Sep-20
0001660369	-	DEFOAMER	1	Pint(PT)	24-Sep-20
0001607890	-	ON GUARD Base Detecting Paint - Latex	1	Gallon(GAL)	24-Sep-20
0001607891	-	ZR Resin	100	Gram(GM)	24-Sep-20
0001607892	68-12-2	N N-DIMETHYLFORMAMIDE	100	Gram(GM)	24-Sep-20
0001660387	-	ALCATEL DIRECT DRIVE MECHANICAL VACUUM PUMP FLUID	1	Liters(L)	24-Sep-20
0001660396	-	HYDROCARBON VACUUM PUMP OIL	1	Liters(L)	24-Sep-20
0001607893	109-99-9	TETRAHYDROFURAN ANHYDROUS	1	Liters(L)	28-Sep-20
0001607896	109-99-9	TETRAHYDROFURAN ANHYDROUS	1	Liters(L)	28-Sep-20
0001607894	109-99-9	TETRAHYDROFURAN ANHYDROUS	1	Liters(L)	28-Sep-20
0001607895	109-99-9	TETRAHYDROFURAN ANHYDROUS	1	Liters(L)	28-Sep-20
0001607897	67-56-1	METHANOL	1	Liters(L)	28-Sep-20
0001607898	121-32-4	ETHYL VANILLIN	2.5	Kilograms(KG)	28-Sep-20
0001607899	-	2-propanol	4	Liters(L)	28-Sep-20
0001607900	-	2-propanol	4	Liters(L)	28-Sep-20
0001607901	-	2-propanol	4	Liters(L)	28-Sep-20
0001607902	109-89-7	DIETHYLAMINE	500	Milliliter(ML)	28-Sep-20
0001607903	88211-50-1	but-3-yn-1-amine hydrochloride	10	Gram(GM)	28-Sep-20
0001607904	16921-30-5	POTASSIUM HEXACHLOROPLATINATE (IV)	1	Gram(GM)	28-Sep-20
0001655280	75-45-6	CHLORODIFLUOROMETHANE	30	Pounds(LB)	28-Sep-20
0001655281	75-45-6	CHLORODIFLUOROMETHANE	30	Pounds(LB)	28-Sep-20
0001655282	75-45-6	CHLORODIFLUOROMETHANE	30	Pounds(LB)	28-Sep-20
0001655283	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655241	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655244	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655242	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655240	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655239	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655238	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655243	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655220	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655223	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655224	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655222	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655213	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655218	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655219	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655214	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655215	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655212	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655216	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655217	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655221	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655284	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655285	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655229	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655237	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655225	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655226	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655227	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655228	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655230	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655232	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655233	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655234	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655235	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655231	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655236	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655140	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655141	-	ARGON GAS	220	Cubic Feet(CF)	28-Sep-20
0001655245	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655258	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655253	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655254	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655255	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655256	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655263	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655262	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655261	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655257	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655246	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655259	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655251	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655250	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655249	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655248	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655252	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655260	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655247	-	HYDROGEN GAS	220	Cubic Feet(CF)	28-Sep-20
0001655264	-	25ppm Hydrogen Chloride/Balance Nitrogen	40	Cubic Feet(CF)	28-Sep-20
0001655123	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	28-Sep-20
0001655124	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655129	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655131	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655132	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655127	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655134	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655128	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655135	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655136	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655137	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655138	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655139	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655133	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655125	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655130	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655126	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	28-Sep-20
0001655142	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	28-Sep-20
0001655143	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	28-Sep-20
0001655144	124-38-9	CARBON DIOXIDE	150	Cubic Feet(CF)	28-Sep-20
0001655146	124-38-9	CARBON DIOXIDE	150	Cubic Feet(CF)	28-Sep-20
0001655145	124-38-9	CARBON DIOXIDE	150	Cubic Feet(CF)	28-Sep-20
0001655147	-	Compressed Air	220	Cubic Feet(CF)	28-Sep-20
0001655151	-	Compressed Air	220	Cubic Feet(CF)	28-Sep-20
0001655148	-	Compressed Air	220	Cubic Feet(CF)	28-Sep-20
0001655150	-	Compressed Air	220	Cubic Feet(CF)	28-Sep-20
0001655149	-	Compressed Air	220	Cubic Feet(CF)	28-Sep-20
0001655152	74-86-2	ACETYLENE STABILIZED	240	Cubic Feet(CF)	28-Sep-20
0001655269	74-86-2	ACETYLENE STABILIZED	130	Cubic Feet(CF)	28-Sep-20
0001655268	74-86-2	ACETYLENE STABILIZED	130	Cubic Feet(CF)	28-Sep-20
0001655270	74-86-2	ACETYLENE STABILIZED	240	Cubic Feet(CF)	28-Sep-20
0001655271	74-86-2	ACETYLENE STABILIZED	240	Cubic Feet(CF)	28-Sep-20
0001655153	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655199	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655200	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655202	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655203	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655206	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655205	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655204	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655201	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655207	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655191	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655190	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655189	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655188	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655187	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655185	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655182	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655168	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655173	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655181	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655183	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655169	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655193	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655194	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655195	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655196	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655197	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655174	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655179	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655175	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655180	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655192	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655178	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655177	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655176	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655184	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655198	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655158	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655166	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655164	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655157	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655162	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655161	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655167	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655159	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655165	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655186	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655172	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655170	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655154	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655155	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655156	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655160	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655171	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655163	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	28-Sep-20
0001655208	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	28-Sep-20
0001655211	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	28-Sep-20
0001655210	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	28-Sep-20
0001655209	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	28-Sep-20
0001655265	7439-90-9	KRYPTON	125	Cubic Feet(CF)	28-Sep-20
0001655266	7439-90-9	KRYPTON	125	Cubic Feet(CF)	28-Sep-20
0001655267	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	28-Sep-20
0001655272	-	Nitrogen/Methane	1.2	Cubic Feet(CF)	28-Sep-20
0001655273	-	Methane/Nitrogen	1.5	Cubic Feet(CF)	28-Sep-20
0001655274	-	Methane/Nitrogen	1.2	Cubic Feet(CF)	28-Sep-20
0001655275	7664-41-7	AMMONIA ANHYDROUS	170	Gram(GM)	28-Sep-20
0001655276	74-85-1	ETHYLENE	40	Cubic Feet(CF)	28-Sep-20
0001655277	74-85-1	ETHYLENE	40	Cubic Feet(CF)	28-Sep-20
0001655278	630-08-0	CARBON MONOXIDE	40	Cubic Feet(CF)	28-Sep-20
0001655279	630-08-0	CARBON MONOXIDE	40	Cubic Feet(CF)	28-Sep-20
0001607905	4388-87-8	2 5-dimethylhexane-3 4-dione	1	Gram(GM)	28-Sep-20
0001607906	3976-69-0	METHYL (R)-(-)-3-HYDROXYBUTYRATE	1	Gram(GM)	28-Sep-20
0001607907	3976-69-0	METHYL (R)-(-)-3-HYDROXYBUTYRATE	1	Gram(GM)	28-Sep-20
0001607908	-	DGA RESIN	1	Gram(GM)	28-Sep-20
0001607909	-	DGA RESIN	1	Gram(GM)	28-Sep-20
0001607910	64-19-7	TCLP Extraction Fluid #2	4	Liters(L)	28-Sep-20
0001607911	64-19-7	TCLP Extraction Fluid #2	4	Liters(L)	28-Sep-20
0001607912	12067-99-1	PHOSPHOTUNGSTIC ACID	25	Gram(GM)	28-Sep-20
0001607913	-	Cooper's Own Self Dissolving Lily Tabs	60	Gram(GM)	28-Sep-20
0001607915	-	Cooper's Own Self Dissolving Lily Tabs	60	Gram(GM)	28-Sep-20
0001607916	-	Cooper's Own Self Dissolving Lily Tabs	60	Gram(GM)	28-Sep-20
0001607917	-	Cooper's Own Self Dissolving Lily Tabs	60	Gram(GM)	28-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607914	-	Cooper's Own Self Dissolving Lily Tabs	60	Gram(GM)	28-Sep-20
0001566685	-	GENERAL POLYMERS 5531 Pre Primer/Tack Coat	32	Ounces(OZ)	28-Sep-20
0001566691	-	GENERAL POLYMERS 5531 Pre Primer/Tack Coat	32	Ounces(OZ)	28-Sep-20
0001566688	-	GENERAL POLYMERS 5531 Pre Primer/Tack Coat	32	Ounces(OZ)	28-Sep-20
0001566687	-	GENERAL POLYMERS 5531 Pre Primer/Tack Coat	32	Ounces(OZ)	28-Sep-20
0001566686	-	GENERAL POLYMERS 5531 Pre Primer/Tack Coat	32	Ounces(OZ)	28-Sep-20
0001566692	-	GENERAL POLYMERS 5531 Pre Primer/Tack Coat	32	Ounces(OZ)	28-Sep-20
0001566690	-	GENERAL POLYMERS 5531 Pre Primer/Tack Coat	32	Ounces(OZ)	28-Sep-20
0001566689	-	GENERAL POLYMERS 5531 Pre Primer/Tack Coat	32	Ounces(OZ)	28-Sep-20
0001566693	-	GENERAL POLYMERS 5531 Pre Primer/Tack Coat	32	Ounces(OZ)	28-Sep-20
V000006EF2	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Sep-20
V000006EF4	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Sep-20
V000006EF3	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	29-Sep-20
V000006EF8	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006EF6	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006EFD	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006EF9	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006EFC	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006EFA	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006EF7	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006EFE	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006EFF	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006F00	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006F01	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006F02	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006EFB	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006EF5	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006F04	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006F03	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Sep-20
V000006F08	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	29-Sep-20
V000006F05	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	29-Sep-20
V000006F06	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006F07	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	29-Sep-20
0001626518	-	STA-BIL FUEL STABILIZER	32	Ounces(OZ)	29-Sep-20
0001626519	-	STA-BIL FUEL STABILIZER	32	Ounces(OZ)	29-Sep-20
0001626520	-	STA-BIL FUEL STABILIZER	32	Ounces(OZ)	29-Sep-20
0001626521	-	STA-BIL FUEL STABILIZER	32	Ounces(OZ)	29-Sep-20
0001626522	-	STA-BIL FUEL STABILIZER	32	Ounces(OZ)	29-Sep-20
0001626523	-	STA-BIL FUEL STABILIZER	32	Ounces(OZ)	29-Sep-20
0001539973	-	Loctite GRD B	50	Milliliter(ML)	29-Sep-20
0001539982	-	DOWSIL 3-1944 RTV Coating	28	Milliliter(ML)	29-Sep-20
0001566696	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	29-Sep-20
0001566698	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	29-Sep-20
0001566697	-	GENERAL POLYMERS 3746 High Performance Epoxy (Part A) Clear	1	Gallon(GAL)	29-Sep-20
0001626524	-	Blue Def	2.5	Gallon(GAL)	29-Sep-20
0001626526	-	Blue Def	2.5	Gallon(GAL)	29-Sep-20
0001626532	-	Blue Def	2.5	Gallon(GAL)	29-Sep-20
0001626531	-	Blue Def	2.5	Gallon(GAL)	29-Sep-20
0001626530	-	Blue Def	2.5	Gallon(GAL)	29-Sep-20
0001626529	-	Blue Def	2.5	Gallon(GAL)	29-Sep-20
0001626527	-	Blue Def	2.5	Gallon(GAL)	29-Sep-20
0001626525	-	Blue Def	2.5	Gallon(GAL)	29-Sep-20
0001626528	-	Blue Def	2.5	Gallon(GAL)	29-Sep-20
0001626533	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626541	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626545	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626554	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626553	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626552	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626551	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626550	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626549	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626548	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626539	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626546	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626534	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626544	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626543	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626542	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626540	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626538	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626537	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626536	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626535	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626547	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626564	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626590	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626569	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626570	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626571	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626572	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626601	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626574	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626562	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626597	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626596	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626595	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626594	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626593	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626568	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626591	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626573	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626589	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626588	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626587	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626586	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626585	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626576	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626577	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626578	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626579	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626580	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626581	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626582	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626583	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626592	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626555	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626575	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626567	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626600	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626599	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626556	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626557	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626558	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626584	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626560	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626598	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626561	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626563	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626559	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626566	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
0001626565	-	Prime Guard DEF	2.5	Gallon(GAL)	29-Sep-20
V000006F35	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F34	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F33	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F32	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F31	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F30	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F2C	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F2E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F2D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F44	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F3A	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F2B	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F2A	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F2F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F43	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F42	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F41	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F40	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F3F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F3E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006F3D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F3B	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F39	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F38	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F37	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F36	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F11	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F29	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F3C	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F0F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F16	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F09	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F15	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F14	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F13	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F18	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F10	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F17	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F0E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F28	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F0D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F0C	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006F0A	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F0B	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F12	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F1F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F22	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F21	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F24	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F25	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F19	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F23	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F26	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F1E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F1D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F1C	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F1B	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F27	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F1A	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
V000006F20	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Sep-20
0001655507	-	Carbon Dioxide Air	220	Cubic Feet(CF)	29-Sep-20
0001655508	-	Carbon Dioxide Air	220	Cubic Feet(CF)	29-Sep-20
0001607698	-	2-PROPANOL	1	Liters(L)	29-Sep-20
0001607703	-	2-PROPANOL	1	Liters(L)	29-Sep-20
0001607702	-	2-PROPANOL	1	Liters(L)	29-Sep-20
0001607701	-	2-PROPANOL	1	Liters(L)	29-Sep-20
0001607699	-	2-PROPANOL	1	Liters(L)	29-Sep-20
0001607700	-	2-PROPANOL	1	Liters(L)	29-Sep-20
0001607918	9002-84-0	Original ULTRA Tef-Gel	4	Ounces(OZ)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607919	9002-84-0	Original ULTRA Tef-Gel	4	Ounces(OZ)	29-Sep-20
0001607921	69991-67-9	LEYBONOL LVO 400	1	Liters(L)	29-Sep-20
0001607923	69991-67-9	LEYBONOL LVO 400	1	Liters(L)	29-Sep-20
0001607924	69991-67-9	LEYBONOL LVO 400	1	Liters(L)	29-Sep-20
0001607922	69991-67-9	LEYBONOL LVO 400	1	Liters(L)	29-Sep-20
0001607925	12069-32-8	BORON CARBIDE	10	Kilograms(KG)	29-Sep-20
0001607926	12069-32-8	BORON CARBIDE	10	Kilograms(KG)	29-Sep-20
0001607927	7681-52-9	SODIUM HYPOCHLORITE	250	Milliliter(ML)	29-Sep-20
0001607920	-	NovaClear Polyimide Powder	1	Pounds(LB)	29-Sep-20
0001655509	7727-37-9	NITROGEN GAS	0.46	Liters(L)	29-Sep-20
0001655510	124-38-9	CARBON DIOXIDE	0.5	Liters(L)	29-Sep-20
0001655511	124-38-9	CARBON DIOXIDE	0.5	Liters(L)	29-Sep-20
0001655512	124-38-9	CARBON DIOXIDE	0.5	Liters(L)	29-Sep-20
0001655286	-	OXYGEN COMPRESSED GAS	80	Cubic Feet(CF)	29-Sep-20
0001655287	74-86-2	ACETYLENE STABILIZED	80	Cubic Feet(CF)	29-Sep-20
0001655288	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655289	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655451	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655461	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655447	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655448	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655450	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655452	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655456	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655459	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655454	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655453	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655458	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655457	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655455	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655460	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655449	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Sep-20
0001655290	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	29-Sep-20
0001655292	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	29-Sep-20
0001655293	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	29-Sep-20
0001655294	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	29-Sep-20
0001655291	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	29-Sep-20
0001655295	-	Compressed Air	220	Cubic Feet(CF)	29-Sep-20
0001655299	-	Compressed Air	220	Cubic Feet(CF)	29-Sep-20
0001655296	-	Compressed Air	220	Cubic Feet(CF)	29-Sep-20
0001655297	-	Compressed Air	220	Cubic Feet(CF)	29-Sep-20
0001655298	-	Compressed Air	220	Cubic Feet(CF)	29-Sep-20
0001655300	-	Compressed Air	220	Cubic Feet(CF)	29-Sep-20
0001655301	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655308	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655302	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655303	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655304	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655305	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655306	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655307	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655337	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655331	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655332	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655344	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655343	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655342	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655341	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655340	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655339	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655310	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655334	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655338	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655336	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655345	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655320	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655309	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655335	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655311	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655313	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655314	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655315	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655316	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655317	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655312	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655319	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655330	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655321	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655322	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655323	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655324	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655325	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655326	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655327	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655328	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655329	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655318	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655333	-	ARGON GAS	220	Cubic Feet(CF)	29-Sep-20
0001655399	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655416	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655420	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655419	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655401	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655400	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655402	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655417	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655415	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655404	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655408	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655405	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655418	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655407	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655414	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655403	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655409	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655410	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655411	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655412	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655413	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655406	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	29-Sep-20
0001655421	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655428	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655435	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655422	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655423	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655424	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655425	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655426	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655427	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655430	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655431	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655432	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655434	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655429	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655433	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	29-Sep-20
0001655436	74-98-6	PROPANE	5	Gallon(GAL)	29-Sep-20
0001655437	74-98-6	PROPANE	50	Pounds(LB)	29-Sep-20
0001655439	74-98-6	PROPANE	50	Pounds(LB)	29-Sep-20
0001655446	74-98-6	PROPANE	50	Pounds(LB)	29-Sep-20
0001655445	74-98-6	PROPANE	50	Pounds(LB)	29-Sep-20
0001655444	74-98-6	PROPANE	50	Pounds(LB)	29-Sep-20
0001655443	74-98-6	PROPANE	50	Pounds(LB)	29-Sep-20
0001655442	74-98-6	PROPANE	50	Pounds(LB)	29-Sep-20
0001655440	74-98-6	PROPANE	50	Pounds(LB)	29-Sep-20
0001655438	74-98-6	PROPANE	50	Pounds(LB)	29-Sep-20
0001655441	74-98-6	PROPANE	50	Pounds(LB)	29-Sep-20
0016554362	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655467	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655468	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655463	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655464	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655466	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655481	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655485	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655484	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655465	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655482	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655469	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655480	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655479	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655478	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655477	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655476	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655475	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655472	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655473	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655474	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655470	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655483	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655471	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655492	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655486	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655488	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655491	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655487	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655493	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655494	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655495	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655496	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655497	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655498	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655499	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655490	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655489	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Sep-20
0001655346	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655505	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655504	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655503	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655502	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655501	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655500	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655369	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655379	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655378	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655377	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655361	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655376	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655360	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655368	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655380	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655370	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655371	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655372	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655373	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655374	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655375	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655365	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655364	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655363	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655366	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655362	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655387	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655367	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655394	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655352	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655351	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655350	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655349	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655348	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655398	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655385	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655353	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655395	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655347	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655393	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655392	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655391	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655390	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655389	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655388	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655381	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655396	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655386	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655382	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655397	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655384	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655354	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655359	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655357	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655383	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655358	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655356	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655355	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Sep-20
0001655506	-	25% ARGON 75% CARBON DIOXIDE	220	Cubic Feet(CF)	29-Sep-20
V000006F58	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F59	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F5A	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F57	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F5C	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F5B	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F56	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F60	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F5F	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F5E	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F5D	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
V000006F61	-	O¿REILLY PREMIUM ATF TYPE F	1	Quarts(QT)	30-Sep-20
0001626611	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626628	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626631	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626629	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626617	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626616	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626615	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626614	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626613	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626612	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626630	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626627	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626642	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626644	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626641	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626640	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626639	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626638	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626637	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626645	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626632	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626636	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626643	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626634	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626626	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626623	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626646	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626618	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626625	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626619	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626624	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626620	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626621	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626622	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626633	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001626635	-	Parts Plus Type F ATF	1	Quarts(QT)	01-Oct-20
0001541909	-	Silicone Plus Premium Window & Door Sealant Clear	10.8	Ounces(OZ)	01-Oct-20
0001541910	-	Silicone Plus Premium Window & Door Sealant Clear	10.8	Ounces(OZ)	01-Oct-20
0001541911	-	Silicone Plus Premium Window & Door Sealant Clear	10.8	Ounces(OZ)	01-Oct-20
0001435561	-	BUCKEYE PLATINUM 3% AFFF CONCENTRATE AQUEOUS FILM FORMING FOAM	55	Gallon(GAL)	01-Oct-20
0001435566	-	BUCKEYE PLATINUM 3% AFFF CONCENTRATE AQUEOUS FILM FORMING FOAM	55	Gallon(GAL)	01-Oct-20
0001435565	-	BUCKEYE PLATINUM 3% AFFF CONCENTRATE AQUEOUS FILM FORMING FOAM	55	Gallon(GAL)	01-Oct-20
0001435564	-	BUCKEYE PLATINUM 3% AFFF CONCENTRATE AQUEOUS FILM FORMING FOAM	55	Gallon(GAL)	01-Oct-20
0001435562	-	BUCKEYE PLATINUM 3% AFFF CONCENTRATE AQUEOUS FILM FORMING FOAM	55	Gallon(GAL)	01-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001435563	-	BUCKEYE PLATINUM 3% AFFF CONCENTRATE AQUEOUS FILM FORMING FOAM	55	Gallon(GAL)	01-Oct-20
0001435567	-	BUCKEYE PLATINUM 3% AFFF CONCENTRATE AQUEOUS FILM FORMING FOAM	5	Gallon(GAL)	01-Oct-20
0001435570	-	BUCKEYE PLATINUM 3% AFFF CONCENTRATE AQUEOUS FILM FORMING FOAM	5	Gallon(GAL)	01-Oct-20
0001435568	-	BUCKEYE PLATINUM 3% AFFF CONCENTRATE AQUEOUS FILM FORMING FOAM	5	Gallon(GAL)	01-Oct-20
0001435569	-	BUCKEYE PLATINUM 3% AFFF CONCENTRATE AQUEOUS FILM FORMING FOAM	5	Gallon(GAL)	01-Oct-20
V000006F81	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F80	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F77	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F7C	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F7D	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F7E	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F7F	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F76	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F6C	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F7B	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F7A	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F79	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F75	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F6B	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F6D	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F6E	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F6F	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006F70	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F71	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F72	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F73	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F74	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F78	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F6A	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	01-Oct-20
V000006F8A	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F90	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F83	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F84	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F85	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F86	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F87	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F8B	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F88	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F8C	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F8D	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F82	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F8F	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F89	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F91	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F92	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F93	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F94	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F95	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F96	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F97	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F98	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F99	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F8E	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	01-Oct-20
V000006F9A	-	Ridgid Nu-Clear Thread Cutting Oil	1	Gallon(GAL)	01-Oct-20
V000006F9B	-	Ridgid Nu-Clear Thread Cutting Oil	1	Gallon(GAL)	01-Oct-20
V000006F9C	-	Ridgid Nu-Clear Thread Cutting Oil	1	Gallon(GAL)	01-Oct-20
V000006F9D	-	Ridgid Nu-Clear Thread Cutting Oil	1	Gallon(GAL)	01-Oct-20
V000006F9E	-	Ridgid Nu-Clear Thread Cutting Oil	1	Gallon(GAL)	01-Oct-20
V000006F9F	-	Ridgid Nu-Clear Thread Cutting Oil	1	Gallon(GAL)	01-Oct-20
V000006FA0	-	TFE PIPE THREAD SEALER WITH PTFE	16	Ounces(OZ)	01-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006FA1	-	TFE PIPE THREAD SEALER WITH PTFE	16	Ounces(OZ)	01-Oct-20
0001655513	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	02-Oct-20
0001655515	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	02-Oct-20
0001655522	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	02-Oct-20
0001655521	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	02-Oct-20
0001655520	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	02-Oct-20
0001655519	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	02-Oct-20
0001655518	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	02-Oct-20
0001655514	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	02-Oct-20
0001655517	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	02-Oct-20
0001655516	74-86-2	ACETYLENE STABILIZED	10	Cubic Feet(CF)	02-Oct-20
0001575583	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575592	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575605	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575599	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575600	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575601	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575606	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575595	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575602	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575603	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575604	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575593	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575585	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575591	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575590	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575589	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575588	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575587	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575597	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575586	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575596	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575584	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575594	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001575598	-	BOSS 315 RTV 100% Silicone Sealant	10	Ounces(OZ)	05-Oct-20
0001605323	21161-11-5	2-Nitroisophthalic Acid	100	Gram(GM)	05-Oct-20
0001605324	21161-11-5	2-Nitroisophthalic Acid	100	Gram(GM)	05-Oct-20
0001607928	-	Major Mix IMS/Tof Calibration Kit	2	Milliliter(ML)	05-Oct-20
0001607929	14098-44-3	BENZO-15-CROWN-5	1	Gram(GM)	05-Oct-20
0001607930	64741-56-6	Apiezon W40 Wax	250	Gram(GM)	05-Oct-20
0001607931	-	2 -Methoxyethanol	1	Liters(L)	05-Oct-20
0001607932	6731-36-8	Luperox 231 1 1-Bis(tert-butylperoxy)-3 3 5-trimethylcyclohexane	500	Milliliter(ML)	05-Oct-20
0001608007	78-10-4	TETRAETHYL ORTHOSILICATE	1	Liters(L)	05-Oct-20
0001608010	78-10-4	TETRAETHYL ORTHOSILICATE	1	Liters(L)	05-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608009	78-10-4	TETRAETHYL ORTHOSILICATE	1	Liters(L)	05-Oct-20
0001608011	78-10-4	TETRAETHYL ORTHOSILICATE	1	Liters(L)	05-Oct-20
0001608012	78-10-4	TETRAETHYL ORTHOSILICATE	1	Liters(L)	05-Oct-20
0001608008	78-10-4	TETRAETHYL ORTHOSILICATE	1	Liters(L)	05-Oct-20
0001605322	-	ESI Negative Calibration Solution for the AB Sciex Triple TOF System	100	Milliliter(ML)	05-Oct-20
0001607934	101-80-4	4 4'-OXYDIANILINE	500	Gram(GM)	05-Oct-20
0001608014	67-56-1	METHANOL ANHYDROUS	1	Liters(L)	05-Oct-20
0001608015	-	SILICA REAGENT KIT	10	Milliliter(ML)	05-Oct-20
0001608018	-	SILICA REAGENT KIT	10	Milliliter(ML)	05-Oct-20
0001608016	-	SILICA REAGENT KIT	10	Milliliter(ML)	05-Oct-20
0001608017	-	SILICA REAGENT KIT	10	Milliliter(ML)	05-Oct-20
0001608019	-	HF ACID EATER SAFETY SPILL KIT	24	Pounds(LB)	05-Oct-20
0001608020	-	HF ACID EATER SAFETY SPILL KIT	24	Pounds(LB)	05-Oct-20
0001608013	100189-84-2	2 5-Dibromo-1 3-dimethylbenzene	10	Gram(GM)	05-Oct-20
0001655523	7440-59-7	HELIUM GAS	100	Liters(L)	06-Oct-20
0001655527	7440-59-7	HELIUM GAS	100	Liters(L)	06-Oct-20
0001655526	7440-59-7	HELIUM GAS	100	Liters(L)	06-Oct-20
0001655524	7440-59-7	HELIUM GAS	100	Liters(L)	06-Oct-20
0001655525	7440-59-7	HELIUM GAS	100	Liters(L)	06-Oct-20
0001566699	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566713	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566714	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566707	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566716	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566717	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566712	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566706	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566715	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566711	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566710	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566709	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566708	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566700	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566702	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566746	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566705	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566739	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566704	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566725	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566727	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566728	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566729	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566730	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566731	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566726	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566732	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566720	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566721	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566722	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566723	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566741	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566733	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566745	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566734	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566735	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566736	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566737	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566738	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566703	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566740	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566742	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566743	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566744	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566719	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566718	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566724	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566701	-	Diamond Vogel Acrylic Latex Caulk 40 Year - White	10.1	Ounces(OZ)	06-Oct-20
0001566747	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	06-Oct-20
0001566753	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	06-Oct-20
0001566748	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	06-Oct-20
0001566749	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	06-Oct-20
0001566750	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	06-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566752	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	06-Oct-20
0001566754	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	06-Oct-20
0001566751	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	06-Oct-20
0001655528	-	01 BLEND WESMAR SILICONE ADHESIVE 04046477	12	Ounces(OZ)	06-Oct-20
0001655529	-	01 BLEND WESMAR SILICONE ADHESIVE 04046477	12	Ounces(OZ)	06-Oct-20
V000006FC1	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FC0	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FBF	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FBB	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FBC	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FBE	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FB3	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FA6	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FA7	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FA8	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FA9	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FAA	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FAB	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FAC	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FAD	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FAE	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006FAF	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FB0	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FBD	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FB2	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FB4	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FB5	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FB6	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FB7	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FB8	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FB9	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FB1	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
V000006FBA	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	06-Oct-20
0001566755	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566760	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566758	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566759	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566756	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566763	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566761	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566762	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566766	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566774	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566773	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566769	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566764	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566765	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566757	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566767	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566768	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566770	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566771	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566772	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	06-Oct-20
0001566775	-	GacoFlex 2-Part Epoxy Primer/Filler - Part B	5	Gallon(GAL)	06-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566777	-	GacoFlex 2-Part Epoxy Primer/Filler - Part B	5	Gallon(GAL)	06-Oct-20
0001566778	-	GacoFlex 2-Part Epoxy Primer/Filler - Part B	5	Gallon(GAL)	06-Oct-20
0001566776	-	GacoFlex 2-Part Epoxy Primer/Filler - Part B	5	Gallon(GAL)	06-Oct-20
V000006FC8	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FC6	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FC5	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FCD	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FC7	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FCB	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FC9	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FCC	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FCA	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FC3	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FC2	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
V000006FC4	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	06-Oct-20
0001566779	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566782	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566784	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566785	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566786	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566790	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566781	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566780	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566788	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566783	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566792	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566791	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566789	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001566787	-	ES COMPLEAT	1	Gallon(GAL)	06-Oct-20
0001605465	144-55-8	SODIUM BICARBONATE	2.5	Kilograms(KG)	07-Oct-20
0001605466	144-55-8	SODIUM BICARBONATE	2.5	Kilograms(KG)	07-Oct-20
0001606385	7757-82-6	SODIUM SULFATE	500	Gram(GM)	07-Oct-20
0001640030	-	Mobilgear 600 XP 220	5	Gallon(GAL)	07-Oct-20
0001640166	-	FS-One Max	10.1	Ounces(OZ)	07-Oct-20
0001640313	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001640324	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001640320	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001640319	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001640318	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001640317	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001640316	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001640315	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001640314	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001640321	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001640323	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001640322	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	07-Oct-20
0001566793	-	Vantage Plus Interior Latex Enamel	569.6	Ounces(OZ)	07-Oct-20
0001566795	-	Vantage Plus Interior Latex Enamel	569.6	Ounces(OZ)	07-Oct-20
0001566794	-	Vantage Plus Interior Latex Enamel	569.6	Ounces(OZ)	07-Oct-20
0001566798	-	Vantage Plus Interior Latex Enamel	569.6	Ounces(OZ)	07-Oct-20
0001566797	-	Vantage Plus Interior Latex Enamel	569.6	Ounces(OZ)	07-Oct-20
0001566796	-	Vantage Plus Interior Latex Enamel	569.6	Ounces(OZ)	07-Oct-20
0001655637	7647-01-0	HYDROGEN CHLORIDE	40	Cubic Feet(CF)	07-Oct-20
0001655638	7647-01-0	HYDROGEN CHLORIDE	40	Cubic Feet(CF)	07-Oct-20
0001655639	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	07-Oct-20
0001655640	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655641	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655642	-	HYDROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655643	-	HYDROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655530	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655533	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655532	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655544	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655543	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655542	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655538	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655540	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655539	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655531	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655541	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655535	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655536	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655537	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655534	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	07-Oct-20
0001655545	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655580	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655581	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655579	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655583	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655584	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655585	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655568	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655567	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655582	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655578	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655577	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655570	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655566	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655555	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655575	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655574	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655573	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655572	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655571	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655576	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655569	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655586	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655546	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655547	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655548	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655549	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655550	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655551	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655552	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655557	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655554	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655565	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655556	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655558	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655559	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655560	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655561	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655562	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655563	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655564	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655553	-	ARGON GAS	220	Cubic Feet(CF)	07-Oct-20
0001655587	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655594	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655591	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655592	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655593	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655588	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655595	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655589	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655590	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655596	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655609	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655608	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	07-Oct-20
0001655599	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655597	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655598	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655603	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655604	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655602	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655600	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655606	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655607	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655605	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655601	-	Compressed Air	220	Cubic Feet(CF)	07-Oct-20
0001655610	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655616	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655620	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655625	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655624	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655623	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655622	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655619	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655621	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655617	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655615	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655614	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655613	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655612	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655611	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655618	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	07-Oct-20
0001655626	74-98-6	PROPANE	50	Cubic Feet(CF)	07-Oct-20
0001655629	74-98-6	PROPANE	50	Cubic Feet(CF)	07-Oct-20
0001655627	74-98-6	PROPANE	50	Cubic Feet(CF)	07-Oct-20
0001655628	74-98-6	PROPANE	50	Cubic Feet(CF)	07-Oct-20
0001655630	74-98-6	PROPANE	50	Cubic Feet(CF)	07-Oct-20
0001655631	7439-90-9	KRYPTON	100	Liters(L)	08-Oct-20
0001655632	-	ARGON GAS	100	Liters(L)	08-Oct-20
0001655635	-	ARGON GAS	100	Liters(L)	08-Oct-20
0001655634	-	ARGON GAS	100	Liters(L)	08-Oct-20
0001655633	-	ARGON GAS	100	Liters(L)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655636	-	2000ppm Hydrogen Fluoride Balance Nitrogen	40	Cubic Feet(CF)	08-Oct-20
0001457545	-	BLACK PAINT	15	Ounces(OZ)	08-Oct-20
0001457547	-	BLACK PAINT	15	Ounces(OZ)	08-Oct-20
0001457548	-	BLACK PAINT	15	Ounces(OZ)	08-Oct-20
0001457546	-	BLACK PAINT	15	Ounces(OZ)	08-Oct-20
0001457550	-	BLACK PAINT	15	Ounces(OZ)	08-Oct-20
0001457549	-	BLACK PAINT	15	Ounces(OZ)	08-Oct-20
V000006FD5	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FD4	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FD3	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FD2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FD1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FD0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FCE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FCF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FD6	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FD8	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	08-Oct-20
V000006FD7	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	08-Oct-20
V000006FE3	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FE2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FE1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FE0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FE7	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FDF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FE4	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FDE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FD9	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006FDA	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FDB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FDC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FE6	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FDD	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FE5	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	08-Oct-20
V000006FE8	-	DOW CORNING 732 MULTI -PURPOSE SEALANT CLEAR	10.1	Ounces(OZ)	08-Oct-20
0001626647	-	DUPLI-COLOR Acrylic Lacquer Aerosol Paint Gloss Black	12	Ounces(OZ)	08-Oct-20
0001626648	-	WHITE LITHIUM GREASE AEROSOL	10	Ounces(OZ)	08-Oct-20
0001626649	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	14	Ounces(OZ)	08-Oct-20
0001626652	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	14	Ounces(OZ)	08-Oct-20
0001626651	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	14	Ounces(OZ)	08-Oct-20
0001626653	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	14	Ounces(OZ)	08-Oct-20
0001626650	-	Brakleen Brake Parts Cleaner - Non-chlorinated (aerosol)	14	Ounces(OZ)	08-Oct-20
0001626654	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626663	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626664	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626662	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626666	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626665	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626661	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626667	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626668	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626657	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626658	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626660	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626656	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626655	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
0001626659	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	08-Oct-20
V000006FEA	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000006FE9	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Oct-20
V000006FEB	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	08-Oct-20
V000006FEC	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	08-Oct-20
V000006FEF	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	08-Oct-20
V000006FED	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	08-Oct-20
V000006FEE	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	08-Oct-20
V000006FF0	-	PARTS PLUS HD SAE 30 PREMIUM MOTOR OIL PP3371	1	Quarts(QT)	08-Oct-20
V000006FF1	-	PARTS PLUS HD SAE 30 PREMIUM MOTOR OIL PP3371	1	Quarts(QT)	08-Oct-20
V000006FF3	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000006FF2	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000006FF6	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	08-Oct-20
V000006FF5	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	08-Oct-20
V000006FF4	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	08-Oct-20
0001566799	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566812	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566822	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566821	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566820	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566819	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566818	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566817	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566816	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566815	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566807	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566813	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566800	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566811	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566810	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566809	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566808	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566806	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566805	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566804	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566803	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566802	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566801	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566814	-	LFP	5	Gallon(GAL)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566823	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566833	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566832	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566824	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566825	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566826	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566827	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566828	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566829	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566835	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566831	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566840	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566834	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566836	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566837	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566838	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566839	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566830	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566860	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566852	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566862	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566866	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566865	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566864	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566863	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566861	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566859	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566858	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566857	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566856	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566855	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566868	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566853	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566869	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566851	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566850	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566849	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566848	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566847	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566846	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566845	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566844	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566843	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566842	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566841	-	LFP	5	Gallon(GAL)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566854	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566881	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566894	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566893	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566892	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566891	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566890	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566889	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566888	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566887	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566886	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566885	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566884	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566867	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566882	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566880	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566879	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566878	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566877	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566876	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566875	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566874	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566873	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566872	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566871	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566870	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566883	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566895	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566920	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566933	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566921	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566922	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566923	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566925	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566926	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566927	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566928	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566929	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566930	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566943	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566932	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566917	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566934	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566935	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566936	-	LFP	5	Gallon(GAL)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566937	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566938	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566939	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566940	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566941	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566942	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566931	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566907	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566896	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566897	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566898	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566899	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566900	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566901	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566902	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566903	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566904	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566919	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566906	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566918	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566908	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566909	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566910	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566911	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566912	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566913	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566914	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566915	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566916	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566924	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566905	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566957	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566965	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566966	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566963	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566944	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566962	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566961	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566960	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566958	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566964	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566956	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566948	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566945	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566959	-	LFP	5	Gallon(GAL)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566947	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566955	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566949	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566950	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566951	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566952	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566953	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566954	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566946	-	LFP	5	Gallon(GAL)	08-Oct-20
0001423290	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423295	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423291	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423292	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423293	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423294	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423296	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423297	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423298	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423299	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423300	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001423301	-	CHAIN & CABLE LUBRICANT	1	Quarts(QT)	08-Oct-20
0001566967	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566972	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566968	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566969	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566970	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566971	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566975	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566977	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566976	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566973	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566978	-	LFP	5	Gallon(GAL)	08-Oct-20
0001566974	-	LFP	5	Gallon(GAL)	08-Oct-20
V000007007	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000007002	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000007009	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000006FF7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000006FF8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000006FF9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000006FFA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000006FFB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000006FFC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000006FFD	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000006FFE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000006FFF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007001	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000007003	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000007005	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000007006	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000007008	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V00000700A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V00000700B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V00000700C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V00000700D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V00000700E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000007004	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V000007000	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	08-Oct-20
V00000701D	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007023	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007011	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007024	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007019	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007010	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V00000700F	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007012	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007013	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007014	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007015	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007016	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V00000701F	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007018	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007022	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V00000701A	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V00000701B	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V00000701C	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V00000701E	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007020	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007021	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007017	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	08-Oct-20
V000007032	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V000007028	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V00000702F	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V00000702E	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V00000702D	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V00000702C	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V00000702B	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V000007029	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V000007027	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V000007026	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V000007025	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007030	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V000007031	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V000007033	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
V00000702A	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	08-Oct-20
0001626669	-	HIGH-TEMP RED RTV	3	Ounces(OZ)	08-Oct-20
0001626670	-	HIGH-TEMP RED RTV	3.35	Ounces(OZ)	08-Oct-20
V000007034	-	PERMATEX 26BR HIGH TEMP RTV RED SILICONE GASKET MAKER	3	Ounces(OZ)	08-Oct-20
V000007035	-	PERMATEX 26BR HIGH TEMP RTV RED SILICONE GASKET MAKER	3	Ounces(OZ)	08-Oct-20
0001626671	-	BLUE RTV SILICONE GASKET MAKER	1.69	Ounces(OZ)	08-Oct-20
0001640173	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640167	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640168	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640169	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640181	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640188	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640187	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640186	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640185	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640184	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640171	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640182	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640170	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640180	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640179	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640178	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640177	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640176	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640175	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640174	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640172	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640183	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001640189	-	FS-One Max	10.1	Ounces(OZ)	08-Oct-20
0001575823	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575841	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575845	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575844	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575842	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575840	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575839	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575838	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575837	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575836	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575835	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575826	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575824	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575843	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575834	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575825	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575827	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575828	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575829	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575830	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575831	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575832	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575833	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575862	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575848	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575857	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575860	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575859	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575858	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575856	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575861	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575854	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575853	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575852	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575851	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575849	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575847	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575846	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575863	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575850	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575871	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575864	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575855	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575872	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575870	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575869	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575868	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575867	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575866	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575865	-	WEST R-630 SULFITE	55	Gallon(GAL)	08-Oct-20
0001575873	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575903	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575896	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575891	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575893	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575894	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575895	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575897	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575898	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575899	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575900	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575889	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575902	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575890	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575901	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575882	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575888	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575876	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575877	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575878	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575879	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575892	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575881	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575875	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575883	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575884	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575885	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575886	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575887	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575874	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
0001575880	-	BROMICIDE TABLETS	5	Gallon(GAL)	08-Oct-20
V000007065	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007046	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007067	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000705D	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000705C	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000705B	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000705A	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007059	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007058	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007057	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007056	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007055	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007054	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000705F	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007052	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007060	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007047	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007048	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007049	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000704A	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000704B	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000704C	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000704D	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000704E	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000704F	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007050	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007051	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007053	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007069	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007061	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007062	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007063	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007064	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007066	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007068	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000705E	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007075	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007076	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007077	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007078	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007079	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007074	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000707B	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000706E	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000707A	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007073	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007072	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007071	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000706F	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000706D	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000706C	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000706B	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000706A	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V000007070	-	Parts Plus SAE 5W-20 SYNTHETIC MOTOR OIL	1	Quarts(QT)	12-Oct-20
V00000707C	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007098	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007096	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007097	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007084	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007082	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000707D	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000707E	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007086	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007080	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007087	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007099	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000709A	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000709B	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000709C	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000709D	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000709E	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000709F	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000707F	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000708F	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007095	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007083	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007094	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007081	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007093	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007092	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007085	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007090	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000708E	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000708D	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000708C	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000708B	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V00000708A	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007089	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007088	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V000007091	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	12-Oct-20
V0000070A3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070A0	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070B2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070BB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070BA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070B9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070B8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070B7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070B6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070B5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070A1	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070B3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070A2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070B1	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070B0	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070A6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070B4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070A5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070AF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070A7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070A8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070A9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070AA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070AB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070AC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070AD	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070AE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070A4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	12-Oct-20
V0000070C1	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	12-Oct-20
V0000070BC	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	12-Oct-20
V0000070BD	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	12-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000070BE	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	12-Oct-20
V0000070BF	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	12-Oct-20
V0000070C0	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	12-Oct-20
V0000070C2	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	12-Oct-20
V0000070C4	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	12-Oct-20
V0000070C3	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	12-Oct-20
V0000070D4	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070DF	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070DE	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070DD	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070DC	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070DB	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070DA	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070D9	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070D8	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070D7	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070C9	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070D5	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070E2	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070D3	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070D2	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070D1	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070D0	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070CF	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070CE	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070CD	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070CC	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070CB	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070CA	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070D6	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070EE	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070FA	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070F9	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070F8	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070F7	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070F6	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070F5	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000070F4	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070F3	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070F2	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070F1	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070E0	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070EF	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070E1	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070ED	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070EC	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070EB	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070EA	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070E9	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070E8	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070E7	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070E5	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070E3	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070E4	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070F0	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070C7	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070C6	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070C5	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070E6	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
V0000070C8	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	12-Oct-20
0001605054	93-58-3	METHYL BENZOATE	500	Milliliter(ML)	12-Oct-20
0001607967	007697-37-2	NITRIC ACID	500	Milliliter(ML)	12-Oct-20
0001608021	110-54-3	N-HEXANE	1	Liters(L)	12-Oct-20
0001608022	-	MCA-2 M-PREP CONDITIONER A	16	Ounces(OZ)	12-Oct-20
0001608023	-	MCA-2 M-PREP CONDITIONER A	16	Ounces(OZ)	12-Oct-20
0001608024	-	MN5A-2 M-PREP NEUTRALIZER	16	Ounces(OZ)	12-Oct-20
0001608025	-	MN5A-2 M-PREP NEUTRALIZER	16	Ounces(OZ)	12-Oct-20
0001457071	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457081	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457080	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457108	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457107	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457090	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457089	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457098	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457099	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457116	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457117	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001457072	-	Micro Duster	10	Ounces(OZ)	12-Oct-20
0001608026	7782-40-3	Diamond Powder	10	Kilograms(KG)	12-Oct-20
0001608027	7782-40-3	Diamond Powder	10	Kilograms(KG)	12-Oct-20
0001608028	158753-17-4	8-Aminoquinoline-7-carbaldehyde	1	Gram(GM)	12-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608029	67-64-1	ACETONE	1	Gallon(GAL)	12-Oct-20
0001608030	67-64-1	ACETONE	1	Gallon(GAL)	12-Oct-20
0001608031	67-64-1	ACETONE	1	Gallon(GAL)	12-Oct-20
0001608032	67-64-1	ACETONE	1	Gallon(GAL)	12-Oct-20
0001608033	1310-73-2	SODIUM HYDROXIDE	500	Gram(GM)	12-Oct-20
0001608037	1310-73-2	SODIUM HYDROXIDE	500	Gram(GM)	12-Oct-20
0001608034	1310-73-2	SODIUM HYDROXIDE	500	Gram(GM)	12-Oct-20
0001608035	1310-73-2	SODIUM HYDROXIDE	500	Gram(GM)	12-Oct-20
0001608036	1310-73-2	SODIUM HYDROXIDE	500	Gram(GM)	12-Oct-20
0001608038	1310-73-2	SODIUM HYDROXIDE	500	Gram(GM)	12-Oct-20
0001608039	143314-17-4	1-ETHYL-3-METHYLIMIDAZOLIUM AC	5	Gram(GM)	12-Oct-20
0001608040	143314-17-4	1-ETHYL-3-METHYLIMIDAZOLIUM AC	5	Gram(GM)	12-Oct-20
0001608041	143314-17-4	1-ETHYL-3-METHYLIMIDAZOLIUM AC	5	Gram(GM)	12-Oct-20
0001608042	358-23-6	TRIFLUOROMETHANESULFONIC ANHYDRIDE	10	Gram(GM)	12-Oct-20
0001608043	37595-74-7	N-Phenyl-bis(trifluoromethanesulfonimide)	5	Gram(GM)	12-Oct-20
0001608044	37595-74-7	N-Phenyl-bis(trifluoromethanesulfonimide)	5	Gram(GM)	12-Oct-20
0001608045	-	MAGNETIC STREPTAVIDIN	5	Milliliter(ML)	12-Oct-20
0001608046	2857-97-8	BROMOTRIMETHYLSILANE	100	Milliliter(ML)	12-Oct-20
0001608047	108-24-7	ACETIC ANHYDRIDE	1	Liters(L)	12-Oct-20
0001608048	108-24-7	ACETIC ANHYDRIDE	1	Liters(L)	12-Oct-20
0001608049	108-24-7	ACETIC ANHYDRIDE	1	Liters(L)	12-Oct-20
0001608050	121-44-8	TRIETHYLAMINE	1	Liters(L)	12-Oct-20
0001608051	-	Poly-D-Lysine	1	Milligram(MG)	12-Oct-20
0001608052	75621-03-3	CHAPS	1	Gram(GM)	12-Oct-20
0001608053	75621-03-3	CHAPS	1	Gram(GM)	12-Oct-20
0001608055	7782-40-3	Diamond Powder	10	Kilograms(KG)	12-Oct-20
0001608054	7782-40-3	Diamond Powder	10	Kilograms(KG)	12-Oct-20
0001608056	7803-49-8	HYDROXYLAMINE	50	Milliliter(ML)	12-Oct-20
0001608057	7789-23-3	POTASSIUM FLUORIDE ANHYDROUS	25	Gram(GM)	12-Oct-20
0001608058	814-49-3	DIETHYL CHLOROPHOSPHATE	100	Gram(GM)	12-Oct-20
0001608059	81290-20-2	Trimethyl(trifluoromethyl)silane	25	Milliliter(ML)	12-Oct-20
0001608060	108-88-3	TOLUENE ANHYDROUS	2	Liters(L)	12-Oct-20
0001608061	7-14-1	1-PENTANOL	1	Liters(L)	12-Oct-20
0001608062	-	Buffer Reference Standard	500	Milliliter(ML)	12-Oct-20
0001608063	-	Buffer Reference Standard	500	Milliliter(ML)	12-Oct-20
0001608064	-	Buffer Reference Standard	500	Milliliter(ML)	12-Oct-20
0001608065	-	Buffer Reference Standard	500	Milliliter(ML)	12-Oct-20
0001608066	-	Buffer Reference Standard	500	Milliliter(ML)	12-Oct-20
0001608067	4422-95-1	1 3 5-BENZENETRICARBONYL TRICHLORIDE	10	Gram(GM)	12-Oct-20
0001608069	4422-95-1	1 3 5-BENZENETRICARBONYL TRICHLORIDE	10	Gram(GM)	12-Oct-20
0001608068	4422-95-1	1 3 5-BENZENETRICARBONYL TRICHLORIDE	10	Gram(GM)	12-Oct-20
0001608070	12057-24-8	LITHIUM OXIDE POWDER	10	Gram(GM)	12-Oct-20
0001608071	56-81-5	E-GEL	20	Microliter	12-Oct-20
0001608072	56-81-5	E-GEL	20	Microliter	12-Oct-20
0001608073	89711-08-0	N-Boc-2-aminoacetaldehyde	5	Gram(GM)	12-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608074	6674-22-2	1 8-DIAZABICYCLO(5.4.0.)UNDEC-7-ENE	25	Gram(GM)	12-Oct-20
0001608075	103305-01-7	Pentafluoroethylphosphonic acid	1	Gram(GM)	12-Oct-20
0001608076	103305-01-7	Pentafluoroethylphosphonic acid	1	Gram(GM)	12-Oct-20
0001608077	103305-01-7	Pentafluoroethylphosphonic acid	1	Gram(GM)	12-Oct-20
0001608078	103305-01-7	Pentafluoroethylphosphonic acid	1	Gram(GM)	12-Oct-20
0001608079	-	SYLGARD 184	10	Gram(GM)	12-Oct-20
0001608080	1338-43-8	SORBITAN MONOLEATE (SPAN 80)	1	Liters(L)	12-Oct-20
0001608081	9002-89-5	POLYVINYL ALCOHOL 99-100% HYDROLYZED	1	Kilograms(KG)	12-Oct-20
0001608082	107-15-3	ETHYLENEDIAMINE ANHYDROUS	100	Milliliter(ML)	12-Oct-20
0001608083	638-45-9	1-IODOHEXANE	100	Gram(GM)	12-Oct-20
0001608088	638-45-9	1-IODOHEXANE	100	Gram(GM)	12-Oct-20
0001608087	638-45-9	1-IODOHEXANE	100	Gram(GM)	12-Oct-20
0001608086	638-45-9	1-IODOHEXANE	100	Gram(GM)	12-Oct-20
0001608085	638-45-9	1-IODOHEXANE	100	Gram(GM)	12-Oct-20
0001608084	638-45-9	1-IODOHEXANE	100	Gram(GM)	12-Oct-20
0001608089	765-87-7	1 2-CYCLOHEXANEDIONE	5	Gram(GM)	12-Oct-20
0001640263	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640297	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640287	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640288	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640289	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640290	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640291	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640292	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640293	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640294	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640285	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640296	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640284	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640298	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640299	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640300	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640301	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640302	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640295	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640271	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640264	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640265	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640266	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640267	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640268	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640286	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640270	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640283	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640272	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001640273	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640281	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640269	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640282	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640274	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640280	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640279	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640278	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640277	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640276	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640275	-	Citrax EP No. 1	400	Gram(GM)	13-Oct-20
0001640303	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	13-Oct-20
0001640304	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	13-Oct-20
0001640305	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	13-Oct-20
0001640306	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	13-Oct-20
0001640307	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	13-Oct-20
0001640310	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	13-Oct-20
0001640309	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	13-Oct-20
0001640312	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	13-Oct-20
0001640308	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	13-Oct-20
0001640311	-	Mystik JT-6 Hi-Temp Grease NLGI No. 2	14	Ounces(OZ)	13-Oct-20
0001639898	-	DEVCON 5 MINUTE EPOXY AMBER	1	Ounces(OZ)	13-Oct-20
0001639899	-	DEVCON 5 MINUTE EPOXY AMBER	1	Ounces(OZ)	13-Oct-20
0001640223	-	LOCTITE SF 7090 SOLVENTLESS PRIMER	1	Ounces(OZ)	13-Oct-20
0001640224	-	LOCTITE SF 7090 SOLVENTLESS PRIMER	1	Ounces(OZ)	13-Oct-20
0001640221	-	LOCTITE 2620 HIGH STRENGTH THREADLOCKER	1.06	Ounces(OZ)	13-Oct-20
0001640222	-	LOCTITE 2620 HIGH STRENGTH THREADLOCKER	1.06	Ounces(OZ)	13-Oct-20
0001608090	-	MAGNETIC STREPTAVIDIN	5	Milliliter(ML)	13-Oct-20
0001608091	7789-24-4	LITHIUM FLUORIDE	10	Gram(GM)	13-Oct-20
0001608092	554-13-2	LITHIUM CARBONATE	10	Gram(GM)	13-Oct-20
0001608093	-	LOCTITE 242 THREADLOCKER	10	Milliliter(ML)	13-Oct-20
0001608094	-	LOCTITE 242 THREADLOCKER	10	Milliliter(ML)	13-Oct-20
0001608096	-	LOCTITE 242 THREADLOCKER	10	Milliliter(ML)	13-Oct-20
0001608095	-	LOCTITE 242 THREADLOCKER	10	Milliliter(ML)	13-Oct-20
0001608097	7631-86-9	SILICON DIOXIDE	1	Kilograms(KG)	13-Oct-20
0001608098	7647-14-5	SODIUM CHLORIDE	500	Gram(GM)	13-Oct-20
0001566979	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566990	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566994	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566993	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566991	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566988	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566992	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566989	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566980	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566981	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566982	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566983	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566984	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566985	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566986	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566987	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567029	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567034	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567038	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567037	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567036	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567035	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567021	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567033	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567032	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567030	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567003	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567028	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567027	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567026	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567025	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567031	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567000	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567010	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567011	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567012	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567013	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567014	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567015	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567016	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567017	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567018	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567019	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567023	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567020	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567004	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567001	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567009	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566999	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567024	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566995	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566998	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001566996	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001566997	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567008	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567007	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567006	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567022	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567005	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001567002	-	VACUUM PUMP OIL	1	Quarts(QT)	14-Oct-20
0001655644	10024-97-2	NITROUS OXIDE	220	Cubic Feet(CF)	14-Oct-20
0001655645	10024-97-2	NITROUS OXIDE	220	Cubic Feet(CF)	14-Oct-20
0001655646	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655655	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655660	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655659	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655658	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655649	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655657	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655656	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655654	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655653	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655652	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655650	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655648	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655647	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655651	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	14-Oct-20
0001655661	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655665	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655662	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655671	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655663	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655664	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655672	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655670	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655669	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655668	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655667	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655666	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655676	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655681	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655685	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655684	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655687	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655683	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655682	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655686	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655680	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655679	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655677	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655675	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655674	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655673	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655678	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	14-Oct-20
0001655688	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655711	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655700	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655689	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655709	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655708	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655707	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655706	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655705	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655704	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655703	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655701	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655710	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655699	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655698	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655697	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655696	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655695	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655694	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655693	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655692	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655691	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655690	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655702	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655715	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655717	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655716	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655712	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655714	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655713	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	14-Oct-20
0001655718	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	14-Oct-20
0001655719	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	14-Oct-20
0001655720	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	14-Oct-20
0001655721	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	14-Oct-20
0001655723	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	14-Oct-20
0001655727	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	14-Oct-20
0001655726	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	14-Oct-20
0001655724	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	14-Oct-20
0001655722	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	14-Oct-20
0001655725	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	14-Oct-20
0001655728	74-98-6	PROPANE	50	Gallon(GAL)	14-Oct-20
0001655729	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	14-Oct-20
0001655733	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	14-Oct-20
0001655730	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	14-Oct-20
0001655731	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	14-Oct-20
0001655732	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	14-Oct-20
0001655734	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655755	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655763	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655762	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655761	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655760	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655759	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655758	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655735	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655756	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655754	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655753	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655752	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655751	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655750	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655739	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655757	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655749	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655736	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655738	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655740	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655741	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655742	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655743	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655744	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655745	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655746	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655747	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655748	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
0001655737	-	ARGON GAS	220	Cubic Feet(CF)	14-Oct-20
V00000710F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V000007115	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V000007110	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V000007111	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V000007112	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V000007113	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V000007114	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V000007116	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V000007117	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V000007118	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V000007119	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V00000711A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V00000711B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V00000710E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
V00000711C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	14-Oct-20
0001567039	-	Elastopor P 15950R Resin	5	Gallon(GAL)	14-Oct-20
0001567040	-	Elastopor P 15950R Resin	5	Gallon(GAL)	14-Oct-20
0001567041	-	MOBIL DTE OIL HEAVY	1	Gallon(GAL)	14-Oct-20
0001567042	-	MOBIL DTE OIL HEAVY	1	Gallon(GAL)	14-Oct-20
0001608099	-	OptiShield Plus Corrosion Inhibitor	5	Gallon(GAL)	14-Oct-20
0001608100	-	MetaDi Supreme	8	Ounces(OZ)	14-Oct-20
0001608101	-	MetaDi Supreme	8	Ounces(OZ)	14-Oct-20
0001608102	-	MetaDi Supreme	8	Ounces(OZ)	14-Oct-20
0001608104	-	MetaDi Supreme	8	Ounces(OZ)	14-Oct-20
0001608105	-	MetaDi Supreme	8	Ounces(OZ)	14-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608106	-	MetaDi Supreme	8	Ounces(OZ)	14-Oct-20
0001608103	-	MetaDi Supreme	8	Ounces(OZ)	14-Oct-20
0001608107	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608111	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608118	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608117	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608116	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608115	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608114	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608112	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608110	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608109	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608108	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608113	-	WD-40 SPRAY	12	Ounces(OZ)	14-Oct-20
0001608119	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608122	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608123	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608120	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608133	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608136	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608137	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608138	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608121	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608134	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608135	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608132	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608131	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608130	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608129	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608128	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608127	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608126	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608125	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608124	-	IODATE-IODIDE STANDARD SOLUTION	13	Milliliter(ML)	14-Oct-20
0001608139	18423-43-3	thymidine 5'-triphosphate	125	Milliliter(ML)	14-Oct-20
0001608140	12650-88-3	LYSOZYME	10	Milliliter(ML)	14-Oct-20
0001608141	-	GelGreen Nucleic Acid Stain	0.5	Milliliter(ML)	14-Oct-20
0001608142	-	ORION PH 4.01 BUFFER	475	Milliliter(ML)	14-Oct-20
0001608143	-	PH 10.01 BUFFER	475	Milliliter(ML)	14-Oct-20
0001608144	-	PH 7.00 BUFFER	475	Milliliter(ML)	14-Oct-20
0001608145	57-09-0	HEXADECYLTRIMETHYLAMMONIUM BROMIDE	100	Gram(GM)	14-Oct-20
0001608146	57-09-0	HEXADECYLTRIMETHYLAMMONIUM BROMIDE	100	Gram(GM)	14-Oct-20
0001608147	12125-02-9	AMMONIUM CHLORIDE	100	Gram(GM)	14-Oct-20
0001608148	10034-99-8	MAGNESIUM SULFATE HEPTAHYDRATE	25	Gram(GM)	14-Oct-20
0001664055	-	5% NITRIC ACID IN WATER	0.25	Liters(L)	14-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608149	10035-04-8	CALCIUM CHLORIDE DIHYDRATE	25	Gram(GM)	14-Oct-20
0001608150	37895-73-1	1 2-Dibromo-4 5-dimethoxybenzene	100	Gram(GM)	14-Oct-20
0001608151	88468-45-5	Isooctyl trimethoxysilane mixture of isomers	25	Gram(GM)	14-Oct-20
0001608152	9003-53-6	POLYSTYRENE	25	Gram(GM)	14-Oct-20
0001608153	91-22-5	QUINOLINE	100	Gram(GM)	14-Oct-20
0001608154	9002-89-5	POLY VINYL ALCOHOL	1	Kilograms(KG)	14-Oct-20
0001608155	603-35-0	TRIPHENYLPHOSPHINE	500	Gram(GM)	14-Oct-20
0001608156	7632-00-0	SODIUM NITRITE	25	Gram(GM)	14-Oct-20
0001608157	-	L ASCORBIC ACID	100	Gram(GM)	14-Oct-20
0001608158	-	L ASCORBIC ACID	100	Gram(GM)	14-Oct-20
0001608159	7647-14-5	SODIUM CHLORIDE CERTIFIED ACS	500	Gram(GM)	14-Oct-20
V000007123	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V00000712C	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V00000712B	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V00000711D	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V00000711E	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V00000711F	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007120	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V00000712A	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007122	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V00000712F	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007124	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007125	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007126	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007127	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007128	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007129	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007121	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007130	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007131	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007132	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007133	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007134	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V000007135	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V00000712E	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
V00000712D	-	Cote All M.F. (Safety) Red	128	Ounces(OZ)	14-Oct-20
0010099999	-	SAE 15W-40 MOTOR OIL	1	Quarts(QT)	14-Oct-20
0012099999	-	SAE 15W-40 MOTOR OIL	16	Ounces(OZ)	14-Oct-20
0498229303	-	UNDERWATER EPOXY PUTTY	1	Gram(GM)	14-Oct-20
0001602883	10028-22-5	FERRIC SULFATE 50%	600	Pounds(LB)	14-Oct-20
0001602884	10028-22-5	FERRIC SULFATE 50%	600	Pounds(LB)	14-Oct-20
0001602885	-	ESI Negative Calibration Solution for the AB Sciex Triple TOF System	1	Gram(GM)	14-Oct-20
V000007136	-	AMALIE XLO HEAVY DUTY FLEET ENGINE OIL 10 30 40 50 10W-30 15W-40 20W-50 25W-50	1	Quarts(QT)	14-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0033333333	-	SAE 15W-40 MOTOR OIL	1	Quarts(QT)	14-Oct-20
0001605325	69011-17-2	AG MP-1M Anion Exchange Resin	500	Gram(GM)	14-Oct-20
0001607935	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607950	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607941	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607942	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607944	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607939	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607945	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607946	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607947	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607948	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607955	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607936	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607943	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607951	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607952	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607953	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607954	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607940	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607937	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607938	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607964	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607949	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607962	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607961	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607960	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607956	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607959	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607963	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607957	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001607958	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	Kilograms(KG)	14-Oct-20
0001608160	7697-37-2	NITRIC ACID	2.5	Liters(L)	14-Oct-20
0001608161	5339-26-4	2-4-Nitrophenyl ethyl Bromide	25	Gram(GM)	14-Oct-20
0001608162	5794-28-5	CALCIUM OXALATE MONOHYDRATE	25	Gram(GM)	14-Oct-20
0001608163	7722-84-1	HYDROGEN PEROXIDE SOLUTION	500	Milliliter(ML)	14-Oct-20
0001608164	60-29-7	DIETHYL ETHER	1	Liters(L)	14-Oct-20
0001608167	60-29-7	DIETHYL ETHER	1	Liters(L)	14-Oct-20
0001608166	60-29-7	DIETHYL ETHER	1	Liters(L)	14-Oct-20
0001608165	60-29-7	DIETHYL ETHER	1	Liters(L)	14-Oct-20
0001608168	-	Hydrochloric Acid	500	Milliliter(ML)	14-Oct-20
0001608169	-	Hydrochloric Acid	500	Milliliter(ML)	14-Oct-20
0001608170	-	Hydrochloric Acid	500	Milliliter(ML)	14-Oct-20
0001608171	67-64-1	ACETONE	4	Liters(L)	14-Oct-20
0001608173	67-64-1	ACETONE	4	Liters(L)	14-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608174	67-64-1	ACETONE	4	Liters(L)	14-Oct-20
0001608172	67-64-1	ACETONE	4	Liters(L)	14-Oct-20
0001608175	-	Crystal Simple Green Industrial Cleaner & Degreaser	1	Gallon(GAL)	14-Oct-20
0001608178	-	Crystal Simple Green Industrial Cleaner & Degreaser	1	Gallon(GAL)	14-Oct-20
0001608176	-	Crystal Simple Green Industrial Cleaner & Degreaser	1	Gallon(GAL)	14-Oct-20
0001608177	-	Crystal Simple Green Industrial Cleaner & Degreaser	1	Gallon(GAL)	14-Oct-20
0001608179	60-29-7	DIETHYL ETHER	4	Liters(L)	14-Oct-20
0001608181	60-29-7	DIETHYL ETHER	4	Liters(L)	14-Oct-20
0001608182	60-29-7	DIETHYL ETHER	4	Liters(L)	14-Oct-20
0001608180	60-29-7	DIETHYL ETHER	4	Liters(L)	14-Oct-20
0001608183	877-24-7	POTASSIUM HYDROGEN PHTHALATE	100	Gram(GM)	14-Oct-20
0001608184	611-35-8	4-Chloroquinoline	5	Gram(GM)	14-Oct-20
0001575094	57-50-1	Test General Chemical - Sucrose	50	Gram(GM)	15-Oct-20
0001575095	57-50-1	Test General Chemical - Sucrose	100	Gram(GM)	15-Oct-20
0001575099	57-50-1	Test General Chemical - Sucrose	100	Gram(GM)	15-Oct-20
0001575098	57-50-1	Test General Chemical - Sucrose	100	Gram(GM)	15-Oct-20
0001575096	57-50-1	Test General Chemical - Sucrose	100	Gram(GM)	15-Oct-20
0001575102	57-50-1	Test General Chemical - Sucrose	100	Gram(GM)	15-Oct-20
0001575097	57-50-1	Test General Chemical - Sucrose	100	Gram(GM)	15-Oct-20
0001575100	57-50-1	Test General Chemical - Sucrose	100	Gram(GM)	15-Oct-20
0001575101	57-50-1	Test General Chemical - Sucrose	100	Gram(GM)	15-Oct-20
0001540675	-	LEAD ATOMIC ABSORPTION STANDARD SOLUTION (HNO3)	500	Milliliter(ML)	15-Oct-20
0001540676	-	LEAD ATOMIC ABSORPTION STANDARD SOLUTION (HNO3)	500	Milliliter(ML)	15-Oct-20
0001540684	-	TITRANT STANDARD HCL SOLUTION	250	Milliliter(ML)	15-Oct-20
0001540685	NONE	EUROPIUM ATOMIC ABSORPTION STANDARD SOLUTION (HNO3) 1	100	Milliliter(ML)	15-Oct-20
0001540686	-	2% HNO3 REAGENT BLANK	100	Milliliter(ML)	15-Oct-20
0001540693	-	URANIUM ATOMIC ABSORPTION STANDARD SOLUTION (HNO3)	100	Milliliter(ML)	15-Oct-20
0001540702	-	LEAD ATOMIC ABSORPTION STANDARD SOLUTION (HNO3)	125	Milliliter(ML)	15-Oct-20
0001423607	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423620	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423623	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423621	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423622	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423624	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423630	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423629	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001423628	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423626	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423610	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423627	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423619	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423618	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423617	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423616	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423615	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423614	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423613	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423625	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423611	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423609	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423608	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423612	-	HILTI FS-ONE #259579	10.1	Ounces(OZ)	16-Oct-20
0001423631	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423638	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423643	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423650	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423649	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423648	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423647	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423646	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423636	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423644	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423632	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423642	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423641	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423640	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423639	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423637	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423635	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423634	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423633	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001423645	-	LOCTITE 401 INSTANT ADHESIVE PRISM	0.7	Ounces(OZ)	16-Oct-20
0001539956	-	SAE 30 MOTOR OIL	32	Quarts(QT)	16-Oct-20
0001423651	-	OMEGABOND 101 CATALYST	1	Ounces(OZ)	16-Oct-20
0001423652	-	OMEGABOND 101 CATALYST	1	Ounces(OZ)	16-Oct-20
0001539974	-	10W-30 SAE MOTOR OIL	946	Quarts(QT)	16-Oct-20
0001539947	-	SAE 10W-30	1	Quarts(QT)	16-Oct-20
0001539921	-	Hornet and Wasp Spray	15	Ounces(OZ)	16-Oct-20
0001539920	-	LAQUER	12	Ounces(OZ)	16-Oct-20
0001539938	-	INTERIOR EXTERIOR ENAMEL	12	Ounces(OZ)	16-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000715F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	16-Oct-20
V000007160	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	16-Oct-20
V000007162	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	16-Oct-20
V000007161	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	16-Oct-20
V00000715E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	16-Oct-20
0001539930	-	10W-30 SAE MOTOR OIL	1	Quarts(QT)	16-Oct-20
0001539929	-	WD-40	12	Ounces(OZ)	16-Oct-20
0001539939	-	CONTACT CEMENT	16	Ounces(OZ)	16-Oct-20
0001539948	-	ANTIFREEZE	1	Gallon(GAL)	16-Oct-20
V000007168	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	16-Oct-20
V000007167	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	16-Oct-20
V000007166	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	16-Oct-20
V000007165	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	16-Oct-20
V000007164	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	16-Oct-20
V000007163	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	16-Oct-20
V000007171	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	16-Oct-20
V000007169	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	16-Oct-20
V00000716B	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	16-Oct-20
V00000716C	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	16-Oct-20
V00000716D	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	16-Oct-20
V00000716E	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	16-Oct-20
V00000716A	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	16-Oct-20
V000007170	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	16-Oct-20
V00000716F	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	16-Oct-20
0001539957	-	FAST DRY ENAMEL	3	Ounces(OZ)	16-Oct-20
V000007173	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	16-Oct-20
V000007172	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	16-Oct-20
V000007174	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	16-Oct-20
V000007175	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	16-Oct-20
V000007176	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	16-Oct-20
V000007177	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	16-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007178	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	16-Oct-20
V000007179	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	16-Oct-20
V00000717A	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	16-Oct-20
V00000717B	-	Parts Plus SAE 15W-40 Motor Oil	1	Quarts(QT)	16-Oct-20
0001539966	-	ACETONE OIL	1	Quarts(QT)	16-Oct-20
0001539975	-	WD-40 AEROSOL	8	Ounces(OZ)	16-Oct-20
0001539984	-	GOOF OFF ULTIMATE REMOVER	16	Ounces(OZ)	16-Oct-20
0001539985	-	BRAKE FLUID	12	Ounces(OZ)	16-Oct-20
0001539976	-	BRAKE FLUID	12	Ounces(OZ)	16-Oct-20
V00000717D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	16-Oct-20
V00000717C	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	16-Oct-20
0001575904	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575909	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575914	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575908	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575906	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575911	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575910	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575913	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575912	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575916	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575905	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575915	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
0001575907	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	19-Oct-20
V000007186	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	19-Oct-20
V000007187	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	19-Oct-20
0001575917	-	ULTRA GREY SILICONE GASKET MAKER	3.5	Ounces(OZ)	19-Oct-20
0001575918	-	ULTRA GREY SILICONE GASKET MAKER	3.5	Ounces(OZ)	19-Oct-20
0001575919	-	ULTRA BLACK GASKET MAKER	3.35	Ounces(OZ)	19-Oct-20
0001575920	-	ULTRA BLACK GASKET MAKER	3.35	Ounces(OZ)	19-Oct-20
0001575921	-	LOCTITE THREADLOCKER	10	Milliliter(ML)	19-Oct-20
0001575922	-	LOCTITE THREADLOCKER	10	Milliliter(ML)	19-Oct-20
0001575924	-	LOCTITE THREADLOCKER	10	Milliliter(ML)	19-Oct-20
0001575923	-	LOCTITE THREADLOCKER	10	Milliliter(ML)	19-Oct-20
0001575925	-	QD Electronic Cleaner (Aerosol)	11	Ounces(OZ)	19-Oct-20
0001575926	-	DIELECTRIC GREASE	3.3	Ounces(OZ)	19-Oct-20
0001575927	-	Valvoline HIGH PERFORMANCE SAE 75W-90 GEAR OIL	1	Quarts(QT)	19-Oct-20
0001575928	-	Valvoline HIGH PERFORMANCE SAE 75W-90 GEAR OIL	1	Quarts(QT)	19-Oct-20
0001575929	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001575969	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575951	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575952	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575953	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575955	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575930	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575957	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575958	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575973	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575972	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575950	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575970	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575954	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575968	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575967	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575966	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575965	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575964	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575963	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575962	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575961	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575960	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575959	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575971	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575943	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575931	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575932	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575933	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575934	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575935	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575936	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575937	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575938	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575939	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575940	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575941	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575956	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575942	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575949	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575944	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575948	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575947	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575946	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001575945	-	FLEETGUARD ES	1	Gallon(GAL)	19-Oct-20
0001608186	7704-34-9	SULFUR	50	Gram(GM)	19-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608187	10101-63-0	LEAD(II) IODIDE	50	Gram(GM)	19-Oct-20
0001608189	10101-63-0	LEAD(II) IODIDE	50	Gram(GM)	19-Oct-20
0001608190	10101-63-0	LEAD(II) IODIDE	50	Gram(GM)	19-Oct-20
0001608188	10101-63-0	LEAD(II) IODIDE	50	Gram(GM)	19-Oct-20
0001608194	7440-65-5	YTTRIUM	25	Gram(GM)	19-Oct-20
0001626672	-	Battery Cleaner with Acid Indicator	11	Ounces(OZ)	19-Oct-20
0001608195	7440-65-5	YTTRIUM	25	Gram(GM)	19-Oct-20
0001608196	7440-65-5	YTTRIUM	25	Gram(GM)	19-Oct-20
0001626673	-	Battery Cleaner with Acid Indicator	11	Ounces(OZ)	19-Oct-20
0001626674	-	CLEAR ADHESIVE SEALANT	11	Ounces(OZ)	19-Oct-20
0001608197	56-81-5	E-GEL	20	Microliter	19-Oct-20
0001608198	56-81-5	E-GEL	20	Microliter	19-Oct-20
0001608199	112-88-9	1-OCTADECENE	1	Liters(L)	19-Oct-20
0001608200	112-88-9	1-OCTADECENE	1	Liters(L)	19-Oct-20
0001626675	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626677	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626676	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626687	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626685	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626678	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626684	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626683	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626682	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626681	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626680	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626679	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626686	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Oct-20
0001626688	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Gloss White (OSHA White)	12	Ounces(OZ)	19-Oct-20
0001626689	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	19-Oct-20
0001626690	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	19-Oct-20
0001626693	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	19-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626692	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	19-Oct-20
0001626691	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	19-Oct-20
0001608201	1310-73-2	SODIUM HYDROXIDE	20	Liters(L)	19-Oct-20
0001608203	1310-73-2	SODIUM HYDROXIDE	20	Liters(L)	19-Oct-20
0001608204	1310-73-2	SODIUM HYDROXIDE	20	Liters(L)	19-Oct-20
0001608202	1310-73-2	SODIUM HYDROXIDE	20	Liters(L)	19-Oct-20
0001608215	7697-37-2	NITRIC ACID	2.5	Liters(L)	19-Oct-20
0001608217	7784-30-7	ALUMINUM PHOSPHATE	1	Kilograms(KG)	19-Oct-20
0001608221	7784-30-7	ALUMINUM PHOSPHATE	1	Kilograms(KG)	19-Oct-20
0001608220	7784-30-7	ALUMINUM PHOSPHATE	1	Kilograms(KG)	19-Oct-20
0001608219	7784-30-7	ALUMINUM PHOSPHATE	1	Kilograms(KG)	19-Oct-20
0001608218	7784-30-7	ALUMINUM PHOSPHATE	1	Kilograms(KG)	19-Oct-20
0001608222	1315-09-9	ZINC SELENIDE	10	Gram(GM)	19-Oct-20
0001608223	1315-11-3	ZINC TELLURIDE	25	Gram(GM)	19-Oct-20
0001608224	-	Iron Nickel Powder	500	Gram(GM)	20-Oct-20
0001608225	-	Iron Nickel Powder	500	Gram(GM)	20-Oct-20
0001608185	-	1-STEP ULTRA TMB BLOTTING	250	Milliliter(ML)	20-Oct-20
0001608191	-	C7 - C30 Saturated Alkanes	1	Milliliter(ML)	20-Oct-20
0001608193	-	C7 - C30 Saturated Alkanes	1	Milliliter(ML)	20-Oct-20
0001608192	-	C7 - C30 Saturated Alkanes	1	Milliliter(ML)	20-Oct-20
0001608226	1306-23-6	CADMIUM SULFIDE	20	Gram(GM)	20-Oct-20
0001608227	1306-24-7	CADMIUM SELENIDE	10	Gram(GM)	20-Oct-20
0001608228	1306-25-8	CADMIUM TELLURIDE	10	Gram(GM)	20-Oct-20
0001608229	865-49-6	CHLOROFORM-D	100	Gram(GM)	20-Oct-20
0001608230	67-68-5	DIMETHYL SULFOXIDE	25	Gram(GM)	20-Oct-20
0001608231	2206-26-0	ACETONITRILE-D3	25	Gram(GM)	20-Oct-20
0001608232	811-98-3	METHANOL D4	25	Gram(GM)	20-Oct-20
0001608233	7727-54-0	AMMONIUM PERSULFATE	100	Gram(GM)	20-Oct-20
0001608234	1538-75-6	TRIMETHYLACETIC ANHYDRIDE	100	Gram(GM)	20-Oct-20
0001608235	358-23-6	TRIFLUOROMETHANESULFONIC ANHYDRIDE	50	Gram(GM)	20-Oct-20
0001608236	67-63-0	2-PROPANOL	4	Liters(L)	20-Oct-20
0001608239	67-63-0	2-PROPANOL	4	Liters(L)	20-Oct-20
0001608241	67-63-0	2-PROPANOL	4	Liters(L)	20-Oct-20
0001608242	67-63-0	2-PROPANOL	4	Liters(L)	20-Oct-20
0001608243	67-63-0	2-PROPANOL	4	Liters(L)	20-Oct-20
0001608240	67-63-0	2-PROPANOL	4	Liters(L)	20-Oct-20
0001608237	67-63-0	2-PROPANOL	4	Liters(L)	20-Oct-20
0001608238	67-63-0	2-PROPANOL	4	Liters(L)	20-Oct-20
0001608244	108-88-3	TOLUENE	500	Milliliter(ML)	20-Oct-20
0001608245	108-88-3	TOLUENE	500	Milliliter(ML)	20-Oct-20
0001605326	-	NALCO 7408 CHLORINE SCAVENGER SOLUTION	15	Gallon(GAL)	20-Oct-20
0001605328	-	NALCO 7408 CHLORINE SCAVENGER SOLUTION	15	Gallon(GAL)	20-Oct-20
0001605327	-	NALCO 7408 CHLORINE SCAVENGER SOLUTION	15	Gallon(GAL)	20-Oct-20
0001607971	7705-08-0	FERRIC CHLORIDE	55	Gallon(GAL)	20-Oct-20
0001607972	7705-08-0	FERRIC CHLORIDE	55	Gallon(GAL)	20-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607973	7705-08-0	FERRIC CHLORIDE	55	Gallon(GAL)	20-Oct-20
0001607974	7705-08-0	FERRIC CHLORIDE	55	Gallon(GAL)	20-Oct-20
0001608246	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608283	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608295	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608281	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608298	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608297	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608296	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608294	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608282	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608293	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608292	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608291	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608289	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608288	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608287	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608286	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608285	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608284	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608306	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608290	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608310	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608269	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608280	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608301	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608302	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608303	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608304	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608305	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608308	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608309	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608299	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608311	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608318	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608300	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608312	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608313	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608314	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608315	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608316	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608307	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608260	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608251	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608252	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608254	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608256	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608257	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608250	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608259	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608253	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608261	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608271	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608279	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608262	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608264	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608263	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608258	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608273	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608278	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608277	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608276	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608255	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608274	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608249	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608272	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608317	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608247	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608268	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608267	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608248	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608266	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608270	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608275	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608265	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	20-Oct-20
0001608319	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608320	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608328	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608327	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608326	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608324	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608321	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608325	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608329	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608322	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608337	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608330	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608323	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608338	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608336	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608335	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608334	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608333	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608332	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608331	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608339	594-61-6	2-HYDROXYISOBUTYRIC ACID	500	Gram(GM)	20-Oct-20
0001608341	594-61-6	2-HYDROXYISOBUTYRIC ACID	500	Gram(GM)	20-Oct-20
0001608340	594-61-6	2-HYDROXYISOBUTYRIC ACID	500	Gram(GM)	20-Oct-20
0001608342	15933-59-2	TETRAMETHYL DISILAZANE	25	Milliliter(ML)	20-Oct-20
0001608343	15933-59-2	TETRAMETHYL DISILAZANE	25	Milliliter(ML)	20-Oct-20
0001608344	7784-27-2	ALUMINUM NITRATE CRYSTALS	500	Gram(GM)	20-Oct-20
0001608348	7784-27-2	ALUMINUM NITRATE CRYSTALS	500	Gram(GM)	20-Oct-20
0001608345	7784-27-2	ALUMINUM NITRATE CRYSTALS	500	Gram(GM)	20-Oct-20
0001608346	7784-27-2	ALUMINUM NITRATE CRYSTALS	500	Gram(GM)	20-Oct-20
0001608347	7784-27-2	ALUMINUM NITRATE CRYSTALS	500	Gram(GM)	20-Oct-20
0001608349	7784-27-2	ALUMINUM NITRATE CRYSTALS	500	Gram(GM)	20-Oct-20
0001608350	14187-32-7	DIBENZO-18-CROWN-6	50	Gram(GM)	20-Oct-20
0001608351	-	APIEZON M GREASE	25	Gram(GM)	20-Oct-20
0001608352	9011-14-7	POLY METHYL METHACRYLATE POLYMERIZED	50	Gram(GM)	20-Oct-20
0001608353	64742-65-0	PUMP OIL	1	Liters(L)	20-Oct-20
0001608354	64742-65-0	PUMP OIL	1	Liters(L)	20-Oct-20
0001608355	7440-66-6	ZINC	100	Gram(GM)	20-Oct-20
0001608356	75-12-7	FORMAMIDE	500	Milliliter(ML)	20-Oct-20
0001608357	68855-54-9	CELITE 545	1	Kilograms(KG)	20-Oct-20
0001608358	1314-98-3	ZINC SULFIDE	25	Gram(GM)	20-Oct-20
0001608359	5137-55-3	TRIOCTYLMETHYLAMMONIUM CL	500	Milliliter(ML)	20-Oct-20
0001608360	462-06-6	FLUOROBENZENE	500	Gram(GM)	20-Oct-20
0001608363	462-06-6	FLUOROBENZENE	500	Gram(GM)	20-Oct-20
0001608361	462-06-6	FLUOROBENZENE	500	Gram(GM)	20-Oct-20
0001608362	462-06-6	FLUOROBENZENE	500	Gram(GM)	20-Oct-20
0001608364	67-68-5	DIMETHYL SULFOXIDE	25	Gram(GM)	20-Oct-20
0001608365	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608367	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608368	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608366	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608369	7775-11-3	SODIUM CHROMATE	100	Gram(GM)	20-Oct-20
0001608370	110-54-3	HEXANE	1	Liters(L)	20-Oct-20
0001608371	110-54-3	HEXANE	1	Liters(L)	20-Oct-20
0001608372	110-54-3	HEXANE	1	Liters(L)	20-Oct-20
0001608373	110-54-3	HEXANE	1	Liters(L)	20-Oct-20
0001608374	189321-63-9	1-Tert-butoxycarbonyl-4-methyl-piperidine-4-carboxylic acid	5	Gram(GM)	20-Oct-20
0001608375	-	D2020 Nafion Dispersion	125	Milliliter(ML)	20-Oct-20
0001608381	-	D2020 Nafion Dispersion	125	Milliliter(ML)	20-Oct-20
0001608384	-	D2020 Nafion Dispersion	125	Milliliter(ML)	20-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608376	-	D2020 Nafion Dispersion	125	Milliliter(ML)	20-Oct-20
0001608378	-	D2020 Nafion Dispersion	125	Milliliter(ML)	20-Oct-20
0001608383	-	D2020 Nafion Dispersion	125	Milliliter(ML)	20-Oct-20
0001608377	-	D2020 Nafion Dispersion	125	Milliliter(ML)	20-Oct-20
0001608380	-	D2020 Nafion Dispersion	125	Milliliter(ML)	20-Oct-20
0001608379	-	D2020 Nafion Dispersion	125	Milliliter(ML)	20-Oct-20
0001608382	-	D2020 Nafion Dispersion	125	Milliliter(ML)	20-Oct-20
0001608385	7365-44-8	TES (2-{[TRIS(HYDROXYMETHYL)METHYL]AMINO}-1-ETHANESULFONIC ACID)	100	Gram(GM)	20-Oct-20
0001608386	67-64-1	ACETONE	4	Liters(L)	20-Oct-20
0001608387	-	Hydrochloric Acid	5	Liters(L)	20-Oct-20
0001567043	-	SOLVENT CEMENT FOR PVC	32	Ounces(OZ)	20-Oct-20
0001567044	-	SOLVENT CEMENT FOR PVC	32	Ounces(OZ)	20-Oct-20
0001567045	-	SOLVENT CEMENT FOR PVC	32	Ounces(OZ)	20-Oct-20
0001567046	-	SOLVENT CEMENT FOR PVC	32	Ounces(OZ)	20-Oct-20
0001567047	-	SOLVENT CEMENT FOR PVC	32	Ounces(OZ)	20-Oct-20
0001567048	-	SOLVENT CEMENT FOR PVC	32	Ounces(OZ)	20-Oct-20
0001567049	-	SOLVENT CEMENT FOR PVC	32	Ounces(OZ)	20-Oct-20
0001567050	-	SOLVENT CEMENT FOR PVC	32	Ounces(OZ)	20-Oct-20
0001567051	-	SOLVENT CEMENT FOR PVC	32	Ounces(OZ)	20-Oct-20
0001567052	-	SOLVENT CEMENT FOR PVC	32	Ounces(OZ)	20-Oct-20
0001567053	-	PVC PURPLE PRIMER	32	Ounces(OZ)	20-Oct-20
0001567058	-	PVC PURPLE PRIMER	32	Ounces(OZ)	20-Oct-20
0001567054	-	PVC PURPLE PRIMER	32	Ounces(OZ)	20-Oct-20
0001567055	-	PVC PURPLE PRIMER	32	Ounces(OZ)	20-Oct-20
0001567057	-	PVC PURPLE PRIMER	32	Ounces(OZ)	20-Oct-20
0001567059	-	PVC PURPLE PRIMER	32	Ounces(OZ)	20-Oct-20
0001567060	-	PVC PURPLE PRIMER	32	Ounces(OZ)	20-Oct-20
0001567061	-	PVC PURPLE PRIMER	32	Ounces(OZ)	20-Oct-20
0001567062	-	PVC PURPLE PRIMER	32	Ounces(OZ)	20-Oct-20
0001567056	-	PVC PURPLE PRIMER	32	Ounces(OZ)	20-Oct-20
0001567063	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567081	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567091	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567084	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567097	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567096	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567095	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567079	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567099	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567064	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567100	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567090	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567089	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567088	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567087	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567086	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567085	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567093	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567107	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567114	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567113	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567112	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567111	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567110	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567098	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567108	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567092	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567106	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567105	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567104	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567103	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567102	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567101	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567109	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567072	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567082	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567080	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567078	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567077	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567076	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567075	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567083	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567073	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567071	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567070	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567094	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567068	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567067	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567066	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567065	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567074	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001567069	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	20-Oct-20
0001605048	-	GALLIUM	125	Milliliter(ML)	20-Oct-20
0001605049	-	GALLIUM	125	Milliliter(ML)	20-Oct-20
0001605052	-	ZINC	125	Milliliter(ML)	20-Oct-20
0001605053	-	ZINC	125	Milliliter(ML)	20-Oct-20
0001607775	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607789	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607785	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607786	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607788	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607790	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607784	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607783	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607776	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607781	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607780	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607779	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607778	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607777	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607782	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001607787	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608441	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608442	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608443	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608444	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608445	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608446	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608447	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608451	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608449	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608450	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608440	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608426	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608448	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608439	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608438	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608437	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608436	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608434	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608432	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608431	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608430	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608429	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608427	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608425	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608424	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608435	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608428	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608433	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608452	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608462	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608463	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608461	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608460	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608459	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608458	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608456	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608455	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608454	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608453	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608457	7697-37-2	NITRIC ACID	2.5	Liters(L)	20-Oct-20
0001608464	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608486	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608478	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608479	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608480	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608481	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608482	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608483	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608485	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608487	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608477	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608472	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608484	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608467	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608474	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608466	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608476	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608468	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608469	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608470	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608471	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608473	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608475	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608465	-	Hydrochloric Acid	2.5	Liters(L)	20-Oct-20
0001608488	7440-00-8	NEODYMIUM	25	Gram(GM)	20-Oct-20
0001608489	7440-00-8	NEODYMIUM	25	Gram(GM)	20-Oct-20
0001608490	9002-18-0	AGAR	500	Gram(GM)	20-Oct-20
0001608491	9002-18-0	AGAR	500	Gram(GM)	20-Oct-20
0001608492	144-55-8	SODIUM BICARBONATE	3	Kilograms(KG)	20-Oct-20
0001608498	144-55-8	SODIUM BICARBONATE	3	Kilograms(KG)	20-Oct-20
0001608496	144-55-8	SODIUM BICARBONATE	3	Kilograms(KG)	20-Oct-20
0001608499	144-55-8	SODIUM BICARBONATE	3	Kilograms(KG)	20-Oct-20
0001608497	144-55-8	SODIUM BICARBONATE	3	Kilograms(KG)	20-Oct-20
0001608494	144-55-8	SODIUM BICARBONATE	3	Kilograms(KG)	20-Oct-20
0001608493	144-55-8	SODIUM BICARBONATE	3	Kilograms(KG)	20-Oct-20
0001608495	144-55-8	SODIUM BICARBONATE	3	Kilograms(KG)	20-Oct-20
0001608500	10035-10-6	HYDROBROMIC ACID	500	Milliliter(ML)	20-Oct-20
0001608501	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608527	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608534	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608533	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608532	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608531	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608530	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608535	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608528	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608538	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608526	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608529	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608525	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608537	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608521	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608539	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608540	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608541	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608542	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608543	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608544	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608545	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608546	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608547	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608536	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608511	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608550	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608549	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608502	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608503	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608504	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608505	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608506	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608507	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608508	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608523	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608510	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608524	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608512	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608513	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608514	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608515	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608516	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608517	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608518	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608519	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608520	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608522	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608509	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608548	-	BARCO BOND	4	Ounces(OZ)	20-Oct-20
0001608551	7447-41-8	LITHIUM CHLORIDE	100	Gram(GM)	20-Oct-20
0001608552	-	N N-DIBUTYLFORMAMIDE	25	Milliliter(ML)	20-Oct-20
0001608553	100-97-0	HEXAMETHYLENETETRAMINE	1	Kilograms(KG)	20-Oct-20
0001608554	73367-80-3	12-BROMODODECANOIC ACID	5	Gram(GM)	20-Oct-20
0001608555	105-20-4	2-(1H-Pyrazol-3-yl)-ethylamine	1	Gram(GM)	20-Oct-20
0001608556	298-07-7	BIS(2-ETHYLHEXYL)HYDROGEN PHOSPHATE	500	Gram(GM)	20-Oct-20
0001608557	1076-43-3	BENZENE D6	50	Gram(GM)	20-Oct-20
0001608558	60-29-7	DIETHYL ETHER	1	Liters(L)	20-Oct-20
0001608561	60-29-7	DIETHYL ETHER	1	Liters(L)	20-Oct-20
0001608559	60-29-7	DIETHYL ETHER	1	Liters(L)	20-Oct-20
0001608560	60-29-7	DIETHYL ETHER	1	Liters(L)	20-Oct-20
0001608562	67-56-1	METHANOL	1	Liters(L)	20-Oct-20
0001608563	407-25-0	TRIFLUOROACETIC ANHYDRIDE	100	Gram(GM)	20-Oct-20
0001608565	2206-26-0	ACETONITRILE D3	10	Gram(GM)	20-Oct-20
0001608566	-	Bis[(2-diisopropylphosphino]ethyl)amine	10	Milliliter(ML)	20-Oct-20
0001608567	-	Bis[(2-diisopropylphosphino]ethyl)amine	10	Milliliter(ML)	20-Oct-20
0001608568	63-89-8	1 2-DIPALMITOYL-SN-GLYCERO-3-PHOSPHOLINE	25	Milligram(MG)	20-Oct-20
0001608569	63-89-8	1 2-DIPALMITOYL-SN-GLYCERO-3-PHOSPHOLINE	25	Milligram(MG)	20-Oct-20
0001608570	-	1 2-dimyristoyl-sn-glycero-3-phosphocholine	25	Milligram(MG)	20-Oct-20
0001608571	-	1 2-dimyristoyl-sn-glycero-3-phosphocholine	25	Milligram(MG)	20-Oct-20
0001608572	26853-31-6	2-Oleoyl-1-palmitoyl-sn-glycero-3-phosphocholine	25	Milligram(MG)	20-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608573	26853-31-6	2-Oleoyl-1-palmitoyl-sn-glycero-3-phosphocholine	25	Milligram(MG)	20-Oct-20
0001608574	7447-41-8	LITHIUM CHLORIDE	50	Gram(GM)	20-Oct-20
0001608575	4023-02-3	1H-PYRAZOLE-1-CARBOXAMIDI	50	Gram(GM)	20-Oct-20
0001608576	867-44-7	2-METHYL-2-THIOPSEUDOUREA SULFATE	100	Gram(GM)	20-Oct-20
0001608577	152120-54-2	N N-BIS(TERT-BUTOXYCARBONYL)-1H-PYRAZO	25	Gram(GM)	20-Oct-20
0001608578	-	Antimony Plasma standard solution Specpure Sb 1000 (Micro)g/ml	50	Milliliter(ML)	20-Oct-20
0001608579	-	SIGMACLEAN WATER BATH TREATMENT	4	Ounces(OZ)	20-Oct-20
0001608580	-	SIGMACLEAN WATER BATH TREATMENT	4	Ounces(OZ)	20-Oct-20
0001608581	7722-84-1	HYDROGEN PEROXIDE	4	Liters(L)	20-Oct-20
0001608583	7722-84-1	HYDROGEN PEROXIDE	4	Liters(L)	20-Oct-20
0001608582	7722-84-1	HYDROGEN PEROXIDE	4	Liters(L)	20-Oct-20
0001608584	7722-84-1	HYDROGEN PEROXIDE	4	Liters(L)	20-Oct-20
1646601	6625-46-3 877-24-7 110-44-1	Buffer Solution pH 4.00	5	gallons	21-Oct-20
0001567115	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	21-Oct-20
0001567121	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	21-Oct-20
0001567118	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	21-Oct-20
0001567117	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	21-Oct-20
0001567119	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	21-Oct-20
0001567120	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	21-Oct-20
0001567122	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	21-Oct-20
0001567116	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	21-Oct-20
V0000071A1	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
V00000719A	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
V0000071A5	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
V0000071A4	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000071A3	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
V0000071A2	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
V0000071A0	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
V00000719F	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
V00000719E	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
V00000719D	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
V00000719C	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
V00000719B	-	LPS Tapmatic #1 Gold (Aerosol)	312	Gram(GM)	21-Oct-20
0001664056	7601-90-3	PERCHLORIC ACID 60%	2.5	Liters(L)	21-Oct-20
0001605329	7580-67-8	LITHIUM HYDRIDE	10	Gram(GM)	21-Oct-20
0001608585	67-66-3	CHLOROFORM	1	Liters(L)	21-Oct-20
0001608590	67-66-3	CHLOROFORM	1	Liters(L)	21-Oct-20
0001608586	67-66-3	CHLOROFORM	1	Liters(L)	21-Oct-20
0001608587	67-66-3	CHLOROFORM	1	Liters(L)	21-Oct-20
0001608588	67-66-3	CHLOROFORM	1	Liters(L)	21-Oct-20
0001608589	67-66-3	CHLOROFORM	1	Liters(L)	21-Oct-20
0001608591	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608595	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608599	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608598	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608597	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608596	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608602	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608594	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608593	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608600	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608601	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608592	67-64-1	ACETONE	1	Gallon(GAL)	21-Oct-20
0001608603	Multi	NexION Setup Solution	500	Milliliter(ML)	21-Oct-20
0001655918	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	21-Oct-20
0001655764	7440-59-7	HELIUM GAS	100	Liters(L)	21-Oct-20
0001655850	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655843	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655851	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655849	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655848	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655847	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655846	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655844	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655842	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655841	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655840	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655838	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655852	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655845	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655839	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	21-Oct-20
0001655767	7440-59-7	HELIUM GAS	100	Liters(L)	21-Oct-20
0001655766	7440-59-7	HELIUM GAS	100	Liters(L)	21-Oct-20
0001655765	7440-59-7	HELIUM GAS	100	Liters(L)	21-Oct-20
0001655768	-	ARGON/METHANE	40	Cubic Feet(CF)	21-Oct-20
0001655769	-	ARGON/METHANE	40	Cubic Feet(CF)	21-Oct-20
0001655770	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655792	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655798	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655799	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655797	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655796	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655795	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655794	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655793	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655778	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655771	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655772	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655773	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655774	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655775	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655777	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655791	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655779	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655780	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655781	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655782	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655783	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655784	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655786	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655776	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655789	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655788	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655787	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655785	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655790	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	21-Oct-20
0001655800	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655815	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655806	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655816	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655811	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655817	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655818	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655814	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655813	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655819	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655812	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655810	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655809	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655807	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655805	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655829	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655820	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655801	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655802	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655803	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655804	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655808	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655822	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655823	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655824	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655825	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655826	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655828	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655827	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655821	-	ARGON GAS	220	Cubic Feet(CF)	21-Oct-20
0001655830	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	21-Oct-20
0001655835	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	21-Oct-20
0001655836	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	21-Oct-20
0001655834	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	21-Oct-20
0001655832	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	21-Oct-20
0001655831	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	21-Oct-20
0001655833	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	21-Oct-20
0001655837	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	21-Oct-20
0001567123	-	MATRIX 102 MEMBRANE ADHESIVE	4.75	Gallon(GAL)	21-Oct-20
0001567124	-	MATRIX 102 MEMBRANE ADHESIVE	4.75	Gallon(GAL)	21-Oct-20
0001567125	-	MATRIX 102 MEMBRANE ADHESIVE	4.75	Gallon(GAL)	21-Oct-20
0001567126	-	MATRIX 102 MEMBRANE ADHESIVE	4.75	Gallon(GAL)	21-Oct-20
0001567127	-	MATRIX 102 MEMBRANE ADHESIVE	4.75	Gallon(GAL)	21-Oct-20
0001567128	-	MATRIX 102 MEMBRANE ADHESIVE	4.75	Gallon(GAL)	21-Oct-20
0001567129	-	MATRIX 102 MEMBRANE ADHESIVE	4.75	Gallon(GAL)	21-Oct-20
0001567130	-	MATRIX 102 MEMBRANE ADHESIVE	4.75	Gallon(GAL)	21-Oct-20
0001567131	-	matrix 202 sbs flshing 5gal	4.75	Gallon(GAL)	21-Oct-20
0001567134	-	matrix 202 sbs flshing 5gal	4.75	Gallon(GAL)	21-Oct-20
0001567133	-	matrix 202 sbs flshing 5gal	4.75	Gallon(GAL)	21-Oct-20
0001567132	-	matrix 202 sbs flshing 5gal	4.75	Gallon(GAL)	21-Oct-20
0001567136	-	LIQUID NAILS HEAVY DUTY	10	Ounces(OZ)	21-Oct-20
0001567138	-	LIQUID NAILS HEAVY DUTY	10	Ounces(OZ)	21-Oct-20
0001567137	-	LIQUID NAILS HEAVY DUTY	10	Ounces(OZ)	21-Oct-20
0001567139	-	LIQUID NAILS HEAVY DUTY	10	Ounces(OZ)	21-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567140	-	LIQUID NAILS HEAVY DUTY	10	Ounces(OZ)	21-Oct-20
0001567141	-	LIQUID NAILS HEAVY DUTY	10	Ounces(OZ)	21-Oct-20
V0000071C3	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071B5	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071B0	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071B4	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071B3	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071B2	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071C4	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071C2	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071AE	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071AF	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071BB	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071C5	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071C1	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071B6	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071C0	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071B7	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071B8	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071B1	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071BA	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071BF	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071BE	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071BC	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071BD	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
V0000071B9	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	21-Oct-20
0001567142	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567145	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567143	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567165	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567164	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567163	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567162	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567161	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567160	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567159	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567158	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567147	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567156	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567155	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567144	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567151	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567146	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567148	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567150	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567152	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567153	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567154	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567157	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001567149	-	3M Hi-Strength Spray Adhesive 90 (aerosol)	17.6	Ounces(OZ)	21-Oct-20
0001608604	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	21-Oct-20
0001608605	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	21-Oct-20
0001608606	108-88-3	TOLUENE	4	Liters(L)	21-Oct-20
0001608607	108-88-3	TOLUENE	4	Liters(L)	21-Oct-20
0001608608	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	21-Oct-20
0001608613	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	21-Oct-20
0001608609	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	21-Oct-20
0001608610	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	21-Oct-20
0001608612	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	21-Oct-20
0001608614	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	21-Oct-20
0001608615	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	21-Oct-20
0001608611	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	21-Oct-20
0001608616	110-54-3	HEXANE CERTIFIED ACS	4	Liters(L)	21-Oct-20
0001608617	110-54-3	HEXANE CERTIFIED ACS	4	Liters(L)	21-Oct-20
0001608618	110-54-3	HEXANE CERTIFIED ACS	4	Liters(L)	21-Oct-20
0001608619	110-54-3	HEXANE CERTIFIED ACS	4	Liters(L)	21-Oct-20
0001608620	-	Membrane Scaffold Protein 1E3D1	5	Milligram(MG)	21-Oct-20
0001608621	-	Membrane Scaffold Protein 1E3D1	5	Milligram(MG)	21-Oct-20
0001608622	-	Membrane Scaffold Protein 1E3D1	5	Milligram(MG)	21-Oct-20
0001608623	31282-04-9	HYGROMYCIN B	20	Milliliter(ML)	21-Oct-20
0001608624	109-99-9	TETRAHYDROFURAN	1	Liters(L)	21-Oct-20
0001608625	109-99-9	TETRAHYDROFURAN	1	Liters(L)	21-Oct-20
0001608626	1795-31-9	Tris(trimethylsilyl) phosphite	25	Milliliter(ML)	21-Oct-20
0001608627	-	1 3-PROPANEDITHIOL	5	Gram(GM)	21-Oct-20
0001608628	164298-23-1	TFFH Fluoro-N N N' N'-tetramethylformamidinium hexafluorophosphate 95%	25	Gram(GM)	21-Oct-20
0001608629	164298-23-1	TFFH Fluoro-N N N' N'-tetramethylformamidinium hexafluorophosphate 95%	25	Gram(GM)	21-Oct-20
0001608630	330-54-1	DIURON	100	Gram(GM)	21-Oct-20
0001608631	7758-88-5	CERIUM(III) FLUORIDE	10	Gram(GM)	21-Oct-20
0001608634	9003-01-4	POLYACRYLIC ACID	250	Milliliter(ML)	21-Oct-20
0001608635	10294-29-8	Gold(I) chloride	1	Gram(GM)	21-Oct-20
0001608637	1304-76-3	BISMUTH(III) OXIDE	1	Kilograms(KG)	21-Oct-20
0001608638	2620-50-0	3 4-Methylenedioxybenzylamine	10	Gram(GM)	21-Oct-20
0001608639	-	ammonia	100	Milliliter(ML)	21-Oct-20
0001608641	-	ammonia	100	Milliliter(ML)	21-Oct-20
0001608640	-	ammonia	100	Milliliter(ML)	21-Oct-20
0001608642	9004-57-3	ETHYLCELLULOSE	250	Gram(GM)	21-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608643	9004-57-3	ETHYLCELLULOSE	500	Gram(GM)	21-Oct-20
0001655853	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655865	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655861	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655854	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655855	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655856	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655857	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655858	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655867	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655860	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655862	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655863	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655864	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655866	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655868	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655859	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	22-Oct-20
0001655869	-	29.9PPM NITROUS OXIDE/BALANCE HELIUM	40	Cubic Feet(CF)	22-Oct-20
0001655872	-	29.9PPM NITROUS OXIDE/BALANCE HELIUM	40	Cubic Feet(CF)	22-Oct-20
0001655871	-	29.9PPM NITROUS OXIDE/BALANCE HELIUM	40	Cubic Feet(CF)	22-Oct-20
0001655873	-	29.9PPM NITROUS OXIDE/BALANCE HELIUM	40	Cubic Feet(CF)	22-Oct-20
0001655870	-	29.9PPM NITROUS OXIDE/BALANCE HELIUM	40	Cubic Feet(CF)	22-Oct-20
0001655874	-	Hydrogen Argon	220	Cubic Feet(CF)	22-Oct-20
0001655875	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655883	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655887	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655886	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655884	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655882	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655880	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655876	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655879	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655885	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655878	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655877	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655881	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	22-Oct-20
0001655888	74-98-6	PROPANE (FUEL)	100	Pounds(LB)	22-Oct-20
0001655889	74-98-6	PROPANE (FUEL)	100	Pounds(LB)	22-Oct-20
0001655891	74-98-6	PROPANE (FUEL)	100	Pounds(LB)	22-Oct-20
0001655890	74-98-6	PROPANE (FUEL)	100	Pounds(LB)	22-Oct-20
0001567166	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001567170	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567169	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001567174	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001567173	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001567172	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001567176	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001567171	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001567175	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001567168	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001567177	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001567167	-	WHITE LIGHTNING SILICONE ULTRA ALL PURPOSE	10	Ounces(OZ)	22-Oct-20
0001575974	57-55-6	PROPYLENE GLYCOL INDUSTRIAL	50	Milliliter(ML)	22-Oct-20
0001575977	57-55-6	PROPYLENE GLYCOL INDUSTRIAL	50	Milliliter(ML)	22-Oct-20
0001575975	57-55-6	PROPYLENE GLYCOL INDUSTRIAL	50	Milliliter(ML)	22-Oct-20
0001575976	57-55-6	PROPYLENE GLYCOL INDUSTRIAL	50	Milliliter(ML)	22-Oct-20
0001575978	56-81-5	Vegetable Glycerin USP	50	Milliliter(ML)	22-Oct-20
0001575981	56-81-5	Vegetable Glycerin USP	50	Milliliter(ML)	22-Oct-20
0001575979	56-81-5	Vegetable Glycerin USP	50	Milliliter(ML)	22-Oct-20
0001575980	56-81-5	Vegetable Glycerin USP	50	Milliliter(ML)	22-Oct-20
0001608636	-	Invitrogen CM-H2DCFDA General Oxidative Stress Indicator Kit	50	MicroGram(UGM)	22-Oct-20
0001605330	1888-71-7	HEXACHLOROPROPENE	100	Gram(GM)	22-Oct-20
0001605331	1888-71-7	HEXACHLOROPROPENE	100	Gram(GM)	22-Oct-20
0001605332	1888-71-7	HEXACHLOROPROPENE	100	Gram(GM)	22-Oct-20
0001608644	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608652	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608645	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608646	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608647	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608648	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608649	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608656	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608651	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608653	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608654	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608655	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608657	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608658	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608650	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	22-Oct-20
0001608659	92112-69-1	Hexanes for HPLC	4	Liters(L)	22-Oct-20
0001608661	92112-69-1	Hexanes for HPLC	4	Liters(L)	22-Oct-20
0001608660	92112-69-1	Hexanes for HPLC	4	Liters(L)	22-Oct-20
0001608662	92112-69-1	Hexanes for HPLC	4	Liters(L)	22-Oct-20
0001608663	64-17-5	ETHANOL 200 PROOF	4	Liters(L)	22-Oct-20
0001608666	64-17-5	ETHANOL 200 PROOF	4	Liters(L)	22-Oct-20
0001608664	64-17-5	ETHANOL 200 PROOF	4	Liters(L)	22-Oct-20
0001608665	64-17-5	ETHANOL 200 PROOF	4	Liters(L)	22-Oct-20
0001608667	108-88-3	TOLUENE	4	Liters(L)	22-Oct-20
0001608669	108-88-3	TOLUENE	4	Liters(L)	22-Oct-20
0001608670	108-88-3	TOLUENE	4	Liters(L)	22-Oct-20
0001608668	108-88-3	TOLUENE	4	Liters(L)	22-Oct-20
0001608671	67-63-0	2-PROPONAL	4	Liters(L)	22-Oct-20
0001608672	67-63-0	2-PROPONAL	4	Liters(L)	22-Oct-20
0001608673	1693-74-9	TETRAHYDROFURAN D8	10	Gram(GM)	22-Oct-20
0001608674	1693-74-9	TETRAHYDROFURAN D8	10	Gram(GM)	22-Oct-20
0001608675	2206-27-1	DIMETHYL SULFOXIDE-D6	0.75	Milliliter(ML)	22-Oct-20
0001608676	811-98-3	METHANOL D4	0.75	Milliliter(ML)	22-Oct-20
0001608677	21645-51-2	ALUMINUM HYDROXIDE	25	Gram(GM)	22-Oct-20
0001608678	1344-28-1	ALUMINUM OXIDE	1	Kilograms(KG)	22-Oct-20
0001608679	10043-52-4	CALCIUM CHLORIDE	100	Gram(GM)	22-Oct-20
0001608680	113-24-6	sodium pyruvate	100	Gram(GM)	22-Oct-20
0001608681	5003-71-4	3-BROMOPROPYLAMINE HYDROB	25	Gram(GM)	22-Oct-20
0001608682	1633-83-6	1 4-BUTANE SULTONE	25	Gram(GM)	22-Oct-20
0001608683	51805-45-9	TRIS(2-CARBOXYETHYL)PHOSPHINE HYDROCHLORIDE	10	Gram(GM)	22-Oct-20
0001608684	139-13-9	NITRILOTRIACETIC ACID	100	Gram(GM)	22-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608685	19764-96-6	1 1' 3 3 3' 3'-Hexamethylindotricarbocyanine iodide	100	Milligram(MG)	22-Oct-20
0001608686	19764-96-6	1 1' 3 3 3' 3'-Hexamethylindotricarbocyanine iodide	100	Milligram(MG)	22-Oct-20
0001608687	19764-96-6	1 1' 3 3 3' 3'-Hexamethylindotricarbocyanine iodide	100	Milligram(MG)	22-Oct-20
0001608688	9002-18-0	Phyto Agar	1	Kilograms(KG)	22-Oct-20
0001608689	9002-18-0	Phyto Agar	1	Kilograms(KG)	22-Oct-20
0001608690	56-34-8	TETRAETHYL AMMONIUM CHLORIDE	25	Gram(GM)	22-Oct-20
0001608691	103-33-3	AZOBENZENE	5	Gram(GM)	22-Oct-20
0001608692	18741-85-0	(R)-(+)-1 1'-BINAPHTHYL-2 2'-DIAMINE	1	Gram(GM)	22-Oct-20
0001608693	18741-85-0	(R)-(+)-1 1'-BINAPHTHYL-2 2'-DIAMINE	1	Gram(GM)	22-Oct-20
0001608694	-	MagMAX Viral/Pathogen Nucleic Acid Isolation Kit	200	Milliliter(ML)	22-Oct-20
0001608700	64-17-5	ETHANOL 200 PROOF	1	Gallon(GAL)	22-Oct-20
0001608702	64-17-5	ETHANOL 200 PROOF	1	Gallon(GAL)	22-Oct-20
0001608703	64-17-5	ETHANOL 200 PROOF	1	Gallon(GAL)	22-Oct-20
0001608701	64-17-5	ETHANOL 200 PROOF	1	Gallon(GAL)	22-Oct-20
0001608704	1735-17-7	CYCLOHEXANE-D12	10	Gram(GM)	22-Oct-20
0001608705	630-60-4	OUABAIN	100	Milligram(MG)	22-Oct-20
0001608706	64-17-5	ETHYL ALCOHOL	1	Liters(L)	22-Oct-20
0001608707	109-72-8	BUTYLLITHIUM 1.6M	100	Milliliter(ML)	22-Oct-20
0001608710	109-72-8	BUTYLLITHIUM 1.6M	100	Milliliter(ML)	22-Oct-20
0001608709	109-72-8	BUTYLLITHIUM 1.6M	100	Milliliter(ML)	22-Oct-20
0001608708	109-72-8	BUTYLLITHIUM 1.6M	100	Milliliter(ML)	22-Oct-20
0001608711	67-63-0	2-PROPONAL	4	Liters(L)	22-Oct-20
0001540694	7697-37-2	NexION Cell Stability Solution	500	Milliliter(ML)	22-Oct-20
0001540695	Multi	NexION Setup Solution	500	Milliliter(ML)	22-Oct-20
0001540703	7732-18-5	NexION STD/DRC Mode Detection Limit Standard Solution	100	Milliliter(ML)	22-Oct-20
0001540704	-	NexION KED Mode Detection Limit Blank Solution	100	Milliliter(ML)	22-Oct-20
0001660567	7732-18-5	NexION STD/DRC Mode Detection Limmit Blank Solution	100	Milliliter(ML)	22-Oct-20
0001660576	7697-37-2	NexION KED Mode Detection Limit Standard Solution	100	Milliliter(ML)	22-Oct-20
0001660568	7732-18-5	NexION STD/DRC Mode Detection Limmit Blank Solution	100	Milliliter(ML)	22-Oct-20
0001608696	-	MagMAX Viral/Pathogen Nucleic Acid Isolation Kit	200	Milliliter(ML)	22-Oct-20
0001608697	-	MagMAX Viral/Pathogen Nucleic Acid Isolation Kit	200	Milliliter(ML)	22-Oct-20
0001608698	-	MagMAX Viral/Pathogen Nucleic Acid Isolation Kit	200	Milliliter(ML)	22-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608699	-	MagMAX Viral/Pathogen Nucleic Acid Isolation Kit	200	Milliliter(ML)	22-Oct-20
0001608695	-	MagMAX Viral/Pathogen Nucleic Acid Isolation Kit	200	Milliliter(ML)	22-Oct-20
0001660569	7697-37-2	NexION Dual Detector Calibration Solution	100	Milliliter(ML)	22-Oct-20
0001660570	7697-37-2	NexION KED Mode Setup Solution	500	Milliliter(ML)	22-Oct-20
0001660571	7697-37-2	NexION Rinse Solution	500	Milliliter(ML)	22-Oct-20
0001608712	-	LOCTITE 242 THREADLOCKER	50	Milliliter(ML)	22-Oct-20
0001608714	-	LOCTITE 242 THREADLOCKER	50	Milliliter(ML)	22-Oct-20
0001608715	-	LOCTITE 242 THREADLOCKER	50	Milliliter(ML)	22-Oct-20
0001608716	-	LOCTITE 242 THREADLOCKER	50	Milliliter(ML)	22-Oct-20
0001608713	-	LOCTITE 242 THREADLOCKER	50	Milliliter(ML)	22-Oct-20
0001608717	7758-19-2	SODIUM CHLORITE	5	Gram(GM)	22-Oct-20
0001608718	7758-19-2	SODIUM CHLORITE	5	Gram(GM)	22-Oct-20
0001608719	-	BLUE GOLD INDUSTRIAL CLEANER	1	Gallon(GAL)	22-Oct-20
0001608720	67-64-1	ACETONE	4	Liters(L)	22-Oct-20
0001608721	67-64-1	ACETONE	4	Liters(L)	22-Oct-20
0001608722	13450-90-3	GALLIUM(III) CHLORIDE	25	Gram(GM)	22-Oct-20
0001608723	13450-90-3	GALLIUM(III) CHLORIDE	25	Gram(GM)	22-Oct-20
0001608724	7697-37-2	NITRIC ACID	500	Milliliter(ML)	22-Oct-20
0001608726	-	Hydrochloric Acid	500	Milliliter(ML)	22-Oct-20
0001608727	-	LIQUID FLUX	0.5	Ounces(OZ)	22-Oct-20
0001608728	-	LIQUID FLUX	10	Milliliter(ML)	22-Oct-20
0001608729	-	LIQUID FLUX	10	Milliliter(ML)	22-Oct-20
0001608730	-	Chip Quik Super Glue Series: SG1 SG2 SG3 SG4	0.5	Ounces(OZ)	22-Oct-20
0001608731	-	Chip Quik Super Glue Series: SG1 SG2 SG3 SG4	0.5	Ounces(OZ)	22-Oct-20
0001608732	-	Chip Quik Super Glue Series: SG1 SG2 SG3 SG4	1	Ounces(OZ)	22-Oct-20
0001655892	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	22-Oct-20
0001655897	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	22-Oct-20
0001655894	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	22-Oct-20
0001655895	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	22-Oct-20
0001655896	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	22-Oct-20
0001655893	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	22-Oct-20
0001655898	74-86-2	ACETYLENE STABILIZED	40	Cubic Feet(CF)	22-Oct-20
0001655899	74-98-6	PROPANE	11	Gallon(GAL)	22-Oct-20
0001655905	74-98-6	PROPANE	11	Gallon(GAL)	22-Oct-20
0001655904	74-98-6	PROPANE	11	Gallon(GAL)	22-Oct-20
0001655903	74-98-6	PROPANE	11	Gallon(GAL)	22-Oct-20
0001655902	74-98-6	PROPANE	11	Gallon(GAL)	22-Oct-20
0001655901	74-98-6	PROPANE	11	Gallon(GAL)	22-Oct-20
0001655900	74-98-6	PROPANE	11	Gallon(GAL)	22-Oct-20
0001655906	-	Compressed Air	220	Cubic Feet(CF)	22-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655909	-	Compressed Air	220	Cubic Feet(CF)	22-Oct-20
0001655908	-	Compressed Air	220	Cubic Feet(CF)	22-Oct-20
0001655907	-	Compressed Air	220	Cubic Feet(CF)	22-Oct-20
0001655910	-	Compressed Air	220	Cubic Feet(CF)	22-Oct-20
0001655911	7440-01-9	NEON	100	Liters(L)	22-Oct-20
0001655912	7440-01-9	NEON	100	Liters(L)	22-Oct-20
0001655913	7440-59-7	HELIUM GAS	100	Liters(L)	22-Oct-20
0001655915	7440-59-7	HELIUM GAS	100	Liters(L)	22-Oct-20
0001655916	7440-59-7	HELIUM GAS	100	Liters(L)	22-Oct-20
0001655917	7440-59-7	HELIUM GAS	100	Liters(L)	22-Oct-20
0001655914	7440-59-7	HELIUM GAS	100	Liters(L)	22-Oct-20
V0000071F8	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071F7	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071F6	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071F5	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071F4	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071F2	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071F9	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V000007200	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071F1	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071F0	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071EF	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071F3	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071FA	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071FB	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071FC	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071FD	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071FF	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V000007201	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V000007202	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V000007203	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V000007204	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071DE	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V000007205	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071EE	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071FE	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071D7	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071E0	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071D6	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071D8	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071D9	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071DA	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071DB	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071DC	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000071DD	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071DF	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071E1	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071E7	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071E2	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071ED	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071EA	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071EC	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071E8	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071EB	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071E6	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071E5	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071E4	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071E3	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V0000071E9	-	Alex Plus Clear	10.1	Ounces(OZ)	22-Oct-20
V00000721D	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V00000721E	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V00000721C	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V00000721F	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007220	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007221	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V00000721B	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007223	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007214	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007224	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007225	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007222	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V00000721A	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007219	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007218	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007217	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007215	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007213	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007227	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007226	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007212	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007228	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007229	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
V000007216	-	Titebond GREENchoice Acoustical Ceiling Tile Adhesive	28	Ounces(OZ)	26-Oct-20
0001608725	7697-37-2	NITRIC ACID	500	Milliliter(ML)	26-Oct-20
0001608733	-	Chip Quik Silicone Adhesive Sealant	20	Gram(GM)	26-Oct-20
0001608734	-	Chip Quik Silicone Adhesive Sealant	20	Gram(GM)	26-Oct-20
0001608735	-	Chip Quik Silicone Adhesive Sealant	20	Gram(GM)	26-Oct-20
0001608737	-	Chip Quik Silicone Adhesive Sealant	20	Gram(GM)	26-Oct-20
0001608736	-	Chip Quik Silicone Adhesive Sealant	20	Gram(GM)	26-Oct-20
0001608738	-	Chip Quik Silicone Adhesive Sealant	20	Gram(GM)	26-Oct-20
0001608739	-	Chip Quik Silicone Adhesive Sealant	20	Gram(GM)	26-Oct-20
0001608740	-	Thermoset Chip Glue (Red)	10	Cubic Centimeter (CC)	26-Oct-20
0001608741	-	Thermoset Chip Glue (Red)	10	Cubic Centimeter (CC)	26-Oct-20
0001608742	-	Chip Quik Self-Leveling Silicone: CQ511 CQ51	20	Gram(GM)	26-Oct-20
0001608743	-	Chip Quik Self-Leveling Silicone: CQ511 CQ51	20	Gram(GM)	26-Oct-20
0001608744	-	SILICONE GREASE	20	Gram(GM)	26-Oct-20
0001608745	-	Chip Quik Leaded Solder Wire and Spheres	100	Gram(GM)	26-Oct-20
0001608746	2058-89-1	MMB-4	5	Milligram(MG)	26-Oct-20
0001608747	470-42-8	Marinobufagenin	5	Milligram(MG)	26-Oct-20
0001608748	470-42-8	Marinobufagenin	5	Milligram(MG)	26-Oct-20
0001608749	12033-89-5	SILICON NITRIDE	4	Gram(GM)	26-Oct-20
0001608750	69011-20-7	BIO-RAD DOWEX RESIN 50W-X2 -X4 -X8 -X12 -X16 CATION EXCHANGE	500	Gram(GM)	26-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608751	69011-20-7	BIO-RAD DOWEX RESIN 50W-X2 -X4 -X8 -X12 - X16 CATION EXCHANGE	500	Gram(GM)	26-Oct-20
0001608752	69011-20-7	BIO-RAD DOWEX RESIN 50W-X2 -X4 -X8 -X12 - X16 CATION EXCHANGE	500	Gram(GM)	26-Oct-20
0001608753	69011-20-7	BIO-RAD DOWEX RESIN 50W-X2 -X4 -X8 -X12 - X16 CATION EXCHANGE	500	Gram(GM)	26-Oct-20
0001608754	110-99-6	DIGLYCOLIC ACID	5	Gram(GM)	26-Oct-20
0001608755	110-99-6	DIGLYCOLIC ACID	5	Gram(GM)	26-Oct-20
0001608756	148893-10-1	HATU	25	Gram(GM)	26-Oct-20
0001608757	7440-65-5	YTTRIUM	20	Gram(GM)	26-Oct-20
0001608758	2008-75-5	1-(2-Chloroethyl)piperidine hydrochloride	100	Gram(GM)	26-Oct-20
0001605333	38721-52-7	L-SELECTRIDE	100	Milliliter(ML)	26-Oct-20
0001607968	7429-90-5	ALUMINUM	250	Gram(GM)	26-Oct-20
0001607969	7440-50-8	COPPER	125	Gram(GM)	26-Oct-20
0001607970	7440-02-0	Nickel spheres	250	Gram(GM)	26-Oct-20
0000854328	-	Kodak TMAX Developer	1	Liters(L)	26-Oct-20
0000854333	-	Kodak TMAX Developer	1	Liters(L)	26-Oct-20
0000854330	-	Kodak TMAX Developer	1	Liters(L)	26-Oct-20
0000854332	-	Kodak TMAX Developer	1	Liters(L)	26-Oct-20
0000854331	-	Kodak TMAX Developer	1	Liters(L)	26-Oct-20
0000854329	-	Kodak TMAX Developer	1	Liters(L)	26-Oct-20
0001608759	-	SC155	1	Liters(L)	26-Oct-20
0001608760	594-61-6	2-HYDROXYISOBUTYRIC ACID	500	Gram(GM)	26-Oct-20
0001608761	594-61-6	2-HYDROXYISOBUTYRIC ACID	500	Gram(GM)	26-Oct-20
0001608762	33941-15-0	1-AZA-18-CROWN-6	250	Milligram(MG)	26-Oct-20
0001608763	108-88-3	TOLUENE	4	Liters(L)	26-Oct-20
0001608764	333-27-7	METHYL TRIFLUOROMETHANESULFONATE	50	Gram(GM)	26-Oct-20
0001608765	7790-99-0	Iodine monochloride	100	Gram(GM)	26-Oct-20
0001608766	-	RBS 35 CONCENTRATE	5	Kilograms(KG)	26-Oct-20
0001608767	6484-52-2	AMMONIUM NITRATE	100	Gram(GM)	26-Oct-20
0001608768	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	26-Oct-20
0001608769	-	HIGH VACUUM GREASE	5.3	Ounces(OZ)	26-Oct-20
0001608770	8042-47-5	MINERAL OIL	1	Liters(L)	26-Oct-20
0001608771	407-25-0	TRIFLUOROACETIC ANHYDRIDE	100	Gram(GM)	26-Oct-20
0001608772	541-09-3	URANYL ACETATE	25	Gram(GM)	26-Oct-20
0001608773	24424-99-5	DI-TERT-BUTYL DICARBONATE	100	Gram(GM)	26-Oct-20
0001608774	60-29-7	DIETHYL ETHER	5	Liters(L)	26-Oct-20
0001608775	20605-01-0	DIEHTYL BIS(HYDROXYMETHYL)MALONATE	100	Gram(GM)	26-Oct-20
0001608776	7789-24-4	LITHIUM FLUORIDE	10	Gram(GM)	26-Oct-20
0001608777	-	2-(METHYLTHIO)ETHANOL	10	Gram(GM)	26-Oct-20
0001608778	4045-44-7	1 2 3 4 5-PENTAMETHYLCYCLOPENTADIENE	25	Gram(GM)	26-Oct-20
0001608779	-	1 2 3 4-TETRAMETHYL-1 3-CYCLOPENTADIENE	5	Gram(GM)	26-Oct-20
0001608780	-	TEMPO	5	Gram(GM)	26-Oct-20
0001608781	-	Chlorite polymer-bound	5	Gram(GM)	26-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608782	-	Tetraalkylammonium carbonate polymer-bound	5	Gram(GM)	26-Oct-20
0001608783	26628-22-8	SODIUM AZIDE	100	Gram(GM)	26-Oct-20
0001608784	6018-89-9	NICKEL(II) ACETATE TETRAHYDRATE	100	Gram(GM)	26-Oct-20
0001608785	144-55-8	SODIUM BICARBONATE	2.5	Kilograms(KG)	26-Oct-20
0001608786	-	PHENOL REAGENT	500	Gram(GM)	26-Oct-20
0001608787	67-66-3	CHLOROFORM	100	Milliliter(ML)	26-Oct-20
0001608788	67-68-5	CellEvent Caspase-3/7 Green Detection Reagent	25	Microliter	26-Oct-20
0001608789	466-07-9	NERIIFOLIN	5	Milligram(MG)	26-Oct-20
0001608790	466-07-9	NERIIFOLIN	5	Milligram(MG)	26-Oct-20
0001608791	30685-43-9	ß-Methyl Digoxin	10	Milligram(MG)	26-Oct-20
0001608792	63857-00-1	N-((2-Chloro-3-((phenylimino)methyl)cyclohex-2-en-1-ylidene)methyl)aniline hydrochloride	5	Gram(GM)	26-Oct-20
0001608793	110-71-4	1 2-DIMETHOXYETHANE	1	Liters(L)	26-Oct-20
0001605334	-	Hydrochloric Acid	500	Milliliter(ML)	27-Oct-20
0001605336	-	Hydrochloric Acid	500	Milliliter(ML)	27-Oct-20
0001605335	-	Hydrochloric Acid	500	Milliliter(ML)	27-Oct-20
0001608389	1336-21-6	AMMONIUM HYDROXIDE OPTIMA	500	Milliliter(ML)	27-Oct-20
0001608390	1336-21-6	AMMONIUM HYDROXIDE OPTIMA	500	Milliliter(ML)	27-Oct-20
0001608391	-	splintR Ligase	1	Microliter	27-Oct-20
0001608392	-	splintR Ligase	1	Microliter	27-Oct-20
0001608393	616-05-7	2-Bromohexanoic acid	25	Gram(GM)	27-Oct-20
0001608394	1314-36-9	YTTRIUM OXIDE	200	Gram(GM)	27-Oct-20
0001608395	4584-46-7	2-Chloro-N N-dimethylethylamine hydrochloride	100	Gram(GM)	27-Oct-20
0001608396	69011-20-7	DOWEX 50WX4 200-400 (H)	1	Kilograms(KG)	27-Oct-20
0001608397	112-40-3	DODECANE	1	Liters(L)	27-Oct-20
0001608398	8042-47-5	HYDRANAL Water Standard Oil	80	Milliliter(ML)	27-Oct-20
0001608399	8042-47-5	HYDRANAL Water Standard Oil	80	Milliliter(ML)	27-Oct-20
0001608400	7440-44-0	ACTIVATED CHARCOAL CARBON	250	Gram(GM)	27-Oct-20
0001608402	75-09-2	DICHLOROMETHANE	1	Liters(L)	27-Oct-20
0001608403	111-87-5	1-OCTANOL	1	Liters(L)	27-Oct-20
0001608406	75-09-2	DICHLOROMETHANE	4	Liters(L)	27-Oct-20
0001608409	75-09-2	DICHLOROMETHANE	4	Liters(L)	27-Oct-20
0001608408	75-09-2	DICHLOROMETHANE	4	Liters(L)	27-Oct-20
0001608407	75-09-2	DICHLOROMETHANE	4	Liters(L)	27-Oct-20
0001608421	67-48-1	CHOLINE CHLORIDE	5	Gram(GM)	27-Oct-20
0001608422	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	27-Oct-20
0001608794	-	LOCTITE LB 8209	1	Pounds(LB)	27-Oct-20
0001608795	-	LOCTITE LB 8209	1	Pounds(LB)	27-Oct-20
0001608796	67-56-1	METHANOL	100	Milliliter(ML)	27-Oct-20
0001608797	67-56-1	METHANOL	100	Milliliter(ML)	27-Oct-20
0001608798	75-24-1	TRIMETHYLALUMINUM	100	Milliliter(ML)	27-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608404	-	Ecoflex 00-50 Super Soft Shore Platinum Silicone Rubber Compound	0.5	Pint(PT)	27-Oct-20
0001608405	-	Ecoflex 00-50 Super Soft Shore Platinum Silicone Rubber Compound	0.5	Pint(PT)	27-Oct-20
0001608799	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608818	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608817	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608816	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608815	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608813	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608811	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608810	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608819	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608809	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608831	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608808	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608827	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608812	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608807	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608834	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608833	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608832	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608829	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608828	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608820	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608826	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608825	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608824	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608823	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608822	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608821	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608830	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608805	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608804	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608803	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608802	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608801	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608800	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608814	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608806	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608846	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608854	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608852	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608851	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608850	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608849	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608856	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608847	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608861	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608845	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608844	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608848	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608857	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608858	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608843	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608860	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608853	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608862	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608863	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608864	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608865	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608866	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608867	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608868	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608869	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608870	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608859	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608855	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608842	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608835	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608836	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608837	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608838	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608839	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608840	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608841	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608883	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608879	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608872	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608873	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608874	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608875	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608876	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608877	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608878	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608871	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608880	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608882	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608884	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608885	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608886	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608887	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608888	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608881	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	27-Oct-20
0001608889	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608898	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608906	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608895	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608894	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608896	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608897	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608924	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608918	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608917	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608916	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608915	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608914	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608913	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608912	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608919	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608920	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608921	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608904	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608923	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608900	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608893	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608899	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608911	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608910	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608909	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608908	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608907	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608905	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608903	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608902	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608922	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608892	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608901	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608891	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608890	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608934	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608927	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608929	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608926	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608937	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608935	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608938	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608933	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608932	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608931	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608928	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608925	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608930	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608936	-	LOCTITE 454 INSTANT ADHESIVE GEL	1	Ounces(OZ)	27-Oct-20
0001608939	3275-24-9	TETRAKIS(DIMETHYLAMINO)TITANIUM	5	Gram(GM)	27-Oct-20
0001608940	3275-24-9	TETRAKIS(DIMETHYLAMINO)TITANIUM	5	Gram(GM)	27-Oct-20
0001608941	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	27-Oct-20
0001608942	7440-45-1	CERIUM POWDER	10	Gram(GM)	27-Oct-20
0001605050	7440-55-3	GALLIUM	125	Milliliter(ML)	27-Oct-20
0001605051	7440-55-3	GALLIUM	125	Milliliter(ML)	27-Oct-20
0001435530	-	Enviro-C	35	Pounds(LB)	27-Oct-20
0001435533	-	Enviro-C	35	Pounds(LB)	27-Oct-20
0001435532	-	Enviro-C	35	Pounds(LB)	27-Oct-20
0001435531	-	Enviro-C	35	Pounds(LB)	27-Oct-20
0001435526	-	Hercules Staput	14	Ounces(OZ)	27-Oct-20
0001435527	-	Hercules Staput	14	Ounces(OZ)	27-Oct-20
0001435529	-	Hercules Staput	14	Ounces(OZ)	27-Oct-20
0001435528	-	Hercules Staput	14	Ounces(OZ)	27-Oct-20
0001435524	-	Megaloc	1	Pint(PT)	27-Oct-20
0001435522	-	Megaloc	1	Pint(PT)	27-Oct-20
0001435523	-	Bridgit Lead Free Solder	1	Pounds(LB)	27-Oct-20
0001435525	-	Bridgit Lead Free Solder	1	Pounds(LB)	27-Oct-20
0001435521	-	Megaloc	0.5	Pint(PT)	27-Oct-20
0001435497	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435520	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435518	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435503	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435519	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435510	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435509	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435507	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435517	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435504	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435508	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435502	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435501	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001435500	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435499	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435498	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435505	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435515	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435514	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435513	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435512	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435506	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435516	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435511	-	SILICONE ELASTOMER	10	Ounces(OZ)	27-Oct-20
0001435496	-	Spears LW-5 One-Step Low VOC Cement for LabWaste CPVC Systems	32	Ounces(OZ)	27-Oct-20
0001435495	-	Spears Primer-70 Low VOC Primer for PVC and CPVC Plastic Pipe	32	Ounces(OZ)	27-Oct-20
0001435485	-	BOELUBE 70302	12	Ounces(OZ)	27-Oct-20
0001435488	-	BOELUBE 70302	12	Ounces(OZ)	27-Oct-20
0001435490	-	BOELUBE 70302	12	Ounces(OZ)	27-Oct-20
0001435489	-	BOELUBE 70302	12	Ounces(OZ)	27-Oct-20
0001435487	-	BOELUBE 70302	12	Ounces(OZ)	27-Oct-20
0001435486	-	BOELUBE 70302	12	Ounces(OZ)	27-Oct-20
0001435491	-	BOELUBE 70302	12	Ounces(OZ)	27-Oct-20
0001435492	-	BOELUBE 70302	12	Ounces(OZ)	27-Oct-20
0001435493	-	BOELUBE 70302	12	Ounces(OZ)	27-Oct-20
0001435494	-	BOELUBE 70302	12	Ounces(OZ)	27-Oct-20
0001435479	-	Hercules Wet Set PVC Aqua Blue Medium Body Fast Set	1	Quarts(QT)	27-Oct-20
0001435480	-	Hercules Wet Set PVC Aqua Blue Medium Body Fast Set	1	Quarts(QT)	27-Oct-20
0001435481	-	Mainline Multi-Purpose Clear Medium Bodied Low VOC Solvent Cement	1	Pint(PT)	27-Oct-20
0001435482	-	Mainline Multi-Purpose Clear Medium Bodied Low VOC Solvent Cement	1	Pint(PT)	27-Oct-20
0001435483	-	MAINLINE Clear Low VOC Primer for PVC and CPVC	1	Pint(PT)	27-Oct-20
0001435484	-	MAINLINE Clear Low VOC Primer for PVC and CPVC	1	Pint(PT)	27-Oct-20
0001435477	-	Hercules Staput	14	Ounces(OZ)	27-Oct-20
0001435478	-	Hercules Staput	14	Ounces(OZ)	27-Oct-20
0001435476	-	HERCULES PVC CEMENT CLEAR MEDIUM BODY MEDIUM AND FAST SET	1	Quarts(QT)	27-Oct-20
0001435475	-	HERCULES PURPLE PVC PRIMER	1	Quarts(QT)	27-Oct-20
0001435465	-	silvabrite 100	1	Pounds(LB)	27-Oct-20
0001435474	-	silvabrite 100	1	Pounds(LB)	27-Oct-20
0001435473	-	silvabrite 100	1	Pounds(LB)	27-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001435472	-	silvabrite 100	1	Pounds(LB)	27-Oct-20
0001435471	-	silvabrite 100	1	Pounds(LB)	27-Oct-20
0001435469	-	silvabrite 100	1	Pounds(LB)	27-Oct-20
0001435467	-	silvabrite 100	1	Pounds(LB)	27-Oct-20
0001435466	-	silvabrite 100	1	Pounds(LB)	27-Oct-20
0001435470	-	silvabrite 100	1	Pounds(LB)	27-Oct-20
0001435468	-	silvabrite 100	1	Pounds(LB)	27-Oct-20
0001435460	-	NOKORODE SOLDERING PASTE	16	Ounces(OZ)	27-Oct-20
0001435464	-	NOKORODE SOLDERING PASTE	16	Ounces(OZ)	27-Oct-20
0001435461	-	NOKORODE SOLDERING PASTE	16	Ounces(OZ)	27-Oct-20
0001435463	-	NOKORODE SOLDERING PASTE	16	Ounces(OZ)	27-Oct-20
0001435462	-	NOKORODE SOLDERING PASTE	16	Ounces(OZ)	27-Oct-20
0001435455	-	RectorSeal Tru-Blu	16	Ounces(OZ)	27-Oct-20
0001435459	-	RectorSeal Tru-Blu	16	Ounces(OZ)	27-Oct-20
0001435458	-	RectorSeal Tru-Blu	16	Ounces(OZ)	27-Oct-20
0001435457	-	RectorSeal Tru-Blu	16	Ounces(OZ)	27-Oct-20
0001435456	-	RectorSeal Tru-Blu	16	Ounces(OZ)	27-Oct-20
0000854334	-	KODAK XTOL Developer	248	Gram(GM)	28-Oct-20
0000854335	-	KODAK XTOL Developer	248	Gram(GM)	28-Oct-20
0000854336	-	KODAK XTOL Developer	248	Gram(GM)	28-Oct-20
0000854337	-	KODAK XTOL Developer	248	Gram(GM)	28-Oct-20
0000854338	-	OptiShield Plus Corrosion Inhibitor	1	Pint(PT)	28-Oct-20
0001608216	109-66-0	PENTANE	4	Liters(L)	28-Oct-20
0001567178	-	Megaloc	16	Ounces(OZ)	28-Oct-20
0001567179	-	Megaloc	16	Ounces(OZ)	28-Oct-20
0001567180	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567181	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567183	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567190	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567189	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567188	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567187	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567186	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567184	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567191	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567182	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001567185	-	ENAMEL	12	Ounces(OZ)	28-Oct-20
0001605337	1307-96-6	COBALT(II) OXIDE	10	Gram(GM)	28-Oct-20
0001608410	1119-34-2	L-(+)-ARGININE MONOHYDROCHLORIDE	100	Gram(GM)	28-Oct-20
0001608411	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	28-Oct-20
0001608414	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	28-Oct-20
0001608419	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	28-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608418	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	28-Oct-20
0001608417	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	28-Oct-20
0001608413	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	28-Oct-20
0001608415	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	28-Oct-20
0001608416	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	28-Oct-20
0001608420	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	28-Oct-20
0001608412	137-05-3	LOCTITE 430 GENERAL PURPOSE INSTANT ADHESIVE	1	Ounces(OZ)	28-Oct-20
0001609015	-	PHOSPHATE BUFFERED SALINE	500	Milliliter(ML)	28-Oct-20
0001609016	151-21-3	DODECYL SULFATE SODIUM SALT (SODIUM DODECYL SULFATE SODIUM LAURYL SULFATE)	100	Gram(GM)	28-Oct-20
0001609017	77-76-9	2 2-DIMETHOXYPROPANE	500	Milliliter(ML)	28-Oct-20
0001609018	141-78-6	ETHYL ACETATE	4	Liters(L)	28-Oct-20
0001609020	141-78-6	ETHYL ACETATE	4	Liters(L)	28-Oct-20
0001609019	141-78-6	ETHYL ACETATE	4	Liters(L)	28-Oct-20
0001609021	141-78-6	ETHYL ACETATE	4	Liters(L)	28-Oct-20
0001609022	-	Neolube 1	2	Ounces(OZ)	28-Oct-20
0001609023	1310-73-2	SODIUM HYDROXIDE	1	Liters(L)	28-Oct-20
0001609024	1310-73-2	SODIUM HYDROXIDE	1	Liters(L)	28-Oct-20
0001609025	7757-82-6	SODIUM SULFATE	10	Kilograms(KG)	28-Oct-20
0001609026	-	PolyScience Polycool EG-25	1	Gallon(GAL)	28-Oct-20
V00000727B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000723D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000727A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007265	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000726D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000726C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000726B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000726A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007269	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007268	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007278	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007266	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007270	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007264	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007263	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007262	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007261	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007260	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000725F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007267	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000727C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007277	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007276	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007281	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007280	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000727F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000727E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000726E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000723B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000726F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000723A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007275	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007274	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007273	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007272	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007271	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000725C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000727D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007242	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000725E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007249	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007248	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007247	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007246	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007245	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000724B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007243	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000724C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007241	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007240	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000723F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000723E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007279	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000723C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007244	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007254	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000725B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000725A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007259	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007258	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007257	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000724A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007255	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000725D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007253	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007252	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007251	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007250	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000724F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000724E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V00000724D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
V000007256	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	28-Oct-20
0001609027	1313-82-2	SODIUM SULFIDE	10	Gram(GM)	28-Oct-20
0001609028	-	PHENOL CHLOROFORM	100	Milliliter(ML)	28-Oct-20
0001609029	2050-76-2	2 4-DICHLORO-1-NAPHTHOL	5	Gram(GM)	28-Oct-20
0001609030	1313-82-2	SODIUM SULFIDE	10	Gram(GM)	28-Oct-20
0001609031	-	Minimum Essential Medium (MEM)	500	Milliliter(ML)	28-Oct-20
0001609032	-	Minimum Essential Medium (MEM)	500	Milliliter(ML)	28-Oct-20
0001609037	1099-45-2	(CARBETHOXYMETHYLENE)-TRIPHENYLPHOSPHORANE	5	Gram(GM)	28-Oct-20
0001609038	75-05-8	ACETONITRILE HPLC	4	Liters(L)	28-Oct-20
0001567192	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	28-Oct-20
0001567193	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	28-Oct-20
0001567196	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	28-Oct-20
0001567197	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	28-Oct-20
0001567195	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	28-Oct-20
0001567194	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	28-Oct-20
0001609039	1330-20-7	XYLENE	1	Liters(L)	28-Oct-20
0001609040	16940-66-2	SODIUM BOROHYDRIDE	5	Gram(GM)	28-Oct-20
0001543735	-	SILICONE SEALANT	9.8	Ounces(OZ)	28-Oct-20
0001543740	-	SILICONE SEALANT	9.8	Ounces(OZ)	28-Oct-20
0001543736	-	SILICONE SEALANT	9.8	Ounces(OZ)	28-Oct-20
0001543739	-	SILICONE SEALANT	9.8	Ounces(OZ)	28-Oct-20
0001543738	-	SILICONE SEALANT	9.8	Ounces(OZ)	28-Oct-20
0001543737	-	SILICONE SEALANT	9.8	Ounces(OZ)	28-Oct-20
0001543741	-	2 TON EPOXY	50	Milliliter(ML)	28-Oct-20
0001543744	-	2 TON EPOXY	50	Milliliter(ML)	28-Oct-20
0001543750	-	2 TON EPOXY	50	Milliliter(ML)	28-Oct-20
0001543749	-	2 TON EPOXY	50	Milliliter(ML)	28-Oct-20
0001543748	-	2 TON EPOXY	50	Milliliter(ML)	28-Oct-20
0001543747	-	2 TON EPOXY	50	Milliliter(ML)	28-Oct-20
0001543745	-	2 TON EPOXY	50	Milliliter(ML)	28-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001543743	-	2 TON EPOXY	50	Milliliter(ML)	28-Oct-20
0001543742	-	2 TON EPOXY	50	Milliliter(ML)	28-Oct-20
0001543746	-	2 TON EPOXY	50	Milliliter(ML)	28-Oct-20
0001567198	-	Startex Green Lacquer Thinner	1	Gallon(GAL)	28-Oct-20
0001567199	-	Startex Green Lacquer Thinner	1	Gallon(GAL)	28-Oct-20
0001567200	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567206	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567202	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567203	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567201	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567208	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567205	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567219	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567220	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567221	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567222	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567223	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567204	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567217	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567216	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567215	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567209	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567214	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567210	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567211	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567212	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567213	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567218	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001567207	-	Geocel 2300 Construction Tripolymer Sealant	10.3	Ounces(OZ)	28-Oct-20
0001609041	-	Mold Max 60 silicone	1.3	Kilograms(KG)	28-Oct-20
0001609042	-	Mold Max 60 silicone	1.3	Kilograms(KG)	28-Oct-20
0001609043	-	Part A for: Clear Flex 50 and 95	1.36	Kilograms(KG)	28-Oct-20
0001609044	-	Part A for: Clear Flex 50 and 95	1.36	Kilograms(KG)	28-Oct-20
0001609045	-	MOLD MAX 40 SILICONE RUBBER COMPOUND PART A	1	Kilograms(KG)	28-Oct-20
0001609046	-	MOLD MAX 40 SILICONE RUBBER COMPOUND PART A	1	Kilograms(KG)	28-Oct-20
0001609047	15679-03-5	6-Chlorophenanthridine	1	Gram(GM)	28-Oct-20
0001655919	-	Oxygen Nitrogen	34	Liters(L)	29-Oct-20
V00000728F	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	29-Oct-20
V00000728B	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	29-Oct-20
V00000728C	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	29-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000728D	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	29-Oct-20
V00000728E	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	29-Oct-20
V00000728A	-	Parts Plus SAE 5W-30 SYNTHETIC BLEND PP3470 MOTOR OIL	1	Quarts(QT)	29-Oct-20
0001655920	7440-59-7	HELIUM GAS	100	Liters(L)	29-Oct-20
0001655922	7440-59-7	HELIUM GAS	100	Liters(L)	29-Oct-20
0001655921	7440-59-7	HELIUM GAS	100	Liters(L)	29-Oct-20
0001626694	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626704	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626703	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626702	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626701	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626700	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626699	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626698	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626697	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626696	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626705	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626695	-	Parts Plus Type F ATF	1	Quarts(QT)	29-Oct-20
0001626706	-	JOHNSENS 50% STARTING FLUID	10.7	Ounces(OZ)	29-Oct-20
0001626707	-	ANTI SEIZE LUBRICANT	16	Ounces(OZ)	29-Oct-20
0001626708	-	ANTI SEIZE LUBRICANT	16	Ounces(OZ)	29-Oct-20
0001626709	-	Bobcat All Season Hydraulic-Hydrostatic Fluid	5	Gallon(GAL)	29-Oct-20
0001626710	-	POWER STEERING FLUID	1	Quarts(QT)	29-Oct-20
0001626714	-	POWER STEERING FLUID	1	Quarts(QT)	29-Oct-20
0001626715	-	POWER STEERING FLUID	1	Quarts(QT)	29-Oct-20
0001626716	-	POWER STEERING FLUID	1	Quarts(QT)	29-Oct-20
0001626711	-	POWER STEERING FLUID	1	Quarts(QT)	29-Oct-20
0001626712	-	POWER STEERING FLUID	1	Quarts(QT)	29-Oct-20
0001626713	-	POWER STEERING FLUID	1	Quarts(QT)	29-Oct-20
0001626717	-	LOCTITE 266	10	Milliliter(ML)	29-Oct-20
0001626720	-	LOCTITE 266	10	Milliliter(ML)	29-Oct-20
0001626718	-	LOCTITE 266	10	Milliliter(ML)	29-Oct-20
0001626719	-	LOCTITE 266	10	Milliliter(ML)	29-Oct-20
0001605338	-	SULFURIC ACID ACS	500	Milliliter(ML)	29-Oct-20
0001605342	-	SULFURIC ACID ACS	500	Milliliter(ML)	29-Oct-20
0001605341	-	SULFURIC ACID ACS	500	Milliliter(ML)	29-Oct-20
0001605340	-	SULFURIC ACID ACS	500	Milliliter(ML)	29-Oct-20
0001605339	-	SULFURIC ACID ACS	500	Milliliter(ML)	29-Oct-20
0001609052	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	29-Oct-20
0001626721	-	MULTI-PURPOSE SUPER WHITE GREASE	14	Ounces(OZ)	29-Oct-20
0001609054	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	29-Oct-20
0001609053	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626722	-	SUPER WHITE GREASE	14	Ounces(OZ)	29-Oct-20
0001626723	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	29-Oct-20
0001609055	32093-39-3	Tris(dimethylamino)aluminum dimer	5	Gram(GM)	29-Oct-20
0001626727	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	29-Oct-20
0001626724	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	29-Oct-20
0001626726	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	29-Oct-20
0001626728	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	29-Oct-20
0001626725	-	LUBRIPLATE CHAIN AND CABLE FLUID	11	Ounces(OZ)	29-Oct-20
0001609056	-	LOCTITE E-120HP	50	Milliliter(ML)	29-Oct-20
0001626729	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	29-Oct-20
0001609057	-	LOCTITE E-120HP	50	Milliliter(ML)	29-Oct-20
0001626730	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	29-Oct-20
0001609058	16774-21-3	AMMONIUM CERIUM(IV)NITRATE (CERIC AMMONIUM NITRATE)	50	Gram(GM)	29-Oct-20
0001609059	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	29-Oct-20
0001609060	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	29-Oct-20
0001664057	-	NITRIC ACID BLAND STANDARD	1	Liters(L)	29-Oct-20
0001626731	-	DUPLI-COLOR 2-in-1 Filler & Sandable Primer	12	Ounces(OZ)	29-Oct-20
0001609061	865-49-6	CHLOROFORM-D	50	Gram(GM)	29-Oct-20
0001609062	865-49-6	CHLOROFORM-D	50	Gram(GM)	29-Oct-20
V000007290	-	WD-40 Multi-Use Product TRIGGER PRO 50 State Compliant	20	Ounces(OZ)	29-Oct-20
0001626732	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626733	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626756	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626779	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626765	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626766	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626767	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626768	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626769	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626770	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626771	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626772	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626773	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626774	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626775	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626776	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626764	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626778	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626790	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626780	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626781	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626782	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626783	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626784	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626785	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626786	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626787	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626788	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626789	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626791	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626734	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626754	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626777	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626746	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626763	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626737	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626736	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626738	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626739	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626740	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626741	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626742	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626743	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626745	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626747	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626748	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626749	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626760	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626762	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626735	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626744	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626761	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626750	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626759	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626758	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626757	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626755	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626753	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626752	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001626751	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	29-Oct-20
0001609063	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609073	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609074	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609071	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609072	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609065	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609066	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609067	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609068	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609069	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609070	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609064	811-97-2	Staticide Turbo Blast Precision Duster ACL	11	Ounces(OZ)	29-Oct-20
0001609075	64-17-5	ALCOHOL REAGENT	4	Liters(L)	29-Oct-20
0001609077	64-17-5	ALCOHOL REAGENT	4	Liters(L)	29-Oct-20
0001609076	64-17-5	ALCOHOL REAGENT	4	Liters(L)	29-Oct-20
0001609078	108-65-6	PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	1	Liters(L)	29-Oct-20
0001609079	108-65-6	PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	1	Liters(L)	29-Oct-20
0001609080	108-65-6	PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	1	Liters(L)	29-Oct-20
0001609081	74-94-2	BORANE-DIMETHYLAMINE COMPLEX	100	Gram(GM)	29-Oct-20
0001609082	75-22-9	BORANE-TRIMETHLAMINE COMPLEX	100	Gram(GM)	29-Oct-20
0001626792	-	MOBIL 1 5W-50	1	Quarts(QT)	29-Oct-20
0001626793	-	MOBIL 1 5W-50	1	Quarts(QT)	29-Oct-20
0001626794	-	MOBIL 1 5W-50	1	Quarts(QT)	29-Oct-20
0001626795	-	MOBIL 1 5W-50	1	Quarts(QT)	29-Oct-20
0001626796	-	MOBIL 1 5W-50	1	Quarts(QT)	29-Oct-20
0001626797	-	MOBIL 1 5W-50	1	Quarts(QT)	29-Oct-20
0001609083	123-75-1	PYRROLIDINE	100	Milliliter(ML)	29-Oct-20
0001609084	4045-44-7	PENTAMETHYLCYCLOPENTADIENE	25	Gram(GM)	29-Oct-20
0001609085	7681-82-5	SODIUM IODIDE	10	Gram(GM)	29-Oct-20
0001664058	74-89-5	METHYLAMINE SOLUTION 40%	100	Milliliter(ML)	29-Oct-20
0001626799	-	Chevron Heat Transfer Oil 46	55	Gallon(GAL)	29-Oct-20
0001626800	-	Valvoline AW 32 HYDRAULIC OIL	5	Gallon(GAL)	29-Oct-20
0001626803	-	Valvoline AW 32 HYDRAULIC OIL	5	Gallon(GAL)	29-Oct-20
0001626801	-	Valvoline AW 32 HYDRAULIC OIL	5	Gallon(GAL)	29-Oct-20
0001626802	-	Valvoline AW 32 HYDRAULIC OIL	5	Gallon(GAL)	29-Oct-20
V0000072A3	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V000007296	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V000007297	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V000007298	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V000007299	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V00000729A	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000072A0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072A2	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072B1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072A4	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072A5	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072A6	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072A7	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072A8	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072A9	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072A1	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V00000729E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072AE	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072AD	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072AC	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072AB	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072AF	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V00000729C	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V000007295	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V00000729B	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V000007294	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V00000729F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V000007291	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007292	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072B0	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V000007293	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072AA	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V00000729D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	29-Oct-20
V0000072B3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	29-Oct-20
V0000072B2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	29-Oct-20
V0000072B4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	29-Oct-20
V0000072B5	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	29-Oct-20
V0000072B6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	29-Oct-20
0001664059	74-89-5	METHYLAMINE SOLUTION 40%	0.1	Liters(L)	29-Oct-20
0001626804	-	Blue Def	2.5	Gallon(GAL)	29-Oct-20
0001626806	-	Blue Def	2.5	Gallon(GAL)	29-Oct-20
0001626807	-	Blue Def	2.5	Gallon(GAL)	29-Oct-20
0001626805	-	Blue Def	2.5	Gallon(GAL)	29-Oct-20
0001626809	-	Blue Def	2.5	Gallon(GAL)	29-Oct-20
0001626808	-	Blue Def	2.5	Gallon(GAL)	29-Oct-20
0001626810	-	API/GL-4 Multi-Purpose Gear Oil SAE 85W90	1	Gallon(GAL)	29-Oct-20
0001609159	-	5% Phenoxyacetic anhydride in THF/Pyridine	200	Milliliter(ML)	29-Oct-20
0001609160	-	5% Phenoxyacetic anhydride in THF/Pyridine	200	Milliliter(ML)	29-Oct-20
0001609161	-	6.5% Dimethylaminopyridine in Tetrahydrofuran	200	Milliliter(ML)	29-Oct-20
0001609162	-	6.5% Dimethylaminopyridine in Tetrahydrofuran	200	Milliliter(ML)	29-Oct-20
0001609164	50-89-5	THYMIDINE	100	Gram(GM)	29-Oct-20
0001609165	8042-47-5	MINERAL OIL	500	Milliliter(ML)	29-Oct-20
0001609169	8042-47-5	MINERAL OIL	500	Milliliter(ML)	29-Oct-20
0001609167	8042-47-5	MINERAL OIL	500	Milliliter(ML)	29-Oct-20
0001609168	8042-47-5	MINERAL OIL	500	Milliliter(ML)	29-Oct-20
0001609166	8042-47-5	MINERAL OIL	500	Milliliter(ML)	29-Oct-20
0001609170	8042-47-5	MINERAL OIL	500	Milliliter(ML)	29-Oct-20
0001609171	7790-86-5	CERIUM(III) CHLORIDE	5	Gram(GM)	29-Oct-20
0001609172	108-88-3	TOLUENE	4	Liters(L)	29-Oct-20
0001609173	64-17-5	ETHYL ALCOHOL	4	Liters(L)	29-Oct-20
0001609174	64-17-5	ETHYL ALCOHOL	4	Liters(L)	29-Oct-20
0001609175	64-17-5	ETHYL ALCOHOL	4	Liters(L)	29-Oct-20
0001609176	64-17-5	ETHYL ALCOHOL	4	Liters(L)	29-Oct-20
0001609177	110-00-9	FURAN	500	Milliliter(ML)	29-Oct-20
0001609178	110-00-9	FURAN	500	Milliliter(ML)	29-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609179	67-63-0	2-PROPANOL	2.5	Liters(L)	29-Oct-20
0001609182	67-63-0	2-PROPANOL	2.5	Liters(L)	29-Oct-20
0001609180	67-63-0	2-PROPANOL	2.5	Liters(L)	29-Oct-20
0001609181	67-63-0	2-PROPANOL	2.5	Liters(L)	29-Oct-20
0001609087	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609095	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609096	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609140	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609097	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609099	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609098	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609141	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609135	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609100	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609134	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609133	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609132	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609131	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609094	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609130	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609115	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609114	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609113	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609112	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609111	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609110	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609108	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609109	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609101	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609107	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609106	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609105	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609104	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609103	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609102	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609145	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609116	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609143	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609089	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609088	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609139	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609138	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609091	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609136	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609092	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609150	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609121	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609120	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609119	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609118	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609117	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609137	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609142	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609128	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609127	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609126	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609125	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609124	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609090	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609122	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609129	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609144	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609146	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609147	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609148	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609149	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609093	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609123	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609153	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609154	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609155	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609156	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609157	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609158	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609152	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001609151	-	D-Lead Ready to Use Surface Cleaner	32	Ounces(OZ)	29-Oct-20
0001655929	-	ARGON GAS	220	Cubic Feet(CF)	29-Oct-20
0001655930	-	ARGON GAS	220	Cubic Feet(CF)	29-Oct-20
0001655931	-	ARGON GAS	220	Cubic Feet(CF)	29-Oct-20
0001567224	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567225	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567228	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567227	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567235	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567234	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567233	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567232	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567231	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567226	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567246	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567230	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567258	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567248	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567249	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567229	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567250	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567251	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567253	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567255	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567247	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567257	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567252	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567259	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567263	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567262	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567261	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567260	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567236	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567244	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567256	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567254	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567237	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567238	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567239	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567242	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567241	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567245	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567240	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567243	-	WHITE SOLVENTLESS SILICONE	5	Gallon(GAL)	29-Oct-20
0001567264	-	GACO E5320 EPOXY PRIMER PART A	5	Gallon(GAL)	29-Oct-20
0001567267	-	GACO E5320 EPOXY PRIMER PART A	5	Gallon(GAL)	29-Oct-20
0001567269	-	GACO E5320 EPOXY PRIMER PART A	5	Gallon(GAL)	29-Oct-20
0001567266	-	GACO E5320 EPOXY PRIMER PART A	5	Gallon(GAL)	29-Oct-20
0001567265	-	GACO E5320 EPOXY PRIMER PART A	5	Gallon(GAL)	29-Oct-20
0001567268	-	GACO E5320 EPOXY PRIMER PART A	5	Gallon(GAL)	29-Oct-20
0001567270	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	29-Oct-20
0001567272	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	29-Oct-20
0001567277	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	29-Oct-20
0001567276	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	29-Oct-20
0001567275	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	29-Oct-20
0001567273	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	29-Oct-20
0001567274	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	29-Oct-20
0001567279	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	29-Oct-20
0001567278	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	29-Oct-20
0001567271	-	GACO SF2000 SEAM SEALER	5	Gallon(GAL)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567280	-	GACO E5320 EPOXY PRIMER PART B	5	Gallon(GAL)	29-Oct-20
0001567282	-	GACO E5320 EPOXY PRIMER PART B	5	Gallon(GAL)	29-Oct-20
0001567281	-	GACO E5320 EPOXY PRIMER PART B	5	Gallon(GAL)	29-Oct-20
0001567284	-	GACO E5320 EPOXY PRIMER PART B	5	Gallon(GAL)	29-Oct-20
0001567285	-	GACO E5320 EPOXY PRIMER PART B	5	Gallon(GAL)	29-Oct-20
0001567283	-	GACO E5320 EPOXY PRIMER PART B	5	Gallon(GAL)	29-Oct-20
V0000072D1	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072C9	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072CB	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072CC	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072CD	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072CE	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072BE	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072D0	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072C8	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072D2	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072D3	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072D4	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072CF	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072BF	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072BD	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072BC	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072BB	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072BA	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072B9	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072CA	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072B7	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072C7	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072C0	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072C1	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072C2	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072C3	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072C4	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072C5	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072C6	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
V0000072B8	-	ARDEX FEATHER FINISH	10	Pounds(LB)	29-Oct-20
0001567286	-	Ardex P 51	1	Gallon(GAL)	29-Oct-20
0001567293	-	Ardex P 51	1	Gallon(GAL)	29-Oct-20
0001567291	-	Ardex P 51	1	Gallon(GAL)	29-Oct-20
0001567292	-	Ardex P 51	1	Gallon(GAL)	29-Oct-20
0001567288	-	Ardex P 51	1	Gallon(GAL)	29-Oct-20
0001567287	-	Ardex P 51	1	Gallon(GAL)	29-Oct-20
0001567290	-	Ardex P 51	1	Gallon(GAL)	29-Oct-20
0001567289	-	Ardex P 51	1	Gallon(GAL)	29-Oct-20
0001656097	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656107	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656098	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656099	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656100	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656101	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656102	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656103	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656104	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656106	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656108	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656109	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656110	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656111	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001656105	-	6% HYDROGEN BALANCE ARGON	220	Cubic Feet(CF)	29-Oct-20
0001655923	-	ARGON GAS	220	Cubic Feet(CF)	29-Oct-20
0001567294	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567296	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567301	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567299	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567297	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567295	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567300	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567298	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001655947	-	ARGON GAS	220	Cubic Feet(CF)	29-Oct-20
0001655948	-	ARGON GAS	220	Cubic Feet(CF)	29-Oct-20
0001655949	-	ARGON GAS	220	Cubic Feet(CF)	29-Oct-20
0001655950	-	ARGON GAS	220	Cubic Feet(CF)	29-Oct-20
0001655951	-	ARGON GAS	220	Cubic Feet(CF)	29-Oct-20
0001567302	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001655952	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001567305	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567304	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567303	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001655973	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655965	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655977	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655974	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655978	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655972	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655971	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655970	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655969	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655968	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655967	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655966	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001655975	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655986	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655996	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655995	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655993	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655991	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655990	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655989	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655976	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655987	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655992	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655985	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655984	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655983	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655982	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655981	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655980	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655979	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655988	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655956	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655994	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655964	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655953	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655955	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655957	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655958	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655959	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655960	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655961	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655962	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655963	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655954	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001655997	-	Compressed Air	220	Cubic Feet(CF)	29-Oct-20
0001656001	-	Compressed Air	220	Cubic Feet(CF)	29-Oct-20
0001656003	-	Compressed Air	220	Cubic Feet(CF)	29-Oct-20
0001656005	-	Compressed Air	220	Cubic Feet(CF)	29-Oct-20
0001656004	-	Compressed Air	220	Cubic Feet(CF)	29-Oct-20
0001655998	-	Compressed Air	220	Cubic Feet(CF)	29-Oct-20
0001656000	-	Compressed Air	220	Cubic Feet(CF)	29-Oct-20
0001656002	-	Compressed Air	220	Cubic Feet(CF)	29-Oct-20
0001655999	-	Compressed Air	220	Cubic Feet(CF)	29-Oct-20
0001656006	-	HYDROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001656009	-	HYDROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001656007	-	HYDROGEN GAS	220	Cubic Feet(CF)	29-Oct-20
0001656008	-	HYDROGEN GAS	220	Cubic Feet(CF)	29-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656010	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656018	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656019	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656017	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656016	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656015	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656014	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656013	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656012	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656011	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656020	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656030	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656031	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656032	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656022	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656028	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656021	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656029	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656023	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656024	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656025	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656026	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001656027	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	29-Oct-20
0001654876	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656057	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656042	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656034	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656035	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656036	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656037	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656038	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656039	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656040	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656041	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656033	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656053	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656062	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656061	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656055	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656060	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656043	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656059	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656058	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656054	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656052	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656051	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656050	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656049	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656048	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656047	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656046	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656045	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656044	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001656056	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	29-Oct-20
0001567306	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567314	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567319	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567307	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567312	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567320	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567318	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567317	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567316	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567313	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567311	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567308	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567310	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567309	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001567315	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	29-Oct-20
0001656063	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656075	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656065	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656064	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656066	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656067	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656068	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656069	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656070	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656072	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656071	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656076	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656077	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656074	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656073	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656078	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656086	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656089	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656087	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656085	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656084	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656083	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656082	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656081	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656080	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656079	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656088	74-98-6	PROPANE FUEL	11	Gallon(GAL)	29-Oct-20
0001656090	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	29-Oct-20
0001656092	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	29-Oct-20
0001656091	124-38-9	CARBON DIOXIDE	220	Cubic Feet(CF)	29-Oct-20
0001567321	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001656093	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656095	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656094	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
0001656096	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	29-Oct-20
V0000072DD	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072E2	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072ED	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072DB	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072DC	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072DE	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072E1	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072E3	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072E0	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072DF	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072EC	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072EB	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072EA	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072D8	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072E9	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072D9	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072D7	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072D6	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072D5	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072E4	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072E6	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072E7	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072E5	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072DA	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
V0000072E8	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	29-Oct-20
0001567322	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567335	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567329	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567330	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567331	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567332	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567334	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567327	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567333	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567326	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567325	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567324	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567323	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567328	-	Amerlock Sealer HRD	1	Gallon(GAL)	29-Oct-20
0001567336	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001656112	-	REFRIGERANT 404A	24	Pounds(LB)	29-Oct-20
0001567338	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567345	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567344	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567343	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567348	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567342	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567341	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567346	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567339	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567337	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567347	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001567340	-	PSX 700 CURE	0.2	Gallon(GAL)	29-Oct-20
0001609183	79069-50-4	Boc-L-alanine aldehyde	1	Gram(GM)	30-Oct-20
0001609184	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609209	35661-39-3	N-ALPHA-FMOC-L-ALANINE	25	Gram(GM)	30-Oct-20
0001609211	-	HYDROGEN PEROXIDE	1	Liters(L)	30-Oct-20
0000854393	-	KODAK XTOL Developer	248	Gram(GM)	30-Oct-20
0000854394	-	KODAK XTOL Developer	248	Gram(GM)	30-Oct-20
0001609192	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609185	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609195	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609193	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609191	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609190	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609189	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609188	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609187	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609186	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609194	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	30-Oct-20
0001609196	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	30-Oct-20
0001609203	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	30-Oct-20
0001609202	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	30-Oct-20
0001609197	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	30-Oct-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609199	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	30-Oct-20
0001609198	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	30-Oct-20
0001609201	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	30-Oct-20
0001609200	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	30-Oct-20
0001609204	-	Hydrochloric Acid	500	Milliliter(ML)	30-Oct-20
0001609207	-	Hydrochloric Acid	500	Milliliter(ML)	30-Oct-20
0001609208	-	Hydrochloric Acid	500	Milliliter(ML)	30-Oct-20
0001609206	-	Hydrochloric Acid	500	Milliliter(ML)	30-Oct-20
0001609205	-	Hydrochloric Acid	500	Milliliter(ML)	30-Oct-20
0001609210	-	POLY(VINYLIDENE FLUORIDE)	25	Milliliter(ML)	30-Oct-20
0001609212	-	TaqPath 1-Step RT-qPCR Master Mix CG	5	Milliliter(ML)	30-Oct-20
0001609213	1313-84-4	SODIUM SULFIDE NONAHYDRATE	500	Gram(GM)	30-Oct-20
0001609214	7632-00-0	SODIUM NITRITE	5	Kilograms(KG)	30-Oct-20
0001609215	7647-14-5	SODIUM CHLORIDE	2	Kilograms(KG)	30-Oct-20
0001609216	75-05-8	ACETONITRILE	4	Liters(L)	30-Oct-20
0001609219	75-05-8	ACETONITRILE	4	Liters(L)	30-Oct-20
0001609218	75-05-8	ACETONITRILE	4	Liters(L)	30-Oct-20
0001609217	75-05-8	ACETONITRILE	4	Liters(L)	30-Oct-20
0001609220	-	Hydrochloric Acid	500	Milliliter(ML)	30-Oct-20
0001609221	-	Hydrochloric Acid	500	Milliliter(ML)	30-Oct-20
0001609222	-	Hydrochloric Acid	500	Milliliter(ML)	30-Oct-20
0001609223	7782-40-3	DIAMOND	1	Kilograms(KG)	30-Oct-20
0001609224	7782-40-3	DIAMOND	1	Kilograms(KG)	30-Oct-20
0001609225	144-48-9	IODOACETAMIDE	5	Gram(GM)	30-Oct-20
0001609226	1309-42-8	MAGNESIUM HYDROXIDE	1	Pounds(LB)	30-Oct-20
0001609229	1309-42-8	MAGNESIUM HYDROXIDE	1	Pounds(LB)	30-Oct-20
0001609227	1309-42-8	MAGNESIUM HYDROXIDE	1	Pounds(LB)	30-Oct-20
0001609228	1309-42-8	MAGNESIUM HYDROXIDE	1	Pounds(LB)	30-Oct-20
0001609231	75-09-2	DICHLOROMETHANE	4	Liters(L)	30-Oct-20
0001609232	75-09-2	DICHLOROMETHANE	4	Liters(L)	30-Oct-20
0001609233	13477-34-4	CALCIUM NITRATE TETRAHYDRATE	500	Gram(GM)	30-Oct-20
0001609238	13477-34-4	CALCIUM NITRATE TETRAHYDRATE	500	Gram(GM)	30-Oct-20
0001609237	13477-34-4	CALCIUM NITRATE TETRAHYDRATE	500	Gram(GM)	30-Oct-20
0001609236	13477-34-4	CALCIUM NITRATE TETRAHYDRATE	500	Gram(GM)	30-Oct-20
0001609234	13477-34-4	CALCIUM NITRATE TETRAHYDRATE	500	Gram(GM)	30-Oct-20
0001609235	13477-34-4	CALCIUM NITRATE TETRAHYDRATE	500	Gram(GM)	30-Oct-20
0001609239	1282-37-7	FERROCENIUM TETRAFLUOROBORATE	5	Gram(GM)	30-Oct-20
0001609240	7440-66-6	ZINC	250	Gram(GM)	30-Oct-20
0001609241	74-94-2	BORANE DIMETHYLAMINE COMPLEX	100	Gram(GM)	30-Oct-20
0001609242	75-22-9	BORANE-TRIMETHYLAMINE COMPLEX	100	Gram(GM)	30-Oct-20
0001609243	67-64-1	ACETONE	1	Liters(L)	30-Oct-20
0001609246	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	30-Oct-20
0001609247	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	30-Oct-20
0001609248	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	30-Oct-20
0001609249	7664-39-3	HYDROFLUORIC ACID OPTIMA	1	Liters(L)	30-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609251	7664-39-3	HYDROFLUORIC ACID OPTIMA	1	Liters(L)	30-Oct-20
0001609250	7664-39-3	HYDROFLUORIC ACID OPTIMA	1	Liters(L)	30-Oct-20
0001609252	7664-39-3	HYDROFLUORIC ACID OPTIMA	1	Liters(L)	30-Oct-20
0001609253	13537-18-3	Thulium(III) chloride	1	Gram(GM)	30-Oct-20
0001609230	1310-73-2	SODIUM HYDROXIDE	25	Gram(GM)	30-Oct-20
0001626811	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626885	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626892	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626891	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626890	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626889	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626888	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626886	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626893	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626883	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626904	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626884	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626887	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626894	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626896	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626898	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626899	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626900	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626901	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626903	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626905	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626906	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626907	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626882	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626895	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626902	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626845	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626835	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626836	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626837	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626838	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626839	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626840	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626841	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626842	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626855	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626844	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626832	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626846	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626847	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626897	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626849	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626881	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626851	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626852	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626853	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626854	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626843	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626823	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626812	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626813	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626814	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626815	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626816	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626817	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626818	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626819	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626820	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626834	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626822	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626833	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626824	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626825	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626826	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626827	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626828	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626829	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626830	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626831	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626850	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626821	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626872	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626862	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626863	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626864	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626865	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626867	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626848	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626868	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626869	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626861	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626871	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626866	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626873	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626874	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626875	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626876	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626877	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626878	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626879	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626880	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626870	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626856	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626859	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626858	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626857	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001626860	-	Blue Def	2.5	Gallon(GAL)	30-Oct-20
0001609086	-	ACETIC ACID	2.5	Liters(L)	30-Oct-20
0001609163	-	Deblocking Mix TCA/DCM	2000	Milliliter(ML)	30-Oct-20
0001609244	-	5-Ethylthio-1H-Tetrazole (ETT)	450	Milliliter(ML)	30-Oct-20
0001609245	-	5-Ethylthio-1H-Tetrazole (ETT)	450	Milliliter(ML)	30-Oct-20
0001609254	67-56-1	METHANOL	4	Liters(L)	30-Oct-20
0001609255	67-56-1	METHANOL	4	Liters(L)	30-Oct-20
0001609256	67-56-1	METHANOL	4	Liters(L)	30-Oct-20
0001609257	67-56-1	METHANOL	4	Liters(L)	30-Oct-20
0001609258	-	ULTIMA GOLD	10	Liters(L)	30-Oct-20
0001609263	-	ULTIMA GOLD	10	Liters(L)	30-Oct-20
0001609262	-	ULTIMA GOLD	10	Liters(L)	30-Oct-20
0001609261	-	ULTIMA GOLD	10	Liters(L)	30-Oct-20
0001609259	-	ULTIMA GOLD	10	Liters(L)	30-Oct-20
0001609260	-	ULTIMA GOLD	10	Liters(L)	30-Oct-20
0001626908	-	Prime Guard -50 RV & Marine Antifreeze	55	Gallon(GAL)	30-Oct-20
0001609264	-	ULTIMA GOLD	5	Liters(L)	30-Oct-20
0001609265	-	ULTIMA GOLD	5	Liters(L)	30-Oct-20
0001609266	-	ULTIMA GOLD	5	Liters(L)	30-Oct-20
0001609267	-	ULTIMA GOLD	5	Liters(L)	30-Oct-20
0001609269	25895-60-7	SODIUM CYANOBOROHYDRIDE	25	Gram(GM)	30-Oct-20
0001609270	-	DPBS WITHOUT CALCIUM OR MAGNESIUM	500	Milliliter(ML)	30-Oct-20
0001609273	-	DPBS WITHOUT CALCIUM OR MAGNESIUM	500	Milliliter(ML)	30-Oct-20
0001609271	-	DPBS WITHOUT CALCIUM OR MAGNESIUM	500	Milliliter(ML)	30-Oct-20
0001609274	-	DPBS WITHOUT CALCIUM OR MAGNESIUM	500	Milliliter(ML)	30-Oct-20
0001609275	-	DPBS WITHOUT CALCIUM OR MAGNESIUM	500	Milliliter(ML)	30-Oct-20
0001609276	-	DPBS WITHOUT CALCIUM OR MAGNESIUM	500	Milliliter(ML)	30-Oct-20
0001609277	-	DPBS WITHOUT CALCIUM OR MAGNESIUM	500	Milliliter(ML)	30-Oct-20
0001609278	-	DPBS WITHOUT CALCIUM OR MAGNESIUM	500	Milliliter(ML)	30-Oct-20
0001609279	-	DPBS WITHOUT CALCIUM OR MAGNESIUM	500	Milliliter(ML)	30-Oct-20
0001609272	-	DPBS WITHOUT CALCIUM OR MAGNESIUM	500	Milliliter(ML)	30-Oct-20
0001609280	102-85-2	Tri-n-butyl phosphite	100	Milliliter(ML)	30-Oct-20
0001609281	102-85-2	Tri-n-butyl phosphite	100	Milliliter(ML)	30-Oct-20
0001609282	67-56-1	METHANOL	1	Liters(L)	30-Oct-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609283	75-05-8	ACETONITRILE	100	Milliliter(ML)	30-Oct-20
0001609284	67-64-1	ACETONE	2	Liters(L)	30-Oct-20
0001609285	7778-18-9	DRIERITE 8 MESH	5	Pounds(LB)	30-Oct-20
0001609286	102-52-3	1 1 3 3-Tetramethoxypropane	25	Gram(GM)	30-Oct-20
0001609287	111-46-6	DIETHYLENE GLYCOL	100	Gram(GM)	30-Oct-20
0001609288	75-15-0	CARBON DISULFIDE	100	Milliliter(ML)	30-Oct-20
0001609289	7439-91-0	LANTHANUM	100	Milliliter(ML)	30-Oct-20
0001609290	-	RUTHENIUM STANDARD SOLUTION	100	Milliliter(ML)	30-Oct-20
0001609291	10294-41-4	CERIUM(III) NITRATE HEXAHYDRATE	10	Gram(GM)	30-Oct-20
0001609292	12150-46-8	DPPF	10	Gram(GM)	30-Oct-20
0001609293	7699-45-8	ZINC BROMIDE	10	Gram(GM)	30-Oct-20
0001609294	77-94-1	TRIBUTYL CITRATE	50	Gram(GM)	30-Oct-20
0001609295	26628-22-8	RNA Clean XP	40	Milliliter(ML)	30-Oct-20
0001609296	-	LB AGAR MILLER	500	Gram(GM)	30-Oct-20
0001609297	-	LB AGAR MILLER	500	Gram(GM)	30-Oct-20
0001609298	-	LB AGAR MILLER	500	Gram(GM)	30-Oct-20
0001609300	-	BENZONASE NUCLEASE	25	Milliliter(ML)	30-Oct-20
0001609301	26628-22-8	Agencourt AMPure XP	5	Milliliter(ML)	30-Oct-20
0001609302	3483-12-3	DITHIOTHREITOL	5	Gram(GM)	30-Oct-20
0001609303	9003-39-8	POLYVINYLPYRROLIDONE	100	Gram(GM)	30-Oct-20
0001609304	-	TORR SEAL VARIAN P/N 953-0001; 953-0002; 953-0004	1.69	Ounces(OZ)	30-Oct-20
0001609306	-	TORR SEAL VARIAN P/N 953-0001; 953-0002; 953-0004	1.69	Ounces(OZ)	30-Oct-20
0001609305	-	TORR SEAL VARIAN P/N 953-0001; 953-0002; 953-0004	1.69	Ounces(OZ)	30-Oct-20
0001609299	-	ESI Positive Calibration Solution	100	Milliliter(ML)	30-Oct-20
0001567354	-	ELASTOPOR P1001U ISOCYANATE	5	Gallon(GAL)	02-Nov-20
0001567355	-	ELASTOPOR P1001U ISOCYANATE	5	Gallon(GAL)	02-Nov-20
0001567356	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567364	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567367	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567365	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567363	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567362	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567361	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567360	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567359	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567358	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567357	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001567366	-	Startex Denatured Alcohol	128	Ounces(OZ)	02-Nov-20
0001543878	-	Bio-Based (Green) Paper Shredder Oil	64	Gallon(GAL)	02-Nov-20
V0000072EE	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	02-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000072EF	-	LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	Ounces(OZ)	02-Nov-20
0000854339	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0000854346	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0000854340	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0000854341	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0000854348	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0000854343	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0000854345	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0000854347	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0000854349	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0000854342	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0000854344	-	P400SC Waterworks Cleaning Solution	950	Gram(GM)	02-Nov-20
0001419719	-	HYDRAULIC FLUID	1	Gallon(GAL)	02-Nov-20
0001419720	-	HYDRAULIC FLUID	1	Gallon(GAL)	02-Nov-20
0001419722	-	HYDRAULIC FLUID	1	Gallon(GAL)	02-Nov-20
0001419721	-	HYDRAULIC FLUID	1	Gallon(GAL)	02-Nov-20
0001609314	-	ESI Negative Calibration Solution for the AB Sciex Triple TOF System	100	Milliliter(ML)	02-Nov-20
0001609315	-	PENICILLIN STREPTOMYCIN SOL	100	Milliliter(ML)	02-Nov-20
0001609313	35109-93-4	Adynerin	10	Milligram(MG)	02-Nov-20
0001609312	69686-84-6	Oleaside A	10	Milligram(MG)	02-Nov-20
0001609316	-	Europium(III) Chloride Hydrate	5	Gram(GM)	02-Nov-20
0001609317	6108-17-4	LITHIUM ACETATE DIHYDRATE	1	Kilograms(KG)	02-Nov-20
0001609318	3396-11-0	CESIUM ACETATE 99.9%	100	Gram(GM)	02-Nov-20
0001609319	-	70% denatured ethanol solution	1	Gallon(GAL)	02-Nov-20
0001609320	330-95-0	Nicarbazin	100	Gram(GM)	03-Nov-20
0001609321	-	DOW CORNING HIGH VACUUM GREASE SILICONE LUBRICANT	5.3	Ounces(OZ)	03-Nov-20
0001609322	25583-20-4	TITANIUM NITRIDE	1	Gram(GM)	03-Nov-20
0001609323	7440-32-6	TITANIUM METAL	1	Gram(GM)	03-Nov-20
0001609324	75-09-2	DICHLOROMETHANE	4	Liters(L)	03-Nov-20
0001609326	75-09-2	DICHLOROMETHANE	4	Liters(L)	03-Nov-20
0001609327	75-09-2	DICHLOROMETHANE	4	Liters(L)	03-Nov-20
0001609325	75-09-2	DICHLOROMETHANE	4	Liters(L)	03-Nov-20
0001609328	75-09-2	DICHLOROMETHANE	4	Liters(L)	03-Nov-20
0001609331	75-09-2	DICHLOROMETHANE	4	Liters(L)	03-Nov-20
0001609330	75-09-2	DICHLOROMETHANE	4	Liters(L)	03-Nov-20
0001609329	75-09-2	DICHLOROMETHANE	4	Liters(L)	03-Nov-20
0001609332	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	03-Nov-20
0001609333	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	03-Nov-20
0001609334	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	03-Nov-20
0001609335	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	03-Nov-20
0001419727	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419742	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001419741	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419735	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419740	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419739	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419738	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419737	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419736	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419724	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419725	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419726	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419729	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419730	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419731	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419723	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419732	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419733	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419728	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001419734	-	HYDRAULIC FLUID	1	Gallon(GAL)	03-Nov-20
0001609336	-	Hydrochloric Acid	10	Milliliter(ML)	03-Nov-20
0001609337	26628-22-8	Agencourt AMPure XP	60	Milliliter(ML)	03-Nov-20
0001567368	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567397	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567369	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567370	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567371	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567372	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567373	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567374	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567375	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567376	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567377	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567378	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567379	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567380	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567392	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567381	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567386	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567387	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567388	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567389	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567390	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567395	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567382	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567396	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567383	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567384	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567394	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567393	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567385	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567391	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567426	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567404	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567412	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567411	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567410	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567409	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567408	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567407	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567414	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567405	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567415	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567403	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567402	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567401	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567400	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567399	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567398	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567406	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567422	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567427	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567425	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567413	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567423	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567421	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567420	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567419	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567418	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567417	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567416	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001567424	-	DAP Alex Painters Acrylic Latex Caulk - All Colors	10.1	Ounces(OZ)	03-Nov-20
0001609338	-	SELECT AGAR POWDER	500	Gram(GM)	03-Nov-20
0001567428	-	loctite 380	28.3	Gram(GM)	03-Nov-20
0001567429	-	loctite 380	28.3	Gram(GM)	03-Nov-20
V000007302	-	MIRACLE WOOD LATEX FILLER	8	Ounces(OZ)	03-Nov-20
V000007303	-	MIRACLE WOOD LATEX FILLER	8	Ounces(OZ)	03-Nov-20
V000007304	-	MIRACLE WOOD LATEX FILLER	8	Ounces(OZ)	03-Nov-20
V000007306	-	MIRACLE WOOD LATEX FILLER	8	Ounces(OZ)	03-Nov-20
V000007307	-	MIRACLE WOOD LATEX FILLER	8	Ounces(OZ)	03-Nov-20
V000007305	-	MIRACLE WOOD LATEX FILLER	8	Ounces(OZ)	03-Nov-20
0001567430	-	MINWAX HIGH PERFORMANCE WOOD FILLER PART A	12	Ounces(OZ)	03-Nov-20
0001567431	-	MINWAX HIGH PERFORMANCE WOOD FILLER PART A	12	Ounces(OZ)	03-Nov-20
V000007308	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	03-Nov-20
V000007309	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	03-Nov-20
V00000730A	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	03-Nov-20
V00000730B	-	Signature Series 5080 Pressure Sensitive Adhesive	4	Gallon(GAL)	03-Nov-20
0001664060	-	SODIUM HYDROXIDE SOLUTION 2N	100	Milliliter(ML)	03-Nov-20
0001567432	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567436	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567443	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567437	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567439	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567440	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567438	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567434	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567435	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567442	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567441	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567433	-	Diamond Spray Paint Desert Orange	12.8	Ounces(OZ)	03-Nov-20
0001567444	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001567445	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001567446	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567447	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001567448	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001567449	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001609340	-	Antimony Plasma standard solution Specpure Sb 1000 (Micro)g/ml	50	Milliliter(ML)	03-Nov-20
0001567450	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001609339	-	Tin Plasma Standard Solution Specpure	50	Milliliter(ML)	03-Nov-20
0001567451	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567466	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567452	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567454	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567455	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567456	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567457	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567458	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567459	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567460	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567461	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567462	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567463	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567453	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567465	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567467	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567464	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	03-Nov-20
0001567468	-	Gerfix TPS+	4	Gallon(GAL)	03-Nov-20
0001567469	-	CHEMSAFE CLEAR (CARB Compliant)	5	Gallon(GAL)	03-Nov-20
0001567470	-	CHEMSAFE CLEAR (CARB Compliant)	5	Gallon(GAL)	03-Nov-20
0001567471	-	CHEMSAFE CLEAR (CARB Compliant)	5	Gallon(GAL)	03-Nov-20
0001567472	-	CHEMSAFE CLEAR (CARB Compliant)	5	Gallon(GAL)	03-Nov-20
0001567473	-	CHEMSAFE CLEAR (CARB Compliant)	5	Gallon(GAL)	03-Nov-20
0001567474	-	CHEMSAFE CLEAR (CARB Compliant)	5	Gallon(GAL)	03-Nov-20
0001567475	-	CHEMSAFE CLEAR (CARB Compliant)	5	Gallon(GAL)	03-Nov-20
0001567476	-	CHEMSAFE CLEAR (CARB Compliant)	5	Gallon(GAL)	03-Nov-20
0001567477	-	CHEMSAFE CLEAR (CARB Compliant)	5	Gallon(GAL)	03-Nov-20
0001567478	-	CHEMSAFE CLEAR (CARB Compliant)	5	Gallon(GAL)	03-Nov-20
0001567479	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20
0001567487	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20
0001567480	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20
0001567481	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20
0001567482	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20
0001567483	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20
0001567484	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20
0001567485	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20
0001567486	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20
0001567488	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567489	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	03-Nov-20
0001608943	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	03-Nov-20
0001567496	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	03-Nov-20
0001567498	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	03-Nov-20
0001567501	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	03-Nov-20
0001567499	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	03-Nov-20
0001567497	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	03-Nov-20
0001567500	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	03-Nov-20
0001567502	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567513	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567504	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567519	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567518	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567517	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567516	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567515	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567514	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567512	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567511	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567510	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567509	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567508	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567507	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567521	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567505	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567522	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567503	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567506	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567539	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567544	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567543	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567542	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567520	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567540	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567538	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567537	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567536	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567535	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567534	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567532	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567531	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567530	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567529	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567528	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567527	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567526	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567525	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567524	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567523	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567533	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567541	-	PSX700 CURE PART B	0.2	Gallon(GAL)	03-Nov-20
0001567545	-	Diamond Spray Paint Sun Yellow	12	Ounces(OZ)	03-Nov-20
0001567550	-	Diamond Spray Paint Sun Yellow	12	Ounces(OZ)	03-Nov-20
0001567549	-	Diamond Spray Paint Sun Yellow	12	Ounces(OZ)	03-Nov-20
0001567548	-	Diamond Spray Paint Sun Yellow	12	Ounces(OZ)	03-Nov-20
0001567546	-	Diamond Spray Paint Sun Yellow	12	Ounces(OZ)	03-Nov-20
0001567547	-	Diamond Spray Paint Sun Yellow	12	Ounces(OZ)	03-Nov-20
0001567551	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001567556	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001567552	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001567553	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001567554	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001567555	-	Diamond Spray Paint Red Primer	12	Ounces(OZ)	03-Nov-20
0001567557	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567567	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567564	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567568	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567565	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567563	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567562	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567561	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567560	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567559	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567558	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001567566	-	MACHINERY GRAY	12	Ounces(OZ)	03-Nov-20
0001656113	7440-59-7	HELIUM GAS	100	Liters(L)	04-Nov-20
0001656114	-	ARGON/METHANE	220	Cubic Feet(CF)	04-Nov-20
0001656115	-	R-410A	25	Pounds(LB)	04-Nov-20
0001656118	-	R-410A	25	Pounds(LB)	04-Nov-20
0001656116	-	R-410A	25	Pounds(LB)	04-Nov-20
0001656117	-	R-410A	25	Pounds(LB)	04-Nov-20
0001656119	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
0001656120	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
0001656121	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656122	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
0001656123	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
0001656125	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
0001656127	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
0001656124	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
0001656128	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
0001656129	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
0001656130	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
0001656126	811-97-2	R-134A	25	Pounds(LB)	04-Nov-20
V00000731B	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000731A	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007319	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007318	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007317	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007316	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007336	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000732F	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000731E	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007330	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007331	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007332	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007333	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007334	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007335	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007321	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007326	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000732E	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000732D	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000732C	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000732B	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000732A	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007329	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000731C	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007327	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000731D	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007325	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007324	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007322	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007320	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000731F	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007323	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007328	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007338	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007337	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007339	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000733A	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
0001567569	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567570	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567577	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567580	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567579	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567578	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567576	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567574	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567573	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567571	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567575	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
0001567572	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	04-Nov-20
V000007342	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V000007346	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V000007345	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V000007343	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V000007341	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V000007340	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V00000733E	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V000007344	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V00000733D	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V00000733C	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V00000733B	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
V00000733F	-	877-5513 COLORTREND PHTHALO GREEN	1	Liters(L)	04-Nov-20
0001608975	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608965	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608966	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608967	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608968	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608958	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608959	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608962	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608964	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608961	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608948	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608960	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608963	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608944	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608945	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608957	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608947	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608956	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608949	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608950	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608951	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608952	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608953	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608946	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608955	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608970	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608971	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608972	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608954	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608974	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608969	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001608973	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
V000007347	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V00000734A	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007348	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
V000007349	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	04-Nov-20
0001609344	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609350	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609345	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609346	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609347	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609349	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609351	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609352	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609353	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609354	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609355	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609348	-	CLEANER STATIC-FREE PLAST-N-GLASS	14	Ounces(OZ)	04-Nov-20
0001609343	25103-87-1	POLY(1 4-BUTYLENE ADIPATE)	25	Gram(GM)	04-Nov-20
0001567581	-	PSX 700 Black Resin	0.8	Gallon(GAL)	04-Nov-20
0001656131	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001567584	-	PSX 700 Black Resin	0.8	Gallon(GAL)	04-Nov-20
0001567583	-	PSX 700 Black Resin	0.8	Gallon(GAL)	04-Nov-20
0001567582	-	PSX 700 Black Resin	0.8	Gallon(GAL)	04-Nov-20
0001567587	-	PSX 700 Black Resin	0.8	Gallon(GAL)	04-Nov-20
0001567586	-	PSX 700 Black Resin	0.8	Gallon(GAL)	04-Nov-20
0001567585	-	PSX 700 Black Resin	0.8	Gallon(GAL)	04-Nov-20
0001567588	-	PSX 700 Black Resin	0.8	Gallon(GAL)	04-Nov-20
0001656179	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656184	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656174	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656175	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656176	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656177	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656178	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656181	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656183	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656185	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656186	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656187	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656180	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656182	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656155	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656143	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656144	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656146	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656148	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656149	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656150	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656151	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656152	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656154	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656156	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656157	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656158	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656145	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656142	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656153	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656139	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656140	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656147	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656138	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656137	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656136	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656135	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656134	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656133	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656132	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656141	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	04-Nov-20
0001656159	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656165	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656160	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656161	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656162	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656163	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656164	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656166	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656167	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656168	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656169	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656172	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656171	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656170	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
0001656173	-	ARGON GAS	220	Cubic Feet(CF)	04-Nov-20
V000007352	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V00000735A	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V000007359	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V00000734B	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V000007351	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V000007353	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V000007354	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V000007355	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V000007356	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V000007357	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V000007358	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V00000734E	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V00000734D	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V00000734C	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V000007350	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
V00000734F	-	Cote All 340 J.D. (Safety) Yellow	128	Ounces(OZ)	04-Nov-20
0001609356	-	pH Adjusting Low Level ISA for Ammonia Electrode	475	Milliliter(ML)	04-Nov-20
0001609358	-	pH Adjusting Low Level ISA for Ammonia Electrode	475	Milliliter(ML)	04-Nov-20
0001609357	-	pH Adjusting Low Level ISA for Ammonia Electrode	475	Milliliter(ML)	04-Nov-20
0001609359	-	pH Adjusting Low Level ISA for Ammonia Electrode	475	Milliliter(ML)	04-Nov-20
0001567589	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001567599	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001567595	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001567598	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001567597	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001567596	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001567594	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001567593	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001567591	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001567590	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001567592	-	Amerlock Sealer HRD	1	Gallon(GAL)	04-Nov-20
0001609360	-	Paraformaldehyde 8% w/v aqueous solution methanol free	10	Milliliter(ML)	04-Nov-20
0001609361	-	Paraformaldehyde 8% w/v aqueous solution methanol free	10	Milliliter(ML)	04-Nov-20
0001609362	-	METHYL RED INDICATOR	100	Gram(GM)	04-Nov-20
0001609363	76-59-5	BROMOTHYMOL BLUE	100	Gram(GM)	04-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609364	76-61-9	THYMOL BLUE	100	Gram(GM)	04-Nov-20
0001609365	77-09-8	PHENOLPHTHALEIN	100	Gram(GM)	04-Nov-20
0001609366	75-05-8	ACETONITRILE	1	Liters(L)	04-Nov-20
0001609368	75-05-8	ACETONITRILE	1	Liters(L)	04-Nov-20
0001609371	75-05-8	ACETONITRILE	1	Liters(L)	04-Nov-20
0001609369	75-05-8	ACETONITRILE	1	Liters(L)	04-Nov-20
0001609367	75-05-8	ACETONITRILE	1	Liters(L)	04-Nov-20
0001609370	75-05-8	ACETONITRILE	1	Liters(L)	04-Nov-20
0001567600	-	PSX 700 CURE	0.2	Gallon(GAL)	04-Nov-20
0001567601	-	PSX 700 CURE	0.2	Gallon(GAL)	04-Nov-20
0001567602	-	PSX 700 CURE	0.2	Gallon(GAL)	04-Nov-20
0001567603	-	PSX 700 CURE	0.2	Gallon(GAL)	04-Nov-20
0001567604	-	PSX 700 CURE	0.2	Gallon(GAL)	04-Nov-20
0001609372	141-78-6	ETHYL ACETATE	4	Liters(L)	04-Nov-20
0001567605	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	04-Nov-20
0001609374	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	04-Nov-20
0001609376	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	04-Nov-20
0001609379	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	04-Nov-20
0001609377	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	04-Nov-20
0001609375	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	04-Nov-20
0001609378	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	04-Nov-20
0001609381	54-42-2	5-IODO-2'-DEOXYURIDINE	25	Gram(GM)	04-Nov-20
0001567606	-	JOINT COMPOUND - ALL PURPOSE READY MIX	4.5	Gallon(GAL)	04-Nov-20
0001567607	-	JOINT COMPOUND - ALL PURPOSE READY MIX	4.5	Gallon(GAL)	04-Nov-20
0001567608	-	JOINT COMPOUND - ALL PURPOSE READY MIX	4.5	Gallon(GAL)	04-Nov-20
0001609383	7647-14-5	SODIUM CHLORIDE	25	Gram(GM)	04-Nov-20
0001609384	-	ESI Positive Calibration Solution	100	Milliliter(ML)	04-Nov-20
0001609386	288-47-1	THIAZOLE	25	Gram(GM)	04-Nov-20
0001609387	9002-88-4	POLYETHYLENE	200	Milligram(MG)	04-Nov-20
0001609388	9002-88-4	POLYETHYLENE	200	Milligram(MG)	04-Nov-20
0001609389	9002-88-4	POLYETHYLENE	200	Milligram(MG)	04-Nov-20
0001609390	-	SYLGARD 186 SILICONE ELASTOMER KIT	1.1	Pounds(LB)	04-Nov-20
0001609392	-	SYLGARD 186 SILICONE ELASTOMER KIT	1.1	Pounds(LB)	04-Nov-20
0001609393	-	SYLGARD 186 SILICONE ELASTOMER KIT	1.1	Pounds(LB)	04-Nov-20
0001609391	-	SYLGARD 186 SILICONE ELASTOMER KIT	1.1	Pounds(LB)	04-Nov-20
0001660352	-	EPOXY	25	Milliliter(ML)	04-Nov-20
V00000735C	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	04-Nov-20
V00000735D	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	04-Nov-20
V00000735E	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	04-Nov-20
V00000735F	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	04-Nov-20
V000007360	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	04-Nov-20
V000007362	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	04-Nov-20
V00000735B	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	04-Nov-20
V000007363	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	04-Nov-20
V000007364	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007361	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	04-Nov-20
V000007365	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V000007366	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V000007367	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V000007368	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V000007371	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V000007373	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V00000736F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V00000736E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V00000736D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V00000736C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V000007370	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V00000736B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V00000736A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V000007369	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
V000007372	-	ARDEX FEATHER FINISH	10	Pounds(LB)	04-Nov-20
0001656188	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001660354	-	ClearWeld	25	Milliliter(ML)	04-Nov-20
0001660353	-	EPOXY	25	Milliliter(ML)	04-Nov-20
0001656190	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656189	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656196	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656199	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656191	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656192	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656193	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656194	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656195	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656198	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656197	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656200	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656201	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656211	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656212	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656210	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656209	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656208	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656207	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656205	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656204	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656203	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656202	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656206	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656213	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656241	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656229	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656230	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656231	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656232	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656233	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656235	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656237	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656238	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656240	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656242	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656243	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656228	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656234	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656239	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656220	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656227	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656214	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656215	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656216	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656217	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656219	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656236	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656221	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656222	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656223	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656224	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656225	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656226	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656218	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	04-Nov-20
0001656244	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	04-Nov-20
0001656250	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	04-Nov-20
0001656253	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	04-Nov-20
0001656249	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	04-Nov-20
0001656251	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	04-Nov-20
0001656247	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	04-Nov-20
0001656246	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	04-Nov-20
0001656245	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	04-Nov-20
0001656252	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	04-Nov-20
0001656248	-	OXYGEN COMPRESSED GAS	60	Cubic Feet(CF)	04-Nov-20
0001660355	-	ClearWeld	25	Milliliter(ML)	04-Nov-20
0001567609	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567614	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567623	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567622	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567621	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567620	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567619	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567618	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567617	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567615	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567613	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567612	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567611	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567610	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001567616	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	04-Nov-20
0001656254	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	04-Nov-20
0001656260	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	04-Nov-20
0001656255	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	04-Nov-20
0001656256	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	04-Nov-20
0001656257	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	04-Nov-20
0001656258	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	04-Nov-20
0001656259	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	04-Nov-20
0001656261	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	04-Nov-20
0001656263	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	04-Nov-20
0001656264	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	04-Nov-20
0001656265	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	04-Nov-20
0001656266	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	04-Nov-20
0001656267	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	04-Nov-20
0001656262	-	95% NITROGEN/5% HYDROGEN	220	Cubic Feet(CF)	04-Nov-20
0001656268	-	Compressed Air	220	Cubic Feet(CF)	04-Nov-20
0001656274	-	Compressed Air	220	Cubic Feet(CF)	04-Nov-20
0001656272	-	Compressed Air	220	Cubic Feet(CF)	04-Nov-20
0001656277	-	Compressed Air	220	Cubic Feet(CF)	04-Nov-20
0001656275	-	Compressed Air	220	Cubic Feet(CF)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656273	-	Compressed Air	220	Cubic Feet(CF)	04-Nov-20
0001656270	-	Compressed Air	220	Cubic Feet(CF)	04-Nov-20
0001656269	-	Compressed Air	220	Cubic Feet(CF)	04-Nov-20
0001656276	-	Compressed Air	220	Cubic Feet(CF)	04-Nov-20
0001656271	-	Compressed Air	220	Cubic Feet(CF)	04-Nov-20
0001609385	513-08-6	Tripropyl phosphate	25	Gram(GM)	04-Nov-20
0001656278	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	04-Nov-20
0001656279	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	04-Nov-20
0001656283	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	04-Nov-20
0001656280	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	04-Nov-20
0001656281	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	04-Nov-20
0001656282	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	04-Nov-20
0001656284	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656285	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656291	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656287	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656288	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656289	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656290	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656286	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656292	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656293	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656295	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656296	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656297	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656299	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656300	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656301	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656302	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656303	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656304	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656294	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001656298	74-98-6	PROPANE (FUEL)	50	Cubic Feet(CF)	04-Nov-20
0001567624	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567649	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567667	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567653	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567654	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567655	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567656	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567657	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567658	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567659	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567660	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567661	-	SODA ASH	50	Pounds(LB)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567662	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567652	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567666	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567663	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567668	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567669	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567670	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567671	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567672	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567673	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567674	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567675	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567676	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567677	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567647	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567664	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567628	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567626	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567665	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567627	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567651	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567629	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567630	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567631	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567632	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567633	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567634	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567635	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567636	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567637	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567648	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567638	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567625	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567646	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567645	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567644	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567643	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567641	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567640	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567639	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567642	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567650	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567678	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567709	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567718	-	SODA ASH	50	Pounds(LB)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567716	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567713	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567712	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567711	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567710	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567708	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567719	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567728	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567707	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567706	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567720	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567722	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567723	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567724	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567725	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567727	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567729	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567730	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567731	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567715	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567705	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567726	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567684	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567704	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567717	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567679	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567680	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567681	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567683	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567685	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567686	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567687	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567688	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567689	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567690	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567691	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567702	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567703	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567693	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567682	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567694	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567695	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567696	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567698	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567692	-	SODA ASH	50	Pounds(LB)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567699	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567700	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001567701	-	SODA ASH	50	Pounds(LB)	04-Nov-20
0001660356	-	SILICONE SEALANT	139	Milliliter(ML)	04-Nov-20
0001660357	-	SILICONE SEALANT	139	Milliliter(ML)	04-Nov-20
0001609382	33631-05-9	2-Amino-4-hydroxypyridine	1	Gram(GM)	04-Nov-20
0001609342	-	BN Aerosol Lubricoat	13	Ounces(OZ)	04-Nov-20
0001609341	-	BN Lubricoat	1	Gallon(GAL)	04-Nov-20
V00000739B	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000738F	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007390	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007391	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007392	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007393	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007394	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007395	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007396	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007397	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007398	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000739A	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000738C	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000739C	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000739D	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073A9	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000739F	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073A1	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000073A2	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073A3	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073A4	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073A5	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073A6	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073A7	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073A8	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007399	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007376	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007383	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007382	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007381	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007380	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000737F	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000737E	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000737D	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000737C	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000737B	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000737A	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007379	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000738E	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007377	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000738D	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007375	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007374	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073A0	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007385	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007386	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007387	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007388	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007389	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000738A	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000738B	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007384	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V000007378	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073B0	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073B2	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073B8	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073AA	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073AB	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073AC	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073AD	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073B9	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073AF	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000073BA	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073B1	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073B7	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073B6	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073B5	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073B4	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073B3	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073AE	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V0000073BB	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
V00000739E	-	Contact Cleaner 2000 Precision Cleaner (aerosol)	13	Ounces(OZ)	04-Nov-20
0001609311	5355-48-6	Digoxin Impurity J	10	Milligram(MG)	04-Nov-20
0001609394	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609403	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609398	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609397	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609396	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609395	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609400	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609402	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609404	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609399	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609401	7601-90-3	PERCHLORIC ACID OPTIMA	1	Liters(L)	04-Nov-20
0001609405	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	04-Nov-20
0001609408	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	04-Nov-20
0001609406	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	04-Nov-20
0001609407	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	04-Nov-20
0001609409	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Nov-20
0001609410	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Nov-20
0001609417	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Nov-20
0001609416	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Nov-20
0001609415	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Nov-20
0001609414	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Nov-20
0001609413	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Nov-20
0001609411	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Nov-20
0001609412	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	04-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609418	7601-90-3	PERCHLORIC ACID OPTIMA	250	Milliliter(ML)	04-Nov-20
0001609419	-	DOW CORNING(R) HIGH VACUUM GREASE	5.3	Ounces(OZ)	04-Nov-20
0001609420	-	DOW CORNING(R) HIGH VACUUM GREASE	5.3	Ounces(OZ)	04-Nov-20
0001609421	109-66-0	N-PENTANE	1	Liters(L)	04-Nov-20
0001609422	110-54-3	N-HEXANE	1	Liters(L)	04-Nov-20
0001609425	110-54-3	N-HEXANE	1	Liters(L)	04-Nov-20
0001609423	110-54-3	N-HEXANE	1	Liters(L)	04-Nov-20
0001609424	110-54-3	N-HEXANE	1	Liters(L)	04-Nov-20
0001609426	110-54-3	N-HEXANE	1	Liters(L)	04-Nov-20
0001609427	110-54-3	N-HEXANE	1	Liters(L)	04-Nov-20
0001609428	67-63-0	2-PROPANOL	1	Liters(L)	04-Nov-20
0001609429	67-63-0	2-PROPANOL	1	Liters(L)	04-Nov-20
0001609430	67-63-0	2-PROPANOL	1	Liters(L)	04-Nov-20
0001609431	67-63-0	2-PROPANOL	1	Liters(L)	04-Nov-20
0001609432	67-63-0	2-PROPANOL	1	Liters(L)	04-Nov-20
0001609433	67-63-0	2-PROPANOL	1	Liters(L)	04-Nov-20
0001609434	-	Support SUP706 B	3.6	Kilograms(KG)	04-Nov-20
0001609435	75-09-2	DICHLOROMETHANE	4	Liters(L)	04-Nov-20
0001609436	67-64-1	ACETONE	4	Liters(L)	04-Nov-20
0001609438	67-64-1	ACETONE	4	Liters(L)	04-Nov-20
0001609437	67-64-1	ACETONE	4	Liters(L)	04-Nov-20
0001609439	67-64-1	ACETONE	4	Liters(L)	04-Nov-20
0001609440	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	04-Nov-20
0001609441	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	04-Nov-20
0001609442	112-88-9	1-OCTADECENE	1	Liters(L)	04-Nov-20
0001609443	112-88-9	1-OCTADECENE	1	Liters(L)	04-Nov-20
0001609444	112-88-9	1-OCTADECENE	1	Liters(L)	04-Nov-20
0001609445	112-80-1	OLEIC ACID TECHNICAL GRADE 90%	1	Liters(L)	04-Nov-20
0001609446	112-80-1	OLEIC ACID TECHNICAL GRADE 90%	1	Liters(L)	04-Nov-20
0001609448	666-52-4	ACETONE D6	25	Milliliter(ML)	04-Nov-20
0001609449	-	CALCIUM ACETATE HYDRATE	25	Gram(GM)	04-Nov-20
0001609450	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001609451	-	DEVCON 5 MINUTE EPOXY AMBER	25	Milliliter(ML)	04-Nov-20
0001609452	-	EDWARDS ULTRA GRADE 19 PU	1	Liters(L)	04-Nov-20
0001609453	-	EDWARDS ULTRA GRADE 19 PU	1	Liters(L)	04-Nov-20
0001609454	-	Copper Catalyst Tablets	1	Kilograms(KG)	04-Nov-20
0001656305	74-98-6	PROPANE FUEL	25	Pounds(LB)	05-Nov-20
0001656306	74-98-6	PROPANE FUEL	100	Pounds(LB)	05-Nov-20
0001656307	74-98-6	PROPANE FUEL	100	Pounds(LB)	05-Nov-20
0001656308	7440-59-7	HELIUM GAS	100	Liters(L)	05-Nov-20
0001656310	7440-59-7	HELIUM GAS	250	Liters(L)	05-Nov-20
0001656309	7440-59-7	HELIUM GAS	100	Liters(L)	05-Nov-20
0001655924	-	ARGON GAS	220	Cubic Feet(CF)	05-Nov-20
0001664061	54827-17-7	3 3 5 5-TETRAMETHYLBENZIDINE	100	Milliliter(ML)	05-Nov-20
0001664062	54827-17-7	3 3 5 5-TETRAMETHYLBENZIDINE	100	Milliliter(ML)	05-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609455	63231-69-6	MOLECULAR SIEVES	1	Kilograms(KG)	05-Nov-20
0001609456	68-12-2	N N-DIMETHYLFORMAMIDE	2.5	Liters(L)	05-Nov-20
0001609457	7697-37-2	NITRIC ACID	2.5	Liters(L)	05-Nov-20
0001609458	-	Hydrochloric Acid	2.5	Liters(L)	05-Nov-20
0001609459	-	Hydrochloric Acid	2.5	Liters(L)	05-Nov-20
0001609460	-	Hydrochloric Acid	2.5	Liters(L)	05-Nov-20
0001609461	-	Hydrochloric Acid	2.5	Liters(L)	05-Nov-20
0001269896	-	47 BLEND #23 SPECIAL PRINTING INK SOLVENT 04009812	7.6	Liters(L)	06-Nov-20
0001640037	-	INSTANT ADHESIVE	0.7	Ounces(OZ)	06-Nov-20
0001640040	-	INSTANT ADHESIVE	0.7	Ounces(OZ)	06-Nov-20
0001640039	-	INSTANT ADHESIVE	0.7	Ounces(OZ)	06-Nov-20
0001640038	-	INSTANT ADHESIVE	0.7	Ounces(OZ)	06-Nov-20
0001423653	-	3M SUPER WEATHERSTRIP ADHESIVE (BLACK)	5	Ounces(OZ)	06-Nov-20
0001423654	-	3M SUPER WEATHERSTRIP ADHESIVE (BLACK)	5	Ounces(OZ)	06-Nov-20
0001609462	-	Grandpa Gus's Potent Mouse Repellent	1.38	Ounces(OZ)	09-Nov-20
0001609465	-	Grandpa Gus's Potent Mouse Repellent	8	Ounces(OZ)	09-Nov-20
0001609464	-	Grandpa Gus's Potent Mouse Repellent	1.38	Ounces(OZ)	09-Nov-20
0001609463	-	Grandpa Gus's Potent Mouse Repellent	1.38	Ounces(OZ)	09-Nov-20
0001609467	-	Grandpa Gus's Potent Mouse Repellent	8	Ounces(OZ)	09-Nov-20
0001609466	-	Grandpa Gus's Potent Mouse Repellent	8	Ounces(OZ)	09-Nov-20
0001609468	-	Shell Rotella T6 15W-40	1	Gallon(GAL)	09-Nov-20
0001609470	-	Shell Rotella T6 15W-40	1	Gallon(GAL)	09-Nov-20
0001609469	-	Shell Rotella T6 15W-40	1	Gallon(GAL)	09-Nov-20
0001609473	-	LB BROTH	454	Gram(GM)	09-Nov-20
0498229304	57-50-1	Test General Chemical - Sucrose	1	Pounds(LB)	09-Nov-20
0001567742	-	MOBIL SHC GEAR 460	35	Pounds(LB)	09-Nov-20
0001567746	-	MOBIL SHC GEAR 460	35	Pounds(LB)	09-Nov-20
0001567745	-	MOBIL SHC GEAR 460	35	Pounds(LB)	09-Nov-20
0001567744	-	MOBIL SHC GEAR 460	35	Pounds(LB)	09-Nov-20
0001567743	-	MOBIL SHC GEAR 460	35	Pounds(LB)	09-Nov-20
0498229305	-	SUCROSE STANDARD	1	Kilograms(KG)	09-Nov-20
0001609474	631-61-8	AMMONIUM ACETATE	250	Gram(GM)	09-Nov-20
V0000073D5	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073E0	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073CA	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073CB	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073CD	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073CF	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073D0	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073D1	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073D2	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073DD	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073D4	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000073CC	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073D6	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073D7	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073D8	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073D9	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073DA	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073DB	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073DC	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073E1	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073D3	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073CE	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073DE	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
V0000073DF	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	09-Nov-20
0001609475	11138-66-2	XANTHAN GUM	50	Gram(GM)	09-Nov-20
0001609476	108-18-9	DIISOPROPYLAMINE	500	Milliliter(ML)	09-Nov-20
0001609477	125542-03-2	Chlorodimethyl(2 3 4 5-tetramethyl-2 4-cyclopentadien-1-yl)silane	5	Gram(GM)	09-Nov-20
0001609478	125542-03-2	Chlorodimethyl(2 3 4 5-tetramethyl-2 4-cyclopentadien-1-yl)silane	5	Gram(GM)	09-Nov-20
0001609479	112-90-3	OLEYLAMINE 70%	500	Gram(GM)	09-Nov-20
0001609481	112-90-3	OLEYLAMINE 70%	500	Gram(GM)	09-Nov-20
0001609480	112-90-3	OLEYLAMINE 70%	500	Gram(GM)	09-Nov-20
0001609482	174501-65-6	1-BUTYL-3-METHYLIMIDAZOLIUM TETRAFLUOROBORATE	50	Gram(GM)	09-Nov-20
0001609483	80432-09-3	1-Butyl-3-methylimidazolium tetrachloroaluminate	5	Gram(GM)	09-Nov-20
0001609484	-	1-ETHYL-3-METHYLIMIDAZOLIUM TETRAFLUOROBORATE	50	Gram(GM)	09-Nov-20
0001609485	171058-17-6	1-n-Hexyl-3-methylimidazolium chloride	50	Gram(GM)	09-Nov-20
0001609486	111-40-0	DIETHYLENETRIAMINE	1	Liters(L)	09-Nov-20
0001609487	75-05-8	ACETONITRILE ANHYDROUS	1	Liters(L)	09-Nov-20
0001609488	-	TORR SEAL MIXER SYST. W/GUN	2	Ounces(OZ)	09-Nov-20
0001609489	753-89-9	NEOPENTYL CHLORIDE (1-CHLORO-2 2-DIMEITHYLPROPANE)	25	Gram(GM)	09-Nov-20
0001567748	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	09-Nov-20
0001567750	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	09-Nov-20
0001567751	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	09-Nov-20
0001567753	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	09-Nov-20
0001567752	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	09-Nov-20
0001567749	-	XIM PRIMER 400 CLEAR	12	Ounces(OZ)	09-Nov-20
0001609490	515-40-2	2-Chloromethyl-2-phenylpropane	250	Gram(GM)	09-Nov-20
0001609491	1336-21-6	ammonium hydroxide	2.5	Liters(L)	09-Nov-20
0001609492	1336-21-6	ammonium hydroxide	2.5	Liters(L)	09-Nov-20
0001567732	-	Greased Lightning Classic Cleaner & Degreaser	1	Gallon(GAL)	09-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567736	-	Greased Lightning Classic Cleaner & Degreaser	1	Gallon(GAL)	09-Nov-20
0001567733	-	Greased Lightning Classic Cleaner & Degreaser	1	Gallon(GAL)	09-Nov-20
0001567734	-	Greased Lightning Classic Cleaner & Degreaser	1	Gallon(GAL)	09-Nov-20
0001567735	-	Greased Lightning Classic Cleaner & Degreaser	1	Gallon(GAL)	09-Nov-20
0001567737	-	Greased Lightning Classic Cleaner & Degreaser	1	Gallon(GAL)	09-Nov-20
0001567738	-	Greased Lightning Classic Cleaner & Degreaser	1	Gallon(GAL)	09-Nov-20
0001567739	-	Greased Lightning Classic Cleaner & Degreaser	1	Gallon(GAL)	09-Nov-20
0001567740	-	Greased Lightning Classic Cleaner & Degreaser	1	Gallon(GAL)	09-Nov-20
0001567741	-	Greased Lightning Classic Cleaner & Degreaser	1	Gallon(GAL)	09-Nov-20
0001609493	1310-65-2	LITHIUM HYDROXIDE	100	Gram(GM)	09-Nov-20
0001609494	-	Ponceau S Stain PROTEOMICS GRADE	500	Milliliter(ML)	09-Nov-20
0001609495	9004-32-4	SODIUM CARBOXYMETHYL CELLULOSE	100	Gram(GM)	09-Nov-20
0001609496	9000-30-0	GUAR GUM	250	Gram(GM)	09-Nov-20
0001609471	-	ß-Agarase I	5	Gram(GM)	09-Nov-20
0001609472	-	ß-Agarase I	5	Gram(GM)	09-Nov-20
0001609497	-	TEVA RESIN	1	Milliliter(ML)	09-Nov-20
0001609506	-	TEVA RESIN	1	Milliliter(ML)	09-Nov-20
0001609500	-	TEVA RESIN	1	Milliliter(ML)	09-Nov-20
0001609499	-	TEVA RESIN	1	Milliliter(ML)	09-Nov-20
0001609498	-	TEVA RESIN	1	Milliliter(ML)	09-Nov-20
0001609505	-	TEVA RESIN	1	Milliliter(ML)	09-Nov-20
0001609504	-	TEVA RESIN	1	Milliliter(ML)	09-Nov-20
0001609501	-	TEVA RESIN	1	Milliliter(ML)	09-Nov-20
0001609503	-	TEVA RESIN	1	Milliliter(ML)	09-Nov-20
0001609502	-	TEVA RESIN	1	Milliliter(ML)	09-Nov-20
0001609507	67-63-0	2-PROPONAL	4	Liters(L)	09-Nov-20
0001609508	-	CUVER 1 COPPER REAGENT	10	Milliliter(ML)	09-Nov-20
0001609512	-	CUVER 1 COPPER REAGENT	10	Milliliter(ML)	09-Nov-20
0001609509	-	CUVER 1 COPPER REAGENT	10	Milliliter(ML)	09-Nov-20
0001609511	-	CUVER 1 COPPER REAGENT	10	Milliliter(ML)	09-Nov-20
0001609510	-	CUVER 1 COPPER REAGENT	10	Milliliter(ML)	09-Nov-20
0001609513	-	POTASSIUM HYDROXIDE	100	Milliliter(ML)	09-Nov-20
0001609516	-	POTASSIUM HYDROXIDE	100	Milliliter(ML)	09-Nov-20
0001609519	-	POTASSIUM HYDROXIDE	100	Milliliter(ML)	09-Nov-20
0001609518	-	POTASSIUM HYDROXIDE	100	Milliliter(ML)	09-Nov-20
0001609517	-	POTASSIUM HYDROXIDE	100	Milliliter(ML)	09-Nov-20
0001609522	-	POTASSIUM HYDROXIDE	100	Milliliter(ML)	09-Nov-20
0001609521	-	POTASSIUM HYDROXIDE	100	Milliliter(ML)	09-Nov-20
0001609514	-	POTASSIUM HYDROXIDE	100	Milliliter(ML)	09-Nov-20
0001609520	-	POTASSIUM HYDROXIDE	100	Milliliter(ML)	09-Nov-20
0001609515	-	POTASSIUM HYDROXIDE	100	Milliliter(ML)	09-Nov-20
0001609523	10361-91-8	YTTERBIUM(III) CHLORIDE ANHYDROUS	5	Gram(GM)	09-Nov-20
0001609524	-	PlatSil Gel-25 U16	16	Pounds(LB)	09-Nov-20
0001609525	-	PlatSil Gel-25 U16	16	Pounds(LB)	09-Nov-20
0001609526	7782-40-3	Diamond Powder	1	Kilograms(KG)	09-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609527	7782-40-3	Diamond Powder	1	Kilograms(KG)	09-Nov-20
0001609528	67-64-1	ACETONE	4	Liters(L)	09-Nov-20
0001609529	67-64-1	ACETONE	4	Liters(L)	09-Nov-20
0001609530	67-64-1	ACETONE	4	Liters(L)	09-Nov-20
0001609531	67-64-1	ACETONE	4	Liters(L)	09-Nov-20
0001655925	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655926	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655928	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655927	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655934	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655935	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655933	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655937	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655932	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655938	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655936	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655943	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655944	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655942	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655941	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655940	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655945	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655939	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001655946	-	ARGON GAS	220	Cubic Feet(CF)	10-Nov-20
0001609532	32005-36-0	BIS(DIBENZYLIDENE ACETONE) PALLADIUM (0)	5	Gram(GM)	10-Nov-20
0001609533	1824-81-3	2-Amino-6-methylpyridine	100	Gram(GM)	10-Nov-20
V0000073F4	-	ARDEX FEATHER FINISH	10	Pounds(LB)	10-Nov-20
V0000073F5	-	ARDEX FEATHER FINISH	10	Pounds(LB)	10-Nov-20
V0000073F3	-	ARDEX FEATHER FINISH	10	Pounds(LB)	10-Nov-20
V0000073F2	-	ARDEX FEATHER FINISH	10	Pounds(LB)	10-Nov-20
0001609536	7647-17-8	CESIUM CHLORIDE	25	Gram(GM)	10-Nov-20
0001609537	7647-17-8	CESIUM CHLORIDE	25	Gram(GM)	10-Nov-20
0001609538	-	Cesium iodide 99.999% (metals basis)	25	Gram(GM)	10-Nov-20
0001609539	-	Cesium iodide 99.999% (metals basis)	25	Gram(GM)	10-Nov-20
0001609540	7789-17-5	CESIUM IODIDE	10	Gram(GM)	10-Nov-20
0001609541	7789-17-5	CESIUM IODIDE	10	Gram(GM)	10-Nov-20
0001609542	-	TORR SEAL	135	Gram(GM)	10-Nov-20
0001609543	106-88-7	1 2-EPOXYBUTANE	250	Milliliter(ML)	10-Nov-20
0001609544	85100-77-2	1-Butyl-3-methylimidazolium bromide	50	Gram(GM)	10-Nov-20
0001609545	85100-77-2	1-Butyl-3-methylimidazolium bromide	50	Gram(GM)	10-Nov-20
0001609546	72320-38-8	3-Azido-1-propanol	5	Gram(GM)	10-Nov-20
0001567754	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567758	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567757	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567756	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567755	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001609547	128-37-0	2 6-DI-TERT-BUTYL-4-METHYLPHENOL	50	Gram(GM)	10-Nov-20
0001609549	128-37-0	2 6-DI-TERT-BUTYL-4-METHYLPHENOL	50	Gram(GM)	10-Nov-20
0001609550	128-37-0	2 6-DI-TERT-BUTYL-4-METHYLPHENOL	50	Gram(GM)	10-Nov-20
0001609551	128-37-0	2 6-DI-TERT-BUTYL-4-METHYLPHENOL	50	Gram(GM)	10-Nov-20
0001609548	128-37-0	2 6-DI-TERT-BUTYL-4-METHYLPHENOL	50	Gram(GM)	10-Nov-20
0001609552	10361-92-9	YTTRIUM(III) CHLORIDE ANHYDROUS	10	Gram(GM)	10-Nov-20
0001609553	7791-18-6	MAGNESIUM CHLORIDE HEXAHYDRATE	1	Kilograms(KG)	10-Nov-20
0001609554	7681-11-0	POTASSIUM IODIDE	1	Kilograms(KG)	10-Nov-20
0001609557	-	OneTaq 2X Master Mix with Standard Buffer	50	Microliter	10-Nov-20
0001567759	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567813	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567786	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567794	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567779	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567780	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567781	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567782	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567783	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567777	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567785	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567776	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567787	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567788	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567789	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567790	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567791	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567792	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567815	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567784	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567768	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567760	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567761	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567762	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567763	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567764	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567765	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567778	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567767	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567795	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567769	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567770	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567771	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567772	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567773	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567774	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567775	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567766	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567823	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567793	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567816	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567817	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567818	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567819	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567820	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567814	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567822	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567812	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567824	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567825	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567826	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567827	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567828	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567829	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567830	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567821	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567804	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567796	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567797	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567798	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567799	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567800	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567801	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567803	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567805	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567806	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567807	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567808	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567809	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567810	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567811	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567802	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567831	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567839	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567844	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567841	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567855	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567854	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567853	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567852	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567851	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567850	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567849	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567848	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567847	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567857	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567845	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567858	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567843	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567842	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567840	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567838	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567837	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567836	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567835	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567834	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567833	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567832	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567846	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567870	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567878	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567877	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567876	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567875	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567874	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567873	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567856	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567871	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567869	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567862	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567859	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567860	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567872	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567861	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567868	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567863	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567864	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567865	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567866	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001567867	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	10-Nov-20
0001609555	24589-78-4	N-METHYL-N-(TRIMETHYLSILYL) TRIFLUOROACETAMIDE	5	Milliliter(ML)	10-Nov-20
0001609556	24589-78-4	N-METHYL-N-(TRIMETHYLSILYL) TRIFLUOROACETAMIDE	5	Milliliter(ML)	10-Nov-20
0001609534	7440-21-3	Silicon (Elemental) Wafer	1	Gram(GM)	10-Nov-20
0001567879	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567901	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567899	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567903	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567906	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567905	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567904	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567900	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567898	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567897	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567896	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567895	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567894	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567893	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567892	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567883	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567902	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567891	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567881	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567882	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567880	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567884	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567885	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567886	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567887	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567888	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567889	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567890	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567925	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567931	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567927	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567928	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567929	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567930	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567926	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567932	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567933	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567934	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567935	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567936	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567938	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567924	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567910	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567937	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567915	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567907	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567908	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567909	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567911	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567912	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567914	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567923	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567916	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567917	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567918	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567919	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567920	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567921	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567922	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567913	-	QUIKCRETE CONCRETE	60	Pounds(LB)	10-Nov-20
0001567939	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001568002	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567941	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567988	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567974	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567940	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567976	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567977	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567978	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567979	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567980	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567981	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567982	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567983	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567984	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567985	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567942	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567987	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567973	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567989	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567990	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567991	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567992	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567993	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567994	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567995	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567996	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567997	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567998	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567999	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001568000	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001568001	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567986	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567949	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567956	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567975	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567954	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567953	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567952	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567972	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567950	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567957	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567948	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567947	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567946	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567945	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567944	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567943	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567951	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001567965	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567971	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567970	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567969	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567968	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567955	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567966	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567958	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567964	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567963	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567962	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567961	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567960	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567959	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001567967	-	C6: Portland Cement Based Concrete Products	50	Pounds(LB)	10-Nov-20
0001609535	7440-21-3	Silicon (Elemental) Wafer	1	Gram(GM)	10-Nov-20
0001656311	75-73-0	TETRAFLUOROMETHANE	60	Cubic Feet(CF)	10-Nov-20
0001656312	-	Compressed Air	3.6	Cubic Feet(CF)	10-Nov-20
0001609558	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	10-Nov-20
0001609560	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	10-Nov-20
0001609559	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	10-Nov-20
0001609561	63148-62-9	PURE SILICONE FLUID	5	Gallon(GAL)	10-Nov-20
0001609562	-	HYDROCHLORIC ACID 35-37%	500	Milliliter(ML)	10-Nov-20
0001609563	75-09-2	DICHLOROMETHANE	4	Liters(L)	10-Nov-20
0001609564	75-09-2	DICHLOROMETHANE	4	Liters(L)	10-Nov-20
0001609566	75-09-2	DICHLOROMETHANE	4	Liters(L)	10-Nov-20
0001609565	75-09-2	DICHLOROMETHANE	4	Liters(L)	10-Nov-20
0001609567	7786-30-3	MAGNESIUM CHLORIDE ANHYDROUS	5	Kilograms(KG)	10-Nov-20
0001609568	542-69-8	1-IODOBUTANE (BUTYL IODIDE)	500	Gram(GM)	10-Nov-20
0001609570	67-64-1	ACETONE	4	Liters(L)	10-Nov-20
0001609573	67-64-1	ACETONE	4	Liters(L)	10-Nov-20
0001609572	67-64-1	ACETONE	4	Liters(L)	10-Nov-20
0001609571	67-64-1	ACETONE	4	Liters(L)	10-Nov-20
0001609576	-	1-ETHYL-3-METHYLIMIDAZOLIUM	100	Gram(GM)	10-Nov-20
0001609575	80432-05-9	1-Ethyl-3-methylimidazolium tetrachloroaluminate	100	Gram(GM)	10-Nov-20
0001609577	80432-09-3	1-Butyl-3-methylimidazolium tetrachloroaluminate	100	Gram(GM)	10-Nov-20
0001609578	85186-71-6	DRISELASE FROM BASIDIOMYCETES	5	Gram(GM)	10-Nov-20
0001609579	71626-99-8	CALCIUM BROMIDE HYDRATE	500	Gram(GM)	12-Nov-20
0001568003	-	CLEAR MEDIUM BODIED PVC CEMENT	32	Ounces(OZ)	12-Nov-20
0001568004	-	CLEAR MEDIUM BODIED PVC CEMENT	32	Ounces(OZ)	12-Nov-20
0001609580	71626-99-8	CALCIUM BROMIDE HYDRATE	500	Gram(GM)	12-Nov-20
0001609581	10099-74-8	LEAD(II) NITRATE	100	Gram(GM)	12-Nov-20
0583292011	7647-14-5	SODIUM CHLORIDE CERTIFIED ACS	0.5	Kilograms(KG)	12-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609582	18618-55-8	CERIUM(III) CHLORIDE HEPTAHYDRATE	250	Gram(GM)	12-Nov-20
0001609583	18618-55-8	CERIUM(III) CHLORIDE HEPTAHYDRATE	250	Gram(GM)	12-Nov-20
V000007406	-	Mineral Oil	1	Liters(L)	12-Nov-20
0001609584	7727-21-1	Potassium peroxydisulfate Electrophoresis Grade	100	Gram(GM)	12-Nov-20
0001609585	110-91-8	MORPHOLINE	100	Milliliter(ML)	12-Nov-20
0001609586	144693-65-2	Sodium 4-ethynylbenzoate	5	Gram(GM)	12-Nov-20
0001609587	144693-65-2	Sodium 4-ethynylbenzoate	5	Gram(GM)	12-Nov-20
0001609588	2058-89-1	MMB-4	5	Milligram(MG)	12-Nov-20
0001609589	2058-89-1	MMB-4	5	Milligram(MG)	12-Nov-20
0001609591	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609603	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609592	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609593	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609601	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609594	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609595	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609596	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609597	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609598	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609599	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609610	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609605	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609604	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609607	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609602	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609609	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609606	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609611	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609612	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609613	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609600	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609608	7697-37-2	NITRIC ACID	2	Liters(L)	12-Nov-20
0001609614	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001568005	-	STRUST +SSPR 6PK METALC SILVER	11	Ounces(OZ)	12-Nov-20
0001568006	-	STRUST +SSPR 6PK METALC SILVER	11	Ounces(OZ)	12-Nov-20
0001568007	-	STRUST +SSPR 6PK METALC SILVER	11	Ounces(OZ)	12-Nov-20
0001568008	-	STRUST +SSPR 6PK METALC SILVER	11	Ounces(OZ)	12-Nov-20
0001568009	-	STRUST +SSPR 6PK METALC SILVER	11	Ounces(OZ)	12-Nov-20
0001568010	-	STRUST +SSPR 6PK METALC SILVER	11	Ounces(OZ)	12-Nov-20
0001609615	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609626	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609624	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609623	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609622	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609636	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609645	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609644	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609643	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609642	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609641	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609640	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609639	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609628	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609637	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609621	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609635	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609634	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609633	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609632	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609631	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609630	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609625	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609629	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609638	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609627	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609619	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609618	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609617	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609616	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609620	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609659	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609658	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609657	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609656	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609655	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609660	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609653	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609665	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609652	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609651	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609654	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609661	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609662	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609650	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609664	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609668	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609666	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609667	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609669	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609671	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609672	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609673	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609663	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609648	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609647	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609646	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609670	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609649	7697-37-2	NITRIC ACID CERTIFIED ACS	2.5	Liters(L)	12-Nov-20
0001609674	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	12-Nov-20
0001609677	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	12-Nov-20
0001609676	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	12-Nov-20
0001609675	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	12-Nov-20
0001609678	1068-55-9	ISOPROPYLMAGNESIUM CHLORIDE	100	Milliliter(ML)	12-Nov-20
0001609679	1068-55-9	ISOPROPYLMAGNESIUM CHLORIDE	100	Milliliter(ML)	12-Nov-20
0001609680	7429-91-6	DYSPROSIUM	5	Gram(GM)	12-Nov-20
0001609681	75-09-2	DICHLOROMETHANE	4	Liters(L)	12-Nov-20
0001609682	75-09-2	DICHLOROMETHANE	4	Liters(L)	12-Nov-20
0001609683	-	ORION PH ELECTRODE STORAGE SOLUTION	475	Milliliter(ML)	12-Nov-20
0001656342	-	ACCUDRI SF6 - Sulfur Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656313	-	Oxygen Nitrogen	3.6	Cubic Feet(CF)	12-Nov-20
0001656314	-	Oxygen Nitrogen	3.6	Cubic Feet(CF)	12-Nov-20
0001656315	75-45-6	CHLORODIFLUOROMETHANE	30	Cubic Feet(CF)	12-Nov-20
0001656316	75-45-6	CHLORODIFLUOROMETHANE	30	Cubic Feet(CF)	12-Nov-20
0001656317	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656327	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656322	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656323	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656325	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656320	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656331	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656330	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656328	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656321	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656319	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656326	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656318	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656329	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656324	-	Sulfer Hexafluoride	220	Cubic Feet(CF)	12-Nov-20
0001656332	74-98-6	PROPANE	11	Gallon(GAL)	12-Nov-20
0001656337	74-98-6	PROPANE	11	Gallon(GAL)	12-Nov-20
0001656333	74-98-6	PROPANE	11	Gallon(GAL)	12-Nov-20
0001656334	74-98-6	PROPANE	11	Gallon(GAL)	12-Nov-20
0001656336	74-98-6	PROPANE	11	Gallon(GAL)	12-Nov-20
0001656338	74-98-6	PROPANE	11	Gallon(GAL)	12-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656339	74-98-6	PROPANE	11	Gallon(GAL)	12-Nov-20
0001656340	74-98-6	PROPANE	11	Gallon(GAL)	12-Nov-20
0001656341	74-98-6	PROPANE	11	Gallon(GAL)	12-Nov-20
0001656335	74-98-6	PROPANE	11	Gallon(GAL)	12-Nov-20
0000957720	25322-69-4	POLYPROPYLENE GLYCOL 425	1	Gallon(GAL)	12-Nov-20
0000957721	25322-69-4	POLYPROPYLENE GLYCOL 425	1	Gallon(GAL)	12-Nov-20
0000957722	-	FANTASTIK SPRAY CLEANER	1	Liters(L)	12-Nov-20
0000957726	-	FANTASTIK SPRAY CLEANER	1	Liters(L)	12-Nov-20
0000957723	-	FANTASTIK SPRAY CLEANER	1	Liters(L)	12-Nov-20
0000957724	-	FANTASTIK SPRAY CLEANER	1	Liters(L)	12-Nov-20
0000957725	-	FANTASTIK SPRAY CLEANER	1	Liters(L)	12-Nov-20
0000957729	-	TORR SEAL	1.69	Ounces(OZ)	12-Nov-20
0000957728	-	TORR SEAL	1.69	Ounces(OZ)	12-Nov-20
0000957727	-	TORR SEAL	1.69	Ounces(OZ)	12-Nov-20
0000957730	-	SWAK (ANAEROBIC PIPE THREAD SEALANT)	8.45	Ounces(OZ)	12-Nov-20
0000957734	-	SWAK (ANAEROBIC PIPE THREAD SEALANT)	8.45	Ounces(OZ)	12-Nov-20
0000957732	-	SWAK (ANAEROBIC PIPE THREAD SEALANT)	8.45	Ounces(OZ)	12-Nov-20
0000957733	-	SWAK (ANAEROBIC PIPE THREAD SEALANT)	8.45	Ounces(OZ)	12-Nov-20
0000957731	-	SWAK (ANAEROBIC PIPE THREAD SEALANT)	8.45	Ounces(OZ)	12-Nov-20
0000957736	-	KRYLON CRYSTAL CLEAR PROTECTVE SPRAY COATING #1303	13	Ounces(OZ)	12-Nov-20
0000957737	-	KRYLON CRYSTAL CLEAR PROTECTVE SPRAY COATING #1303	13	Ounces(OZ)	12-Nov-20
0000957735	-	KRYLON CRYSTAL CLEAR PROTECTVE SPRAY COATING #1303	13	Ounces(OZ)	12-Nov-20
0001609735	-	9410 One-Part Epoxy Electrically Conductive Adhesive	3	Milliliter(ML)	12-Nov-20
0001609736	-	9410 One-Part Epoxy Electrically Conductive Adhesive	3	Milliliter(ML)	12-Nov-20
0001609737	-	9400 One-Part Epoxy Electrically Conductive Adhesive Low Tg	3	Milliliter(ML)	12-Nov-20
0001609738	-	9400 One-Part Epoxy Electrically Conductive Adhesive Low Tg	3	Milliliter(ML)	12-Nov-20
0001609739	74-88-4	IODOMETHANE	500	Gram(GM)	12-Nov-20
0001609740	7087-68-5	N N-DIISOPROPYLETHYLAMINE	500	Milliliter(ML)	12-Nov-20
0001609741	7087-68-5	N N-DIISOPROPYLETHYLAMINE	100	Milliliter(ML)	12-Nov-20
0001609742	1888-71-7	HEXACHLOROPROPENE	100	Gram(GM)	12-Nov-20
0001609743	1888-71-7	HEXACHLOROPROPENE	100	Gram(GM)	12-Nov-20
0001609744	1888-71-7	HEXACHLOROPROPENE	100	Gram(GM)	12-Nov-20
0001609745	7784-34-1	ARSENIC (III) CHLORIDE	5	Gram(GM)	12-Nov-20
0001609746	77-47-4	HEXACHLOROCYCLOPENTADIENE	5	Gram(GM)	12-Nov-20
0001609747	-	Blue Magic Industrial Grade Pipe Thread Compound	16	Ounces(OZ)	12-Nov-20
0001609748	-	Blue Magic Industrial Grade Pipe Thread Compound	16	Ounces(OZ)	12-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609749	-	EPOXY 5 MINUTE DEVCON	25	Milliliter(ML)	12-Nov-20
0001609750	-	EPOXY 5 MINUTE DEVCON	25	Milliliter(ML)	12-Nov-20
0001609751	7782-61-8	IRON (III) NITRATE	5	Gram(GM)	12-Nov-20
0001609752	-	POTATO DEXTROSE AGAR	500	Gram(GM)	12-Nov-20
0001609753	7632-00-0	SODIUM NITRITE	25	Gram(GM)	12-Nov-20
0001609754	-	P3 OIL	0.5	Liters(L)	12-Nov-20
0001609755	-	P3 OIL	0.5	Liters(L)	12-Nov-20
0001609756	-	DP-SUSPENSION A 1/4UM	500	Milliliter(ML)	12-Nov-20
0001609757	-	DP-SUSPENSION A 1/4UM	500	Milliliter(ML)	12-Nov-20
0001609758	-	DP-SUSPENSION A 1/4UM	500	Milliliter(ML)	12-Nov-20
0001609759	-	DP-SUSPENSION A	500	Milliliter(ML)	12-Nov-20
0001609760	-	DP-SUSPENSION A	500	Milliliter(ML)	12-Nov-20
0001609761	-	DP-SUSPENSION A	500	Milliliter(ML)	12-Nov-20
0001609762	-	DP-LUBRICANT BROWN	1	Liters(L)	12-Nov-20
0001609763	-	DP-LUBRICANT BROWN	1	Liters(L)	12-Nov-20
0001609764	-	DP-LUBRICANT BROWN	1	Liters(L)	12-Nov-20
0001609765	-	struers DP-Suspension 3 micron	500	Milliliter(ML)	12-Nov-20
0001609767	-	struers DP-Suspension 3 micron	500	Milliliter(ML)	12-Nov-20
0001609766	-	struers DP-Suspension 3 micron	500	Milliliter(ML)	12-Nov-20
0001609768	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609775	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609772	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609769	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609779	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609778	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609776	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609774	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609773	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609770	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609771	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001609777	25085-99-8	EpoxAcast 655	1	Gallon(GAL)	12-Nov-20
0001626911	-	Pyroil CARB & THROTTLE BODY CLEANER PYC16	13	Ounces(OZ)	13-Nov-20
0001626914	-	Pyroil CARB & THROTTLE BODY CLEANER PYC16	13	Ounces(OZ)	13-Nov-20
0001626915	-	Pyroil CARB & THROTTLE BODY CLEANER PYC16	13	Ounces(OZ)	13-Nov-20
0001626913	-	Pyroil CARB & THROTTLE BODY CLEANER PYC16	13	Ounces(OZ)	13-Nov-20
0001626912	-	Pyroil CARB & THROTTLE BODY CLEANER PYC16	13	Ounces(OZ)	13-Nov-20
0001626916	-	JOHNSENS 50% STARTING FLUID	10.7	Ounces(OZ)	13-Nov-20
0001626917	-	JOHNSENS 50% STARTING FLUID	10.7	Ounces(OZ)	13-Nov-20
0001626918	-	JOHNSENS 50% STARTING FLUID	10.7	Ounces(OZ)	13-Nov-20
0001626919	-	JOHNSENS 50% STARTING FLUID	10.7	Ounces(OZ)	13-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626909	-	Battery Cleaner with Acid Indicator	11	Ounces(OZ)	13-Nov-20
0001626910	-	BATTERY TERMINAL PROTECTOR	7.5	Ounces(OZ)	13-Nov-20
0001656343	7440-59-7	HELIUM GAS	100	Liters(L)	13-Nov-20
0001626933	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Nov-20
0001626940	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Nov-20
0001626936	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Nov-20
0001626939	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Nov-20
0001626937	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Nov-20
0001626935	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Nov-20
0001626934	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Nov-20
0001626938	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	13-Nov-20
0001656344	71-43-2	BENZENE	58	Liters(L)	13-Nov-20
0001656345	-	Oxygen Nitrogen	58	Liters(L)	13-Nov-20
0001626922	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626926	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626927	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626931	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626928	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626929	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626930	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626925	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626932	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626924	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626923	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Flat Black	12	Ounces(OZ)	13-Nov-20
0001626942	-	CAT HYDO ADVANCED 10 HYDRAULIC OIL	5	Gallon(GAL)	13-Nov-20
0001609684	-	NORLAND OPTICAL ADHESIVE	6	Gram(GM)	13-Nov-20
0001609687	-	NORLAND OPTICAL ADHESIVE	6	Gram(GM)	13-Nov-20
0001609685	-	NORLAND OPTICAL ADHESIVE	6	Gram(GM)	13-Nov-20
0001609686	-	NORLAND OPTICAL ADHESIVE	6	Gram(GM)	13-Nov-20
0001609688	-	NORLAND OPTICAL ADHESIVE	6	Gram(GM)	13-Nov-20
0001626941	-	CAT TRANSMISSION & DRIVETRAIN OIL SAE 30	5	Gallon(GAL)	13-Nov-20
0001609783	10102-18-8	N-2 Supplement	5	Milliliter(ML)	13-Nov-20
0001609784	10102-18-8	N-2 Supplement	5	Milliliter(ML)	13-Nov-20
0001609785	10102-18-8	N-2 Supplement	5	Milliliter(ML)	13-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626920	-	Brakleen Brake Parts Cleaner	14	Ounces(OZ)	13-Nov-20
0001626921	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Gloss White (OSHA White)	12	Ounces(OZ)	13-Nov-20
0001626944	-	AW 32 HYDRAULIC FLUID	5	Ounces(OZ)	13-Nov-20
0001626945	-	AW 32 HYDRAULIC FLUID	5	Gallon(GAL)	13-Nov-20
0001609786	-	NITRIC ACID	400	Milliliter(ML)	13-Nov-20
0001626943	-	ULTRA BLACK GASKET MAKER	3.35	Ounces(OZ)	13-Nov-20
V00000741A	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	13-Nov-20
0001609787	60-11-7	Methyl Yellow indicator grade	100	Gram(GM)	13-Nov-20
V00000741B	-	WD-40 Multi-Use Product TRIGGER PRO 50 State Compliant	20	Ounces(OZ)	13-Nov-20
V00000741C	-	WD-40 Multi-Use Product TRIGGER PRO 50 State Compliant	20	Ounces(OZ)	13-Nov-20
0001609788	68-12-2	N N-DIMETHYLFORMAMIDE	1	Liters(L)	13-Nov-20
V00000741E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V00000741D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V000007425	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V000007424	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V00000742A	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V000007426	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V000007429	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V000007423	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V000007428	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V000007422	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V000007421	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V000007420	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V00000741F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V000007427	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	13-Nov-20
V00000743C	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V00000743D	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V00000743E	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000743B	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V00000743F	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007441	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V00000742F	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007442	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007443	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007444	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007445	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007440	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007435	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V00000743A	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007439	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007438	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V00000742D	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007436	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V00000742B	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007434	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007433	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007432	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007431	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007430	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V00000742E	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V00000742C	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V000007437	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	13-Nov-20
V00000744C	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Nov-20
V00000744F	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Nov-20
V00000744E	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Nov-20
V00000744D	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Nov-20
V000007448	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Nov-20
V000007449	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Nov-20
V000007447	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Nov-20
V000007446	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Nov-20
V00000744A	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Nov-20
V00000744B	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	13-Nov-20
V00000746A	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007460	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007461	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007462	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007463	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007464	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007465	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007466	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007467	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007469	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000745D	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000746B	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000746C	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000746D	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000746E	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000746F	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007468	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007458	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007450	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007451	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007452	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007453	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007454	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007455	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000745F	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007457	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000745E	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007459	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000745A	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000745B	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000745C	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007456	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007475	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007473	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007471	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007472	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007474	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Nov-20
V000007470	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	13-Nov-20
V00000747F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000748B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000748A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007489	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007488	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007487	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007486	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007485	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007484	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007483	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007482	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000748C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007480	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000748F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000747E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000747D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000747C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000747B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000747A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007479	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007478	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007477	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007476	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007481	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007499	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000748D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000749A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V00000748E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007498	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007497	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007496	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007495	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007493	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007492	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007491	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007490	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
V000007494	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	13-Nov-20
0001609789	-	Chip Quik Conductive Paint Series: CP1	5	Gram(GM)	13-Nov-20
0001609790	-	Chip Quik Conductive Paint Series: CP1	5	Gram(GM)	13-Nov-20
0001609791	-	Chip Quik Conductive Paint Series: CP1	5	Gram(GM)	13-Nov-20
0001609792	-	Chip Quik Conductive Paint Series: CP1	5	Gram(GM)	13-Nov-20
V00000749D	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	13-Nov-20
V00000749B	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	13-Nov-20
V00000749E	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	13-Nov-20
V00000749C	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	13-Nov-20
V00000749F	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	13-Nov-20
0001609793	12027-06-4	AMMONIUM IODIDE	25	Gram(GM)	13-Nov-20
V0000074A0	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Nov-20
V0000074A5	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Nov-20
V0000074A7	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Nov-20
V0000074A6	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Nov-20
V0000074A1	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000074A2	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Nov-20
V0000074A3	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Nov-20
V0000074A4	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	13-Nov-20
0001609794	50-81-7	L-ASCORBIC ACID	100	Gram(GM)	13-Nov-20
0001609795	6153-56-6	OXALIC ACID DIHYDRATE	50	Gram(GM)	13-Nov-20
0001609796	7783-85-9	FERROUS AMMONIUM SULFATE HEXAHYDRATE	25	Gram(GM)	13-Nov-20
V0000074C0	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074D7	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074C7	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074C8	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074CA	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074CC	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074CD	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074CE	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074CF	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074D0	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074D1	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074D2	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074D3	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074D4	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074C6	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074D6	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074C9	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000074D8	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074D9	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074DA	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074DB	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074DC	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074DD	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074DE	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074DF	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074E0	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074E1	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074E2	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074E3	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074BE	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074D5	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074B2	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074A8	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074A9	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074AA	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074AB	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074AC	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074AD	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074AE	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000074AF	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074CB	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074B1	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074C5	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074B3	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074B4	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074B5	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074C2	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074C4	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074B0	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074C3	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074B6	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074C1	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074BF	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074BC	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074BB	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074BA	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074B9	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074B8	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074B7	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
V0000074BD	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	13-Nov-20
0000957738	-	MOBIL DTE 24 HYDRAULIC OIL	1	Gallon(GAL)	13-Nov-20
0001609797	-	ULTIMA GOLD LLT	2.5	Liters(L)	13-Nov-20
0001609798	-	ULTIMA GOLD LLT	2.5	Liters(L)	13-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609799	-	ULTIMA GOLD LLT	2.5	Liters(L)	13-Nov-20
0001609800	-	ULTIMA GOLD LLT	2.5	Liters(L)	13-Nov-20
0001609801	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	13-Nov-20
0001609802	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	13-Nov-20
0001609803	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	13-Nov-20
0001609780	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	13-Nov-20
0001609781	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	13-Nov-20
0001609782	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	13-Nov-20
0001609804	1310-58-3	POTASSIUM HYDROXIDE	1	Kilograms(KG)	13-Nov-20
0001609805	78-79-5	ISOPRENE	500	Milliliter(ML)	13-Nov-20
0001609806	67-64-1	ACETONE	4	Liters(L)	13-Nov-20
0001609807	75-09-2	DICHLOROMETHANE	4	Liters(L)	13-Nov-20
0001609810	75-09-2	DICHLOROMETHANE	4	Liters(L)	13-Nov-20
0001609808	75-09-2	DICHLOROMETHANE	4	Liters(L)	13-Nov-20
0001609809	75-09-2	DICHLOROMETHANE	4	Liters(L)	13-Nov-20
0001609811	-	M-BOND AE-10 ADHESIVE KIT	75	Gram(GM)	13-Nov-20
0001609814	-	M-BOND AE-10 ADHESIVE KIT	75	Gram(GM)	13-Nov-20
0001609813	-	M-BOND AE-10 ADHESIVE KIT	75	Gram(GM)	13-Nov-20
0001609815	-	M-BOND AE-10 ADHESIVE KIT	75	Gram(GM)	13-Nov-20
0001609812	-	M-BOND AE-10 ADHESIVE KIT	75	Gram(GM)	13-Nov-20
0001435572	-	Blue Monster PTFE Pipe Thread Sealant	16	Ounces(OZ)	13-Nov-20
0001435573	-	Blue Monster PTFE Pipe Thread Sealant	16	Ounces(OZ)	13-Nov-20
0001435571	-	Mainline PVC Clear Medium Bodied Low VOC Solvent Cement	1	Quarts(QT)	13-Nov-20
0000887058	-	353ND PART B	250	Milliliter(ML)	13-Nov-20
0001322627	-	ROSIN FLUX	4.2	Ounces(OZ)	13-Nov-20
0000957739	-	Loctite 603 Retaining Compound Press Fit	0.34	Ounces(OZ)	13-Nov-20
0000957740	-	LOCTITE 242 THREADLOCKER	0.2	Ounces(OZ)	13-Nov-20
0000957741	-	BIPAX TRA-BOND BA-F1123SC	2.5	Gram(GM)	13-Nov-20
0000957742	-	BIPAX TRA-BOND BA-F1123SC	2.5	Gram(GM)	13-Nov-20
0000957745	-	BIPAX TRA-BOND BA-F1123SC	2.5	Gram(GM)	13-Nov-20
0000957744	-	BIPAX TRA-BOND BA-F1123SC	2.5	Gram(GM)	13-Nov-20
0000957743	-	BIPAX TRA-BOND BA-F1123SC	2.5	Gram(GM)	13-Nov-20
0001327820	-	BORON CARBIDE STANDARD	24	Ounces(OZ)	13-Nov-20
0001609816	7697-37-2	NITRIC ACID	500	Milliliter(ML)	13-Nov-20
0001609817	67-63-0	2-PROPANOL	4	Liters(L)	13-Nov-20
0001609819	67-63-0	2-PROPANOL	4	Liters(L)	13-Nov-20
0001609820	67-63-0	2-PROPANOL	4	Liters(L)	13-Nov-20
0001609818	67-63-0	2-PROPANOL	4	Liters(L)	13-Nov-20
0001609821	67-63-0	ISOPROPANOL REAGENT ACS	4	Liters(L)	13-Nov-20
0001609824	67-63-0	ISOPROPANOL REAGENT ACS	4	Liters(L)	13-Nov-20
0001609823	67-63-0	ISOPROPANOL REAGENT ACS	4	Liters(L)	13-Nov-20
0001609822	67-63-0	ISOPROPANOL REAGENT ACS	4	Liters(L)	13-Nov-20
0001609825	1313-97-9	Neodymium(III) oxide REacton	10	Gram(GM)	13-Nov-20
0001609826	112926-00-8	Silica gel spherical	100	Gram(GM)	13-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609827	112926-00-8	Silica gel spherical	100	Gram(GM)	13-Nov-20
0001609828	-	EPO-TEK 301-2FL-T Part A EPO-TEK 301-2FL-T Part B - KIT	1	Pounds(LB)	13-Nov-20
0001609829	-	EPO-TEK 301-2FL-T Part A EPO-TEK 301-2FL-T Part B - KIT	1	Pounds(LB)	13-Nov-20
0001609830	105-20-4	2-(1H-Pyrazol-3-yl)-ethylamine	1	Gram(GM)	13-Nov-20
0001609831	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609845	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609838	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609846	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609836	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609844	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609841	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609843	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609839	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609842	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609837	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609834	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609833	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609832	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609835	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609840	-	Ammonia TNTplus HR	250	Milliliter(ML)	13-Nov-20
0001609847	10361-82-7	SAMARIUM TRICHLORIDE	25	Gram(GM)	13-Nov-20
0001609848	10099-66-8	LUTETIUM (III) CHLORIDE	1	Gram(GM)	13-Nov-20
0001609849	7727-54-0	AMMONIUM PERSULFATE	500	Gram(GM)	13-Nov-20
0001609850	86112-79-0	1-Pyrenemethyl methacrylate	1	Gram(GM)	13-Nov-20
0001609851	-	Diamond Powder GMM 10-20	200	Gram(GM)	13-Nov-20
0001609852	-	Diamond Powder GMM 10-20	200	Gram(GM)	13-Nov-20
0001609853	939-54-8	2-bromoethylbenzoate	5	Gram(GM)	13-Nov-20
0001609854	6289-46-9	Dimethyl 1 4-Cyclohexanedione-2 5-dicarboxylate	1	Kilograms(KG)	13-Nov-20
0001609855	32503-27-8	TETRABUTYLAMMONIUM HYDROGEN SULFATE	1	Kilograms(KG)	13-Nov-20
0001609856	-	TITANIUM NANOPARTICLE	25	Gram(GM)	13-Nov-20
0001609857	-	TITANIUM NANOPARTICLE	25	Gram(GM)	13-Nov-20
0001568011	-	MOBILGREASE XHP 222 SPECIAL	13.7	Ounces(OZ)	16-Nov-20
0001568012	-	MOBILGREASE XHP 222 SPECIAL	13.7	Ounces(OZ)	16-Nov-20
V0000074F6	-	Excelsior ASD-800	2	Gallon(GAL)	16-Nov-20
V0000074F9	-	Excelsior ASD-800	2	Gallon(GAL)	16-Nov-20
V0000074F8	-	Excelsior ASD-800	2	Gallon(GAL)	16-Nov-20
V0000074F7	-	Excelsior ASD-800	2	Gallon(GAL)	16-Nov-20
0001640527	-	THREAD LOCKER	8	Ounces(OZ)	16-Nov-20
0001640528	-	THREAD LOCKER	8	Ounces(OZ)	16-Nov-20
0001640529	-	THREAD LOCKER	8	Ounces(OZ)	16-Nov-20
0001568043	-	MOBILGREASE XHP 222 SPECIAL	13.7	Ounces(OZ)	16-Nov-20
0001568046	-	MOBILGREASE XHP 222 SPECIAL	13.7	Ounces(OZ)	16-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568044	-	MOBILGREASE XHP 222 SPECIAL	13.7	Ounces(OZ)	16-Nov-20
0001568045	-	MOBILGREASE XHP 222 SPECIAL	13.7	Ounces(OZ)	16-Nov-20
0001423655	-	INSTAND BONDING ADHESIVE	1	Ounces(OZ)	16-Nov-20
0001423657	-	INSTAND BONDING ADHESIVE	1	Ounces(OZ)	16-Nov-20
0001423658	-	INSTAND BONDING ADHESIVE	1	Ounces(OZ)	16-Nov-20
0001423659	-	INSTAND BONDING ADHESIVE	1	Ounces(OZ)	16-Nov-20
0001423656	-	INSTAND BONDING ADHESIVE	1	Ounces(OZ)	16-Nov-20
0001423660	-	ADHESIVE SEALANT	50	Milliliter(ML)	16-Nov-20
0001423661	-	ADHESIVE SEALANT	50	Milliliter(ML)	16-Nov-20
0001423665	-	ADHESIVE SEALANT	50	Milliliter(ML)	16-Nov-20
0001423662	-	ADHESIVE SEALANT	50	Milliliter(ML)	16-Nov-20
0001423664	-	ADHESIVE SEALANT	50	Milliliter(ML)	16-Nov-20
0001423663	-	ADHESIVE SEALANT	50	Milliliter(ML)	16-Nov-20
0001423666	-	ADHESIVE SEALANT	50	Milliliter(ML)	16-Nov-20
0001423667	-	ADHESIVE SEALANT	50	Milliliter(ML)	16-Nov-20
0001423668	-	ADHESIVE SEALANT	50	Milliliter(ML)	16-Nov-20
0001423669	-	ADHESIVE SEALANT	50	Milliliter(ML)	16-Nov-20
0001420768	74-98-6	PROPANE	14.1	Ounces(OZ)	16-Nov-20
0001420770	74-98-6	PROPANE	14.1	Ounces(OZ)	16-Nov-20
0001420769	74-98-6	PROPANE	14.1	Ounces(OZ)	16-Nov-20
0001420777	74-98-6	PROPANE	14.1	Ounces(OZ)	16-Nov-20
0001420776	74-98-6	PROPANE	14.1	Ounces(OZ)	16-Nov-20
0001568047	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568081	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568095	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568082	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568100	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568099	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568098	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568097	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568096	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568094	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568080	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568113	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568079	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568077	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568083	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568101	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568076	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568078	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568075	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568048	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568067	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568068	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568069	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568070	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568071	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568072	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568065	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568074	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568064	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568087	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568088	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568089	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568090	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568091	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568092	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568093	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568073	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568056	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568085	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568086	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568049	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568050	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568051	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568052	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568053	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568066	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568055	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568084	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568057	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568058	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568059	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568060	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568061	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568062	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568063	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568054	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568103	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568104	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568105	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568106	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568107	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568108	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568109	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568110	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568111	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568112	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568102	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20
0001568114	-	PSX 700 CURE	0.2	Gallon(GAL)	16-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568115	-	Amerlock Sealer HRD	1	Gallon(GAL)	16-Nov-20
0001568116	-	Amerlock Sealer HRD	1	Gallon(GAL)	16-Nov-20
0001568117	-	Amerlock Sealer HRD	1	Gallon(GAL)	16-Nov-20
V0000074FE	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	16-Nov-20
V000007503	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	16-Nov-20
V000007502	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	16-Nov-20
V000007501	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	16-Nov-20
V000007500	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	16-Nov-20
V0000074FD	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	16-Nov-20
V0000074FC	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	16-Nov-20
V0000074FB	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	16-Nov-20
V0000074FA	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	16-Nov-20
V0000074FF	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	16-Nov-20
0001458414	-	SILVER EPOXY CONDUCTIVE	19	Gram(GM)	16-Nov-20
0001458405	-	SILVER EPOXY CONDUCTIVE	19	Gram(GM)	16-Nov-20
V000007519	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000751A	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000751B	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000751C	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000751D	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000751E	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000751F	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007520	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007522	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007518	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007525	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007521	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007526	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007527	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007528	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007529	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000752A	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000752B	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007524	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007508	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007523	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007517	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007504	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007505	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007507	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007509	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000750A	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000750B	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000750C	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007513	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007516	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007506	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000750D	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007514	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007515	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007512	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007511	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V000007510	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000750F	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
V00000750E	-	PSX 700 pearl gray resin	1	Gallon(GAL)	16-Nov-20
0001568118	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	16-Nov-20
0001568119	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	16-Nov-20
0001568120	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	16-Nov-20
0001568121	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	16-Nov-20
0001568122	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	16-Nov-20
0001568123	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	16-Nov-20
0001568124	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	16-Nov-20
0001568125	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	16-Nov-20
V000007535	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V00000753B	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V00000753D	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V00000753C	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007536	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V00000753A	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007537	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007538	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007543	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007534	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V00000752E	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007539	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007533	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007532	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007531	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007530	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V00000752F	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V00000753E	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V00000753F	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007540	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007542	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V00000752D	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V00000752C	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
V000007541	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	16-Nov-20
0001646491	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
V00000754F	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V00000755A	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007559	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007558	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007557	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007556	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007555	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007554	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007553	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007552	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V00000755B	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007550	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V00000754D	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V00000754E	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V00000754C	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007545	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V00000754A	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007549	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007548	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007547	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007546	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007544	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V000007551	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
V00000754B	-	Avalon Premium 100% Acrylic Interior Semi-Gloss W/B	121.6	Ounces(OZ)	16-Nov-20
0001646504	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646492	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646493	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646494	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646495	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646496	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646497	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646499	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646502	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646500	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646517	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646518	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646510	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646515	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646512	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646511	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646520	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646505	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646506	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001646507	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646508	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646509	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	16-Nov-20
0001646521	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	16-Nov-20
0001646522	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	16-Nov-20
0001646526	-	STANDARD GRAY SPRAY ENAMEL	12	Ounces(OZ)	16-Nov-20
0001568126	-	PSX 700 SAFETY YELLOW 1979 RESIN	0.68	Gallon(GAL)	16-Nov-20
0001568133	-	PSX 700 SAFETY YELLOW 1979 RESIN	0.68	Gallon(GAL)	16-Nov-20
0001568132	-	PSX 700 SAFETY YELLOW 1979 RESIN	0.68	Gallon(GAL)	16-Nov-20
0001568134	-	PSX 700 SAFETY YELLOW 1979 RESIN	0.68	Gallon(GAL)	16-Nov-20
0001568130	-	PSX 700 SAFETY YELLOW 1979 RESIN	0.68	Gallon(GAL)	16-Nov-20
0001568129	-	PSX 700 SAFETY YELLOW 1979 RESIN	0.68	Gallon(GAL)	16-Nov-20
0001568131	-	PSX 700 SAFETY YELLOW 1979 RESIN	0.68	Gallon(GAL)	16-Nov-20
0001568135	-	PSX 700 SAFETY YELLOW 1979 RESIN	0.68	Gallon(GAL)	16-Nov-20
0001568127	-	PSX 700 SAFETY YELLOW 1979 RESIN	0.68	Gallon(GAL)	16-Nov-20
0001568128	-	PSX 700 SAFETY YELLOW 1979 RESIN	0.68	Gallon(GAL)	16-Nov-20
0001626952	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626951	-	Valvoline AW 32 HYDRAULIC OIL	5	Gallon(GAL)	16-Nov-20
0001626950	-	Valvoline AW 32 HYDRAULIC OIL	5	Gallon(GAL)	16-Nov-20
0001626956	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626958	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626953	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626955	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626957	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626960	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626961	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626954	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626962	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626963	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626964	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001626959	-	Antifreeze/Coolant	1	Gallon(GAL)	16-Nov-20
0001609689	Multi	Buffer pH 4.01 (Pink)	500	Milliliter(ML)	16-Nov-20
1646622	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646623	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646621	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646620	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646619	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646624	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646613	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646612	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646625	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646614	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646617	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
1646616	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646615	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646618	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
1646626	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	17-Nov-20
0001435553	-	Blue Monster PTFE Pipe Thread Sealant	16	Ounces(OZ)	17-Nov-20
0001435554	-	Blue Monster PTFE Pipe Thread Sealant	16	Ounces(OZ)	17-Nov-20
0001435536	-	Blue Monster PTFE Pipe Thread Sealant	16	Ounces(OZ)	17-Nov-20
0001435545	-	Blue Monster PTFE Pipe Thread Sealant	16	Ounces(OZ)	17-Nov-20
0001435558	-	Hercules PVC plastic pipe cement (clear med body med set)	1	Quarts(QT)	17-Nov-20
0001435547	-	HERCULES PVC CEMENT CLEAR MEDIUM BODY MEDIUM AND FAST SET	1	Quarts(QT)	17-Nov-20
0001435546	-	PVC PURPLE PRIMER	1	Quarts(QT)	17-Nov-20
0001435548	-	PLUMBERS CAULK	6	Ounces(OZ)	17-Nov-20
0001435549	-	PLUMBERS CAULK	6	Ounces(OZ)	17-Nov-20
0001568136	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568144	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568145	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568147	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568143	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568142	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568141	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568140	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568139	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568138	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568137	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001568146	-	Amerlock Sealer HRD	1	Gallon(GAL)	17-Nov-20
0001435579	-	NOKORODE AQUA FLUX	16	Ounces(OZ)	17-Nov-20
0001568149	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	17-Nov-20
0001568148	-	PSX 700 WHITE RESIN	0.8	Gallon(GAL)	17-Nov-20
0001435575	-	Bridgit Lead Free Solder	1	Pounds(LB)	17-Nov-20
0001435576	-	Megaloc	1	Pint(PT)	17-Nov-20
0001435577	-	Megaloc	1	Pint(PT)	17-Nov-20
0001568150	-	PSX 700 Black Resin	0.8	Gallon(GAL)	17-Nov-20
0001568152	-	PSX 700 Black Resin	0.8	Gallon(GAL)	17-Nov-20
0001568151	-	PSX 700 Black Resin	0.8	Gallon(GAL)	17-Nov-20
0001568153	-	PSX 700 Black Resin	0.8	Gallon(GAL)	17-Nov-20
V00000756E	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	17-Nov-20
0001435557	-	Rectorseek Low-Temp Leak Detector	1	Gallon(GAL)	17-Nov-20
0001568154	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568155	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568162	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568163	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568164	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568160	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568159	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568158	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568161	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568156	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568165	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568157	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	17-Nov-20
0001568166	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	17-Nov-20
0001568167	-	Zinsser BULLS EYE 1-2-3	5	Gallon(GAL)	17-Nov-20
0001568168	-	M-1 Paint/Colorant Hardener	5	Gallon(GAL)	17-Nov-20
0001568170	-	M-1 Paint/Colorant Hardener	5	Gallon(GAL)	17-Nov-20
0001568169	-	M-1 Paint/Colorant Hardener	5	Gallon(GAL)	17-Nov-20
0001568171	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568183	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568182	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568181	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568180	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568179	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568178	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568177	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568176	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568175	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568174	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568173	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568172	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568184	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568185	-	AMERLOCK SEALER CLEAR BASE	1	Gallon(GAL)	17-Nov-20
0001568186	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	17-Nov-20
0001568189	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	17-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568187	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	17-Nov-20
0001568188	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	17-Nov-20
0001568190	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	17-Nov-20
0001568191	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	17-Nov-20
0001568193	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	17-Nov-20
0001568194	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	17-Nov-20
0001568195	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	17-Nov-20
0001568192	-	SHEETROCK Brand PLUS 3 Lightweight All Purpose Joint Compound Ready-Mixed	4.5	Gallon(GAL)	17-Nov-20
0001568196	-	Chemsafe Clear	5	Gallon(GAL)	17-Nov-20
0001568199	-	Chemsafe Clear	5	Gallon(GAL)	17-Nov-20
0001568198	-	Chemsafe Clear	5	Gallon(GAL)	17-Nov-20
0001568197	-	Chemsafe Clear	5	Gallon(GAL)	17-Nov-20
V000007570	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	17-Nov-20
V00000756F	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	17-Nov-20
V000007573	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V000007572	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V000007571	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V000007574	-	Signature Series 5080 Pressure Sensitive Adhesive	4.5	Gallon(GAL)	17-Nov-20
V000007576	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V00000757C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V000007577	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V000007575	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V000007579	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V00000757B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V00000757D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V00000757E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V00000757F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V000007580	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V000007578	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V00000757A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	17-Nov-20
V000007591	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007588	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007593	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007592	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007590	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V00000758F	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V00000758E	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V00000758D	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V00000758C	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V00000758B	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007589	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007594	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007587	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007586	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007585	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007584	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007583	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007582	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V000007581	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
V00000758A	-	Alex Plus Acrylic Latex Caulk Plus Silicone - All Colors	10.1	Ounces(OZ)	17-Nov-20
0001435551	-	Duck Butter Pipe Lubricant	2	Pounds(LB)	17-Nov-20
0001435552	-	Duck Butter Pipe Lubricant	2	Pounds(LB)	17-Nov-20
0001609690	Multi	Buffer pH 4.01 (Pink)	500	Milliliter(ML)	17-Nov-20
0001609859	141-78-6	ETHYL ACETATE	4	Liters(L)	17-Nov-20
0001609858	141-78-6	ETHYL ACETATE	4	Liters(L)	17-Nov-20
0001609860	141-78-6	ETHYL ACETATE	4	Liters(L)	17-Nov-20
0001609861	141-78-6	ETHYL ACETATE	4	Liters(L)	17-Nov-20
0001609862	67-66-3	CLOROFORM CERTIFIED ACS	4	Liters(L)	17-Nov-20
0001609864	67-66-3	CLOROFORM CERTIFIED ACS	4	Liters(L)	17-Nov-20
0001609863	67-66-3	CLOROFORM CERTIFIED ACS	4	Liters(L)	17-Nov-20
0001609865	67-66-3	CLOROFORM CERTIFIED ACS	4	Liters(L)	17-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609866	-	DESS-MARTIN PERIODINANE	10	Gram(GM)	17-Nov-20
0001609867	7783-64-4	ZIRCONIUM FLUORIDE	25	Gram(GM)	17-Nov-20
0001609868	7783-64-4	ZIRCONIUM FLUORIDE	25	Gram(GM)	17-Nov-20
0001609869	13463-67-7	TITANIUM (IV) OXIDE	1	Kilograms(KG)	17-Nov-20
0001609870	-	POLY(4-STYRENESULFONIC ACID) 18% SOLUTION	100	Gram(GM)	17-Nov-20
0001609871	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	17-Nov-20
0001609872	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	17-Nov-20
0001626949	-	Valvoline AW 32 HYDRAULIC OIL	5	Gallon(GAL)	17-Nov-20
0001626946	-	CRC QD ELECTRONIC CLEANER	11	Ounces(OZ)	17-Nov-20
0001626947	-	Motorcraft MERCON LV ATF	1	Quarts(QT)	17-Nov-20
0001626948	-	Motorcraft MERCON LV ATF	1	Quarts(QT)	17-Nov-20
V000007599	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Nov-20
V00000759A	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Nov-20
V000007597	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Nov-20
V000007595	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Nov-20
V000007598	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Nov-20
V000007596	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	17-Nov-20
0001609873	-	10 ug/mL Mercury	30	Milliliter(ML)	17-Nov-20
0001609874	26023-84-7	Chloroplatinic acid hydrate	5	Gram(GM)	17-Nov-20
0001656346	7440-59-7	HELIUM GAS	100	Liters(L)	17-Nov-20
0001656347	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656373	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656364	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656365	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656366	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656367	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656368	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656369	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656370	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656372	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656374	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656349	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656375	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656363	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656371	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656355	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656350	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656351	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656352	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656354	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656362	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656356	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656357	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656358	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656359	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656360	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656361	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656353	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	17-Nov-20
0001656348	-	OXYGEN COMPRESSED GAS	20	Cubic Feet(CF)	17-Nov-20
0001656376	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656381	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656377	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656380	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656382	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656383	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656384	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656385	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656386	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656387	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656388	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656389	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656390	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656378	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656379	-	ARGON GAS	220	Cubic Feet(CF)	17-Nov-20
0001656391	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	17-Nov-20
0001656392	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	17-Nov-20
0001656395	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	17-Nov-20
0001656393	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	17-Nov-20
0001656394	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	17-Nov-20
0001656396	-	Compressed Air	220	Cubic Feet(CF)	17-Nov-20
0001656397	-	Compressed Air	220	Cubic Feet(CF)	17-Nov-20
0001656398	-	Compressed Air	220	Cubic Feet(CF)	17-Nov-20
0001656399	-	Compressed Air	220	Cubic Feet(CF)	17-Nov-20
0001656400	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656406	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656409	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656408	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656407	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656404	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656403	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656402	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656401	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656405	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656432	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656425	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656426	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656427	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656428	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656429	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656424	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656431	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656421	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656433	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656434	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656435	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656430	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656410	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656422	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656420	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656419	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656418	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656417	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656416	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656415	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656414	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656413	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656412	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656411	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656423	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	17-Nov-20
0001656436	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656450	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656446	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656449	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656447	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656445	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656444	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656443	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656442	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656441	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656440	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656439	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656438	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656437	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656448	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656479	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656478	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001656477	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	17-Nov-20
0001609877	-	DOW CORNING 732 RTV ADHESIVE SEALANT CLEAR	3	Ounces(OZ)	17-Nov-20
0001609878	-	DOW CORNING 732 RTV ADHESIVE SEALANT CLEAR	3	Ounces(OZ)	17-Nov-20
0001656451	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001609879	-	INSTRUMENT CALIBRATION STANDARD 2	125	Milliliter(ML)	17-Nov-20
0001656456	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656463	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656462	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656461	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656460	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656459	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656457	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656467	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656455	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656453	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656458	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656464	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656466	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656452	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656468	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656469	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656470	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656471	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656472	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656473	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656474	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656475	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656476	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656465	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001656454	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	17-Nov-20
0001609880	-	INSTRUMENT CHECK STANDARD 4	125	Milliliter(ML)	17-Nov-20
0001656480	630-08-0	CARBON MONOXIDE	44	Liters(L)	17-Nov-20
0001656481	630-08-0	CARBON MONOXIDE	44	Liters(L)	17-Nov-20
0001656482	-	Ammonia bal Hydrogen	131	Cubic Feet(CF)	17-Nov-20
0001656483	-	HYDROGEN GAS	100	Liters(L)	17-Nov-20
0001656488	-	HYDROGEN GAS	100	Liters(L)	17-Nov-20
0001656487	-	HYDROGEN GAS	100	Liters(L)	17-Nov-20
0001656486	-	HYDROGEN GAS	100	Liters(L)	17-Nov-20
0001656485	-	HYDROGEN GAS	100	Liters(L)	17-Nov-20
0001656484	-	HYDROGEN GAS	100	Liters(L)	17-Nov-20
0001656489	7440-59-7	HELIUM GAS	0.1	Kilograms(KG)	17-Nov-20
0001656490	7440-59-7	HELIUM GAS	0.1	Kilograms(KG)	17-Nov-20
0001656491	7727-37-9	NITROGEN GAS	103	Liters(L)	17-Nov-20
0001656492	-	ZERO AIR	103	Liters(L)	17-Nov-20
0001609881	-	CELVASEAL	2	Ounces(OZ)	17-Nov-20
0001609884	-	CELVASEAL	2	Ounces(OZ)	17-Nov-20
0001609882	-	CELVASEAL	2	Ounces(OZ)	17-Nov-20
0001609883	-	CELVASEAL	2	Ounces(OZ)	17-Nov-20
0001609888	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	17-Nov-20
0001609889	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	17-Nov-20
0001609890	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	17-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609891	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	17-Nov-20
0001609892	78-93-3	METHYL ETHYL KETONE	4	Liters(L)	17-Nov-20
0001609894	78-93-3	METHYL ETHYL KETONE	4	Liters(L)	17-Nov-20
0001609895	78-93-3	METHYL ETHYL KETONE	4	Liters(L)	17-Nov-20
0001609893	78-93-3	METHYL ETHYL KETONE	4	Liters(L)	17-Nov-20
0001609896	67-64-1	ACETONE	4	Liters(L)	17-Nov-20
0001609897	67-64-1	ACETONE	4	Liters(L)	17-Nov-20
0001609898	67-64-1	ACETONE	4	Liters(L)	17-Nov-20
0001609899	67-64-1	ACETONE	4	Liters(L)	17-Nov-20
0001609900	-	Neosaxitoxin solution	0.5	Milliliter(ML)	17-Nov-20
0001609901	-	Neosaxitoxin solution	0.5	Milliliter(ML)	17-Nov-20
0001609875	-	CONDUCTIVITY STANDARD	500	Milliliter(ML)	18-Nov-20
0001609876	7085-85-0	LOCTITE PRISM 454 ADHESIVE	3	Gram(GM)	18-Nov-20
0001592086	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	18-Nov-20
0001592087	-	Hydrochloric Acid	1	Liters(L)	18-Nov-20
0001602886	-	Hydrochloric Acid	500	Milliliter(ML)	18-Nov-20
0001602890	-	Hydrochloric Acid	500	Milliliter(ML)	18-Nov-20
0001602891	-	Hydrochloric Acid	500	Milliliter(ML)	18-Nov-20
0001602887	-	Hydrochloric Acid	500	Milliliter(ML)	18-Nov-20
0001602889	-	Hydrochloric Acid	500	Milliliter(ML)	18-Nov-20
0001602888	-	Hydrochloric Acid	500	Milliliter(ML)	18-Nov-20
0001609691	109-72-8	N-BUTYLLITHIUM	50	Milliliter(ML)	18-Nov-20
0001609692	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	18-Nov-20
0001609697	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	18-Nov-20
0001609698	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	18-Nov-20
0001609699	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	18-Nov-20
0001609700	-	Part B: EpoxAmite 103 Slow	1	Quarts(QT)	18-Nov-20
0001609694	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	18-Nov-20
0001609695	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	18-Nov-20
0001609696	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	18-Nov-20
0001609693	-	Henkel Loctite Hysol EA 9394 AERO Epoxy Adhesive Gray	50	Milliliter(ML)	18-Nov-20
0001609701	90-11-9	1-BROMONAPHTHALENE	10	Gram(GM)	18-Nov-20
0001609702	163438-09-3	1-Boc-D-nipecotic acid	5	Gram(GM)	18-Nov-20
0001609703	-	DGA RESIN	50	Gram(GM)	18-Nov-20
0001609705	993-13-5	METHYLPHOSPHONIC ACID	25	Gram(GM)	18-Nov-20
0001609706	-	Cytotoxicity Detection Kit (LDH)	46	Milliliter(ML)	18-Nov-20
0001609704	-	DGA RESIN	50	Gram(GM)	18-Nov-20
0001458103	7697-37-2	NITRIC ACID SOLUTIONS	2.5	Liters(L)	18-Nov-20
0001458104	7732-18-5	Distilled Water	4	Liters(L)	18-Nov-20
0001458105	7732-18-5	Distilled Water	4	Liters(L)	18-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001458106	-	ESI Positive Calibration Solution	100	Microliter	18-Nov-20
0001458107	-	ESI Positive Calibration Solution	100	Microliter	18-Nov-20
0001458108	7732-18-5	HPLC WATER	4	Liters(L)	18-Nov-20
0001458112	109-99-9	TETRAHYDROFURAN	4	Liters(L)	18-Nov-20
0001458113	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	18-Nov-20
0001458114	67-64-1	ACETONE (DIMETHYL KETONE)	4	Liters(L)	18-Nov-20
0001458115	100-97-0	HEXAMETHYLENETETRAMINE (METHENAMINE)	500	Gram(GM)	18-Nov-20
0001458116	333-20-0	POTASSIUM THIOCYANATE	100	Gram(GM)	18-Nov-20
0001458117	77-76-9	2 2-DIMETHOXYPROPANE	500	Microliter	18-Nov-20
0001458121	407-25-0	TRIFLUOROACETIC ANHYDRIDE	500	Microliter	18-Nov-20
0001458122	1464-53-5	1 3-Butadiene diepoxide	25	Gram(GM)	18-Nov-20
0001458123	1464-53-5	1 3-Butadiene diepoxide	5	Gram(GM)	18-Nov-20
0001458124	51429-74-4	PHOSPHOMOLYBDIC ACID HYDRATE (MOLYBDOPHOSPHORIC ACID)	100	Gram(GM)	18-Nov-20
0001458125	60-29-7	ETHYL ETHER (DIETHYL ETHER ETHER)	1	Liters(L)	18-Nov-20
0001458126	143-33-9	SODIUM CYANIDE	100	Gram(GM)	18-Nov-20
0001458271	7757-82-6	SODIUM SULFATE	10	Gram(GM)	18-Nov-20
0001458272	-	SODIUM HYDROSULFIDE HYDRATE	100	Gram(GM)	18-Nov-20
0001458273	2418-52-2	D-Threitol	250	Milligram(MG)	18-Nov-20
0001458276	2418-52-2	D-Threitol	250	Milligram(MG)	18-Nov-20
0001458282	2418-52-2	D-Threitol	250	Milligram(MG)	18-Nov-20
0001458281	2418-52-2	D-Threitol	250	Milligram(MG)	18-Nov-20
0001458280	2418-52-2	D-Threitol	250	Milligram(MG)	18-Nov-20
0001458279	2418-52-2	D-Threitol	250	Milligram(MG)	18-Nov-20
0001458277	2418-52-2	D-Threitol	250	Milligram(MG)	18-Nov-20
0001458275	2418-52-2	D-Threitol	250	Milligram(MG)	18-Nov-20
0001458274	2418-52-2	D-Threitol	250	Milligram(MG)	18-Nov-20
0001458278	2418-52-2	D-Threitol	250	Milligram(MG)	18-Nov-20
0001458285	5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	1	Kilograms(KG)	18-Nov-20
0001458286	108-88-3	TOLUENE	50	Milliliter(ML)	18-Nov-20
0001458287	7732-18-5	WATER HPLC GRADE	4	Liters(L)	18-Nov-20
0001609885	-	UV Formulation Epoxy 60-7170RCL	1	Quarts(QT)	18-Nov-20
0001458288	60-29-7	DIETHYL ETHER	1	Liters(L)	18-Nov-20
0001458289	1634-04-4	METHYL TERT-BUTYL ETHER	4	Liters(L)	18-Nov-20
0001458290	5061-21-2	A-BROMO-Y-BUTYROLACTONE	25	Gram(GM)	18-Nov-20
0001458291	107-11-9	ALLYLAMINE	250	Milliliter(ML)	18-Nov-20
0001458292	-	3-Amino-1 2 4-triazole	500	Gram(GM)	18-Nov-20
0001458293	-	DOW CORNING(R) HIGH VACUUM GREASE	150	Gram(GM)	18-Nov-20
0001458294	67-56-1	METHANOL	4	Liters(L)	18-Nov-20
0001458296	7732-18-5	Distilled Water	1	Liters(L)	18-Nov-20
0001458301	7732-18-5	Distilled Water	1	Liters(L)	18-Nov-20
0001458300	7732-18-5	Distilled Water	1	Liters(L)	18-Nov-20
0001458297	7732-18-5	Distilled Water	1	Liters(L)	18-Nov-20
0001458298	7732-18-5	Distilled Water	1	Liters(L)	18-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001458299	7732-18-5	Distilled Water	1	Liters(L)	18-Nov-20
0001458302	7732-18-5	Distilled Water	3.785	Liters(L)	18-Nov-20
0001458303	7732-18-5	Distilled Water	3.785	Liters(L)	18-Nov-20
0001458304	-	HYDRANAL WTR STD	80	Milliliter(ML)	18-Nov-20
0001458305	-	HYDRANAL WTR STD	80	Milliliter(ML)	18-Nov-20
0001458306	-	HYDRANAL WATER STANDARD 1.00	40	Milliliter(ML)	18-Nov-20
0001458308	-	HYDRANAL WATER STANDARD 1.00	40	Milliliter(ML)	18-Nov-20
0001458307	-	HYDRANAL WATER STANDARD 1.00	40	Milliliter(ML)	18-Nov-20
0001458330	-	System 2000 Epoxy Resin	8	Pounds(LB)	18-Nov-20
V0000075B4	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075B0	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075AA	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075B3	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075B2	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075B1	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075AF	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075AE	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075AD	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075AB	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075B5	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075AC	-	Parts Plus SAE 5W-30 SYNTHETIC MOTOR OIL P3501	1	Quarts(QT)	18-Nov-20
V0000075C8	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075CD	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075CC	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075CB	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075CA	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075C9	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075C1	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075B6	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075B7	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075B8	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075B9	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075BA	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000075BB	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075C0	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075BD	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075C7	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075BE	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075C2	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075C3	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075C4	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075C5	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075C6	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075BC	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
V0000075BF	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	18-Nov-20
0001458331	-	EPOXY RESIN	9	Pounds(LB)	18-Nov-20
V0000075DB	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075E6	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075E5	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075E4	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075E3	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075E2	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075E1	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075E0	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075DF	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075DE	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075E7	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075DC	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075D3	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075DA	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075D9	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075D8	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075D7	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075D6	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075D5	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075D4	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075D2	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075DD	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075EF	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075CF	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075CE	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075E8	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075D0	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075F0	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075EE	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075ED	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000075EC	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075EB	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075D1	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075EA	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075E9	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
V0000075F1	-	Parts Plus 5W-20 Prem Semi Syn	1	Quarts(QT)	18-Nov-20
0001458332	-	60 MINUTE EPOXY CURE	8	Pounds(LB)	18-Nov-20
0001458333	-	HYDRAULIC FLUID	500	Milliliter(ML)	18-Nov-20
V000007606	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V000007600	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075FD	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075FE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075FF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V000007601	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V000007602	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075FC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075F9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V000007603	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V000007604	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075FA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075F7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V000007605	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075F8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075FB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075F6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075F5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075F4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075F3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V0000075F2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	18-Nov-20
V000007607	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	18-Nov-20
V000007608	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	18-Nov-20
V000007609	-	PARTS PLUS ANTIFREEZE & COOLANT	1	Gallon(GAL)	18-Nov-20
V00000760A	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	18-Nov-20
0001458309	123-39-7	HYDRANAL COULOMAT CG-K	50	Milliliter(ML)	18-Nov-20
0001458310	-	HYDRANAL WATER STD 1.0	40	Milliliter(ML)	18-Nov-20
0001458311	-	HYDRANAL WATER STD 0.1	40	Milliliter(ML)	18-Nov-20
0001458312	-	HYDRANAL WATER STD 0.1	40	Milliliter(ML)	18-Nov-20
V00000760B	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	18-Nov-20
V00000760C	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	18-Nov-20
V00000760D	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	18-Nov-20
V00000760E	-	Parts Plus ATF - Dexron-III/Mercon	1	Quarts(QT)	18-Nov-20
0001458313	-	AQUATEST WATER STANDARD	80	Milliliter(ML)	18-Nov-20
0001458314	109-63-7	BORON TRIFLUORIDE ETHERATE	800	Milliliter(ML)	18-Nov-20
0001458315	1066-54-2	TRIMETHYLSILYLACETYLENE 98%	25	Milliliter(ML)	18-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001458316	-	TRIFLUROACETIC ANHYDRIDE	500	Milliliter(ML)	18-Nov-20
0001458317	937-14-4	M-CHLOROPEROXYBENZOIC ACID	500	Gram(GM)	18-Nov-20
0001458318	504-63-2	1 3-PROPANEDIOL	250	Gram(GM)	18-Nov-20
0001458319	7757-79-1	POTASSIUM NITRATE	5.55	Kilograms(KG)	18-Nov-20
0001458320	372-09-8	CYANOACETIC ACID	500	Gram(GM)	18-Nov-20
0001458322	26628-22-8	SODIUM AZIDE	100	Gram(GM)	18-Nov-20
0001458323	26628-22-8	SODIUM AZIDE	100	Gram(GM)	18-Nov-20
0001458324	10099-74-8	LEAD NITRATE	1	Pounds(LB)	18-Nov-20
0001458325	10588-01-9	SODIUM DICHROMATE	500	Gram(GM)	18-Nov-20
0001458326	26628-22-8	SODIUM AZIDE	1	Pounds(LB)	18-Nov-20
0001458327	57-14-7	1 1-DIMETHYLHYDRAZINE	500	Gram(GM)	18-Nov-20
0001458328	-	60 MINUTE EPOXY CURE	8	Pounds(LB)	18-Nov-20
0001458329	-	EPOXY RESIN	9	Pounds(LB)	18-Nov-20
0001458295	-	HALOCARBON OIL SERIES 27	30	Gram(GM)	18-Nov-20
0001458321	-	BIS-(2 2-DINITROPROPYL) ACETAL/FORMAL	300	Gram(GM)	18-Nov-20
0001458283	17220-38-1	3 4-DIAMINOFURAZAN	1	Kilograms(KG)	18-Nov-20
0001458284	17220-38-1	3 4-DIAMINOFURAZAN	20	Gram(GM)	18-Nov-20
0001607978	-	186 ROSIN SOLDERING FLUX TYPE RMA	10	Milliliter(ML)	19-Nov-20
0001607980	-	ROSIN FLUX PEN	10	Milliliter(ML)	19-Nov-20
0001607988	-	ROSIN FLUX PEN	10	Milliliter(ML)	19-Nov-20
0001607987	-	ROSIN FLUX PEN	10	Milliliter(ML)	19-Nov-20
0001607985	-	ROSIN FLUX PEN	10	Milliliter(ML)	19-Nov-20
0001607984	-	ROSIN FLUX PEN	10	Milliliter(ML)	19-Nov-20
0001607983	-	ROSIN FLUX PEN	10	Milliliter(ML)	19-Nov-20
0001607986	-	ROSIN FLUX PEN	10	Milliliter(ML)	19-Nov-20
0001607981	-	ROSIN FLUX PEN	10	Milliliter(ML)	19-Nov-20
0001607982	-	ROSIN FLUX PEN	10	Milliliter(ML)	19-Nov-20
V000007622	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V000007628	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V00000762C	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V00000762B	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V00000762D	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V00000762A	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V000007629	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V000007626	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V000007625	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V000007623	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V000007627	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
V000007624	-	PRESTONE RV ANTIFREEZE	1	Gallon(GAL)	19-Nov-20
0001626965	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626966	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626975	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626974	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626973	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626972	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001626971	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626967	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626976	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626970	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626969	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626968	-	Prime Guard -50 RV & Marine Antifreeze	1	Gallon(GAL)	19-Nov-20
0001626977	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626983	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626978	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626979	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626980	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626982	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626984	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626985	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626986	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626987	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626988	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626981	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	19-Nov-20
0001626989	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Nov-20
0001626990	-	BRITE TOUCH General Purpose Spray Paint Gloss Black	10	Ounces(OZ)	19-Nov-20
0001609902	-	FULLCURE 705	4	Kilograms(KG)	19-Nov-20
0001609905	-	FULLCURE 705	4	Kilograms(KG)	19-Nov-20
0001609904	-	FULLCURE 705	4	Kilograms(KG)	19-Nov-20
0001609907	-	FULLCURE 705	4	Kilograms(KG)	19-Nov-20
0001609903	-	FULLCURE 705	4	Kilograms(KG)	19-Nov-20
0001609906	-	FULLCURE 705	4	Kilograms(KG)	19-Nov-20
0001609910	7697-37-2	NITRIC ACID	3	Liters(L)	19-Nov-20
0001609912	7697-37-2	NITRIC ACID	3	Liters(L)	19-Nov-20
0001609911	7697-37-2	NITRIC ACID	3	Liters(L)	19-Nov-20
0001609913	7697-37-2	NITRIC ACID	3	Liters(L)	19-Nov-20
0001607979	-	ROSIN FLUX PEN	10	Milliliter(ML)	19-Nov-20
0001609917	-	1-Step Ultra TMB-ELISA Substrate Solution	250	Milliliter(ML)	19-Nov-20
0001609919	-	PH BUFFER PH 1.00	500	Milliliter(ML)	19-Nov-20
0001609918	-	BUFFER SOLUTION (PH 3.00)	500	Milliliter(ML)	19-Nov-20
0001609920	-	BUFFER SOLUTION PH 9.00	500	Milliliter(ML)	20-Nov-20
0001609921	1719-57-9	Chloro(chloromethyl)dimethylsilane	25	Gram(GM)	20-Nov-20
0001609922	1719-57-9	Chloro(chloromethyl)dimethylsilane	25	Gram(GM)	20-Nov-20
0001609923	75-05-8	ACETONITRILE HPLC	2.5	Liters(L)	20-Nov-20
0001609924	-	ALUMINUM CHLORIDE	100	Gram(GM)	20-Nov-20
0001609925	-	Hocut 8640	5	Gallon(GAL)	20-Nov-20
0001609927	-	Hocut 8640	5	Gallon(GAL)	20-Nov-20
0001609926	-	Hocut 8640	5	Gallon(GAL)	20-Nov-20
0001609928	-	ALCONOX DETERGENT	4	Pounds(LB)	20-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609929	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Gallon(GAL)	20-Nov-20
0001609932	7697-37-2	NITRIC ACID	2	Liters(L)	20-Nov-20
0001609933	7697-37-2	NITRIC ACID	2	Liters(L)	20-Nov-20
0001609934	60177-39-1	AG1-8-X RESIN	500	Milliliter(ML)	20-Nov-20
0001609935	56-18-8	N-(3-Aminopropyl)-1 3-propanediamine	100	Gram(GM)	20-Nov-20
0001609936	108-91-8	CYCLOHEXYLAMINE	100	Milliliter(ML)	20-Nov-20
0001609937	590-92-1	3-BROMOPROPIONIC ACID	100	Gram(GM)	20-Nov-20
0001609938	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	20-Nov-20
0001609939	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	20-Nov-20
0123654345	-	SODIUM CHLORIDE 5M SOLUTION	1	Ounces(OZ)	20-Nov-20
0001609940	7783-64-4	ZIRCONIUM(IV) FLUORIDE	100	Gram(GM)	20-Nov-20
0001423670	-	FOAM SEALANT	1.7	Ounces(OZ)	20-Nov-20
0001423671	-	FOAM SEALANT	1.7	Ounces(OZ)	20-Nov-20
0001609941	-	MOBIL VELOCITE OIL NO. 3	55	Gallon(GAL)	20-Nov-20
0001609942	7664-38-2	PHOSPHORIC ACID 85%	500	Milliliter(ML)	20-Nov-20
0001609943	7758-19-2	SODIUM CHLORITE	250	Gram(GM)	20-Nov-20
0001609945	67-64-1	ACETONE	4	Liters(L)	20-Nov-20
0001609948	67-64-1	ACETONE	4	Liters(L)	20-Nov-20
0001609947	67-64-1	ACETONE	4	Liters(L)	20-Nov-20
0001609946	67-64-1	ACETONE	4	Liters(L)	20-Nov-20
0001609951	2370-88-9	1 3 5 7-TETRAMETHYLCYCLOTETRASILOXANE	25	Gram(GM)	20-Nov-20
0001609952	617-86-7	TRIETHYLSILANE	25	Gram(GM)	20-Nov-20
0001609953	-	DIETHYLZINC 1.0M SOLUTION IN HEPTANE	500	Gram(GM)	20-Nov-20
0001609954	67-56-1	METHANOL	4	Liters(L)	20-Nov-20
0001609955	67-56-1	METHANOL	4	Liters(L)	20-Nov-20
0001609957	67-56-1	METHANOL	4	Liters(L)	20-Nov-20
0001609956	67-56-1	METHANOL	4	Liters(L)	20-Nov-20
0001609958	-	1000 ug/mL Niobium	125	Milliliter(ML)	20-Nov-20
0001609959	-	1000 ug/mL Uranium	125	Milliliter(ML)	20-Nov-20
0001609960	-	CALIBRATION STANDARD IV-STOCK-35	125	Milliliter(ML)	20-Nov-20
0001609961	-	CALIBRATION STANDARD IV-STOCK-23	500	Milliliter(ML)	20-Nov-20
0001609962	-	CALIBRATION STANDARD IV-STOCK-8	125	Milliliter(ML)	20-Nov-20
0001609908	-	VeroClear RGD810	3.6	Kilograms(KG)	20-Nov-20
0001609909	-	VeroClear RGD810	3.6	Kilograms(KG)	20-Nov-20
0001609916	25182-84-7	3-nitropropan-1-ol	5	Gram(GM)	20-Nov-20
0001609914	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	20-Nov-20
0001609915	21211-65-4	2 2'-Dipyrrolylmethane	1	Gram(GM)	20-Nov-20
0001609944	-	Collagen Type I-FITC Conjugate from bovine skin	10	Microliter	20-Nov-20
0001592088	-	GelGreen Nucleic Acid Stain	0.5	Milliliter(ML)	20-Nov-20
0001609707	75-31-0	ISOPROPYLAMINE	25	Milliliter(ML)	20-Nov-20
0001609949	5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	100	Gram(GM)	20-Nov-20
0001609950	5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	100	Gram(GM)	20-Nov-20
0001609963	-	Hydrochloric Acid	500	Milliliter(ML)	20-Nov-20
0001609966	-	Hydrochloric Acid	500	Milliliter(ML)	20-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609965	-	Hydrochloric Acid	500	Milliliter(ML)	20-Nov-20
0001609964	-	Hydrochloric Acid	500	Milliliter(ML)	20-Nov-20
0001609967	75-77-4	CHLOROTRIMETHYLSILANE (TRIMETHYLCHLOROSILANE)	25	Milliliter(ML)	20-Nov-20
0001609968	75-77-4	CHLOROTRIMETHYLSILANE (TRIMETHYLCHLOROSILANE)	25	Milliliter(ML)	20-Nov-20
0001609969	16219-75-3	5-Ethylidene-2-norbornene	2	Liters(L)	20-Nov-20
0001609971	27607-77-8	TRIMETHYLSILYLTRIFLUOROMETHANESULFONATE	10	Gram(GM)	20-Nov-20
0001609972	27607-77-8	TRIMETHYLSILYLTRIFLUOROMETHANESULFONATE	10	Gram(GM)	20-Nov-20
0001609973	1344-28-1	ALUMINUM OXIDE	1	Kilograms(KG)	20-Nov-20
0001609974	50-99-7	D-[+]-GLUCOSE	500	Gram(GM)	20-Nov-20
0001609975	67-66-3	CHLOROFORM	4	Liters(L)	20-Nov-20
0001609978	67-66-3	CHLOROFORM	4	Liters(L)	20-Nov-20
0001609977	67-66-3	CHLOROFORM	4	Liters(L)	20-Nov-20
0001609976	67-66-3	CHLOROFORM	4	Liters(L)	20-Nov-20
0001609979	110-86-1	PYRIDINE	2	Liters(L)	20-Nov-20
0001609980	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	20-Nov-20
0001609981	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	20-Nov-20
0001609982	79-01-6	TRICHLOROETHYLENE	4	Liters(L)	20-Nov-20
0001609983	79-01-6	TRICHLOROETHYLENE	4	Liters(L)	20-Nov-20
0001609984	-	RE RESIN	50	Gram(GM)	20-Nov-20
0001609985	-	TORR SEAL	118	Gram(GM)	20-Nov-20
0001609986	-	TORR SEAL	118	Gram(GM)	20-Nov-20
0001609987	10102-18-8	N-2 Supplement	5	Milliliter(ML)	20-Nov-20
0001609988	7681-52-9	SODIUM HYPOCHLORITE	25	Milliliter(ML)	20-Nov-20
0001609989	313-72-4	OCTAFLUORONAPHTHALENE	1	Gram(GM)	20-Nov-20
0001609990	7782-42-5	GRAPHITE	227	Gram(GM)	20-Nov-20
0001609991	7782-42-5	GRAPHITE	227	Gram(GM)	20-Nov-20
0001609992	7782-42-5	GRAPHITE	227	Gram(GM)	20-Nov-20
0001609970	-	1 2-DICHLOROPROPANE	1	Liters(L)	23-Nov-20
0001609993	61790-53-2	Filter aid Celite Standard Super-cel	500	Gram(GM)	23-Nov-20
0001609994	-	Cerium (III) bromide	5	Gram(GM)	23-Nov-20
0001539967	-	Detector Kit Chemical Agent: M256A1	12	Gram(GM)	23-Nov-20
0001568267	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568273	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568270	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568280	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568268	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568278	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568279	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568269	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568277	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568272	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568271	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568281	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568282	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568276	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568275	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568274	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	23-Nov-20
0001568234	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568256	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568257	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568255	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568254	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568253	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568252	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568250	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568249	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568248	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568247	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568246	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568251	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568240	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568245	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568243	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568242	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568237	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568238	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568241	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568235	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568239	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568258	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568244	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568236	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568259	-	PSX 700 CURE	0.2	Gallon(GAL)	23-Nov-20
0001568260	-	Amerlock Sealer HRD	1	Gallon(GAL)	23-Nov-20
0001568261	-	AMERLOCK SEALER CLEAR RESIN PART A	1	Gallon(GAL)	23-Nov-20
0001568222	-	PSX 700A Clear Coat Resin	0.83	Gallon(GAL)	23-Nov-20
0001568225	-	PSX 700A Clear Coat Resin	0.83	Gallon(GAL)	23-Nov-20
0001568224	-	PSX 700A Clear Coat Resin	0.83	Gallon(GAL)	23-Nov-20
0001568230	-	PSX 700A Clear Coat Resin	0.83	Gallon(GAL)	23-Nov-20
0001568226	-	PSX 700A Clear Coat Resin	0.83	Gallon(GAL)	23-Nov-20
0001568227	-	PSX 700A Clear Coat Resin	0.83	Gallon(GAL)	23-Nov-20
0001568228	-	PSX 700A Clear Coat Resin	0.83	Gallon(GAL)	23-Nov-20
0001568229	-	PSX 700A Clear Coat Resin	0.83	Gallon(GAL)	23-Nov-20
0001568231	-	PSX 700A Clear Coat Resin	0.83	Gallon(GAL)	23-Nov-20
0001568223	-	PSX 700A Clear Coat Resin	0.83	Gallon(GAL)	23-Nov-20
0001568232	-	Amerlock Sealer HRD	1	Gallon(GAL)	23-Nov-20
0001568233	-	Amerlock Sealer HRD	1	Gallon(GAL)	23-Nov-20
V000007639	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	23-Nov-20
V000007638	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	23-Nov-20
V000007637	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	23-Nov-20
V000007636	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	23-Nov-20
V00000763B	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	23-Nov-20
V00000763A	-	PSX 700 pearl gray resin	0.8	Gallon(GAL)	23-Nov-20
0001568212	-	PSX 700 Black Resin	0.8	Gallon(GAL)	23-Nov-20
0001568214	-	PSX 700 Black Resin	0.8	Gallon(GAL)	23-Nov-20
0001568215	-	PSX 700 Black Resin	0.8	Gallon(GAL)	23-Nov-20
0001568216	-	PSX 700 Black Resin	0.8	Gallon(GAL)	23-Nov-20
0001568217	-	PSX 700 Black Resin	0.8	Gallon(GAL)	23-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568218	-	PSX 700 Black Resin	0.8	Gallon(GAL)	23-Nov-20
0001568219	-	PSX 700 Black Resin	0.8	Gallon(GAL)	23-Nov-20
0001568220	-	PSX 700 Black Resin	0.8	Gallon(GAL)	23-Nov-20
0001568213	-	PSX 700 Black Resin	0.8	Gallon(GAL)	23-Nov-20
0001568221	-	PSX 700 Black Resin	0.8	Gallon(GAL)	23-Nov-20
V00000763D	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	23-Nov-20
V00000763F	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	23-Nov-20
V00000763C	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	23-Nov-20
V00000763E	-	FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	Ounces(OZ)	23-Nov-20
0001568262	-	Chemsafe Clear	5	Gallon(GAL)	23-Nov-20
0001568263	-	Chemsafe Clear	5	Gallon(GAL)	23-Nov-20
0001568264	-	Chemsafe Clear	5	Gallon(GAL)	23-Nov-20
0001568265	-	Chemsafe Clear	5	Gallon(GAL)	23-Nov-20
0001568266	-	Chemsafe Clear	5	Gallon(GAL)	23-Nov-20
V00000764E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V00000764D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V00000764B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V00000764A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007649	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V00000764C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V00000764F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007652	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007651	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007653	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007655	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007654	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007648	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007642	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007650	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007646	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007645	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007644	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007643	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007641	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007640	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
V000007647	-	ARDEX FEATHER FINISH	10	Pounds(LB)	23-Nov-20
0001539958	-	ZERO CHARGE ANTI-STATIC SCREEN AND KEYBOARD CLEANER	1	Milligram(MG)	23-Nov-20
0001539949	-	ZERO CHARGE ANTI-STATIC SCREEN AND KEYBOARD CLEANER	1	Ounces(OZ)	23-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001539940	-	ZERO CHARGE ANTI-STATIC SCREEN AND KEYBOARD CLEANER	1	Ounces(OZ)	23-Nov-20
0001539931	-	ZERO CHARGE ANTI-STATIC SCREEN AND KEYBOARD CLEANER	1	Ounces(OZ)	23-Nov-20
0001539922	-	ZERO CHARGE ANTI-STATIC SCREEN AND KEYBOARD CLEANER	1	Ounces(OZ)	23-Nov-20
0001539986	-	ZERO CHARGE ANTI-STATIC SCREEN AND KEYBOARD CLEANER	1	Ounces(OZ)	23-Nov-20
0001539977	-	ZERO CHARGE ANTI-STATIC SCREEN AND KEYBOARD CLEANER	1	Ounces(OZ)	23-Nov-20
0001539968	-	ZERO CHARGE ANTI-STATIC SCREEN AND KEYBOARD CLEANER	1	Ounces(OZ)	23-Nov-20
0001539959	-	ZERO CHARGE ANTI-STATIC SCREEN AND KEYBOARD CLEANER	1	Ounces(OZ)	23-Nov-20
0001539950	-	ZERO CHARGE ANTI-STATIC SCREEN AND KEYBOARD CLEANER	1	Ounces(OZ)	23-Nov-20
0001609995	13331-23-2	Furan-2-boronic acid	25	Gram(GM)	23-Nov-20
0001609996	118486-94-5	2-(Tributylstannyl)furan	25	Gram(GM)	23-Nov-20
0001609997	7783-64-4	ZIRCONIUM(IV) FLUORIDE	50	Gram(GM)	23-Nov-20
0001609998	10294-41-4	CERIUM(III) NITRATE HEXAHYDRATE	25	Gram(GM)	23-Nov-20
0001609999	-	FMOC-ALA	100	Gram(GM)	23-Nov-20
0001610000	7732-18-5	Latex beads polystyrene	2	Milliliter(ML)	23-Nov-20
0001610001	10043-52-4	CALCIUM CHLORIDE	10	Gram(GM)	23-Nov-20
0001610003	10043-52-4	CALCIUM CHLORIDE	10	Gram(GM)	23-Nov-20
0001610002	10043-52-4	CALCIUM CHLORIDE	10	Gram(GM)	23-Nov-20
0001610004	12054-85-2	AMMONIUM PARA-MOLYBDATE TETRAHYDRATE	25	Gram(GM)	23-Nov-20
0001610005	7558-80-7	SODIUM PHOSPATE MONOBASIC	100	Gram(GM)	23-Nov-20
0001610006	67-63-0	2-PROPANOL	4	Liters(L)	23-Nov-20
0001610007	67-63-0	2-PROPANOL	4	Liters(L)	23-Nov-20
0001608977	-	Elastic Resin	1	Liters(L)	24-Nov-20
0001608978	-	Elastic Resin	1	Liters(L)	24-Nov-20
0001608979	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608993	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608984	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608992	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608985	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608991	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608990	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608989	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608988	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608987	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608994	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608986	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608980	-	High Temp Resin	1	Liters(L)	24-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001608981	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608982	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001608983	-	High Temp Resin	1	Liters(L)	24-Nov-20
0001610008	7787-69-1	CESIUM BROMIDE	100	Gram(GM)	24-Nov-20
0001610009	7647-17-8	CESIUM CHLORIDE	25	Gram(GM)	24-Nov-20
0001610010	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	24-Nov-20
0001610011	7664-39-3	HYDROFLUORIC ACID OPTIMA	500	Milliliter(ML)	24-Nov-20
0001664063	-	DIESEL FUEL	1	Gallon(GAL)	24-Nov-20
0001610023	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610035	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610038	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610025	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610039	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610040	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610041	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610042	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610024	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610036	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610034	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610027	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610028	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610026	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610033	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610032	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610031	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610030	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610029	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610037	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610052	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610050	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610049	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610054	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610051	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610053	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	24-Nov-20
0001610055	-	Aquivion D83-06A	50	Milliliter(ML)	24-Nov-20
0001610056	1163733-25-2	Aquivion D83-24B	25	Milliliter(ML)	24-Nov-20
0001610057	1163733-25-2	Aquivion D83-24B	25	Milliliter(ML)	24-Nov-20
0001610058	-	Dynasolve 185	1	Quarts(QT)	24-Nov-20
0001610059	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	24-Nov-20
0001610062	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	24-Nov-20
0001610060	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	24-Nov-20
0001610061	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	24-Nov-20
0001610063	70131-67-8	POLYDIMETHYLSILOXANE SILANOL TERMINATED	15	Kilograms(KG)	24-Nov-20
0001610064	70131-67-8	POLYDIMETHYLSILOXANE SILANOL TERMINATED	15	Kilograms(KG)	24-Nov-20
0001364660	7440-55-3	GALLIUM HIGH GRADE (99.99999%)	25	Gram(GM)	24-Nov-20
0001021349	7440-74-6	INDIUM	50	Gram(GM)	24-Nov-20
0001610065	67-66-3	CHLOROFORM	2.5	Liters(L)	24-Nov-20
0001610067	67-66-3	CHLOROFORM	2.5	Liters(L)	24-Nov-20
0001610068	67-66-3	CHLOROFORM	2.5	Liters(L)	24-Nov-20
0001610066	67-66-3	CHLOROFORM	2.5	Liters(L)	24-Nov-20
0001610069	75-09-2	DICHLOROMETHANE	4	Liters(L)	24-Nov-20
0001610070	75-09-2	DICHLOROMETHANE	4	Liters(L)	24-Nov-20
0001610071	75-09-2	DICHLOROMETHANE	4	Liters(L)	24-Nov-20
0001610072	75-09-2	DICHLOROMETHANE	4	Liters(L)	24-Nov-20
0001610073	75-09-2	DICHLOROMETHANE	4	Liters(L)	24-Nov-20
0001610074	75-09-2	DICHLOROMETHANE	4	Liters(L)	24-Nov-20
0001610075	75-09-2	DICHLOROMETHANE	4	Liters(L)	24-Nov-20
0001610076	75-09-2	DICHLOROMETHANE	4	Liters(L)	24-Nov-20
0001610078	355-17-9	METHYL HEPTAFLUOROPROPYL KETONE	1	Gram(GM)	24-Nov-20
0001610079	77-92-9	CITRIC ACID	500	Gram(GM)	24-Nov-20
0001610080	39450-01-6	PROTEINASE K	100	Gram(GM)	24-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610083	39450-01-6	PROTEINASE K	100	Gram(GM)	24-Nov-20
0001610082	39450-01-6	PROTEINASE K	100	Gram(GM)	24-Nov-20
0001610081	39450-01-6	PROTEINASE K	100	Gram(GM)	24-Nov-20
0001656693	598-56-1	N N-DIMETHYLETHYLAMINE	5	Pounds(LB)	24-Nov-20
0001656493	7440-59-7	HELIUM GAS	100	Cubic Feet(CF)	24-Nov-20
0001656494	7440-59-7	HELIUM GAS	100	Cubic Feet(CF)	24-Nov-20
0001656600	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656605	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656614	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656616	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656613	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656617	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656612	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656618	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656619	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656615	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656610	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656609	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656608	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656606	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656604	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656601	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656602	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656603	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656611	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656607	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656620	-	ARGON 94% HYDROGEN 6%	220	Cubic Feet(CF)	24-Nov-20
0001656637	-	ARGON 94% HYDROGEN 6%	220	Cubic Feet(CF)	24-Nov-20
0001656638	-	ARGON 94% HYDROGEN 6%	220	Cubic Feet(CF)	24-Nov-20
0001656639	-	ARGON 94% HYDROGEN 6%	220	Cubic Feet(CF)	24-Nov-20
0001656640	-	ARGON 94% HYDROGEN 6%	220	Cubic Feet(CF)	24-Nov-20
0001656641	-	ARGON 94% HYDROGEN 6%	220	Cubic Feet(CF)	24-Nov-20
0001656642	-	ARGON 94% HYDROGEN 6%	220	Cubic Feet(CF)	24-Nov-20
0001656636	-	ARGON 94% HYDROGEN 6%	220	Cubic Feet(CF)	24-Nov-20
0001656643	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656669	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656660	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656662	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656663	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656664	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656665	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656666	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656658	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656668	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656659	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656670	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656671	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656667	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656644	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656661	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656672	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656657	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656645	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656646	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656647	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656648	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656650	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656651	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656652	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656653	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656654	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656655	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656656	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656649	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656683	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656692	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656691	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656690	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656689	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656688	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656687	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656686	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656684	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656682	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656685	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	24-Nov-20
0001656673	74-98-6	PROPANE (FUEL)	11	Gallon(GAL)	24-Nov-20
0001656495	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	24-Nov-20
0001656496	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656542	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656545	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656546	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656547	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656548	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656565	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656543	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656561	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656544	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656566	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656564	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656563	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656562	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656568	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656541	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656567	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656554	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656560	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656553	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656552	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656550	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656555	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656556	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656549	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656557	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656558	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656559	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656551	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656579	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656585	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656586	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656584	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656583	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656582	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656580	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656578	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656577	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656576	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656575	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656599	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656581	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656595	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656569	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656570	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656571	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656572	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656573	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656594	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656597	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656574	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656587	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656593	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656592	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656591	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656590	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656589	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656588	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656598	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656596	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656500	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656504	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656503	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656501	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656499	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656498	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656497	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656502	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	24-Nov-20
0001656505	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656527	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656530	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656533	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656529	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656528	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656516	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656517	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656518	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656537	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656519	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656520	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656521	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656522	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656540	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656536	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656523	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656538	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656535	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656532	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656531	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656534	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656526	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656525	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656524	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656539	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656512	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656506	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656507	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656508	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656509	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656510	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656513	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656515	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656514	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001656511	-	ARGON GAS	220	Cubic Feet(CF)	24-Nov-20
0001610084	171058-18-7	1-DECYL-3-METHYLIMIDAZOLIUM CHLORIDE	50	Gram(GM)	24-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610085	18741-85-0	(R)-(+)-1 1'-BINAPHTHYL-2 2'-DIAMINE	1	Gram(GM)	24-Nov-20
0001610086	-	Bis[(2-diisopropylphosphino]ethyl)amine	10	Milliliter(ML)	24-Nov-20
0001610089	-	Bis[(2-diisopropylphosphino]ethyl)amine	10	Milliliter(ML)	24-Nov-20
0001610088	-	Bis[(2-diisopropylphosphino]ethyl)amine	10	Milliliter(ML)	24-Nov-20
0001610087	-	Bis[(2-diisopropylphosphino]ethyl)amine	10	Milliliter(ML)	24-Nov-20
0001610090	4124-41-8	p--Toluenesulfonic anhydride	500	Gram(GM)	24-Nov-20
0001610091	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	24-Nov-20
0001610092	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	24-Nov-20
0001610093	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	24-Nov-20
0001610094	64-17-5	ALCOHOL REAGENT	1	Gallon(GAL)	24-Nov-20
0001610095	7440-10-0	PRASEODYMIUM	5	Gram(GM)	24-Nov-20
0001610096	7440-00-8	NEODYMIUM	5	Gram(GM)	24-Nov-20
0001610097	7440-52-0	ERBIUM	5	Gram(GM)	24-Nov-20
0001610098	7440-30-4	THULIUM	5	Gram(GM)	24-Nov-20
0001610099	7440-64-4	YTTERBIUM	2	Gram(GM)	24-Nov-20
0001610100	7439-94-3	LUTETIUM	1	Gram(GM)	24-Nov-20
0001610101	7440-19-9	SAMARIUM	10	Gram(GM)	24-Nov-20
0001610102	7440-53-1	EUROPIUM	1	Gram(GM)	24-Nov-20
0001610103	7440-54-2	GADOLINIUM	5	Gram(GM)	24-Nov-20
0001610104	7440-27-9	TERBIUM	5	Gram(GM)	24-Nov-20
0001610105	7429-91-6	DYSPROSIUM	5	Gram(GM)	24-Nov-20
0001610106	7440-60-0	Holmium	2	Gram(GM)	24-Nov-20
0001610012	-	CHLORINE STANDARD SOLUTION	500	Milliliter(ML)	24-Nov-20
0001610015	-	Lanthanum (10000 ug/mL in 2%HCl)	100	Milliliter(ML)	24-Nov-20
0001610017	-	Praseodymium (10 000 ug/mL in 4% HCl)	100	Milliliter(ML)	24-Nov-20
0001610018	-	Neodymium (10 000 ug/mL in 4% HCl)	100	Milliliter(ML)	24-Nov-20
0001610019	-	Samarium 10 000 ug/mL in 4% HCl	100	Milliliter(ML)	24-Nov-20
0001610020	-	Europium 10000 ug/mL in 4% HCl	100	Milliliter(ML)	24-Nov-20
0001610021	-	Yttrium (10 000ug/mL in 4%HCl)	100	Milliliter(ML)	24-Nov-20
0001610022	-	Terbium (10 000 ug/mL in 4% HCl)	100	Milliliter(ML)	24-Nov-20
0001418183	-	BLACK PAINT	12	Ounces(OZ)	25-Nov-20
0001418184	-	BLACK PAINT	12	Ounces(OZ)	25-Nov-20
0001418185	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418191	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418192	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418189	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418188	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418195	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418186	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418196	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418187	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418193	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418190	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418194	-	TAPMATIC NATURAL CUTTING FLUID	16	Ounces(OZ)	25-Nov-20
0001418197	-	DTE 25 HYDRAULIC OIL	1	Gallon(GAL)	25-Nov-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001418198	-	DTE 25 HYDRAULIC OIL	1	Gallon(GAL)	25-Nov-20
0001607989	-	ORION PH 4.01 BUFFER	475	Milliliter(ML)	30-Nov-20
0001655462	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	30-Nov-20
0001656674	74-98-6	PROPANE	11	Gallon(GAL)	30-Nov-20
0001656680	74-98-6	PROPANE	11	Gallon(GAL)	30-Nov-20
0001656675	74-98-6	PROPANE	11	Gallon(GAL)	30-Nov-20
0001656676	74-98-6	PROPANE	11	Gallon(GAL)	30-Nov-20
0001656677	74-98-6	PROPANE	11	Gallon(GAL)	30-Nov-20
0001656679	74-98-6	PROPANE	11	Gallon(GAL)	30-Nov-20
0001656681	74-98-6	PROPANE	11	Gallon(GAL)	30-Nov-20
0001656678	74-98-6	PROPANE	11	Gallon(GAL)	30-Nov-20
0001610107	41459-42-1	3-Bromo-2-(bromomethyl)propionic acid	5	Gram(GM)	30-Nov-20
0001610108	41459-42-1	3-Bromo-2-(bromomethyl)propionic acid	5	Gram(GM)	30-Nov-20
0001610109	15486-96-1	3-BROMOPROPIONYL CHLORIDE	25	Gram(GM)	30-Nov-20
0001610110	628-13-7	PYRIDINE HYDROCHLORIDE	100	Gram(GM)	30-Nov-20
0001419773	-	RP 355 RINSE AGENT	1	Gallon(GAL)	30-Nov-20
0001610111	-	ALKALINITY CACO3 CALIBRATION STANDARD	500	Milliliter(ML)	30-Nov-20
0001610112	717-74-8	1 3 5-TRIISOPROPYLBENZENE	100	Gram(GM)	30-Nov-20
0001610113	7782-63-0	FERROUS SULFATE HEPTAHYDRATE	1	Kilograms(KG)	30-Nov-20
0001610116	7783-20-2	AMMONIUM SULFATE	100	Gram(GM)	30-Nov-20
0001610117	10034-99-8	MAGNESIUM SULFATE HEPTAHYDRATE	25	Gram(GM)	30-Nov-20
0001610118	7778-77-0	POTASSIUM PHOSPHATE MONOBASIC	100	Gram(GM)	30-Nov-20
0001610119	7722-64-7	POTASSIUM PERMANGANATE	500	Milliliter(ML)	30-Nov-20
0001610120	-	BDNPA/F	1	Gallon(GAL)	30-Nov-20
0001568283	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568299	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568296	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568295	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568294	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568293	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568292	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568309	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568308	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568307	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568298	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568300	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568301	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568304	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568287	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568297	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568302	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568288	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568305	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568306	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568303	-	SODA ASH	50	Pounds(LB)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568290	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568286	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568291	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568285	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568284	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568289	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568316	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568317	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568315	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568314	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568312	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568311	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568310	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568318	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568330	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568313	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568326	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568334	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568333	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568332	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568331	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568328	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568327	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568319	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568325	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568324	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568323	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568322	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568321	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568320	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568329	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568335	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568361	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568347	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568359	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568358	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568357	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568356	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568355	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568354	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568353	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568352	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568351	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568350	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568363	-	SODA ASH	50	Pounds(LB)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568348	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568362	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568346	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568345	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568344	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568343	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568342	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568341	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568340	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568339	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568338	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568337	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568336	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568349	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568376	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568389	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568388	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568387	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568386	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568385	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568384	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568383	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568382	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568381	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568380	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568379	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568360	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568377	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568373	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568375	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568374	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568372	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568370	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568369	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568368	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568367	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568366	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568365	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568364	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568390	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568378	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001568371	-	SODA ASH	50	Pounds(LB)	01-Dec-20
0001610121	-	BUFFER SOLUTION PH 8.0	500	Milliliter(ML)	01-Dec-20
0001610123	-	BUFFER SOLUTION PH 8.0	500	Milliliter(ML)	01-Dec-20
0001610122	-	BUFFER SOLUTION PH 8.0	500	Milliliter(ML)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610124	-	NEB 5-alpha Electrocompetent E. coli	1	Milliliter(ML)	01-Dec-20
0001610125	85333-26-2	2-Amino-4-benzyloxypyridine	5	Gram(GM)	01-Dec-20
0001610126	4330-21-6	Hoffer's chlorosugar	25	Gram(GM)	01-Dec-20
0001423790	-	DUCT SEAL COMPOUND	1	Gallon(GAL)	01-Dec-20
0001423793	-	DUCT SEAL COMPOUND	1	Gallon(GAL)	01-Dec-20
0001423792	-	DUCT SEAL COMPOUND	1	Gallon(GAL)	01-Dec-20
0001423791	-	DUCT SEAL COMPOUND	1	Gallon(GAL)	01-Dec-20
0001610127	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Liters(L)	01-Dec-20
0001610128	-	Nitrate LR TNT835	13.5	Milligram(MG)	01-Dec-20
0001610131	-	Nitrate LR TNT835	13.5	Milligram(MG)	01-Dec-20
0001610130	-	Nitrate LR TNT835	13.5	Milligram(MG)	01-Dec-20
0001610129	-	Nitrate LR TNT835	13.5	Milligram(MG)	01-Dec-20
0001423319	-	CONCRETE MIX	80	Pounds(LB)	01-Dec-20
0001423320	-	CONCRETE MIX	80	Pounds(LB)	01-Dec-20
0001423321	-	CONCRETE MIX	80	Pounds(LB)	01-Dec-20
0001423322	-	CONCRETE MIX	80	Pounds(LB)	01-Dec-20
0001423323	-	CONCRETE MIX	80	Pounds(LB)	01-Dec-20
0001423324	-	CONCRETE MIX	80	Pounds(LB)	01-Dec-20
0001423325	-	CONCRETE MIX	80	Pounds(LB)	01-Dec-20
0001423326	-	CONCRETE MIX	80	Pounds(LB)	01-Dec-20
0001610132	-	Nitrite LR TNT839	0.6	Milligram(MG)	01-Dec-20
0001610133	-	Nitrite LR TNT839	0.6	Milligram(MG)	01-Dec-20
0001610135	-	Nitrite LR TNT839	0.6	Milligram(MG)	01-Dec-20
0001610134	-	Nitrite LR TNT839	0.6	Milligram(MG)	01-Dec-20
0001610136	298-07-7	BIS(2-ETHYLHEXYL)HYDROGEN PHOSPHATE	500	Gram(GM)	01-Dec-20
0001610138	298-07-7	BIS(2-ETHYLHEXYL)HYDROGEN PHOSPHATE	500	Gram(GM)	01-Dec-20
0001610139	298-07-7	BIS(2-ETHYLHEXYL)HYDROGEN PHOSPHATE	500	Gram(GM)	01-Dec-20
0001610137	298-07-7	BIS(2-ETHYLHEXYL)HYDROGEN PHOSPHATE	500	Gram(GM)	01-Dec-20
0001610140	89-32-7	PYROMELLITIC DIANHYDRIDE	100	Gram(GM)	01-Dec-20
0001610141	101-80-4	4 4'-OXYDIANILINE	100	Gram(GM)	01-Dec-20
0001610143	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610170	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610155	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610156	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610158	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610160	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610161	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610162	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610163	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610166	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610165	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610167	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610168	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610169	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610157	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610174	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610173	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610154	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610172	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610171	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610164	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610148	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610144	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610145	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610147	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610149	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610159	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610150	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610153	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610151	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610152	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610146	-	TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	Milliliter(ML)	01-Dec-20
0001610175	67-56-1	METHANOL	4	Liters(L)	01-Dec-20
0001610178	67-56-1	METHANOL	4	Liters(L)	01-Dec-20
0001610176	67-56-1	METHANOL	4	Liters(L)	01-Dec-20
0001610177	67-56-1	METHANOL	4	Liters(L)	01-Dec-20
0001610179	7647-17-8	CESIUM CHLORIDE	50	Gram(GM)	01-Dec-20
0001610180	115-86-6	TRIPHENYL PHOSPHATE	1	Gram(GM)	01-Dec-20
0001610181	60-29-7	DIETHYL ETHER	4	Liters(L)	01-Dec-20
0001664064	-	PIPERAZINE (331)	1000	Gram(GM)	01-Dec-20
0001664065	-	PIPERAZINE (331)	1000	Gram(GM)	01-Dec-20
0001610114	-	CellEvent Senescence Green Detection Kit	200	Milliliter(ML)	01-Dec-20
0001610115	-	CellEvent Senescence Green Detection Kit	200	Milliliter(ML)	01-Dec-20
0001610142	-	Amplex Red Acetylcholine/Acetylcholinesterase Assay Kit	200	Milliliter(ML)	01-Dec-20
0001610182	302-01-2	HYDRAZINE ANHYDROUS	50	Gram(GM)	01-Dec-20
0001610183	-	Platinum 10% on Carbon	10	Gram(GM)	01-Dec-20
0001610184	127-18-4	TETRACHLOROETHYLENE	1	Liters(L)	01-Dec-20
0001610185	4731-53-7	TRIOCTYLPHOSPHINE	500	Milliliter(ML)	01-Dec-20
0001610186	421-50-1	1 1 1-TRIFLUOROACETONE	25	Gram(GM)	01-Dec-20
0001610187	7704-34-9	SULFUR	1	Kilograms(KG)	01-Dec-20
0001610188	52431-30-8	2 5-Dibromo-3 4-dinitrothiophene	5	Gram(GM)	01-Dec-20
0001610189	-	Neosaxitoxin solution	0.5	Milliliter(ML)	01-Dec-20
0001610191	-	Neosaxitoxin solution	0.5	Milliliter(ML)	01-Dec-20
0001610190	-	Neosaxitoxin solution	0.5	Milliliter(ML)	01-Dec-20
0001610192	-	Neosaxitoxin solution	0.5	Milliliter(ML)	01-Dec-20
0001610193	10534-89-1	HEXAAMMINECOBALT(III) CHLORIDE	25	Gram(GM)	01-Dec-20
0001610194	121-44-8	TRIETHYLAMINE	1	Kilograms(KG)	01-Dec-20
0001610195	122-05-4	Pyrazine-2 5-dicarboxylic acid	25	Gram(GM)	01-Dec-20
0001610196	-	Hydrochloric Acid	500	Milliliter(ML)	01-Dec-20
0001610197	-	Hydrochloric Acid	500	Milliliter(ML)	01-Dec-20
0001610198	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	01-Dec-20
0001610199	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	01-Dec-20
0001610200	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	01-Dec-20
0001610201	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	01-Dec-20
0001610202	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	01-Dec-20
0001610203	7647-01-0	HYDROCHLORIC ACID CONCENTRATED (36-37%)	2.5	Liters(L)	01-Dec-20
0001656812	7440-59-7	HELIUM GAS	100	Liters(L)	01-Dec-20
0001656694	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656695	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656696	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656697	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656698	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656699	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656700	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656701	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656702	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656703	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656704	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656705	-	Compressed Air	220	Cubic Feet(CF)	01-Dec-20
0001656706	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656719	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656726	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656717	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656707	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656727	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656725	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656724	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656723	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656722	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656721	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656720	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656710	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656716	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656715	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656714	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656713	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656712	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656711	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656708	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656728	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656718	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656709	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656789	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656790	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656788	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656793	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656791	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656787	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656786	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656792	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656785	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656780	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656781	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656782	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656783	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656784	-	ARGON GAS	220	Cubic Feet(CF)	01-Dec-20
0001656729	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656730	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656733	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656739	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656738	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656737	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656736	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656734	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656731	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656732	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656735	-	94% ARGON/6% HYDROGEN	220	Cubic Feet(CF)	01-Dec-20
0001656740	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656743	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656749	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656754	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656751	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656750	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656753	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656742	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656752	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656744	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656745	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656746	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656747	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656748	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656741	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	01-Dec-20
0001656755	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656779	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656778	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656767	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656756	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656757	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656758	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656759	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656760	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656761	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656762	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656763	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656766	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656765	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656768	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656769	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656770	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656771	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656764	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	01-Dec-20
0001656772	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	01-Dec-20
0001656776	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	01-Dec-20
0001656777	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	01-Dec-20
0001656775	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	01-Dec-20
0001656774	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	01-Dec-20
0001656773	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	01-Dec-20
0001656794	-	Compressed Air	300	Cubic Feet(CF)	01-Dec-20
0001656795	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	01-Dec-20
0001656796	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	01-Dec-20
0001656797	-	25% Carbon Dioxide 75% Argon	220	Cubic Feet(CF)	01-Dec-20
0001656798	74-98-6	PROPANE FUEL	11	Cubic Feet(CF)	01-Dec-20
0001656806	74-98-6	PROPANE FUEL	5	Cubic Feet(CF)	01-Dec-20
0001656804	74-98-6	PROPANE FUEL	5	Cubic Feet(CF)	01-Dec-20
0001656805	74-98-6	PROPANE FUEL	5	Cubic Feet(CF)	01-Dec-20
0001656807	74-98-6	PROPANE FUEL	5	Cubic Feet(CF)	01-Dec-20
0001656809	74-98-6	PROPANE FUEL	5	Cubic Feet(CF)	01-Dec-20
0001656810	74-98-6	PROPANE FUEL	5	Cubic Feet(CF)	01-Dec-20
0001656813	-	REFRIGERANT R-22	30	Pounds(LB)	01-Dec-20
0001656808	74-98-6	PROPANE FUEL	5	Cubic Feet(CF)	01-Dec-20
0001656803	74-98-6	PROPANE FUEL	11	Cubic Feet(CF)	01-Dec-20
0001656802	74-98-6	PROPANE FUEL	11	Cubic Feet(CF)	01-Dec-20
0001656801	74-98-6	PROPANE FUEL	11	Cubic Feet(CF)	01-Dec-20
0001656800	74-98-6	PROPANE FUEL	11	Cubic Feet(CF)	01-Dec-20
0001656799	74-98-6	PROPANE FUEL	11	Cubic Feet(CF)	01-Dec-20
0001656811	-	ETHANE	40	Cubic Feet(CF)	01-Dec-20
0001568511	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568521	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568517	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568522	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568533	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568532	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568512	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568513	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568514	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568527	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568516	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568525	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568518	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568524	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568531	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568530	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568529	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568528	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568523	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568515	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568549	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568519	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568520	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568526	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568550	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568548	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568547	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568546	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568545	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568544	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568537	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568543	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568535	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568534	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568536	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568538	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568539	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568540	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568541	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568542	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568551	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568596	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568594	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568593	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568592	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568595	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568591	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568590	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568588	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568587	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568586	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568597	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568607	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568589	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568585	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568612	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568611	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568610	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568609	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568608	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568605	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568606	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568598	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568604	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568603	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568602	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568601	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568600	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568599	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568575	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568558	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568577	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568564	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568563	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568562	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568561	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568566	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568559	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568567	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568557	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568556	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568555	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568554	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568553	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568552	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568560	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568576	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568583	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568582	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568581	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568580	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568579	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568565	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568613	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568584	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568572	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568574	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568573	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568571	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568569	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568568	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568578	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568570	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568615	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568618	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568619	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568617	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568620	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568621	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568622	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568616	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568614	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568623	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568639	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568642	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568641	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568640	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568685	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568669	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568667	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568636	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568633	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568644	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568634	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568635	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568638	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568637	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568668	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568658	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568649	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568650	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568651	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568647	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568652	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568653	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568654	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568655	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568646	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568657	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568670	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568659	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568660	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568661	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568662	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568663	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568664	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568665	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568643	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568666	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568656	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568691	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568675	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568676	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568677	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568678	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568679	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568680	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568681	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568682	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568694	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568673	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568692	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568672	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568690	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568689	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568688	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568687	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568686	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568648	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568645	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568683	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568684	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568693	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568625	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568674	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568624	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568626	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568627	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568628	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568629	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568630	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568631	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568632	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568671	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568695	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568699	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568704	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568697	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568700	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568701	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568702	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568703	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568698	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568696	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568711	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568707	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568708	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568705	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568710	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568712	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568713	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568714	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568716	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568717	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568706	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568715	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568709	-	ES COMPLEAT OAT ETHYLENE GLYCOL	1	Gallon(GAL)	01-Dec-20
0001568505	-	FLEETGUARD DCA-4 LIQUID	5	Gallon(GAL)	01-Dec-20
0001568510	-	FLEETGUARD DCA-4 LIQUID	5	Gallon(GAL)	01-Dec-20
0001568507	-	FLEETGUARD DCA-4 LIQUID	5	Gallon(GAL)	01-Dec-20
0001568508	-	FLEETGUARD DCA-4 LIQUID	5	Gallon(GAL)	01-Dec-20
0001568506	-	FLEETGUARD DCA-4 LIQUID	5	Gallon(GAL)	01-Dec-20
0001568509	-	FLEETGUARD DCA-4 LIQUID	5	Gallon(GAL)	01-Dec-20
V00000765F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007670	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007671	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007672	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007673	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007674	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V00000766F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V00000765E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007675	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007667	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007666	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V00000766E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007661	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007665	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007660	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007662	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007664	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007668	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007669	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V00000766A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V00000766B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V00000766C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V00000766D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
V000007663	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	01-Dec-20
0001568503	-	Elastopor P 15950R Resin	5	Gallon(GAL)	01-Dec-20
0001568504	-	ELASTOPOR P1001U ISOCYANATE	5	Gallon(GAL)	01-Dec-20
0001568483	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568490	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568491	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568492	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568489	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568488	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568487	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568486	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568484	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568493	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568485	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568495	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568496	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568497	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568498	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568499	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568500	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568502	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568494	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
0001568501	-	CONCRETE BONDING ADHESIVE	1	Gallon(GAL)	01-Dec-20
V000007682	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007681	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V00000767C	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V00000767D	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V00000767E	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007684	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007680	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V00000767F	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007687	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007683	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007686	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007688	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007689	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V00000767B	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000767A	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007679	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007678	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007677	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007676	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
V000007685	-	RAPID ROAD REPAIR	50	Pounds(LB)	01-Dec-20
0001568391	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568397	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568414	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568415	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568416	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568393	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568394	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568413	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568396	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568411	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568398	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568395	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568405	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568404	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568403	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568402	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568412	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568401	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568406	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568407	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568408	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568409	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568410	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568399	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568400	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568392	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568432	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568436	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568435	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568434	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568433	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568431	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568430	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568429	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568428	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568427	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568426	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568425	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568424	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568423	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568422	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568421	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568420	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568417	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568419	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568418	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568454	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568437	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568453	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568452	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568451	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568450	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568449	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568448	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568447	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568446	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568445	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568444	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568439	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568438	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568440	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568441	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568442	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568443	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568467	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568469	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568470	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568472	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568471	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568468	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568475	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568474	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568478	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001568477	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568476	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568479	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568482	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568481	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568480	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568473	-	SC JOHNSON PROFESSIONAL FANTASTIK MULTISURFACE DEGREASER-DISINFECTANT-SANITIZER	32	Ounces(OZ)	01-Dec-20
0001568455	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	01-Dec-20
0001568456	-	PSX 700A CLEAR COAT CURE	0.17	Gallon(GAL)	01-Dec-20
0001568457	-	PSX 700 CURE	0.2	Gallon(GAL)	01-Dec-20
0001568461	-	PSX 700 CURE	0.2	Gallon(GAL)	01-Dec-20
0001568458	-	PSX 700 CURE	0.2	Gallon(GAL)	01-Dec-20
0001568459	-	PSX 700 CURE	0.2	Gallon(GAL)	01-Dec-20
0001568460	-	PSX 700 CURE	0.2	Gallon(GAL)	01-Dec-20
0001568462	-	PSX 700 CURE	0.2	Gallon(GAL)	01-Dec-20
V00000768A	-	HENRY 440 Cove Base Adhesive	1	Gallon(GAL)	01-Dec-20
0001610047	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	01-Dec-20
0001610043	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	01-Dec-20
0001610048	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	01-Dec-20
0001610044	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	01-Dec-20
0001610045	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	01-Dec-20
0001610046	-	DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	25	Gram(GM)	01-Dec-20
0001646527	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646529	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646532	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001646530	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646528	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646531	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646536	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646533	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646534	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646535	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646537	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646544	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646545	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646542	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646538	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646543	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646540	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646539	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646541	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646569	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646570	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646571	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646572	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646573	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646574	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646575	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646568	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646579	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646576	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646580	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646581	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646582	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646548	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646549	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646553	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646552	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646550	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646577	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646556	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646578	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646551	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646567	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646546	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646547	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646557	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646558	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646559	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646565	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001646560	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646566	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646564	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646563	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646561	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646562	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646555	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646554	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646584	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646585	7727-37-9	NITROGEN COMPRESSED GAS	220	Cubic Feet(CF)	01-Dec-20
0001646586	-	ORP Standard 220 mV	1	Liters(L)	01-Dec-20
0001646600	-	ORP Standard 220 mV	1	Liters(L)	01-Dec-20
0001646597	-	ORP Standard 220 mV	1	Liters(L)	01-Dec-20
0001646592	-	ORP Standard 220 mV	1	Liters(L)	01-Dec-20
0001646594	-	ORP Standard 220 mV	1	Liters(L)	01-Dec-20
0001646599	-	ORP Standard 220 mV	1	Liters(L)	01-Dec-20
0001646590	-	ORP Standard 220 mV	1	Liters(L)	01-Dec-20
0001646589	-	ORP Standard 220 mV	1	Liters(L)	01-Dec-20
0001646591	-	ORP Standard 220 mV	1	Liters(L)	01-Dec-20
0001646595	-	ORP Standard 220 mV	1	Liters(L)	01-Dec-20
0001646602	-	BUFFER SOLUTION PH 10.00	5	Gallon(GAL)	01-Dec-20
0001646603	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	01-Dec-20
0001646607	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	01-Dec-20
0001646606	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	01-Dec-20
0001646604	-	HNO3 PRESERVATION KIT FOR 1000 ML CONTAINER	100	Milliliter(ML)	01-Dec-20
0001646608	-	H2SO4 PRESERVATION KIT FOR 250 ML CONTAINER	100	Milliliter(ML)	01-Dec-20
0001646609	-	H2SO4 PRESERVATION KIT FOR 250 ML CONTAINER	100	Milliliter(ML)	01-Dec-20
0001646611	-	H2SO4 PRESERVATION KIT FOR 250 ML CONTAINER	100	Milliliter(ML)	01-Dec-20
0001646610	-	H2SO4 PRESERVATION KIT FOR 250 ML CONTAINER	100	Milliliter(ML)	01-Dec-20
0001423327	-	ACRYLIC STRUCTURAL ADHESIVE	50	Milliliter(ML)	02-Dec-20
0001423328	-	ACRYLIC STRUCTURAL ADHESIVE	50	Milliliter(ML)	02-Dec-20
0001423336	-	ACRYLIC STRUCTURAL ADHESIVE	50	Milliliter(ML)	02-Dec-20
0001423335	-	ACRYLIC STRUCTURAL ADHESIVE	50	Milliliter(ML)	02-Dec-20
0001423334	-	ACRYLIC STRUCTURAL ADHESIVE	50	Milliliter(ML)	02-Dec-20
0001423333	-	ACRYLIC STRUCTURAL ADHESIVE	50	Milliliter(ML)	02-Dec-20
0001423332	-	ACRYLIC STRUCTURAL ADHESIVE	50	Milliliter(ML)	02-Dec-20
0001423330	-	ACRYLIC STRUCTURAL ADHESIVE	50	Milliliter(ML)	02-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001423329	-	ACRYLIC STRUCTURAL ADHESIVE	50	Milliliter(ML)	02-Dec-20
0001423331	-	ACRYLIC STRUCTURAL ADHESIVE	50	Milliliter(ML)	02-Dec-20
0001456885	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456891	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456892	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456886	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456887	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456888	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456889	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456890	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456895	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456896	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456897	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001456894	-	ANTIFREEZE	1	Gallon(GAL)	02-Dec-20
0001610204	7723-14-0	PHOSPHORUS RED	100	Gram(GM)	02-Dec-20
0001610218	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610224	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610229	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610219	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610220	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610221	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610223	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610225	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610226	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610227	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610228	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610222	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	02-Dec-20
0001610230	138184-36-8	POLY[2-METHOXY-5-(2-ETHYLHEXYLOXY)-1 4-PHENYLENEVINYLENE]	1	Gram(GM)	02-Dec-20
0001610231	620-08-0	4-METHOXYPYRIDINE	5	Milliliter(ML)	02-Dec-20
0001610232	371-40-4	4-FLUOROANILINE	100	Gram(GM)	03-Dec-20
0001610233	7782-49-2	SELENIUM	250	Gram(GM)	03-Dec-20
0001610234	-	BUFFER SOLUTION PH 4.00	500	Milliliter(ML)	03-Dec-20
0001610235	-	BUFFER SOLUTION PH 4.00	500	Milliliter(ML)	03-Dec-20
0001610236	67-63-0	2-PROPANOL	1	Liters(L)	03-Dec-20
0001610237	67-63-0	2-PROPANOL	1	Liters(L)	03-Dec-20
0001610238	67-64-1	ACETONE	4	Liters(L)	03-Dec-20
0001610239	67-64-1	ACETONE	4	Liters(L)	03-Dec-20
0001610241	67-64-1	ACETONE	4	Liters(L)	03-Dec-20
0001610240	67-64-1	ACETONE	4	Liters(L)	03-Dec-20
0001640350	-	LOCTITE 262 THREADLOCKER	1.69	Ounces(OZ)	03-Dec-20
0001610242	7697-37-2	NITRIC ACID	1	Liters(L)	03-Dec-20
0001610243	7697-37-2	NITRIC ACID	1	Liters(L)	03-Dec-20
0001610205	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610213	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610206	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610207	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610209	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610212	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610210	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610214	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610215	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610216	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610211	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610208	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	03-Dec-20
0001610217	-	40% Silver on Carbon Black	5	Gram(GM)	03-Dec-20
0001610245	112-80-1	OLEIC ACID TECHNICAL GRADE 90%	1	Liters(L)	03-Dec-20
0001610246	112-88-9	1-OCTADECENE	1	Liters(L)	03-Dec-20
0001610247	62-53-3	ANILINE	500	Milliliter(ML)	03-Dec-20
0001610248	1122-58-3	4-(DIMETHYLAMINO)PYRIDINE	25	Gram(GM)	03-Dec-20
0001610249	104-94-9	P-ANISIDINE	100	Gram(GM)	03-Dec-20
0001610250	67-64-1	ACETONE	500	Milliliter(ML)	03-Dec-20
0001610251	67-64-1	ACETONE	500	Milliliter(ML)	03-Dec-20
0001610252	67-64-1	ACETONE	500	Milliliter(ML)	03-Dec-20
0001610253	7787-69-1	CESIUM BROMIDE	100	Gram(GM)	03-Dec-20
0001610254	-	Cytotoxicity Detection Kit (LDH)	46	Milliliter(ML)	03-Dec-20
0001610256	64-19-7	ACETIC ACID GLACIAL	2.5	Liters(L)	03-Dec-20
0001610257	10043-35-3	BORIC ACID	2	Kilograms(KG)	03-Dec-20
0001610261	10043-35-3	BORIC ACID	2	Kilograms(KG)	03-Dec-20
0001610260	10043-35-3	BORIC ACID	2	Kilograms(KG)	03-Dec-20
0001610258	10043-35-3	BORIC ACID	2	Kilograms(KG)	03-Dec-20
0001610259	10043-35-3	BORIC ACID	2	Kilograms(KG)	03-Dec-20
0001610262	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610274	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610275	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610270	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610263	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610264	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610265	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610266	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610267	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610268	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610269	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610271	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610272	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610273	-	CHLORINE STANDARD SOLUTION	2	Milliliter(ML)	03-Dec-20
0001610276	57-50-1	SUCROSE	25	Kilograms(KG)	03-Dec-20
0001610277	-	Buffer Assortment Pack - pH 4 7 and 10	500	Milliliter(ML)	03-Dec-20
0001610278	-	Buffer Assortment Pack - pH 4 7 and 10	500	Milliliter(ML)	03-Dec-20
0001610279	10043-35-3	BORIC ACID POWDER CERTIFIED ACS	45	Pounds(LB)	03-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610244	27565-41-9	DL-DITHIOTHREITOL	0.5	Milliliter(ML)	03-Dec-20
0000981345	7791-13-1	COBALT(II) CHLORIDE HEXAHYDRATE	25	Gram(GM)	04-Dec-20
0000981347	25038-59-9	POLYETHYLENE TEREPHTHALATE	1	Kilograms(KG)	04-Dec-20
0001626991	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001626997	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001626992	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001626993	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001626994	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001626995	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001626996	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001626998	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001627000	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001627001	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001627002	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001627003	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001626999	-	MOTOR OIL 5W-30	1	Quarts(QT)	07-Dec-20
0001627004	-	BUTANE	5.6	Ounces(OZ)	07-Dec-20
0001627005	-	BUTANE	5.6	Ounces(OZ)	07-Dec-20
0001627006	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627016	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627022	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627021	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627020	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627019	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627017	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627010	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627015	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627014	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627013	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627012	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627011	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627007	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627008	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627009	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627018	-	Mobil Delvac 1 ESP 5W-40	1	Gallon(GAL)	07-Dec-20
0001627023	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627037	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627027	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627028	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627029	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627030	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627038	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627031	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627045	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627044	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001627043	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627042	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627041	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627040	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627035	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627039	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627026	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627033	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627025	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627032	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627034	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627036	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627024	-	MOBIL 1 HIGH MILEAGE 0W-20	1	Quarts(QT)	07-Dec-20
0001627046	-	MOBIL 1 5W-50	1	Quarts(QT)	07-Dec-20
0001627047	-	MOBIL 1 5W-50	1	Quarts(QT)	07-Dec-20
0001627048	-	MOBIL 1 5W-50	1	Quarts(QT)	07-Dec-20
0001627049	-	MOBIL 1 5W-50	1	Quarts(QT)	07-Dec-20
0001610280	-	WD-40 LUBRICANT	16	Ounces(OZ)	07-Dec-20
0001610282	75-09-2	DICHLOROMETHANE	2.5	Liters(L)	07-Dec-20
0001610283	75-09-2	DICHLOROMETHANE	2.5	Liters(L)	07-Dec-20
0001610284	-	a-MONOVINYL-¿-MONOHYDRIDE TERMINATED POLYDIMETHYLSILOXA	1	Kilograms(KG)	07-Dec-20
0001610285	68037-59-2	4-6% METHYLHYDROSILOXANE)-DIMETHYLSILOXANE COPOLYMER TRIMETHYLSILOXANETERMINATED	3	Kilograms(KG)	07-Dec-20
0001610286	68037-59-2	4-6% METHYLHYDROSILOXANE)-DIMETHYLSILOXANE COPOLYMER TRIMETHYLSILOXANETERMINATED	3	Kilograms(KG)	07-Dec-20
0001610287	-	VINYL GUM 0.1-0.2% VINYLMETHYLSILOXANE 6-7% DIPHENYLSILOXANE	1	Kilograms(KG)	07-Dec-20
0001610289	-	VINYL GUM 0.1-0.2% VINYLMETHYLSILOXANE 6-7% DIPHENYLSILOXANE	1	Kilograms(KG)	07-Dec-20
0001610288	-	VINYL GUM 0.1-0.2% VINYLMETHYLSILOXANE 6-7% DIPHENYLSILOXANE	1	Kilograms(KG)	07-Dec-20
0001610290	108-65-6	MICROPOSIT S1818 G2 POSITIVE PHOTORESIST	1	Quarts(QT)	07-Dec-20
0001610291	1460-02-2	1 3 5-TRI-TERT-BUTYLBENZENE	10	Gram(GM)	07-Dec-20
0001610292	9003-39-8	POLYVINYLPYRROLIDONE	100	Gram(GM)	07-Dec-20
0001610293	50-81-7	L-ASCORBIC ACID	100	Gram(GM)	07-Dec-20
0001610298	26570-48-9	POLY(ETHYLENE GLYCOL)DIACRYLATE	500	Milliliter(ML)	07-Dec-20
0001610299	26570-48-9	POLY(ETHYLENE GLYCOL)DIACRYLATE	500	Milliliter(ML)	07-Dec-20
0001610300	2564-83-2	TEMPO FREE RADICAL	25	Gram(GM)	07-Dec-20
0001610301	13086-84-5	DI-TERT-BUTYL PHOSPHITE 95%	5	Gram(GM)	07-Dec-20
0001610302	132-16-1	Iron(II) phthalocyanine	1	Gram(GM)	07-Dec-20
0001610303	26023-84-7	Chloroplatinic acid hydrate	5	Gram(GM)	07-Dec-20
0001610304	67-63-0	ISOPROPANOL (2-PROPANOL)	2.5	Liters(L)	07-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610305	67-63-0	ISOPROPANOL (2-PROPANOL)	2.5	Liters(L)	07-Dec-20
0001610306	109-99-9	TETRAHYDROFURAN ANHYDROUS	1	Liters(L)	07-Dec-20
0001610308	109-99-9	TETRAHYDROFURAN ANHYDROUS	1	Liters(L)	07-Dec-20
0001610307	109-99-9	TETRAHYDROFURAN ANHYDROUS	1	Liters(L)	07-Dec-20
0001610309	67-63-0	ISOPROPYL ALCOHOL	8	Kilograms(KG)	07-Dec-20
0001610310	-	ALCONOX	4	Pounds(LB)	07-Dec-20
0001610312	-	ALCONOX	4	Pounds(LB)	07-Dec-20
0001610314	-	ALCONOX	4	Pounds(LB)	07-Dec-20
0001610311	-	ALCONOX	4	Pounds(LB)	07-Dec-20
0001610315	-	ALCONOX	4	Pounds(LB)	07-Dec-20
0001610313	-	ALCONOX	4	Pounds(LB)	07-Dec-20
0001610316	-	ALCONOX	4	Pounds(LB)	07-Dec-20
0001610317	-	ALCONOX	4	Pounds(LB)	07-Dec-20
0001610318	-	ALCONOX	4	Pounds(LB)	07-Dec-20
0001610319	16940-66-2	SODIUM BOROHYDRIDE	25	Gram(GM)	07-Dec-20
0001610320	617-86-7	TRIETHYLSILANE	100	Gram(GM)	07-Dec-20
0001610321	-	TRITYL CHLORIDE	100	Gram(GM)	07-Dec-20
0001610323	110-99-6	DIGLYCOLIC ACID	100	Gram(GM)	07-Dec-20
0001610324	7439-91-0	LANTHANUM	10	Gram(GM)	07-Dec-20
0001610325	101947-16-4	Triethoxy-1H 1H 2H 2H-heptadecafluorodecylsilane	5	Gram(GM)	07-Dec-20
0001610326	1522-92-5	3-Bromo-2 2-bis(bromomethyl)-1-propanol	100	Gram(GM)	07-Dec-20
0001610327	10099-58-8	LANTHANUM (III) CHLORIDE ANHYDROUS	25	Gram(GM)	07-Dec-20
0001610328	-	5-MINUTE EPOXY	25	Milliliter(ML)	07-Dec-20
0001610329	1849-27-0	1 4-BIS(PHENYLETHYNYL)BENZENE	25	Gram(GM)	07-Dec-20
0001610330	3796-24-5	4-TRIFLUOROMETHYLPYRIDINE	1	Gram(GM)	08-Dec-20
0001610331	455-14-1	4-(TRIFLUOROMETHYL)ANILINE	25	Gram(GM)	08-Dec-20
0001610333	371-42-6	4-FLUOROTHIOPHENOL	25	Gram(GM)	08-Dec-20
0001610332	696-63-9	4 METHOXYBENZENETHIOL 97	25	Gram(GM)	08-Dec-20
0001610334	50-99-7	DEXTROSE ANHYDROUS	500	Gram(GM)	08-Dec-20
0001610335	50-99-7	DEXTROSE ANHYDROUS	500	Gram(GM)	08-Dec-20
0001610336	811-98-3	METHANOL D4	0.75	Milliliter(ML)	08-Dec-20
0001610337	811-98-3	METHANOL D4	0.75	Milliliter(ML)	08-Dec-20
0001610338	-	perma treat pc-510t	55	Gallon(GAL)	08-Dec-20
0001610339	110-86-1	PYRIDINE (PYRIDINE ANHYDROUS)	1	Liters(L)	08-Dec-20
0001610340	13590-82-4	CERIUM(IV) SULFATE	25	Gram(GM)	08-Dec-20
0001610341	-	EDTA 0.5 M SOLUTION	1	Liters(L)	08-Dec-20
0001610342	1310-73-2	SODIUM HYDROXIDE	500	Gram(GM)	08-Dec-20
0001610343	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610353	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610354	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610352	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610351	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610350	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610344	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610349	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610345	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610346	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610347	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610348	60177-39-1	RESIN AG 1-X4	500	Gram(GM)	08-Dec-20
0001610355	107-21-1	ETHYLENE GLYCOL	2	Liters(L)	08-Dec-20
0001610356	-	BUFFER EB ELUTION BUFFER	250	Milliliter(ML)	08-Dec-20
0001610357	-	BUFFER EB ELUTION BUFFER	250	Milliliter(ML)	08-Dec-20
0001610359	71-63-6	DIGITOXIN	200	Milligram(MG)	08-Dec-20
0001610360	-	2-(METHYLTHIO)ETHANOL	10	Gram(GM)	08-Dec-20
0001610361	-	1 2 3 4-TETRAMETHYL-1 3-CYCLOPENTADIENE	5	Gram(GM)	08-Dec-20
0001610362	10025-99-7	POTASSIUM TETRACHLOROPLATINATE(II)	1	Gram(GM)	08-Dec-20
0001610363	-	Kuraray Poval PVA-205	25	Kilograms(KG)	08-Dec-20
0001610364	12069-32-8	BORON CARBIDE	50	Pounds(LB)	08-Dec-20
0001610365	-	Clear Resin	1	Liters(L)	08-Dec-20
0001610366	-	Clear Resin	1	Liters(L)	08-Dec-20
0001610367	-	Clear Resin	1	Liters(L)	08-Dec-20
0001610368	-	Hydrochloric Acid	500	Milliliter(ML)	08-Dec-20
0001610369	7697-37-2	NITRIC ACID	500	Milliliter(ML)	08-Dec-20
0001610370	7697-37-2	NITRIC ACID	500	Milliliter(ML)	08-Dec-20
0001610371	-	Hydrochloric Acid	500	Milliliter(ML)	08-Dec-20
0001610373	-	Hydrochloric Acid	500	Milliliter(ML)	08-Dec-20
0001610375	-	Hydrochloric Acid	500	Milliliter(ML)	08-Dec-20
0001610372	-	Hydrochloric Acid	500	Milliliter(ML)	08-Dec-20
0001610376	-	Hydrochloric Acid	500	Milliliter(ML)	08-Dec-20
0001610374	-	Hydrochloric Acid	500	Milliliter(ML)	08-Dec-20
0001610377	77-09-8	PHENOLPHTHALEIN	500	Milliliter(ML)	08-Dec-20
0001610378	49623-71-4	2 4 6-Triisopropylbenzoic acid	10	Gram(GM)	08-Dec-20
0001610379	1310-58-3	POTASSIUM HYDROXIDE PELLETS	500	Gram(GM)	08-Dec-20
0001610382	-	TORR SEAL	135	Gram(GM)	08-Dec-20
0001539941	-	REGULAR CHLOROX BLEACH	3.57	Liters(L)	08-Dec-20
0001610380	4946-22-9	4-(dimethylamino)thiophenol	50	Milligram(MG)	08-Dec-20
0001610381	-	4-(Trifluoromethyl)thiophenol	135	Gram(GM)	08-Dec-20
0001610383	1344-28-1	ALUMINUM OXIDE	5	Gallon(GAL)	08-Dec-20
0001610384	-	Hydrochloric Acid	500	Milliliter(ML)	08-Dec-20
0001610385	7601-90-3	PERCHLORIC ACID	500	Milliliter(ML)	08-Dec-20
0001610386	-	3M Nitrile High Performance Plastic Adhesive 1099	1	Ounces(OZ)	08-Dec-20
0001610387	-	3M Nitrile High Performance Plastic Adhesive 1099	1	Ounces(OZ)	08-Dec-20
0001610388	-	3M Nitrile High Performance Plastic Adhesive 1099	1	Ounces(OZ)	08-Dec-20
0001610389	-	3M Nitrile High Performance Plastic Adhesive 1099	1	Ounces(OZ)	08-Dec-20
0001539923	-	MULTI SURFACE CREME CLEANSER	946	Milliliter(ML)	08-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001539924	-	ALLSTAR BLOT THAT SPOT GENERAL PURPOSE SPOTTER	0.946	Liters(L)	08-Dec-20
0001539933	-	GLANCE MULTI-SURFACE CLEANER	0.946	Liters(L)	08-Dec-20
0001610390	693-13-0	DIC [N N'-Diisopropylcarbodiimide]	100	Milliliter(ML)	08-Dec-20
0001610391	693-13-0	DIC [N N'-Diisopropylcarbodiimide]	100	Milliliter(ML)	08-Dec-20
0001610393	693-13-0	DIC [N N'-Diisopropylcarbodiimide]	100	Milliliter(ML)	08-Dec-20
0001610395	693-13-0	DIC [N N'-Diisopropylcarbodiimide]	100	Milliliter(ML)	08-Dec-20
0001610394	693-13-0	DIC [N N'-Diisopropylcarbodiimide]	100	Milliliter(ML)	08-Dec-20
0001610392	693-13-0	DIC [N N'-Diisopropylcarbodiimide]	100	Milliliter(ML)	08-Dec-20
0001539942	-	Simple Green All-Purpose Cleaner	710	Milliliter(ML)	08-Dec-20
0001610396	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610412	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610419	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610418	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610408	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610417	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610416	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610415	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610407	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610409	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610411	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610401	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610402	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610400	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610399	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610398	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610410	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610397	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610413	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610403	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610404	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610405	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610406	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001610414	-	Sprayon MR 312 - Dry Zinc Stearate Release Agent	12	Ounces(OZ)	08-Dec-20
0001539951	-	STINGER RTU CITRUS CLEANER / DEGREASER	946	Milliliter(ML)	08-Dec-20
0001539960	-	DISTILLED WHITE VINEGAR	64	Ounces(OZ)	08-Dec-20
0001656814	-	REFRIGERANT R-22	30	Pounds(LB)	08-Dec-20
0001610420	-	ACID SPILL CLEAN-UP KIT	1.9	Liters(L)	08-Dec-20
0001610424	-	ACID SPILL CLEAN-UP KIT	1.9	Liters(L)	08-Dec-20
0001610423	-	ACID SPILL CLEAN-UP KIT	1.9	Liters(L)	08-Dec-20
0001610425	-	ACID SPILL CLEAN-UP KIT	1.9	Liters(L)	08-Dec-20
0001610421	-	ACID SPILL CLEAN-UP KIT	1.9	Liters(L)	08-Dec-20
0001610422	-	ACID SPILL CLEAN-UP KIT	1.9	Liters(L)	08-Dec-20
0001610426	-	SULFURIC ACID SOLUTION	32	Ounces(OZ)	08-Dec-20
0001610427	-	SULFURIC ACID SOLUTION	32	Ounces(OZ)	08-Dec-20
0001610428	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610439	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610438	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610437	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610436	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610435	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610434	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610433	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610432	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610431	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610430	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610429	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610440	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610441	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610442	-	OMEGABOND 200 EPOXY	2	Ounces(OZ)	08-Dec-20
0001610443	-	LOCTITE 9394	50	Milliliter(ML)	08-Dec-20
0001656815	7558-80-7	CARBON DIOXIDE ISA	220	Cubic Feet(CF)	08-Dec-20
0001656819	7558-80-7	CARBON DIOXIDE ISA	220	Cubic Feet(CF)	08-Dec-20
0001656818	7558-80-7	CARBON DIOXIDE ISA	220	Cubic Feet(CF)	08-Dec-20
0001656816	7558-80-7	CARBON DIOXIDE ISA	220	Cubic Feet(CF)	08-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656817	7558-80-7	CARBON DIOXIDE ISA	220	Cubic Feet(CF)	08-Dec-20
0001539969	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001656820	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001610453	67-63-0	2-PROPANOL	4	Liters(L)	08-Dec-20
0001656904	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656896	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656905	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656903	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656902	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656901	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656900	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656899	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656897	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656895	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656894	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656892	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656906	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656898	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656893	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001539978	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001656822	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656821	-	OXYGEN COMPRESSED GAS	220	Cubic Feet(CF)	08-Dec-20
0001656823	-	Argon 75% Carbon Dioxide 25%	220	Cubic Feet(CF)	08-Dec-20
0001656824	-	Compressed Air	220	Cubic Feet(CF)	08-Dec-20
0001656825	-	Compressed Air	220	Cubic Feet(CF)	08-Dec-20
0001656826	-	Compressed Air	220	Cubic Feet(CF)	08-Dec-20
0001656920	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656844	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656852	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656851	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656850	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656849	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656848	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656837	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656827	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656828	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656829	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656830	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656831	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656832	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656833	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656834	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656846	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656836	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656847	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656838	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656839	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656840	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656841	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656842	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656843	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656845	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656835	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	08-Dec-20
0001656853	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656868	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656871	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656864	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656854	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656855	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656856	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656857	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656858	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656859	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656860	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656861	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656870	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656863	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656869	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656865	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656866	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656867	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656862	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656913	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656907	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656908	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656909	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656910	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656912	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656914	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656915	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656916	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656917	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656918	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656919	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656911	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001656872	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	08-Dec-20
0001656874	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	08-Dec-20
0001656875	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	08-Dec-20
0001656873	-	21% OXYGEN/BAL. HELIUM	220	Cubic Feet(CF)	08-Dec-20
0001656876	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656880	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656886	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656888	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656889	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656890	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656891	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656883	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656881	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656884	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656879	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656878	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656877	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656887	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656882	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656885	-	10% METHANE/90% ARGON	220	Cubic Feet(CF)	08-Dec-20
0001656921	74-98-6	PROPANE	11	Gallon(GAL)	08-Dec-20
0001656922	74-98-6	PROPANE	11	Gallon(GAL)	08-Dec-20
0001656923	74-98-6	PROPANE	11	Gallon(GAL)	08-Dec-20
0001656924	74-98-6	PROPANE	11	Gallon(GAL)	08-Dec-20
0001656925	74-98-6	PROPANE	11	Gallon(GAL)	08-Dec-20
0001656926	74-98-6	PROPANE	11	Gallon(GAL)	08-Dec-20
0001656927	74-98-6	PROPANE	11	Gallon(GAL)	08-Dec-20
0001656928	74-98-6	PROPANE	11	Gallon(GAL)	08-Dec-20
0001610450	-	LOCTITE 9394	50	Milliliter(ML)	08-Dec-20
0001610452	-	LOCTITE 9394	50	Milliliter(ML)	08-Dec-20
0001610449	-	LOCTITE 9394	50	Milliliter(ML)	08-Dec-20
0001610444	-	LOCTITE 9394	50	Milliliter(ML)	08-Dec-20
0001610445	-	LOCTITE 9394	50	Milliliter(ML)	08-Dec-20
0001610446	-	LOCTITE 9394	50	Milliliter(ML)	08-Dec-20
0001610447	-	LOCTITE 9394	50	Milliliter(ML)	08-Dec-20
0001610448	-	LOCTITE 9394	50	Milliliter(ML)	08-Dec-20
0001610451	-	LOCTITE 9394	50	Milliliter(ML)	08-Dec-20
0001610460	67-63-0	2-PROPANOL	4	Liters(L)	08-Dec-20
0001610459	67-63-0	2-PROPANOL	4	Liters(L)	08-Dec-20
0001610458	67-63-0	2-PROPANOL	4	Liters(L)	08-Dec-20
0001610457	67-63-0	2-PROPANOL	4	Liters(L)	08-Dec-20
0001610456	67-63-0	2-PROPANOL	4	Liters(L)	08-Dec-20
0001610454	67-63-0	2-PROPANOL	4	Liters(L)	08-Dec-20
0001610455	67-63-0	2-PROPANOL	4	Liters(L)	08-Dec-20
0001610461	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	08-Dec-20
0001610466	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	08-Dec-20
0001610467	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	08-Dec-20
0001610465	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	08-Dec-20
0001610464	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	08-Dec-20
0001610463	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	08-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610462	52583-42-3	FUMING NITRIC ACID	400	Milliliter(ML)	08-Dec-20
0001610468	-	Hydrochloric Acid	500	Milliliter(ML)	08-Dec-20
0001610469	-	Hydrochloric Acid	500	Milliliter(ML)	08-Dec-20
0001610470	142-82-5	HEPTANE	1	Liters(L)	08-Dec-20
0001610473	142-82-5	HEPTANE	1	Liters(L)	08-Dec-20
0001610471	142-82-5	HEPTANE	1	Liters(L)	08-Dec-20
0001610472	142-82-5	HEPTANE	1	Liters(L)	08-Dec-20
0001610474	142-82-5	HEPTANE	1	Liters(L)	08-Dec-20
0001610475	142-82-5	HEPTANE	1	Liters(L)	08-Dec-20
0001610476	-	TYPE Y	1	Gallon(GAL)	08-Dec-20
0001610477	-	TYPE Y	1	Gallon(GAL)	08-Dec-20
0001610478	7681-11-0	POTASSIUM IODIDE	500	Gram(GM)	08-Dec-20
0001610479	1493-13-6	TRIFLUOROMETHANE SULFONIC ACID	50	Gram(GM)	08-Dec-20
0001539987	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001539925	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001539934	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001539943	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001539952	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001539961	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001539970	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001539979	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001539988	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001539926	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	08-Dec-20
0001539935	-	Crystal Simple Green Industrial Cleaner & Degreaser	710	Milliliter(ML)	08-Dec-20
0001568718	-	GLOSS WHITE ENAMEL	12	Ounces(OZ)	08-Dec-20
0001568720	-	GLOSS WHITE ENAMEL	12	Ounces(OZ)	08-Dec-20
0001568722	-	GLOSS WHITE ENAMEL	12	Ounces(OZ)	08-Dec-20
0001568723	-	GLOSS WHITE ENAMEL	12	Ounces(OZ)	08-Dec-20
0001568721	-	GLOSS WHITE ENAMEL	12	Ounces(OZ)	08-Dec-20
0001568719	-	GLOSS WHITE ENAMEL	12	Ounces(OZ)	08-Dec-20
0001568724	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	08-Dec-20
0001568725	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	08-Dec-20
0001568726	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	08-Dec-20
0001568727	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	08-Dec-20
0001568729	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	08-Dec-20
0001568728	-	KRYLON Industrial TOUGH COAT Acrylic Enamel Bright Red	12	Ounces(OZ)	08-Dec-20
V00000769D	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	08-Dec-20
V0000076A3	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	08-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000076A2	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	08-Dec-20
V0000076A1	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	08-Dec-20
V0000076A0	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	08-Dec-20
V00000769E	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	08-Dec-20
V00000769C	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	08-Dec-20
V00000769B	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	08-Dec-20
V00000769A	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	08-Dec-20
V00000769F	-	GE Silicone II Window and Door Sealant	10.1	Ounces(OZ)	08-Dec-20
0001568730	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568739	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568734	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568731	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568732	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568737	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568735	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568736	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568738	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568740	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568741	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568733	-	808-1045 COLORTREND F RED OXIDE	32	Ounces(OZ)	08-Dec-20
0001568742	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568750	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568743	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568744	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568745	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568746	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568747	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568751	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568752	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568753	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568749	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568748	-	808-0020 TITANIUM WHITE	32	Ounces(OZ)	08-Dec-20
0001568754	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568757	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568765	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568764	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568763	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568762	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568761	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568759	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568755	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568756	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568760	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20
0001568758	-	808-9907 COLORTREND B LAMP BLACK	32	Ounces(OZ)	08-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000076AD	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	08-Dec-20
V0000076AB	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	08-Dec-20
V0000076A4	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	08-Dec-20
V0000076A5	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	08-Dec-20
V0000076A6	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	08-Dec-20
V0000076A7	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	08-Dec-20
V0000076A8	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	08-Dec-20
V0000076AA	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	08-Dec-20
V0000076AC	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	08-Dec-20
V0000076A9	-	Avalon Premium 100% Acrylic Interior Satin W/B	121.6	Ounces(OZ)	08-Dec-20
V0000076AE	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	08-Dec-20
V0000076B1	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	08-Dec-20
V0000076AF	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	08-Dec-20
V0000076B0	-	Zinsser BULLS EYE 1-2-3	1	Gallon(GAL)	08-Dec-20
0001568767	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	08-Dec-20
0001568768	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	08-Dec-20
0001568769	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	08-Dec-20
0001568770	-	Avalon Premium 100% Acrylic Interior Satin W/B	608	Ounces(OZ)	08-Dec-20
0000981346	959-26-2	Bis(2-hydroxyethyl) terephthalate	500	Gram(GM)	08-Dec-20
0001539944	-	KOLOR-SAFE SODIUM FREE LIQUID NEUTRALIZER FOR ACIDS	0.9	Liters(L)	08-Dec-20
0001539953	-	KOLOR-SAFE SODIUM FREE LIQUID NEUTRALIZER FOR ACIDS	0.9	Liters(L)	08-Dec-20
0001539962	-	KOLOR-SAFE SODIUM FREE LIQUID NEUTRALIZER FOR ACIDS	0.9	Liters(L)	08-Dec-20
0001539971	-	KOLOR-SAFE SODIUM FREE LIQUID NEUTRALIZER FOR ACIDS	0.9	Liters(L)	08-Dec-20
0001539980	-	NEUTRASORB ACID NEUTRALIZER	100.1	Pounds(LB)	08-Dec-20
0001539989	-	NEUTRACIT-2 CAUSTIC NEUTRALIZER	100.1	Pounds(LB)	08-Dec-20
0001656929	7440-59-7	HELIUM GAS	100	Liters(L)	08-Dec-20
0001656931	7440-59-7	HELIUM GAS	100	Liters(L)	08-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656930	7440-59-7	HELIUM GAS	100	Liters(L)	08-Dec-20
0001539927	-	VIREX Tb READY-TO-USE DISINFECTANT CLEANER (US)	946	Milliliter(ML)	08-Dec-20
0001539936	-	FANTASTIK ALL PURPOSE CLEANER	946	Milliliter(ML)	08-Dec-20
0001656635	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	08-Dec-20
0001456900	-	MINERAL SPIRTS	55	Gallon(GAL)	08-Dec-20
0001610480	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610490	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610485	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610491	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610489	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610488	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610486	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610484	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610483	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610482	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610481	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610487	7722-84-1	HYDROGEN PEROXIDE 30%	1	Liters(L)	09-Dec-20
0001610492	60842-46-8	Fluorescein isothiocyanate-dextran	1	Gram(GM)	09-Dec-20
0001610493	60842-46-8	Fluorescein isothiocyanate-dextran	100	Milligram(MG)	09-Dec-20
0001610494	9048-46-8	BOVINE SERUM ALBUMIN	25	Gram(GM)	09-Dec-20
0001610495	593-81-7	TRIMETHYLAMINE HYDROCHLORIDE	500	Gram(GM)	09-Dec-20
0001610496	7647-01-0	RHODIUM HCl	125	Milliliter(ML)	09-Dec-20
0001610497	7647-01-0	RHODIUM HCl	125	Milliliter(ML)	09-Dec-20
0001610498	90-11-9	1-BROMONAPHTHALENE	25	Gram(GM)	09-Dec-20
0001610499	-	AG MP-1 RESIN	500	Gram(GM)	09-Dec-20
0001610500	-	MULTI-ELEMENT SOLUTION 2A	125	Milliliter(ML)	09-Dec-20
0001610502	-	MULTI-ELEMENT SOLUTION 2A	125	Milliliter(ML)	09-Dec-20
0001610501	-	MULTI-ELEMENT SOLUTION 2A	125	Milliliter(ML)	09-Dec-20
0001610503	19767-45-4	Sodium 2-mercaptoethanesulfonate	10	Gram(GM)	09-Dec-20
0001610504	-	DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	4	Gram(GM)	09-Dec-20
0001610505	-	AG 1-X4 Resin Chloride Form	500	Gram(GM)	09-Dec-20
0001610506	-	AG 1-X4 Resin Chloride Form	500	Gram(GM)	09-Dec-20
0001610507	-	M-BOND AE-10 ADHESIVE KIT	75	Gram(GM)	09-Dec-20
0001610508	6424-15-3	Cobalt (II) citrate dihydrate	100	Gram(GM)	09-Dec-20
0001610509	6018-92-4	Nickel (II) citrate hydrate	100	Gram(GM)	09-Dec-20
0001610510	6153-56-6	OXALIC ACID CERT. ACS	250	Gram(GM)	09-Dec-20
0001610511	-	Hydrochloric Acid	500	Milliliter(ML)	09-Dec-20
0001610512	874-60-2	P-TOLUOYL CHLORIDE	100	Gram(GM)	09-Dec-20
0001610513	-	Dow DOWSIL 93-500 Space Grade Encapsulant Clear	110	Gram(GM)	09-Dec-20
0001610514	-	Dow DOWSIL 93-500 Space Grade Encapsulant Clear	110	Gram(GM)	09-Dec-20
0001610515	-	M-BOND 200 KIT	1	Ounces(OZ)	09-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610516	-	M-COAT A	1	Ounces(OZ)	09-Dec-20
0001610517	-	CSM-3 Degreaser	20	Ounces(OZ)	09-Dec-20
0001610518	1291-32-3	BIS(CYCLOPENTADIENYL)ZIRCONIUM DICHLORIDE	100	Gram(GM)	09-Dec-20
0001610519	80-09-1	4 4'-SULFONYLDIPHENOL	100	Gram(GM)	09-Dec-20
0001610520	354-38-1	Trifluoroacetamide	25	Gram(GM)	09-Dec-20
0001610521	372-09-8	CYANOACETIC ACID	1000	Gram(GM)	09-Dec-20
0001610522	31175-20-9	Nafion NRE-212 membrane	50	Gram(GM)	09-Dec-20
0001610523	77-76-9	2 2-DIMETHOXYPROPANE	4	Liters(L)	09-Dec-20
0001610524	3240-34-4	(Diacetoxyiodo)benzene	100	Gram(GM)	09-Dec-20
0001610525	1330-20-7	XYLENES	4	Liters(L)	09-Dec-20
0001610526	1330-20-7	XYLENES	4	Liters(L)	09-Dec-20
0001610529	917-54-4	METHYLLITHIUM 1.6M IN DIETHYL ETHER	100	Milliliter(ML)	09-Dec-20
0001610532	917-54-4	METHYLLITHIUM 1.6M IN DIETHYL ETHER	100	Milliliter(ML)	09-Dec-20
0001610531	917-54-4	METHYLLITHIUM 1.6M IN DIETHYL ETHER	100	Milliliter(ML)	09-Dec-20
0001610530	917-54-4	METHYLLITHIUM 1.6M IN DIETHYL ETHER	100	Milliliter(ML)	09-Dec-20
0001610533	109-72-8	N-BUTYLLITHIUM 1.6M IN HEXANES	25	Milliliter(ML)	09-Dec-20
0001610534	109-72-8	N-BUTYLLITHIUM 1.6M IN HEXANES	25	Milliliter(ML)	09-Dec-20
0001610535	109-72-8	N-BUTYLLITHIUM 1.6M IN HEXANES	25	Milliliter(ML)	09-Dec-20
0001610536	109-72-8	N-BUTYLLITHIUM 1.6M IN HEXANES	25	Milliliter(ML)	09-Dec-20
0001610599	7697-37-2	NITRIC ACID	500	Milliliter(ML)	09-Dec-20
0001610600	7697-37-2	NITRIC ACID	500	Milliliter(ML)	09-Dec-20
0001664066	38078-09-0	DIETHYL AMINO SULFUR TRIFLUORIDE	0.004	Liters(L)	09-Dec-20
0001539932	-	DRANO CLOG REMOVER	946	Milliliter(ML)	09-Dec-20
0001539945	-	Turtle Wax MAX Power Car Wash	2.95	Liters(L)	09-Dec-20
0001607993	-	IODIDE IODATE REAGENT	13	Milliliter(ML)	09-Dec-20
0001608001	-	IODIDE IODATE REAGENT	13	Milliliter(ML)	09-Dec-20
0001607994	-	IODIDE IODATE REAGENT	13	Milliliter(ML)	09-Dec-20
0001607995	-	IODIDE IODATE REAGENT	13	Milliliter(ML)	09-Dec-20
0001607996	-	IODIDE IODATE REAGENT	13	Milliliter(ML)	09-Dec-20
0001607997	-	IODIDE IODATE REAGENT	13	Milliliter(ML)	09-Dec-20
0001607998	-	IODIDE IODATE REAGENT	13	Milliliter(ML)	09-Dec-20
0001607999	-	IODIDE IODATE REAGENT	13	Milliliter(ML)	09-Dec-20
0001608000	-	IODIDE IODATE REAGENT	13	Milliliter(ML)	09-Dec-20
0001608002	-	IODIDE IODATE REAGENT	13	Milliliter(ML)	09-Dec-20
0001609033	1693-74-9	TETRAHYDROFURAN-D8	0.8	Milliliter(ML)	09-Dec-20
0001609034	2206-26-0	ACETONITRILE-D3	0.8	Milliliter(ML)	09-Dec-20
0001609035	2206-27-1	DIMETHYL SULFOXIDE-D6	0.6	Milliliter(ML)	09-Dec-20
0001610537	108-98-5	THIOPHENOL (BENZENETHIOL)	50	Gram(GM)	09-Dec-20
0001610538	1306-19-0	CADMIUM OXIDE	100	Gram(GM)	09-Dec-20
0001610539	99-98-9	N N-Dimethyl-p-phenylenediamine	100	Gram(GM)	09-Dec-20
0001610602	129-00-0	PYRENE	25	Gram(GM)	09-Dec-20
0001610603	1314-62-1	VANADIUM(V) OXIDE	1	Kilograms(KG)	09-Dec-20
0001610604	-	BUFFER SOLUTION PH 4.00	500	Milliliter(ML)	09-Dec-20
0001610605	-	BUFFER SOLUTION PH 4.00	500	Milliliter(ML)	09-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609048	666-52-4	ACETONE D6	0.8	Milliliter(ML)	09-Dec-20
0001610606	18618-55-8	CERIUM(III) CHLORIDE HEPTAHYDRATE	250	Gram(GM)	09-Dec-20
0001610607	12007-60-2	LITHIUM TETRABORATE	1	Kilograms(KG)	09-Dec-20
0001610608	12007-60-2	LITHIUM TETRABORATE	1	Kilograms(KG)	09-Dec-20
0001610609	5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	100	Gram(GM)	09-Dec-20
0001610610	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610613	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610616	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610617	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610614	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610615	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610618	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610619	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610620	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610621	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610612	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610611	1310-73-2	SODIUM HYDROXIDE SOLUTION 10N	1	Liters(L)	09-Dec-20
0001610622	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610628	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610623	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610624	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610625	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610627	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610629	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610630	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610631	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610632	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610633	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610626	1336-21-6	ammonium hydroxide	500	Milliliter(ML)	09-Dec-20
0001610634	67-63-0	2-PROPANOL	4	Liters(L)	09-Dec-20
0001610635	67-63-0	2-PROPANOL	4	Liters(L)	09-Dec-20
0001609049	666-52-4	ACETONE D6	0.6	Milliliter(ML)	09-Dec-20
0001609051	666-52-4	ACETONE D6	0.6	Milliliter(ML)	09-Dec-20
0001609050	666-52-4	ACETONE D6	0.6	Milliliter(ML)	09-Dec-20
0001610637	1271-19-8	BIS(CYCLOPENTADIENYL) TITANIUM DICHLORIDE	1	Gram(GM)	09-Dec-20
0001610638	65-85-0	BENZOIC ACID	100	Gram(GM)	09-Dec-20
0001610639	65-85-0	BENZOIC ACID	100	Gram(GM)	09-Dec-20
0001610640	7440-66-6	ZINC	100	Gram(GM)	09-Dec-20
0001610641	499-83-2	2 6-PYRIDINE-DICARBOXYLIC ACID	25	Gram(GM)	09-Dec-20
0001539954	-	Tellus Plus Oil 22	1	Gallon(GAL)	10-Dec-20
0001539963	-	Tellus Plus Oil 22	1	Gallon(GAL)	10-Dec-20
0001539972	-	Tellus Plus Oil 22	1	Gallon(GAL)	10-Dec-20
0001539981	-	Tellus Plus Oil 22	1	Gallon(GAL)	10-Dec-20
0001610636	97231-90-8	Benzyl piperidine-3-carboxylate	1	Gram(GM)	10-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001607990	-	Buffer Reference Standard pH 1.07	1	Liters(L)	10-Dec-20
0001607991	-	Buffer Reference Standard pH 4.00	1	Liters(L)	10-Dec-20
0001607992	-	Buffer Reference Standard pH 7.00	1	Liters(L)	10-Dec-20
0001610281	-	Prefilter Resin	200	Gram(GM)	10-Dec-20
0001610294	-	Prefilter Resin	200	Gram(GM)	10-Dec-20
0001610295	-	Prefilter Resin	200	Gram(GM)	10-Dec-20
0001610296	-	Prefilter Resin	200	Gram(GM)	10-Dec-20
0001539990	-	WD-40 AEROSOL	13.2	Ounces(OZ)	10-Dec-20
0001610297	374-41-4	3 3 4 4 4-Pentafluorobutan-2-one 95%	1	Gram(GM)	10-Dec-20
0001539999	-	Rust-oleum Flat Black Spray Paint	12	Ounces(OZ)	10-Dec-20
0001540008	-	2-CYCLE ENGINE OIL	3.2	Ounces(OZ)	10-Dec-20
0001540026	-	2 CYCLE ENGINE OIL	3.2	Ounces(OZ)	10-Dec-20
0001540017	-	2 CYCLE ENGINE OIL	3.2	Ounces(OZ)	10-Dec-20
0001540035	-	NEUTRALIZER SOLUTION	1	Quarts(QT)	10-Dec-20
0001540044	-	NEUTRALIZER SOLUTION	1	Quarts(QT)	10-Dec-20
0001540053	-	NEUTRALIZER SOLUTION	1	Quarts(QT)	10-Dec-20
0001540062	-	NEUTRALIZER SOLUTION	1	Quarts(QT)	10-Dec-20
0001540061	-	NEUTRALIZER SOLUTION	1	Quarts(QT)	10-Dec-20
0001540052	-	NEUTRALIZER SOLUTION	1	Quarts(QT)	10-Dec-20
0001540043	-	NEUTRALIZER SOLUTION	1	Gallon(GAL)	10-Dec-20
0001540034	108-88-3	TOLUENE	40	Pounds(LB)	10-Dec-20
0001540025	108-88-3	TOLUENE	40	Pounds(LB)	10-Dec-20
0001540016	108-88-3	TOLUENE	40	Pounds(LB)	10-Dec-20
0001540007	-	NEUTRALIZER SOLUTION	1	Quarts(QT)	10-Dec-20
0001539998	-	Clorox Regular-Bleach	3.78	Quarts(QT)	10-Dec-20
0001540060	-	NEUTRALIZER SOLUTION	1	Quarts(QT)	10-Dec-20
0001540051	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	10-Dec-20
0001540033	-	SPILL-X-A ACID NEUTRALIZER	2.5	Pounds(LB)	10-Dec-20
0001540042	-	NEUTRASORB ACID NEUTRALIZER	3.2	Kilograms(KG)	10-Dec-20
0001540024	-	NEUTRALIZER SOLUTION	1	Quarts(QT)	10-Dec-20
0001540006	-	NEUTRALIZER SOLUTION	1	Quarts(QT)	10-Dec-20
0001539997	-	CLOROX	3.78	Liters(L)	10-Dec-20
0001540059	-	CLOROX	3.78	Liters(L)	10-Dec-20
0001610642	-	Poly(3 4-ethylenedioxythiophene)-poly(styrenesulfonate)	5	Gram(GM)	10-Dec-20
0001610643	143314-17-4	1-ETHYL-3-METHYLIMIDAZOLIUM AC	100	Gram(GM)	10-Dec-20
0001610644	143314-17-4	1-ETHYL-3-METHYLIMIDAZOLIUM AC	100	Gram(GM)	10-Dec-20
0001610645	143314-17-4	1-ETHYL-3-METHYLIMIDAZOLIUM AC	100	Gram(GM)	10-Dec-20
0001610646	143314-17-4	1-ETHYL-3-METHYLIMIDAZOLIUM AC	100	Gram(GM)	10-Dec-20
0001610647	7664-93-9	SULFURIC ACID SOLUTION 10N	1	Liters(L)	10-Dec-20
0001540041	-	SPILL-X-A ACID NEUTRALIZER	11	Pounds(LB)	10-Dec-20
0001540050	-	SPILL-X-A ACID NEUTRALIZER	11	Pounds(LB)	10-Dec-20
0001540032	-	SPILL-X-C CAUSTIC NEUTRALIZER	11	Pounds(LB)	10-Dec-20
0001540023	-	ANSUL SPILL-X-S SOLVENT ADSORBENT	11	Pounds(LB)	10-Dec-20
0001540014	-	SPILL-X-A ACID NEUTRALIZER	11	Pounds(LB)	10-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610648	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	10-Dec-20
0001610649	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	10-Dec-20
0001610650	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	10-Dec-20
0001610651	75-05-8	ACETONITRILE CERTIFIED ACS	4	Liters(L)	10-Dec-20
0001540005	-	CLOROX	3.57	Liters(L)	10-Dec-20
0001539996	-	MICRO-BLAZE EMERGENCY LIQUID SPILL CONTROL	55	Gallon(GAL)	10-Dec-20
0001539995	-	STATIC STOPPER	14	Ounces(OZ)	10-Dec-20
0001610656	64-17-5	ETHANOL 200 PROOF	4	Liters(L)	10-Dec-20
0001610659	64-17-5	ETHANOL 200 PROOF	4	Liters(L)	10-Dec-20
0001610658	64-17-5	ETHANOL 200 PROOF	4	Liters(L)	10-Dec-20
0001610657	64-17-5	ETHANOL 200 PROOF	4	Liters(L)	10-Dec-20
0001610660	108-88-3	TOLUENE	4	Liters(L)	10-Dec-20
0001610661	108-88-3	TOLUENE	4	Liters(L)	10-Dec-20
0001610662	108-88-3	TOLUENE	4	Liters(L)	10-Dec-20
0001610663	108-88-3	TOLUENE	4	Liters(L)	10-Dec-20
0001610664	-	Diisopropylphosphine 10 wt.% solution in hexanes	100	Milliliter(ML)	10-Dec-20
0001610665	60-24-2	2-MERCAPTOETHANOL	20	Milliliter(ML)	10-Dec-20
0001610666	736989-93-8	6-(Methoxycarbonyl)naphthalene-2-boronic acid pinacol ester	5	Gram(GM)	10-Dec-20
0001610667	13598-65-7	AMMONIUM PERRHENATE	25	Gram(GM)	10-Dec-20
0001610668	20624-25-3	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	100	Gram(GM)	10-Dec-20
0001610669	100-26-5	2 5-Pyridinedicarboxylic acid	25	Gram(GM)	10-Dec-20
0001610670	7782-63-0	IRON(II) SULFATE HEPTAHYDRATE	250	Gram(GM)	10-Dec-20
0001610671	-	Hardness 1 Buffer Solution	100	Milliliter(ML)	10-Dec-20
0001610677	-	Hardness 1 Buffer Solution	100	Milliliter(ML)	10-Dec-20
0001610680	-	Hardness 1 Buffer Solution	100	Milliliter(ML)	10-Dec-20
0001610679	-	Hardness 1 Buffer Solution	100	Milliliter(ML)	10-Dec-20
0001610678	-	Hardness 1 Buffer Solution	100	Milliliter(ML)	10-Dec-20
0001610675	-	Hardness 1 Buffer Solution	100	Milliliter(ML)	10-Dec-20
0001610674	-	Hardness 1 Buffer Solution	100	Milliliter(ML)	10-Dec-20
0001610673	-	Hardness 1 Buffer Solution	100	Milliliter(ML)	10-Dec-20
0001610672	-	Hardness 1 Buffer Solution	100	Milliliter(ML)	10-Dec-20
0001610676	-	Hardness 1 Buffer Solution	100	Milliliter(ML)	10-Dec-20
0001610681	-	Phosphorus (Reactive) TNT Reagent Set Low Range	0.5	Gram(GM)	10-Dec-20
0001543958	-	COPPER WIRE	100	Gram(GM)	10-Dec-20
0001543952	-	COPPER WIRE	100	Gram(GM)	10-Dec-20
0001543951	-	COPPER WIRE	100	Gram(GM)	10-Dec-20
0001543954	-	COPPER WIRE	100	Gram(GM)	10-Dec-20
0001543955	-	COPPER WIRE	100	Gram(GM)	10-Dec-20
0001543953	-	COPPER WIRE	100	Gram(GM)	10-Dec-20
0001543957	-	COPPER WIRE	100	Gram(GM)	10-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001543959	-	COPPER WIRE	100	Gram(GM)	10-Dec-20
0001543960	-	COPPER WIRE	100	Gram(GM)	10-Dec-20
0001543956	-	COPPER WIRE	100	Gram(GM)	10-Dec-20
0001610682	-	Phosphorus (Reactive) TNT Reagent Set Low Range	0.5	Gram(GM)	10-Dec-20
0001610688	-	Phosphorus (Reactive) TNT Reagent Set Low Range	0.5	Gram(GM)	10-Dec-20
0001610689	-	Phosphorus (Reactive) TNT Reagent Set Low Range	0.5	Gram(GM)	10-Dec-20
0001610687	-	Phosphorus (Reactive) TNT Reagent Set Low Range	0.5	Gram(GM)	10-Dec-20
0001610686	-	Phosphorus (Reactive) TNT Reagent Set Low Range	0.5	Gram(GM)	10-Dec-20
0001610685	-	Phosphorus (Reactive) TNT Reagent Set Low Range	0.5	Gram(GM)	10-Dec-20
0001610684	-	Phosphorus (Reactive) TNT Reagent Set Low Range	0.5	Gram(GM)	10-Dec-20
0001610683	-	Phosphorus (Reactive) TNT Reagent Set Low Range	0.5	Gram(GM)	10-Dec-20
0001610690	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610702	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610700	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610695	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610694	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610693	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610692	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610691	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610697	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610696	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610699	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610701	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610703	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610704	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610698	-	SILICA REAGENT KIT	10	Milliliter(ML)	10-Dec-20
0001610739	62-53-3	ANILINE	100	Milliliter(ML)	10-Dec-20
0001610740	139-85-5	3 4-Dihydroxybenzaldehyde	100	Gram(GM)	10-Dec-20
0001540013	75-37-6	FALCON DUST-OFF (1 1-DIFLUOROETHANE)	312	Milliliter(ML)	10-Dec-20
0001610741	22262-60-8	Methyl 3-bromo-2-(bromomethyl)propionate	5	Gram(GM)	10-Dec-20
0001610742	22262-60-8	Methyl 3-bromo-2-(bromomethyl)propionate	5	Gram(GM)	10-Dec-20
0001149082	-	PH BUFFER 7.00	500	Milliliter(ML)	10-Dec-20
0001610652	92112-69-1	Hexanes for HPLC	4	Liters(L)	10-Dec-20
0001610654	92112-69-1	Hexanes for HPLC	4	Liters(L)	10-Dec-20
0001610653	92112-69-1	Hexanes for HPLC	4	Liters(L)	10-Dec-20
0001610655	92112-69-1	Hexanes for HPLC	4	Liters(L)	10-Dec-20
0001607755	106-95-6	ALLYL BROMIDE	250	Gram(GM)	10-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610540	-	Hydrochloric Acid	500	Milliliter(ML)	10-Dec-20
0001610705	-	SILVER CONDUCTIVE EPOXY	50	Milliliter(ML)	10-Dec-20
0001610706	-	425 INSTANT ADHESIVE	20	Gram(GM)	10-Dec-20
0001610707	-	425 INSTANT ADHESIVE	20	Gram(GM)	10-Dec-20
0001610708	-	THREAD LOCKER 246	10	Milliliter(ML)	10-Dec-20
0001610710	-	THREAD LOCKER 246	10	Milliliter(ML)	10-Dec-20
0001610709	-	THREAD LOCKER 246	10	Milliliter(ML)	10-Dec-20
0001610711	20624-25-3	SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE	100	Gram(GM)	10-Dec-20
0001610712	67-66-3	CHLOROFORM W/PENTENE HPLC	4	Liters(L)	10-Dec-20
0001610713	14985-18-3	ZIRCONYL NITRATE HYDRATE	100	Gram(GM)	10-Dec-20
0001610714	10125-13-0	COPPER(II) CHLORIDE DIHYDRATE	500	Gram(GM)	10-Dec-20
0001610715	10125-13-0	COPPER(II) CHLORIDE DIHYDRATE	500	Gram(GM)	10-Dec-20
0001610716	64-19-7	ACETIC ACID GLACIAL	500	Milliliter(ML)	10-Dec-20
0001610717	67-64-1	ACETONE	4	Liters(L)	10-Dec-20
0001610718	67-64-1	ACETONE	4	Liters(L)	10-Dec-20
0001610719	67-64-1	ACETONE	4	Liters(L)	10-Dec-20
0001610720	67-64-1	ACETONE	4	Liters(L)	10-Dec-20
0001610721	67-64-1	ACETONE	4	Liters(L)	10-Dec-20
0001610723	67-64-1	ACETONE	4	Liters(L)	10-Dec-20
0001610724	67-64-1	ACETONE	4	Liters(L)	10-Dec-20
0001610722	67-64-1	ACETONE	4	Liters(L)	10-Dec-20
0001610725	108-18-9	DIISOPROPYLAMINE	4	Liters(L)	10-Dec-20
0001610726	108-18-9	DIISOPROPYLAMINE	4	Liters(L)	10-Dec-20
0001610728	11031-11-1	ZEOCINT 100 MG/ML IN HEPES	1	Milliliter(ML)	10-Dec-20
0001610729	-	Pseudouridine-5'-Triphosphate	1	NMOL	10-Dec-20
0001610731	67-63-0	ISOPROPYL ALCOHOL	8	Kilograms(KG)	10-Dec-20
0001610732	-	Adenosine-5'-diphosphate trilithium salt	5	Gram(GM)	10-Dec-20
0001610733	-	ARATHANE 5750-A/B	1	Quarts(QT)	10-Dec-20
0001610743	-	LIPOPROTEIN	10	Milligram(MG)	11-Dec-20
0001610744	-	LIPOPROTEIN	10	Milligram(MG)	11-Dec-20
0001610734	-	Confidence Plus 2 Cleaner	32	Ounces(OZ)	11-Dec-20
0001610737	-	Confidence Plus 2 Cleaner	32	Ounces(OZ)	11-Dec-20
0001610735	-	Confidence Plus 2 Cleaner	32	Ounces(OZ)	11-Dec-20
0001610736	-	Confidence Plus 2 Cleaner	32	Ounces(OZ)	11-Dec-20
0001610727	-	Repro Slow Part A & B	5	Gallon(GAL)	11-Dec-20
0001610745	-	Chylomicrons Human Plasma	1	Milligram(MG)	11-Dec-20
0001540022	-	NEUTRASORB ACID NEUTRALIZER	45.4	Pounds(LB)	11-Dec-20
0001540031	-	NEUTRASORB ACID NEUTRALIZER	45.4	Pounds(LB)	11-Dec-20
0001540040	-	SOLVENT ADSORBENT	40	Pounds(LB)	11-Dec-20
0001540049	-	RESISORB MERCURY VAPOR ABSORBENT	25	Pounds(LB)	11-Dec-20
0001608976	-	CL Resin A	100	Gram(GM)	11-Dec-20
V0000076C8	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000076C7	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076CD	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076CC	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076CB	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076C9	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076CA	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076C5	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076C4	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076C3	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076C2	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076C6	-	Prestone De-Icer Windshield Washer Additive with Dirt Blocker	15.5	Ounces(OZ)	11-Dec-20
V0000076D0	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	11-Dec-20
V0000076D1	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	11-Dec-20
V0000076CF	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	11-Dec-20
V0000076CE	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	11-Dec-20
V0000076D2	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	11-Dec-20
V0000076D3	-	Zerex HD Extended Life 50/50 Antifreeze Coolant	1	Gallon(GAL)	11-Dec-20
V0000076DC	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076DD	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076D4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076D5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076D6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076D7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076D8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076D9	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076DA	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076E7	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076DB	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076DE	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076E8	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076E6	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000076E5	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076E4	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076E2	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076E1	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076E0	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076DF	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076E3	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	11-Dec-20
V0000076FC	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076F6	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V000007700	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076F7	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076F8	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076F9	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076FE	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076FB	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076FD	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076F5	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076FF	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076F0	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076FA	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076EB	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076F2	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076EA	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076F4	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076EC	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076ED	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076EE	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076EF	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076F1	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076F3	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V0000076E9	-	PARTS PLUS SAE 5W-30 PREMIUM MOTOR OIL	1	Quarts(QT)	11-Dec-20
V00000770C	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V000007703	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V00000770F	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V00000770E	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V00000770D	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V000007707	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V000007705	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000770A	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V000007708	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V000007702	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V000007706	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V000007701	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V000007704	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V000007709	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V00000770B	-	Valvoline GM MULTIPURPOSE GREASE VV61510	14.1	Ounces(OZ)	11-Dec-20
V000007712	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	11-Dec-20
V000007710	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	11-Dec-20
V000007711	-	PARTS PLUS SAE 10W-30 SYNTHETIC MOTOR OIL	1	Quarts(QT)	11-Dec-20
0001627055	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	11-Dec-20
0001627057	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	11-Dec-20
0001627058	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	11-Dec-20
0001627059	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	11-Dec-20
0001627056	-	CHAIN AND CABLE FLUID	11	Ounces(OZ)	11-Dec-20
0001627051	-	Pyroil CARB & THROTTLE BODY CLEANER PYC16	13	Ounces(OZ)	11-Dec-20
0001627052	-	Pyroil CARB & THROTTLE BODY CLEANER PYC16	13	Ounces(OZ)	11-Dec-20
0001627053	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	11-Dec-20
0001627054	-	DUPLI-COLOR Acrylic Enamel Aerosol Paint Gloss White (OSHA White)	12	Ounces(OZ)	11-Dec-20
0001627050	-	PERMATEX ANTI-SEIZE LUBRICANT	16	Ounces(OZ)	11-Dec-20
0001627060	-	Bright Orange Enamel L/F (Aerosol)	12	Ounces(OZ)	11-Dec-20
0001627061	-	Bright Orange Enamel L/F (Aerosol)	13	Ounces(OZ)	11-Dec-20
0001627062	-	BRAKE FLUID DOT 3	32	Ounces(OZ)	11-Dec-20
0001627063	-	Parts Plus Type F ATF	1	Quarts(QT)	11-Dec-20
0001627064	-	Parts Plus Type F ATF	1	Quarts(QT)	11-Dec-20
0001627065	-	Parts Plus Type F ATF	1	Quarts(QT)	11-Dec-20
0001627066	-	Parts Plus Type F ATF	1	Quarts(QT)	11-Dec-20
0001627067	-	Parts Plus Type F ATF	1	Quarts(QT)	11-Dec-20
0001627070	-	AW 32 HYDRAULIC FLUID	5	Gallon(GAL)	11-Dec-20
0001627071	-	AW 32 HYDRAULIC FLUID	5	Gallon(GAL)	11-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001627068	-	50/50 PREDILLUTED ANTI-FREEZE COOLANT	1	Gallon(GAL)	11-Dec-20
0001627069	-	50/50 PREDILUTED ANTI-FREEZE COOLANT	1	Gallon(GAL)	11-Dec-20
0001627072	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	11-Dec-20
0001664067	-	ALUMINUM HEXOFLUOROPENTANEDIONATE	0.313	Liters(L)	11-Dec-20
0001609886	-	UV Formulation Epoxy 60-7156RCL	1	Quarts(QT)	11-Dec-20
0001656933	7440-59-7	HELIUM GAS	100	Cubic Feet(CF)	11-Dec-20
0001656934	-	Oxygen Nitrogen	5	Cubic Feet(CF)	11-Dec-20
0001656935	-	Oxygen Nitrogen	5	Cubic Feet(CF)	11-Dec-20
0001656932	1066-51-9	(AMINOMETHYL)PHOSPHONIC ACID	5	Pounds(LB)	11-Dec-20
0001610358	39450-01-6	PROTEINASE K	5	Milliliter(ML)	11-Dec-20
0001610747	144-62-7	OXALIC ACID	50	Gram(GM)	11-Dec-20
0001610748	4023-65-8	trans-Aconitic acid	25	Gram(GM)	11-Dec-20
0001610749	50-81-7	ASCORBIC ACID	2.5	Kilograms(KG)	11-Dec-20
0001610750	-	MICROSHIELD STOP OFF LACQUER	1	Gallon(GAL)	11-Dec-20
0001610751	-	INDICATING DRIERITE	500	Gram(GM)	11-Dec-20
0001610752	13770-91-7	Magnesium sulfamate hydrate	250	Gram(GM)	11-Dec-20
0001610756	109-72-8	N-BUTYLLITHIUM (2.5 M SOLUTION IN HEXANES)	25	Milliliter(ML)	11-Dec-20
0001610757	109-72-8	N-BUTYLLITHIUM (2.5 M SOLUTION IN HEXANES)	25	Milliliter(ML)	11-Dec-20
0001610758	109-72-8	N-BUTYLLITHIUM (2.5 M SOLUTION IN HEXANES)	25	Milliliter(ML)	11-Dec-20
0001610759	109-72-8	N-BUTYLLITHIUM (2.5 M SOLUTION IN HEXANES)	25	Milliliter(ML)	11-Dec-20
0001610760	13716-12-6	TRI-TERT-BUTYLPHOSPHINE	10	Gram(GM)	11-Dec-20
0001610761	865-47-4	POTASSIUM tert-BUTOXIDE	100	Gram(GM)	11-Dec-20
0001610762	-	VeriSpec Multi-Element Environmental Standard 26	100	Milliliter(ML)	11-Dec-20
0001610763	140681-55-6	N-Fluoro-N'-chloromethyltriethylenediaminebis(tetrafluoroborate)	1	Kilograms(KG)	11-Dec-20
0001610764	7789-60-8	PHOSPHORUS TRIBROMIDE	100	Gram(GM)	11-Dec-20
0001610765	7440-06-4	PLATINUM	60	Gram(GM)	11-Dec-20
0001610766	-	Carbon Nanotubes (CNTs)	25	Gram(GM)	11-Dec-20
0001610815	-	Hydrochloric Acid	1	Liters(L)	11-Dec-20
0001610820	-	Hydrochloric Acid	1	Liters(L)	11-Dec-20
0001610816	-	Hydrochloric Acid	1	Liters(L)	11-Dec-20
0001610817	-	Hydrochloric Acid	1	Liters(L)	11-Dec-20
0001610819	-	Hydrochloric Acid	1	Liters(L)	11-Dec-20
0001610818	-	Hydrochloric Acid	1	Liters(L)	11-Dec-20
0001608995	10294-33-4	BORON TRIBROMIDE	5	Gram(GM)	14-Dec-20
0001610753	14985-18-3	ZIRCONYL NITRATE HYDRATE	500	Gram(GM)	14-Dec-20
0001610754	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	14-Dec-20
0001610755	67-56-1	METHANOL REAGENT ACS	4	Liters(L)	14-Dec-20
0001610772	107-30-2	CHLOROMETHYL METHYL ETHER	25	Gram(GM)	14-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610773	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610783	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610776	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610780	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610784	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610782	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610781	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610779	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610777	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610775	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610774	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610778	75-09-2	DICHLOROMETHANE	4	Liters(L)	14-Dec-20
0001610785	7789-78-8	CALCIUM HYDRIDE	2	Gram(GM)	14-Dec-20
0001610786	83-86-3	Phytic acid solution	250	Milliliter(ML)	14-Dec-20
0001610787	14044-65-6	BORANE-TETRAHYDROFURAN COMPLEX	100	Milliliter(ML)	14-Dec-20
0001610788	92112-69-1	Hexanes for HPLC	4	Liters(L)	14-Dec-20
0001610795	92112-69-1	Hexanes for HPLC	4	Liters(L)	14-Dec-20
0001610789	92112-69-1	Hexanes for HPLC	4	Liters(L)	14-Dec-20
0001610790	92112-69-1	Hexanes for HPLC	4	Liters(L)	14-Dec-20
0001610791	92112-69-1	Hexanes for HPLC	4	Liters(L)	14-Dec-20
0001610792	92112-69-1	Hexanes for HPLC	4	Liters(L)	14-Dec-20
0001610794	92112-69-1	Hexanes for HPLC	4	Liters(L)	14-Dec-20
0001610793	92112-69-1	Hexanes for HPLC	4	Liters(L)	14-Dec-20
0001610796	57-50-1	SUCROSE	1	Kilograms(KG)	14-Dec-20
0001610797	57-50-1	SUCROSE	1	Kilograms(KG)	14-Dec-20
0001610799	24589-78-4	N-Methyl-N-(trimethylsilyl)trifluoroacetamide	1	Milliliter(ML)	14-Dec-20
0001610800	24589-78-4	N-Methyl-N-(trimethylsilyl)trifluoroacetamide	1	Milliliter(ML)	14-Dec-20
0001610801	24589-78-4	N-Methyl-N-(trimethylsilyl)trifluoroacetamide	1	Milliliter(ML)	14-Dec-20
0001610802	-	INDIUM PLASMA STANDARDS 1 000 PPM 10 000 PPM IN DILUTE NIT	500	Milliliter(ML)	14-Dec-20
0001610804	50-81-7	ASCORBIC ACID	500	Milligram(MG)	14-Dec-20
0001610798	72287-26-4	[1 1'-Bis(diphenylphosphino)ferrocene]dichloropalladium(II)	5	Gram(GM)	14-Dec-20
0001420774	7697-37-2	QC 19	125	Milliliter(ML)	14-Dec-20
0001610803	-	Goat anti-Rabbit IgG Peroxidase Conjugated	2	Milliliter(ML)	14-Dec-20
0001423736	26447-40-5	DIPHENYLMETHANE DIISOCYANATE	50	Milliliter(ML)	14-Dec-20
0001423737	26447-40-5	DIPHENYLMETHANE DIISOCYANATE	50	Milliliter(ML)	14-Dec-20
0001423738	26447-40-5	DIPHENYLMETHANE DIISOCYANATE	50	Milliliter(ML)	14-Dec-20
0001423739	26447-40-5	DIPHENYLMETHANE DIISOCYANATE	50	Milliliter(ML)	14-Dec-20
0001423741	26447-40-5	DIPHENYLMETHANE DIISOCYANATE	50	Milliliter(ML)	14-Dec-20
0001423740	26447-40-5	DIPHENYLMETHANE DIISOCYANATE	50	Milliliter(ML)	14-Dec-20
0001459656	-	ACTIVATED CARBON	80	Pounds(LB)	14-Dec-20
0001459647	-	ACTIVATED CARBON	80	Pounds(LB)	14-Dec-20
0001627073	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001627089	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627074	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627090	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627092	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627093	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627088	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627095	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627094	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627080	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627078	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627091	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627077	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627087	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627076	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627079	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627081	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627082	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627083	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627084	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627085	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627086	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001627075	-	SAE 0W-20 Synthetic Motor Oil	1	Quarts(QT)	14-Dec-20
0001656936	7440-59-7	HELIUM GAS	100	Liters(L)	14-Dec-20
0001200796	124-38-9	CARBON DIOXIDE GAS	220	Cubic Feet(CF)	14-Dec-20
V00000772D	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V000007730	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V00000772F	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V000007729	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V00000772A	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V00000772C	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V000007731	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V00000772E	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V00000772B	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V000007728	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V000007726	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
V000007727	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	14-Dec-20
0001610541	-	Ethanol Anhydrous (Histological)	4	Liters(L)	14-Dec-20
0001610543	-	Ethanol Anhydrous (Histological)	4	Liters(L)	14-Dec-20
0001610542	-	Ethanol Anhydrous (Histological)	4	Liters(L)	14-Dec-20
0001610544	-	Ethanol Anhydrous (Histological)	4	Liters(L)	14-Dec-20
0001610548	-	Hydrochloric Acid	500	Milliliter(ML)	14-Dec-20
0001610547	-	Hydrochloric Acid	500	Milliliter(ML)	14-Dec-20
0001610546	-	Hydrochloric Acid	500	Milliliter(ML)	14-Dec-20
0001610805	512-56-1	TRIMETHYL PHOSPHATE	100	Milliliter(ML)	14-Dec-20
0001610806	14017-39-1	IRON(II) SULFAMATE	250	Gram(GM)	14-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610807	5690-24-4	1 8:4 5-Naphthalenetetracarboxdiimide	5	Gram(GM)	14-Dec-20
0001610811	18162-48-6	TERT-BUTYLDIMETHYLSILYL CHLORIDE	100	Gram(GM)	14-Dec-20
0001610813	10517-21-2	5-Chloroindole-2-carboxylic acid	1	Gram(GM)	14-Dec-20
0001610814	10517-21-2	5-Chloroindole-2-carboxylic acid	1	Gram(GM)	14-Dec-20
0001610887	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610901	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610902	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610894	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610899	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610898	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610897	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610896	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610895	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610900	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610893	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610892	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610891	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610890	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610888	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610904	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610905	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610906	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610903	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001610889	-	3M Scotch-Weld Epoxy Adhesive 2216 B/A Gray - KIT	43	Milliliter(ML)	14-Dec-20
0001423302	-	3M SUPER WEATHERSTRIP ADHESIVE (BLACK)	5	Ounces(OZ)	14-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001423303	-	3M SUPER WEATHERSTRIP ADHESIVE (BLACK)	5	Ounces(OZ)	14-Dec-20
0001423306	-	3M SUPER WEATHERSTRIP ADHESIVE (BLACK)	5	Ounces(OZ)	14-Dec-20
0001423307	-	3M SUPER WEATHERSTRIP ADHESIVE (BLACK)	5	Ounces(OZ)	14-Dec-20
0001610910	56-81-5	GLYCEROL	500	Milliliter(ML)	15-Dec-20
0001610911	-	Silica Gel	100	Gram(GM)	15-Dec-20
0001610912	-	Poly(3 4-ethylenedioxythiophene)-poly(styrenesulfonate)	100	Gram(GM)	15-Dec-20
0001610913	77-09-8	PHENOLPHTHALEIN	100	Milliliter(ML)	15-Dec-20
0001610920	77-09-8	PHENOLPHTHALEIN	100	Milliliter(ML)	15-Dec-20
0001610922	77-09-8	PHENOLPHTHALEIN	100	Milliliter(ML)	15-Dec-20
0001610921	77-09-8	PHENOLPHTHALEIN	100	Milliliter(ML)	15-Dec-20
0001610919	77-09-8	PHENOLPHTHALEIN	100	Milliliter(ML)	15-Dec-20
0001610914	77-09-8	PHENOLPHTHALEIN	100	Milliliter(ML)	15-Dec-20
0001610915	77-09-8	PHENOLPHTHALEIN	100	Milliliter(ML)	15-Dec-20
0001610916	77-09-8	PHENOLPHTHALEIN	100	Milliliter(ML)	15-Dec-20
0001610917	77-09-8	PHENOLPHTHALEIN	100	Milliliter(ML)	15-Dec-20
0001610918	77-09-8	PHENOLPHTHALEIN	100	Milliliter(ML)	15-Dec-20
0001610907	13395-16-9	Bis(2 4-pentanedionato)copper(II)	250	Gram(GM)	15-Dec-20
0001610908	13395-16-9	Bis(2 4-pentanedionato)copper(II)	250	Gram(GM)	15-Dec-20
0001610909	-	ISP MEDIUM 2	500	Gram(GM)	15-Dec-20
0001610810	-	BONDiT B-45	1.7	Ounces(OZ)	15-Dec-20
0001610808	-	VeriSpec Beryllium Standard for ICP/MS 10 ppm in 2% HNO3	50	Milliliter(ML)	15-Dec-20
0001610809	-	VeriSpec Beryllium Standard for ICP/MS 10 ppm in 2% HNO3	50	Milliliter(ML)	15-Dec-20
0001320317	-	BUFFER SOLUTION PH-7	250	Milliliter(ML)	15-Dec-20
0001656937	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656954	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656966	-	2.9% Hydrogen/Bal. Argon	220	Cubic Feet(CF)	15-Dec-20
0001656964	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656965	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656962	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656961	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656960	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656959	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656958	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656957	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656955	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656947	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656948	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656949	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656950	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656951	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656952	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656953	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001656956	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656945	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656938	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656939	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656940	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656941	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656963	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656946	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656942	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656943	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656944	-	P-10 (90% ARGON 10% METHANE)	220	Cubic Feet(CF)	15-Dec-20
0001656968	-	2.9% Hydrogen/Bal. Argon	220	Cubic Feet(CF)	15-Dec-20
0001656969	-	2.9% Hydrogen/Bal. Argon	220	Cubic Feet(CF)	15-Dec-20
0001656967	-	2.9% Hydrogen/Bal. Argon	220	Cubic Feet(CF)	15-Dec-20
0001656970	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	15-Dec-20
0001656972	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	15-Dec-20
0001656971	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	15-Dec-20
0001656974	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	15-Dec-20
0001656973	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	15-Dec-20
0001656975	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	15-Dec-20
0001656976	74-98-6	PROPANE	11	Gallon(GAL)	15-Dec-20
0001656980	74-98-6	PROPANE	11	Gallon(GAL)	15-Dec-20
0001656979	74-98-6	PROPANE	11	Gallon(GAL)	15-Dec-20
0001656978	74-98-6	PROPANE	11	Gallon(GAL)	15-Dec-20
0001656977	74-98-6	PROPANE	11	Gallon(GAL)	15-Dec-20
0001656981	7440-63-3	XENON	100	Liters(L)	15-Dec-20
0001656982	7440-63-3	XENON	100	Liters(L)	15-Dec-20
0001610821	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610824	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610826	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610823	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610825	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610827	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610829	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610830	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610822	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610828	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610831	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610832	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610833	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610834	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610835	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	15-Dec-20
0001610923	7697-37-2	NITRIC ACID	500	Milliliter(ML)	15-Dec-20
0001610928	7697-37-2	NITRIC ACID	500	Milliliter(ML)	15-Dec-20
0001610927	7697-37-2	NITRIC ACID	500	Milliliter(ML)	15-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610926	7697-37-2	NITRIC ACID	500	Milliliter(ML)	15-Dec-20
0001610925	7697-37-2	NITRIC ACID	500	Milliliter(ML)	15-Dec-20
0001610924	7697-37-2	NITRIC ACID	500	Milliliter(ML)	15-Dec-20
0001610950	1313-96-8	NIOBIUM(V) OXIDE	250	Gram(GM)	15-Dec-20
0001610951	1312-43-2	INDIUM (III) OXIDE	50	Gram(GM)	15-Dec-20
0001610952	1313-13-9	MANGANESE(IV) OXIDE	250	Gram(GM)	15-Dec-20
0001610953	-	Hydrochloric Acid	500	Milliliter(ML)	15-Dec-20
0001610955	-	Hydrochloric Acid	500	Milliliter(ML)	15-Dec-20
0001610954	-	Hydrochloric Acid	500	Milliliter(ML)	15-Dec-20
0001610956	5949-29-1	CITRIC ACID MONOHYDRATE (GRANULAR)	3	Kilograms(KG)	15-Dec-20
0001610958	5949-29-1	CITRIC ACID MONOHYDRATE (GRANULAR)	3	Kilograms(KG)	15-Dec-20
0001610959	5949-29-1	CITRIC ACID MONOHYDRATE (GRANULAR)	3	Kilograms(KG)	15-Dec-20
0001610957	5949-29-1	CITRIC ACID MONOHYDRATE (GRANULAR)	3	Kilograms(KG)	15-Dec-20
1646630	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	16-Dec-20
1646637	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	16-Dec-20
1646636	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	16-Dec-20
1646635	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	16-Dec-20
1646634	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	16-Dec-20
1646633	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	16-Dec-20
1646631	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	16-Dec-20
1646647	7697-37-2	HNO3 preservative for a 1 gal container	15	ml	16-Dec-20
1646638	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	16-Dec-20
1646632	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	16-Dec-20
1646650	Not Listed	HNO3 Preservation for 500 ml	4	ml	16-Dec-20
1646629	7727-37-9	Nitrogen, Compressed Gas	220	cubic feet	16-Dec-20
1646643	Not Listed	H2SO4 Preservation for 500 ml	4	ml	16-Dec-20
1646642	Not Listed	H2SO4 Preservation for 500 ml	4	ml	16-Dec-20
1646656	1310-73-2	NaOH for 250 ml container	4	ml	16-Dec-20
1646655	1310-73-2	NaOH for 250 ml container	4	ml	16-Dec-20
1646654	1310-73-2	NaOH for 250 ml container	4	ml	16-Dec-20
1646645	Not Listed	H2SO4 Preservation for 500 ml	4	ml	16-Dec-20
1646651	Not Listed	HNO3 Preservation for 500 ml	4	ml	16-Dec-20
1646639	Not Listed	H2SO4 Preservation for 250 ml	4	ml	16-Dec-20
1646649	Not Listed	HNO3 Preservation for 125 ml	4	ml	16-Dec-20
1646648	Not Listed	HNO3 Preservation for 125 ml	4	ml	16-Dec-20
1646646	7697-37-2	HNO3 preservative for a 1 gal container	15	ml	16-Dec-20
1646644	Not Listed	H2SO4 Preservation for 500 ml	4	ml	16-Dec-20
1646653	7697-37-2	HNO3 Preservation for 1,000 ml	4	ml	16-Dec-20
1646657	1310-73-2	NaOH for 250 ml container	4	ml	16-Dec-20
1646641	Not Listed	H2SO4 Preservation for 500 ml	4	ml	16-Dec-20
1646640	Not Listed	H2SO4 Preservation for 500 ml	4	ml	16-Dec-20
1646652	Not Listed	HNO3 Preservation for 500 ml	4	ml	16-Dec-20
0001610960	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	16-Dec-20
0001610963	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	16-Dec-20
0001610962	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	16-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610961	68-12-2	N N-DIMETHYLFORMAMIDE	4	Liters(L)	16-Dec-20
0001610967	220797-16-0	TFB	1	Gram(GM)	16-Dec-20
0001610968	92-24-0	Benz[b]anthracene	1	Gram(GM)	16-Dec-20
0001610969	135-48-8	PENTACENE	500	Milligram(MG)	16-Dec-20
0001610970	77-86-1	TRIS ULTRA PURE	500	Gram(GM)	16-Dec-20
0001610971	-	SYBR Safe DNA Gel Stain	400	Milliliter(ML)	16-Dec-20
0001610972	7782-40-3	Diamond Powder	200	Gram(GM)	16-Dec-20
0001610973	7782-40-3	Diamond Powder	200	Gram(GM)	16-Dec-20
0001610929	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610942	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610948	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610947	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610946	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610945	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610943	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610941	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610940	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610932	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610944	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610931	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610939	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610933	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610934	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610935	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610936	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610937	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610938	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610930	-	AngstromBond 9110LV	2.5	Gram(GM)	16-Dec-20
0001610974	603-35-0	TRIPHENYLPHOSPHINE	250	Gram(GM)	16-Dec-20
0001610978	-	CONDUCTIVITY STANDARD 100	100	Milliliter(ML)	16-Dec-20
0001610979	-	CONDUCTIVITY STANDARD 100	100	Milliliter(ML)	16-Dec-20
0001610980	-	CONDUCTIVITY STANDARD 100	100	Milliliter(ML)	16-Dec-20
0001610981	67-64-1	ACETONE	18	Liters(L)	16-Dec-20
0001610982	67-64-1	ACETONE	18	Liters(L)	16-Dec-20
0001610983	67-64-1	ACETONE	4	Liters(L)	16-Dec-20
0001610985	67-64-1	ACETONE	4	Liters(L)	16-Dec-20
0001610990	67-64-1	ACETONE	4	Liters(L)	16-Dec-20
0001610989	67-64-1	ACETONE	4	Liters(L)	16-Dec-20
0001610988	67-64-1	ACETONE	4	Liters(L)	16-Dec-20
0001610986	67-64-1	ACETONE	4	Liters(L)	16-Dec-20
0001610984	67-64-1	ACETONE	4	Liters(L)	16-Dec-20
0001610987	67-64-1	ACETONE	4	Liters(L)	16-Dec-20
0001610991	141-78-6	ETHYL ACETATE	4	Liters(L)	16-Dec-20
0001610994	141-78-6	ETHYL ACETATE	4	Liters(L)	16-Dec-20
0001610993	141-78-6	ETHYL ACETATE	4	Liters(L)	16-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001610992	141-78-6	ETHYL ACETATE	4	Liters(L)	16-Dec-20
0001610995	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611020	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001610999	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001610998	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001610997	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001610996	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611019	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611022	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611000	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611023	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611030	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611029	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611028	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611027	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611026	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611025	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611024	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611018	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611013	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611017	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611016	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611015	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611014	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611012	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611011	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611010	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611009	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611007	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611006	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611005	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611004	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611021	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611003	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611001	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611002	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611008	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	16-Dec-20
0001611031	67-56-1	METHANOL	4	Liters(L)	16-Dec-20
0001611034	67-56-1	METHANOL	4	Liters(L)	16-Dec-20
0001611032	67-56-1	METHANOL	4	Liters(L)	16-Dec-20
0001611033	67-56-1	METHANOL	4	Liters(L)	16-Dec-20
0001611035	814-68-6	ACRYLOYL CHLORIDE	5	Gram(GM)	16-Dec-20
0001611036	151-21-3	SODIUM DODECYL SULFATE (SOIDUM LAURYL SULFATE)	500	Gram(GM)	16-Dec-20
0001611037	-	BROMOTHYMOL BLUE SOLUTION 0.04%	500	Milliliter(ML)	16-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611038	-	BROMOTHYMOL BLUE SOLUTION 0.04%	500	Milliliter(ML)	16-Dec-20
0001611039	-	GAM Broth (Gifu Anaerobic Broth)	500	Gram(GM)	16-Dec-20
0001611040	-	GAM Broth (Gifu Anaerobic Broth)	500	Gram(GM)	16-Dec-20
0001611041	-	GAM Broth (Gifu Anaerobic Broth)	500	Gram(GM)	16-Dec-20
0001611042	-	GAM Broth (Gifu Anaerobic Broth)	500	Gram(GM)	16-Dec-20
0001611043	-	2 4 6-Triisopropylphenylmagnesium bromide solution	50	Milliliter(ML)	16-Dec-20
0001611044	-	2 4 6-Triisopropylphenylmagnesium bromide solution	50	Milliliter(ML)	16-Dec-20
0001611045	-	CP 637 Firestop Mortar	5	Gallon(GAL)	16-Dec-20
0001610949	1833-51-8	Chloromethyldimethylphenylsilane	25	Gram(GM)	16-Dec-20
0001058609	-	NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	Gallon(GAL)	16-Dec-20
0001058610	-	NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	Gallon(GAL)	16-Dec-20
0001058611	-	TRI-ACT 1820 SOLUTION	450	Pounds(LB)	16-Dec-20
0001058596	-	MicroC 2000	2700	Pounds(LB)	16-Dec-20
0001607756	-	SYBR Green Fluor qPCR Mastermix	25	Milliliter(ML)	16-Dec-20
0001459648	-	EPOXY RESIN PAINT PART A	5	Gallon(GAL)	16-Dec-20
0001459650	-	EPOXY RESIN PAINT PART A	5	Gallon(GAL)	16-Dec-20
0001459652	-	EPOXY RESIN PAINT PART A	5	Gallon(GAL)	16-Dec-20
0001459649	-	EPOXY RESIN PAINT PART A	5	Gallon(GAL)	16-Dec-20
0001459651	-	EPOXY RESIN PAINT PART A	5	Gallon(GAL)	16-Dec-20
0001459653	-	EPOXY RESIN PAINT PART B	5	Gallon(GAL)	16-Dec-20
0001459655	-	EPOXY RESIN PAINT PART B	5	Gallon(GAL)	16-Dec-20
0001459654	-	EPOXY RESIN PAINT PART B	5	Gallon(GAL)	16-Dec-20
0001459657	-	EPOXY RESIN PAINT PART B	2	Gallon(GAL)	16-Dec-20
0001459658	-	EPOXY RESIN PAINT PART B	2	Gallon(GAL)	16-Dec-20
0001419977	-	SILICONE SEALANT	9.8	Ounces(OZ)	16-Dec-20
0001419982	-	SILICONE SEALANT	9.8	Ounces(OZ)	16-Dec-20
0001419983	-	SILICONE SEALANT	9.8	Ounces(OZ)	16-Dec-20
0001419986	-	SILICONE SEALANT	9.8	Ounces(OZ)	16-Dec-20
0001419981	-	SILICONE SEALANT	9.8	Ounces(OZ)	16-Dec-20
0001419980	-	SILICONE SEALANT	9.8	Ounces(OZ)	16-Dec-20
0001419978	-	SILICONE SEALANT	9.8	Ounces(OZ)	16-Dec-20
0001419985	-	SILICONE SEALANT	9.8	Ounces(OZ)	16-Dec-20
0001419984	-	SILICONE SEALANT	9.8	Ounces(OZ)	16-Dec-20
0001419979	-	SILICONE SEALANT	9.8	Ounces(OZ)	16-Dec-20
0001058598	-	MicroC 2000	2700	Pounds(LB)	16-Dec-20
0001058597	-	MicroC 2000	2700	Pounds(LB)	16-Dec-20
0001058599	-	MicroC 2000	2700	Pounds(LB)	16-Dec-20
0001610771	21436-03-3	(1S 2S)-Cyclohexane-1 2-diamine	25	Gram(GM)	16-Dec-20
0001420141	-	SILITE SILICONE RTV SEALANT	10.15	Ounces(OZ)	17-Dec-20
0001576039	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576045	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576067	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576040	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001576041	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576042	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576043	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576044	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576055	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576059	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576068	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576066	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576064	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576063	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576062	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576060	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576058	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576065	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576056	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576046	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576054	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576053	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576052	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576051	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576050	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576049	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576048	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576047	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576057	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576081	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576070	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576071	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576072	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576073	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576074	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576075	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576076	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576077	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576078	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576079	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576080	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576069	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576082	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576083	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576084	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576085	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576086	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576087	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001576061	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001576088	-	WEST R-630 SULFITE	55	Gallon(GAL)	17-Dec-20
0001420142	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001419940	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001419928	-	Expo White Board Cleaner	8	Ounces(OZ)	17-Dec-20
0001420143	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0014119929	-	SIGHT SAVERS ANTI-FOGGING	16	Ounces(OZ)	17-Dec-20
0001420144	-	BLACK PAINT	12	Ounces(OZ)	17-Dec-20
0001420145	-	5 MINUTE EPOXY GEL	4	Ounces(OZ)	17-Dec-20
0000957747	67-63-0	ISOPROPYL ALCOHOL	1	Liters(L)	17-Dec-20
0001569028	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569037	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569034	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569033	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569032	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569031	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569030	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569029	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569036	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569038	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569039	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569035	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569041	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569042	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569040	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0001569043	-	POLYKEN 1027 LIQUID ADHESIVE	1	Quarts(QT)	17-Dec-20
0000957756	64-17-5	ETHANOL (ETHYL ALCOHOL)	1	Liters(L)	17-Dec-20
0000957765	67-64-1	ACETONE	1	Liters(L)	17-Dec-20
0001569044	-	GREENchoice Fast Grab FRP Adhesive	4	Gallon(GAL)	17-Dec-20
0001569045	-	GREENchoice Fast Grab FRP Adhesive	4	Gallon(GAL)	17-Dec-20
0000957774	-	AIR TOOL OIL	1	Ounces(OZ)	17-Dec-20
0000957746	-	SPINDLE OIL	1	Gallon(GAL)	17-Dec-20
0001569046	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569048	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569049	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569047	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569050	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569053	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569052	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001569054	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569055	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569056	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569057	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569051	-	CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	Ounces(OZ)	17-Dec-20
0001569058	-	FLEETGUARD ES	1	Gallon(GAL)	17-Dec-20
0001569059	-	FLEETGUARD ES	1	Gallon(GAL)	17-Dec-20
0001569060	-	FLEETGUARD ES	1	Gallon(GAL)	17-Dec-20
0001569061	-	FLEETGUARD ES	1	Gallon(GAL)	17-Dec-20
0001540761	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540765	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540776	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540775	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540774	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540773	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540772	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540771	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540770	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540769	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540777	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540767	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540766	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540763	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540762	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540768	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540764	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540779	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540780	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540781	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540782	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540778	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001569062	-	FLEETGUARD DCA-4 LIQUID	1	Gallon(GAL)	17-Dec-20
0001569064	-	FLEETGUARD DCA-4 LIQUID	1	Gallon(GAL)	17-Dec-20
0001569063	-	FLEETGUARD DCA-4 LIQUID	1	Gallon(GAL)	17-Dec-20
V00000774F	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V00000773B	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V00000773A	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007748	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V00000773C	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V00000773D	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000773E	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V00000773F	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007740	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007741	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007742	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007743	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007744	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007745	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007746	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007751	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007747	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007749	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007750	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V00000774E	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V00000774D	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V00000774C	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V00000774B	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V00000774A	-	MOBILITH SHC 220	13.4	Ounces(OZ)	17-Dec-20
V000007788	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007789	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000778A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000778B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000775C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000778F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000778D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007757	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000778E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007752	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007753	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007754	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007755	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007756	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007787	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007790	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007791	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007792	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007759	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007758	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000778C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007772	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000775A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007765	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007766	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007767	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007768	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V000007769	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000776A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000776B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000776C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000776D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000776E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000776F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007763	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007771	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007762	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007773	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007774	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007775	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007776	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007777	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007778	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007779	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000777A	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000777B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000777C	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000777D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000777E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007770	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007782	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007764	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000775D	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007786	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000775B	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000777F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000775E	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007781	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007783	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007784	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007785	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V00000775F	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007760	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007761	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
V000007780	-	Valvoline MOTOR OIL SAE 15W-40 MOTOR OIL	1	Gallon(GAL)	17-Dec-20
0001540711	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540717	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540716	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540715	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540729	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540712	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540730	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001540713	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540723	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540726	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540714	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540728	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540724	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540722	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540721	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540720	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540719	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540718	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540727	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540725	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0015407131	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540749	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540734	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540741	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540748	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540747	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540750	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540746	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540745	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540743	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540740	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540739	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540738	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540737	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540735	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540733	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540732	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540744	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540751	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540736	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001540742	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419946	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0000957749	64-17-5	ETHANOL (ETHYL ALCOHOL)	16	Ounces(OZ)	17-Dec-20
0000957775	64-17-5	ETHANOL (ETHYL ALCOHOL)	16	Ounces(OZ)	17-Dec-20
0000957766	-	VACUUM GREASE	50	Gram(GM)	17-Dec-20
0000957776	-	LOCTITE 242 THREADLOCKER	10	Milliliter(ML)	17-Dec-20
0000957755	-	DOUBLE-BUBBLE EPOXY	350	Gram(GM)	17-Dec-20
0001420001	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001420005	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001420003	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001420004	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001420006	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001420002	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001540756	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	17-Dec-20
0001419987	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419990	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419991	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419992	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419989	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419988	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419994	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419998	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419999	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001420000	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419996	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419995	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419997	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	17-Dec-20
0001419976	-	PURELL INSTANT HAND SANITIZER	64	Ounces(OZ)	17-Dec-20
0001540753	-	7 RELEASE COMPOUND	5.3	Ounces(OZ)	17-Dec-20
0001540754	-	7 RELEASE COMPOUND	5.3	Ounces(OZ)	17-Dec-20
0001540755	-	7 RELEASE COMPOUND	5.3	Ounces(OZ)	17-Dec-20
0001419993	-	CLR	28	Ounces(OZ)	17-Dec-20
0001420729	-	DOW CORNING(R) HIGH VACUUM GREASE	10	Milliliter(ML)	20-Dec-20
V0000077A0	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V00000779F	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V0000077A1	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V0000077A2	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V0000077A3	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V0000077A4	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V0000077A5	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V0000077A6	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V0000077A7	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V0000077A8	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V0000077A9	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
V00000779E	-	AEROKROIL LUBRICANT SPRAY	10	Ounces(OZ)	21-Dec-20
0001610767	1317-43-7	Brucite Magnesium Hydroxide Powder	1	Pounds(LB)	21-Dec-20
0001610770	1317-43-7	Brucite Magnesium Hydroxide Powder	1	Pounds(LB)	21-Dec-20
0001610769	1317-43-7	Brucite Magnesium Hydroxide Powder	1	Pounds(LB)	21-Dec-20
0001610768	1317-43-7	Brucite Magnesium Hydroxide Powder	1	Pounds(LB)	21-Dec-20
0001540783	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	21-Dec-20
0001540789	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	21-Dec-20
0001540788	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	21-Dec-20
0001540787	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	21-Dec-20
0001540786	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	21-Dec-20
0001540785	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	21-Dec-20
0001540784	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	21-Dec-20
0001420221	-	STRIDE CITRUS NEUTRAL CLEANER	5	Liters(L)	21-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001420219	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	21-Dec-20
0001540790	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	21-Dec-20
0001420222	-	PURELL INSTANT HAND SANITIZER	16	Ounces(OZ)	21-Dec-20
0001540791	-	FALCON DUST-OFF FALCON DUST OFF II	17	Ounces(OZ)	21-Dec-20
0001543961	-	CEMENTGEL	22.7	Kilograms(KG)	21-Dec-20
0001543962	-	EUCON RETARDER 100 - BULK GALLONS	5	Gallon(GAL)	21-Dec-20
0001543963	-	EUCON RETARDER 100 - BULK GALLONS	5	Gallon(GAL)	21-Dec-20
0001543964	65997-15-1	PORTLAND CEMENT	5	Gallon(GAL)	21-Dec-20
0001543965	65997-15-1	PORTLAND CEMENT	5	Gallon(GAL)	21-Dec-20
0001664068	-	RESIN SOLUTION	4	Liters(L)	21-Dec-20
0001664069	-	BIS-TRIMETHYLSILYL ACETYLENE	0.144	Liters(L)	21-Dec-20
0001664070	121-44-8	TRIETHYLAMINE	1	Liters(L)	21-Dec-20
0001664071	-	THORIUM NITRATE TETRAHYDRATE	50	Gram(GM)	21-Dec-20
0001540752	-	METHYL ETHYL KETONE	20	Liters(L)	21-Dec-20
0001540758	-	ACETONE D8	1	Gallon(GAL)	21-Dec-20
V0000077DD	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077D3	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077D4	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077D5	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077D6	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077D7	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077D8	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077D9	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077DA	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077DC	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077D2	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077DE	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077DF	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077E0	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077E1	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077E2	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077E3	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077E4	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077C5	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077DB	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077B7	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077BC	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077B3	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077D1	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077B4	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077C7	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077B6	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077B8	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000077B9	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077BB	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077BA	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077BD	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077BE	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077BF	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077C0	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077CC	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077CF	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077B5	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077C1	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077D0	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077CD	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077CB	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077CA	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077C4	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077C8	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077C2	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077C6	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077B2	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077C9	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077CE	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V0000077C3	-	Valvoline¿ HD 15W40	1	Gallon(GAL)	21-Dec-20
V000007810	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V00000780F	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V00000780E	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V00000780D	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V00000780B	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V00000780A	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007817	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007808	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007806	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V00000780C	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007811	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007812	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007813	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007814	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007816	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007818	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007819	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007805	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007807	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007815	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077EB	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077F3	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V0000077F2	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077F1	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077F0	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077EF	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007804	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077F4	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007809	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077EE	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077EA	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077E9	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077E8	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077E7	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077E6	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077E5	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077ED	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077FE	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007803	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007802	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077EC	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077F5	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007801	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077FF	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077FD	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077FC	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077FA	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077F6	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077F7	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077FB	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077F8	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V000007800	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
V0000077F9	-	CRYSTAL WINDSHIELD WASHER -25	1	Gallon(GAL)	21-Dec-20
0001611046	141-78-6	ETHYL ACETATE	4	Liters(L)	21-Dec-20
0001611047	141-78-6	ETHYL ACETATE	4	Liters(L)	21-Dec-20
0001611048	141-78-6	ETHYL ACETATE	4	Liters(L)	21-Dec-20
0001611049	141-78-6	ETHYL ACETATE	4	Liters(L)	21-Dec-20
0001627110	-	Valvoline AW 32 HYDRAULIC OIL	5	Gallon(GAL)	21-Dec-20
0000957750	-	FANTASTIK SPRAY CLEANER	1	Liters(L)	21-Dec-20
0001611050	-	Hexanes (Technical and Certified Grades)	4	Liters(L)	21-Dec-20
0001611052	-	Hexanes (Technical and Certified Grades)	4	Liters(L)	21-Dec-20
0001611053	-	Hexanes (Technical and Certified Grades)	4	Liters(L)	21-Dec-20
0001611051	-	Hexanes (Technical and Certified Grades)	4	Liters(L)	21-Dec-20
0001627111	-	50/50 PREDILUTED ANTI-FREEZE COOLANT	1	Gallon(GAL)	21-Dec-20
0001627115	-	50/50 PREDILUTED ANTI-FREEZE COOLANT	1	Gallon(GAL)	21-Dec-20
0001627114	-	50/50 PREDILUTED ANTI-FREEZE COOLANT	1	Gallon(GAL)	21-Dec-20
0001627113	-	50/50 PREDILUTED ANTI-FREEZE COOLANT	1	Gallon(GAL)	21-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001627112	-	50/50 PREDILUTED ANTI-FREEZE COOLANT	1	Gallon(GAL)	21-Dec-20
0001627116	-	50/50 PREDILUTED ANTI-FREEZE COOLANT	1	Gallon(GAL)	21-Dec-20
0000957751	-	LOCTITE 680 RETAININ	0.34	Ounces(OZ)	21-Dec-20
0001611054	-	PHEN CHLOR	400	Milliliter(ML)	21-Dec-20
0001611055	-	PHEN CHLOR	400	Milliliter(ML)	21-Dec-20
0001611056	-	FULLCURE 705	3.6	Kilograms(KG)	21-Dec-20
0001611057	-	FULLCURE 705	3.6	Kilograms(KG)	21-Dec-20
0001611058	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	21-Dec-20
0000957752	64-17-5	ETHANOL (ETHYL ALCOHOL)	16	Ounces(OZ)	21-Dec-20
0001611059	-	VEROBLACKPLUS RGD875	3.6	Kilograms(KG)	21-Dec-20
0001611060	-	VEROCLEAR RGD810	3.6	Kilograms(KG)	21-Dec-20
0001611061	-	VEROCLEAR RGD810	3.6	Kilograms(KG)	21-Dec-20
0001611062	-	VEROCLEAR RGD810	3.6	Kilograms(KG)	21-Dec-20
0000957753	-	Z70 Cold Curing Super Glue	4	Ounces(OZ)	21-Dec-20
0001627096	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	21-Dec-20
0001627105	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	21-Dec-20
0001627097	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	21-Dec-20
0001627103	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	21-Dec-20
0001627104	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	21-Dec-20
0001627101	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	21-Dec-20
0001627100	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	21-Dec-20
0001627098	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	21-Dec-20
0001627102	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	21-Dec-20
0001627099	-	PYROIL BRAKE PARTS CLEANE	13	Ounces(OZ)	21-Dec-20
0001611063	280-64-8	9-Borabicyclo[3.3.1]nonane solution	100	Milliliter(ML)	21-Dec-20
0001611064	108-24-7	ACETIC ANHYDRIDE	1	Liters(L)	21-Dec-20
0001627106	-	LOCTITE 266	0.34	Ounces(OZ)	21-Dec-20
0001611065	108-24-7	ACETIC ANHYDRIDE	1	Liters(L)	21-Dec-20
0001627109	-	LOCTITE 266	0.34	Ounces(OZ)	21-Dec-20
0001627108	-	LOCTITE 266	0.34	Ounces(OZ)	21-Dec-20
0001627107	-	LOCTITE 266	0.34	Ounces(OZ)	21-Dec-20
0001611066	-	Hydrochloric Acid	2500	Milliliter(ML)	21-Dec-20
0001611067	-	Hydrochloric Acid	2500	Milliliter(ML)	21-Dec-20
0001611068	-	GRAPHITE LUBRICANT POWDER	1	Pounds(LB)	21-Dec-20
0001611069	-	GRAPHITE LUBRICANT POWDER	1	Pounds(LB)	21-Dec-20
0001611070	12125-02-9	AMMONIUM CHLORIDE	500	Gram(GM)	21-Dec-20
0001611071	-	potassium chloride	500	Milliliter(ML)	21-Dec-20
0001611072	-	potassium chloride	500	Milliliter(ML)	21-Dec-20
0001611073	76-60-8	BROMOCRESOL GREEN	16	Ounces(OZ)	21-Dec-20
0001611074	-	SILVER GRADE ANTISEIZE	0.7	Ounces(OZ)	21-Dec-20
0001611075	18162-48-6	TERT-BUTYLDIMETHYLSILYL CHLORIDE	100	Gram(GM)	21-Dec-20
0001611076	467-77-6	Coronaridine	5	Milligram(MG)	21-Dec-20
0001611077	110-54-3	HEXANE HPLC	4	Liters(L)	21-Dec-20
0001611078	110-54-3	HEXANE HPLC	4	Liters(L)	21-Dec-20
0001611079	110-54-3	HEXANE HPLC	4	Liters(L)	21-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611080	110-54-3	HEXANE HPLC	4	Liters(L)	21-Dec-20
0001611081	78-40-0	TRIETHYL PHOSPHATE	100	Milliliter(ML)	21-Dec-20
0001611082	64-18-6	FORMIC ACID	100	Milliliter(ML)	21-Dec-20
0001611083	64-18-6	FORMIC ACID	100	Milliliter(ML)	21-Dec-20
0001611084	1310-58-3	POTASSIUM HYDROXIDE	500	Gram(GM)	21-Dec-20
0001611085	1833-51-8	Chloromethyldimethylphenylsilane	10	Gram(GM)	21-Dec-20
0001611086	23056-94-2	2-METHYL-1-HEXEN-3-YNE	5	Gram(GM)	21-Dec-20
0001611087	17356-19-3	1-Ethynylcyclopentanol	5	Gram(GM)	21-Dec-20
0001611088	7440-09-7	POTASSIUM	5	Gram(GM)	21-Dec-20
0001611089	7440-23-5	SODIUM	5	Gram(GM)	21-Dec-20
0001611090	7440-70-2	CALCIUM CRYSTALLINE DENDRITIC PIECES	5	Gram(GM)	21-Dec-20
0001611091	7783-90-6	SILVER CHLORIDE	5	Gram(GM)	21-Dec-20
0001611092	78-40-0	TRIETHYL PHOSPHATE	100	Milliliter(ML)	21-Dec-20
0001611093	110-54-3	N-HEXANE	1	Liters(L)	21-Dec-20
0001611094	110-54-3	N-HEXANE	1	Liters(L)	21-Dec-20
0001611095	123-91-1	1 4-DIOXANE	1	Liters(L)	21-Dec-20
0001611096	75-09-2	DICHLOROMETHANE	4	Liters(L)	21-Dec-20
0001611099	75-09-2	DICHLOROMETHANE	4	Liters(L)	21-Dec-20
0001611097	75-09-2	DICHLOROMETHANE	4	Liters(L)	21-Dec-20
0001611098	75-09-2	DICHLOROMETHANE	4	Liters(L)	21-Dec-20
0001611100	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	22-Dec-20
0001611106	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	22-Dec-20
0001611105	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	22-Dec-20
0001611104	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	22-Dec-20
0001611103	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	22-Dec-20
0001611102	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	22-Dec-20
0001611101	-	Hercules 35285 Cryo-Tek Ag Anti-Freeze	5	Gallon(GAL)	22-Dec-20
0001611107	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	22-Dec-20
0001611112	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	22-Dec-20
0001611114	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	22-Dec-20
0001611109	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	22-Dec-20
0001611111	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	22-Dec-20
0001611113	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	22-Dec-20
0001611116	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	22-Dec-20
0001611115	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	22-Dec-20
0001611110	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	22-Dec-20
0001611108	-	VEROWHITEPLUS RGD835	3.6	Kilograms(KG)	22-Dec-20
0001611117	-	FULLCURE 705	3.6	Kilograms(KG)	22-Dec-20
0001611119	-	FULLCURE 705	3.6	Kilograms(KG)	22-Dec-20
0001611126	-	FULLCURE 705	3.6	Kilograms(KG)	22-Dec-20
0001611125	-	FULLCURE 705	3.6	Kilograms(KG)	22-Dec-20
0001611124	-	FULLCURE 705	3.6	Kilograms(KG)	22-Dec-20
0001611123	-	FULLCURE 705	3.6	Kilograms(KG)	22-Dec-20
0001611122	-	FULLCURE 705	3.6	Kilograms(KG)	22-Dec-20
0001611120	-	FULLCURE 705	3.6	Kilograms(KG)	22-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611118	-	FULLCURE 705	3.6	Kilograms(KG)	22-Dec-20
0001611121	-	FULLCURE 705	3.6	Kilograms(KG)	22-Dec-20
0001611128	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611136	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611130	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611137	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611138	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611139	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611140	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611141	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611142	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611143	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611135	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611134	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611144	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611133	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611129	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611132	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611131	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611145	-	System 2000 Epoxy Resin	1	Gallon(GAL)	22-Dec-20
0001611146	-	PART # 2120 2 HOUR EPOXY CURE	1	Quarts(QT)	22-Dec-20
0001611148	-	PART # 2120 2 HOUR EPOXY CURE	1	Quarts(QT)	22-Dec-20
0001611155	-	PART # 2120 2 HOUR EPOXY CURE	1	Quarts(QT)	22-Dec-20
0001611147	-	PART # 2120 2 HOUR EPOXY CURE	1	Quarts(QT)	22-Dec-20
0001611149	-	PART # 2120 2 HOUR EPOXY CURE	1	Quarts(QT)	22-Dec-20
0001611150	-	PART # 2120 2 HOUR EPOXY CURE	1	Quarts(QT)	22-Dec-20
0001611151	-	PART # 2120 2 HOUR EPOXY CURE	1	Quarts(QT)	22-Dec-20
0001611152	-	PART # 2120 2 HOUR EPOXY CURE	1	Quarts(QT)	22-Dec-20
0001611153	-	PART # 2120 2 HOUR EPOXY CURE	1	Quarts(QT)	22-Dec-20
0001611154	-	PART # 2120 2 HOUR EPOXY CURE	1	Quarts(QT)	22-Dec-20
0001611156	12007-60-2	LITHIUM TETRABORATE	1	Kilograms(KG)	22-Dec-20
0001611157	12007-60-2	LITHIUM TETRABORATE	1	Kilograms(KG)	22-Dec-20
0001611158	8000-41-7	TERPINEOL	2.5	Liters(L)	22-Dec-20
0001611159	1076-43-3	BENZENE D6	100	Gram(GM)	22-Dec-20
0001611160	110-54-3	HEXANE	2	Liters(L)	22-Dec-20
0001611161	110-54-3	HEXANE	2	Liters(L)	22-Dec-20
0001611162	1310-58-3	POTASSIUM HYDROXIDE	1	Kilograms(KG)	22-Dec-20
0001611163	67-63-0	ISOPROPANOL (2-PROPANOL)	1	Liters(L)	22-Dec-20
0001611164	141-78-6	ETHYL ACETATE	1	Liters(L)	22-Dec-20
0001611171	141-78-6	ETHYL ACETATE	1	Liters(L)	22-Dec-20
0001611170	141-78-6	ETHYL ACETATE	1	Liters(L)	22-Dec-20
0001611169	141-78-6	ETHYL ACETATE	1	Liters(L)	22-Dec-20
0001611168	141-78-6	ETHYL ACETATE	1	Liters(L)	22-Dec-20
0001611167	141-78-6	ETHYL ACETATE	1	Liters(L)	22-Dec-20
0001611166	141-78-6	ETHYL ACETATE	1	Liters(L)	22-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611165	141-78-6	ETHYL ACETATE	1	Liters(L)	22-Dec-20
0001611172	-	DOW CORNING 92-009 DISPERSION COATING	2.9	Kilograms(KG)	22-Dec-20
0001611173	-	TORR SEAL LOW-VAPOR PRESSURE RESIN (BASE RESIN)	135	Gram(GM)	22-Dec-20
0001611176	-	TORR SEAL LOW-VAPOR PRESSURE RESIN (BASE RESIN)	135	Gram(GM)	22-Dec-20
0001611174	-	TORR SEAL LOW-VAPOR PRESSURE RESIN (BASE RESIN)	135	Gram(GM)	22-Dec-20
0001611175	-	TORR SEAL LOW-VAPOR PRESSURE RESIN (BASE RESIN)	135	Gram(GM)	22-Dec-20
0001611177	-	TORR SEAL LOW-VAPOR PRESSURE RESIN (BASE RESIN)	135	Gram(GM)	22-Dec-20
0001611178	1066-54-2	ETHYNYLTRIMETHYLSILANE	100	Gram(GM)	22-Dec-20
0001611179	121-44-8	TRIETHYLAMINE	1	Liters(L)	22-Dec-20
0001611180	1310-73-2	SODIUM HYDROXIDE	1	Liters(L)	22-Dec-20
0001611181	331752-47-7	ROCK INHIBITOR (Y-27632)	25	Gram(GM)	22-Dec-20
0001611182	31181-90-5	5-Bromo-2-formylpyridine	25	Gram(GM)	22-Dec-20
0001338235	-	GORILLA GLUE	2.6	Ounces(OZ)	22-Dec-20
0001611183	584-08-7	POTASSIUM CARBONATE	500	Gram(GM)	22-Dec-20
0000957759	-	TORR SEAL	1.69	Ounces(OZ)	22-Dec-20
0000957777	-	LOCTITE 242 THREADLOCKER	0.2	Ounces(OZ)	22-Dec-20
0001611184	-	Mikrostik	14	Milliliter(ML)	22-Dec-20
0000957760	-	Misty Liquid Ice Melter	8	Ounces(OZ)	22-Dec-20
0000957770	-	DOUBLE-BUBBLE EPOXY	350	Gram(GM)	22-Dec-20
0000957754	-	ELECTRONIC KLEEN	5	Ounces(OZ)	22-Dec-20
0000957771	-	Double Bubble Urethane High Shear Strength D85	350	Ounces(OZ)	22-Dec-20
0000957763	-	M-BOND 200 CATALYST	30	Milliliter(ML)	22-Dec-20
0001611185	-	Pelco Pro F5 Cyanoacrylate Glue	2	Gram(GM)	22-Dec-20
0001611186	1121-22-8	trans-1 2-Diaminocyclohexane	50	Gram(GM)	22-Dec-20
0001611187	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0000957772	-	M-BOND 200 ADHESIVE	10	Gram(GM)	22-Dec-20
0000957761	-	SWAK (ANAEROBIC PIPE THREAD SEALANT)	8.45	Ounces(OZ)	22-Dec-20
0000957762	-	SILICONE SEALANT	2.8	Ounces(OZ)	22-Dec-20
0000957773	-	DYNAFLEX 230 LATEX SEALANT	5.5	Ounces(OZ)	22-Dec-20
0001611224	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611223	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611222	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611244	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611245	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611221	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611219	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611228	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611218	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611217	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611216	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611215	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611214	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611213	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611212	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611220	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611241	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611236	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611237	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611238	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611194	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611239	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611211	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611240	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611226	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611232	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611225	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611242	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611231	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611230	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611229	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611235	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611227	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611234	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611233	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611243	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611196	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611191	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611190	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611189	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611188	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611249	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611193	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611251	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611248	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611258	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611257	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611256	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611255	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611254	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611253	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611252	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611250	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611201	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611209	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611208	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611207	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611206	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611205	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611204	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611192	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611202	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611210	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611200	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611199	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611198	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611246	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611247	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611197	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611195	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0001611203	1336-21-6	ammonium hydroxide	2.5	Liters(L)	22-Dec-20
0000957779	-	BARCO BOND EPOXY KIT	2	Ounces(OZ)	22-Dec-20
0000957780	-	BARCO BOND EPOXY KIT	2	Ounces(OZ)	22-Dec-20
0000957781	-	BARCO BOND EPOXY KIT	2	Ounces(OZ)	22-Dec-20
0001420171	-	SILICONE II CLEAR HOUSEHOLD GLUE	2.8	Ounces(OZ)	22-Dec-20
V00000782D	-	Rando HDZ 32 46 68 100	5	Gallon(GAL)	22-Dec-20
V00000782C	-	Rando HDZ 32 46 68 100	5	Gallon(GAL)	22-Dec-20
V00000782B	-	Rando HDZ 32 46 68 100	5	Gallon(GAL)	22-Dec-20
V00000782A	-	Rando HDZ 32 46 68 100	5	Gallon(GAL)	22-Dec-20
0001420172	-	SILICONE II CLEAR HOUSEHOLD GLUE	2.8	Ounces(OZ)	22-Dec-20
0001420165	-	SILICONE II CLEAR HOUSEHOLD GLUE	2.8	Ounces(OZ)	22-Dec-20
0000806736	-	SPRAY PAINT BLACK	12	Ounces(OZ)	22-Dec-20
V00000782E	-	SULLUBE COMPRESSOR FLUID	5	Gallon(GAL)	22-Dec-20
V00000782F	-	SULLUBE COMPRESSOR FLUID	5	Gallon(GAL)	22-Dec-20
V000007830	-	SULLUBE COMPRESSOR FLUID	5	Gallon(GAL)	22-Dec-20
0000957768	-	SURE HOLD ACTIVATOR	2.8	Ounces(OZ)	22-Dec-20
0001320318	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	Liters(L)	22-Dec-20
V000007845	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000783B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007848	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007858	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007857	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007856	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007855	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007844	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007853	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007846	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007852	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007851	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007850	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
V00000784F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000784E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000784D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000784C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000784B	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000784A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007854	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000783D	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000783A	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007839	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007838	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007837	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007836	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007835	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007834	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007833	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007832	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007831	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007847	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000783C	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000783E	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V00000783F	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007842	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007841	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007843	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007840	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
V000007849	-	ARDEX FEATHER FINISH	10	Pounds(LB)	22-Dec-20
0001611127	-	Part #180 - Clear Gel Coat	1	Gallon(GAL)	22-Dec-20
0000957782	-	5 MINUTE EPOXY GEL	50	Milliliter(ML)	22-Dec-20
0000957764	64-17-5	ETHANOL (ETHYL ALCOHOL)	16	Ounces(OZ)	22-Dec-20
0000957769	-	LOCTITE 404 INSTANT ADHESIVE	0.6	Ounces(OZ)	22-Dec-20
0001420204	-	DUCT SEALER	1	Pounds(LB)	22-Dec-20
0001420207	-	DUCT SEALER	1	Pounds(LB)	22-Dec-20
0001420208	-	DUCT SEALER	1	Pounds(LB)	22-Dec-20
0001420209	-	DUCT SEALER	1	Pounds(LB)	22-Dec-20
0001420210	-	DUCT SEALER	1	Pounds(LB)	22-Dec-20
0001420206	-	DUCT SEALER	1	Pounds(LB)	22-Dec-20
0001420205	-	DUCT SEALER	1	Pounds(LB)	22-Dec-20
0001420149	-	PERMATEX ULTRA BLACK	3.35	Ounces(OZ)	22-Dec-20
0001420146	-	PERMATEX ULTRA BLACK	3.35	Ounces(OZ)	22-Dec-20
0001063038	7440-21-3	732 RTV SILICONE MULTI-PURPOSE SEALANT	10	Ounces(OZ)	22-Dec-20
0001419926	-	PURPLE PRIMER FOR CPVC OR PVC	8	Ounces(OZ)	22-Dec-20
0001419924	-	REGULAR CLEAR PVC CEMENT	8	Ounces(OZ)	22-Dec-20
0001320573	-	SOLDER	500	Gram(GM)	22-Dec-20
0001569381	-	ARDEX-V-1200	50	Pounds(LB)	22-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001569386	-	ARDEX-V-1200	50	Pounds(LB)	22-Dec-20
0001569385	-	ARDEX-V-1200	50	Pounds(LB)	22-Dec-20
0001569384	-	ARDEX-V-1200	50	Pounds(LB)	22-Dec-20
0001569383	-	ARDEX-V-1200	50	Pounds(LB)	22-Dec-20
0001569382	-	ARDEX-V-1200	50	Pounds(LB)	22-Dec-20
0001569390	-	ARDEX-V-1200	50	Pounds(LB)	22-Dec-20
0001569389	-	ARDEX-V-1200	50	Pounds(LB)	22-Dec-20
0001569387	-	ARDEX-V-1200	50	Pounds(LB)	22-Dec-20
0001569388	-	ARDEX-V-1200	50	Pounds(LB)	22-Dec-20
0001569379	-	AEON 9000 SP LUBRICANT	5	Gallon(GAL)	22-Dec-20
0001569380	-	AEON 9000 SP LUBRICANT	5	Gallon(GAL)	22-Dec-20
0001569271	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569272	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569275	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569287	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569277	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569273	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569285	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569289	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569284	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569290	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569288	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569283	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569282	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569281	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569280	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569279	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569278	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569276	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569274	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569286	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569291	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569372	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569349	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569348	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569347	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569346	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569345	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569344	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569371	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569293	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569374	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569376	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569377	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569378	-	SODA ASH	50	Pounds(LB)	22-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001569343	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569342	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569370	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569360	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569294	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569295	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569296	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569297	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569298	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569368	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569367	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569366	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569365	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569364	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569299	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569363	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569350	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569361	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569351	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569359	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569358	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569292	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569357	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569356	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569369	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569300	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569355	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569301	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569354	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569353	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569352	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569375	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569362	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569305	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569334	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569333	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569326	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569331	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569330	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569329	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569328	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569307	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569327	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569335	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569306	-	SODA ASH	50	Pounds(LB)	22-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001569332	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569304	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569319	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569325	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569324	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569323	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569303	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569322	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569321	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569320	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569373	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569337	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569309	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569310	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569311	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569312	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569308	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569341	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569340	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569339	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569338	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569313	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569336	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569302	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569317	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569318	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569314	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569315	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001569316	-	SODA ASH	50	Pounds(LB)	22-Dec-20
0001657160	7440-59-7	HELIUM GAS	91	Cubic Feet(CF)	22-Dec-20
0001657159	74-98-6	PROPANE	350	Cubic Feet(CF)	22-Dec-20
0001656983	7440-59-7	HELIUM GAS	86	Liters(L)	22-Dec-20
0001656984	-	OXYGEN COMPRESSED GAS	40	Cubic Feet(CF)	22-Dec-20
0001656986	-	OXYGEN COMPRESSED GAS	40	Cubic Feet(CF)	22-Dec-20
0001656987	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001656985	-	OXYGEN COMPRESSED GAS	40	Cubic Feet(CF)	22-Dec-20
0001656988	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657071	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657060	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657069	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657068	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657067	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657065	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657090	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657063	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001657070	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657061	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657066	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657059	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657058	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657057	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657056	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657055	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657054	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657073	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657062	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657085	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657089	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657088	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657064	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657086	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657072	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657084	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657083	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657082	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657080	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657079	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657078	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657077	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657076	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657075	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657081	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657087	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657074	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657052	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657044	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657045	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657046	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657047	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657048	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657049	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657051	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657053	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657042	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657050	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657043	7727-37-9	NITROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001656998	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657009	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657008	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657007	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001657006	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657005	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657004	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657003	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657002	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657001	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001656999	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657012	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001656997	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001656996	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001656995	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001656994	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001656993	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001656992	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001656991	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001656990	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001656989	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657000	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657022	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657030	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657029	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657028	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657027	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657026	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657025	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657010	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657023	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657011	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657021	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657020	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657019	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657018	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657017	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657016	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657015	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657014	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657013	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657024	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657032	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657033	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657034	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657035	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001657031	-	ARGON GAS	220	Cubic Feet(CF)	22-Dec-20
0001659991	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001659998	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001660010	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660009	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660008	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660007	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660006	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660005	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660003	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660001	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660011	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001659999	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660004	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001659997	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001659996	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001659995	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001659994	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001659993	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001659992	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660000	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660021	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660022	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660023	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660002	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660024	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660012	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660025	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660026	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660027	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660028	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660020	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660029	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660019	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660030	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660018	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660017	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660016	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660015	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660014	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001660013	-	900-21 INERT MOLDING POWDER	50	Pounds(LB)	22-Dec-20
0001165047	1308-38-9	CHROMIUM(III) OXIDE	5	Gram(GM)	22-Dec-20
0001657124	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657129	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657137	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657138	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657136	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657135	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001657134	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657133	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657132	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657130	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657128	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657127	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657126	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657125	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657131	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0000609501	135539-57-0	[(t-butylamido)(cyclopentadienyl)dimethylsilane]titanium Dichloride	1	Gram(GM)	22-Dec-20
0001657150	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657149	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657142	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657139	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657141	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657143	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657144	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657145	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657146	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657147	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657140	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657148	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	22-Dec-20
0001657151	-	NITRIC OXIDE IN ARGON	200	Cubic Feet(CF)	22-Dec-20
0001657153	-	NITRIC OXIDE IN ARGON	40	Cubic Feet(CF)	22-Dec-20
0001657152	-	NITRIC OXIDE IN ARGON	40	Cubic Feet(CF)	22-Dec-20
0001657154	-	NITRIC OXIDE IN ARGON	40	Cubic Feet(CF)	22-Dec-20
0001657155	-	NITRIC OXIDE IN ARGON	40	Cubic Feet(CF)	22-Dec-20
0001657156	74-98-6	PROPANE	11	Gallon(GAL)	22-Dec-20
0001657157	74-98-6	PROPANE	11	Gallon(GAL)	22-Dec-20
0001657158	74-98-6	PROPANE	11	Gallon(GAL)	22-Dec-20
0001426796	1310-58-3	POTASSIUM HYDROXIDE	1	Kilograms(KG)	22-Dec-20
0001657036	-	Compressed Air	220	Cubic Feet(CF)	22-Dec-20
0001657037	-	Compressed Air	220	Cubic Feet(CF)	22-Dec-20
0001657039	-	Compressed Air	220	Cubic Feet(CF)	22-Dec-20
0001657040	-	Compressed Air	220	Cubic Feet(CF)	22-Dec-20
0001657041	-	Compressed Air	220	Cubic Feet(CF)	22-Dec-20
0001657038	-	Compressed Air	220	Cubic Feet(CF)	22-Dec-20
0001657091	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001441280	4282-31-9	2 5-THIOPHENEDICARBOXYLIC ACID	5	Kilograms(KG)	22-Dec-20
0001657092	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001657096	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657108	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657103	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657109	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657110	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657093	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657111	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657095	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657107	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657097	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657098	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657099	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657100	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657106	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657102	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657094	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657105	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657104	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657101	-	10% Methane/90% Argon aka/P-10 P-10 (220 cf)	220	Cubic Feet(CF)	22-Dec-20
0001657112	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657120	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657113	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657114	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657115	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657116	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657117	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001657119	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657121	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657122	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657123	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001657118	-	HYDROGEN GAS	220	Cubic Feet(CF)	22-Dec-20
0001354494	32294-60-3	DIPHENYL DITELLURIDE	5	Gram(GM)	22-Dec-20
0001301904	540-36-3	1 4-DIFLUOROBENZENE	25	Gram(GM)	22-Dec-20
0001277553	2265-91-0	3 5-Difluoroiodobenzene	5	Gram(GM)	22-Dec-20
0001277167	7681-65-4	COPPER IODIDE 80 MESH 99.999%	5	Gram(GM)	22-Dec-20
0001300051	865-47-4	POTASSIUM tert-BUTOXIDE	100	Gram(GM)	22-Dec-20
0001300050	865-47-4	POTASSIUM tert-BUTOXIDE	25	Gram(GM)	22-Dec-20
0001277166	624-38-4	1 4-DIIODOBENZENE	10	Gram(GM)	22-Dec-20
0001192460	7-14-1	1-PENTANOL	1	Liters(L)	22-Dec-20
0001133780	107-15-3	ETHYLENEDIAMINE 99+%	1	Liters(L)	22-Dec-20
0001299032	-	TETRAETHYLAMMONIUM HYDROXIDE 20% AQUEOUS SOLUTION	100	Gram(GM)	22-Dec-20
0001303488	13965-03-2	BIS(TRIPHENYLPHOSPHINE)PALLADIUM(II) DICHLORIDE	1	Gram(GM)	23-Dec-20
0001426798	124-38-9	CARBON DIOXIDE GAS	50	Pounds(LB)	23-Dec-20
0001420213	-	NuRinse Hand Sanitizer	1	Gallon(GAL)	23-Dec-20
0001420214	-	NuRinse Hand Sanitizer	1	Gallon(GAL)	23-Dec-20
0001420217	-	NuRinse Hand Sanitizer	1	Gallon(GAL)	23-Dec-20
0001420215	-	NuRinse Hand Sanitizer	1	Gallon(GAL)	23-Dec-20
0001420216	-	NuRinse Hand Sanitizer	1	Gallon(GAL)	23-Dec-20
0001420218	-	NuRinse Hand Sanitizer	1	Gallon(GAL)	23-Dec-20
0001607757	7772-98-7	SODIUM THIOSULFATE	32	Ounces(OZ)	23-Dec-20
0001607759	7772-98-7	SODIUM THIOSULFATE	32	Ounces(OZ)	23-Dec-20
0001607758	7772-98-7	SODIUM THIOSULFATE	32	Ounces(OZ)	23-Dec-20
0001058601	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	23-Dec-20
0001058602	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	23-Dec-20
0001058603	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	23-Dec-20
0001607760	-	STARCH INDICATOR	500	Milliliter(ML)	23-Dec-20
0001058604	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	23-Dec-20
0001058605	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	23-Dec-20
0001607761	-	ORION PH ELECTRODE STORAGE SOLUTION	475	Milliliter(ML)	23-Dec-20
0001607762	144-55-8	SODIUM BICARBONATE	2.5	Kilograms(KG)	23-Dec-20
0001607764	26412-87-3	SULFUR TRIOXIDE PYRIDINE COMPLEX	25	Gram(GM)	23-Dec-20
0001058606	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	23-Dec-20
0001058607	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	23-Dec-20
0001058608	-	FANTASTIK ALL PURPOSE CLEANER	32	Ounces(OZ)	23-Dec-20
0001611259	-	Tellurium AAS standard solution Specpure Sb 10 000 myg/ml	50	Milliliter(ML)	23-Dec-20
0001611260	97-72-3	ISOBUTYRIC ANHYDRIDE	100	Milliliter(ML)	23-Dec-20
0001611261	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611269	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611265	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611263	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611266	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611267	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611268	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611280	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611284	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611283	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611278	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611281	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611270	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611262	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611279	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611271	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611282	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611277	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611276	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611264	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611272	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611273	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611275	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611274	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611285	50-00-0	FORMALDEHYDE	500	Milliliter(ML)	23-Dec-20
0001664072	-	ISOPROPANOL	0.023	Liters(L)	23-Dec-20
0001664073	-	70% denatured ethanol solution	0.058	Liters(L)	23-Dec-20
0001611286	-	CASO Broth	500	Gram(GM)	23-Dec-20
0001611287	5975-18-8	Tributylammonium pyrophosphate	5	Gram(GM)	23-Dec-20
0001611288	5975-18-8	Tributylammonium pyrophosphate	5	Gram(GM)	23-Dec-20
0001611289	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611299	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611303	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611304	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611305	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611306	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611307	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611300	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611311	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611298	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611297	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611302	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611301	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611312	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611295	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611292	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611294	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611293	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611291	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611308	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611310	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611290	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611296	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611309	64-17-5	ETHYL ALCOHOL-200 PROOF	1	Pint(PT)	23-Dec-20
0001611313	-	Hydrochloric Acid	500	Milliliter(ML)	23-Dec-20
0001611315	-	Hydrochloric Acid	500	Milliliter(ML)	23-Dec-20
0001611316	-	Hydrochloric Acid	500	Milliliter(ML)	23-Dec-20
0001611317	-	Hydrochloric Acid	500	Milliliter(ML)	23-Dec-20
0001611314	-	Hydrochloric Acid	500	Milliliter(ML)	23-Dec-20
0001611319	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	23-Dec-20
0001611320	7722-84-1	HYDROGEN PEROXIDE	500	Milliliter(ML)	23-Dec-20
0001611321	107-21-1	ETHYLENE GLYCOL	1	Liters(L)	23-Dec-20
0001611322	-	Test mixture 2 for apolar capillary columns according to Grob	1	Milliliter(ML)	23-Dec-20
0001611325	-	Test mixture 2 for apolar capillary columns according to Grob	1	Milliliter(ML)	23-Dec-20
0001611323	-	Test mixture 2 for apolar capillary columns according to Grob	1	Milliliter(ML)	23-Dec-20
0001611324	-	Test mixture 2 for apolar capillary columns according to Grob	1	Milliliter(ML)	23-Dec-20
0001611326	626-39-1	1 3 5-TRIBROMOBENZENE	100	Gram(GM)	23-Dec-20
0001611327	71-43-2	BENZENE	1	Liters(L)	23-Dec-20
0001611328	71-43-2	BENZENE	1	Liters(L)	23-Dec-20
0001611329	7697-37-2	NITRIC ACID	500	Milliliter(ML)	23-Dec-20
0001611330	108-46-3	RESORCINOL	500	Gram(GM)	23-Dec-20
0001611331	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	23-Dec-20
0001611332	67-63-0	ISOPROPYL ALCOHOL	4	Liters(L)	23-Dec-20
0001611335	13726-84-6	N-Boc-L-glutamic acid 5-tert-butyl ester	5	Gram(GM)	23-Dec-20
0001514424	100-43-6	4-VINYLPYRIDINE	100	Milliliter(ML)	23-Dec-20
0001142950	-	2 2-DIPYRROMETHANE	1	Gram(GM)	23-Dec-20
0001142941	-	2 2-DIPYRROMETHANE	1	Gram(GM)	23-Dec-20
0001611333	-	SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)	55	Gallon(GAL)	23-Dec-20
0001611334	-	SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)	55	Gallon(GAL)	23-Dec-20
0001607765	-	Essential 8 Flex Medium Kit	510	Milliliter(ML)	23-Dec-20
0001611336	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611349	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611377	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611361	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611360	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611359	-	LOCTITE	4	Gram(GM)	23-Dec-20

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611358	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611357	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611356	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611355	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611354	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611353	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611352	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611363	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611350	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611364	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611348	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611347	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611346	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611345	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611344	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611343	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611337	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611338	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611339	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611340	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611341	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611342	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611351	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611376	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611385	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611384	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611383	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611382	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611381	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611380	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611362	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611378	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611365	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611375	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611374	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611367	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611379	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611366	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611373	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611368	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611369	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611370	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611371	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611372	-	LOCTITE	4	Gram(GM)	23-Dec-20
0001611386	-	Black Powder Chemicals Kit	12	Pounds(LB)	23-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611387	-	Black Powder Chemicals Kit	12	Pounds(LB)	23-Dec-20
0001611388	-	Black Powder Chemicals Kit	12	Pounds(LB)	23-Dec-20
0001611389	-	Black Powder Chemicals Kit	12	Pounds(LB)	23-Dec-20
0001611392	-	Black Powder Chemicals Kit	12	Pounds(LB)	23-Dec-20
0001611390	-	Black Powder Chemicals Kit	12	Pounds(LB)	23-Dec-20
0001611393	-	Black Powder Chemicals Kit	12	Pounds(LB)	23-Dec-20
0001611391	-	Black Powder Chemicals Kit	12	Pounds(LB)	23-Dec-20
0001611395	-	Black Powder Chemicals Kit	12	Pounds(LB)	23-Dec-20
0001611394	-	Black Powder Chemicals Kit	12	Pounds(LB)	23-Dec-20
0001611396	63-42-3	LACTOSE	2	Pounds(LB)	23-Dec-20
0001611397	63-42-3	LACTOSE	2	Pounds(LB)	23-Dec-20
0001611398	546-93-0	MAGNESIUM CARBONATE	1	Pounds(LB)	23-Dec-20
0001611399	546-93-0	MAGNESIUM CARBONATE	1	Pounds(LB)	23-Dec-20
0001611400	3811-04-9	POTASSIUM CHLORATE	1	Pounds(LB)	23-Dec-20
0001611401	3811-04-9	POTASSIUM CHLORATE	1	Pounds(LB)	23-Dec-20
0001611402	3811-04-9	POTASSIUM CHLORATE	1	Pounds(LB)	23-Dec-20
0001611405	56-81-5	Vitronectin	1	Milliliter(ML)	23-Dec-20
0001611406	56-81-5	Vitronectin	1	Milliliter(ML)	23-Dec-20
0001611407	56-81-5	Vitronectin	1	Milliliter(ML)	23-Dec-20
0001611408	56-81-5	Vitronectin	1	Milliliter(ML)	23-Dec-20
0001611409	865-49-6	CHLOROFORM-D	100	Gram(GM)	23-Dec-20
0001611410	865-49-6	CHLOROFORM-D	100	Gram(GM)	23-Dec-20
0001611411	67-68-5	DIMETHYL SULFOXIDE	25	Gram(GM)	23-Dec-20
0001611412	67-68-5	DIMETHYL SULFOXIDE	25	Gram(GM)	23-Dec-20
0001611413	-	ACETRONITRILE	25	Gram(GM)	23-Dec-20
0001611414	811-98-3	METHANOL D4	25	Gram(GM)	23-Dec-20
0001611415	7782-63-0	FERROUS SULFATE HEPTAHYDRATE	500	Gram(GM)	23-Dec-20
0001611416	7782-63-0	FERROUS SULFATE HEPTAHYDRATE	500	Gram(GM)	23-Dec-20
0001611417	7782-63-0	FERROUS SULFATE HEPTAHYDRATE	500	Gram(GM)	23-Dec-20
0001611418	7782-63-0	FERROUS SULFATE HEPTAHYDRATE	500	Gram(GM)	23-Dec-20
0001611419	-	ELECTRODE STORAGE SOLUTION	1	Liters(L)	23-Dec-20
0001611420	7447-40-7	POTASSIUM CHLORIDE	500	Milliliter(ML)	23-Dec-20
0001607766	7723-14-0	PHOSPHORUS RED	5	Gram(GM)	23-Dec-20
0001611421	75-09-2	DICHLOROMETHANE	4	Liters(L)	23-Dec-20
0001611422	75-09-2	DICHLOROMETHANE	4	Liters(L)	23-Dec-20
0001611423	75-09-2	DICHLOROMETHANE	4	Liters(L)	23-Dec-20
0001611424	1310-73-2	SODIUM HYDROXIDE	4	Liters(L)	23-Dec-20
0001611425	1730-25-2	ALLYLMAGNESIUM BROMIDE	100	Milliliter(ML)	23-Dec-20
0001611426	-	PHENOL CHLOROFORM	400	Milliliter(ML)	23-Dec-20
0001611429	67-64-1	ACETONE	4	Liters(L)	23-Dec-20
0001611430	67-64-1	ACETONE	4	Liters(L)	23-Dec-20
0001611431	67-64-1	ACETONE	19	Liters(L)	23-Dec-20
0001611432	67-64-1	ACETONE	19	Liters(L)	23-Dec-20
0001611433	7631-99-4	SODIUM NITRATE	2.5	Kilograms(KG)	23-Dec-20
0001611434	308080-99-1	MOLECULAR SIEVES 3A POWDER	250	Gram(GM)	23-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611435	70955-01-0	Molecular sieves 4A	250	Gram(GM)	23-Dec-20
0001611436	7647-14-5	SODIUM CHLORIDE	2.5	Kilograms(KG)	23-Dec-20
0001611437	10387-40-3	POTASSIUM THIOACETATE	25	Gram(GM)	23-Dec-20
0001611438	100-10-7	4-(DIMETHYLAMINO)BENZALDEHYDE (EHRLICH'S REAGENT)	100	Gram(GM)	23-Dec-20
0001611439	7647-14-5	SODIUM CHLORIDE	1	Kilograms(KG)	23-Dec-20
0001611440	92-87-5	BENZIDINE	5	Gram(GM)	23-Dec-20
0001611441	15715-58-9	TRIETHYLAMMONIUM BICARBONATE BUFFER PH 8.5	500	Milliliter(ML)	23-Dec-20
0001611442	100-61-8	N-METHYLANILINE	10	Gram(GM)	23-Dec-20
0001611443	-	ACTINIDE RESIN	50	Gram(GM)	23-Dec-20
0001611444	-	Buffer Reference Standard pH 2.00 ± 0.02 at 25°C	500	Milliliter(ML)	23-Dec-20
0001611445	67-64-1	ACETONE	1	Liters(L)	23-Dec-20
0001611446	331717-63-6	1-Ethyl-3-methylimidazolium thiocyanate	100	Gram(GM)	23-Dec-20
0001611447	-	TRIZOL LS REAGENT	100	Milliliter(ML)	23-Dec-20
0001611448	-	Hydrochloric Acid	500	Milliliter(ML)	23-Dec-20
0001611449	-	Hydrochloric Acid	500	Milliliter(ML)	23-Dec-20
0001611450	-	Hydrochloric Acid	500	Milliliter(ML)	23-Dec-20
0001611451	-	ICP-MS-68B Solution B	100	Milliliter(ML)	23-Dec-20
0001611452	-	ICP-MS-68B Solution B	100	Milliliter(ML)	23-Dec-20
0001611453	865-47-4	POTASSIUM tert-BUTOXIDE	5	Gram(GM)	23-Dec-20
0001611454	109-66-0	PENTANE ANHYDROUS	1	Liters(L)	23-Dec-20
0001611455	128-08-5	N-BROMOSUCCINIMIDE	500	Gram(GM)	23-Dec-20
0001611456	7758-11-4	POTASSIUM PHOSPHATE DIBASIC	500	Gram(GM)	23-Dec-20
0001611457	110-86-1	PYRIDINE	100	Milliliter(ML)	23-Dec-20
0001611459	110-86-1	PYRIDINE	100	Milliliter(ML)	23-Dec-20
0001611458	110-86-1	PYRIDINE	100	Milliliter(ML)	23-Dec-20
0001611460	18618-55-8	CERIUM III CHLORIDE	25	Gram(GM)	23-Dec-20
0001611461	7783-20-2	AMMONIUM SULFATE	500	Gram(GM)	23-Dec-20
0001611462	10035-04-8	CALCIUM CHLORIDE DIHYDRATE	1	Kilograms(KG)	23-Dec-20
0001611463	58479-61-1	TERT-BUTYLCHLORODIPHENYLSILANE	100	Gram(GM)	23-Dec-20
0001611464	-	BDH5006 Buffer Reference Standard pH 1.68 ± 0.01 at 25 °C	500	Milliliter(ML)	23-Dec-20
0001611465	-	BDH5014 Buffer Reference Standard pH 3.00 ± 0.02 at 25 °C	500	Milliliter(ML)	23-Dec-20
0001611466	-	Agel-HF	2	Liters(L)	23-Dec-20
0001611467	14808-60-7	Sand Standard Washed and Dried	12	Kilograms(KG)	23-Dec-20
0001611468	64-17-5	REAGENT ALCOHOL (ETHANOL ETHYL ALCOHOL)	4	Liters(L)	23-Dec-20
0001611470	64-17-5	REAGENT ALCOHOL (ETHANOL ETHYL ALCOHOL)	4	Liters(L)	23-Dec-20
0001611471	64-17-5	REAGENT ALCOHOL (ETHANOL ETHYL ALCOHOL)	4	Liters(L)	23-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611469	64-17-5	REAGENT ALCOHOL (ETHANOL ETHYL ALCOHOL)	4	Liters(L)	23-Dec-20
0001611472	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611511	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611504	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611497	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611498	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611499	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611500	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611496	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611501	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611502	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611503	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611505	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611506	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611507	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611508	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611495	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611510	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611487	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611512	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611513	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611514	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611515	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611509	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611482	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611516	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611473	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611474	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611475	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611476	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611477	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611478	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611479	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611489	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611481	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611494	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611483	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611484	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611485	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611486	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611488	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611490	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611491	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611492	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20

Chemical Usage July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001611493	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611480	7681-52-9	Clorox Concentrated Germicidal Bleach	121	Ounces(OZ)	23-Dec-20
0001611517	-	BDH5002 Buffer Reference Standard pH 1.00 ± 0.01 at 25 °C	500	Milliliter(ML)	23-Dec-20
0001611518	-	BDH5018 Buffer Reference Standard pH 4.00 ± 0.01 at 25°C (Color Coded Red)	500	Milliliter(ML)	23-Dec-20
0001611519	-	BDH5046 Buffer Reference Standard pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)	500	Milliliter(ML)	23-Dec-20
0001611520	-	BDH5072 Buffer Reference Standard pH 10.00 ± 0.02 at 25°C (Color Coded Blue)	500	Milliliter(ML)	23-Dec-20
0001590861	-	LAPMASTER 99 VEHICLE	5	Gallon(GAL)	23-Dec-20
0001590862	-	LAPMASTER 99 VEHICLE	5	Gallon(GAL)	23-Dec-20

ATTACHMENT A907.B.a.

Chemical Usage

RLUOB-CHEM Chemical Purchases from ChemDB

RLUOB-CHEM Chemical Purchases July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602603	-	ETHANOL 190	16	Ounces(OZ)	05-Jul-20
0001602604	-	ETHANOL 190	16	Ounces(OZ)	05-Jul-20
0001602652	64-17-5	ETHYL ALCOHOL	500	Milliliter(ML)	05-Jul-20
0001602660	-	ENSOLV DEGREASER	1	Gallon(GAL)	05-Jul-20
0001602661	-	ENSOLV DEGREASER	1	Gallon(GAL)	05-Jul-20
0001602672	-	5-MINUTE EPOXY	25	Milliliter(ML)	05-Jul-20
0001602673	-	5-MINUTE EPOXY	25	Milliliter(ML)	05-Jul-20
0001602674	-	5-MINUTE EPOXY	25	Milliliter(ML)	05-Jul-20
0001602675	-	E&C STYCAST 2850FT BLACK	18	Pounds(LB)	05-Jul-20
0001602745	-	STYCAST 1266 PART B	7	Ounces(OZ)	06-Jul-20
0001602746	-	STYCAST 1266 PART B	1	Quarts(QT)	06-Jul-20
0001602747	-	CATALYST 9	1	Pint(PT)	06-Jul-20
0001602749	-	TORR SEAL	118	Gram(GM)	06-Jul-20
0001602750	-	TORR SEAL	118	Gram(GM)	06-Jul-20
0001602681	67-56-1	METHANOL	19	Liters(L)	07-Jul-20
0001602698	67-64-1	ACETONE	4	Liters(L)	07-Jul-20
0001602699	108-88-3	TOLUENE	1	Liters(L)	07-Jul-20
0001602706	007697-37-2	NITRIC ACID	2.5	Liters(L)	07-Jul-20
0001602707	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 36.5-38%	500	Milliliter(ML)	07-Jul-20
0001602708	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 36.5-38%	500	Milliliter(ML)	07-Jul-20
0001602709	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 36.5-38%	500	Milliliter(ML)	07-Jul-20
0001602710	7647-01-0	HYDROCHLORIC ACID (HCL HYDROGEN CHLORIDE) 36.5-38%	500	Milliliter(ML)	07-Jul-20
0001602782	64-17-5	ETHANOL	500	Milliliter(ML)	08-Jul-20
0001602822	-	Dupont 4987 Epoxy Thinner Composition	500	Gram(GM)	08-Jul-20
0001602943	-	PLASTIDIP	4	Ounces(OZ)	09-Jul-20
0001602945	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602946	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602947	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602948	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602949	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602950	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602951	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602952	-	NITRIC ACID TRACE METAL	500	Milliliter(ML)	09-Jul-20
0001602953	12054-85-2	AMMONIUM MOLYBDATE(VI) TETRAHYDRATE	500	Gram(GM)	09-Jul-20
0001602954	5329-14-6	SULFAMIC ACID	500	Gram(GM)	09-Jul-20

RLUOB-CHEM Chemical Purchases July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001602977	7761-88-8	SILVER NITRATE	50	Gram(GM)	09-Jul-20
0001602978	73513-42-5	HEXANES	500	Milliliter(ML)	09-Jul-20
0001602996	12439-96-2	VANADYL(IV) SULFATE HYDRATE 17-23%	100	Gram(GM)	10-Jul-20
0001602999	-	ADH/INS VARNISH	1	Pint(PT)	10-Jul-20
0001603081	1310-73-2	SODIUM HYDROXIDE PELLETS	500	Gram(GM)	16-Jul-20
0001603087	107-21-1	ETHYLENE GLYCOL (ETHYLENE GLYCOL ANHYDROUS)	1	Liters(L)	16-Jul-20
0001603088	9005-64-5	TWEEN 20	100	Milliliter(ML)	16-Jul-20
0001603089	-	TWEEN 80	100	Milliliter(ML)	16-Jul-20
0001603090	7632-05-5	SODIUM PHOSPHATE	100	Gram(GM)	16-Jul-20
0001603091	10124-56-8	SODIUM HEXAMETAPHOSPHATE	1	Kilograms(KG)	16-Jul-20
0001603263	-	Ethyl Alcohol 200 Proof Absolute ACS/USP Grade	500	Milliliter(ML)	20-Jul-20
0001603406	-	INSULATING VARNISH	1	Pint(PT)	21-Jul-20
0001603408	-	INSULATING VARNISH	1	Pint(PT)	21-Jul-20
0001603407	-	INSULATING VARNISH	1	Pint(PT)	21-Jul-20
0001603810	Multi	EPO-TEK H2OE Part A	11	Ounces(OZ)	28-Jul-20
0001603811	Multi	EPO-TEK H2OE Part A	11	Ounces(OZ)	28-Jul-20
0001603927	-	ISOTON III DILUENT	200	Liters(L)	29-Jul-20
0001604150	-	ETHANOL 190	1	Ounces(OZ)	05-Aug-20
0001604151	-	ETHANOL 190	1	Ounces(OZ)	05-Aug-20
0001604432	1310-73-2	SODIUM HYDROXIDE	1	Liters(L)	10-Aug-20
0000801678	57-55-6	PROPYLENE GLYCOL	2	Liters(L)	11-Aug-20
0000801687	57-55-6	PROPYLENE GLYCOL	2	Liters(L)	11-Aug-20
0001604673	67-64-1	ACETONE	4	Liters(L)	12-Aug-20
0001604674	67-64-1	ACETONE	4	Liters(L)	12-Aug-20
0001604734	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604741	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604737	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604745	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604744	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604743	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604742	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604738	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20

RLUOB-CHEM Chemical Purchases July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001604736	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604735	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604740	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604739	-	DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	Ounces(OZ)	13-Aug-20
0001604952	-	Silver Composition	100	Gram(GM)	18-Aug-20
0001654346	7440-59-7	HELIUM GAS	220	Cubic Feet(CF)	18-Aug-20
0001603253	-	TEVA RESIN	1	Milliliter(ML)	19-Aug-20
0001603254	-	UTEVA RESIN	550	Milliliter(ML)	20-Aug-20
0001420784	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	Liters(L)	28-Aug-20
0001606363	7782-63-0	IRON(II) SULFATE HEPTAHYDRATE	500	Gram(GM)	02-Sep-20
0001606539	69011-17-2	AG MP-1M Anion Exchange Resin	500	Gram(GM)	04-Sep-20
0001606540	69011-17-2	AG MP-1M Anion Exchange Resin	500	Gram(GM)	04-Sep-20
0001606552	7778-50-9	POTASSIUM DICHROMATE	250	Gram(GM)	04-Sep-20
0001606279	1341-49-7	AMMONIUM BIFLUORIDE	4	Liters(L)	09-Sep-20
0001606989	123-86-4	N-BUTYL ACETATE	1	Liters(L)	10-Sep-20
0001607133	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607137	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607138	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607139	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607134	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607135	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607136	-	NEUTRASORB ACID NEUTRALIZER	2	Pounds(LB)	10-Sep-20
0001607689	-	Brady Acid and Base Neutralizing Polymers	2	Pounds(LB)	22-Sep-20
0001607690	-	Brady Acid and Base Neutralizing Polymers	2	Pounds(LB)	22-Sep-20
0001607691	-	Brady Acid and Base Neutralizing Polymers	2	Pounds(LB)	22-Sep-20
0001609756	-	DP-SUSPENSION A 1/4UM	500	Milliliter(ML)	12-Nov-20
0001609757	-	DP-SUSPENSION A 1/4UM	500	Milliliter(ML)	12-Nov-20

RLUOB-CHEM Chemical Purchases July - December 2020

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001609758	-	DP-SUSPENSION A 1/4UM	500	Milliliter(ML)	12-Nov-20
0001609759	-	DP-SUSPENSION A	500	Milliliter(ML)	12-Nov-20
0001609761	-	DP-SUSPENSION A	500	Milliliter(ML)	12-Nov-20
0001609760	-	DP-SUSPENSION A	500	Milliliter(ML)	12-Nov-20
0001609762	-	DP-LUBRICANT BROWN	1	Liters(L)	12-Nov-20
0001609763	-	DP-LUBRICANT BROWN	1	Liters(L)	12-Nov-20
0001609764	-	DP-LUBRICANT BROWN	1	Liters(L)	12-Nov-20
0001609765	-	struers DP-Suspension 3 micron	500	Milliliter(ML)	12-Nov-20
0001609767	-	struers DP-Suspension 3 micron	500	Milliliter(ML)	12-Nov-20
0001609766	-	struers DP-Suspension 3 micron	500	Milliliter(ML)	12-Nov-20
0001420770	74-98-6	PROPANE	14.1	Ounces(OZ)	16-Nov-20
0001420769	74-98-6	PROPANE	14.1	Ounces(OZ)	16-Nov-20
0001420777	74-98-6	PROPANE	14.1	Ounces(OZ)	16-Nov-20
0001420776	74-98-6	PROPANE	14.1	Ounces(OZ)	16-Nov-20
0001656642	-	ARGON 94% HYDROGEN 6%	220	Cubic Feet(CF)	24-Nov-20
0001610242	7697-37-2	NITRIC ACID	1	Liters(L)	03-Dec-20
0001610243	7697-37-2	NITRIC ACID	1	Liters(L)	03-Dec-20
0001420729	-	DOW CORNING(R) HIGH VACUUM GREASE	10	Milliliter(ML)	20-Dec-20

ATTACHMENT A907.B.b.

Chemical Usage

RLUOB-CHEM Chemical Quantity Total

2020 CMRR-RLUOB HAPs Monthly Emission Rates (lb)

Cas Number	Chemical Name	January	February	March	April	May	June	July	August	September	October	November	December
107-21-1	Ethylene Glycol	0	0	0	0	0	0	2.46	0	0	0	0	0
110-54-3	Hexane	0	0	0	0	0	0	0	0	0	0	0	0
7664-39-3	Hydrogen Fluoride	0	0	0	0	0	0	0	0	0	0	0	0
7647-01-0	Hydrochloric Acid	0	0	0	0	0	0	4.63	2.31	0	0	0	0
67-56-1	Methyl Alcohol	0	0	0	0	0	0	33.18	0	0	0	0	0
75-09-2	Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0
100-42-5	Styrene	0	0	0	0	0	0	0	0	0	0	0	0
108-88-3	Toluene	0	0	0	0	0	0	1.91	0	0	0	0	0
Nickel	Nickel Compounds	0	0	0	0	0	0	0	0	0	0	0	0
Chromium	Chromium Compounds	0	0	0	0	0	0	0	0	0	0	0	0
HAPs Monthly Total		0	0	0	0	0	0	42.18	2.31	0	0	0	0

2020 CMRR-RLUOB HAPS 12-Month Rolling Total (lb)

Cas Number	Chemical Name	January	February	March	April	May	June	July	August	September	October	November	December
107-21-1	Ethylene Glycol	0	0	0	0	0	0	2.46	2.46	2.46	2.46	2.46	2.46
110-54-3	Hexane	0	0	0	0	0	0	0	0	0	0	0	0
7664-39-3	Hydrogen Fluoride	0	0	0	0	0	0	0	0	0	0	0	0
7647-01-0	Hydrochloric Acid	4.63	4.63	0	0	0	0	4.63	6.94	6.94	6.94	6.94	6.94
67-56-1	Methyl Alcohol	0	0	0	0	0	0	33.18	33.18	33.18	33.18	33.18	33.18
75-09-2	Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0
100-42-5	Styrene	0	0	0	0	0	0	0	0	0	0	0	0
108-88-3	Toluene	0	0	0	0	0	0	1.91	1.91	1.91	1.91	1.91	1.91
Nickel	Nickel Compounds	0	0	0	0	0	0	0	0	0	0	0	0
Chromium	Chromium Compounds	0.06	0.06	0.06	0.06	0	0	0	0	0	0	0	0
TAPs 12 Month Rolling Total		4.69	4.69	0.06	0.06	0.00	0.00	42.18	44.49	44.49	44.49	44.49	44.49

2020 CMRR-RLUOB TAPs Monthly Emission Rates (lb)

	January	February	March	April	May	June	July	August	September	October	November	December
Total TAPs	0.00	0.00	0.02	0.00	0.00	20.86	1.10	3.31	1.93	0.00	0.00	6.67
TAPs 12 Month Rolling Total	135.39	135.39	64.38	61.95	60.23	55.65	56.75	59.35	40.71	40.71	40.71	33.89

2020 CMRR-RLUOB VOC Monthly Emission Rates (lb)

	January	February	March	April	May	June	July	August	September	October	November	December
Total VOC	0.00	0.00	0.00	0.00	0.00	0.00	36.83	0.00	1.93	0.00	0.00	0.00
VOC 12 Month Rolling Total	6.97	6.97	6.97	6.97	6.97	6.97	36.83	36.83	38.76	38.76	38.76	38.76

ATTACHMENT A1007.A.a.

Degreaser

Degreaser Solvent Usage from Tracking Database

Degreaser Solvent Usage
July – December 2020

Emission Unit	TA/Building	Type of Degreaser	Solvent
TA-55-DG-1	TA-55	Cold Batch	3M Novec Engineered Fluid 72DE

Date Measured	Initial Solvent Level (inches)	Volume Added (liters)	Level Added (inches)	Volume Removed (liters)	Level Removed (inches)
Jul-30-2020	2.50	0.00	0.00	0.00	0.00
Aug-27-2020	1.50	0.00	0.00	0.00	0.00
Sept-15-2020	1.50	8.85	4.50	0.00	0.00
Sept-29-2020	6.00	0.00	0.00	0.00	0.00
Oct-24-2020	3.50	0.00	0.00	0.00	0.00
Nov-30-2020	2.50	0.00	0.00	0.00	0.00
Dec-17-2020	2.50	10.82	5.50	0.00	0.00

Reviewed by: Katelyn Mahoney, 1/11/2021

ATTACHMENT A1007.A.b.

Degreaser

Completed Work Practice Checklist

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Date of Action: 7/30/2020	**Location of Source : (TA/BLDG/Room) TA-55-PF4-319**	
Monitoring Requirements(A1007.A[1]):	**Yes/No**	**Comments**
1. Does the operator monitor and record the amount of solvent added to the degreaser?	Yes	
Recordkeeping Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Are the actual emissions rate (pounds/month) of VOC and HAPS based on the quantity of solvent lost to evaporation calculated on a monthly basis?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
2. Are the semi-annual emissions rate (tons/year) calculated for this source category and added to the facility-wide emissions rates in Table 106.B (Facility-wide Allowable Emissions)?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
3. Does the operator maintain records of the degreaser solvent content?	Yes	
4. Does the operator maintain work practice checklists?	Yes	
5. Does the operator maintain records in accordance with Section B109, General Recordkeeping Requirements?	Yes	
Operational Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Does the operator ensure the degreaser is closed with a tight fitting cover whenever not in use?	Yes	
2. Does the operator maintain a freeboard ratio of 0.75 or greater?	Yes	Glove box is included in freeboard ratio determination.
3. Does the operator ensure that all collected and stored waste solvent and wipe rags are placed in closed containers?	Yes	
4. Does the operator ensure that flushing is performed only within the freeboard area only?	Yes	All rinsing is performed within the freeboard area.
5. Does the operator allow cleaned parts to drip for 15 seconds or until dripping stops (whichever is longer)?	Yes	
6. Does the operator ensure that the solvent level does not exceed the fill line on the solvent level?	Yes	
7. Does the operator ensure that all spills are wiped up immediately?	Yes	
8. Does the operator ensure that there is no creation of observable splashing with agitation device?	N/A	An air or pump agitated solvent bath is not used.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Operational Requirements (A1007.A[1]) continued	Yes/No	Comments
9. Does the operator ensure that the degreaser is not exposed to drafts greater than 40 meters per minute (132 feet per minute)?	Yes	Glove box air flow rates based on system design descriptions average between 5 acfm (normal operating) up to 40 acfm maximum for a single glove box.
10. Does the operator ensure that no sponges, fabric, wood or paper products are cleaned in the degreaser?	Yes	

Notification Requirements: If any of the boxes were checked with "No", please contact Air Quality Compliance Personnel at 665-1338.

Comments:

Form completed by:

Signature	Name (print)	Z number	Date
[signature]	Arsenio Salazar	163477	7/30/2020

The permit section or condition noted at the end of each requirement is from the following reference:

[1] Title V Operating Permit No: P100-R2

All required documentation must be kept for a minimum of 5 years from the date it was gathered or from the date of the operating permit issuance (February 27, 2015).

At the end of each assessment period this form must be filed as an official record.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Date of Action: 8/28/2020	**Location of Source : (TA/BLDG/Room) TA-55-PF4-319**	
Monitoring Requirements(A1007.A[1]):	**Yes/No**	**Comments**
1. Does the operator monitor and record the amount of solvent added to the degreaser?	Yes	
Recordkeeping Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Are the actual emissions rate (pounds/month) of VOC and HAPS based on the quantity of solvent lost to evaporation calculated on a monthly basis?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
2. Are the semi-annual emissions rate (tons/year) calculated for this source category and added to the facility-wide emissions rates in Table 106.B (Facility-wide Allowable Emissions)?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
3. Does the operator maintain records of the degreaser solvent content?	Yes	
4. Does the operator maintain work practice checklists?	Yes	
5. Does the operator maintain records in accordance with Section B109, General Recordkeeping Requirements?	Yes	
Operational Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Does the operator ensure the degreaser is closed with a tight fitting cover whenever not in use?	Yes	
2. Does the operator maintain a freeboard ratio of 0.75 or greater?	Yes	Glove box is included in freeboard ratio determination.
3. Does the operator ensure that all collected and stored waste solvent and wipe rags are placed in closed containers?	Yes	
4. Does the operator ensure that flushing is performed only within the freeboard area only?	Yes	All rinsing is performed within the freeboard area.
5. Does the operator allow cleaned parts to drip for 15 seconds or until dripping stops (whichever is longer)?	Yes	
6. Does the operator ensure that the solvent level does not exceed the fill line on the solvent level?	Yes	
7. Does the operator ensure that all spills are wiped up immediately?	Yes	
8. Does the operator ensure that there is no creation of observable splashing with agitation device?	N/A	An air or pump agitated solvent bath is not used.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Operational Requirements (A1007.A[1]) continued	Yes/No	Comments
9. Does the operator ensure that the degreaser is not exposed to drafts greater than 40 meters per minute (132 feet per minute)?	Yes	Glove box air flow rates based on system design descriptions average between 5 acfm (normal operating) up to 40 acfm maximum for a single glove box.
10. Does the operator ensure that no sponges, fabric, wood or paper products are cleaned in the degreaser?	Yes	

Notification Requirements: If any of the boxes were checked with "No", please contact Air Quality Compliance Personnel at 665-1338.

Comments:

Form completed by:

Signature	Name (print)	Z number	Date
[signature]	Arsenio Salazar	163429	8/28/20

The permit section or condition noted at the end of each requirement is from the following reference:

[1] Title V Operating Permit No: P100-R2

All required documentation must be kept for a minimum of 5 years from the date it was gathered or from the date of the operating permit issuance (February 27, 2015).

At the end of each assessment period this form must be filed as an official record.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Date of Action: 9/30/2020	**Location of Source :** (TA/BLDG/Room) TA-55-PF4-319	
Monitoring Requirements(A1007.A[1]):	**Yes/No**	**Comments**
1. Does the operator monitor and record the amount of solvent added to the degreaser?	Yes	
Recordkeeping Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Are the actual emissions rate (pounds/month) of VOC and HAPS based on the quantity of solvent lost to evaporation calculated on a monthly basis?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
2. Are the semi-annual emissions rate (tons/year) calculated for this source category and added to the facility-wide emissions rates in Table 106.B (Facility-wide Allowable Emissions)?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
3. Does the operator maintain records of the degreaser solvent content?	Yes	
4. Does the operator maintain work practice checklists?	Yes	
5. Does the operator maintain records in accordance with Section B109, General Recordkeeping Requirements?	Yes	
Operational Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Does the operator ensure the degreaser is closed with a tight fitting cover whenever not in use?	Yes	
2. Does the operator maintain a freeboard ratio of 0.75 or greater?	Yes	Glove box is included in freeboard ratio determination.
3. Does the operator ensure that all collected and stored waste solvent and wipe rags are placed in closed containers?	Yes	
4. Does the operator ensure that flushing is performed only within the freeboard area only?	Yes	All rinsing is performed within the freeboard area.
5. Does the operator allow cleaned parts to drip for 15 seconds or until dripping stops (whichever is longer)?	Yes	
6. Does the operator ensure that the solvent level does not exceed the fill line on the solvent level?	Yes	
7. Does the operator ensure that all spills are wiped up immediately?	Yes	
8. Does the operator ensure that there is no creation of observable splashing with agitation device?	N/A	An air or pump agitated solvent bath is not used.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Operational Requirements (A1007.A[1]) continued	Yes/No	Comments
9. Does the operator ensure that the degreaser is not exposed to drafts greater than 40 meters per minute (132 feet per minute)?	Yes	Glove box air flow rates based on system design descriptions average between 5 acfm (normal operating) up to 40 acfm maximum for a single glove box.
10. Does the operator ensure that no sponges, fabric, wood or paper products are cleaned in the degreaser?	Yes	

Notification Requirements: If any of the boxes were checked with "No", please contact Air Quality Compliance Personnel at 665-1338.

Comments:

Form completed by:

Signature	Name (print)	Z number	Date
[signature]	Arsenio Salazar	163479	9/30/2024

The permit section or condition noted at the end of each requirement is from the following reference:

[1] Title V Operating Permit No: P100-R2

All required documentation must be kept for a minimum of 5 years from the date it was gathered or from the date of the operating permit issuance (February 27, 2015).

At the end of each assessment period this form must be filed as an official record.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Date of Action: 10/30/2020	**Location of Source :** (TA/BLDG/Room) TA-55-PF4-319

Monitoring Requirements(A1007.A[1]):	**Yes/No**	**Comments**
1. Does the operator monitor and record the amount of solvent added to the degreaser?	Yes	
Recordkeeping Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Are the actual emissions rate (pounds/month) of VOC and HAPS based on the quantity of solvent lost to evaporation calculated on a monthly basis?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
2. Are the semi-annual emissions rate (tons/year) calculated for this source category and added to the facility-wide emissions rates in Table 106.B (Facility-wide Allowable Emissions)?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
3. Does the operator maintain records of the degreaser solvent content?	Yes	
4. Does the operator maintain work practice checklists?	Yes	
5. Does the operator maintain records in accordance with Section B109, General Recordkeeping Requirements?	Yes	
Operational Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Does the operator ensure the degreaser is closed with a tight fitting cover whenever not in use?	Yes	
2. Does the operator maintain a freeboard ratio of 0.75 or greater?	Yes	Glove box is included in freeboard ratio determination.
3. Does the operator ensure that all collected and stored waste solvent and wipe rags are placed in closed containers?	Yes	
4. Does the operator ensure that flushing is performed only within the freeboard area only?	Yes	All rinsing is performed within the freeboard area.
5. Does the operator allow cleaned parts to drip for 15 seconds or until dripping stops (whichever is longer)?	Yes	
6. Does the operator ensure that the solvent level does not exceed the fill line on the solvent level?	Yes	
7. Does the operator ensure that all spills are wiped up immediately?	Yes	
8. Does the operator ensure that there is no creation of observable splashing with agitation device?	N/A	An air or pump agitated solvent bath is not used.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Operational Requirements (A1007.A[1]) continued	Yes/No	Comments
9. Does the operator ensure that the degreaser is not exposed to drafts greater than 40 meters per minute (132 feet per minute)?	Yes	Glove box air flow rates based on system design descriptions average between 5 acfm (normal operating) up to 40 acfm maximum for a single glove box.
10. Does the operator ensure that no sponges, fabric, wood or paper products are cleaned in the degreaser?	Yes	

Notification Requirements: If any of the boxes were checked with "No", please contact Air Quality Compliance Personnel at 665-1338.

Comments:

Form completed by:

Signature	Name (print)	Z number	Date
[signature]	Arsenio Salazar	163479	10/30/2020

The permit section or condition noted at the end of each requirement is from the following reference:

[1] Title V Operating Permit No: P100-R2

All required documentation must be kept for a minimum of 5 years from the date it was gathered or from the date of the operating permit issuance (February 27, 2015).

At the end of each assessment period this form must be filed as an official record.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Date of Action: 11/27/2020	**Location of Source : (TA/BLDG/Room) TA-55-PF4-319**	
Monitoring Requirements(A1007.A[1]):	**Yes/No**	**Comments**
1. Does the operator monitor and record the amount of solvent added to the degreaser?	Yes	
Recordkeeping Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Are the actual emissions rate (pounds/month) of VOC and HAPS based on the quantity of solvent lost to evaporation calculated on a monthly basis?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
2. Are the semi-annual emissions rate (tons/year) calculated for this source category and added to the facility-wide emissions rates in Table 106.B (Facility-wide Allowable Emissions)?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
3. Does the operator maintain records of the degreaser solvent content?	Yes	
4. Does the operator maintain work practice checklists?	yes	
5. Does the operator maintain records in accordance with Section B109, General Recordkeeping Requirements?	Yes	
Operational Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Does the operator ensure the degreaser is closed with a tight fitting cover whenever not in use?	Yes	
2. Does the operator maintain a freeboard ratio of 0.75 or greater?	Yes	Glove box is included in freeboard ratio determination.
3. Does the operator ensure that all collected and stored waste solvent and wipe rags are placed in closed containers?	Yes	
4. Does the operator ensure that flushing is performed only within the freeboard area only?	yes	All rinsing is performed within the freeboard area.
5. Does the operator allow cleaned parts to drip for 15 seconds or until dripping stops (whichever is longer)?	yes	
6. Does the operator ensure that the solvent level does not exceed the fill line on the solvent level?	yes	
7. Does the operator ensure that all spills are wiped up immediately?	Yes	
8. Does the operator ensure that there is no creation of observable splashing with agitation device?	N/A	An air or pump agitated solvent bath is not used.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Operational Requirements (A1007.A[1]) continued	Yes/No	Comments
9. Does the operator ensure that the degreaser is not exposed to drafts greater than 40 meters per minute (132 feet per minute)?	Yes	Glove box air flow rates based on system design descriptions average between 5 acfm (normal operating) up to 40 acfm maximum for a single glove box.
10. Does the operator ensure that no sponges, fabric, wood or paper products are cleaned in the degreaser?	Yes	

Notification Requirements: If any of the boxes were checked with "No", please contact Air Quality Compliance Personnel at 665-1338.

Comments:

Form completed by:

Signature	Name (print)	Z number	Date
	Arsenio Salaz	163479	11/27/2020

The permit section or condition noted at the end of each requirement is from the following reference:

[1] Title V Operating Permit No: P100-R2

All required documentation must be kept for a minimum of 5 years from the date it was gathered or from the date of the operating permit issuance (February 27, 2015).

At the end of each assessment period this form must be filed as an official record.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Date of Action: 12/24/2020	**Location of Source :** (TA/BLDG/Room) TA-55-PF4-319

Monitoring Requirements(A1007.A[1]):	**Yes/No**	**Comments**
1. Does the operator monitor and record the amount of solvent added to the degreaser?	Yes	
Recordkeeping Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Are the actual emissions rate (pounds/month) of VOC and HAPS based on the quantity of solvent lost to evaporation calculated on a monthly basis?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
2. Are the semi-annual emissions rate (tons/year) calculated for this source category and added to the facility-wide emissions rates in Table 106.B (Facility-wide Allowable Emissions)?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
3. Does the operator maintain records of the degreaser solvent content?	Yes	
4. Does the operator maintain work practice checklists?	Yes	
5. Does the operator maintain records in accordance with Section B109, General Recordkeeping Requirements?	Yes	
Operational Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Does the operator ensure the degreaser is closed with a tight fitting cover whenever not in use?	Yes	
2. Does the operator maintain a freeboard ratio of 0.75 or greater?	Yes	Glove box is included in freeboard ratio determination.
3. Does the operator ensure that all collected and stored waste solvent and wipe rags are placed in closed containers?	Yes	
4. Does the operator ensure that flushing is performed only within the freeboard area only?	Yes	All rinsing is performed within the freeboard area.
5. Does the operator allow cleaned parts to drip for 15 seconds or until dripping stops (whichever is longer)?	Yes	
6. Does the operator ensure that the solvent level does not exceed the fill line on the solvent level?	Yes	
7. Does the operator ensure that all spills are wiped up immediately?	Yes	
8. Does the operator ensure that there is no creation of observable splashing with agitation device?	N/A	An air or pump agitated solvent bath is not used.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 04/20/2015

Operational Requirements (A1007.A[1]) continued	Yes/No	Comments
9. Does the operator ensure that the degreaser is not exposed to drafts greater than 40 meters per minute (132 feet per minute)?	Yes	Glove box air flow rates based on system design descriptions average between 5 acfm (normal operating) up to 40 acfm maximum for a single glove box.
10. Does the operator ensure that no sponges, fabric, wood or paper products are cleaned in the degreaser?	Yes	

Notification Requirements: If any of the boxes were checked with "No", please contact Air Quality Compliance Personnel at 665-1338.

Comments:

Form completed by:

Signature	Name (print)	Z number	Date
[signature]	Arsenio Salazar	163474	12/24/2020

The permit section or condition noted at the end of each requirement is from the following reference:

[1] Title V Operating Permit No: P100-R2

All required documentation must be kept for a minimum of 5 years from the date it was gathered or from the date of the operating permit issuance (February 27, 2015).

At the end of each assessment period this form must be filed as an official record.

ATTACHMENT A1104.A.

Internal Combustion

TA-33-G-1-P Daily Operating Logs

Daily TA-33-G-1-P Cummins/ONAN/DFHD 1000 kW Generator Hour Log

This generator has the following air quality permit requirements:

This generator engine is authorized to operate **no more than eight (8) hours per day**.

This unit can **operate only between the hours of 7:00 AM and 5:00 PM**

The permittee shall monitor the time(s) of operation each day.

The permittee shall monitor and keep records of the time(s) of operation each day, and the daily, monthly, and the monthly rolling 12-month total hours of operation of the genset (LANL EPC-CP will maintain this)

Date	Time of operation		Hour Meter Reading		Hours of operation	Purpose	Operator/User Name
	Start Time	End Time	Start Reading	End Reading			
9/17/2018	13:00	13:30	696.2	696.7	0.5	Exercise	Randy Griego
9/18/2018	11:00	15:00	696.7	700.6	4.0	Maintenance	Randy Griego
9/19/2018	11:00	15:00	700.6	704.6	4.0	Maintenance	Randy Griego
9/20/2018	11:00	17:25	704.6	711.0	6.25	Maintenance	Randy Griego
10/18/2018	9:00	10:30	711.0	712.4	1.5	Maintenance	Randy Griego
2/7/2019	9:10	9:35	712.4	712.9	0.5	Maintenance	Randy Griego
3/17/2019	18:30	7:30 on 3/23/2019	712.9	845.3	132.4	Emergency Use, Power outage at TA-3-1698	Garry Schramm
5/29/2019	9:00	9:20	845.3	845.7	0.4	Maintenance	Randy Griego
12/17/2019	14:00	14:36	845.7	846.3	0.6	Maintenance	Ron Suazo
7/1/2020	11:00	11:00 on 7/14/2020	846.3	1148.0	301.7	Emergency Use, Power outage at TA-33 SCIF	Randy Griego
9/21/2020	9:00	10:35	1148.0	1149.6	1.6	Maintenance	Ron Vigil

Version January 2019 | Air Quality Permit P100-R2M4, Section A1104

Asked operators to note time of operation.

ATTACHMENT A1104.B.

Internal Combustion

Permitted Generator Hours

YEAR **2020**

Permitted Generators

										First Half			Second Half			Annual
Permit ID	*Location*	*ID #*	*Engine Make*	*Engine Model*	*Engine Serial #*	*Generator Rating kWe*	*Engine Rating kWm*	*Reading 2nd half of previous year*		*Reading Date*	*Reading*	*Hours Run*	*Month Reading*	*Reading*	*Hours Run*	*Hours Run*
TA-33-G-1P	TA-33-Port	G-0053	Cummins	QST30-G5	37199764	1000	1111.5	Dec-19	846.3	Jun-20	846.3	0.0	Dec-20	1149.6	303.3	303.3
TA-33-G-2	TA-33-209	G-0008	Kohler/Yanmar	4TNE84T	52993	20	25	Dec-19	479.4	Jun-20	479.4	0.0	Dec-20	479.4	0.0	0.0
TA-33-G-3	TA-33-280	G-0010	Kohler/Yanmar	4TNE84T	52992	20	25	Dec-19	233.9	Jun-20	233.9	0.0	Dec-20	233.9	0.0	0.0
TA-33-G-4	TA-33-151	G-0007	Caterpillar	3306	8JJ00615	225	281.25	Dec-19	3796.0	Jun-20	3834.0	38.0	Dec-20	3977.0	143.0	181.0
RLUOB-GEN-1	TA-55-585	G-0058	Cummins	KTA50G9	25314401	1500	1656.1	Dec-19	222.2	Jun-20	222.2	0.0	Dec-20	222.2	0.0	0.0
RLUOB-GEN-2	TA-55-584	G-0059	Cummins	KTA50G9	25314399	1500	1656.1	Dec-19	257.5	Jun-20	278.7	21.2	Dec-20	297.3	18.6	39.8
RLUOB-GEN-3	TA-55-583	G-0060	Cummins	KTA50G9	33165566	1500	1656.1	Dec-19	214.2	Jun-20	231.0	16.8	Dec-20	246.1	15.1	31.9
TA-48-GEN-1	TA-48-1	G-0067	Cummins	QSB7-G3 NR3	73176927	150	186	Dec-19	0.0	Jun-20	0.0	0.0	Dec-20	0.0	0.0	0.0
TA-55-GEN-1	TA-55-PF10	G-0065	Isuzu	BZ-4LE2T	4LE2-298868	30	40.2	Dec-19	15.0	Jun-20	15.0	0.0	Dec-20	15.0	0.0	0.0
TA-55-GEN-2	TA-55-PF11	G-0066	Isuzu	BZ-4LE2T	4LE2-299432	30	40.2	Dec-19	22.5	Jun-20	29.1	6.6	Dec-20	29.1	0.0	6.6
TA-55-GEN-3	TA-55-371	G-0064	Caterpillar	C32	SYCO5263	900	1335	Dec-19	118.5	Jun-20	129.8	11.3	Dec-20	137.7	7.9	19.2

Notes: TA-48-GEN-1 has not started up as of December 2020.

The TA-33 225 kW & two 20 kW generators have limits of 500 hrs/yr.

RLUOB-GENs, TA-48 GEN, TA-55-GENs are subject to NSPS IIII regulation; nonemergency operation limited to 100 hrs/yr.

Reviewed by / Date: Katelyn Mahoney 1/11/2021

ATTACHMENT A1106.A.

Internal Combustion

Method 9 Opacity Reports

Opacity measurements were not required or conducted on any permitted stand-by generators during this monitoring period.

ATTACHMENT A1107.A.

Internal Combustion

Operating Records for RLUOB Generators

Cummins Generator	Cummins Serial # 1060976810 Gen A				Model DFLE 5754172	
Authorized Worker	Date	Start Time	End Time	Run Time	Run Time Accumulative	Reason/Notes
Michael Dominguez	8/22/16	1405	1530	1.5	209.7	Monthly PM
Michael Dominguez	9-20-16	1300	1530	2.5	212.8	Monthly PM
Michael Dominguez	10/12/16	0900	1100	2.0	214.8	Monthly PM
Michael Dominguez	11-3-16	1400	1530	1.5	216.3	Monthly PM
Michael Dominguez	12-7-16	0950	1302	1.8	218.1	Monthly PM
Michael Dominguez	6-13-17	0800	0830	0.7	218.8	Gen 05 hours used are for TS/Repair
Michael Dominguez	7-6-17	0945	1100	1.3	220.1	Monthly PM
Michael Dominguez	9/14/17	0930	1130	1.8	221.9	Monthly PM / Troubleshooting
	9/14/17					Gen A is placed Out of Service
RAY MARTINEZ	6-14-18				221.9	OUT OF SERVICE
Dave Sanchez	8-2-18				221.9	" "
Ray Martinez	9-5-18				221.9	" "
Brandon Salazar	11-7-18				221.9	Monthly
RAY MARTINEZ	12-6-18				222.0	Monthly (DID NOT RUN)
~~RAY MARTINEZ~~ R+T — 1-16-19	1-16-19				222.	Monthly
~~Ray Martinez~~	2-6-19				222.0	Monthly
Ray Martinez	4-16-19				222.2	Monthly
~~Brandon Salazar~~	6-5-19				222.2	Monthly
~~Ray Martinez~~	7-3-19				222	Monthly
Ray Martinez	8-7-19				222	Monthly
Brandon Salazar	9-10-19				222	Monthly
Brian TRUJILLO	10-11-19				222.2	Monthly
Brandon Salazar	11-5-19				222.2	Monthly
Brandon Salazar	12-3-19				222.2	Monthly
Brandon Salazar	1-8-20				222.2	Monthly
Eric M. Quintana	1-13-20					Power Bump
Brandon Salazar	2-5-20				222.2	
Brandon Salazar	3-3-20				222.2	
Brandon Salazar	4-7-20				222.2	
~~Brian Trujillo~~	5-19-20				222.2	
Brandon Salazar	6-26-20				222.2	Monthly
Brandon Salazar	7-21-20				222.2	
Brandon Salazar	8-4-20				222.2	
Brian Trujillo	9-15-20				222.2	monthly
Brian Trujillo	10-7-20				222.2	monthly

Cummins Generator	Cummins Serial # 1060976810 Gen A				Model DFLE 5754172	
Authorized Worker	Date	Start Time	End Time	Run Time	Run Time Accumulative	Reason/Notes
FRED SEYBERT	2-19-15	1460	1545	0.2	177.1	SUS-A TROUBLESHOOTING
FRED SEYBERT	2-24-15	1530	1550	0.2	177.3	PMT FOR FIRE PUMP BKR WORK
FRED SEYBERT	2-25-15	0937	1145	0.2	177.5	MONTHLY PM
FRED SEYBERT	3-26-15	1330	1535	0.7	178.2	BREAKER TESTING
FRED SEYBERT	3-31-15	0950	1530	1.5	179.7	MONTHLY PM
FRED SEYBERT	4-21-15	1130	1145	0.2	179.9	REPAIR RETEST FOR 'B'
FRED SEYBERT	4-29-15	0835	1427	1.6	181.5	MONTHLY PM
FRED SEYBERT	5-27-15	0900	1430	1.5	183.0	MONTHLY PM
FRED SEYBERT	6-8-15	1455	1510	0.2	183.2	PMT AFTER ANNUAL & 5YR PM
FRED SEYBERT	6-11-15	0911	1425	1.6	184.8	MONTHLY PM
FRED SEYBERT	6-16-15	0856	0908	0.2	185.0	VOLTAGE FLUCTUATION
FRED SEYBERTT	7-9-15	1115	1445	1.5	186.5	MONTHLY PM
FRED SEYBERT	8-20-15	0924	0938	0.2	186.7	FP CONTROLLER FAILURE
FRED SEYBERT	8-26-15	1130	1530	1.8	188.5	MONTHLY PM
FRED SEYBERT	9-17-15	0908	0940	0.2	188.7	INADVERTANT START (FIRE PUMP ATS)
FRED SEYBERT	9-22-15	1000	1430	1.6	190.3	MONTHLY PM
FRED SEYBERT	9-29-15	1140	1152	0.2	190.5	FIRE PUMP TESTING
FRED SEYBERT	9-30-15	1000	1143	0.2	190.7	FIRE PUMP CONTROLLER PMT
FRED SEYBERT	10-8-15	0900	1430	1.4	192.1	MONTHLY PM
FRED SEYBERT	11-19-15	0900	1500	1.6	193.7	MONTHLY PM
FRED SEYBERT	12-17-15	0845	1513	1.5	195.2	MONTHLY PM
FRED SEYBERT	12-29-15	0814	0838	0.4	195.6	VOLTAGE GLITCH
FRED SEYBERT	1-7-16	0845	1530	1.7	197.3	MONTHLY PM
FRED SEYBERT	2-18-16	0850	1330	1.5	198.8	MONTHLY PM
FRED SEYBERT	3-2-16	0915	1515	1.8	200.6	MONTHLY LOAD TEST
FRED SEYBERT	3-28-16	1130	1215	0.4	201.0	MONTHLY ATS TEST
Michael Dominguez	4-28-16	1305	1430	1.5	202.5	Monthly PM
[illegible]	5-5-16	0930	1100	1.6	204.1	Monthly PM
Michael Dominguez	6-23-16	13:15	1420	0.8	206.96	Monthly PM
Michael Dominguez	7-7-16	1320	1455	1.4	208.0	Monthly PM
A. Jauregui Barry	8/8/16	2000	2010	.2	208.2	Power Bump
Brandon Salazar	12/6/20	830	1015	0	222.2	
Brandon Salazar	12-9-20				222.2	

Cummins Generator	Cummins Serial # 1060976811 Gen B				Model DFLE 5754172	
Authorized Worker	Date	Start Time	End Time	Run Time	Run Time Accumulative	Reason/Notes
Brian Trujillo	11 OCT 2019	1315	1440	3.6	251.9	Monthly, Parallel, FPump, Single load
Brandon Salazar	11-5-19	11:25	12:55	1.6	253.9	Monthly PM
Brandon Salazar	12-3-19	10:00	2:00	3.2	257.5	Monthly
Brandon Salazar	1-8-20	10:30	11:50		259.8	monthly
Enz Quintana	1.13.20	1350	1409	0.2	260	Power Pump
Brandon Salazar	2-5-20	10:00	2:30	3.1	263.3	Monthly PM
Brandon Salazar	3-3-20	9:00	12:00	2.1	265.4	monthly PM
Brandon Salazar	4-7-20	8:30	1:55	3.4	268.8	monthly PM
Brian Trujillo	5-19-20	1030	1215	1.75	271.5	Monthly PM
Stephen McNeel	5/28/20	1059	1440	3.9	275.4	Power Bump
Brandon Salazar	6-26-20	8:32	11:20	3.3	278.7	Monthly
Brandon Salazar	7-21-20	9:30	11:20	1.9	280.6	Monthly PM
Brandon Salazar	8-4-20	8:30	11:00	3.6	284.2	Monthly PM
Stephen McNeel	8-27-20	1730	1930	2.0	286.2	Power Bump
Brian Trujillo	9-15-20	0929	1046	2.0	288.2	monthly PM
Brian Trujillo	10-7-20	1108	1441	2.6	291.8	monthly PM
Brandon Salazar	11-6-20	8:30	10:15	3	294.8	monthly PM
Brandon Salazar	12-3-20	9:12	2:30	3.5	297.3	monthly

Cummins Generator	Cummins Serial # 1060976812 Gen C				Model DFLE 5754172	
Authorized Worker	Date	Start Time	End Time	Run Time	Run Time Accumulative	Reason/Notes
Ray Martinez	9-5-18	10:03	2:20	2.0	180.3	Monthly Single / Parallel
Brandon Salazar	11-7-18	1:25	2:25	1.0	182.8	Monthly
Ray Martinez	12.6.18	1:00	2:00	1.0	185.	Monthly
Ray Martinez	1-16-19	1:15	2:15	1.0	187.3	Monthly
Ray Martinez	2-8-19	1:00	2:00	1.0	189.0	Monthly
Ray Martinez	4-16-19			1.0	193.6	Monthly
Brandon Salazar	6-5-19	9:40	10:40	1.0	197.8	Monthly
Stephen McNeel	6/12/19	1342	1347	0.2	198.0	FP-ATS
Ray Martinez	7-2-19	9:48	11:00	2.0	200	Monthly
Chance Collins	7.29.19	N/A	N/A	1.4	201.4	Power Loss
Ray Martinez	8-7-19	10:45	11:45	1.0	202.8	Monthly
Brandon Salazar	8-28-19	~~13:19~~ 13:46	12:10	1.0	204	Annual PM
Brandon Salazar	9-10-19	12:30	2:30	1.0	207.1	Monthly PM
Brian Trujillo	11OCT2019	0846	1020	2.0	209.0	monthly
Brandon Salazar	11-5-19	11:45	3:40	3.1	212.3	Monthly PM
Brandon Salazar	12-2-19	10:00	11:30	1.7	214.2	Monthly PM
Brandon Salazar	1-8-20	10:30	2:40		218	Monthly
Eric Quintana	1-13-20	~~1350~~ 1408	1409	0.2	218.2	Power Bump.
Brandon Salazar	2-5-20	10:00 ~~1203~~	12:30	1.6	219.8	Monthly PM
Brandon Salazar	3-3-20	9:00	2:30	3.2	223.2	Monthly PM
Brandon Salazar	4-2-20	8:30	10:10	1.7	224.9	Monthly
Brian Trujillo	5-19-20	1030	1437	4.0	228.7	Monthly PM
Stephen McNeel	5-28-20	1059	1140	0.6	229.3	Power Bump
Brandon Salazar	6-26-20	8:30	9:40	1.7	231.0	Monthly PM
Brandon Salazar	7-21-20	9:30	2:10	3.1	234.1	Monthly PM
Brandon Salazar	8-4-20	3:40	2:00	1.9	336.0	Monthly PM
Stephen McNeel	8-27-20	1730	1750	0.2	236.2	Power Bump
Brian Trujillo	9-15-20	0929	1440	2.9	239.1	Monthly PM
Brian Trujillo	10-7-20	1108	1218	1.8	241.1	Monthly PM
Brandon Salazar	11-6-20	8:30	10:15	3.3	244.4	Monthly PM
Brandon Salazar	12-3-20	9:12	10:32	1.7	246.1	Monthly PM

ATTACHMENT A1107.B.

Internal Combustion

Operating Records for Permitted Emergency Generators

TA-48-GEN-1 has been installed, but is not yet operating.

See Attachment A1104.B. for TA-55-GEN-1, TA-55-GEN-2 and TA-55-GEN-3 records.

ATTACHMENT A1207.A.

Data Disintegrator

Operating Logs

2020 TA-52 Data Disintegrator (EQPT 89)

	Data Entry		Data Entry
Month	Boxes[c] Shredded	Month	Boxes[c] Shredded
January	577	July	653
February	637	August	827
March	849	September	649
April	662	October	403
May	355	November	0
June	474	December	418
6 month Total	3,554	6 month Total	2,950

Annual Boxes: [g]	6,504

Reviewed By / Date: Vince Carretti 1/11/2021

TA-52 Data Disintegrator Destruction Log

July 2020

This log is for materials shredded in the Data Desintegrator described in section A1207 of the LANL Title -V Operating Permit. Record any maintenance performed under comments. All materials shredded should be recorded in number of boxes (standard burn box).

Date	Number of Boxes Destroyed	Comments
1-Jul		
2-Jul		
3-Jul		
4-Jul		
5-Jul		
6-Jul	60	
7-Jul	38	
8-Jul	19	
9-Jul	23	
10-Jul		
11-Jul		
12-Jul		
13-Jul	56	
14-Jul		
15-Jul	56	
16-Jul	12	
17-Jul		
18-Jul		
19-Jul		
20-Jul	59	
21-Jul	56	
22-Jul	51	
23-Jul	57	
24-Jul		
25-Jul		
26-Jul		
27-Jul	29	
28-Jul	43	
29-Jul	44	
30-Jul	50	
Total	653	

TA-52 Data Disintegrator Destruction Log

August 2020

This log is for materials shredded in the Data Desintegrator described in section A1207 of the LANL Title -V Operating Permit. Record any maintenance performed under comments. All materials shredded should be recorded in number of boxes (standard burn box).

Date	Number of Boxes Destroyed	Comments
1-Aug		
2-Aug		
3-Aug	34	
4-Aug	35	
5-Aug	68	
6-Aug		
7-Aug		
8-Aug		
9-Aug		
10-Aug		
11-Aug		
12-Aug	124	
13-Aug	57	
14-Aug		
15-Aug		
16-Aug		
17-Aug		
18-Aug	128	
19-Aug	71	
20-Aug	21	
21-Aug		
22-Aug		
23-Aug		
24-Aug	92	
25-Aug	77	
26-Aug	50	
27-Aug		
28-Aug		
29-Aug		
30-Aug		
31-Aug	70	
Total	827	

TA-52 Data Disintegrator Destruction Log

September 2020

This log is for materials shredded in the Data Desintegrator described in section A1207 of the LANL Title -V Operating Permit. Record any maintenance performed under comments. All materials shredded should be recorded in number of boxes (standard burn box).

Date	Number of Boxes Destroyed	Comments
1-Sep	65	
2-Sep	72	
3-Sep	54	
4-Sep		
5-Sep		
6-Sep		
7-Sep		
8-Sep	45	
9-Sep		
10-Sep	63	
11-Sep	27	
12-Sep		
13-Sep		
14-Sep	63	
15-Sep	60	
16-Sep	50	
17-Sep		
18-Sep		
19-Sep		
20-Sep		
21-Sep		
22-Sep		
23-Sep		
24-Sep		
25-Sep		
26-Sep		
27-Sep		
28-Sep		
29-Sep	60	
30-Sep	90	
Total	649	

TA-52 Data Disintegrator Destruction Log

October 2020

This log is for materials shredded in the Data Desintegrator described in section A1207 of the LANL Title -V Operating Permit. Record any maintenance performed under comments. All materials shredded should be recorded in number of boxes (standard burn box).

Date	Number of Boxes Destroyed	Comments
1-Oct		
2-Oct		
3-Oct		
4-Oct		
5-Oct		
6-Oct	71	
7-Oct	89	
8-Oct	75	
9-Oct		
10-Oct		
11-Oct		
12-Oct		
13-Oct	50	
14-Oct	36	
15-Oct	14	
16-Oct		
17-Oct		
18-Oct		
19-Oct	13	
20-Oct	23	
21-Oct	3	
22-Oct	29	
23-Oct		
24-Oct		
25-Oct		
26-Oct		
27-Oct		
28-Oct		
29-Oct		
30-Oct		
Total	**403**	

From: Diaz, Vanessa Blanca
To: Mahoney, Katelyn Rose
Cc: destruction@lanl.gov
Subject: November 2020
Date: Monday, December 7, 2020 9:26:19 AM

Hi there,

We did not have any boxes destroyed for the month of November 2020.

Thank you,
Vanessa Diaz, Excess Property
Salvage Delivery/Pick-Up Hours: 7:30 A.M. – 11:30 A.M. & 12:30 P.M. – 4:30 P.M.
vanessadiaz@lanl.gov * 505-695-6465 * MS: K406

TA-52 Data Disintegrator Destruction Log

December 2020

This log is for materials shredded in the Data Desintegrator described in section A1207 of the LANL Title -V Operating Permit. Record any maintenance performed under comments. All materials shredded should be recorded in number of boxes (standard burn box).

Date	Number of Boxes Destroyed	Comments
1-Dec		
2-Dec		
3-Dec		
4-Dec		
5-Dec		
6-Dec		
7-Dec	51	
8-Dec	55	
9-Dec	60	
10-Dec		
11-Dec		
12-Dec		
13-Dec		
14-Dec		
15-Dec	55	
16-Dec	58	
17-Dec	54	
18-Dec		
19-Dec		
20-Dec		
21-Dec		
22-Dec	34	
23-Dec	51	
24-Dec		
25-Dec		
26-Dec		
27-Dec		
28-Dec		
29-Dec		
30-Dec		
TOTAL	418	

ATTACHMENT A1207.B.

Data Disintegrator

Maintenance Performed

100% 8/19

Facility: F07 **Unit:** 520011 **Proj:**
Task Title: 520011 3M SHREDDER/SEPERATOR/SHAKER PM - CHAPARRAL
W/O Type: PM W/O Group: 3PM MOD Task Priority: 4
Planner: 107145 TAFOYA
W/O Title: 520011 3M DOCUMENT SHREDDER/ HARD DRIVE PM - CHAPARRAL
Written To: DOCUMENT SHREDDER/ HARD DRIVE SHREDDER
Task Dspln: XOSC Due Date: 08/31/2020
Job Type: PM D-B Determination: N
Hazard Level: MODERATE IWD Requirement: TASK SPECIFC
Material Required?:

0066944201

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task
00669442 01
MASTER

Date: 5/18/20

Work Order Task Written To

Facility: F07 **Unit:** 520011 **Op Sys:** BLDG
Room: **Area:** **Sys/Cls:** P
Equipment: **Component:**
DOCUMENT SHREDDER/ HARD DRIVE SHREDDER
Equipment Tag: Alternate Tag:
Work item: 520011SP Tech Surv Reqmt Rel: N
PEG Equip Group Type: PEG Equip Group ID:
Crit Safety Control: Property Group:
Maintenance Programs: 1: 2: 3: 4: 5:

Authorization

Start Permission				Start Date	5/29/2020		
Complete Notice				Complete Date	9/22/20		

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102 - Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order 00669442 **Task** 01

Work Order Task Instructions

PERFORM QUARTERLY PM - Outside Contractor Chaparral

.

52-0011 IS NOT A UI STANDARD INDUSTRIAL BUILDING, A 2101 IS REQUIRED.

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1424 Disintegrator (paper)

1) Remove Dull Blades, Install sharp blades, sharpen dull blades (if possible), inspect conveyor belt adjust if necessary, grease all zerk.

2) Inspect Dust collector, Clear any clogs from underneath (not to include taking off side panel).

3) Replacement set of disintegrator blades (to keep stock of blades)

4) Remove side panel and inspect filter tubes replace filter tubes if necessary

5) Replacement filter tube set (as needed)

6) Installation of new conveyor belt (if needed)

2436 Disintegrator (Media)

1) Internal and external cleaning of disintegrator, inspection of disintegrator blades, Inspect fluid levels refill as needed, Grease zerks, inspect conveyor belt adjust if necessary.

2) Remove Dull Blades, Install sharp blades, Grease zerks, Inspect conveyor belt adjust if necessary.

3) Inspect filter tubes for tears and cracks replace as necessary, inspect HEPA filter replace as necessary.

4) Replacement disintegrator blades.

5) Replacement HEPA Filter (as needed)

6) Replacement filter tube set (as needed)

7) Installation of new conveyor belt (if needed)

.

CLEAN AREA AND DISPOSE OF DEBRIS

Rework Reason/Cause

		Y/N
CDSG	CUSTOMER DESIGN	☐
IMCW	IMPROPER CONSTRUCTION/WORKMANSHIP	☐
IMDN	IMPROPER DESIGN	☐
PDMS	PARTS/MATERIAL DID NOT MEET SPECIFICATIONS	☐
WR	WARRANTY REWORK/REPAIR	☐

Date: _____ Hours: _____ Crew: _____ Shift: _____

Comments: _____

Work Order 00669442 **Task** 01

Rework/Approval

Deficiency Tag No: Location: Tag Removed:

Rework Job: N Comments:

Trouble Found/Work Performed

Completion Comments Required: N

Continue on additional sheets? _____

Calibrated Tools

Calibrated Tool Used? ☐ Y/N

File ID	Date Used	File ID	Date Used

Work Delay Reason

A	ACCESS	N Y/N
EQPT	EQUIPMENT	N Y/N
IWD	IWD WORKABILITY	N Y/N
MAT	MATERIAL	N Y/N
OPS	OPERATIONS	N Y/N
RCT	RCT AVAILABILTY	N Y/N
SP	SAFETY PAUSE	Y Y/N
TEL	TOOLS/EQUIP/LIFTS	N Y/N
W	WEATHER	N Y/N

Work Date: _____ Hours: _____ Crew: _____ Shift: _____

Comments: 2 HOUR DELAY WAITING FOR SCAFFOLD SAFETY INSPECTION

Work Order 00669442 Task 01

Major Failure/Action Taken

Major Failure:		
Major Action Taken:		
Deficiency Tag Removed:		Y/N
Deficiency Tag Location:		
Deficiency Tag ID:		
Limited Condition of Operation:		Y/N

N/A

Work Completion Signatures

Name	Function/Department	Date
[signature]	CHEMICAL	8/19/20

Comments:
(Rework?)

Equipment List Exceptions

Equipment List	Revision	Equipment List Description
520011SP	000	520011SP

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F07	520011	BLDG	BLDG		P	ML4
	Equipment:		UNIT	SHD			

Name: HARD DRIVE SHREDDER
Location: 52-0011
Exception Reason:
Comments:
Equipment Tag:

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F07	520011	BLDG	BLDG		P	ML4
	Equipment:		UNIT	SHD	FILTER	FAB-001	

Name: HARD DRIVE SHREDDER - FILTER
Location: 52-0011
Exception Reason:
Comments:
Equipment Tag:

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F07	520011	BLDG	BLDG		P	ML4
	Equipment:		UNIT	SHD	FILTER	FAH-001	

Name: HARD DRIVE SHREDDER - FILTER, HEPA (1 EA)
Location: 52-0011
Exception Reason:
Comments:
Equipment Tag:

Work Order 00669442 Task 01

Equipment List Exceptions

Equipment List	Revision	Equipment List Description
520011SP	000	520011SP

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F07	520011	BLDG	BLDG		P	ML4
	Equipment:		UNIT	SP			

Name: SHREDDER-DOCMENT
Location: 52-0011 = INSIDE
Exception Reason: _____
Comments:
Equipment Tag: _____

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F07	520011	BLDG	BLDG		P	ML4
	Equipment:		UNIT	SPP			

Name: CYCLONE SHAKER (SEPERATOR PARTICULATE) INDOOR/OUTDOOR)
Location: 52-0011
Exception Reason: _____
Comments:
Equipment Tag: _____

Seq	Fac	Unit	Op Sys	Division	Area	System	Class
	F07	520011	BLDG	BLDG		P	ML4
	Equipment:		UNIT	SPP	FILTER	FAB-001	

Name: PAPER SHREDDER - FILTER, AIR BAG (25 EA)
Location: 52-0011
Exception Reason: _____
Comments:
Equipment Tag: _____

Accounting

Percentage	Cost Center	Activity	Account No	Sub Account No
100.00	8S010A	640CL000	WL2300	00000000

* * * End of Report * * *

Los Alamos NATIONAL LABORATORY EST.1943

609443-01

AP-WORK-004: Attachment 1
Maintenance & Site Services
Worker Engagement Questions

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

Topic	Completed (X)
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

i0694420

UPDATE COVID-19 VERBAGE: Review the work steps required to perform this work and ensure distance between personnel is maximized. Wear face masks/coverings at all times while on-site. The only exceptions to this face mask/covering requirement are when an individual is alone in a vehicle or when eating.

66 9412-01

Form 2103

Integrated Work Document (IWD) Part 3, Validation and Work Release

Los Alamos NATIONAL LABORATORY EST. 1943

IWD #_____ Revision #:_____ **Work Release**

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Operations Manager or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: _____

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, and that required initial conditions and other prerequisites are in place.
- The assigned workers are authorized and are competent to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers (including support workers) have been briefed.
- I have ensured coordination with any required FOD work-area representatives (e.g., area work coordinators).

PIC (Signature/Z#/Date) **Required**: [signature] 8/6/2020 198462

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time. *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff.)*

Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

Pre-Job Brief Content

- What are the critical steps* or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g., for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

* "Critical steps occur anytime human performance involves a substantial transfer of energy, or movement of solids, liquids, and gases, or the transmission of data and information that , if not performed under control, could cause serious harm to one or more important assets." (Performance Improvement, vol. 53, no. 9, October 2014)

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) [signature] 8/6/2020 193462	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) [signature] 8/13/2020 193462	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)

160944Z-01

AP-WORK-002 Attachment 17
FORM F20-1

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Subcontract # 310447			Company Name:
Revision #: 00			Activity/Task Title: Standing IWD Chaparral PM work (Temporary IWD)
Work Document #: (WO # / Task)			Subcontractor Planner (Name/Z#/Date) Kirk David Hess/ 198462/ 6-20-19
			LANL Planner/Preparer (Name/Z#/Date) Nicholas Nelson/ 253914/ 6-19-19
TA: 52	Building: 0011	Room:	Additional Location Description:

1 SCOPE OF WORK

1.1. TA-52-0011 Chaperiel Perform PMs on the Disintegrator (Paper shredder only.)

1424 DISINTEGRATOR (PAPER)

1.1.1. REMOVE Dull Blades, Install sharp blades, sharpen dull blades (if possible), inspect conveyor belt adjust if necessary, grease all zerk fittings Quarterly.
1.1.2. INSPECT Dust collector, Clear any clogs from underneath (not to include taking off side panel) Quarterly.
1.1.3. REPLACEMENT set of disintegrator blades (to keep stock of blades0.)
1.1.4. REMOVE side panel and inspect filter tubes replace filter tubes if necessary.
1.1.5. REPLACEMENT filter tube set (as needed).
1.1.6. INSTALLATION of new conveyor belt (if needed).

1.2. THIS IWD is temporary and will only be used for paper shredding! NO MEDIA SHREDDING REPAIRS ALLOWED!

Hazard Analysis (HA) Team: Nicholas Nelson, Kenny Chavez, Christopher Lockmer, Sunee Sandoval, Renee Pacheco. Date: 1-15-19

2. PRECAUTIONS AND LIMITATIONS

2.1. **IF** steps cannot be completed as described, or **IF** unforeseen situations occur, **THEN PAUSE WORK** and

[redacted]

STABILIZE the situation, **CONTACT** your supervisor, and **AWAIT** further instructions before proceeding.

2.1.1. **BARRICADE** the work execution area to keep un-authorized personnel out of the location. All entry personnel must have training and are required to wear the minimum PPE to enter the location.
2.1.2. **CLEAN** up areas using a wet-dry Hepa-Vac or using the wet method and cleaning towels.

Los Alamos	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
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			LANL Planner/Preparer (Name/Z#/Date) Nicholas Nelson/ 253914/ 6-19-19
TA: 52	Building: 0011	Room:	Additional Location Description:

2.2. **Pest droppings**

2.2.1. **Pest Control** to support in cleaning of pest droppings. Avoid contact with any droppings found.

2.3. **Evacuation**

2.3.1. **During** the pre-job establish a muster zone and go over exit paths.

2.4. **Working from heights**

2.4.1. **WEAR** appropriate fall protection if working from a lift.

2.5. **Overhead work**

2.5.1. **BE** aware of overhead work, never work under another worker.

2.6. **Thermal stress**

2.6.1. **THERMAL** stress can be both hot and cold conditions.
2.6.2. **STAY** hydrated drink plenty of water.
2.6.3. **TAKE** breaks as needed to avoid becoming thermally stressed.

2.7. THIS IWD is temporary and will only be used for paper shredding! NO MEDIA SHREDDER REPAIRS ALLOWED!

Signatures, Initials and Place keeping blocks at the end of a step signifies the completion of that step or series of steps.

Action Steps from Section 6 on SHALL utilize Place Keeping and be signed/marked upon completion.

3. PREREQUISITES/INITIAL CONDITIONS

3.1. **NOTIFY** the OMC in advance of work execution.

3.2. **NOTIFY** local IH 48hr in advance before executing the PMs.

3.3. **IH** will attend the pre-job briefings and provide air monitoring during work execution.

3.4. **VERIFY** work is on the POD schedule and is not in conflict of other work activities.

3.5. **VERIFY** a daily pre-job is performed for all affected personnel.

Los Alamos	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
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Work Document #: (WO # / Task)			Subcontractor Planner (Name/Z#/Date) Kirk David Hess/ 198462/ 6-20-19
			LANL Planner/Preparer (Name/Z#/Date) Nicholas Nelson/ 253914/ 6-19-19
TA: 52	Building: 0011	Room:	Additional Location Description:

3.6. **KNOW** where evacuation muster, shelter-in-place areas are located.

3.7. **IDENTIFY** individuals to Contact

3.7.1. **CONTACT** OMC prior to work beginning. **JOE ROMERO** @ 667-3662 or 699-6852. Contact Joe if a work change notice is needed or if details need clarification.

3.7.2. **CONTACT** IH **CHRIS LOCKMER** @ 412-0871 for any questions related to health or safety.

3.7.3. **CONTACT** Waste Management **SUNEE SANDOVAL** @ 667-2983 or 695-4345 for any questions with waste.

3.8. **VERIFY** that all tools and equipment are on location and in good condition.

3.8.1. **INSPECT** tools, equipment, and material prior to beginning work. Make sure all material is on site and in a safe location.

3.9. **CONDITIONS** are subject to change. Be sure and cover as much as you can during the pre-job.

3.10. **VERIFY** that support equipment (Arial lift) has been requested and available prior to beginning work (if required).

3.11. **AREA** should be placed in an un-cleared state before chaparral can enter location.

4 SPECIAL TRAINING/MEDICAL REQUIREMENTS

4.1. **CHAPARRAL TRAINING**

4.1.1. **REFERENCE LANL AP-MSS-004.2 SUBCONTRACTOR TRAINING MATRIX**

Los Alamos	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
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Revision #: 00			Activity/Task Title: Standing IWD Chaparral PM work (Temporary IWD)
Work Document #: (WO # / Task)			Subcontractor Planner (Name/Z#/Date) Kirk David Hess/ 198462/ 6-20-19
			LANL Planner/Preparer (Name/Z#/Date) Nicholas Nelson/ 253914/ 6-19-19
TA: 52	Building: 0011	Room:	Additional Location Description:

5 SPECIAL TOOLS/EQUIPMENT

5.1. SPECIAL TOOLS

5.1.1. SCAFFOLD

5.1.2. HEPA-VAC

5.1.3. PERSONAL AIR MONITORING EQUIPMENT.

5.2. EQUIPMENT

5.2.1. STANDARD PPE TO BE USED WHEN WORKING OUTSIDE THE BUILDING.

5.2.1.1. Standard PPE per contract + Dust masks N-95. and (fall protection when working from lift.)

5.2.2. PPE TO BE WORN INSIDE THE BUILDING.

5.2.2.1. Standard PPE per contract + Dust masks N-95 and (Tyvek is optional.)

WORK INSTRUCTIONS

5.3. **CHAPARRAL**

5.3.1. **CONTACT** and verify OMC has sent notifications to affected personnel.

HOLD POINT

Signature of CHRIS LOCKMER _____ Date _____

5.3.2. **LO/TO** equipment to be worked on.

5.3.3. **VERIFY** the absence of hazardous energy.

5.3.4. **PERFORM** PM and Maintenance as per the contract and according to the temporary limitations set forth in this IWD.

5.3.5. **PERFORM** Minor repairs to paper shredder as needed following the Contract. If repairs are major note the deficiency's on the PM, and notify the STR & OMC, a new corrective WO may be needed.

5.3.6. **THOROUGHLY** clean the work execution area of all dust using a HEPA-Vac.

Los Alamos	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Subcontract # 310447			Company Name:
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Work Document #: (WO # / Task)			Subcontractor Planner (Name/Z#/Date) Kirk David Hess/ 198462/ 6-20-19
			LANL Planner/Preparer (Name/Z#/Date) Nicholas Nelson/ 253914/ 6-19-19
TA: 52	Building: 0011	Room:	Additional Location Description:

5.3.7. **REMOVE** LO/TO from equipment and place the equipment into operational state.

6. Post Work Activities

6.1. **CONTACT** Local IH to collect monitoring equipment. ☑ N/A

7. Closeout

7.1. **TAKE** the package to the **OMC.** Inform them of work completion and get close out signatures. ☑

7.2. **RETURN** the package to **WORK CONTROL** for final close out. ☑

Los Alamos

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Subcontract # 310447			Company Name:
Revision #: 00			Activity/Task Title: Standing IWD Chaparral PM work (Temporary IWD)
Work Document #: (WO # / Task)			Subcontractor Planner (Name/ZI#/Date) Kirk David Hess/ 198462/ 6-20-19
			LANL Planner/Preparer (Name/ZI#/Date) Nicholas Nelson/ 253914/ 6-19-19
TA: 52	Building: 0011	Room:	Additional Location Description:

Insert Rows above for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls

IWD Type

- ☒ Moderate-Hazard
- ☐ High-Hazard /Complex
- ☐ Standing IWD

The Subcontractor line manager approves work based upon confidence that this IWD has been jointly prepared with the Contractor, the IWD clearly defines Subcontractor provided work tasks/steps linked to hazards and controls associated with the work to be performed, that the work will be performed within ES&H/S&S requirements and will be performed in accordance with this IWD.

Signature: _____ ZI# 198462

Date: 7/17/2019

Subcontractor PIC Signature _____ ZI# 198462

Document Preparer Signature: Nicholas Nelson ZI# 253914

STR or Designee Signature: _____ ZI# 100459

LANL ES&H Rep Signature: _____ ZI# 329907

FOD Rep Signature: _____ ZI# 210583

LANL ESO Signature (if required): NA ZI# ____

Reviewed by SUBCONTRACTOR ES&H Representative

Signature _____

ZI# 198462 Date: 7/17/2019

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 11
Maintenance and Site Services
Work Completion Form

Work Order/Task: 66091112-01

Start Date: 8/6/2020	Completion Date:

SUMMARIZE THE WORK PERFORMED

Summarize the Work Performed/Materials Used:

Date	
8/6/20	INSPECT VACUUM FILTER BAGS
	REPLACED FILTER BAGS
8/6/20	ONLY 1/2 FILTERS WERE REPLACED SINCE THE
	OTHER 1/2 OF FILTERS WERE THE WRONG SIZE
	REMAINDER OF WORK RESCHEDULED FOR 2 WEEKS

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED

	Failure Mode Root Cause Code (Circle Root Causes that Apply)	
Failure Mode	Circuit Breaker Tasks Digital Component Tasks Doors/Hatches Electrical Determinations Failed Surveillance Fastener Tasks FME Tasks I&C Calibration/Setpoints Mechanical Connections	System Restoration Issues Pump Related Tasks Procedure Use Rigging/Lifting Tasks Electrical Switches Troubleshooting Issues Valve Related Tasks Welding Work Instruction Issues
	Other (Specify Root Cause)	
Failure Mode Comments	(Add Details)	
	Rework Mode (Circle Rework Causes that Apply)	
Rework	Cause Indeterminate Design Deficiency Intentionally Abbreviated Maintenance Instructional Deficiency Knowledge Based Human Performance Error Deficiency Operational Deficiency	Life Cycle Management PM Deficiency Rule Base Human Performance Deficiency Skill Base Human Performance Deficiency Tools/Equipment/Lifts Vendor Deficiency Work Management Deficiency Weather
	Other (Specify Rework Mode)	
Comments		

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW		
	As Found Conditions (Circle Conditions that Apply)	
As found	Unanticipated Failure Failure Not Normal Wear Failure Normal Wear Outside of Tolerance Reliability Degraded	Within Tolerance Satisfactory Superior, Like New Not Applicable
	Other (Specify As Found Condition)	
Comments		
As left		
Parts/Repairs	NEW FILTER BAGS	
Read/meas.		
Post test info.		
Problems Encountered (delays, safety, etc.):		
	Delay Codes (Circle Codes that Apply)	
Delay	Access Equipment IWD Workability Material	Operations RCT Availability Safety Pause Weather # of Hours 2 Date(s) 8/6/2020
	Other (Specify Reason for Delay)	
Comments	WAITING FOR SCAFFOLD SAFETY INSPECTION	
Lessons Learned/Recommendations:		
Name: KIRK HESS	**Z#** 198462	**Signature:** [signature] **Date:** 8/6/2020

PIC/SUPT

☑ PM has been completed in its entirety and ready for closure.

IF A PM COULD NOT BE COMPLETED:

☐ Percentage complete is _____%

☐ Sections that did not work and need to be rescheduled

_____

Reasons why:

MAINTENANCE COORIDATOR/AREA WORK COORDINATOR

Work Package is Complete and may be closed out: YES ☒ NO ☐

IF no: State Reason

9/22/20

Additional Work Needed? ☐ YES ☒ NO

Document UP/WO/FSR Number:_____

ENGINEERING (FOR MD and CD Work Orders)

IF a configuration baseline has been changed, THEN indicate the changes are to be incorporated into the following documents and/or configuration baseline:

☐ Drawings ☐ FDD/SDD

☐ Procedures ☐ Master Equipment List

☐ Permits ☐ Checklists

SE Name: Signature: Date:

WORK CONTROL

Moderate/High Hazard – WMC/Planner reviewed for Lessons Learned/Feedback

☐ YES ☐ NO N/A ☐

☐ Review of the completed work package is complete per AP-WORK-005, and the work package is ready to be set to complete in CMMS.

Name: **Z#** **Signature:** **Date:**

Work Order/Task: 6609442-07

Start Date:	Completion Date:

ADITIONAL DETAILS ON WORK PERFORMED

Summarize the Work Performed/Materials Used:

Date	(Add details on As Found, Failure Mode, and Lessons Learned etc.)
9/18/20	COMPLETED INSTALLING FILTER TUBES

Asset Suite / TIMM100 - WORK TASK OUTLINE

Select steps through task planning. Create/Search/Change to create a new task.

Apply | Apply & Go Back | Apply & Clear | Go Back | Object

Work Order	00669442	Type	PM	Status	AWAIT/C 08/18/2020
Description	520011 3M DOCUMENT SHREDDER/ HARD DRIVE PM - CHAPARRAL				
Facility	F07	Work Status	OPEN	Reference	
Priority	4	Due By Date	08/31/2020	Outage Unit/Number	--
Work Group	3PM MOD	PM Early Date		Discipline	XOSC
Planning Center		PM Latest Date		Capital	
Planner	107145	In Service Date		Reimbursable	
Project		Model Work Order	00378564		
Originating Work Order		Model Revision	000 05/19/2011		

Create/Search/Change

Property | Complete | Schedule | Attributes | Address | Estimate | Action Tracking | Cross References

Work Order Task Details

Repeat | Clear | Export

Task	Sequence	Status	Pri	FSR	Prof	Inst	Res	Matl	Doc	Req	Tool	OTS	QC	Commitments	Nuc
01	01	FINISHED	4		✓	✓	✓								✓

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ATTACHMENT A1306.A.

TA-03 Power Plant

Opacity for Sources Combusting Natural Gas

No opacity readings were taken for this source while combusting natural gas during this reporting period. Per Section A1306.A – "Use of natural gas fuel meeting the requirement at Condition A1305.A or B constitutes compliance with 20.2.61 NMAC….."

ATTACHMENT A1306.B.

TA-03 Power Plant

Opacity for Sources Combusting No. 2 Fuel Oil

No fuel oil was burned in the TA-3 Power Plant boilers during this reporting period, therefore no opacity readings were taken.

ATTACHMENT A1307.A.

TA-03 Power Plant

Emission Rate Calculations

Monthly Emission Totals 2020 (tons)

		Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Totals
All Three Boilers	**NOx**	1.432	1.230	1.022	0.823	0.520	0.426	0.405	0.395	0.433	0.665	1.088	1.420	**9.86**
	SOx	0.015	0.013	0.011	0.009	0.005	0.004	0.004	0.004	0.004	0.007	0.011	0.015	**0.10**
	TSP	0.188	0.161	0.134	0.108	0.068	0.056	0.053	0.052	0.057	0.087	0.143	0.186	**1.29**
	PM-10	0.188	0.161	0.134	0.108	0.068	0.056	0.053	0.052	0.057	0.087	0.143	0.186	**1.29**
	PM-2.5	0.188	0.161	0.134	0.108	0.068	0.056	0.053	0.052	0.057	0.087	0.143	0.186	**1.29**
	CO	0.988	0.848	0.705	0.568	0.359	0.294	0.279	0.272	0.298	0.459	0.750	0.979	**6.80**
	VOC	0.136	0.117	0.097	0.078	0.049	0.040	0.038	0.037	0.041	0.063	0.103	0.135	**0.93**

12 Month Rolling Emissions 2020 (Tons)

All Three Boilers	**NOx**	10.122	10.001	9.918	9.932	9.831	9.795	9.788	9.837	9.929	9.885	9.842	9.858
	SOx	0.109	0.108	0.107	0.107	0.106	0.106	0.106	0.106	0.107	0.107	0.106	0.102
	TSP	1.328	1.312	1.301	1.303	1.290	1.285	1.284	1.290	1.302	1.297	1.291	1.292
	PM-10	1.327	1.311	1.300	1.302	1.289	1.284	1.283	1.290	1.302	1.296	1.290	1.292
	PM-2.5	1.327	1.311	1.300	1.302	1.288	1.284	1.283	1.289	1.301	1.296	1.290	1.292
	CO	6.980	6.896	6.840	6.849	6.779	6.755	6.750	6.784	6.847	6.817	6.787	6.799
	VOC	0.960	0.948	0.940	0.941	0.932	0.928	0.928	0.932	0.941	0.937	0.933	0.935

Meets permit condition A1307.A, Monitoring Condition 2.

Monthly Emission Calculation (Natural Gas) 2020

Average Hourly Emissions Rates (pph) for each Emission Unit

(Meets condition A1307.A, monitoring condition 1, of Title V Permit P100-R2M1)

		Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Allowable Emissions[a]
Boiler 1 TA-3-22-1 (pph)	**NOx**	4.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**10.2**
	SOx	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.1**
	PM	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.3**
	PM-10	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.3**
	PM-2.5	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.3**
	CO	3.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**7.0**
	VOC	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.0**
Boiler 2 TA-3-22-2 (pph)	**NOx**	3.62	1.25	0.00	1.67	1.55	0.23	1.12	1.06	1.20	1.26	4.05	4.18	**10.2**
	SOx	0.04	0.01	0.00	0.02	0.02	0.00	0.01	0.01	0.01	0.01	0.04	0.04	**1.1**
	PM	0.47	0.16	0.00	0.22	0.20	0.03	0.15	0.14	0.16	0.16	0.53	0.55	**1.3**
	PM-10	0.47	0.16	0.00	0.22	0.20	0.03	0.15	0.14	0.16	0.16	0.53	0.55	**1.3**
	PM-2.5	0.47	0.16	0.00	0.22	0.20	0.03	0.15	0.14	0.16	0.16	0.53	0.55	**1.3**
	CO	2.50	0.86	0.00	1.15	1.07	0.16	0.78	0.73	0.83	0.87	2.79	2.88	**7.0**
	VOC	0.34	0.12	0.00	0.16	0.15	0.02	0.11	0.10	0.11	0.12	0.38	0.40	**1.0**
Boiler 2 TA-3-22-2 (pph)	**NOx**	3.85	3.06	2.75	2.34	1.32	1.18	1.09	0.00	0.00	1.98	2.91	3.44	**10.2**
	SOx	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.02	0.03	0.04	**1.1**
	PM	0.50	0.40	0.36	0.31	0.17	0.15	0.14	0.00	0.00	0.26	0.38	0.45	**1.3**
	PM-10	0.50	0.40	0.36	0.31	0.17	0.15	0.14	0.00	0.00	0.26	0.38	0.45	**1.3**
	PM-2.5	0.50	0.40	0.36	0.31	0.17	0.15	0.14	0.00	0.00	0.26	0.38	0.45	**1.3**
	CO	2.66	2.11	1.90	1.61	0.91	0.82	0.75	0.00	0.00	1.37	2.00	2.37	**7.0**
	VOC	0.37	0.29	0.26	0.22	0.13	0.11	0.10	0.00	0.00	0.19	0.28	0.33	**1.0**

(a) Allowable Emissions are from table A1302A of Permit P100-R2M1.

Condition A1307.A, monitoring condition 3, can't be calculated because the units are based on the emission factor. The emission factor for NOx is 58 lbs/MMscf, which is converted to lbs/MMBtu by dividing by the high heat value of natural gas (the number of Btu in a scf). As the HHV of natural gas ranges in value, the emission range was calculated using the low and high values at LANL between 2011 and 2019, the lowest was 1006.6 btu/scf and the highest was 1079.3 btu/scf, therefore the NOx emission rate will range from 0.0537 to 0.0576 lbs/MMBtu. The average Btu value for natural gas is calculated annually and can be found in the GHG emission calculations in this spreadsheet.

Monthly Emission Calculation (Fuel Oil) 2020

Average Hourly Emissions Rates (pph) for each Emission Unit

(Meets condition A1307.A, monitoring condition 1, of Title V Permit P100-R2M1)

		Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Allowable Emissions[a]
Boiler 1 TA-3-22-1 (pph)	**NOx**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**11.3**
	SOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**9.6**
	PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**4.3**
	PM-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**3.0**
	PM-2.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**2.0**
	CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**6.5**
	VOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.3**
Boiler 2 TA-3-22-2 (pph)	**NOx**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**11.3**
	SOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**9.6**
	PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**4.3**
	PM-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**3.0**
	PM-2.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**2.0**
	CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**6.5**
	VOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.3**
Boiler 2 TA-3-22-2 (pph)	**NOx**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**11.3**
	SOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**9.6**
	PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**4.3**
	PM-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**3.0**
	PM-2.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**2.0**
	CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**6.5**
	VOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.3**

(a) Allowable Emissions are from table A1302A of permit P100-R2M1

Each boilers uses 1303 gallons per hour at 110% or 178 MMbtu input (provided by Paul Parker on 9-12-12). Hour calculation uses 1184 gph as 100%.

Data Reviewed By: Vince Carretti 1/14/2021

ATTACHMENT A1307.B.

TA-03 Power Plant

Boiler Fuel Use and Hours of Operation

2020 TA-3 Power Plant Fuel Use Totals

Month	TA-3-22-1 Power Plant[b] Boiler # 1 (Edgemoor Iron Works, 210 mmBtu/hr)		TA-3-22-2 Power Plant[b] Boiler # 2 (Edgemoor Iron Works, 210 mmBtu/hr)		TA-3-22-3 Power Plant[b] Boiler # 3 (Union Iron Works, 210 mmBtu/hr)		Monthly Totals	
	Natural Gas (mscf)[a]	Fuel Oil (gallons)[a]	Natural Gas (mscf)[a]	Fuel Oil (gallons)[a]	Natural Gas (mscf)[a]	Fuel Oil (gallons)[a]	Natural Gas (mmscf)[a]	Fuel Oil (gallons)[a]
January	1,153	0	6,796	0	41,431	0	49.38	0
February	0	0	5,916	0	36,501	0	42.42	0
March	0	0	4	0	35,254	0	35.26	0
April	0	0	1,728	0	26,649	0	28.38	0
May	0	0	6,702	0	11,228	0	17.93	0
June	0	0	0.4	0	14,679	0	14.68	0
July	0	0	1,240	0	12,732	0	13.97	0
August	0	0	13,619	0	0	0	13.62	0
September	0	0	14,922	0	0	0	14.92	0
October	0	0	4,361	0	18,573	0	22.93	0
November	0	0	4,464	0	33,036	0	37.50	0
December	0	0	2,372	0	46,581	0	48.95	0
Annual Totals:	1,154	0	62,125	0	276,664	0	339.94	0
Jan. - June	1,153	0	21,146	0	165,743	0	188.04	0
July - Dec.	0	0	40,979	0	110,921	0	151.90	0

TA-3 Power Plant Hours of Operation

Month	Hours Natural Gas			Hours Fuel Oil			12-Month Rolling Total Hours All Boilers
	Boiler 1	Boiler 2	Boiler 3	Boiler 1	Boiler 2	Boiler 3	
January	14.9	108.8	624.0	0.0	0.0	0.0	8970.7
February	0.0	274.7	691.9	0.0	0.0	0.0	8605.5
March	0.0	0.0	743.9	0.0	0.0	0.0	8334.6
April	0.0	60.0	660.4	0.0	0.0	0.0	8334.8
May	0.0	250.3	493.5	0.0	0.0	0.0	8335.0
June	0.0	0.1	719.9	0.0	0.0	0.0	8349.9
July	0.0	64.0	679.4	0.0	0.0	0.0	8390.8
August	0.0	743.1	0.0	0.0	0.0	0.0	8774.4
September	0.0	719.8	0.0	0.0	0.0	0.0	9031.1
October	0.0	201.3	542.7	0.0	0.0	0.0	9060.7
November	0.0	63.9	659.2	0.0	0.0	0.0	9062.5
December	0.0	32.9	784.7	0.0	0.0	0.0	9133.4

Data Reviewed By: Vince Carretti 1/14/2021

12 Month Rolling Fuel Totals For Each TA-3 Power Plant Boiler - 2020

Month	Boiler 1		Boiler 2		Boiler 3		All Boilers	
	Natural Gas (mmscf)	Fuel Oil (gal.)	Natural Gas (mmscf)	Fuel Oil (gal.)	Natural Gas (mmscf)	Fuel Oil (gal.)	Natural Gas (mmscf)	Fuel Oil (gal.)
January	66.61	0	15.30	0	266.96	1,219	348.87	1,219
February	40.50	0	21.22	0	282.95	1,219	344.66	1,219
March	32.10	0	21.22	0	288.51	1,219	341.83	1,219
April	32.00	0	22.95	0	287.35	1,219	342.30	1,219
May	31.54	0	29.65	0	277.64	1,219	338.82	1,219
June	25.55	0	27.94	0	284.10	1,219	337.58	1,219
July	17.89	0	22.62	0	296.83	1,219	337.33	1,219
August	5.97	0	36.24	0	296.83	1,219	339.04	1,219
September	1.28	0	51.16	0	289.76	1,219	342.20	1,219
October	1.16	0	55.52	0	284.01	1,219	340.69	1,219
November	1.16	0	59.88	0	278.17	1,219	339.21	1,219
December	1.15	0	62.12	0	276.66	0	339.94	0
						Permit Limits:	**1000 MMscf**	**500,000 gal**

ATTACHMENT A1307.C.

TA-03 Power Plant

Turbine Fuel Use and Hours of Operation

CY2020 Daily Turbine Gas Use (Mscf), 12 Month Rolling Total Gas Use, & Hours of Operation

Day	Jan		Feb		Mar		Apr		May		Jun		July		Aug		Sept		Oct		Nov		Dec	
	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	430.2	5.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.5	3441.3	15.0	3984.1	16.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5162	24.0	6360.3	24.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5162	24.0	6263	24.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5162	24.0	6063.3	24.0
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5162	24.0	6053	24.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5162	24.0	5797	0.0
8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1864	8.0	5162	24.0	6027.4	24.0
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2120.1	10.0	5325.8	24.0	6032.5	24.0
10	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5976.2	24.0	6145.2	24.0
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6216.9	24.0	6242	24.0
12	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2365.9	11.0	1561.9	5.0	6275	24.0
13	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6511	24.0
14	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.5	0	0.0
15	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.5	3308.2	15.0	0	0.0
17	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5868.7	24.0	0	0.0
18	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5674.1	24.0	0	0.0
19	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3441.3	17.0	5576.8	24.0	0	0.0
20	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5162	24.0	6032.5	24.0	0	0.0
21	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	768.6	3.0	5162	24.0	0	0.0	0	0.0
22	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1281	5.0	3441.3	16.0	0	0.0	0	0.0
23	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	768.6	3.0	0	0.0	0	0.0	0	0.0
24	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	768.6	3.0	0	0.0	3564.2	15.0	0	0.0
25	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	256.2	1.0	0	0.0	6206.7	24.0	0	0.0
26	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	455.8	3.0	0	0.5	6078.6	24.0	0	0.0
27	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6216.9	24.0	0	0.0
28	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	671.9	3.0	0	0.0	6309.1	24.0	0	0.0
29	0	0.0			0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2581	12.0	0	0.5	5464.1	20.0	0	0.0
30	0	0.0			0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2365.9	11.0	0	0.0	0	0.0	0	0.0
31	0	0.0			0	0.0			0	0.0			0	0.0	0	0.0			0	0.0			0	0.0
SUM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9917.6	44	23986.8	119	113794	478.5	71753.8	256
12 Mo. Rolling Gas Mscf	86,855		84,760		84,760		82,786		73,102		66,826		63,173		56,363		36,905		50,580		154,082		219,452	
12 Mo. Rolling Gas MMscf	**86.9**		**84.8**		**84.8**		**82.8**		**73.1**		**66.8**		**63.2**		**56.4**		**36.9**		**50.6**		**154.1**		**219.5**	
12 Mo. Rolling Hours Hrs.	371		363		363		355		316		288		272		241		152		229		667		898	

First Half Gas Use: **0.00** **MMscf** | **Second Half Gas Use:** **219.5** **MMscf** | **Annual Gas Use:** **219.452** **MMscf**

Permit Limit (12 mo rolling): **1400** **MMscf**

2019 High Heat Value (HHV) for natural gas[k] = **1057.1** MMBtu/scf

Total Annual Hours: **897.5** **Hours**

Percent of Year Run: 10%

Reviewed by/date: Vince Carretti 1/13/2021

ATTACHMENT A1307.D.

TA-03 Power Plant

Turbine Operating Logs

93521

UI-LOG-033-R2
January 4 2018

Date: 9.21.20

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 1140

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow: 1413

Notes: TEST FOR SIEMENS CGTG UP GRADE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank-Hourly	BVT-013	√																✓	✓	✓									
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√																✓	✓	✓									
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120													108	110	110									
4	Instrument Temperature	TI-001	deg C		20	50													24	28	28									
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25														18.9	18.9	18.9									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120													100	100	100									
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL													1/2	1/2	1/2									
9	Coolant Return Differential from GG	FI-001	In WC		60	80													60	60	60									
10	Coolant Return Differential from	FI-002	In WC		37	50													35	36	36									
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector Monitor		% LEL	0%	0%	20%															0									
15	WECC Log		Operational?																											
16	Operation of PSS/ on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1200																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																													
26	Ambient Temperature	T1 inlet																												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

TEST Tube ONLY

Date: 9.21.2020 Signature:

UI-LOG-033-R2
January 4 2018

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	1030																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK														B	B	B									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY													F	F	F									
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL													1/2	1/2	1/2									
Oil Day Tank Level	LI-1562	GAL	10		FULL													53	53	53									
Lubricator Bulls eye		LEVEL	1/2	FULL														F	F	F									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY													F	F	F									
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY													F	F	F									
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		TEST												B	B	B									
1st Stage Inlet Press.	PI-2100	psig		88	140													85	85	85									
Stage Disch. Press	PI-2101	psig		238	285													251	254	254									
2nd Stage Inlet Press	PI-2200	psig		267	285													251	251	250									
2nd Stage Disch. Press	PI-2201	psig		575	600													563	563	564									
Final Discharge Pressure	PI-2108	psig		575	600													560	560	560									
Lube Oil Pressure	PI-1572	psig	40	60														59	59	59									
Lube Oil Temp	TE-1584	deg		150	170													164	164	164									
Final Discharge Temp	TE-2120	deg		110	150													164	163	167									
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297													240	241	244									
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283													235	234	238									
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297													241	240	243									
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283													252	234	238									
Motor Frame Vibration	VT-1015	IPS			0.15													.08	.05	.05									
Compresser Frame Vibration	VT-1512	IPS			0.35													.05	.05	.05									
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	9-21-2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes TEST WITH SIEMENS ETHEN TIME CCTG UP GRADE.

CGTG HOURLY READING LOG

Date: 09.22.20

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0933 ~~0953~~

Time of Turbine Online (Brkr Closed): 0953

Time Turbine Offline (Brkr Open): 1010

Time No Gas Flow: 1033

Notes: TEST FOR CGTG UPGRADE BY SIEMENS
RUNNING TESTS 9-22-20

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v												✓	✓	✓	✓	✓											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v												✓	✓	✓	✓	✓											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120									105	108	101	98	110											
4	Instrument Temperature	TI-001	deg C		20	50									28	28	28	28	22											
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25										18.9	19	18.9	18.9	19.											
7	Coolant PLC Temperature	TI-002	deg F	100	110	120									100.1	100.	106	105	76.6											
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL									1/2	1/2	1/2	1/2	1/2											
9	Coolant Return Differential from GG	FI-001	In WC		60	80									60	61	62	61	60											
10	Coolant Return Differential from	FI-002	In WC		37	50									36	36	36	36	35											
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85									70	70	70	70												
13	Combustible Gas Detector Monitor		% LEL	0%	0%	20%									0	0	0	0												
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)									N/A	N/A	N/A													
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)									N/A	N/A														
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%									N/A	N/A			73%											
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%									N/A	N/A			0%											
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20										N/A	N/A														
21	Acknowledge Alarms Hourly		v												N/A	N/A														
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1200									N/A	N/A														
23	Mw Output		MW			27									N/A	N/A														
24	80% Base Load Minimum		MW												N/A	N/A														
25	Running Hours (unit overview)														N/A	N/A														
26	Ambient Temperature	T1 inlet													N/A	N/A		71	72.9											
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%									N/A	N/A														
28	Total Fuel Flow		Mscf/h												N/A	N/A	N/A													

Date: 9-22-20 Signature: Rmy Vail

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0812																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK										B	B	B	B	B	B	B	UNIT SEGOR								
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY									E	E	F	F	F	E	E									
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL									1/2	1/2	1/2	1/2	1/2	1/2	1/2									
Oil Day Tank Level	LI-1562	GAL	10		FULL									53	53	53	53	53	53	53									
Lubricator Bulls eye		LEVEL	1/2	FULL										F	F	F	F	F	F	F									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY									E	E	E	E	E	E	E									
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY									E	E	E	E	E	E	E									
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK										B	B	B	B	B	B	B									
1st Stage Inlet Press.	PI-2100	psig		88	140									85	85	85	85	86	85	85									
Stage Disch. Press	PI-2101	psig		238	285									252	253	253	255	219	252	218									
2nd Stage Inlet Press	PI-2200	psig		267	285									249	249	250	251	214	250	214									
2nd Stage Disch. Press	PI-2201	psig		575	600									561	562	562	563	207	561	207									
Final Discharge Pressure	PI-2108	psig		575	600									560	560	560	560	199	560	200									
Lube Oil Pressure	PI-1572	psig	40	60										59	59	59	59	58	58	59									
Lube Oil Temp	TE-1584	deg		150	170									163	163	165	165	164	164	163									
Final Discharge Temp	TE-2120	deg		110	150									107	107	109	101	77	106	91									
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297									244	244	247	240	208	243	220									
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283									237	237	240	233	112	238	124									
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297									243	243	245	239	206	242	218									
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283									237	237	240	233	112	237	124									
Motor Frame Vibration	VT-1015	IPS			0.15									.04	.04	.05	.04	.04	.04	.03									
Compresser Frame Vibration	VT-1512	IPS			0.35									.05	.05	.05	.05	.05	.05	.07									
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 9-22-2020

SIGNATURE Randy [illegible]

Mid Shift

Days Shift

Notes TEST @ THIS TIME FOR SIEMENS CGTG UPGRADE

Date: 9-23-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 1614 1702

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open): ~~1648~~ 1648 1831

Time No Gas Flow:

Notes: CGTG TEST FOR SIEMENS UPGRADE.

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√														√	√	√											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√														√	√	√											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120											105	103	106											
4	Instrument Temperature	TI-001	deg C		20	50											29	29	29											
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25												19	19												
7	Coolant PLC Temperature	TI-002	deg F	100	110	120											82.1	84.												
8	Sght glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL											1/2	1/2												
9	Coolant Return Differential from GG	FI-001	In WC		60	80											61	61												
10	Coolant Return Differential from	FI-002	In WC		37	50											36	35												
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector Monitor		% LEL	0%	0%	20%																								
15	WECC Log		Operational?																											
16	Operation of PSS on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1200																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																4424													
26	Ambient Temperature	T1 inlet															84	84												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

Date: 9-23-2020 Signature: Randy Hall

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	1000																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK												B	B	B	B										
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY											E	E	E	E										
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL											1/2	1/2	1/2	1/2										
Oil Day Tank Level	LI-1562	GAL	10		FULL											53	53	53	53										
Lubricator Bulls eye		LEVEL	1/2	FULL												F	F	F	F										
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY											E	E	E	E										
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY											E	E	E	E										
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK												B	B	B	B										
1st Stage Inlet Press.	PI-2100	psig		88	140											85	85	85	85										
Stage Disch. Press	PI-2101	psig		238	285											219	218	218	218										
2nd Stage Inlet Press	PI-2200	psig		267	285											214	213	213	213										
2nd Stage Disch. Press	PI-2201	psig		575	600											211	207	208	208										
Final Discharge Pressure	PI-2108	psig		575	600											203	199	199	200										
Lube Oil Pressure	PI-1572	psig	40	60												59	59	58	58										
Lube Oil Temp	TE-1584	deg		150	170											163	163	164	164										
Final Discharge Temp	TE-2120	deg		110	150											97	91	92	99										
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297											228	217	210	221										
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283											156	121	122	123										
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297											227	215	216	219										
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283											155	120	124	123										
Motor Frame Vibration	VT-1015	IPS			0.15											.04	.04	.04	.04										
Compresser Frame Vibration	VT-1512	IPS			0.35											.05	.05	.05	.05										
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 9-23-2020

SIGNATURE Randy Vail

Mid Shift

Days Shift

Notes TEST EGTC FOR SIEMENS UP GRADE.

Date: 9-24-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0930

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open): 1635

Time No Gas Flow: 1635

Notes: TEST FOR SIEMENS CCTG UPGRADE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√																√	√	√									
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√																√	√	√									
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120													105	108	104									
4	Instrument Temperature	TI-001	deg C		20	50													30	31	31									
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25														18.9	18.9	18.3									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120													106	105	108									
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL													1/2	1/2	1/2									
9	Coolant Return Differential from GG	FI-001	In WC		60	80													Cl	Cl	Cl									
10	Coolant Return Differential from	FI-002	In WC		37	50													35	36	36									
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector Monitor		%LEL	0%	0%	20%																								
15	WECC Log		Operational?																											
16	Operation of PSS on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1200																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																													
26	Ambient Temperature	T1 inlet																		90										
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

TEST FOR UP GRADE

CAS UNIT SECURE

Date: 09-24-2020 Signature: Randy Vinil

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor 03830		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK														B											
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY													E											
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL													1/2											
Oil Day Tank Level	LI-1562	GAL	10		FULL													S2											
Lubricator Bulls eye		LEVEL	1/2	FULL														F											
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY													E											
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY													E											
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK														B											
1st Stage Inlet Press.	PI-2100	psig		88	140													85											
Stage Disch. Press	PI-2101	psig		238	285													255											
2nd Stage Inlet Press	PI-2200	psig		267	285													251											
2nd Stage Disch. Press	PI-2201	psig		575	600													563											
Final Discharge Pressure	PI-2108	psig		575	600													562											
Lube Oil Pressure	PI-1572	psig	40	60														59											
Lube Oil Temp	TE-1584	deg		150	170													165											
Final Discharge Temp	TE-2120	deg		110	150													113											
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297													255											
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283													247											
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297													253											
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283													248											
Motor Frame Vibration	VT-1015	IPS			0.15													04											
Compresser Frame Vibration	VT-1512	IPS			0.35													05											
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

BUSY TEST

DATE 9-29-2020

SIGNATURE [signature]

Mid Shift

Days Shift

Notes TEST FOR CGTG UP GRADE

CGTG HOURLY READING LOG

Date: 9-25-2020

MST / (MDT) (circle one)

Time Gas Introduced (Turbine Rolling): 1302

Time of Turbine Online (Brkr Closed): 1315

Time Turbine Offline (Brkr Open): 1353

Time No Gas Flow: 1458

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√																	✓						
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√																	✓						
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120														106						
4	Instrument Temperature	TI-001	deg C		20	50														32						
5	Fin Fan Cooler		Units	Low	Norm	Max																				
6	Coolant Pressure	PI-250	psig		25															184						
7	Coolant PLC Temperature	TI-002	deg F	100	110	120														101.6						
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL														2/3						
9	Coolant Return Differential from GG	FI-001	In WC		60	80														62						
10	Coolant Return Differential from	FI-002	In WC		37	50														37						
11	Control Room		Units	Low	Norm	Max																				
12	Room Temperature		deg F		72	85														74						
13	Combustible Gas Detector Monitor		% LEL	0%	0%	20%														0						
15	WECC Log		Operational?																							
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																				
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																				
	Entronic Control System		Units	Low	Norm	Max																				
	(18–20 found on Air Diagram page)																									
18	2000 gal Oil Water Tank Level	LI-231	%			70%														73						
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%														0						
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GG D5T-01	psig	35	20																					
21	Acknowledge Alarms Hourly		√																	✓						
	(22–24 found on Power Management page)																									
22	Generator Current		Amps			1200																				
23	Mw Output		MW			27																				
24	80% Base Load Minimum		MW																							
25	Running Hours (unit overview)																			4424						
26	Ambient Temperature	T1 inlet																		81.1						
	(27–28 found on Gas Fuel System page)																									
27	Waste Oil Tank	LI-120	%			70%														0						
28	Total Fuel Flow		Mscf/h																	0						

Date: 9-25-2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	1254																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK															B										
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY														E										
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL														1/2										
Oil Day Tank Level	LI-1562	GAL	10		FULL														50										
Lubricator Bulls eye		LEVEL	1/2	FULL															full										
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY														E										
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY														E										
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK															B										
1st Stage Inlet Press.	PI-2100	psig		88	140														84										
Stage Disch. Press	PI-2101	psig		238	285														254										
2nd Stage Inlet Press	PI-2200	psig		267	285														250										
2nd Stage Disch. Press	PI-2201	psig		575	600														563										
Final Discharge Pressure	PI-2108	psig		575	600														560										
Lube Oil Pressure	PI-1572	psig	40	60															54										
Lube Oil Temp	TE-1584	deg		150	170														163										
Final Discharge Temp	TE-2120	deg		110	150														117										
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297														250										
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283														260										
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297														254										
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283														250										
Motor Frame Vibration	VT-1015	IPS			0.15														.04										
Compresser Frame Vibration	VT-1512	IPS			0.35														.05										
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8														558										
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20														557										

DATE	9-25-2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes 2nd stage discharge HI alarm inspected JCB

CGTG HOURLY READING LOG

Date: 9-26-2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0934

Time of Turbine Online (Brkr Closed): 1005 1151

Time Turbine Offline (Brkr Open): 1103

Time No Gas Flow: 1103 1500

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√														√		√	√						
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√														√		√	√						
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120											108		112	110						
4	Instrument Temperature	TI-001	deg C		20	50											26		30	30						
5	Fin Fan Cooler		Units	Low	Norm	Max																				
6	Coolant Pressure	PI-250	psig		25												18.4		18.4	18.4						
7	Coolant PLC Temperature	TI-002	deg F	100	110	120											104		100	100						
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL											2/3		2/3	2/3						
9	Coolant Return Differential from GG	FI-001	In WC		60	80											60		62	62						
10	Coolant Return Differential from	FI-002	In WC		37	50											36		36	36						
11	Control Room		Units	Low	Norm	Max																				
12	Room Temperature		deg F		72	85											70	78	78	79						
13	Combustible Gas Detector Monitor		% LEL	0%	0%	20%													0	0						
15	WECC Log		Operational?																							
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																				
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)											Y	Y	Y	Y						
	Entronic Control System		Units	Low	Norm	Max																				
	(18–20 found on Air Diagram page)																									
18	2000 gal Oil Water Tank Level	LI-231	%			70%												23	73	73						
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%												0	0	0						
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GG D5T-01	psig	35	20																					
21	Acknowledge Alarms Hourly		√																√	√						
	(22–24 found on Power Management page)					1427																				
22	Generator Current		Amps			~~1300~~													1178	836						
23	Mw Output		MW			27											5.1		19.8	19.6						
24	80% Base Load Minimum		MW																17.3	17.2						
25	Running Hours (unit overview)																4432	4434	4434	4435						
26	Ambient Temperature	T1 inlet																79	79	79						
	(27–28 found on Gas Fuel System page)																									
27	Waste Oil Tank	LI-120	%			70%													0	0						
28	Total Fuel Flow		Mscf/h																							

Date: 9-26-2020 Signature:

1103 - turbine tripped

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0900																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK												B		B	B										
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY											E		E	E										
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL											1/2		1/2	1/2										
Oil Day Tank Level	LI-1562	GAL	10		FULL											50		50	50										
Lubricator Bulls eye		LEVEL	1/2	FULL												F		F	F										
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY											E		E	E										
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY											E		E	E										
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK												B		B	B										
1st Stage Inlet Press.	PI-2100	psig		88	140											84		82	82										
Stage Disch. Press	PI-2101	psig		238	285											253		249	250										
2nd Stage Inlet Press	PI-2200	psig		267	285											249		246	247										
2nd Stage Disch. Press	PI-2201	psig		575	600											563		563	563										
Final Discharge Pressure	PI-2108	psig		575	600											560		560	560										
Lube Oil Pressure	PI-1572	psig	40	60												59		59	59										
Lube Oil Temp	TE-1584	deg		150	170											164		165	165										
Final Discharge Temp	TE-2120	deg		110	150											113		115	117										
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297											249		247	247										
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283											244		249	249										
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297											247		245	246										
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283											243		249	249										
Motor Frame Vibration	VT-1015	IPS			0.15											.03		.03	.03										
Compresser Frame Vibration	VT-1512	IPS			0.35											.05		.06	.06										
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8													556											
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20													545											

DATE 9-26-2020

SIGNATURE

Mid Shift

Days Shift

Notes

Date: 9-28-2020

CGTG HOURLY READING LOG

MST / (MDT) (circle one)

Time Gas Introduced (Turbine Rolling): 1534 / 1149

Time of Turbine Online (Brkr Closed): 1305 / 1552

Time Turbine Offline (Brkr Open): 1508 / 1859

Time No Gas Flow: 1508 / 1904

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v																	✓			✓	✓		
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v																	✓			✓	✓		
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120														110			112	110		
4	Instrument Temperature	TI-001	deg C		20	50														19			19	19		
5	**Fin Fan Cooler**		Units	Low	Norm	Max																				
6	Coolant Pressure	PI-250	psig		25																					
7	Coolant PLC Temperature	TI-002	deg F	100	110	120														18.3			18.4	18.4		
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL														105			101	108		
9	Coolant Return Differential from GG	FI-001	In WC		60	80														2/3			2/3	2/3		
10	Coolant Return Differential from	FI-002	In WC		37	50														62			62	63		
11	**Control Room**		Units	Low	Norm	Max														36			36	36		
12	Room Temperature		deg F		72	85																				
13	Combustible Gas Detector Monitor		% LEL	0%	0%	20%														67			67	61		
15	WECC Log		Operational?																	0			0	0		
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																				
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																				
	Entronic Control System		Units	Low	Norm	Max														✓			✓			
	(18–20 found on Air Diagram page)																									
18	2000 gal Oil Water Tank Level	LI-231	%			70%														73			73	73		
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%														0			0	0		
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GG D5T-01	psig	35	20																					
21	Acknowledge Alarms Hourly		v																	✓			✓	✓		
	(22–24 found on Power Management page)																									
22	Generator Current		Amps			1200														991			966	828		
23	Mw Output		MW			27														23.2			22.8	19.6		
24	80% Base Load Minimum		MW																	19.3			19.0	19.2		
25	Running Hours (unit overview)																			4438			4440	4441		
26	Ambient Temperature	T1 inlet																		54			58	57		
	(27–28 found on Gas Fuel System page)																									
27	Waste Oil Tank	LI-120	%			70%														0			0	0		
28	Total Fuel Flow		Mscf/h																							

Date: 9-28-2020 Signature: Josh Cruz

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	11:21																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK															B			B	B						
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY														E			E	E						
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL														1/2			1/2	1/2						
Oil Day Tank Level	LI-1562	GAL	10		FULL														48			46	46						
Lubricator Bulls eye		LEVEL	1/2	FULL															F			F	F						
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY														E			E	E						
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY														E			E	E						
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK															B			B	B						
1st Stage Inlet Press.	PI-2100	psig		88	140														81			82	83						
Stage Disch. Press	PI-2101	psig		238	285														245			247	249						
2nd Stage Inlet Press	PI-2200	psig		267	285														242			243	245						
2nd Stage Disch. Press	PI-2201	psig		575	600														563			563	563						
Final Discharge Pressure	PI-2108	psig		575	600														560			560	560						
Lube Oil Pressure	PI-1572	psig	40	60															59			59	59						
Lube Oil Temp	TE-1584	deg		150	170														165			164	165						
Final Discharge Temp	TE-2120	deg		110	150														94			95	94						
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297														236			234	237						
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283														230			236	227						
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297														233			232	231						
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283														230			230	228						
Motor Frame Vibration	VT-1015	IPS			0.15														.04			.04	.04						
Compresser Frame Vibration	VT-1512	IPS			0.35														.05			.05	.05						
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8														556										
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20														543										

DATE 9-28-2020

SIGNATURE

Mid Shift

Days Shift [signature]

Notes gas comp trapped on Hi secondary stage discharge pressure
@ 1543 gas comp back on.

Date: 9-29-2020

MST / ~~MDT~~ (circle one)

Time Gas Introduced (Turbine Rolling): 0954 / 0937

Time of Turbine Online (Brkr Closed): 0921 / 1005

Time Turbine Offline (Brkr Open):

Time No Gas Flow: 0922 / 0939

CGTG HOURLY READING LOG

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v														✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v														✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120											112	106	110	110	110	110	112	110	110	110	110	110	110	110
4	Instrument Temperature	TI-001	deg C		20	50											20	20	21	23	24	24	24	24	21	20	20	20	19	20
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25												18.9	18.9	18.9	18.9	18.8	18.9	18.8	18.8	19.5	18.6	18.5	18.7	18.8	18.8
7	Coolant PLC Temperature	TI-002	deg F	100	110	120											97	105	99	101	109	105	102	99	107	99	112	107	98	101
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL											2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3
9	Coolant Return Differential from GG	FI-001	In WC		60	80											60	62	62	64	62	62	62	62	63	63	63	63	63	63
10	Coolant Return Differential from	FI-002	In WC		37	50											37	36	37	39	37	37	37	37	36	36	36	36	36	36
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85											69	68	70	70	70	70	70	70	70	70	70	71	71	71
13	Combustible Gas Detector Monitor		% LEL	0%	0%	20%											0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																			✓	✓	✓	✓	✓	✓
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%											73	73	73	73	73	73	73	73	73	73	73 (70)	73	73	73
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%											0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GG D5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v														✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427 ~~1200~~											881	888	881	881	887	890	894	888	890	887	889	880	884	885
23	Mw Output		MW			27											21.0	21.0	20.9	20.9	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21	21.1	21
24	80% Base Load Minimum		MW														19.0	18.8	18.5	18.3	18.2	18.0	18.1	18.2	18.7	18.8	18.7	18.7	19	19
25	Running Hours (unit overview)																4444	4445	4446	4447	4448	4449	4450	4451	4452	4453	4454	4455	4456	4457
26	Ambient Temperature	T1 inlet															59	62	64	68	68	70	70	68	63	61	62	63	58	59
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%											0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h																											

Date: 9-29-2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0433																												
Combustible Gas Detector	AAH-303	%		0%	20%											B	B	B	B	B	B	B	B	B	B	B	B	B	B
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK												E	E	E	E	E	E	E	E	E	E	E	E	E	E
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY											1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL											46	46	46	46	46	46	46	46	46	46	46	46	46	46
Oil Day Tank Level	LI-1562	GAL	10		FULL											F	F	F	F	F	F	F	F	F	F	F	F	F	F
Lubricator Bulls eye		LEVEL	1/2	FULL												E	E	E	E	E	E	E	E	E	E	E	E	E	E
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY											E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY											B	B	B	B	B	B	B	B	B	B	B	B	B	B
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK												82	82	82	82	82	82	82	82	83	83	83	83	83	83
1st Stage Inlet Press.	PI-2100	psig		88	140											246	247	248	249	250	250	250	250	250	250	250	250	250	250
Stage Disch. Press	PI-2101	psig		238	285											243	244	245	246	246	246	246	246	248	246	247	247	246	246
2nd Stage Inlet Press	PI-2200	psig		267	285											563	563	563	563	563	563	563	563	564	563	564	564	564	564
2nd Stage Disch. Press	PI-2201	psig		575	600											559	560	560	560	560	560	560	560	560	560	560	560	560	560
Final Discharge Pressure	PI-2108	psig		575	600											58	59	61	59	59	59	59	59	60	60	60	60	59	59
Lube Oil Pressure	PI-1572	psig	40	60												166	166	165	165	165	163	163	163	163	164	164	164	165	165
Lube Oil Temp	TE-1584	deg		150	170											95	98	102	107	108	109	107	106	100	98	100	100	95	95
Final Discharge Temp	TE-2120	deg		110	150											237	238	239	240	240	238	237	237	236	234	234	234	233	232
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297											229	232	235	239	239	24	239	237	233	230	231	231	229	228
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283											235	235	236	237	237	235	235	235	234	232	232	232	231	230
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297											229	232	235	239	239	240	239	239	233	231	232	231	229	228
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283											.04	.04	.04	.04	.04	.05	.05	.04	.04	.04	.04	.03	.04	.04
Motor Frame Vibration	VT-1015	IPS			0.15											.06	.05	.06	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8										550	558													
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20										545	245													

DATE	4-29-2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Date: 09-30-2020

MST / (MDT) (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open): 1020

Time No Gas Flow: 1026

Notes:

CGTG HOURLY READING LOG

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓														
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓														
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	110	110	110	110	110	112	110	106	108														
4	Instrument Temperature	TI-001	deg C		20	50	20	19	19	20	19	19	18	19	20	21														
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.8	18.5	18.5	18.7	18.6	18.7	18.6	18.6	18.8	18.8														
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	101	111	111	110	107	106	112	111	99	105														
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3														
9	Coolant Return Differential from GG	FI-001	In WC		60	80	63	63	63	63	63	63	63	63	62	62														
10	Coolant Return Differential from	FI-002	In WC		37	50	36	36	36	36	36	36	36	36	36	36														
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	71	71	71	71	71	71	71	72	70														
13	Combustible Gas Detector Monitor		% LEL	0%	0%	20%	0	0	0	0	0	0	0	0	0	0														
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	✓	✓	✓	✓	✓	✓																		
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓														
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	73	73	73	73	73	73	73	73	73	73														
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0														
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GG D5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓														
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1200	881	879	877	880	881	880	881	886	879	887														
23	Mw Output		MW			27	21	20.9	20.9	20.9	21	21	20.8	21.1	20.9	21.0														
24	80% Base Load Minimum		MW				19	19.1	19.4	19.3	19.5	19.5	19.6	19.2	18.9	18.6														
25	Running Hours (unit overview)						4558	4559	4560	4561	4562	4563	4464	4465	4466															
26	Ambient Temperature	T1 inlet					59	57	54	53	52	52	51	55	59	65														
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0														
28	Total Fuel Flow		Mscf/h																											

Date: 09-30-2020 Signature: GOMEZ

Josh Amos

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B															
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E															
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2															
Oil Day Tank Level	LI-1562	GAL	10		FULL	46	46	46	46	46	46	45	45	45															
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F															
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E															
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E															
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B															
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	83	83	83	83	83	83	82															
Stage Disch. Press	PI-2101	psig		238	285	250	250	250	249	249	249	248	249	249															
2nd Stage Inlet Press	PI-2200	psig		267	285	246	246	245	245	245	245	245	246	245															
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	563	563	563															
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	560															
Lube Oil Pressure	PI-1572	psig	40	60		59	59	59	59	59	59	58	59	59															
Lube Oil Temp	TE-1584	deg		150	170	165	165	166	167	167	167	168	168	166															
Final Discharge Temp	TE-2120	deg		110	150	95	94	92	91	91	91	88	94	97															
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	232	231	230	230	229	229	228	230	232															
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	228	226	225	223	223	223	221	225	227															
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	230	229	229	228	227	227	226	227	230															
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	228	227	225	224	224	224	223	225	228															
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.03															
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.06	.06	.06	.06	.06	.06	.05															
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.						555																							
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8	544																							
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20	524																							

DATE 09-30-2020

SIGNATURE

Mid Shift GOMEZ

Days Shift

Notes

Date: 10-1-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0949

Time of Turbine Online (Brkr Closed): 1321

Time Turbine Offline (Brkr Open): 1450

Time No Gas Flow: 1455

Notes: TEST FOR STEAMS UP GRADE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v																V	V										
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v																V	V										
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120													105	105										
4	Instrument Temperature	TI-001	deg C		20	50													24	24										
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25														18.7	18.9										
7	Coolant PLC Temperature	TI-002	deg F	100	110	120													109	105										
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL													1/2	1/2										
9	Coolant Return Differential from GG	FI-001	In WC		60	80													63	63										
10	Coolant Return Differential from	FI-002	In WC		37	50													37	37										
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85													69	69										
13	Combustible Gas Detector Monitor		% LEL	0%	0%	20%													0%	0%										
15	WECC Log		Operational?																											
16	Operation of PSS/ on at 6.3MW		Yes (Y)			No (N)													Yes	Yes										
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)													Yes	Yes										
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%													73	73										
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%													0	0										
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GG DST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v																Y	Y										
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1200													13.7	13.7										
23	Mw Output		MW			27													20.9	21.0										
24	80% Base Load Minimum		MW																18.2	18.2										
25	Running Hours (unit overview)																		4470	4472										
26	Ambient Temperature	T1 inlet																	68.7	68.5										
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

Date: 10-1-2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0930																												
Combustible Gas Detector	AAH-303	%		0%	20%										D	D	D												
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK											U	U	U	D	D										
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY										M	O	S	F	F										
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL										P	P	P	1/2	1/2										
Oil Day Tank Level	LI-1562	GAL	10		FULL													44	44										
Lubricator Bulls eye		LEVEL	1/2	FULL											W			F	F										
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY										I			E	E										
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY										R			E	E										
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK											E			B	B										
1st Stage Inlet Press.	PI-2100	psig		88	140										S			82	82										
Stage Disch. Press	PI-2101	psig		238	285										C			249	249										
2nd Stage Inlet Press	PI-2200	psig		267	285										F			246	246										
2nd Stage Disch. Press	PI-2201	psig		575	600										M			564	564										
Final Discharge Pressure	PI-2108	psig		575	600										1			560	560										
Lube Oil Pressure	PI-1572	psig	40	60											2			59	59										
Lube Oil Temp	TE-1584	deg		150	170													163	163										
Final Discharge Temp	TE-2120	deg		110	150													109	109										
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297													239	238										
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283													240	240										
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297													236	236										
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283													241	241										
Motor Frame Vibration	VT-1015	IPS			0.15													04	04										
Compresser Frame Vibration	VT-1512	IPS			0.35													05	05										
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 10-1-2020

SIGNATURE [signature]

Mid Shift

Days Shift

Notes TESTING WITH SIEMENS OP CREW

Date: 10-2-2024

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0750

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open): 10

Time No Gas Flow: 1033

Notes: TEST Fire UP Comm

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v																											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v																											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25																									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector Monitor		% LEL	0%	0%	20%																								
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GG D5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1200																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																													
26	Ambient Temperature	T1 inlet																												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

Date: 10-2-2024 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	8725																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid	When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																								
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 10-2-2017

SIGNATURE

Mid Shift

Days Shift

Notes TEST FOR UP ONLY

Utilities and Institutional Facilities

Date: 10-8-2020

MST / ~~MDT~~ (circle one)

Time Gas Introduced (Turbine Rolling): 0929

Time of Turbine Online (Brkr Closed): 0953

Time Turbine Offline (Brkr Open): 1900

Time No Gas Flow: 1905

Notes:

CGTG HOURLY READING LOG

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V														✓	✓	✓	✓	✓	✓	✓	✓						
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V														✓	✓	✓	✓	✓	✓	✓	✓						
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120											✓	✓	✓	✓	✓	✓	✓	✓						
4	Instrument Temperature	TI-001	deg C		20	50											110	112	112	108	112	112	112	110						
5	Fin Fan Cooler		Units	Low	Norm	Max											24	26	26	27	29	28	28	26						
6	Coolant Pressure	PI-250	psig		25												18.8	18.8	19	18.8	18.8	18.8	18.9	18.8						
7	Coolant PLC Temperature	TI-002	deg F	100	110	120											105	102	101	107	112	105	100	106						
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL											3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3						
9	Coolant Return Differential from GG	FI-001	In WC		60	80											60	62	62	62	62	62	62	62						
10	Coolant Return Differential from	FI-002	In WC		37	50											36	36	37	38	37	37	37	37						
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85											72	71	71	71	71	71	71	71						
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
A 18	2000 gal Oil Water Tank Level	LI-231	%			70%											73	73	73	73	73	73	73	73						
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%											0	0	0	0	0	0	0	0						
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V														✓	✓	✓	✓	✓	✓	✓	✓						
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427											880	872	858	849	848	848	846	863						
23	Mw Output		MW			27											20.8	20.7	20.4	20.1	20.0	20.0	20.1	20.4						
24	80% Base Load Minimum		MW														17.9	17.8	17.6	17.6	17.4	17.4	17.5	17.8						
25	Running Hours (unit overview)																4474	4475	4476	4477	4478	4479	4480	4481						
26	Ambient Temperature	T1 inlet															72	73	75	76	77	77	76	73						
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%											0	0	0	0	0	0	0	0						
28	Total Fuel Flow		Mscf/h																											

Date: 10-8-2020 Signature: Josh Amos

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME 0901																													
Combustible Gas Detector	AAH-303	%		0%	20%											B	B	B	B	B	B	B	B						
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK												E	E	E	E	E	E	E	E						
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY											1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2						
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL											43	43	43	43	43	43	43	43						
Oil Day Tank Level	LI-1562	GAL	10		FULL											E	E	E	E	E	E	E	E						
Lubricator Bulls eye		LEVEL	1/2	FULL												E	E	E	E	E	E	E	E						
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY											E	E	E	E	E	E	E	E						
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY											B	B	B	B	B	B	B	B						
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK												82	82	82	82	82	82	82	82						
1st Stage Inlet Press.	PI-2100	psig		88	140											249	249	250	251	250	251	251	251						
Stage Disch. Press	PI-2101	psig		238	285											245	246	247	247	247	248	247	248						
2nd Stage Inlet Press	PI-2200	psig		267	285											563	564	563	564	564	564	563	564						
2nd Stage Disch. Press	PI-2201	psig		575	600											560	560	559	560	560	560	560	560						
Final Discharge Pressure	PI-2108	psig		575	600											59	59	59	59	59	59	59	59						
Lube Oil Pressure	PI-1572	psig	40	60												164	164	165	165	165	165	164	164						
Lube Oil Temp	TE-1584	deg		150	170											108	110	113	115	114	115	114	111						
Final Discharge Temp	TE-2120	deg		110	150											241	241	242	242	242	241	240	239						
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297											240	243	246	247	245	245	244	241						
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283											239	240	240	240	240	239	239	238						
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297											240	242	245	247	246	246	244	241						
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283											.04	.05	.05	.04	.05	.05	.05	.04						
Motor Frame Vibration	VT-1015	IPS			0.15											.05	.05	.06	.06	.06	.06	.06	.06						
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8										556														
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20										544														

DATE 10-9-2020

SIGNATURE

Mid Shift

Days Shift

Notes

Utilities and Institutional Facilities

Date: 10-9-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0800

Time of Turbine Online (Brkr Closed): 0853

Time Turbine Offline (Brkr Open): 1857

Time No Gas Flow: 1859

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√												√	√	√	√	√	√	√	√	√	√						
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√												√	√	√	√	√	√	√	√	√	√						
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120									106	105	105	105	103	105	107	105	108	105						
4	Instrument Temperature	TI-001	deg C		20	50									20	20	22	23	24	28	28	28	28	27						
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25										18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2						
7	Coolant PLC Temperature	TI-002	deg F	100	110	120									100	111	109	108	105	100	107	100	103	100						
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL									1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2						
9	Coolant Return Differential from GG	FI-001	In WC		60	80									63	63	62	63	63	63	60	60	60	60						
10	Coolant Return Differential from	FI-002	In WC		37	50									36	36	36	38	38	39	36	36	36	35						
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85									73	73	73	73	73	73	73	73	73	73						
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)									yes	yes	yes	yes	yes	yes	yes	yes	yes	yes						
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)									yes	yes	yes	yes	yes	yes	yes	yes	yes	yes						
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%									73	73	73	73	73	73	73	73	73	73						
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%									0	0	0	0	0	0	0	0	6	6						
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√												√	√	√	√	√	√	√	√		√						
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427									888	890	878	879	876	866	844	844	843	869						
23	Mw Output		MW			27									20.8	20.8	20.9	20.8	20.8	20.5	20.1	20.0	20.0	20.6						
24	80% Base Load Minimum		MW												17.9	17.9	17.9	17.9	17.9	17.7	17.5	17.4	17.5	17.9						
25	Running Hours (unit overview)														4483	4484	4485	4486	4487	4488	4489	4490	4491	4492						
26	Ambient Temperature	T1 inlet													61.3	69.3	71.1	72	73	74	72.2	72.7	72.4	72.5						
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%									0	0	0	0	0	0	0	0	0	0						
28	Total Fuel Flow		Mscf/h												N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						

Date: 10-9-20

Signature: Ramy Vasc

CGTG TURBINE UTILITIES AND INFRASTRUCTURE 940031

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0530																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK										B	B	B	B	B	B	B	B	B	B						
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E						
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL									1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2						
Oil Day Tank Level	LI-1562	GAL	10		FULL									42	42	42	42	42	42	42	42	42	42						
Lubricator Bulls eye		LEVEL	1/2	FULL										F	F	F	F	F	F	F	F	F	F						
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E						
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E						
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK										B	B	B	B	B	B	B	B	B	B						
1st Stage Inlet Press.	PI-2100	psig		88	140									82	82	82	82	82	82	82	82	82	82						
Stage Disch. Press	PI-2101	psig		238	285									248	249	249	250	250	251	251	251	249	252						
2nd Stage Inlet Press	PI-2200	psig		267	285									244	246	246	247	247	247	247	247	248	248						
2nd Stage Disch. Press	PI-2201	psig		575	600									564	564	564	564	564	564	564	564	564	564						
Final Discharge Pressure	PI-2108	psig		575	600									560	560	560	560	560	560	560	560	560	560						
Lube Oil Pressure	PI-1572	psig	40	60										59	59	59	59	59	59	59	59	59	59						
Lube Oil Temp	TE-1584	deg		150	170									165	165	164	164	164	164	164	164	164	164						
Final Discharge Temp	TE-2120	deg		110	150									100	106	107	111	111	114	115	115	113	110						
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297									235	236	238	239	239	240	240	240	239	237						
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283									231	237	239	242	242	245	245	245	244	240						
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297									234	235	236	237	237	238	238	238	237	236						
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283									232	237	239	242	242	245	245	245	242	240						
Motor Frame Vibration	VT-1015	IPS			0.15									.04	.04	.04	.04	.04	.04	.04	.04	.04	.04						
Compresser Frame Vibration	VT-1512	IPS			0.35									.05	.05	.05	.05	.05	.05	.05	.05	.05	.05						
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

10-9-2020

DATE ~~10-10-2020~~ 10-9-2020 RW.

SIGNATURE Ray Wood

Mid Shift

Days Shift

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: 10-12-2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 635

Time of Turbine Online (Brkr Closed): 745

Time Turbine Offline (Brkr Open): 1858

Time No Gas Flow: 0637 / 0715, 1904

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
3	Inlet Receiver Air Pressure	PI-002	psig	90	105	120								110	108	112	112	114	112	110	112	114	108	112						
4	Instrument Temperature	TI-001	deg C		20	50								19	18	19	19	20	22	23	23	24	24	24						
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25									18.4	18.4	18.4	18.6	18.4	18.5	15.2	18.4	18.4	18.4	18.4						
7	Coolant PLC Temperature	TI-002	deg F	100	110	120								100	111	104	98	111	105	100	101	109	100	108						
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL								2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	3/3						
9	Coolant Return Differential from GG	FI-001	In WC		60	80								60	60	60	62	60	60	62	60	62	62	62						
10	Coolant Return Differential from	FI-002	In WC		37	50								35	36	36	36	36	37	37	37	37	37	36						
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85								73	73	72	72	72	72	71	71	71	70	71						
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Electronic Control System		Units	Low	Norm	Max								Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
	(18–20 found on Air Diagram page)																													
13	2000 gal Oil Water Tank Level	LI-231	%			70%								73	73	73	73	73	73	73	73	73	73	73						
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%								0	0	0	0	0	0	0	0	0	0	0						
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427								882	886	883	881	879	886	887	881	886	885	891						
23	Mw Output		MW			27								21.1	21.0	21.0	20.9	21.0	21.0	21.0	20.9	21.0	20.9	21.0						
24	80% Base Load Minimum		MW											19.6	19.5	19.1	19.1	18.8	18.7	15.5	18.3	18.2	18.1	18.4						
25	Running Hours (unit overview)													4496	4495	4496	4497	4497	4498	4506	4500	4501	4502	4503						
26	Ambient Temperature	T1 inlet												51	52	57	58	60	62	65	67	69	69	66						
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%								0	0	0	0	0	0	0	0	0	0	0						
28	Total Fuel Flow		Mscf/h																											

Date: 10-12-2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0600																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK									B	B	B	B	B	B	B	B	B	B	B						
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY								E	E	E	E	E	E	E	E	E	E	E						
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL								1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2						
Oil Day Tank Level	LI-1562	GAL	10		FULL								40	40	40	40	40	40	40	40	40	40	40						
Lubricator Bulls eye		LEVEL	1/2	FULL									F	F	F	F	F	F	F	F	F	F	F						
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY								E	E	E	E	E	E	E	E	E	E	E						
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY								E	E	E	E	E	E	E	E	E	E	E						
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK									B	B	B	B	B	B	B	B	B	B	B						
1st Stage Inlet Press.	PI-2100	psig		88	140								82	82	82	82	82	82	82	82	82	82	83						
Stage Disch. Press	PI-2101	psig		238	285								246	247	247	247	248	249	249	250	250	250	251						
2nd Stage Inlet Press	PI-2200	psig		267	285								242	243	244	244	245	245	246	246	247	247	247						
2nd Stage Disch. Press	PI-2201	psig		575	600								563	563	563	564	563	563	563	564	563	564	564						
Final Discharge Pressure	PI-2108	psig		575	600								559	559	559	560	559	560	559	560	560	560	560						
Lube Oil Pressure	PI-1572	psig	40	60									58	55	55	58	59	59	54	59	59	59	59						
Lube Oil Temp	TE-1584	deg		150	170								164	168	168	168	166	166	165	165	164	164	164						
Final Discharge Temp	TE-2120	deg		110	150								85	89	92	94	97	99	103	105	106	106	104						
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297								228	231	232	233	234	235	235	236	235	235	234						
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283								218	221	224	227	230	232	235	236	237	236	233						
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297								227	230	231	232	232	233	234	234	234	233	233						
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283								219	222	225	227	230	232	235	236	237	236	234						
Motor Frame Vibration	VT-1015	IPS			0.15								.04	.04	.03	.04	.04	.04	.04	.04	.04	.04	.04						
Compresser Frame Vibration	VT-1512	IPS			0.35								.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05						
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8									555															
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20									545															

DATE 10-12-2020

SIGNATURE

Mid Shift

Days Shift

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: 10-13-2020

MST / ~~MDT~~ (circle one)

Time Gas Introduced (Turbine Rolling): 0623 (0729, 0712, 0655, 0639)

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow: 0625 (0657, 0731, 0626, 0714)

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V																											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V																											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25																									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																													
26	Ambient Temperature	T1 inlet																												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

Date: 10-13-2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0530																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 10-13-2020

SIGNATURE

Mid Shift

Days Shift

Notes

Utilities and Institutional Facilities

Date: 10-16-20

CGTG HOURLY READING LOG

MST / MDT (circle one)
Time Gas Introduced (Turbine Rolling): 1548
Time of Turbine Online (Brkr Closed):
Time Turbine Offline (Brkr Open):
Time No Gas Flow: 1619

Notes: TEST ONLY

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v																											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v																											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25																									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																													
26	Ambient Temperature	T1 inlet																												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

TEST ONLY

Date: 10-16-20 Signature: ALEX WM

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	1451																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2ndStage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

TESTING WITH STEAM

DATE	10-16-2020
SIGNATURE	[illegible]
Mid Shift	
Days Shift	

Notes TEST ONLY

Utilities and Institutional Facilities

Date: 10-17-20

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0713

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open): 0846

Time No Gas Flow:

Notes: TEST ONLY.

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√																											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√																											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25																									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85								T	E	S	T												
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																													
26	Ambient Temperature	T1 inlet																												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

Date: 10-17-2020 Signature: Randy Vigil

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0625																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK								TEST ONLY																	
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 10-17-2020

SIGNATURE Randy Vicic

Mid Shift

Days Shift

Notes TEST ONLY

Utilities and Institutional Facilities

Date: 10-19-2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0708

Time of Turbine Online (Brkr Closed): 0753

Time Turbine Offline (Brkr Open): 0709

Time No Gas Flow:

Notes:

CGTG HOURLY READING LOG

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√											√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	—
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√											√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120								110	107	112	114	108	112	110	112	110	109	112	107	111	112	109	112	110
4	Instrument Temperature	TI-001	deg C		20	50								20	20	21	22	23	24	25	26	26	26	26	24	22	20	20	20	19
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25									18.2	18.2	18.4	18.4	18.6	18.6	18.4	18.4	18.4	18.4	18.4	18.5	17.3	17	17	17.2	17.2
7	Coolant PLC Temperature	TI-002	deg F	100	110	120								111	107	104	104	107	106	104	112	108	104	109	103	102	104	105	101	104
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL								3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	4/4	4/4	4/4	4/4	4/4	4/4
9	Coolant Return Differential from GG	FI-001	In WC		60	80								60	60	62	60	60	62	62	60	60	60	60	60	60	63	63	63	60
10	Coolant Return Differential from	FI-002	In WC		37	50								35	36	36	35	36	36	37	36	36	36	36	35	35	36	36	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85								71	72	72	71	71	71	71	71	71	71	71	71	71	71	71	71	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)								√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%								73	73	73	73	73	73	73	73	73	73	73	73	73	73	72	73	70
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%								0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√											√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427								889	889	889	882	884	886	877	855	864	866	875	887	876	878	81	890	886
23	Mw Output		MW			27								20.7	21	21.0	21.0	21.0	20.9	20.7	20.4	20.5	20.5	20.6	21.1	20.8	20.9	20.8	21.1	21.0
24	80% Base Load Minimum		MW											19.2	18.9	18.7	18.5	18.3	18.1	17.9	17.7	17.8	17.8	17.9	18.4	18.6	18.6	18.6	18.8	19.0
25	Running Hours (unit overview)													4506	4507	4508	4509	4510	4511	4512	4513	4514	4515	4516	4517	4518	4519	4520	4521	4522
26	Ambient Temperature	T1 inlet												56	60	62	65	68	69	72	74	73	73	73	65.8	64.0	63	64	61	58.4
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h																											

Date: 10-19-2020 Signature: John Ames

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

943897

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0652																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK									Y	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY								E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL								1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL								38	38	38	38	38	38	38	37	37	37	37	37	37	37	37	37	36
Lubricator Bulls eye		LEVEL	1/2	FULL									F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY								E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stege Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY								E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK									B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140								82	82	82	82	82	82	82	82	82	82	82	82	83	83	83	83	83
Stage Disch. Press	PI-2101	psig		238	285								247	247	248	249	249	250	250	251	251	251	251	250	250	250	250	250	250
2nd Stage Inlet Press	PI-2200	psig		267	285								243	244	244	245	245	246	246	247	247	247	247	247	247	247	247	247	246
2nd Stage Disch. Press	PI-2201	psig		575	600								563	563	564	564	564	564	564	564	564	564	564	563	564	563	563	563	563
Final Discharge Pressure	PI-2108	psig		575	600								559	559	560	560	560	560	564	560	560	560	560	560	560	559	559	559	559
Lube Oil Pressure	PI-1572	psig	40	60									59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Lube Oil Temp	TE-1584	deg		150	170								165	165	165	165	165	165	165	165	165	164	164	164	164	164	164	160	165
Final Discharge Temp	TE-2120	deg		110	150								94	97	101	103	104	106	109	112	111	110	110	110	101	101	101	101	95
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297								233	235	235	236	230	237	238	238	235	237	238	232	232	232	232	232	230
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283								227	229	231	235	236	239	240	242	242	241	241	241	232	231	231	230	228
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297								232	233	234	234	235	235	236	236	238	235	235	235	232	231	231	230	229
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283								227	229	231	235	236	239	241	243	243	241	241	241	232	231	231	230	228
Motor Frame Vibration	VT-1015	IPS			0.15								.04	.04	.04	.05	.04	.05	.05	.04	.05	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35								.05	.05	.06	.05	.05	.06	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																								
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8									555															
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20									544															

DATE 10-19-2020

SIGNATURE

Mid Shift

Days Shift

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: 10.20.20

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	~	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	108	110	105	109	110	104	111	114	108	114	110	114	112	112	112	108	112	111	106	109	108	106	108
4	Instrument Temperature	TI-001	deg C		20	50	19	19	19	19	19	19	18	18	19	21	23	23	24	25	26	26	25	25	24	22	21	21	20	19
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		17.2	17.2	17.2	17	17.1	22	18.4	18.2	18.2	18.3	18.4	18.4	18.6	18.4	18.4	18.4	18.4	18.4	18.2	18.2	18.2	18.1	18.1	18.1
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	109	105	106	105	106	106	100	107	110	99	101	112	106	100	106	109	107	109	104	105	106	103	107	109
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	66	60	60	60	60	60	60	66	62	60	60	62	62	62	62	62	62	62	62	62	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	36	35	35	35	35	35	35	35	36	36	36	36	36	36	37	36	36	35	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	72	72	72	72	72	72	72	72	72	72	72	71	71	71	71	71	71	71	71	71	71	71	72	72
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y																		
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y																		
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)												Y	V	V	V	V	Y	V	Y	V	V	Y	V	Y	Y	Y	Y	Y	Y
18	2000 gal Oil Water Tank Level	LI-231	%			70%	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	880	881	882	882	883	885	885	887	840	877	884	883	886	882	878	873	880	877	886	880	884	880	883	882
23	Mw Output		MW			27	20.9	20.9	20.9	21.0	21.0	21.0	21.0	21.1	21.1	20.9	20.9	20.9	21.1	21.0	20.8	20.6	20.8	20.8	21.1	21.0	21.0	20.7	20.9	20.9
24	80% Base Load Minimum		MW				19.3	19.1	19.2	19.2	19.4	19.5	19.3	19.2	18.9	18.6	18.3	18.2	18.1	18.0	17.9	17.8	17.9	18.0	18.5	18.6	18.6	18.7	19.0	19.1
25	Running Hours (unit overview)						4523	4524	4525	4526	4527	4528	4529	4530	4531	4532	4533	4534	4535	4536	4537	4538	4539	4540	4541	4542	4543	4544	4545	4546
26	Ambient Temperature	T1 inlet					545	529	54	54	54.3	55.2	54	55	59	64	67	68	69	71	72	73	72	71	65	64	64	62	59	57
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h																											

Date: 10.20.20 Signature: Randy Vigil / Day shift — Jack Abeyta

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	36	34	34	X	34	34	36	36	36	36	36	36	35	35	35	35	35	35	35	35	35	35	35	35
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	E	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	83	83	83	82	83	83	83	82	82	82	82	82	82	82	82	83	83	83	83	83	83	83
Stage Disch. Press	PI-2101	psig		238	285	249	248	249	249	248	248	250	250	250	250	250	250	251	251	252	252	252	251	251	251	251	251	251	251
2nd Stage Inlet Press	PI-2200	psig		267	285	245	245	246	246	245	245	245	246	246	246	246	246	246	247	247	247	248	247	248	248	248	248	248	248
2nd Stage Disch. Press	PI-2201	psig		575	600	563	563	563	564	564	564	564	564	564	563	564	563	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	559	559	559	560	563	563	560	560	560	559	559	559	560	560	560	560	560	560	560	559	559	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		59	58	59	59	58	58	58	58	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Lube Oil Temp	TE-1584	deg		150	170	165	165	166	166	166	166	167	167	167	165	165	165	165	165	164	164	164	165	164	164	164	164	165	165
Final Discharge Temp	TE-2120	deg		110	150	92	92	93	93	90	90	91	95	96	102	104	106	107	110	110	109	109	110	102	101	100	100	97	96
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	228	228	227	227	226	226	226	226	228	230	232	232	232	234	234	234	234	234	231	230	229	229	228	227
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	224	223	224	224	223	223	223	223	226	231	233	236	237	239	240	239	239	238	232	230	229	229	228	227
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	228	228	227	227	226	225	226	225	227	229	231	231	232	232	233	232	233	232	230	229	228	229	228	227
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	224	224	224	224	223	224	223	223	227	232	233	236	237	240	240	239	239	240	232	230	229	229	228	227
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.03	.03	.03	.04	.04	.05	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.06	.05	.06	.05	.06	.05	.05	.05	.05	.05	.05	.05	.05	.01	.01	.01	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8											555													
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20											544													

DATE 10.20.20

SIGNATURE Randy Vinil

Mid Shift

Days Shift Josh Ames

Notes

Utilities and Institutional Facilities

Date: 10-21-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)
Time Gas Introduced (Turbine Rolling):
Time of Turbine Online (Brkr Closed):
Time Turbine Offline (Brkr Open):
Time No Gas Flow:
Notes:

		I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Instrument Air Compressor																													
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	108	109	107	111	109	114	108	104	112	114	114	108	110	107	108	114	110	108	109	110	108	110	111
4	Instrument Temperature	TI-001	deg C		20	50	19	18	18	18	18	18	18	19	19	20	22	23	24	25	25	26	26	24	24	23	20	19	19	19
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.1	18.2	18.2	18.2	18.3	18.3	18.1	18.2	18.1	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.3	18.3	18.1	18.1	18.1	18.3
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	108	102	103	101	99	102	100	98	109	100	111	103	107	111	109	98	105	100	105	102	111	107	103	101
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	62	62	60	60	60	60	60	62	62	60	60	60	62	61	61	61	61	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	36	35	35	36	36	36	37	37	37	37	36	36	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	72	72	72	72	72	71	72	72	72	72	72	72	71	71	71	72	71	71	71	71	71	71	71	72
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	882	871	883	884	886	887	885	881	885	881	681	881	886	875	877	874	873	891	884	885	887	881	883	884
23	Mw Output		MW			27	21.0	20.8	20.4	21.0	20.9	21.0	21.1	20.9	21.1	21.0	20.9	20.9	21.0	20.8	20.9	20.6	20.8	21.0	20.9	20.4	21.0	21.6	21.0	20.9
24	80% Base Load Minimum		MW				19.0	19.1	19.2	19.2	19.3	19.5	19.4	19.2	19.1	18.6	18.5	18.3	19.1	17.9	17.9	17.9	18.0	18.1	18.6	18.4	18.9	19.0	19.1	19.0
25	Running Hours (unit overview)						4547	4548	4549	4550	4551	4552	4553	4554	4555	4556	4557	4558	4559	4560	4561	4562	4563	4563	4565	4566	4567	4568	4569	4570
26	Ambient Temperature	T1 inlet					59	58	57	56	55	52	54	56	58	64	65	67	70	72	72	72	71	70	65	66	60	59	58	59
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h																											

Date: 10-21-2020 Signature: Robert Young Day Shift - Jack Crew

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	83	83	83	83	83	83	83	82	82	82	82	82	82	82	82	82	83	83	83	83	83	83
Stage Disch. Press	PI-2101	psig		238	285	251	251	251	251	251	251	250	251	250	251	250	251	251	252	251	252	252	252	252	252	252	252	252	252
2nd Stage Inlet Press	PI-2200	psig		267	285	248	248	248	248	248	248	247	247	246	247	247	248	248	248	248	247	248	248	249	249	248	248	248	248
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	564	561	563	564	564	561	564	564	564	564	561	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	560	560	560	559	560	560	560	560	560	560	560	560	559	559	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		59	59	59	59	59	59	58	59	59	59	59	59	59	59	59	59	59	60	60	60	60	60	60	60
Lube Oil Temp	TE-1584	deg		150	170	165	165	165	165	165	165	168	166	166	165	165	165	164	163	163	163	163	163	163	163	164	164	165	165
Final Discharge Temp	TE-2120	deg		110	150	96	98	95	93	92	92	90	92	91	101	102	105	109	112	111	111	108	107	101	100	97	96	96	96
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	227	227	227	226	225	225	224	224	226	229	230	231	233	232	232	232	232	231	229	229	228	228	227	227
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	226	227	225	224	223	223	221	222	223	230	232	236	238	241	241	240	237	237	237	237	238	227	226	226
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	226	226	226	226	225	225	224	224	226	228	229	230	231	231	231	231	231	231	230	229	227	226	226	226
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	226	225	225	224	223	223	221	222	224	230	232	238	238	240	240	239	237	237	236	230	227	226	226	225
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.03	.04	.04	.05	.05	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.06	.06	.06	.06	.06	.06	.06	.05	.05	.05	.05	.06	.05	.05	.05	.05	.05	.05	.05	.06	.06	.06	.06
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8					556																			
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20					546																			

DATE 10-21-2020

SIGNATURE

Mid Shift Robert Estrada

Days Shift Josh Arnold

Notes

Utilities and Institutional Facilities

Date: 10-22-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open): 1608

Time No Gas Flow: 1608

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	107	110	109	105	107	110	112	106	106	110	112	112	112	110	110								
4	Instrument Temperature	TI-001	deg C		20	50	19	18	19	18	18	18	19	19	19	20	20	23	24	26	25	26								
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.3	18.2	18.2	18.2	18.3	18.3	18.3	18.2	18.3	18.2	18.3	18.5	18.4	15.4	18.4	18.4								
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	104	107	101	105	100	103	105	109	106	110	105	104	102	104	108	103								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2								
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	62	60	60	60	62	60	62	62	62	60								
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	36	36	36	36	36	37	36	37	36	36								
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	72	72	72	72	72	72	72	72	72	72	72	71	71	72	72	72								
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	883	882	886	884	882	883	885	882	882	887	884	890	880	883	881	884								
23	Mw Output		MW			27	21.0	21.0	21.1	21.0	21.0	21.0	21.1	21.0	21.0	21.1	21.1	21.0	20.9	20.9	20.9	20.9								
24	80% Base Load Minimum		MW				19.0	19.0	19.1	19.0	19.2	19.0	19.3	19.2	18.9	19.0	18.7	18.4	18.1	18.1	18.1	18.1								
25	Running Hours (unit overview)						4571	4572	4573	4574	4575	4576	4577	4578	4578	4579	4580	4582	4583	6584	6585	6586								
26	Ambient Temperature	T1 inlet					58	58	57	57	59	57	55	56	60	59	62	66	70	70	70	70								
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
28	Total Fuel Flow		Mscf/h																											

Date: 10-22-2020 Signature: Robert Hogg (MIDSHIFT) Dog shift - Josh Jones

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B								
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2								
Oil Day Tank Level	LI-1562	GAL	10		FULL	34	34	34	34	34	34	32	32	31	31	31	31	31	31	31	31								
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F								
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	D	D	B	B	B	B	B	B	B								
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	83	83	83	83	83	83	83	83	82	82	82	82	82	82								
Stage Disch. Press	PI-2101	psig		238	285	252	251	252	252	252	252	250	251	251	250	250	250	251	251	251	250								
2nd Stage Inlet Press	PI-2200	psig		267	285	248	248	248	248	248	248	247	247	247	246	246	247	247	247	247	247								
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	561	564	564	564	564	564	564	564	564								
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560								
Lube Oil Pressure	PI-1572	psig	40	60		60	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59								
Lube Oil Temp	TE-1584	deg		150	170	165	165	165	165	165	165	165	166	166	165	166	166	164	164	164	166								
Final Discharge Temp	TE-2120	deg		110	150	96	96	95	95	95	95	91	93	97	96	99	104	107	107	107	107								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	227	227	226	226	226	226	224	225	227	227	228	230	232	232	232	232								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	226	226	226	226	226	226	221	223	227	226	226	234	235	234	235	234								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	226	226	226	226	226	226	224	224	227	226	227	229	231	231	231	230								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	225	225	224	226	226	226	221	223	227	226	229	233	235	236	235	235								
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.03	.03	.04	.04	.04	.05	.05	.05	.04								
Compresser Frame Vibration	VT-1512	IPS			0.35	.06	.06	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.06	.06	.06	.05								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8			556																					
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20			545																					

DATE 10-22-2026

SIGNATURE

Mid Shift Robert Hung

Days Shift

Notes

Utilities and Institutional Facilities

Date: 10-26-20

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 1229

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow: 1300

Notes: FOR TEST ONLY. CGTG WAS NOT SYNC TO GRID.

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√																											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√																											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25																									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																													
26	Ambient Temperature	T1 inlet																												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

Date: 10-26-2020 Signature: Randy Vigil

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	1206																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 10.26.2020

SIGNATURE Randy Vail

Mid Shift

Days Shift

Notes For TEST ONLY

Utilities and Institutional Facilities

Date: 10-27-2020

CGTG HOURLY READING LOG

MSI / MDT (circle one)
Time Gas Introduced (Turbine Rolling):
Time of Turbine Online (Brkr Closed):
Time Turbine Offline (Brkr Open):
Time No Gas Flow:

Notes: CGTC UNABLE TO COME ON LINE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√																											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√																											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25																									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																													
26	Ambient Temperature	T1 inlet																												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

Date: 10-27-2020 Signature: Randy Vigil

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0608																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 10-27-2020

SIGNATURE Randy Vinil

Mid Shift

Days Shift

Notes CGTC WOS UNABLE TO COME ON LINE

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: 10-29-2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0731

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow: 0807

Notes: TEST ONLY

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√																											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√																											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25																									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)													4588																
26	Ambient Temperature	T1 inlet																												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

Date: 10-29-2020 Signature: GOMEZ

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0700																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	10.29.2020
SIGNATURE	
Mid Shift	
Days Shift	GOMEZ

Notes CGTG TEST RUN ONLY

Utilities and Institutional Facilities

Date: 11-2-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)
Time Gas Introduced (Turbine Rolling): 0840
Time of Turbine Online (Brkr Closed): 0850
Time Turbine Offline (Brkr Open):
Time No Gas Flow:

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V													✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V													✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120										110	105	108	101	100	105	110	105	109	110	108	106	110	108	110
4	Instrument Temperature	TI-001	deg C		20	50										20	21	21	21	21	21	21	20	20	21	21	21	20	20	20
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25											18.5	18.5	18.5	18.5	18.5	18	18.1	18	18.1	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120										111	103	101	104	104	110	99	103	103	105	104	106	98	98	98
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL										1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80										60	61	61	60	60	60	58	60	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50										36	36	36	36	36	24	35	36	36	36	36	36	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85										73	73	74	74	74	74	74	74	74	74	74	74	73	73	73
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)										N	N	N	N	Y	N	Y	Y	Y	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)										Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%										73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%										0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21	Acknowledge Alarms Hourly		V																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427										876	887	878	885	892	879	887	889	887	883	885	887	882	884	887
23	Mw Output		MW			27										21.0	20.8	21.8	21.6	21.0	21.0	21.6	21.6	21.1	21.0	21.0	21.0	21.0	21.0	21.0
24	80% Base Load Minimum		MW													19.2	18.9	18.7	18.5	18.6	18.4	18.8	19.1	19.2	19.2	19.2	19.2	19.5	19.6	19.6
25	Running Hours (unit overview)															4589	4589	4592	4597	4593	4594	4595	4596	4597	4598	4599	4600	4601	4602	4603
26	Ambient Temperature	T1 inlet														56.1	59.5	63.0	65.3	64.4	63.7	61.2	56.8	54.2	56	55	55	53	51	51
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%										0	0	0	0	0					0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h													N/A	N/A	N/A	N/A	N/A					NA	NA	NA	NA	NA	NA

Date: 11-2-2020 Signature: Randy VM

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0825																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK											B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY										E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL										1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL										28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
Lubricator Bulls eye		LEVEL	1/2	FULL											F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY										E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY										E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK											B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140										82	82	82	82	82	84	82	82	84	83	83	83	83	83	83
Stage Disch. Press	PI-2101	psig		238	285										247	249	250	250	250	250	251	250	250	250	250	250	250	250	250
2nd Stage Inlet Press	PI-2200	psig		267	285										244	245	246	246	247	248	247	246	246	247	248	248	247	247	247
2nd Stage Disch. Press	PI-2201	psig		575	600										564	564	564	564	564	564	564	564	564	565	565	565	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600										560	560	560	560	560	560	560	560	560	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60											58	59	59	59	59	59	59	59	59	59	59	59	59	58	58
Lube Oil Temp	TE-1584	deg		150	170										167	167	166	165	164	164	164	165	164	164	166	166	168	168	168
Final Discharge Temp	TE-2120	deg		110	150										93	96	99	100	101	100	98	93	93	93	95	95	90	89	89
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297										228	229	229	230	229	229	226	225	224	224	228	228	223	222	222
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283										225	227	228	231	231	231	229	224	224	224	226	226	220	220	220
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297										227	228	230	228	227	227	225	224	225	225	224	224	221	221	221
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283										225	227	230	233	231	231	229	228	230	230	230	230	221	220	220
Motor Frame Vibration	VT-1015	IPS			0.15										.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35										.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.06	.06	.06
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.															560														
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 11-2-2020

SIGNATURE Randy Vail

Mid Shift

Days Shift

Notes

Utilities and Institutional Facilities

Date: NOV 03 2020

CGTG HOURLY READING LOG

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	108	108	110	110	108	109	110	109	110	109	109	108	108	109	110	108	109	108	106	110	106	108	110
4	Instrument Temperature	TI-001	deg C		20	50	18	18	18	19	19	19	19	19	19	20	21	22	23	23	23	23	22	21	20	20	20	20	20	20
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	112	110	110	108	109	108	109	102	112	104	109	110	101	106	102	100	106	107	106	106	107	106	104	105
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	560	36	36	36	36	36	35	35	35	36	36	36	36	36	36	36	36	36	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	75	75	75	75	75	75	75	74	73	73	73	73	73	75	75	75	74	74	75	75	76	76	76	76
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	H	H	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	888	884	891	886	887	886	886	891	893	894	889	886	888	889	886	886	884	886	888	883	884	883	886	885
23	Mw Output		MW			27	21.1	21.1	21.0	21.0	21.0	20.9	21.0	21.1	20.9	21.0	21.0	21.0	21.1	21.0	20.9	21.0	20.9	21.0	21.0	21.0	20.9	21.0	21.0	21.0
24	80% Base Load Minimum		MW				19.8	19.8	19.8	19.8	19.8	19.8	19.6	19.6	19.4	19.0	18.8	18.7	18.5	18.5	18.5	18.6	18.9	18.7	19.5	19.5	19.3	19.3	19.5	19.5
25	Running Hours (unit overview)						4604	4605	4606	4607	4608	4609	4616	4611	4612	4613	4614	4615	4616	4617	4618	4619	4620	4621	4622	4623	4624	4625	4626	4627
26	Ambient Temperature	T1 inlet					49	48	48	47	48	48	46.0	48.7	53.4	54.4	62.2	62.8	65.1	65.5	65.1	64.4	59.9	59.0	57	56	55	55	54	54
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h				NA	NA	NA	NA	NA	NA	NA	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Date: NOV 03 2020 Signature: J Wan Robert Anoz

NOV 03 2020

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Oil Day Tank Level	LI-1562	GAL	10		FULL	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	83	83	83	83	83	83	83	82	83	82	83	82	83	83	83	83	83	83	83	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	250	250	250	250	250	250	250	250	251	250	251	25	25	252	25	25	252	252	250	251	251	250	250	250
2nd Stage Inlet Press	PI-2200	psig		267	285	246	247	247	246	247	246	246	247	247	247	247	247	248	249	249	248	248	247	246	247	248	248	249	248
2nd Stage Disch. Press	PI-2201	psig		575	600	565	565	565	564	565	564	564	565	565	564	564	564	564	564	567	564	564	564	564	565	565	565	565	563
Final Discharge Pressure	PI-2108	psig		575	600	561	561	561	560	560	560	560	561	560	560	560	560	560	560	559	560	560	560	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		59	59	59	58	58	58	58	59	58	59	59	59	59	59	59	59	59	59	59	59	59	58	58	58
Lube Oil Temp	TE-1584	deg		150	170	168	168	168	168	169	169	169	164	162	167	166	166	165	164	164	164	164	164	166	166	166	165	165	166
Final Discharge Temp	TE-2120	deg		110	150	86	86	86	85	85	85	85	86	85	94	97	98	102	102	102	101	98	97	92	92	92	93	93	93
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	220	220	220	220	219	219	218	219	219	223	224	225	226	226	226	225	224	223	222	221	222	222	221	222
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	217	217	217	216	216	216	216	217	219	224	226	230	231	232	231	230	226	225	223	223	222	221	220	220
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	220	220	219	219	219	218	217	218	219	222	222	223	224	224	224	223	222	222	222	221	221	222	221	222
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	217	217	217	216	216	216	216	217	219	223	226	230	232	232	232	230	227	226	226	221	222	223	222	224
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.05	.05	.05	.05	.05	.01	.05	.05	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.06	.06	.06	.06	.06	.06	.06	.06	.06	.05	.05	.05	.05	.05	.05	.01	.06	.03	.05	.06	.06	.06	.06	.06
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8										554														
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20										545														

DATE	NOV 03 2020
SIGNATURE	
Mid Shift	
Days Shift	Robert Strong

Notes

Utilities and Institutional Facilities

Date: NOV 04 2020

CGTG HOURLY READING LOG

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	108	110	110	108	110	103	103	105	109	100	105	108	116	116	106	109	116	110	106	108	106	110	105
4	Instrument Temperature	TI-001	deg C		20	50	19	19	19	19	19	19	19	19	19	19	19	18	20	21	21	21	21	21	21	20	20	19	19	19
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	98	99	102	101	102	104	111	105	116	106	103	101	105	105	108	109	105	110	105	108	110	107	104	107
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	½	½	½	½	½	½	½	½	½	1/2	½	½	½	½	½	½	½	½	½	½	½	½	½	½
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	63	63	63	63	63	61	61	60	60	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	36	36	36	36	36	38	38	36	36	36	36	36	36	36	36	36	36	36
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	76	76	76	76	76	76	76	76	76	70	70	70	70	70	70	70	76	70	72	72	74	75	75	75
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	880	884	887	884	883	884	884	884	893	893	890	889	888	888	888	888	889	883	886	884	887	889	888	892
23	Mw Output		MW			27	20.9	20.9	20.9	20.9	21.0	21.0	21.0	220	21.0	21.1	21.0	21.2	20.9	20.9	20.8	21.0	21.1	20.9	20.9	20.9	20.9	21.1	21.0	21.0
24	80% Base Load Minimum		MW				19.5	19.5	19.5	19.5	19.7	19.7	19.4	19.4	19.1	19.0	19.0	18.7	18.5	18.4	18.6	18.6	18.7	19.0	19.0	19.0	19.0	19.3	19.3	19.3
25	Running Hours (unit overview)						4629	4630	4631	4632	4633	4634	4635	4636	4637	4638	4639	4640	4641	4642	4641	4643	4644	4645	4646	4647	4648	4649	4650	4651
26	Ambient Temperature	T1 inlet					52	52	51	51	51	50	53	53	57.2	59.2	59.0	63.1	65.3	66.2	66.0	63	67	59.4	56	55	54	54	54	53
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h				NA	NA	NA	NA	NA	NA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA

Date: NOV 04 2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	26	26	26	26	26	26	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	83	83	83	83	82	82	82	82	82	82	82	82	82	82	82	83	83	84	84	84	83	83
Stage Disch. Press	PI-2101	psig		238	285	250	251	251	250	250	250	250	250	250	250	249	251	251	252	252	252	251	252	251	251	252	252	252	252
2nd Stage Inlet Press	PI-2200	psig		267	285	247	247	248	248	248	247	246	246	246	246	246	248	248	248	248	248	248	248	248	250	250	249	249	250
2nd Stage Disch. Press	PI-2201	psig		575	600	565	565	565	565	564	564	563	563	564	563	563	564	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	560	560	559	560	560	560	560	560	560	560	560	559	560	560	559	560
Lube Oil Pressure	PI-1572	psig	40	60		59	59	59	59	58	58	58	58	58	58	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Lube Oil Temp	TE-1584	deg		150	170	166	168	169	169	169	169	168	168	168	168	167	166	167	164	164	164	167	165	166	166	166	165	167	166
Final Discharge Temp	TE-2120	deg		110	150	89	89	88	88	86	87	89	89	93	94	95	99	99	103	101	99	99	95	93	93	93	91	91	91
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	218	219	219	218	218	218	219	219	221	221	222	223	223	224	224	223	223	222	221	221	220	220	220	220
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	218	219	218	218	216	216	217	217	222	222	224	229	229	231	230	227	227	224	223	222	222	221	221	221
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	219	219	218	218	218	217	218	215	220	220	220	221	221	222	223	222	222	221	218	218	220	220	219	219
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	217	219	218	217	217	217	217	217	222	222	224	225	225	232	230	227	227	224	225	223	223	221	221	221
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.06	.06	.06	.06	.06	.06	.06	.06	.06	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	NOV 04 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: NOV 05 2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	106	108	112	110	108	110	105	110	105	109	110	105	110	104	105	110	105	108	105	108	110	108	111
4	Instrument Temperature	TI-001	deg C		20	50	19	19	19	19	19	19	19	19	19	20	20	21	21	22	21	21	21	21	20	20	20	19	19	19
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	110	112	110	111	113	112	110	105	101	111	110	104	108	108	110	112	109	105	105	105	104	110	108	111
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	61	61	62	63	62	62	61	61	61	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	35	34	36	36	36	38	37	37	36	36	34	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	76	76	76	75	75	75	75	75	74	74	74	74	74	74	74	74	74	74	74	75	75	75	74	74
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	6	0	0	0	6	6	6	6	0	6	6	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	884	889	882	883	882	886	887	892	887	888	889	883	895	891	890	884	877	884	881	880	977	879	881	885
23	Mw Output		MW			27	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.1	21.1	21.1	20.8	20.9	21.1	21.0	20.6	21.1	20.9	20.9	20.9	21.1	21.0	21.1	21.1	21.1
24	80% Base Load Minimum		MW				19.5	19.5	19.5	19.5	19.6	19.6	19.5	19.2	19.0	18.7	18.5	18.5	18.4	18.4	18.4	18.5	19.0	19.0	19.0	19.3	19.3	19.5	19.5	19.5
25	Running Hours (unit overview)						4652	4653	4654	4655	4656	4657	4658	4659	4660	4661	4662	4663	4664	4665	4666	4667	4668	4669	4670	4671	4672	4673	4674	4675
26	Ambient Temperature	T1 inlet					52	52	52	52	51	51	52.3	55.8	59.2	62.6	65.1	65.3	66.0	66.9	65.0	64.8	58.6	57	57	56	55	54	54	53
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h				NA	NA	NA	NA	NA	NA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA	NA

Date: NOV 05 2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	½	½	½	½	½	½
Oil Day Tank Level	LI-1562	GAL	10		FULL	23	23	23	23	23	23	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	84	84	84	83	83	83	83	82	82	82	82	82	82	82	83	83	83	83	83	84	84	84	83
Stage Disch. Press	PI-2101	psig		238	285	251	252	252	252	251	251	252	251	250	251	251	252	252	252	252	253	252	252	252	252	252	252	251	251
2nd Stage Inlet Press	PI-2200	psig		267	285	248	248	248	248	247	247	248	247	247	247	248	248	248	248	248	249	249	249	248	248	249	249	248	249
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	560	560	559	560	559	560	560	560	559	560	560	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		58	59	59	59	58	58	58	58	59	59	59	59	59	59	59	59	59	58	58	58	59	59	59	59
Lube Oil Temp	TE-1584	deg		150	170	168	168	168	168	168	168	168	168	167	166	166	165	164	164	164	164	164	164	164	164	164	165	165	165
Final Discharge Temp	TE-2120	deg		110	150	88	88	88	88	89	89	89	93	96	98	102	105	104	105	104	102	96	94	94	94	92	91	91	92
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	218	218	218	218	218	218	215	216	217	219	222	223	223	222	222	221	219	219	218	218	217	217	220	220
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	217	217	217	217	217	217	216	217	220	223	229	231	231	231	231	227	223	223	220	220	218	218	219	218
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	217	217	217	218	218	218	214	215	216	218	220	221	221	220	221	219	219	219	218	217	217	215	215	215
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	217	217	217	217	217	217	216	217	220	223	228	231	230	231	231	227	223	223	218	220	220	218	218	218
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	NOV 05 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Utilities and Institutional Facilities

Date: NOV 06 2020

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	108	112	110	108	112	108	106	112	114	112	112	104	114	110	112	114	112	110	112	112	110	107	112
4	Instrument Temperature	TI-001	deg C		20	50	19	19	19	19	19	19	18	19	19	20	21	22	22	22	22	21	20	19	19	19	20	19	19	19
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18,2	18,3	18,3	18,3	18,4	18,4	18,4	18,2	18,2	18,2	18,2	18,2	18,2	18,2	18,2	18,2	18,2	18,2
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	110	112	109	108	110	105	112	98	98	99	104	109	99	107	98	112	108	105	103	105	104	104	98	102
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	62	62	62	62	62	62	60	60	60	60	60	62	62	62	62
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	35	36	36	36	36	37	36	36	36	35	36	36	36	36	36	36	36
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	74	74	74	74	74	74	74	73	72	71	71	71	72	71	72	72	72	71	73	71	71	72	71	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	884	887	885	891	888	885	890	876	886	884	887	878	890	882	882	884	877	891	887	886	888	885	887	890
23	Mw Output		MW			27	21.0	21.0	21.0	21.0	21.0	21.0	21.0	20.9	21.1	21.1	21.0	20.9	21.0	20.9	21.0	21.0	20.8	21.1	21	21.1	21.2	21	21.1	21.2
24	80% Base Load Minimum		MW				19.8	19.8	19.8	19.8	19.9	19.9	19.8	19.5	19.3	19.0	18.8	18.8	18.7	18.7	18.2	18.9	19.1	19.2	19.1	19.2	19.3	19.3	19.4	19.4
25	Running Hours (unit overview)						4676	4677	4678	4679	4680	4681	4682	4683	4684	4685	4686	4687	4688	4689	4690	4691	4692	4692	4694	4695	4696	4697	4698	4699
26	Ambient Temperature	T1 inlet					49	48	48	48	47	47	47	52	55	59	61	62	62	62	62	60	58	56	56.8	55.8	55.2	54.5	53.2	52.9
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h				NA	NA	NA	NA	NA	NA																		

Date: NOV 06 2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	⅛	⅛	⅛	⅛
Oil Day Tank Level	LI-1562	GAL	10		FULL	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	84	84	83	83	83	83	83	83	82	83	82	82	82	83	82	82	83	83	83	82	83	83
Stage Disch. Press	PI-2101	psig		238	285	251	251	251	251	251	251	250	251	251	251	252	252	252	254	252	252	252	252	252	251	252	252	252	252
2nd Stage Inlet Press	PI-2200	psig		267	285	248	248	248	248	247	247	249	249	247	248	248	248	248	248	248	249	249	248	248	248	248	247	248	248
2nd Stage Disch. Press	PI-2201	psig		575	600	565	564	565	565	564	564	561	564	564	564	561	564	564	563	564	564	564	563	564	563	564	564	563	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	560	560	560	560	560	560	560	559	559	560	559	559	560	560	560	560	559	559
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	58	58	58	58	58	58	59	59	59	59	59	59	59	59	59	59	59	59	59	58	58
Lube Oil Temp	TE-1584	deg		150	170	169	169	169	169	169	169	169	168	168	168	164	164	163	163	163	163	163	163	166	165	165	164	167	166
Final Discharge Temp	TE-2120	deg		110	150	85	85	85	85	85	85	84	89	91	96	101	102	103	103	103	100	98	98	95	95	94	94	91	91
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	215	215	215	215	215	213	212	214	215	218	219	220	221	220	220	219	218	215	217	219	217	217	216	216
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	214	214	214	214	212	212	211	214	217	223	227	227	228	227	227	225	223	221	221	220	220	221	219	218
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	213	213	213	212	211	211	211	213	214	216	217	217	218	218	218	217	216	216	216	217	215	216	214	214
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	214	214	214	212	212	212	211	215	217	223	226	227	229	227	228	225	222	221	221	220	220	220	219	219
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.05	.05	.05	.05	.05	.05	.04	.05	.04	.04	.04	.04	.05
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8									556															
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20									548															

DATE	NOV 06 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: NOV 0 7 2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes:

		I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Instrument Air Compressor																													
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√				√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√				√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	112	110	108	112	107	110	110	112	108	112	104	110	110	106	110	106	110	106	105	108	110	108	110	108
4	Instrument Temperature	TI-001	deg C		20	50	19	19	20	20	19	19	17	17	18	19	20	20	19	19	19	19	19	19	19	19	19	19	19	19
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.2	18.2	18.2	18.2	18.2	18.2	18.3	18.2	18.3	18.4	18.4	18.4	18.4	18.4	18.4	18.1	18.2	18.2	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	106	110	98	102	104	103	104	99	111	105	98	110	107	111	109	98	98	102	104	106	108	105	109	105
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	⅝	½	½	½	½	½	½	½	½	½	½
9	Coolant Return Differential from GG	FI-001	In WC		60	80	62	62	62	62	62	62	60	62	62	62	62	60	62	60	60	62	62	62	61	61	61	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	36	36	36	36	36	36	35	35	36	36	36	36	36	36	36	36	35	35	35	35	35	35	35	35
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	71	71	71	71	71	71	71	71	70	70	70	70	70	70	71	71	71	72	72	72	72	71	71
15	**WECC Log**		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√				√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	889	887	886	889	882	884	885	885	881	880	885	885	885	885	882	884	888	886	884	881	886	888	887	882
23	Mw Output		MW			27	21	21	21	21.1	21	21	21.0	21.0	21.0	20.9	21.1	21.0	21.0	21.0	20.9	20.9	21.0	21.0	21.0	21.0	21.0	21.1	21.1	21.1
24	80% Base Load Minimum		MW				19.6	19.4	19.5	19.5	19.7	19.7	19.5	19.6	19.5	19.1	19.0	19.0	19.1	19.2	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.5	19.3	19.3
25	Running Hours (unit overview)						4700	4701	4703	4703	4704	4705	4706	4707	4708	4709	4710	4710	4711	4713	4713	4715	4715	4716	4717	4718	4719	4720	4721	4722
26	Ambient Temperature	T1 inlet					51.4	53.2	51.8	50.7	49.3	48.7	52	50	52	57	59	58	57	56	55	55	55	55	54	54	53	53	54	55
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h																						NA	NA	NA	NA	NA	NA

NOV 0 7 2020

Date:

Signature: A Wade / Operations Shift Supervisor

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	
Oil Day Tank Level	LI-1562	GAL	10		FULL	19	19	19	19	18	18	18	14	17	17	17	17	17	16	16	16	16	16	16	16	16	16	16	
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
1st Stage Inlet Press.	PI-2100	psig		88	140	83	82	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	
Stage Disch. Press	PI-2101	psig		238	285	251	252	252	251	251	251	251	251	251	251	252	254	252	254	251	252	252	252	251	251	252	252	252	
2nd Stage Inlet Press	PI-2200	psig		267	285	247	246	248	248	247	247	247	247	247	248	248	249	248	246	248	248	248	247	248	248	248	248	224	
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	564	563	564	561	564	564	563	563	564	563	563	563	563	564	564	564	
Final Discharge Pressure	PI-2108	psig		575	600	559	558	560	561	560	561	560	560	559	560	559	560	559	559	559	560	559	559	559	560	560	560	560	
Lube Oil Pressure	PI-1572	psig	40	60		58	59	58	58	59	59	58	58	58	59	59	59	59	59	59	59	59	59	59	58	58	59	60	
Lube Oil Temp	TE-1584	deg		150	170	169	167	169	168	169	169	168	168	168	167	165	164	164	164	165	165	166	165	165	165	166	165	164	
Final Discharge Temp	TE-2120	deg		110	150	89	89	89	89	88	89	88	89	91	97	98	96	96	95	95	94	94	94	91	91	89	89	96	
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	214	215	215	216	214	214	214	214	215	218	219	219	218	218	218	218	217	215	217	217	219	219	217	
2ndStage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	216	216	217	217	215	216	215	216	217	223	224	225	223	221	221	221	220	220	221	221	220	220	221	
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	213	213	213	213	213	213	213	213	214	216	217	217	216	216	216	216	216	214	216	216	216	218	214	
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	216	216	217	217	215	216	215	216	217	223	224	225	223	221	221	221	220	220	215	218	218	220	222	
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.05	.04	.04	.04	.04	.04	.04	.04	.05	.05	.05	.05	.04	.05	.04	.04	.04	.04	.04	.04	.05	.04	
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8								556																
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20								546																

DATE NOV 0 7 2020

SIGNATURE

Mid Shift A Ware

Days Shift

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: NOV 08 2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	108	112	106	108	108	110	106	112	112	114	110	112	106	114	114	108	110	110	108	109	106	108	110	106
4	Instrument Temperature	TI-001	deg C		20	50	19	19	19	19	19	19	16	16	16	16	17	17	17	18	19	18	18	18	18	18	18	18	18	18
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18.2	18.1	18.4	18.4	18.4	18.4	18.2	18.4	18.3	18.4	18.3	18.2	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	108	104	112	108	106	110	102	102	107	110	105	99	105	112	111	101	97	99	98	98	100	98	105	104
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	60	62	62	62	60	60	60	60	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	36	36	36	36	36	36	36	36	35	35	35	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	71	71	71	71	71	70	70	70	70	71	70	70	70	70	70	70	70	70	70	70	70	71	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	73	73	73	73	73	73	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	886	887	890	887	882	888	890	887	881	880	888	889	890	885	884	886	888	887	889	886	887	883	894	892
23	Mw Output		MW			27	21.1	21.1	20.9	20.9	20.9	21.0	21.1	21.1	21.0	21.0	21.6	21.1	21.0	21.0	21.1	21.0	21.1	21.0	21.0	21.0	21.0	21.0	21.0	21.0
24	80% Base Load Minimum		MW				19.6	19.6	20.4	20.4	20.4	20.4	20.7	20.6	20.4	20.2	20.0	19.9	19.9	19.8	19.7	19.6	19.5	19.6	19.6	19.6	19.9	19.9	19.9	19.9
25	Running Hours (unit overview)						4724	4726	4726	4727	4728	4729	4730	4731	4731	4732	4734	4735	4735	4736	4737	4738	4739	4740	4741	4742	4743	4744	4745	4746
26	Ambient Temperature	T1 inlet					45	45	44	43	41	41	37	37	40	42	46	47	47	48	50	51	50	50	49	49	48	47	47	46
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h				NA	NA	NA	NA	NA	NA													NA	NA	NA	NA	NA	NA

Date: NOV 08 2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Oil Day Tank Level	LI-1562	GAL	10		FULL	16	16	16	16	16	16	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	83	83	83	83	83	82	83	82	82	83	82	82	83	83	83	83	83	83	83	83	83	83
Stage Disch. Press	PI-2101	psig		238	285	250	248	248	250	250	250	248	248	248	249	249	250	250	250	251	251	251	250	250	250	250	250	250	250
2nd Stage Inlet Press	PI-2200	psig		267	285	246	246	246	248	248	246	244	244	244	245	245	246	246	246	247	247	247	246	247	247	248	248	248	248
2nd Stage Disch. Press	PI-2201	psig		575	600	564	565	565	564	564	565	563	563	564	564	563	563	564	564	564	564	564	564	564	564	563	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	559	560	559	559	559	560	560	560	559	560	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		59	59	58	58	59	59	57	57	57	57	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lube Oil Temp	TE-1584	deg		150	170	168	168	167	167	168	168	169	170	169	169	170	169	168	168	167	167	167	167	168	168	168	167	167	167
Final Discharge Temp	TE-2120	deg		110	150	78	78	78	79	79	78	74	74	77	80	84	87	87	89	89	90	88	88	88	88	80	86	86	86
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	210	212	212	210	210	208	207	207	209	211	212	213	213	214	213	214	214	214	212	212	210	213	213	213
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	207	207	208	208	206	207	203	203	209	209	213	214	215	216	216	217	216	216	215	215	216	214	214	214
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	208	208	206	206	208	208	206	206	208	209	210	211	211	211	211	211	211	211	211	211	212	211	211	212
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	206	206	208	206	208	208	208	208	205	209	212	214	215	216	216	216	216	216	215	215	215	213	213	213
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.05	.03	.03	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.03	.03	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8														556										
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20														541										

DATE	NOV 08 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Utilities and Institutional Facilities

Date: NOV 09 2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

CGTG HOURLY READING LOG

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	105	110	108	110	105	108	105	109	106	101	105	102	100	105	105	100	105	110	105	108	110	108	108	110
4	Instrument Temperature	TI-001	deg C		20	50	18	18	18	18	18	18	18	14	18	18	18	18	18	18	18	18	18	18	18	18	16	16	16	16
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	95	101	98	104	109	106	97	100	101	112	110	97	105	108	108	105	110	105	106	110	105	106	110	108
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	71	71	72	72	72	72	72	72	72	72	72	72	71	72	70	70	70	70	70	71	71	71	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	74	74	74	74	74	74	74	74	74	74	24	74	74	74	74	74	74	74	74	74	74	74	74	74
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	883	881	885	883	889	885	892	883	889	887	882	880	884	887	885	889	971	968	966	974	967	968	966	967
23	Mw Output		MW			27	21.0	21.0	21.0	21.0	21.0	21.0	20.9	20.9	20.9	20.5	21.1	21.0	21.0	20.9	21.0	21.0	23.0	23.0	23.0	23.1	23.1	24.4	24.2	24.0
24	80% Base Load Minimum		MW				20.4	20.4	20.4	20.5	20.5	20.5	20.4	20.3	20.3	20.5	20.5	20.5	20.5	20.8	20.8	21.0	21.0	21.1	21.0	21.4	21.4	21.5	21.5	21.5
25	Running Hours (unit overview)						4748	4749	4750	4751	4752	4753	4754	4755	4756	4757	4758	4759	4760	4761	4762	4763	4764	4765	4766	4768	4769	4770	4771	4772
26	Ambient Temperature	T1 inlet					42	40	40	40	39	39	40.1	41.1	41.5	39.6	39.6	38.8	39.0	35.8	38.9	33.8	33.1	32.2	29	29	28	27	27	27
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h				NA	NA	NA	NA	NA	NA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA

Date: NOV 09 2020 Signature:

965886 125.2 168 & 164

967227

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	P	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	R	E	E	E	E	R	E	E	E	F	F	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Oil Day Tank Level	LI-1562	GAL	10		FULL	14	14	14	14	14	14	11	11	11	11	11	11	11	11	11	11	10	10	10	10	10	10	10	10
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	R	E	E	E	E	E	E	E	E	F	F	F	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	R	E	E	E	E	E	R	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	83	83	83	83	82	82	82	82	82	82	82	82	82	82	82	82	82	83	83	83	83	83
Stage Disch. Press	PI-2101	psig		238	285	246	246	248	250	248	249	249	249	249	248	248	247	248	248	248	247	247	247	247	247	247	248	248	247
2nd Stage Inlet Press	PI-2200	psig		267	285	245	245	246	246	247	246	275	275	245	245	245	243	244	244	244	243	243	243	243	244	244	244	243	243
2nd Stage Disch. Press	PI-2201	psig		575	600	563	564	564	564	564	564	564	564	564	560	563	564	563	564	564	563	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	560	560	559	559	559	560	559	560	560	559	559	559	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		56	56	56	58	58	57	58	58	58	57	57	57	57	57	58	57	57	57	57	58	58	57	57	57
Lube Oil Temp	TE-1584	deg		150	170	168	168	169	170	170	169	170	170	168	168	168	169	170	169	169	169	170	170	168	169	169	168	168	168
Final Discharge Temp	TE-2120	deg		110	150	77	77	77	79	79	78	88	86	82	79	79	76	76	73	73	72	71	71	71	71	71	70	70	70
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	208	208	208	209	209	208	208	207	209	209	209	209	209	207	207	206	206	206	206	206	206	205	205	205
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	208	207	206	207	208	208	208	207	209	209	209	206	205	202	202	202	201	201	202	202	202	200	200	200
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	208	207	207	207	208	208	206	208	206	207	207	208	207	205	205	204	205	205	205	205	205	205	205	205
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	209	209	208	207	207	208	208	208	208	208	208	206	207	202	202	204	201	201	206	206	203	200	200	202
Motor Frame Vibration	VT-1015	IPS			0.15	.03	.03	.03	.03	.03	.03	.03	.03	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	NOV 09 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

105 46.21

UI-LOG-033-R4
October 1, 2020

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: NOV 10 2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	108	110	100	108	106	108	104	105	111	105	111	110	103	105	100	109	110	104	108	110	105	110	112	108
4	Instrument Temperature	TI-001	deg C		20	50	17	17	16	16	14	14	11	11	14	14	15	15	15	15	18	18	18	18	18	18	16	16	16	14
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	98	101	104	106	110	111	107	102	105	100	106	100	105	111	102	100	99	105	100	104	105	108	104	103
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	60	61	61	61	61	61	61	61	61	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	33	35	35	35	35	36	36	35	36	36	36	36	36	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	71	71	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	71	71	71	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	U	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	74	74	74	74	74	74	74	74	74	74	18	18	18	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1004	1005	1010	1012	1001	1011	1013	1014	1004	1008	1009	1021	1019	1015	1016	1019	1021	1012	1010	1077	1097	1093	1101	1092
23	Mw Output		MW			27	23.9	23.9	23.9	23.9	23.9	23.9	23.9	24.0	24.0	24.0	23.9	24.1	24.2	23.8	24.0	24.1	24.0	23.9	23.9	25.5	26.0	26.0	26.0	26.0
24	80% Base Load Minimum		MW				21.7	21.7	21.6	21.6	21.7	21.7	21.4	21.2	21.0	20.9	20.7	20.5	20.5	20.4	20.5	20.6	20.8	20.9	20.9	21.2	21.6	21.6	21.6	21.6
25	Running Hours (unit overview)						4772	4773	4774	4775	4776	4777	4778	4779	4780	4780	4781	4783	4784	4785	4784	4787	4788	4789	4790	4791	4792	4793	4794	4795
26	Ambient Temperature	T1 inlet					26	26	26	25	25	26	28.9	30.9	34.0	34.3	36.5	38.2	38.9	40.5	37.7	38.5	35.2	35.1	33	31	29	27	28	26
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h				NA	NA	NA	NA	NA	NA	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA

Date: NOV 10 2020 Signature:

1204 180
125.2 3/8 175
968 165

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E				
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2				
Oil Day Tank Level	LI-1562	GAL	10		FULL	10	10	10	9	9	9	8	8	8	9	8	8	8	8	48	48	48	48	48	48				
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F				
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E				
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8				
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	83	83	83	83	82	82	82	82	81	82	82	82	82	82	82	82	82	82				
Stage Disch. Press	PI-2101	psig		238	285	247	248	248	247	247	248	246	246	245	245	245	246	246	247	247	247	247	247	247	247				
2nd Stage Inlet Press	PI-2200	psig		267	285	243	243	244	244	243	243	242	243	241	241	241	240	239	239	243	243	243	243	243	243				
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	563	563	560	564	564				
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	560	559	560	560	559	559	559	560	560	559	559	559	560	560				
Lube Oil Pressure	PI-1572	psig	40	60		57	57	58	58	58	58	57	57	56	56	57	57	57	57	57	57	57	56	57	56				
Lube Oil Temp	TE-1584	deg		150	170	169	169	168	168	168	169	169	168	170	170	169	170	170	170	170	170	170	170	170	170				
Final Discharge Temp	TE-2120	deg		110	150	70	70	70	69	70	70	70	70	70	70	72	75	75	76	76	74	74	74	74	74				
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	204	204	202	202	203	204	204	204	205	205	207	209	209	208	208	208	208	208	208	209				
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	200	202	202	200	200	202	200	200	202	203	204	206	206	207	206	204	204	204	204	204				
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	203	203	202	202	203	203	203	204	204	204	206	207	207	207	207	207	207	208	207	208				
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	200	202	203	202	202	200	200	200	201	201	203	207	207	207	206	208	206	206	206	206				
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.03	.03	.03	.03	.03	.03	.04	.04	.04	.04	.04	.04	.04				
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05				
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE NOV 10 2020

SIGNATURE

Mid Shift JGm

Days Shift

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: NOV 11 2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	112	106	108	110	108	111	110	105	112	105	100	105	109	105	100	99	104	100	108	108	110	110	108	110
4	Instrument Temperature	TI-001	deg C		20	50	12	12	12	10	10	10	11	11	12	18	18	18	18	19	19	19	19	18	18	18	18	18	18	18
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18	18	18	15	18	18	17	18	15	18	18	18	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	105	102	104	106	105	104	96	100	106	112	113	99	105	106	107	110	105	100	104	101	108	106	101	100
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	61	61	61	61	63	61	60	61	61	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	35	35	36	36	36	36	36	36	36	36	36	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	72	72	72	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	73	73	73
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	18	18	18	18	18	17	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1104	1108	1112	1105	1100	1109	1100	1105	1085	1050	1042	1030	1035	1037	1028	1030	1043	1051	1060	1061	1055	1062	1060	1065
23	Mw Output		MW			27	26.2	26.1	26.4	26.3	26.0	26.2	26.1	26.1	25.7	24.8	24.7	24.9	24.8	24.9	24.4	24.5	24.8	24.9	25.1	25.1	25.1	25.1	25.2	25.2
24	80% Base Load Minimum		MW				21.8	21.8	21.8	21.8	21.8	21.8	21.6	21.5	21.3	20.6	20.5	20.3	20.3	20.4	20.3	20.3	20.5	20.7	20.8	20.8	20.8	20.8	20.8	20.8
25	Running Hours (unit overview)						4796	4797	4798	4799	4800	4801	4802	4801	4803	4804	4805	4806	4807	4808	4809	4810	4811	4812	4813	4814	4815	4816	4817	4818
26	Ambient Temperature	T1 inlet					24	23	23	23	22	22	26.4	26.8	28.1	32.4	39.7	42.3	41.7	40.8	42.8	42.8	38.7	37.4	37	37	36	35	35	34
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total Fuel Flow		Mscf/h				NA	NA	NA	NA	NA	NA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	NA	NA	NA	NA

Date: NOV 11 2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	D	D	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	48	48	48	48	48	48	46	46	46	46	46	46	46	46	46	46	46	46	45	45	45	45	45	45
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	1/8	1/8	1/8	1/8	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	81	82	81	81	81	82	82	82	82	82	82	81	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	246	247	247	246	246	246	245	245	245	246	247	247	248	248	247	247	246	245	246	246	246	247	247	246
2nd Stage Inlet Press	PI-2200	psig		267	285	243	243	243	244	242	242	241	241	241	242	243	243	244	244	244	254	244	244	244	242	242	243	243	244
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	565	565	565	564	564	564	564	564	564	564	564	564	564	563	563	563	564	564	563	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	559	559	559	560	559	559	559	560	559	559	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		57	58	58	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
Lube Oil Temp	TE-1584	deg		150	170	169	169	169	169	169	169	168	168	169	170	176	170	170	170	170	170	170	170	170	170	169	169	169	169
Final Discharge Temp	TE-2120	deg		110	150	70	70	70	70	70	70	70	70	70	70	76	76	79	79	79	79	79	77	77	76	76	76	79	79
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	206	206	205	205	205	206	205	205	205	207	208	209	209	209	209	208	208	208	206	206	208	208	208	208
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	203	203	202	202	201	202	201	201	202	206	208	209	210	210	209	208	207	207	202	202	203	203	203	202
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	205	204	204	203	204	204	204	204	205	205	206	208	208	208	208	209	207	208	204	203	204	204	202	204
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	203	203	203	202	202	202	201	201	202	206	208	209	210	210	209	208	208	208	204	203	204	204	202	204
Motor Frame Vibration	VT-1015	IPS			0.15	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	NOV 11 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Utilities and Institutional Facilities

Date: NOV 12 2020

CGTG HOURLY READING LOG

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√				✓	✓	✓	✓	✓																			
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√				✓	✓	✓	✓	✓																			
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	106	108	108	108																			
4	Instrument Temperature	TI-001	deg C		20	50	14	16	16	16	16																			
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18																			
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	105	103	101	102	100																			
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2																			
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60																			
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35																			
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	72	72	72	72	72																			
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N																			
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y																			
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17																			
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0																			
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√				✓	✓	✓	✓	✓																			
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1069	1066	1059	1063	1065																			
23	Mw Output		MW			27	25.5	25.5	25.1	25.3	25.3																			
24	80% Base Load Minimum		MW				21.1	21.1	20.8	21.0	21.0																			
25	Running Hours (unit overview)						4820	4821	4822	4823	4824																			
26	Ambient Temperature	T1 inlet					32	33	35	34	34																			
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	0	0	0	0	0																			
28	Total Fuel Flow		Mscf/h				NA	NA	NA	NA	NA																			

Date: NOV 12 2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B																			
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E																			
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½																			
Oil Day Tank Level	LI-1562	GAL	10		FULL	44	44	44	44	44																			
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F																			
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E																			
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	¼	¼	¼	¼	¼																			
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B																			
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	83	83																			
Stage Disch. Press	PI-2101	psig		238	285	246	246	246	247	246																			
2nd Stage Inlet Press	PI-2200	psig		267	285	242	242	242	242	243																			
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564																			
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560																			
Lube Oil Pressure	PI-1572	psig	40	60		58	58	59	59	58																			
Lube Oil Temp	TE-1584	deg		150	170	170	170	170	169	169																			
Final Discharge Temp	TE-2120	deg		110	150	70	70	70	70	70																			
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	206	206	205	204	204																			
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	202	202	203	203	202																			
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	206	206	201	202	204																			
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	202	202	204	204	203																			
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04																			
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05																			
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	NOV 12 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Utilities and Institutional Facilities

Date: 11-14-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 1523

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow: 1600

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√																											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√																											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25																									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																													
26	Ambient Temperature	T1 inlet																												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

Date: 11-14-2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	1504																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2ndStage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 1-14-2020

SIGNATURE

Mid Shift

Days Shift Josh Anderson

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: 11-16-2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0903

Time of Turbine Online (Brkr Closed): 0951

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS NOT AVAILABLE @ THIS TIME

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V													✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V													✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120										110	110	105	103	100	104	109	109	110	110	112	109	108	110	110
4	Instrument Temperature	TI-001	deg C		20	50										25	26	25	25	25	25	25	25	25	22	24	23	21	21	20
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25											18	18	18	18	18	18	18	18	18	18.8	18.8	18.8	18.6	18.6	18.5
7	Coolant PLC Temperature	TI-002	deg F	100	110	120										109	116	100	109	103	104	100	105	105	102	104	105	110	106	104
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL										1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80										62	62	62	62	61	61	61	61	61	62	62	61	61	61	62
10	Coolant Return Differential from	FI-002	In WC		37	50										36	36	36	X	36	36	34	36	34	36	36	36	36	36	36
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85										74	74	74	74	74	74	74	74	74	74	73	73	73	73	74
15	WECC Log		Operational?																											
16	Operation of PSS/ on at 6.3MW		Yes (Y)			No (N)										Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%										17%	17%	17	17	16	16	16	16	16	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%										0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21	Acknowledge Alarms Hourly		V																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427										885	885	958	957	947	954	955	1008	1003	1007	1002	1018	1026	1035	1038
23	Mw Output		MW			27										21.1	21.0	22.7	22.7	22.4	22.5	22.5	23.9	24.0	23.8	23.8	24.1	24.4	24.5	24.6
24	80% Base Load Minimum		MW													19.6	19.2	19.0	19.0	18.9	18.9	18.9	19.6	19.7	19.6	19.6	19.7	19.9	20	20.1
25	Running Hours (unit overview)															4826	4827	4828	4829	4830	4831	4832	4833	4834	4835	4836	4837	4838	4839	4840
26	Ambient Temperature	T1 inlet														51.3	56.7	58.8	59.0	60.4	60.1	59.9	50.9	49.9	50.5	50.7	49.3	46.8	46	44.6
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%										65	65	65	65	65	65	64	65	65	65	65	65	65	65	65
28	Total Fuel Flow		Msc.f/h																											

Date: 11-16-2020 Signature: Ramey Vasi / A Wall

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0825																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK											B	B	B	B	B	B	D	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY										E	E	E	E	E	E	E	E	F	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL										1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL										44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Lubricator Bulls eye		LEVEL	1/2	FULL											F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY										E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY										E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK											B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140										82	82	82	82	82	82	82	82	82	83	83	83	83	83	83
Stage Disch. Press	PI-2101	psig		238	285										248	249	248	249	250	250	250	249	249	249	248	249	249	249	249
2nd Stage Inlet Press	PI-2200	psig		267	285										245	245	245	245	246	246	246	245	245	245	245	245	245	245	245
2nd Stage Disch. Press	PI-2201	psig		575	600										564	563	564	563	564	564	564	564	564	564	564	563	563	563	564	564
Final Discharge Pressure	PI-2108	psig		575	600										560	559	560	559	559	560	560	559	559	559	559	559	559	559	559	
Lube Oil Pressure	PI-1572	psig	40	60											58	58	58	58	59	59	59	58	58	58	58	58	58	58	58	57
Lube Oil Temp	TE-1584	deg		150	170										121	169	167	167	167	165	165	165	165	169	167	169	167	165	170
Final Discharge Temp	TE-2120	deg		110	150										88	92	94	95	97	95	95	88	86	87	86	86	86	86	81
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297										218	220	219	219	219	217	217	214	213	212	212	212	211	211	210
2ndStage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283										218	221	222	222	223	222	222	216	214	214	214	214	214	214	210
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297										216	218	218	218	217	216	216	213	211	211	212	211	210	209	
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283										217	220	222	222	224	222	223	217	217	214	214	214	213	210	
Motor Frame Vibration	VT-1015	IPS			0.15										04	04	04	04	04	04	04	04	04	.05	.04	.04	.05	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35										05	05	05	05	05	05	05	05	04	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	11-16-2020
SIGNATURE	Ramy Ibn
Mid Shift	A Wan
Days Shift	

Notes

Utilities and Institutional Facilities

Date: NOV 17 2020

CGTG HOURLY READING LOG

974862

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS Not available

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√				√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√				√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	112	108	108	110	112	108	100	105	110	105	110	105	100	104	109	99	110	100	111	108	114	110	112	110
4	Instrument Temperature	TI-001	deg C		20	50	20	20	19	19	19	19	19	18	21	21	21	21	24	24	24	24	24	24	22	22	22	22	22	22
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.5	18.5	18.4	18.4	18.4	18.4	18	18	18	18	18	18	18	18	18	18	18	18	18.8	18.8	18.4	18.4	18.3	18.4
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	106	110	107	106	106	108	98	100	110	109	105	101	109	99	105	103	110	100	100	102	109	108	108	111
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	62	62	62	62	62	62	62	62	62	62	62	63	63	61	61	61	61	61	61	61	61	61	61	62
10	Coolant Return Differential from	FI-002	In WC		37	50	36	36	36	36	36	36	36	36	36	36	36	36	36	34	33	35	35	35	36	36	36	36	36	36
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	72	73	73	73	74	73	73	73	73	73	73	73	73	77	75	72	77	77	72	72	72	72	73	72
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	14	16	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√				√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1035	1044	1054	1048	1052	1051	1050	1039	1006	996	989	982	988	945	941	980	987	992	1007	990	1000	996	1001	994
23	Mw Output		MW			27	24.6	24.7	25	25.1	24.9	24.9	24.8	24.6	23.8	23.6	23.4	22.5	22.5	22.3	22.3	23.2	23.3	23.4	23.8	23.5	23.7	23.6	23.7	23.5
24	80% Base Load Minimum		MW				20.1	20.2	20.3	20.4	20.3	20.3	20.2	20.1	19.6	19.5	19.1	18.9	18.8	18.7	18.7	19.2	19.3	19.3	19.5	19.4	19.5	19.5	19.5	19.5
25	Running Hours (unit overview)						4841	4842	4843	4844	4845	4846	4847	4848	4849	4850	4851	4852	4853	4854	4855	4856	4857	4858	4859	4860	4861	4862	4863	4864
26	Ambient Temperature	T1 inlet	°				44.4	43.7	41.9	41.5	42.3	42.1	43.2	44.8	50.7	52.3	55.2	60.3	60.8	62.4	62.6	55.9	53.2	54.9	51.6	53.6	51.6	52.7	52.3	52.3
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	65	65	65	65	65	65	65	67	65	67	67	67	67	68	65	65	65	65	65	65	65	65	65	65
28	Total Fuel Flow		Mscf/h																											

Date: NOV 17 2020

Signature: A Wan

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	44	44	44	44	44	44	42	42	42	42	42	42	42	42	42	44	44	43	40	40	40	40	40	39
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	83	82	83	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	249	248	248	248	248	248	248	246	249	248	249	251	251	252	252	251	251	250	250	250	250	251	251	251
2nd Stage Inlet Press	PI-2200	psig		267	285	245	245	244	244	244	244	244	244	245	245	247	247	247	248	248	247	247	247	246	246	246	247	247	247
2nd Stage Disch. Press	PI-2201	psig		575	600	563	563	564	564	564	564	564	564	564	563	562	564	564	564	560	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	559	559	560	560	559	559	559	559	559	559	559	560	560	560	560	566	560	560	560	560	559	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		57	58	57	57	57	57	57	57	58	58	58	59	59	59	59	58	58	58	58	58	58	58	58	58
Lube Oil Temp	TE-1584	deg		150	170	170	170	170	169	170	170	170	170	169	169	169	168	165	164	164	163	164	164	168	167	169	167	167	168
Final Discharge Temp	TE-2120	deg		110	150	81	81	81	81	79	79	79	79	87	88	85	96	98	100	100	95	94	94	87	87	87	90	91	89
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	210	209	210	209	208	207	207	207	211	212	212	216	216	216	140	214	213	213	212	211	212	213	213	211
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	211	210	207	207	206	207	206	205	213	215	216	224	223	226	225	226	219	221	215	214	215	217	217	215
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	209	209	207	207	206	206	206	205	210	210	211	214	214	215	140	213	211	212	211	211	211	212	212	210
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	210	210	207	207	207	207	206	207	213	215	215	224	224	225	140	209	220	220	215	214	216	217	216	215
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.04	.04	.04	.04	.05
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.04	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	NOV 17 2020
SIGNATURE	
Mid Shift	A Wan
Days Shift	

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: NOV 18 2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS Not Available

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	108	106	110	114	112	112	110	105	116	100	105	110	100	108	109	110	105	109	109	110	112	111	108	106
4	Instrument Temperature	TI-001	deg C		20	50	22	22	22	22	22	22	22	22	22	21	21	21	25	25	25	25	24	24	24	24	22	22	22	22
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.2	18.4	18.4	18.6	18.6	18.6	18	18	18	18	18	18	18	18	18	18	18	18	18.6	18.6	18.4	18.4	18.4	18.4
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	110	105	104	98	102	105	100	104	106	108	108	110	102	100	104	102	100	103	105	101	104	108	102	98
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/3	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	62	62	61	61	61	61	60	61	61	61	61	61	62	63	63	63	63	63	61	61	61	61	61	61
10	Coolant Return Differential from	FI-002	In WC		37	50	36	36	36	36	36	36	36	37	37	36	34	36	38	38	35	35	34	33	36	36	36	36	36	36
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	72	73	72	72	72	72	72	72	73	72	72	72	72	72	72	72	72	72	73	73	73	73	73	73
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16	16	16	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	997	995	998	1007	1033	1038	1022	987	975	959	942	941	923	928	944	948	964	974	957	958	960	957	962	967
23	Mw Output		MW			27	23.6	23.6	23.7	23.9	24.5	24.5	24.1	23.4	23.1	22.7	22.3	22.2	21.7	21.9	22.3	22.4	22.8	22.9	22.8	22.6	22.8	22.8	22.9	22.8
24	80% Base Load Minimum		MW				19.5	19.5	19.5	19.7	20	20.1	19.8	19.5	19.3	19.1	18.9	18.9	18.4	18.5	18.8	18.8	19.1	19.1	19.1	19	19.1	19	19.1	19.1
25	Running Hours (unit overview)						4865	4866	4867	4868	4869	4870	4871	4872	4873	4874	4875	4876	4877	4878	4879	4880	4881	4882	4883	4884	4885	4886	4887	4888
26	Ambient Temperature	T1 inlet					51.9	51.8	51.6	49.3	45.1	45	48.4	52.5	55.2	58.1	60.4	61.5	66.6	65.7	62.2	60.8	57.7	58.2	57.9	58.8	57.4	57.5	57.4	57.2
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	65	65	65	65	65	65	65	65	65	68	65	65	65	65	64	65	65	65	65	65	65	65	65	65
28	Total Fuel Flow		Mscf/h																											

Date: NOV 18 2020 Signature: A Wren

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

976887

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	37	37	37	37	37
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	83	83	83	83	83	83	83	83
Stage Disch. Press	PI-2101	psig		238	285	251	250	250	250	249	249	249	250	250	250	251	252	247	252	252	252	252	251	253	252	252	252	252	252
2nd Stage Inlet Press	PI-2200	psig		267	285	247	247	246	246	245	245	245	246	246	246	247	248	248	249	248	248	249	249	248	248	247	248	248	247
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	559	559	559	559	559	559	560	560	559	560	560	560	560	559	559	560	560	559	559	560	559	559	559
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	58	58	58	58	58	58	58	59	59	59	59	59	59	59	58	59	59	59	59	59	59
Lube Oil Temp	TE-1584	deg		150	170	168	169	168	168	168	167	167	170	168	168	165	164	161	164	164	164	164	163	165	164	163	164	164	163
Final Discharge Temp	TE-2120	deg		110	150	89	88	88	88	83	83	83	92	92	94	98	103	103	104	100	100	96	95	96	96	96	96	96	96
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	213	211	211	211	209	209	209	212	213	213	215	219	219	219	216	216	215	215	215	214	213	214	213	213
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	215	215	214	213	210	209	209	216	217	219	223	227	225	228	225	225	224	221	220	221	219	220	218	218
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	210	210	210	209	208	208	208	211	211	212	213	217	215	217	214	214	213	212	213	213	213	213	213	213
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	215	215	214	213	211	210	210	217	217	220	223	227	220	228	225	225	222	221	221	221	220	220	220	218
Motor Frame Vibration	VT-1015	IPS			0.15	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.04	.05	.05	.04	.05	.04	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE NOV 18 2020

SIGNATURE

Mid Shift A Ulmer

Days Shift

Notes

Utilities and Institutional Facilities

Date: NOV 19 2020

CGTG HOURLY READING LOG

MST / MDT (circle one)
Time Gas Introduced (Turbine Rolling):
Time of Turbine Online (Brkr Closed):
Time Turbine Offline (Brkr Open):
Time No Gas Flow:

Notes: PSS not Avail 978845

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	112	110	102	108	112	107	105	109	110	104	110	102	109	102	101	109	100	106	110	108	113	110	112	106
4	Instrument Temperature	TI-001	deg C		20	50	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	23	23	23	23	23	22	22
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.6	18.6	18.6	18.4	18.4	18.4	18	18	18	18	18	18	17	18	17	18	18	18.6	18.6	18.6	18.4	18.4	18.4	18.2
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	107	104	98	101	104	99	100	104	105	104	100	103	108	104	106	100	101	104	100	98	102	98	104	102
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	61	61	61	61	61	61	61	61	61	62	62	62	62	62	62	62	62	63	63	63	63	62	61	61
10	Coolant Return Differential from	FI-002	In WC		37	50	36	36	36	36	36	36	37	37	37	37	37	37	37	37	35	35	35	36	36	36	36	36	36	36
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	72	72	72	72	73	72	72	72	72	72	72	73	72	72	72	72	72	74	73	73	73	72	73	72
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																✓	✓							
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	✓	✓	Y	✓	yes	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	16	17	17	16	16	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20												✓	✓	✓	✓										
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	973	968	971	977	973	975	977	981	944	925	930	919	914	917	926	932	945	951	966	979	981	979	998	1005
23	Mw Output		MW			27	23	22.9	23	23.1	23.1	23.1	23.2	23.2	22.3	21.9	22.0	21.7	21.7	21.7	21.8	22.0	22.4	22.6	22.8	23.2	23.3	23.3	23.6	23.8
24	80% Base Load Minimum		MW				19.2	19.2	19.2	19.2	19.3	19.3	19.3	19.3	18.8	18.6	18.6	18.4	18.4	18.4	18.5	18.6	18.9	19	19.1	19.3	19.3	19.3	19.5	19.6
25	Running Hours (unit overview)						4889	4890	4891	4892	4893	4894	4895	4896	4897	4898	4899	4900	4901	4902	4903	4904	4905	4906	4907	4908	4909	4910	4911	4912
26	Ambient Temperature	T1 inlet					55.9	56.7	55.8	55.1	55.4	55.3	55.1	55.2	60.8	64.2	64.0	66.2	66.1	66.9	65.5	63.5	60.3	58.4	57.9	55.2	54.5	53.7	51.6	51.1
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	67	65	65	65	65	65	65	65
28	Total Fuel Flow		Mscf/h																											

Date: NOV 19 2020 Signature: A Ware

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	b/s	1/8	1/8	1/4	1/8	1/8	1/8	1/8	1/16	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	37	37	37	37	37	37	36	36	36	36	36	36	36	36	36	36	36	36	35	35	35	35	35	35
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	83	83	82	82	82	82	82	82	82	82	82	82	82	82	83	83	83	83	83	82
Stage Disch. Press	PI-2101	psig		238	285	251	251	251	252	252	252	250	250	252	252	252	252	252	252	251	252	251	250	253	252	252	252	251	251
2nd Stage Inlet Press	PI-2200	psig		267	285	247	247	248	248	248	248	247	247	248	249	248	248	249	249	249	248	248	248	249	249	248	248	247	247
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	563	563	564	564	564	564	564	564	563	564	563	561	564	564	564	564	563	563
Final Discharge Pressure	PI-2108	psig		575	600	559	559	559	559	559	559	559	559	560	560	560	560	560	560	560	560	560	560	560	560	560	559	559	559
Lube Oil Pressure	PI-1572	psig	40	60		59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	58	58
Lube Oil Temp	TE-1584	deg		150	170	165	164	164	164	166	166	166	166	166	165	165	165	164	164	163	164	164	163	165	164	164	163	168	164
Final Discharge Temp	TE-2120	deg		110	150	92	91	91	92	92	92	92	92	94	101	101	101	102	102	101	101	101	102	95	96	96	96	90	90
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	213	213	211	211	212	212	212	212	214	217	218	218	219	219	217	217	216	216	214	214	213	212	213	210
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	218	218	218	217	217	217	217	217	220	225	225	225	226	227	225	225	224	224	220	220	218	218	215	212
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	211	211	211	210	211	211	211	211	213	215	216	216	217	217	217	216	216	216	213	213	213	213	210	210
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	218	218	217	217	217	217	217	217	221	225	225	225	224	224	225	225	223	223	220	220	218	216	215	212
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.05	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.						86																							
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8	556																							
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20	544																							

DATE 11-19-2020

SIGNATURE

Mid Shift A Wan

Days Shift

Notes

Utilities and Institutional Facilities

Date: NOV 20 2020

CGTG HOURLY READING LOG

MST / MDT (circle one)
Time Gas Introduced (Turbine Rolling):
Time of Turbine Online (Brkr Closed):
Time Turbine Offline (Brkr Open):
Time No Gas Flow:

Notes: PSS Not Available

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	107	104	112	108	110	112	110	108	108	112	112	112	110	108	114	108	110	110	111	107	108	107	109
4	Instrument Temperature	TI-001	deg C		20	50	22	20	20	20	20	20	20	21	22	23	23	24	23	24	24	24	23	22	21	21	20	20	20	20
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.2	18.4	18.4	18.4	18.6	18.6	18.6	18.6	18.6	19	19	18.6	18.6	18.4	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	102	104	107	100	104	98	104	108	98	109	103	100	102	99	109	101	98	108	111	107	104	106	102	106
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	61	61	61	61	61	61	62	62	62	62	62	62	62	62	62	62	62	62	61	61	61	61	61	61
10	Coolant Return Differential from	FI-002	In WC		37	50	36	36	36	36	36	36	36	36	36	36	37	37	38	38	36	36	36	36	36	36	36	36	36	36
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	72	72	72	72	72	72	72	71	70	70	70	70	69	69	70	70	69	70	70	70	70	71	71	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16	16	16	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1010	1022	1010	1024	1031	1029	1023	1001	982	968	960	957	945	950	949	955	969	993	996	1007	1015	1020	1024	1028
23	Mw Output		MW			27	24.1	24.2	24	24.4	24.4	24.3	24.2	23.7	23.2	22.9	22.7	22.6	22.4	22.4	22.4	22.7	23.0	23.5	23.5	23.8	24.0	24.2	24.3	24.4
24	80% Base Load Minimum		MW				19.8	19.9	19.8	20	20	20	19.9	19.5	19.3	19.1	19.0	18.9	18.8	18.8	18.8	18.9	19.1	19.4	19.4	19.6	19.7	19.8	19.9	20.0
25	Running Hours (unit overview)						4913	4914	4915	4916	4917	4918	4918	4919	4920	4922	4922	4923	4924	4925	4926	4927	4928	4929	4930	4931	4932	4933	4934	4935
26	Ambient Temperature	T1 inlet					48.4	47.1	48.4	46	45.3	46.2	47	51	55	58	59	60	61	61	61	59	57	53	53	51	49	48	46	46
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
28	Total Fuel Flow		Mscf/h																											

Date: NOV 20 2020 Signature: A Wan / Dep Supt - John Amos

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	1/4	1/4	1/4	1/4	1/4	1/4	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	87	88	90	89	87	88	87	92	92	92	92	92	92	92	92	92	92	92	93	93	93	93	92	92
Stage Disch. Press	PI-2101	psig		238	285	251	250	249	247	249	249	250	249	251	251	252	251	252	252	252	252	252	252	252	251	251	251	250	250
2nd Stage Inlet Press	PI-2200	psig		267	285	247	246	246	246	246	246	246	246	247	247	248	248	248	248	248	248	248	248	248	247	247	247	246	246
2nd Stage Disch. Press	PI-2201	psig		575	600	563	564	564	564	564	564	564	567	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	559	560	560	560	560	560	560	559	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	559
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	58	57	57	58	56	58	59	59	59	59	59	59	59	57	59	59	59	59	59	59	58
Lube Oil Temp	TE-1584	deg		150	170	164	168	166	164	169	168	169	169	167	167	165	164	164	164	167	163	163	163	167	168	168	168	169	169
Final Discharge Temp	TE-2120	deg		110	150	91	87	88	88	84	88	84	86	92	97	97	99	100	101	99	97	95	92	91	91	90	89	87	85
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	212	209	210	210	208	208	209	209	212	214	214	215	215	216	215	214	214	214	212	212	212	210	209	208
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	214	213	213	213	209	209	211	212	218	222	223	224	225	224	224	222	222	221	216	215	215	214	212	211
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	212	208	208	210	208	208	207	208	210	211	212	213	213	213	213	212	212	212	210	209	209	209	208	207
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	213	212	212	213	210	210	211	212	218	222	223	224	225	225	224	222	222	222	217	216	215	214	212	211
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.05	.04	.04	.04	.05	.05	.05	.05	.05	.05	.05	.05	.05	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8								555																
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20								544																

DATE NOV 20 2020

SIGNATURE

Mid Shift A Wise

Days Shift Josh Cruz

Notes

Utilities and Institutional Facilities

Date: 11-24-2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0928

Time of Turbine Online (Brkr Closed): 0952

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

CGTG HOURLY READ...

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√													✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√													✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120										110	107	110	110	110	107	110	110	110	109	110	109	107	110	108
4	Instrument Temperature	TI-001	deg F		20	50										17	17	17	17	17	17	17	17	17	17	17	15	14	14	13
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25											19	19.5	19.5	19.5	19	18.5	18.5	18.5	18.5	18.6	18.6	18.5	18.5	18.5	18.5
7	Coolant PLC Temperature	TI-002	deg F	100	110	120										100	112	110	112	112	110	110	110	110	109	110	106	100	110	104
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL										1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	70										63	63	63	63	63	63	63	63	63	63	63	62	62	62	62
10	Coolant Return Differential from	FI-002	In WC		37	50										36	36	36	36	36	36	36	36	36	36	36	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	80										70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
15	WECC Log		Operational																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)										N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)										Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%										17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%										0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√													✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427										1046	1055	1054	1046	1047	1054	1045	1053	1061	1062	1066	1071	1076	1069	1077
23	Mw Output		MW			27										24.5	24.7	24.7	24.5	24.5	24.6	24.5	24.8	24.8	25.1	25.2	25.3	25.4	25.5	25.5
24	80% Base Load Minimum		MW													20.7	20.6	20.6	20.4	20.4	20.4	20.4	20.5	20.6	20.8	20.8	21.0	21.0	21.1	21.1
25	Running Hours (unit overview)															4937	4938	4939	4940	4941	4942	4943	4944	4945	4946	4947	4948	4949	4950	4951
26	Ambient Temperature	T1 inlet														38	38	38	40	40	40	40	39	38.5	36.3	35.4	34.0	33.6	32.7	32.2
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%										65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
28	Total Fuel Flow		Mscf/h																											

Date: 11-24-2020 Signature: GOMEZ

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0903																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK											B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY										E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL										1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL										31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
Lubricator Bulls eye		LEVEL	1/2	FULL											F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY										E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY										E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK											B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140										82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285										245	246	245	246	246	247	247	247	247	246	245	246	245	246	245
2nd Stage Inlet Press	PI-2200	psig		267	285										242	242	242	242	242	243	243	243	243	242	242	243	242	242	242
2nd Stage Disch. Press	PI-2201	psig		575	600										563	564	564	564	564	564	564	564	564	564	564	565	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600										560	560	560	560	560	560	560	560	560	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60											61	58	59	58	58	58	58	58	58	58	56	58	58	58	58
Lube Oil Temp	TE-1584	deg		150	170										159	169	169	170	170	170	170	170	170	169	169	169	169	169	169
Final Discharge Temp	TE-2120	deg		110	150										75	75	75	78	78	77	77	75	75	74	74	73	73	72	72
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297										214	214	214	214	214	213	213	211	211	210	210	209	209	208	208
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283										208	207	207	208	208	208	208	206	206	204	204	204	204	202	202
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297										213	213	213	212	212	214	211	210	210	209	209	207	207	207	207
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283										208	208	208	209	209	208	208	207	207	205	205	204	204	202	202
Motor Frame Vibration	VT-1015	IPS			0.15										.03	.04	.04	.04	.04	.04	.03	.04	.04	.04	.03	.03	.03	.03	.03
Compresser Frame Vibration	VT-1512	IPS			0.35										.05	.05	.05	.05	.05	.05	.05	.06	.05	.04	.06	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8										547														
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20										535														

DATE	11-24-2020
SIGNATURE	Comer
Mid Shift	Bob Hwy
Days Shift	

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: 11-25-2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS Unavailable

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	108	110	110	108	108	108	110	108	110	107	110	107	106	108	110	110	107	110	108	108	110	110	108	108
4	Instrument Temperature	TI-001	deg C		20	50	13	13	12	12	12	11	11	11	15	15	17	17	18	18	19	19	17	17	16	16	15	14	14	13
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.8	18.8	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	106	104	102	110	110	108	100	108	111	107	111	105	111	106	110	104	105	110	108	110	106	106	107	109
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/3	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	62	62	62	62	62	61	63	63	65	66	66	66	66	66	66	65	66	66	66	66	66	63	63	63
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	33	33	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	18	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1078	1080	1094	1102	1095	1101	1104	1093	1070	1066	1049	1046	1030	1035	1031	1026	1055	1056	1066	1063	1061	1077	1076	1077
23	Mw Output		MW			27	25.5	25.5	25.9	26.0	26.0	26.0	26.1	25.8	25.3	25.1	24.8	24.7	24.5	24.5	24.3	24.3	24.9	25	25.0	25.1	25.1	25.1	25.1	25.1
24	80% Base Load Minimum		MW				21.1	21.1	21.4	21.4	21.5	21.5	21.6	21.3	20.9	20.7	20.5	20.4	20.2	20.2	20.2	20.2	20.6	20.6	20.7	20.8	20.8	21.0	21.0	21.1
25	Running Hours (unit overview)						4952	4953	4954	4955	4956	4957	4958	4959	4960	4961	4962	4963	4964	4965	4966	4967	4968	4969	4970	4971	4972	4973	4974	4975
26	Ambient Temperature	T1 inlet					32.3	32.5	29.1	28.6	28.4	28.2	27.3	30	35.1	36.5	39.6	39.9	43	42.6	43.2	43.3	38.3	37.8	37.2	36.3	36.3	32.9	32.3	32.2
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	65	65	67	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
28	Total Fuel Flow		Mscf/h																											

Date: 11-25-2020 Signature: Bob Ang

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	1/2	1/2	1/2	1/2	1/2	1/2
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	30	30	30	30	29	29
Oil Day Tank Level	LI-1562	GAL	10		FULL	31	31	31	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	F	F	F	F	F	F
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	E	E	E	E	E	E
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	245	245	245	245	246	246	246	246	246	246	246	246	247	246	248	248	248	248	248	248	247	246	247	247
2nd Stage Inlet Press	PI-2200	psig		267	285	242	242	242	242	242	242	242	242	242	242	243	243	243	243	244	244	244	244	244	241	243	242	243	243
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	57	57	57	54	58	58	58	57	57	58	58	58	58	58	58	58	58	58	58	58	58
Lube Oil Temp	TE-1584	deg		150	170	169	169	168	168	169	169	168	168	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
Final Discharge Temp	TE-2120	deg		110	150	72	72	71	71	70	70	70	70	72	72	75	75	79	78	78	78	75	75	75	75	74	73	71	71
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	208	208	207	207	207	207	207	207	208	207	209	209	211	210	210	210	209	209	209	209	208	206	207	207
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	202	202	201	202	202	202	202	202	204	204	207	207	210	209	208	208	206	206	205	205	205	203	202	202
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	207	207	206	206	205	205	205	205	206	206	207	207	209	209	208	208	207	207	207	207	206	206	205	205
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	202	202	201	201	202	202	203	203	204	203	207	205	210	208	209	206	206	206	206	206	205	204	203	203
Motor Frame Vibration	VT-1015	IPS			0.15	.03	.03	.03	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.01	.06	.05	.05	.01	.06	.05	.06	.05	.06	.05	.05	.05	.06	.05	.06	.05	.01	.01	.01	.01	.06	.06
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8							555																	
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20							542																	

DATE 11-25-2020
SIGNATURE
Mid Shift Bob
Days Shift

Notes

Utilities and Institutional Facilities

Date: 11-26-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)
Time Gas Introduced (Turbine Rolling):
Time of Turbine Online (Brkr Closed):
Time Turbine Offline (Brkr Open):
Time No Gas Flow:

Notes: PSS unavailable

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	108	108	109	109	108	112	110	98	112	110	112	109	106	110	112	114	108	110	110	108	110	112	106
4	Instrument Temperature	TI-001	deg C		20	50	13	13	13	13	13	13	14	14	14	14	16	16	20	20	22	23	22	22	20	20	18	18	18	17
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.5	18.5	18.7	18.5	18.5	18.5	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	106	109	109	104	107	104	102	100	102	98	94	100	99	100	96	94	105	100	98	96	102	100	102	101
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	in WC		60	80	63	63	63	63	63	63	62	62	62	62	62	62	64	64	62	64	62	62	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	in WC		37	50	37	37	35	37	35	35	36	36	36	36	36	36	37	37	37	37	36	36	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	70	70	76	76	76	70	70	70	70	70	70	70	70	72	72	72	72	72	72	72	72	72	72	72
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1063	1051	1045	1067	1063	1057	1051	1050	1043	1035	1026	1022	1021	1020	1018	1012	1021	1033	1050	1049	1062	1060	1066	1059
23	Mw Output		MW			27	25.2	25.0	24.7	25.3	25.2	25.1	24.9	24.9	24.7	24.6	24.3	24.4	24.2	24.2	24.2	24	24.4	24.5	24.9	24.9	25.1	25.1	25.1	25.1
24	80% Base Load Minimum		MW				20.9	20.8	20.5	21.0	21.0	20.9	20.7	20.7	20.4	20.3	20.1	20.2	20.1	20.2	20	20	20.2	20.3	20.6	20.6	20.8	20.8	20.8	20.8
25	Running Hours (unit overview)						4976	4977	4978	4979	4980	4944	4982	4983	4984	4985	4986	4987	4988	4989	4990	4991	4992	4993	4994	4995	4996	4997	4998	4999
26	Ambient Temperature	T1 inlet					34.7	35.0	38.8	33.8	34.3	35.2	37	37.4	40	41.7	44.2	43.5	44.4	44.9	46.4	44.1	43.2	42	40	38	38	38	38	37
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
28	Total Fuel Flow		Mscf/h														65													

Date: 11-26-2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	29	29	29	29	29	29	26	26	26	26	26	26	26	26	25	25	25	25	25	25	25	25	25	25
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	82	82	82	83	83	83	83	83	83	83	83	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	246	241	246	245	245	245	248	248	247	247	249	249	249	249	250	250	250	251	250	250	250	248	248	247
2nd Stage Inlet Press	PI-2200	psig		267	285	243	243	243	242	243	242	244	245	244	245	245	245	245	245	247	246	246	246	246	245	245	245	245	245
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	564	564	564	563	564	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	559	559	560	560	559	559	559	559	559	559	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	58	58	58	57	58	57	57	57	57	57	57	57	57	57	57	57	57	58	58	58	58
Lube Oil Temp	TE-1584	deg		150	170	170	170	170	170	170	170	169	170	170	173	170	169	169	170	173	170	170	170	170	170	170	170	170	170
Final Discharge Temp	TE-2120	deg		110	150	71	71	71	72	72	72	69	71	77	78	81	82	82	83	82	79	80	80	80	80	76	74	75	75
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	207	207	207	206	207	206	206	207	207	207	209	210	210	210	210	209	209	210	210	210	208	206	206	206
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	202	202	202	201	202	202	203	203	207	208	212	210	212	210	210	210	210	212	212	211	210	204	204	204
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	205	205	205	205	205	204	205	205	206	207	207	208	207	207	208	208	208	209	210	210	208	205	205	205
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	203	203	203	203	204	204	204	204	207	207	211	212	212	212	212	210	210	210	210	210	209	204	204	204
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.04	.04	.05	.05	.04	.05	.05	.05	.05	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.06	.05	.05	.05	.05	.05	.06	.06	.05	.06	.06	.05	.06	.06	.06	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 11-26-2020

SIGNATURE

Mid Shift Bob

Days Shift Adam

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: NOV 27 2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	108	110	112	108	110	108	106	112	108	112	110	108	112	104	112	108	112	110	108	101	108	112	101
4	Instrument Temperature	TI-001	deg C		20	50	17	17	17	16	16	16	16	16	16	16	18	20	20	20	20	20	20	20	18	18	18	16	16	15
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	19	19	19	19	19	19
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	97	101	104	102	108	105	101	100	104	100	98	99	100	104	99	104	100	105	102	98	101	104	100	99
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	36	36	36	36	36	36	36	36	36	36	36	36	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	71	71	71	71	71	70	70	70	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1060	1056	1066	1065	1072	1014	1077	1068	1061	1064	1063	1058	1055	1059	1059	1062	1061	1065	1100	1094	1098	1095	1091	1093
23	Mw Output		MW			27	25.1	25.1	25.2	25.2	25.5	25.5	25.5	25.4	25.3	25.2	25.1	25.1	25.1	25.1	25.1	25.1	25.2	25.3	25.5	25.6	25.9	25.9	25.9	25.8
24	80% Base Load Minimum		MW				20.7	20.7	20.8	20.8	21.0	21.0	21	21	20.8	20.8	20.6	20.6	20.6	20.6	20.6	20.6	20.7	20.8	21.1	21.3	21.3	21.3	21.3	21.3
25	Running Hours (unit overview)						5000	5001	5002	5003	5004	5005	5006	5007	5008	5009	5010	5011	5012	5013	5014	5015	5016	5017	5018	5019	5020	5021	5022	5023
26	Ambient Temperature	T1 inlet					37	37	36	35	33	33	33	33	36	38	37.9	37.9	37.9	40.1	37.8	37.6	36.7	36	35	35	34	32	30	30
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
28	Total Fuel Flow		Mscf/h				NA	NA	NA	NA	NA	NA																		

Date: NOV 27 2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Oil Day Tank Level	LI-1562	GAL	10		FULL	24	24	24	24	24	24	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	D	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	83	83	83	83	82	83	82	82	83	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	249	249	248	249	247	247	246	246	247	247	248	248	248	248	248	248	248	248	246	246	248	246	246	246
2nd Stage Inlet Press	PI-2200	psig		267	285	245	245	245	245	243	244	242	242	243	243	244	244	244	245	244	244	245	245	246	245	245	244	245	245
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	560	560	559	560	560	560	560	560	560	560	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	58	58	58	57	57	57	57	57	57	57	57	57	57	57	57	55	57	57	57	57	57
Lube Oil Temp	TE-1584	deg		150	170	169	169	168	169	170	170	170	170	170	170	169	170	170	170	170	170	170	170	170	170	170	169	169	169
Final Discharge Temp	TE-2120	deg		110	150	74	74	74	74	72	72	70	72	73	73	75	75	75	75	75	75	75	74	74	74	75	74	74	74
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	206	206	206	204	204	208	204	204	205	206	205	205	206	206	205	205	205	205	206	206	206	205	205	205
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	204	204	204	205	202	207	201	202	203	204	206	204	205	206	206	206	206	205	205	205	205	207	207	205
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	204	204	204	204	203	203	202	202	204	204	203	204	204	205	203	203	204	204	204	204	201	201	201	201
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	204	204	205	205	202	202	201	201	203	203	206	205	205	205	205	205	206	205	206	206	206	201	201	201
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.04	.04	.05	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.06	.06	.06	.05	.05	.06	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	NOV 27 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Utilities and Institutional Facilities

Date: NOV 28 2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

CGTG HOURLY READING LOG

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	108	112	110	106	108	110	111	108	110	112	108	106	113	110	106	110	107	108	110	108	112	110	106	108
4	Instrument Temperature	TI-001	deg C		20	50	16	14	14	14	14	14	14	14	14	14	14	14	16	16	16	16	16	16	16	14	14	14	14	14
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		19	19	19	19	19	19	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.4	18.4	19	19	19	19	19	19
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	101	102	99	104	107	100	96	100	94	99	102	104	105	101	99	103	110	106	111	108	104	79	105	112
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	80	60	60	60	60	62	62	62	62	60	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	36	36	36	36	36	36	36	36	36	36	36	36	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	71	71	71	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1087	1093	1091	1093	1100	1099	1097	1097	1091	1089	1092	1081	1062	1052	1044	1060	1071	1069	1072	1091	1096	1098	1099	1096
23	Mw Output		MW			27	25.8	25.8	25.9	25.9	25.9	26.0	26.1	26	23.9	25.8	25.6	25.5	25.1	25	24.9	26.1	25.4	25.5	25.5	25.5	25.2	26.0	26.0	26.0
24	80% Base Load Minimum		MW				21.2	21.2	21.3	21.3	21.3	21.4	21.4	21.4	21.3	21.3	21.3	21	20.7	20.6	20.5	20.7	20.9	20.9	20.9	20.9	20.9	21.5	21.5	21.5
25	Running Hours (unit overview)						5024	5025	5026	5027	5028	5029	5030	5031	5032	5033	5034	5035	5036	5037	5038	5039	5040	5041	5042	5043	5044	5045	5046	5047
26	Ambient Temperature	T1 inlet					33	30	30	29	29	29	29	29	30.2	31.3	31.9	33.6	37.2	37.6	39.2	37	34.3	34	32	32	30	29	29	29
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	77	77	77	77	77	77	76	76	76	76	76	76	76	76	76	76	76	76	77	77	77	77	77	77
28	Total Fuel Flow		Mscf/h				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Date: NOV 28 2020 Signature: JW

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Oil Day Tank Level	LI-1562	GAL	10		FULL	25	25	25	25	25	25	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	248	248	248	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247
2nd Stage Inlet Press	PI-2200	psig		267	285	244	244	244	244	245	245	243	244	244	243	243	244	243	243	243	243	243	243	243	243	243	243	243	243
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	565	565	565	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	559	559	559	559	559	559	559	559	559	559	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
Lube Oil Temp	TE-1584	deg		150	170	169	169	169	169	169	169	169	169	169	170	170	171	169	169	169	169	169	169	169	169	170	170	170	170
Final Discharge Temp	TE-2120	deg		110	150	70	70	70	70	70	70	70	71	71	69	69	70	73	73	74	74	72	71	70	70	70	70	70	70
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	203	204	203	202	203	202	202	203	203	203	203	204	205	205	205	206	204	204	203	203	203	203	203	203
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	207	204	204	201	202	202	200	201	200	201	201	202	204	204	205	205	203	203	201	201	201	201	201	201
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	201	201	201	201	200	200	201	200	200	201	200	202	203	203	203	204	202	202	202	202	202	202	201	201
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	201	201	201	201	202	201	200	200	201	201	201	201	204	204	204	204	203	201	201	201	202	202	201	201
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.												560																	
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20							541																	

DATE	NOV 28 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: NOV 29 2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE
GAS COMPRESSOR TRIP @ 2118

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	108	100	112	100	107	110	115	113	110	106	114	110	108	104	112	108	109	110	108	112				
4	Instrument Temperature	TI-001	deg C		20	50	14	14	14	14	14	14	12	12	14	16	18	18	18	18	18	18	18	18	18	18				
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		19	19	19	19	19	19	18.4	18.4	18.6	19	19	19	19	19	19	19	19	19	19	19				
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	104	108	99	101	104	108	104	100	106	104	101	106	102	104	106	110	101	104						
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/3	1/2	1/2	1/3	1/3	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2				
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60				
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	35	35	36	36	36	36	36	36	36	36	36	36	36				
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	71	71	71	71				
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N				
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y				
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	18	18	17	17	17	17	17	17	17	17	17	17				
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1096	1098	1100	1102	1103	1102	1109	1089	1062	1053	1041	1040	1037	1041	1037	1047	1065	1071	1070	1072				
23	Mw Output		MW			27	26.0	26.0	26.0	26.1	26.1	26.2	26.3	25.8	25.2	24.9	24.7	24.5	24.4	24.6	24.6	24.8	25.2	25.3	25.3	25.3				
24	80% Base Load Minimum		MW				21.4	21.4	21.4	21.6	21.6	21.6	21.6	21.2	20.7	20.5	20.4	20.2	20.1	20.2	20.2	20.3	20.6	20.7	20.7	20.7				
25	Running Hours (unit overview)						5048	5049	5050	5051	5052	5053	5054	5055	5056	5057	5058	5059	5060	5061	5062	5063	5064	5065	5066	5067				
26	Ambient Temperature	T1 inlet					28	28	28	28	27	27	27	31.1	36.9	38.4	41	41.9	43	42.4	42	41.7	38.5	37.1	36	36				
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	77	77	77	77	77	77	77	77	77	76	76	75	75	75	75	77	77	77	77	77				
28	Total Fuel Flow		Mscf/h				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Date: NOV 29 2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E				
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E				
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	⅓	½	½	½	½	½	½	½	½	½	½	½	½	½				
Oil Day Tank Level	LI-1562	GAL	10		FULL	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20				
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F				
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E				
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E				
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	82	82	82	81	81	81	81	82	82	83	82	82	82	82				
Stage Disch. Press	PI-2101	psig		238	285	247	247	247	247	247	247	247	247	247	247	247	247	247	248	248	249	248	248	247	247				
2nd Stage Inlet Press	PI-2200	psig		267	285	243	243	243	244	244	243	242	242	244	243	243	243	244	244	244	245	245	245	246	244				
2nd Stage Disch. Press	PI-2201	psig		575	600	565	565	565	564	564	565	564	564	564	564	564	564	564	564	564	564	564	565	565	564				
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	560	560	560	559	559	559	559	559	559	560	560	560	560	560				
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	58	58	58	57	58	58	57	57	57	57	57	57	57	57	57	58	57				
Lube Oil Temp	TE-1584	deg		150	170	170	170	169	169	169	169	169	169	170	170	170	172	172	171	171	169	169	169	169	169				
Final Discharge Temp	TE-2120	deg		110	150	70	70	70	70	70	70	70	70	70	74	77	77	77	78	78	75	75	75	75	75				
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	203	202	202	202	203	202	202	202	204	204	204	205	206	206	206	204	204	204	204	205				
2ndStage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	201	201	201	200	200	201	200	200	200	204	206	205	205	207	207	205	204	204	205	204				
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	201	201	200	200	201	201	200	200	203	202	202	203	204	204	204	203	203	203	202	202				
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	201	201	201	201	201	201	200	200	200	204	205	204	204	206	208	205	203	203	202	202				
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.04	.04	.05	.04	.04	.04	.04	.04				
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.06	.05	.05	.06	.06	.05	.05	.05	.05	.05				
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	NOV 29 2020
SIGNATURE	
Mid Shift	COMPRESSOR TRIPPED @ 2118 DUE TO "HIGH PRESSURE SECOND STAGE DISCHARGE"
Days Shift	

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: 12-02-2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 0742

Time of Turbine Online (Brkr Closed): 0825 / 0822

Time Turbine Offline (Brkr Open):

Time No Gas Flow: 0725

Notes: PSS not active
ONE FAILED START

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	Instrument Temperature	TI-001	deg C		20	50									110	106	110	112	104	110	42	110	104	112	110	108	110	109	110	108
5	Fin Fan Cooler		Units	Low	Norm	Max									12	12	12	13	14	14	14	14	17	13	12	11	11	11	11	10
6	Coolant Pressure	PI-250	psig		25																									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120									18.8	18.8	18.8	18.8	18.9	18.9	18.8	18.8	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.5
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL									102	110	104	105	101	111	111	104	96	101	104	106	104	106	103	105
9	Coolant Return Differential from GG	FI-001	In WC		60	80									1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
10	Coolant Return Differential from	FI-002	In WC		37	50									60	62	60	60	62	62	62	62	62	63	61	60	60	60	60	60
11	Control Room		Units	Low	Norm	Max									35	35	36	36	37	36	36	35	35	35	36	35	35	35	35	35
12	Room Temperature		deg F		72	85																								
15	WECC Log		Operational?												70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%									18	18	18	17	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427									1102	1101	1092	1093	1055	1081	1076	1083	1099	1110	1108	1111	1105	1118	1114	1111
23	Mw Output		MW			27									26.0	26.0	25.9	25.8	25.6	25.5	25.5	25.6	26.0	26.2	26.2	26.2	26.2	26.1	26.3	26.3
24	80% Base Load Minimum		MW												21.8	21.6	21.5	21.4	21.2	21.7	21.2	21.2	21.5	21.6	21.6	21.6	21.6	21.7	21.8	21.8
25	Running Hours (unit overview)														5068	5070	5071	5072	5073	5074	5075	5076	5077	5078	5074	5080	5081	5082	5083	5084
26	Ambient Temperature	T1 inlet													23	27	28	29	31	31	31	31	28	26	27	27	27	25	24	23
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h												77	76	76	76	76	76	77	77	77	77	77	77	77	77	77	77

Date: 12-02-2020 Signature: Bob Avery

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0639																												
Combustible Gas Detector	AAH-303	%		0%	20%									B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK										F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY									½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL									19	19	19	19	19	19	18	18	18	18	18	18	18	17	17	17
Oil Day Tank Level	LI-1562	GAL	10		FULL									F	F	F	F	F	E	F	F	F	F	F	F	F	F	F	F
Lubricator Bulls eye		LEVEL	1/2	FULL										E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY									B	B	B	B	B	B	B	D	B	B	B	B	B	B	B	B
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK										81	81	82	81	81	81	81	82	82	82	82	82	81	81	81	81
1st Stage Inlet Press.	PI-2100	psig		88	140									243	244	244	248	244	245	245	246	246	246	245	244	243	244	245	241
Stage Disch. Press	PI-2101	psig		238	285									239	240	240	240	240	241	241	241	242	241	241	240	240	240	241	242
2nd Stage Inlet Press	PI-2200	psig		267	285									564	564	564	564	564	564	561	564	561	564	564	564	564	564	561	564
2nd Stage Disch. Press	PI-2201	psig		575	600									559	559	559	559	559	560	559	559	559	559	559	559	559	559	559	559
Final Discharge Pressure	PI-2108	psig		575	600									56	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
Lube Oil Pressure	PI-1572	psig	40	60										170	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169
Lube Oil Temp	TE-1584	deg		150	170									69	70	69	70	69	69	70	70	69	69	69	69	69	70	70	70
Final Discharge Temp	TE-2120	deg		110	150									207	207	206	206	206	205	204	204	203	203	203	203	202	202	201	
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297									200	200	200	200	200	200	200	199	199	199	199	199	199	199	199	196
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283									205	205	204	204	204	203	202	202	202	202	202	202	201	201	201	200
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297									200	200	200	200	200	200	200	200	200	200	200	200	200	200	199	199
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283									.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.01	.05	.05	.04
Motor Frame Vibration	VT-1015	IPS			0.15									.05	.05	.05	.06	.06	.05	.05	.06	.05	.05	.05	.01	.01	.05	.05	.05
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																									
Natural Gas Comp.Discharge Press.															560														
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8										555														
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20										541														

DATE 12-02-2020

SIGNATURE

Mid Shift Bob Ay

Days Shift

Notes

Utilities and Institutional Facilities

Date: 12-03-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	109	108	110	110	108	110	108	112	110	108	110	106	108	104	104	112	106	112	110	109	110	104	108	108
4	Instrument Temperature	TI-001	deg C		20	50	10	10	10	10	10	10	9	9	11	13	14	16	17	17	17	17	16	16	15	14	14	13	13	13
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.6	18.6	18.5	19	18.4	18.4	18.8	18.8	18.8	18.4	18.8	18.7	18.6	18.6	18.6	18.6	18.6
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	104	108	107	106	108	107	102	102	108	99	109	112	97	110	104	110	109	108	109	108	104	106	107	105
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	62	60	60	60	67	62	62	60	67	62	62	62	62	62	61	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	35	36	36	36	36	36	36	36	36	35	35	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	18	17	17	17	18	18	18	18	18	17	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1111	1107	1109	1099	1101	1095	1108	1123	1116	1101	1074	1068	1071	1068	1067	1075	1089	1098	1097	1107	1106	1108	1106	1111
23	Mw Output		MW			27	26.3	26.2	26.2	26.1	26.1	26.0	26.1	26.4	26.4	26.0	25.7	25.3	25.4	25.2	25.2	25.4	25.7	25.9	25.5	21.0	26.1	26.1	26.1	26.3
24	80% Base Load Minimum		MW				21.6	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.7	21.1	20.9	20.6	20.9	20.9	20.7	20.9	21.2	21.3	21.3	21.4	21.5	21.5	21.5	21.6
25	Running Hours (unit overview)						5085	5086	5087	5088	5089	5090	5091	5092	5093	5094	5095	5096	5097	5098	5099	5100	5101	5102	5103	5104	5105	5106	5107	5108
26	Ambient Temperature	T1 Inlet					22	22	22	21	19	18	19	23	25	28	34	34	35	35	36	34	31	29	30	24	28	28	28	26
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	77	77	77	77	77	77	77	77	76	76	75	75	76	76	76	76	76	77	76	77	77	77	77	77
28	Total Fuel Flow		Mscf/h																											

Date: 12-03-2020 Signature: Bob Hwang / day shift - Josh Amos

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	17	17	17	17	17	17	16	16	16	16	16	16	16	16	35	35	34	34	34	34	34	34	34	33
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	81	81	82	82	82	81	81	81	81	81	81	81	81	82	82	81	82	82	82	82	82	81	82	82
Stage Disch. Press	PI-2101	psig		238	285	246	246	246	246	246	246	246	246	246	246	246	246	247	245	248	247	247	247	247	247	247	246	247	247
2nd Stage Inlet Press	PI-2200	psig		267	285	242	242	243	243	243	242	242	242	242	242	242	242	244	244	244	243	243	243	243	243	243	242	244	244
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	561	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	559	559	560	560	560	560	559	559	559	559	559	559	560	560	560	559	559	559	559	559	559	559	559	559
Lube Oil Pressure	PI-1572	psig	40	60		57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
Lube Oil Temp	TE-1584	deg		150	170	169	169	169	169	169	169	168	169	169	169	170	170	170	169	169	169	169	169	169	169	169	169	169	169
Final Discharge Temp	TE-2120	deg		110	150	70	70	69	69	69	69	70	69	70	70	70	71	71	73	74	72	69	69	69	69	69	69	70	70
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	201	201	200	200	200	199	199	199	199	200	200	201	202	201	201	200	200	199	198	199	199	199	200	200
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	199	200	198	198	198	198	199	197	198	199	200	201	203	203	203	201	199	199	200	199	198	198	199	199
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	200	200	199	199	198	197	198	199	199	198	198	200	200	199	200	198	199	198	199	199	199	198	199	199
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	199	199	198	198	198	198	199	198	198	199	199	200	203	203	203	201	199	199	199	199	199	198	199	199
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.05
Compresser Frame Vibration	VT-1512	IPS			0.35	.06	.05	.05	.05	.01	.01	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.01	.01	.01	.01	.01	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																		560											
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8				555									555											
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20				541									542											

DATE 12-03-2020

SIGNATURE

Mid Shift Bob Arms

Days Shift Josh Arms

Notes

Utilities and Institutional Facilities

Date: 12-04-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	109	108	110	108	108	108	110	107	112	106	109	115	112	108	113	114	110	108	108	120	110	106	108
4	Instrument Temperature	TI-001	deg C		20	50	13	12	12	12	12	12	10	10	14	16	16	18	20	20	20	20	20	20	20	20	18	18	18	18
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.6	18.6	18.6	18.6	18.6	18.6	18.4	18.4	18.6	18.6	18.6	18.6	19	19	19	19	19	19	19	19	19	19	19	19
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	106	103	108	109	107	104	111	107	107	106	109	102	99	104	109	111	107	111	108	102	107	101	106	104
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	60	60	60	62	62	62	60	60	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	35	36	36	36	36	36	36	36	36	36	35	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	70	70	70	70	70	70	72	72	70	70	70	70	70	70	71	71	71	71	71	71	71	71	71	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	18	18	18	18	18	18	18	17	17	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1112	1116	1119	1113	1117	1115	1113	1115	1078	1053	1045	1038	1023	1015	1008	1028	1058	1063	1067	1072	1078	1072	1084	1085
23	Mw Output		MW			27	26.3	26.4	26.4	26.4	26.4	26.3	26.3	26.3	25.5	25	24.7	24.5	24.2	24	23.9	24.3	25	25.2	25.3	25.3	25.3	25.5	25.6	25.6
24	80% Base Load Minimum		MW				21.6	21.7	21.7	21.8	21.7	21.6	21.8	21.6	21.1	20.6	20.4	20.2	20	19.9	19.8	20	20.5	20.7	20.7	20.7	20.7	20.9	21.0	21.0
25	Running Hours (unit overview)						5109	5110	5111	5112	5113	5114	5115	5116	5117	5118	5119	5120	5121	5122	5123	5124	5125	5126	5127	5128	5129	5130	5131	5132
26	Ambient Temperature	T1 inlet					25	25	25	24	25	26	23.5	26.2	33.3	39.5	46.8	42.8	45.9	47.3	48.6	46.2	39.2	31.8	36	36	35	35	33	33
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	77	77	77	76	77	78	77	76	76	76	76	76	76	76	77	77	77	77	77	77	77	77	77	77
28	Total Fuel Flow		Mscf/h																											

Date: 12-04-2020 Signature: Bob Stang

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	33	33	33	33	33	33	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	81	81	81	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	247	246	246	246	246	246	246	246	246	248	248	248	249	250	250	250	248	249	248	248	248	246	246	248
2nd Stage Inlet Press	PI-2200	psig		267	285	244	243	243	242	242	242	242	242	242	244	244	244	245	245	245	246	245	245	246	246	246	244	244	245
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	559	559	559	559	134	559	559	559	560	559	559	560	559	559	559	559	559	559	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		57	57	57	57	51	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
Lube Oil Temp	TE-1584	deg		150	170	169	169	169	169	169	169	168	168	170	170	170	170	169	169	169	169	169	170	170	170	170	170	170	170
Final Discharge Temp	TE-2120	deg		110	150	70	69	69	69	69	69	70	70	70	75	77	80	82	82	82	82	80	76	76	77	75	75	75	74
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	200	199	200	199	199	199	199	200	199	202	203	204	205	205	206	204	202	203	203	202	202	202	202	202
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	199	198	199	199	199	199	197	198	198	203	205	208	209	208	210	210	208	205	205	204	203	203	203	204
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	199	198	199	199	199	198	197	198	198	200	201	203	203	203	204	203	201	201	201	201	201	202	202	202
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	199	198	199	199	198	198	197	199	198	202	205	208	209	210	210	210	208	205	205	205	202	202	202	202
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.05	.05	.04	.05	.05	.05	.04	.04	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.01	.01	.01	.01	.01	.01	.06	.05	.05	.06	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 12-04-2020

SIGNATURE

Mid Shift Bob Hoey

Days Shift A Wan

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: DEC 05 2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓	B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	O	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	108	110	112	108	110	110	S	96	92	100	103	105	105	105	109	103	105	104	108	112	110	106	108	108
4	Instrument Temperature	TI-001	deg C		20	50	16	16	16	16	16	16	Y	16	19	19	20	20	20	20	20	20	20	20	20	20	18	18	18	18
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		19	19	19	19	19	19	W	19	18.5	18	18	18	18	15	18	18	18	18	19	19	19	19	19	19
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	104	102	99	106	103	98	I	104	103	107	109	104	102	95	100	103	107	102	104	107	100	105	101	110
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	T	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	H	60	62	62	62	63	63	65	61	61	61	61	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35		35	36	36	36	36	36	36	35	34	35	35	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	70	70	70	71	71	71		71	71	71	71	71	71	71	71	71	71	71	71	70	70	70	70	70
15	WFCC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	S	Y	Y	Y	U	Y	R	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17		17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	D	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20								E	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	S							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)												E																	
22	Generator Current		Amps			1427	1075	1077	1072	1070	1057	1062	L	1064	1095	1017	998	1001	987	984	986	1002	1034	1040	1056	1062	1053	1077	1072	1086
23	Mw Output		MW			27	25.5	25.5	25.3	25.3	25.0	25.0	F	24.8	24.5	24.0	23.7	23.6	23.4	23.4	23.5	23.9	24.5	24.7	24.7	25.0	25.0	25.3	25.5	25.5
24	80% Base Load Minimum		MW				20.9	20.9	20.7	20.7	20.5	20.5	O	20.4	20.2	19.9	19.7	19.6	19.5	19.5	19.5	19.7	20.1	20.2	20.3	20.4	20.4	20.1	20.8	20.8
25	Running Hours (unit overview)						5133	5134	5135	5136	5137	5138	e	5140	5141	5142	5143	5144	5145	5146	5147	5148	5149	5150	5151	5152	5153	5154	5155	5156
26	Ambient Temperature	T1 inlet					34	36	37	38	38	39	L	42.6	43.0	47.3	50.0	50.5	52.2	52.5	52.9	49.9	44.4	43.3	41	40	40	38	38	36
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	77	77	77	77	77	77		77	77	77	77	77	77	77	97	77	77	77	77	77	77	77	77	77
28	Total Fuel Flow		Mscf/h																											

Date: DEC 05 2020 Signature:

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	O	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	S	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	30	30	30	30	30	30	Y	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	W	E	E	E	E	E	E	E	F	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	H	E	E	E	E	E	E	E	E	1/4	1/4	1/4	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	T	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	83	83	H	83	82	82	82	82	82	82	82	82	82	82	82	82	82	83	83	83
Stage Disch. Press	PI-2101	psig		238	285	249	248	248	249	249	248		249	249	250	250	251	251	251	251	251	250	249	250	250	250	249	249	249
2nd Stage Inlet Press	PI-2200	psig		267	285	245	245	245	245	246	246	T	246	245	246	246	247	247	247	247	246	246	246	246	246	246	246	246	246
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	565	565	R	565	564	564	564	564	564	564	564	564	564	565	564	564	564	565	565	565
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	A	560	559	560	560	559	559	560	560	559	559	559	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	58	58	58	N	58	57	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lube Oil Temp	TE-1584	deg		150	170	170	170	170	170	169	169	S	169	170	170	170	169	169	168	168	168	167	169	169	169	169	169	169	169
Final Discharge Temp	TE-2120	deg		110	150	74	74	74	76	76	77		77	80	85	85	88	90	90	89	86	88	83	78	78	78	74	74	74
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	202	202	202	201	201	202	E	202	203	205	205	207	206	207	207	207	206	206	206	206	206	202	202	202
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	203	202	203	203	203	203		205	205	210	210	213	213	214	214	213	213	213	212	212	213	212	212	212
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	201	201	201	201	200	200	O	200	202	204	205	206	206	206	206	206	204	204	204	204	204	203	203	203
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	203	202	202	203	203	203	F	203	205	210	210	213	213	214	214	213	213	213	203	202	202	203	203	203
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	D	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	IFF	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.												SEC																	
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20							FUEL																	

DATE	DEC 05 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Utilities and Institutional Facilities

Date: DEC 06 2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes: PSS UNAVAILABLE

CGTG HOURLY READING LOG

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	104	108	112	110	108	110	109	106	109	112	110	115	101	115	112	106	114	112	108	110	106	108	111	114
4	Instrument Temperature	TI-001	deg C		20	50	18	18	18	18	18	18	16	16	16	16	20	22	22	22	22	20	20	18	18	18	18	18	18	18
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		19	19	19	19	19	19	18.4	18.6	18.6	18.8	19	19	19	19	19	19	19	19	19	19	19	19	19	19
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	112	104	102	108	101	102	96	100	102	100	101	96	103	101	97	104	107	98	104	100	102	100	99	101
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	60	62	62	62	63	63	62	62	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	35	35	36	36	36	36	37	37	36	36	36	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	71	71	71	71	71	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	18	16	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	ASGGGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1081	1086	1082	1087	1085	1087	1087	1046	1049	1046	1009	993	997	995	999	1016	1023	1026	1041	1051	1047	1048	1050	1052
23	Mw Output		MW			27	25.7	25.7	29.7	25.7	25.6	25.6	25.8	24.7	24.8	24.7	23.8	23.6	23.5	23.6	23.6	24	24.3	24.7	24.6	24.6	24.6	24.8	24.8	24.7
24	80% Base Load Minimum		MW				21.0	21.0	21.0	21.0	21.0	21.0	21.2	20.3	20.3	20.3	19.8	19.6	19.6	19.5	19.6	19.8	19.9	20.2	20.2	20.2	20.2	20.4	20.4	20.4
25	Running Hours (unit overview)						5157	5158	5159	5160	5161	5162	5163	5164	5165	5166	5167	5168	5169	5170	5171	5172	5173	5174	5175	5176	5177	5178	5179	5180
26	Ambient Temperature	T1 Inlet					33	33	33	33	33	33	31.5	41.5	41.2	42.1	48.7	50.9	51.3	51.6	50.9	48	46.4	43.2	43	42	42	41	41	41
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	77	77	77	77	77	77	78	78	76	76	76	76	76	76	77	77	77	77	78	78	78	78	78	78
28	Total Fuel Flow		Mscf/h																											

Date: DEC 06 2020 Signature:

CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
Oil Day Tank Level	LI-1562	GAL	10		FULL	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	83	83	83	83	83	82	82	82	82	82	83	82	82	82	82	82	82	82	82	82	83	83	83
Stage Disch. Press	PI-2101	psig		238	285	249	249	248	248	249	249	248	248	248	248	250	250	250	250	249	249	251	251	251	251	251	251	251	251
2nd Stage Inlet Press	PI-2200	psig		267	285	246	245	245	245	246	246	244	244	244	246	246	247	248	246	246	246	247	247	247	247	247	247	247	247
2nd Stage Disch. Press	PI-2201	psig		575	600	565	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	565	565	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	559	559	559	559	559	559	559	559	559	559	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	58	58	58	57	57	57	57	58	58	58	58	58	57	57	57	57	57	58	58	58	58
Lube Oil Temp	TE-1584	deg		150	170	169	169	169	169	169	169	169	169	170	170	169	169	169	169	169	169	170	170	170	170	170	170	170	170
Final Discharge Temp	TE-2120	deg		110	150	74	73	73	72	72	72	70	70	77	77	85	87	87	87	84	80	81	80	82	82	82	82	82	82
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	202	201	201	202	201	201	199	200	203	203	206	207	208	207	205	206	205	204	203	203	203	203	202	202
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	203	202	202	202	202	201	199	199	203	204	212	214	214	213	212	212	208	208	206	206	206	206	206	208
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	201	201	201	200	200	201	198	199	201	203	204	206	206	205	204	204	204	204	202	202	202	202	204	204
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	203	201	201	202	202	202	198	200	203	203	211	213	213	214	213	212	209	208	206	206	206	206	206	208
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.03	.05	.04	.04	.05	.04	.05	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.06	.05	.05	.05	.06	.05	.05	.06	.05	.06	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	DEC 06 2020
SIGNATURE	
Mid Shift	
Days Shift	

Notes

Utilities and Institutional Facilities

Date: DEC 07 2020

CGTG HOURLY READING LOG

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling): 1336

Time of Turbine Online (Brkr Closed): 1348

Time Turbine Offline (Brkr Open): 1300

Time No Gas Flow:

Notes: PSS UNAVAILABLE

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	108	110	112	106	108	110	110	112	108	104	106	106		114	112	110	112	106	108	109	110	108	109	108
4	Instrument Temperature	TI-001	deg C		20	50	18	18	18	18	18	18	16	16	18	20	22	22		24	24	23	22	21	21	20	20	19	19	19
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		19	19	19	19	19	19	18.8	18.8	18.8	18.8	18.9	18.9	45	18.5	18.8	18.8	18.4	18.4	18.5	18.5	18.5	18.5	18.5	18.5
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	101	98	105	100	99	104	109	103	102	111	112	108		101	103	112	107	101	108	107	103	108	106	104
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2		1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	62	60	62	62	62	62		62	62	62	62	62	62	62	61	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	36	36	36	36	37	38		39	37	39	38	36	36	36	36	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	70	70	70	70	70	70	71	71	71	70	70	70		70	70	70	70	70	76	70	70	70	70	70
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	N	N	N	N	N	N																		
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√	√	√
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	18	17	17	17		17	16	16	16	16	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1069	1065	1075	1066	1069	1071	1077	1059	1050	1028	1027	1006		982	999	1004	1033	1040	1058	1044	1050	1052	1053	1062
23	Mw Output		MW			27	25.2	25.2	25.2	25.2	25.3	25.3	25.4	25.1	24.8	24.4	24.2	23.6		23.1	27.6	23.7	24.5	24.6	24.7	24.8	24.7	24.9	24.9	25.6
24	80% Base Load Minimum		MW				20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.5	20.3	20.0	19.8	19.5		19.4	19.4	19.5	20.0	20.1	20.2	20.3	20.2	20.3	20.3	20.3
25	Running Hours (unit overview)						5181	5182	5183	5184	5185	5186	5187	5187	5188	5189	5190	5191		5193	5193	5195	5196	5196	5198	5199	5200	5201	5202	5203
26	Ambient Temperature	T1 inlet					37	37	37	37	37	37	36	39	42	45	47	51		54	53	52	46	44	44	43	43	42	42	41
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	77	77	77	77	77	77	80	79	79	79	79	79		79	79	80	80	80	80	80	80	80	80	80
28	Total Fuel Flow		Mscf/h																											

Date: DEC 07 2020 Signature: JGW Dayshift / Jake Gaunt

NOTE: CGTG tripped when Fire B, turned on heater to CO2 heaters

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	1323				-																								
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E		E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	½	½	½	½	½	½	½	½	½	½	½	½		½	½	½	½	½	½	½	½	½	½	½	½
Oil Day Tank Level	LI-1562	GAL	10		FULL	26	26	26	26	26	26	25	25	25	25	25	25	25	25	25	24	24	24	24	24	23	23	23	23
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F		F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E		E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E		E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B		B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	83	82	82	82	83	82	82	82	82	82	82	82		82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	251	250	250	250	251	250	248	248	248	249	250	250		251	251	252	251	250	250	250	250	250	250	251
2nd Stage Inlet Press	PI-2200	psig		267	285	247	246	246	246	247	246	244	244	245	245	246	246		247	248	248	247	247	247	247	247	247	247	247
2nd Stage Disch. Press	PI-2201	psig		575	600	565	564	564	564	565	564	564	564	564	564	564	564		564	564	564	564	564	564	564	564	564	564	565
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	559	559	560	559		560	560	560	560	560	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		58	57	57	57	58	57	57	57	57	57	57	58		58	58	58	58	58	56	58	58	58	58	58
Lube Oil Temp	TE-1584	deg		150	170	170	170	170	170	170	170	170	170	169	170	170	169		168	168	168	169	168	169	169	169	169	169	170
Final Discharge Temp	TE-2120	deg		110	150	82	76	77	78	78	76	74	76	77	82	84	87		90	89	87	87	82	81	81	80	80	80	79
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	203	202	202	202	203	202	201	201	202	204	205	207		209	207	207	205	205	205	205	204	204	204	203
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	206	203	202	202	206	203	202	203	205	208	210	214		214	215	214	210	208	208	208	207	207	207	206
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	202	201	201	202	202	201	199	200	201	203	203	205		208	206	206	205	203	203	205	203	203	203	202
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	206	204	202	201	202	204	202	202	205	208	210	213		216	215	214	211	211	210	209	207	206	206	206
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04		.05	.05	.05	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05		.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.												560																	
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8							554																	
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20							541																	

DATE DEC 07 2020

SIGNATURE

Mid Shift

Days Shift

Notes unit tripped when Joe B. turned on breaker to the Co2 cabinet

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: Dec 08 2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	—	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	~	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	50	105	120	109	110	108	110	108	108	112	112	108	110	106	112	106	106	104	110	106	110	109	109	110	108	106	110
4	Instrument Temperature	TI-001	deg C		20	50	19	18	17	17	17	17	17	17	19	21	22	23	24	24	24	23	23	22	22	21	21	20	19	18
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.5	18.5	18.5	18.5	18.5	18.5	18.6	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.6	18.6	18.6	18.5	18.5	18.5	18.5	18.5
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	108	109	104	106	107	107	99	98	98	110	106	103	106	98	103	101	105	100	106	108	103	107	110	107
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	62	62	62	64	62	62	62	62	63	62	62	62	61	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	30	35	35	36	37	37	37	39	39	39	39	36	38	36	36	36	36	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	70	70	70	70	70	70	71	71	71	70	70	70	70	70	70	70	71	71	70	70	70	70	70	70
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.5MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16	16	16	16	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	AGGGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1066	1074	1077	1078	1070	1075	1067	1052	1049	1040	1007	990	987	978	977	992	1026	1033	1032	1039	1041	1049	1057	1066
23	Mw Output		MW			27	25.0	25.4	25.5	25.5	25.2	25.3	25.2	24.9	24.8	24.5	23.8	23.4	23.3	23.1	23.1	23.4	24.2	24.4	24.4	24.5	24.5	24.1	24.9	25.2
24	80% Base Load Minimum		MW				20.3	20.7	20.8	20.8	20.6	20.6	20.5	20.3	20.2	20.0	19.6	19.3	19.2	19.2	19.1	19.3	19.7	19.9	19.9	20.0	20.0	20.1	20.3	20.5
25	Running Hours (unit overview)						5204	5205	5206	5207	5208	5209	5210	5211	5211	5213	5214	5215	5216	5216	5217	5219	5219	5220	5221	5223	5224	5225	5226	5227
26	Ambient Temperature	T1 Inlet					41	37	36	36	38	38	39	42	42	45	50	54	56	56	57	54	49	47	47	45	45	43	41	39
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	80	80	80	80	80	80	80	81	80	80	79	79	79	79	80	80	79	80	80	80	80	80	80	80
28	Total Fuel Flow		Mscf/h																											

Date: Dec 08 2020 Signature: Nightsh: RT – Bob Day Shift – Jade

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	23	23	23	23	23	23	23	22	22	22	22	22	22	22	22	22	21	21	21	21	21	21	21	21
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	D	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	251	251	250	250	250	250	249	249	250	250	251	251	252	252	252	252	252	252	252	252	252	251	251	251
2nd Stage Inlet Press	PI-2200	psig		267	285	247	247	247	246	246	246	245	245	246	246	247	248	248	248	249	248	248	248	248	248	248	248	247	247
2nd Stage Disch. Press	PI-2201	psig		575	600	565	565	565	565	565	565	564	564	564	564	564	564	564	564	564	564	564	564	564	565	565	565	566	565
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	559	559	559	559	560	560	560	559	559	559	559	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	57	57	57	57	57	57	57	58	58	58	58	59	58	58	57	57	57	57	57	57	58
Lube Oil Temp	TE-1584	deg		150	170	170	170	170	170	170	170	170	170	170	170	170	169	168	166	166	166	167	166	167	168	169	169	170	170
Final Discharge Temp	TE-2120	deg		110	150	79	78	78	77	77	77	75	77	80	81	87	90	92	93	92	90	85	85	83	82	81	79	79	79
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	205	202	202	203	203	203	201	201	203	204	206	208	208	208	208	207	206	205	205	204	204	203	203	203
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	206	204	203	202	202	202	203	205	206	208	213	216	218	218	218	216	212	210	209	208	207	206	206	206
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	202	202	202	201	201	202	200	201	203	202	205	207	207	207	206	206	205	204	204	204	204	203	202	202
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	206	205	204	204	204	204	203	205	206	207	212	216	218	219	218	216	212	212	212	211	209	206	207	206
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.05	.05	.05	.05	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.04	.05	.05	.04	.03	.03	.05	.05	.06	.06	.05	.06	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.											560										560								
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8						534										555								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20						542										543								

DATE 12-08-2020

SIGNATURE

Mid Shift Bob Hay

Days Shift Josh Amt

Notes

Utilities and Institutional Facilities

Date: Dec 09 2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

CGTG HOURLY READING LOG

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	109	110	108	108	106	110	109	110	104	112	108	104	106	112	114	113	112	110	108	110	109	108	110	109
4	Instrument Temperature	TI-001	deg C		20	50	17	17	17	17	16	16	16	16	19	22	22	22	23	24	24	23	22	23	21	21	20	19	18	17
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.5	18.5	18.5	18.5	18.5	18.5	18.8	18.8	18.8	18.8	18.9	18.8	18.9	18.8	18.8	19.6	18.8	18.8	18.6	18.5	18.5	18.5	18.5	18.5
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	108	104	107	104	106	107	112	99	98	102	103	110	109	98	110	105	101	100	104	108	104	107	109	107
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	66	60	66	60	60	62	60	62	62	62	62	62	62	60	62	62	62	61	61	61	61	61	61
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	36	36	36	38	37	39	39	39	39	37	36	36	36	36	36	36	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	76	70	70	70	72	72	71	71	71	70	70	70	70	70	70	70	71	71	71	71	71	71	71	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	18	17	17	17	17	17	16	16	16	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1070	1072	1077	1083	1079	1083	1084	1069	1037	1014	1012	998	998	987	978	993	1024	1025	1019	1031	1035	1037	1048	1056
23	Mw Output		MW			27	25.3	25.3	25.4	25.6	25.5	25.6	25.6	25.1	24.5	24.0	23.9	23.5	23.6	23.4	23.2	23.6	24.4	24.2	24.2	24.5	24.5	24.7	25.0	25.1
24	80% Base Load Minimum		MW				20.5	20.6	20.7	20.9	20.8	20.9	20.9	20.6	20.1	19.8	19.6	19.5	19.5	19.4	19.3	19.5	20.0	19.9	20.0	20.1	20.2	20.3	20.5	20.7
25	Running Hours (unit overview)						5228	5229	5230	5231	5232	5233	5233	5234	5235	5236	5237	5238	5239	5241	5242	5243	5244	5244	5245	5246	5247	5248	5249	5250
26	Ambient Temperature	T1 inlet					38	37	35	34	35	37	34	38	44	48	50	52	52	53	54	52	46	46	46	44	44	42	39	38
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	80	80	80	86	80	80	81	80	80	79	79	79	79	80	80	80	80	80	80	80	80	80	80	80
28	Total Fuel Flow		Mscf/h																											

Date: Dec 09 2020 Signature: MID Bob [illegible] dry shift / [illegible]

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	21	21	21	21	20	20	20	20	20	20	20	20	20	20	19	19	19	19	19	19	19	19	19	18
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	251	251	251	250	250	250	245	246	250	251	251	251	251	252	253	252	251	251	251	251	251	251	250	250
2nd Stage Inlet Press	PI-2200	psig		267	285	248	248	247	246	246	246	244	244	246	247	247	247	248	248	249	249	247	246	247	247	247	247	247	247
2nd Stage Disch. Press	PI-2201	psig		575	600	565	565	568	565	565	565	564	564	564	564	564	564	564	564	564	564	564	564	565	565	565	565	565	565
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	559	559	559	560	560	560	560	560	559	560	560	560	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	58	58	58	57	57	57	58	58	58	58	58	58	58	58	58	58	58	58	58	58	57
Lube Oil Temp	TE-1584	deg		150	170	170	170	170	170	170	170	170	169	169	169	169	169	168	168	167	167	165	165	164	164	170	170	170	170
Final Discharge Temp	TE-2120	deg		110	150	79	79	77	75	73	73	71	73	80	85	86	89	89	90	90	88	82	82	81	79	79	78	77	76
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	203	203	202	202	201	201	200	200	202	205	206	207	208	208	208	207	205	203	203	203	203	203	202	202
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	206	206	204	204	202	202	200	201	202	212	214	216	216	217	216	215	210	208	207	206	206	206	205	204
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	202	202	201	201	200	200	199	199	202	204	205	206	207	207	207	206	204	204	204	204	204	203	202	201
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	206	205	204	203	202	202	200	201	202	211	213	216	216	217	216	215	210	208	207	207	207	206	205	204
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.05	.05	.05	.05	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.01	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press											560										560								
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8						555										555								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20						542										542								

DATE 12-9-2020

SIGNATURE

Mid Shift

Days Shift

Notes

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: 12-10-2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	v				✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	v				✓	✓	✓	✓	✓	✓	✓	✓	B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	110	108	108	110	108	110	105	109	U	105	110	104	103	108	105	101	105	104	108	110	109	110	108	110
4	Instrument Temperature	TI-001	deg C		20	50	17	17	17	17	17	17	19	19	S	19	19	19	19	19	19	19	19	19	18	16	16	16	15	14
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18.5	18.5	18.5	18.5	18.5	18.5	18.5	16.5	C	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	104	107	108	107	103	108	100	106	O	97	105	109	109	97	103	110	111	107	110	105	104	104	97	101
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	T	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	61	61	60	60	60	60	60	60	O	61	61	61	60	60	60	60	60	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	37	35	35	35	35		36	36	36	35	35	35	35	35	35	35	35	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	71	71	71	72	72	72	72		72	72	71	71	71	71	71	71	71	71	72	72	72	71	71
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17		17	17	17	17	17	17	17	18	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21	Acknowledge Alarms Hourly		v				✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1044	1040	1034	1036	1045	1031	1031	1039		1053	1051	1065	1060	1063	1066	1069	1064	1068	1070	1074	1075	1076	1075	1078
23	Mw Output		MW			27	24.8	24.6	24.6	24.6	24.8	24.5	24.4	24.5		25.7	24.8	25.2	25.2	25.2	25.2	25.3	25.3	25.2	25.4	25.4	25.5	25.6	25.6	25.7
24	80% Base Load Minimum		MW				20.4	20.4	20.4	20.4	20.5	20.3	20.2	20.3		20.7	20.5	20.8	20.8	21.0	21.0	21.0	21.0	21.0	21.0	21.1	21.2	21.2	21.3	21.3
25	Running Hours (unit overview)						5251	5252	5253	5254	5255	5256	5258	5259		5261	5262	5263	5264	5265	5266	5267	5268	5269	5270	5271	5272	5273	5274	5275
26	Ambient Temperature	T1 inlet					40	40	40	40	39	41	42	41.4		37.2	39	35.4	35.4	34.6	33.8	33.3	33.8	33.3	33	33	32	31	31	31
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	80	80	80	80	80	80	80	80		80	80	80	80	80	80	80	80	80	80	80	80	82	82	82
28	Total Fuel Flow		Mscf/h																											

Date: 12-10-2020 Signature: Bob Story (MIPS)

25.0

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%	13	13	13	13	13	13	13	13	13		13	13	13	13	13	13	13	13	13	13	13	13	13	13
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		E	E	E	E	E	E	1/8	1/8	0		1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	E	E	E	E	E
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	1/2	1/2	1/2	1/2	S		1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	4		16	16	16	16	16	16	16	16	[illegible]	16	16	16	15	15
Oil Day Tank Level	LI-1562	GAL	10		FULL	18	18	18	18	18	18	16	16			F	F	F	F	F	F	F	F	F	F	F	F	F	F
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	L		E	E	E	E	E	E	E	E	E	E	E	E	E	E
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	1/8	G		1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	1/8	F		1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		13	D	B	13	B	13	B	B	O		B	B	B	B	B	B	B	D	B	13	13	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	82	82	T		82	82	82	82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	250	250	250	250	250	250	251	250	R		249	249	249	248	248	248	248	248	248	248	248	248	247	247
2nd Stage Inlet Press	PI-2200	psig		267	285	247	247	247	245	246	246	247	247	A		245	246	245	244	244	244	244	244	244	244	244	244	244	244
2nd Stage Disch. Press	PI-2201	psig		575	600	565	565	565	564	564	565	564	564	I		564	564	563	564	564	564	564	564	564	564	564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	559	560	560	560	560	N		559	559	559	559	559	560	559	559	560	560	560	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		57	57	57	57	58	58	57	57	I		57	57	57	57	57	57	57	57	57	57	57	57	57	57
Lube Oil Temp	TE-1584	deg		150	170	170	170	170	169	170	170	170	170	N		169	169	169	169	169	169	169	169	169	169	169	169	169	169
Final Discharge Temp	TE-2120	deg		110	150	76	76	76	74	76	76	80	80	O		76	76	75	72	72	71	71	71	71	71	71	71	70	70
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	202	202	202	201	202	202	203	202			202	202	201	200	200	200	201	200	200	200	200	200	200	200
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	204	204	204	201	204	205	206	206			203	204	204	201	200	200	200	200	199	199	199	199	199	199
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	201	201	202	201	201	202	202	203			200	201	201	199	199	199	199	199	199	199	199	199	199	199
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	204	205	204	202	204	204	204	206			203	204	204	201	200	200	200	200	199	199	199	199	199	199
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04			.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05			.05	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.										560																			
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8					555																			
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20					542																			

DATE 12-10-2020

SIGNATURE

Mid Shift Bobby

Days Shift

Notes

Utilities and Institutional Facilities

Date: 12-11-2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

CGTG HOURLY READING LOG

Notes:

		I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Instrument Air Compressor																													
1	Blowdown Dry Receiver Tank Hourly	BVT-013	√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	109	106	108	108	109	106	105	108	110	105	100	103	104	107	100	105	103	100	108		109	110	108	108
4	Instrument Temperature	TI-001	deg C		20	50	14	15	15	15	15	15	15	16	16	16	17	18	18	18	18	14	18	18	17		14	13	13	13
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18		18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	101	102	109	101	104	97	102	112	101	103	109	104	108	110	105	99	98	103	108	B	103	108	105	106
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	U	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	S	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	36	35	35	35	35	35	35	35	35	35	35	35	4	35	35	35	35
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	71	71	70	70	70	70	✓	70	70	70	70	✓	70	70	70	70	70	70	70		70	70	70	70
15	WECC Log		Operational?																							#3				
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	B	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																				0				
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	1	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		√				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
	(22–24 found on Power Management page)																										✓	✓	✓	✓
22	Generator Current		Amps			1427	1076	1075	1072	1071	1075	1070	1072	1077	1066	1061	1063	1050	1045	1052	1033	1041	1081	1050	1083		1092	1100	1110	1102
23	Mw Output		MW			27	25.7	25.6	25.4	25.4	25.5	25.4	25.6	25.4	25.7	25.3	25.1	25.0	25.2	25.0	25.2	25.2	25.5	25.4	25.6		25.8	26.0	26.3	26.2
24	80% Base Load Minimum		MW				21.3	21.2	21.1	21.1	21.2	21.1	21.3	21.1	21.1	21.0	20.8	20.8	21.1	20.9	21.0	21.0	21.2	21.3	21.3		21.1	21.6	21.8	21.8
25	Running Hours (unit overview)						5276	5277	5278	5279	5280	5281	5282	5283	5284	5285	5286	5287	5288	5289	5290	5291	5292	5293	5294		5295	5296	5297	5298
26	Ambient Temperature	T1 inlet					30	31	32	32	33	34	30.6	32.4	33.9	33.4	35.2	36.1	33.8	35.4	37.8	33.7	30.9	36.8	30.6		28.2	27.0	25.0	24.1
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	81	81	81	82		82	82	82	82
28	Total Fuel Flow		Mscf/h																											

Date: 12-11-2020 Signature: Bob Avey

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B		B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2		1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	15	15	15	15	15	15	14	14	14	14	14	14	14	14	14	14	14	14	14		13	13	13	13
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F		F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4		1/4	1/4	1/4	1/4
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B		B	B	B	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	81	82	81	82	82	82	82	82	82	82	82	82	82		82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	247	247	248	248	248	248	247	247	248	247	248	248	248	248	249	247	248	249	248		247	248	248	248
2nd Stage Inlet Press	PI-2200	psig		267	285	244	244	244	244	244	244	244	243	244	243	244	244	244	244	244	244	244	244	244		244	244	244	245
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	564	564	564	564	564	563	564	564	563	563	564	564	564		564	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	560	560	560	560	560	560	560	559	559	559	559	560	559	559	559	559	559	559	559		559	559	559	559
Lube Oil Pressure	PI-1572	psig	40	60		57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	58	57	57	57		57	57	57	57
Lube Oil Temp	TE-1584	deg		150	170	169	169	169	169	169	169	169	169	169	169	169	169	169	168	168	168	168	168	168		168	168	168	167
Final Discharge Temp	TE-2120	deg		110	150	70	71	71	71	71	71	71	70	70	70	70	73	70	72	72	70	70	70	70		70	70	70	70
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	200	200	200	200	200	200	200	200	200	200	201	201	200	200	200	198	198	198	198		198	198	198	197
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	199	200	200	200	200	200	200	199	199	198	200	201	198	200	200	197	197	197	197		197	198	198	198
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	199	199	199	199	199	199	199	198	198	198	199	200	198	199	199	197	197	197	197		197	197	197	197
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	199	199	200	200	200	200	200	199	199	199	200	201	197	199	199	197	197	198	197		198	198	198	199
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.05	.05	.04	.04	.04	.05	.05	.05	.04	.04	.04	.05	.05	.05	.04	.05	.04		.05	.05	.05	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.04	.06	.04	.03	.02	.03	.03	.04	.05	.04		.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 12-11-2020

SIGNATURE

Mid Shift

Days Shift

Notes 2000 HRS NO Reading Busy #3 Boiler Tripped

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: 12-12-2020

MST / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V				✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120	109	110	108	109	116	110	105	105	100	106	110	107	105	106	109	102	100	99	106	110	100	110	100	105
4	Instrument Temperature	TI-001	deg C		20	50	12	12	12	12	12	12	12	12	12	13	13	13	14	15	18	18	18	18	17	15	15	13	13	13
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		18	18	18	18	18	18	18	18	18	18	18	18	18	15	18	18	18	18	18	18	18	18.5	18.5	18.5
7	Coolant PLC Temperature	TI-002	deg F	100	110	120	103	108	101	104	107	100	99	101	112	102	108	110	110	102	107	100	109	104	110	111	104	109	106	111
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	63
10	Coolant Return Differential from	FI-002	In WC		37	50	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	36	36	36	36	36	36
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	AS3GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1107	1107	1104	1107	1102	1107	1106	1094	1096	1082	1052	1060	1059	1051	1060	1082	1081	1082	1089	1083	1077	1092	1080	1078
23	Mw Output		MW			27	26.2	26.3	26.3	26.2	26.1	26.2	26.2	26.0	25.9	25.8	25.0	25.1	25.1	25.2	25.1	25.6	25.7	25.7	25.7	25.7	25.7	25.8	25.6	25.6
24	80% Base Load Minimum		MW				21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.6	21.4	21.7	20.8	20.9	20.9	20.9	21.0	21.4	21.5	21.5	21.5	21.5	21.5	21.7	21.8	21.8
25	Running Hours (unit overview)						5299	5300	5301	5302	5303	5304	5306	5307	5308	5309	5310	5311	5312	5313	5314	5315	5316	5317	5317	5318	5319	5320	5321	5322
26	Ambient Temperature	T1 Inlet					24.3	24.2	24.1	24.1	23.0	24.0	24.4	26.8	27.3	3°	36.1	34.3	34.2	34.7	33.4	29.3	28.2	28.1	28.2	27.9	27.9	25.3	19.8	19.0
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	82	82	82	82	82	84	84	84	84	84	80	84	82	84	84	84	84	84	84	84	84	84	84	84
28	Total Fuel Flow		Mscf/h																											

Date: 12-12-2020 Signature: Bob Avery (M105) Mark PM

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	D	B	B	B	B	B	B	B	B	B	B	B	B	B
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL	13	13	13	13	13	13	13	13	13	13	13	12	12	11	11	10	10	10	10	10	10	10	10	10
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	1/4	1/4	1/4	1/4	1/4	E	E	E	E	E	E	E	E	E	E	E	F	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	D	B	B	D	D	B	B	B	B	B	B	B	B	B	B	B	D	B
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285	248	248	248	248	247	248	248	247	248	249	249	249	249	249	248	249	249	248	249	249	249	249	249	249
2nd Stage Inlet Press	PI-2200	psig		267	285	245	245	245	245	245	245	245	243	243	245	245	245	245	245	244	244	244	243	243	243	243	245	245	245
2nd Stage Disch. Press	PI-2201	psig		575	600	564	564	564	564	564	564	563	564	564	564	564	564	564	564	564	564	564	564	569	570	570	564	564	564
Final Discharge Pressure	PI-2108	psig		575	600	559	559	559	559	559	559	559	559	559	559	559	560	560	559	559	559	559	559	569	570	570	560	560	560
Lube Oil Pressure	PI-1572	psig	40	60		57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	59	59	59	57	57	58
Lube Oil Temp	TE-1584	deg		150	170	168	168	168	168	168	168	168	168	168	168	169	169	169	169	169	169	169	169	169	168	168	168	168	166
Final Discharge Temp	TE-2120	deg		110	150	70	70	70	70	70	70	70	70	70	73	73	71	71	74	72	72	72	72	72	72	72	70	70	70
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	198	198	198	198	198	198	198	198	198	200	200	199	200	199	199	199	199	199	198	198	198	198	198	198
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	199	199	199	199	199	199	198	197	198	202	201	200	200	202	200	199	199	200	200	200	200	198	198	198
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	197	197	197	197	197	197	198	196	197	198	198	198	201	197	197	199	199	197	198	199	199	196	196	196
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	199	199	199	199	199	199	198	198	198	201	201	198	200	202	200	201	200	200	200	200	200	198	196	196
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.05	.04	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.01	.01	.05	.05	.05	.01	.01	.01	.01	.01	.05	.01	.01	.05	.01	.01	.01	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.										560																			
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8					555																			
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20					541																			

DATE 12-12-2020

SIGNATURE

Mid Shift Bob Seay

Days Shift

Notes

124
144 10284.83

Utilities and Institutional Facilities

CGTG HOURLY READING LOG

Date: 12-13-2020

(MST) / MDT (circle one)

Time Gas Introduced (Turbine Rolling):

Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open):

Time No Gas Flow:

Notes:

		I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Instrument Air Compressor	BVT-013	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Blowdown Dry Receiver Tank Hourly	BVT-007	V				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Blowdown Wet Receiver Tank Hourly	PI-002	psig	90	105	120	110	106	110	110	100	106	105	109	100	103	105	107	101	109	103	107	100	100	106	110	104	110	110	110
4	Wet Receiver Air Pressure	TI-001	deg C		20	50	13	13	17	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15	10	11	11	11	11	10
5	Instrument Temperature		Units	Low	Norm	Max																								
6	Fin Fan Cooler	PI-250	psig		25		18.5	18.5	18.5	18.5	18.5	18.5	18.4	18	14	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7	Coolant Pressure	TI-002	deg F	100	110	120	110	104	109	101	106	104	100	100	109	105	107	109	101	104	101	104	102	109	108	109	109	102	110	107
8	Coolant PLC Temperature	LI-001	LEVEL	1/3	2/3	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Sight glass Level Expansion Tank	FI-001	In WC		60	80	63	63	63	63	63	63	61	61	61	61	61	61	61	61	61	61	61	61	63	63	63	63	63	63
10	Coolant Return Differential from GG	FI-002	In WC		37	50	36	36	36	36	36	36	36	35	36	36	36	36	32	34	36	34	36	36	36	36	36	36	36	36
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	✓	✓	✓	✓	✓	✓	✓	✓	✓
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%	17	17	17	17	17	17	17	17	17	18	16	16	16	15	18	17	17	17	17	17	17	18	18	18
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%	0	0	0	6	0	0	0	6	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21	Acknowledge Alarms Hourly		V																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427	1078	1085	1088	1096	10	1096	1101	1105	1109	1109	1092	109	1085	1084	1085	1092	1113	1120	1111	1109	1112	1113	1108	1108
23	Mw Output		MW			27	25.6	25.7	25.9	25.9	25.9	25.9	26.1	26.2	26.3	26.3	26.0	26.0	25.8	25.7	25.8	25.9	26.3	26.5	26.4	26.3	26.3	26.4	26.3	26.2
24	80% Base Load Minimum		MW				21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.7	21.8	21.5	21.5	21.3	21.2	21.2	21.2	21.6	21.8	21.8	21.8	21.8	21.8	21.8	21.8
25	Running Hours (unit overview)					5324	5324	5325	5326	5327	5327	5328	5330	5331	5332	5333	5334	5335	5336	5337	5338	5339	5340	5341	5341	5342	5343	5344	5345	5346
26	Ambient Temperature	T1 inlet					19.8	20.5	22.6	22.6	22.6	22.6	23.5	24.6	25.7	24.8	27.5	27.9	29.7	31.5	31.3	31.7	26.4	24.8	23.5	21.7	22.6	23.7	21.2	21.4
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84
28	Total Fuel Flow		Mscf/h																											

Date: 12-13-2020 Signature: [signature] - COMEZ

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	
Oil Day Tank Level	LI-1562	GAL	10		FULL	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8	7	7	7	7	7	
Lubricator Bulls eye		LEVEL	1/2	FULL		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
1st Stage Inlet Press.	PI-2100	psig		88	140	82	82	84	82	82	82	82	82	82	82	82	81	81	81	81	82	82	82	82	82	82	82	82	
Stage Disch. Press	PI-2101	psig		238	285	249	249	249	249	249	249	249	248	247	250	250	246	246	247	247	248	248	248	248	248	248	248	249	
2nd Stage Inlet Press	PI-2200	psig		267	285	245	245	245	245	244	244	244	243	243	243	243	242	242	244	244	244	244	244	244	244	244	245	245	
2nd Stage Disch. Press	PI-2201	psig		575	600	564	565	565	565	564	564	563	563	564	564	564	564	564	564	564	564	564	564	565	565	566	565	564	
Final Discharge Pressure	PI-2108	psig		575	600	560	566	566	566	566	566	566	563	560	561	562	559	559	559	559	559	559	559	560	560	560	560	560	
Lube Oil Pressure	PI-1572	psig	40	60		58	58	58	58	58	58	58	58	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	
Lube Oil Temp	TE-1584	deg		150	170	166	166	166	165	165	165	164	163	165	169	169	169	169	169	169	169	169	168	169	169	169	169	168	
Final Discharge Temp	TE-2120	deg		110	150	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	69	69	68	70	70	70	70	
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297	198	198	198	196	196	196	194	193	197	197	197	198	198	199	198	198	198	198	198	198	198	198	197	
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283	198	198	198	195	195	195	193	193	197	197	197	198	198	199	200	200	198	198	199	199	199	199	198	
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297	196	196	196	196	196	196	196	194	196	196	197	196	197	196	196	196	197	197	197	197	197	197	195	
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283	196	196	194	190	190	190	196	194	197	199	199	197	199	200	200	199	198	198	199	199	199	199	198	
Motor Frame Vibration	VT-1015	IPS			0.15	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	
Compresser Frame Vibration	VT-1512	IPS			0.35	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.04	.04	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																		560					
Natural Gas Comp.Discharge Press.																								555					
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																			541					
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	
SIGNATURE	
Mid Shift	
Days Shift	
Notes	

Utilities and Institutional Facilities

Date: 12-14-2020

CGTG HOURLY READING LOG

MST / MDT (circle one)
Time Gas Introduced (Turbine Rolling):
Time of Turbine Online (Brkr Closed):

Time Turbine Offline (Brkr Open): 0100
Time No Gas Flow: 0106

Notes:

	Instrument Air Compressor	I.D	Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Blowdown Dry Receiver Tank Hourly	BVT-013	V																											
2	Blowdown Wet Receiver Tank Hourly	BVT-007	V																											
3	Wet Receiver Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25																									
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
15	WECC Log		Operational?																											
16	Operation of PSS/on at 6.3MW		Yes (Y)			No (N)																								
17	Operation of AVR Voltage Mode @ 13.6 KV		Yes (Y)			No (N)																								
	Entronic Control System		Units	Low	Norm	Max																								
	(18–20 found on Air Diagram page)																													
18	2000 gal Oil Water Tank Level	LI-231	%			70%																								
19	10 gal gas TG Drain Tank (Air Diagram page)	LI-230	%			70%																								
20	Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD ST-01	psig	35	20																									
21	Acknowledge Alarms Hourly		V																											
	(22–24 found on Power Management page)																													
22	Generator Current		Amps			1427																								
23	Mw Output		MW			27																								
24	80% Base Load Minimum		MW																											
25	Running Hours (unit overview)																													
26	Ambient Temperature	T1 Inlet																												
	(27–28 found on Gas Fuel System page)																													
27	Waste Oil Tank	LI-120	%			70%																								
28	Total Fuel Flow		Mscf/h																											

Date: 12-14-2020 Signature: GOMEZ

ATTACHMENT A1307.E.

TA-03 Power Plant

FGR Fan Inspection and Maintenance

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 07/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00668037 01

MASTER

Date: 05/07/2020

Work Order Task Written To

Facility : F08 **Unit :** 030022 **Op Sys :**
Room : **Area :** **Sys/Cls :**
Equipment : **Component :**
Location :
Job Type : PM
Tag 1 : **Tag 2 :**
Work Item : TA03-0022 FGR **Ops Review Reqd :**

Authorization

Start Permission : Glenn Martinez **Start Date :** 6-22-2020

Complete Notice : Glenn martinez **Complete Date :** 7-8-2020

Work Order Task Instructions

DO NOT lubricate the bearings if the FGR fan is NOT in operation or in service so that proper amount of grease can be applied
using headphones
You can hear when grease reaches the bearing rolling element. At this point, stop adding grease to prevent bearing damage from overheating

There are two bearings on the fan, each with its own zerk plug
Remove the shaft guard located in the middle of the drive. The two zerk plugs are located on each of the two bearings

1. Use grease gun with the Ultralube headphones to insert the correct amount

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
Written To : TA03–0022 FAN, FLUE GAS RECIRCULING (FGR–001, FGR–002, FGR–003)
Task Dspln : **Due Date :** 07/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00668037 01

MASTER

Date: 05/07/2020

of Mobilith SHC 100 grease into zerk fitting
b. Apply grease while fan is running and stop when you hear the grease enter the running bearing

Lubricated fan bearings on FGR–001,FGR–002 & FGR–003

4. Add grease with a hand–operated pressure gun until new grease enters the running bearing
a. This is accomplished by using the ultrasonic sensor and headphones to hear when the new grease enters the running bearing
b. Stop adding grease when the grease reaches the bearing to limit excess grease from migrating down the motor shaft and into the windings
Note: Be careful when greasing the fan end bearing of the TEFC (Totally (Totally Enclosed Fan Cooled) motors. Some motors have a spring–relief outlet grease fitting on the fan end that is not accessible. This spring–relief fitting normally does not have to be removed when regreasing. When greasing, take care in the amount of pressure you apply and verify relief is working
5. Putting in too much or too little grease can cause overheating of the motors and result in motor failure. Use this rule of thumb when adding grease to a motor that has been lubricated on a regular basis: It is better to use a little grease more often than a lot of grease less often
Note: Watch out for motors that were shipped only with the bearings packed and not the fill tube or even the bearing housing
Apply new grease until you can hear it enter the running bearing
6. Now that greasing is complete, leave the relief plug off and run the motor for 10 minutes to expel any excess grease
7. Replace the drain plug and wipe the bearing housing clean
8. Dispose of dirty rags in accordance with Hazardous Waste Guidelines
9. Ensure correct operation of electric motors.

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 07/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00668037 01

MASTER

Date: 05/07/2020

QC Requirements / Comments

Work Completion Signatures

Name	Function/Dept.	Date
Insert Text Here	LOG-CS/PP MAINT.....	07-07-20
John M.Miller	Maint.Foreman/UPPS	7/7/20

Comments

(rework?)

Cost Accounting Insert Text Here

Cost Center : 7D120C **Activity :** 640CL000

Percentage : 100 **Acct No :** XU5000 **Sub Acct :** 7E2P0000

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 07/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00668037 01

MASTER

Date: 05/07/2020

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

Topic 1M FGR BEARINGS LUBRICATION	**Completed (X)**
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD 8	TA 3	Bldg. 22-24	Room N/A	Other Location . Power Plant Bldg - Inside
FOD Designated Facility Point-of-Contact	Name Pablo C de Vaca	Phone 699-8226	Pager N/A	Email pfc@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☒ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ Other Bounding Conditions:
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☒ Work must be Scheduled
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Work-Area Training Required
- ☒ Check in Daily
- ☒ Check out Daily

PIC is responsible to conduct a pre-job brief for work activities to ensure that work conditions and worker communications are adequate. A pre job briefing shall be conducted at the job site. UI-OPS will determine if onsite ESH representation is required during work activities

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

All work must be approved by the Utilities FOD or UI-OPS. POD/POTW-contact Facility POC. No Smoking around Natural Gas Systems. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Check in with Plant Operations Manager/Specialist or Operations Shift Head for final approval to proceed with tasks. Work around power plant chemical pumps and lines. Inspect for leaks before beginning any work task and pause work and report if a leak is found to operations. All personnel entering area must view the site specific training video in room 116 (Boiler Control Room), one time requirement. Observe safety signs and floor markings in all buildings and areas.No safety shoes required for visitors if escorted by Operations or UI Engineering personnel. The West end front lobby and office areas of Bldg 22 are considered a no hazard area.

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				

Ionizing Radiation Work in posted radiological areas, work with radioactive materials, or work on or near radiation producing devices. **Specify Hazard:**	☐ Yes ☒ No			

IWD No./Work Request No: _____ Revision #: _____

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:**	☒ Yes ☐ No	Required PPE: Hard hat, safety shoes, safety glasses. Hearing protection (noise > 85 dba). Avoid hot surfaces and piping. Long sleeve shirt or Ansell sleeves or coveralls. Gloves when operating valves or contacting pipe/fitting openings where there is potential for hot water/steam release. Be aware of encapsulated asbestos. Follow LANL Asbestos program/rqmts if PACM identified outside containment. Be aware of chemical containers and check labeling. Be aware of piping, associated systems for any leaks. If chemical leak is noticed contact operations manager, IH&S Rep during regular working hrs. Over100 gallons of a chemical spill leave area, and control	P101-6 PPE • P101-23 Asbestos • P101-31 Hearing Conservations/Noise Program	LANL PPE or equivalent • Hearing protection • Site specific training • Asbestos awareness

		access. Call Serf Operators 667-8982 or by Radio Lanl 2 Util 6 For mitigation cleanup process. For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation		
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:** Energized/rotating equipment, High Temperature, High Pressure Water and Steam equipment.	☒ Yes ☐ No	Stay within established walking areas. Observe safety signage alarm lights and horns. Identify explosive hazards and follow task specific IWD if working on plant equipment or components. Note: All TA3-22 independent verification requirement will be determined by the FOD or FOD designee . If questions consult with UI system engineer, Operation Mgr. Designee, or Safety rep.	P101-13 Electrical Safety P101-3 LOTO P101-34 Pressure, Vacuum, and Cryogenic System.	Site Specific Training video. Electrical Safety LOTO if applicable to task.
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☒ Yes ☐ No	Observe confined space signs or markings and follow LANL Confined Space Requirements if task requires confined space entry.	P 101-27 Conf. Space	Confined Space Training
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	Stay within established walking areas, stairways and paths. Observe safety signage. Follow LANL Fall Protection Requirements if task on roofs or work above 4 feet.	P101-20 Fall Protection	Fall Protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment.	☐ Yes ☒ No			

Specify Hazards:				
Security Requirements **Specify:**	☐ Yes ☒ No			
Other Hazards **Specify:** Look-alike Equipment in the vicinity of work site may contain un-controlled hazardous energy	☒ Yes ☐ No	Adequette barriers and controls will be established to prevent unauthorized personnel/workers from entering job site and encounter uncontrolled hazards.	IWD	Pre-job briefing emphasis. Worker confirmation of look-alike potential hazards, locations and barriers set in place to identify those potential hazards.

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** Pablo F. CdeVaca Digitally signed by Pablo F. CdeVaca DN: cn=Pablo F. CdeVaca, o=LANS, ou=UI, email=pfc@lanl.gov, c=US Date: 2017.11.01 07:28:54 -06'00'

Date Approval Expires: 09/30/2020

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 08/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00669592 01

MASTER

Date: 06/14/2020

Work Order Task Written To

Facility : F08 **Unit :** 030022 **Op Sys :**
Room : **Area :** **Sys/Cls :**
Equipment : **Component :**
Location :
Job Type : PM
Tag 1 : **Tag 2 :**
Work Item : TA03-0022 FGR **Ops Review Reqd :**

Authorization

Start Permission : Glenn martinez **Start Date :** 7-24-2020

Complete Notice : Glenn Martinez **Complete Date :** Insert Text Here

Work Order Task Instructions

DO NOT lubricate the bearings if the FGR fan is NOT in operation or in service so that proper amount of grease can be applied
using headphones
You can hear when grease reaches the bearing rolling element. At this point, stop adding grease to prevent bearing damage from overheating

There are two bearings on the fan, each with its own zerk plug
Remove the shaft guard located in the middle of the drive. The two zerk plugs are located on each of the two bearings

1. Use grease gun with the Ultralube headphones to insert the correct amount

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
Written To : TA03–0022 FAN, FLUE GAS RECIRCULING (FGR–001, FGR–002, FGR–003)
Task Dspln : **Due Date :** 08/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00669592 01

MASTER

Date: 06/14/2020

of Mobilith SHC 100 grease into zerk fitting
b. Apply grease while fan is running and stop when you hear the grease enter the running bearing

Lubricated fan bearings on FGR–001,FGR–002 & FGR–003

4. Add grease with a hand–operated pressure gun until new grease enters the running bearing
a. This is accomplished by using the ultrasonic sensor and headphones to hear when the new grease enters the running bearing
b. Stop adding grease when the grease reaches the bearing to limit excess grease from migrating down the motor shaft and into the windings
Note: Be careful when greasing the fan end bearing of the TEFC (Totally (Totally Enclosed Fan Cooled) motors. Some motors have a spring–relief outlet grease fitting on the fan end that is not accessible. This spring–relief fitting normally does not have to be removed when regreasing. When greasing, take care in the amount of pressure you apply and verify relief is working
5. Putting in too much or too little grease can cause overheating of the motors and result in motor failure. Use this rule of thumb when adding grease to a motor that has been lubricated on a regular basis: It is better to use a little grease more often than a lot of grease less often
Note: Watch out for motors that were shipped only with the bearings packed and not the fill tube or even the bearing housing
Apply new grease until you can hear it enter the running bearing
6. Now that greasing is complete, leave the relief plug off and run the motor for 10 minutes to expel any excess grease
7. Replace the drain plug and wipe the bearing housing clean
8. Dispose of dirty rags in accordance with Hazardous Waste Guidelines
9. Ensure correct operation of electric motors.

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 08/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00669592 01

MASTER

Date: 06/14/2020

QC Requirements / Comments

Work Completion Signatures

Name	Function/Dept.	Date
John M. Miller	Maint.Foreman/UPPS	8/7/20

Comments

(rework?)

Cost Accounting

Cost Center : 7D120C **Activity :** 640CL000

Percentage : 100 **Acct No :** XU5000 **Sub Acct :** 7E2P0000

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 08/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00669592 01

MASTER

Date: 06/14/2020

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

Topic 1M FGR BEARING LUBRICATION	**Completed (X)**
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD 8	TA 3	Bldg. 22-24	Room N/A	Other Location . Power Plant Bldg - Inside
FOD Designated Facility Point-of-Contact	Name Pablo C de Vaca	Phone 699-8226	Pager N/A	Email pfc@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☒ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ Other Bounding Conditions:
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☒ Work must be Scheduled
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Work-Area Training Required
- ☒ Check in Daily
- ☒ Check out Daily

PIC is responsible to conduct a pre-job brief for work activities to ensure that work conditions and worker communications are adequate. A pre job briefing shall be conducted at the job site. UI-OPS will determine if onsite ESH representation is required during work activities

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

All work must be approved by the Utilities FOD or UI-OPS. POD/POTW-contact Facility POC. No Smoking around Natural Gas Systems. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Check in with Plant Operations Manager/Specialist or Operations Shift Head for final approval to proceed with tasks. Work around power plant chemical pumps and lines. Inspect for leaks before beginning any work task and pause work and report if a leak is found to operations. All personnel entering area must view the site specific training video in room 116 (Boiler Control Room), one time requirement. Observe safety signs and floor markings in all buildings and areas.No safety shoes required for visitors if escorted by Operations or UI Engineering personnel. The West end front lobby and office areas of Bldg 22 are considered a no hazard area.

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				

Ionizing Radiation Work in posted radiological areas, work with radioactive materials, or work on or near radiation producing devices. **Specify Hazard:**	☐ Yes ☒ No			

IWD No./Work Request No: _____ Revision #: _____

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:**	☒ Yes ☐ No	Required PPE: Hard hat, safety shoes, safety glasses. Hearing protection (noise > 85 dba). Avoid hot surfaces and piping. Long sleeve shirt or Ansell sleeves or coveralls. Gloves when operating valves or contacting pipe/fitting openings where there is potential for hot water/steam release. Be aware of encapsulated asbestos. Follow LANL Asbestos program/rqmts if PACM identified outside containment. Be aware of chemical containers and check labeling. Be aware of piping, associated systems for any leaks. If chemical leak is noticed contact operations manager, IH&S Rep during regular working hrs. Over100 gallons of a chemical spill leave area, and control	P101-6 PPE • P101-23 Asbestos • P101-31 Hearing Conservations/Noise Program	LANL PPE or equivalent • Hearing protection • Site specific training • Asbestos awareness

		access. Call Serf Operators 667-8982 or by Radio Lanl 2 Util 6 For mitigation cleanup process. For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation		
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:** Energized/rotating equipment, High Temperature, High Pressure Water and Steam equipment.	☒ Yes ☐ No	Stay within established walking areas. Observe safety signage alarm lights and horns. Identify explosive hazards and follow task specific IWD if working on plant equipment or components. Note: All TA3-22 independent verification requirement will be determined by the FOD or FOD designee . If questions consult with UI system engineer, Operation Mgr. Designee, or Safety rep.	P101-13 Electrical Safety P101-3 LOTO P101-34 Pressure, Vacuum, and Cryogenic System.	Site Specific Training video. Electrical Safety LOTO if applicable to task.
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☒ Yes ☐ No	Observe confined space signs or markings and follow LANL Confined Space Requirements if task requires confined space entry.	P 101-27 Conf. Space	Confined Space Training
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	Stay within established walking areas, stairways and paths. Observe safety signage. Follow LANL Fall Protection Requirements if task on roofs or work above 4 feet.	P101-20 Fall Protection	Fall Protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment.	☐ Yes ☒ No			

Specify Hazards:				
Security Requirements **Specify:**	☐ Yes ☒ No			
Other Hazards **Specify:** Look-alike Equipment in the vicinity of work site may contain un-controlled hazardous energy	☒ Yes ☐ No	Adequette barriers and controls will be established to prevent unauthorized personnel/workers from entering job site and encounter uncontrolled hazards.	IWD	Pre-job briefing emphasis. Worker confirmation of look-alike potential hazards, locations and barriers set in place to identify those potential hazards.

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** Pablo F. CdeVaca Digitally signed by Pablo F. CdeVaca DN: cn=Pablo F. CdeVaca, o=LANS, ou=UI, email=pfc@lanl.gov, c=US Date: 2017.11.01 07:28:54 -06'00'

Date Approval Expires: 09/30/2020

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 09/30/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00671476 01

MASTER

Date: 06/24/2020

Work Order Task Written To

Facility : F08 **Unit :** 030022 **Op Sys :**
Room : **Area :** **Sys/Cls :**
Equipment : **Component :**
Location :
Job Type : PM
Tag 1 : **Tag 2 :**
Work Item : TA03-0022 FGR **Ops Review Reqd :**

Authorization

Start Permission : Glenn Martinez **Start Date :** 8-24-2020

Complete Notice : Glenn martinez **Complete Date :** Insert Text Here

Work Order Task Instructions

DO NOT lubricate the bearings if the FGR fan is NOT in operation or in service so that proper amount of grease can be applied
using headphones
You can hear when grease reaches the bearing rolling element. At this point, stop adding grease to prevent bearing damage from overheating

There are two bearings on the fan, each with its own zerk plug
Remove the shaft guard located in the middle of the drive. The two zerk plugs are located on each of the two bearings

1. Use grease gun with the Ultralube headphones to insert the correct amount

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
Written To : TA03–0022 FAN, FLUE GAS RECIRCULING (FGR–001, FGR–002, FGR–003)
Task Dspln : **Due Date :** 09/30/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00671476 01

MASTER

Date: 06/24/2020

of Mobilith SHC 100 grease into zerk fitting
b. Apply grease while fan is running and stop when you hear the grease enter the running bearing

Lubricated fan bearings on FGR–001,FGR–002 & FGR–003

4. Add grease with a hand–operated pressure gun until new grease enters the running bearing
a. This is accomplished by using the ultrasonic sensor and headphones to hear when the new grease enters the running bearing
b. Stop adding grease when the grease reaches the bearing to limit excess grease from migrating down the motor shaft and into the windings
Note: Be careful when greasing the fan end bearing of the TEFC (Totally (Totally Enclosed Fan Cooled) motors. Some motors have a spring–relief outlet grease fitting on the fan end that is not accessible. This spring–relief fitting normally does not have to be removed when regreasing. When greasing, take care in the amount of pressure you apply and verify relief is working
5. Putting in too much or too little grease can cause overheating of the motors and result in motor failure. Use this rule of thumb when adding grease to a motor that has been lubricated on a regular basis: It is better to use a little grease more often than a lot of grease less often
Note: Watch out for motors that were shipped only with the bearings packed and not the fill tube or even the bearing housing
Apply new grease until you can hear it enter the running bearing
6. Now that greasing is complete, leave the relief plug off and run the motor for 10 minutes to expel any excess grease
7. Replace the drain plug and wipe the bearing housing clean
8. Dispose of dirty rags in accordance with Hazardous Waste Guidelines
9. Ensure correct operation of electric motors.

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 09/30/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00671476 01

MASTER

Date: 06/24/2020

QC Requirements / Comments

Work Completion Signatures

Name	Function/Dept.	Date
John M. Miller	Maint.Foreman/UPPS	9/8/20

Comments

(rework?)

Cost Accounting

Cost Center : 7D120C **Activity :** 640CL000

Percentage : 100 **Acct No :** XU5000 **Sub Acct :** 7E2P0000

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 09/30/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00671476 01

MASTER

Date: 06/24/2020

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

Topic FGR FAN SHAFT BEARINGS LUBRICATION	**Completed (X)**
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD 8	TA 3	Bldg. 22-24	Room N/A	Other Location . Power Plant Bldg - Inside
FOD Designated Facility Point-of-Contact	Name Pablo C de Vaca	Phone 699-8226	Pager N/A	Email pfc@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☒ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ Other Bounding Conditions:
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☒ Work must be Scheduled
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Work-Area Training Required
- ☒ Check in Daily
- ☒ Check out Daily

PIC is responsible to conduct a pre-job brief for work activities to ensure that work conditions and worker communications are adequate. A pre job briefing shall be conducted at the job site. UI-OPS will determine if onsite ESH representation is required during work activities

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

All work must be approved by the Utilities FOD or UI-OPS. POD/POTW-contact Facility POC. No Smoking around Natural Gas Systems. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Check in with Plant Operations Manager/Specialist or Operations Shift Head for final approval to proceed with tasks. Work around power plant chemical pumps and lines. Inspect for leaks before beginning any work task and pause work and report if a leak is found to operations. All personnel entering area must view the site specific training video in room 116 (Boiler Control Room), one time requirement. Observe safety signs and floor markings in all buildings and areas.No safety shoes required for visitors if escorted by Operations or UI Engineering personnel. The West end front lobby and office areas of Bldg 22 are considered a no hazard area.

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				

Ionizing Radiation Work in posted radiological areas, work with radioactive materials, or work on or near radiation producing devices. **Specify Hazard:**	☐ Yes ☒ No			

IWD No./Work Request No: _____ Revision #: _____

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:**	☒ Yes ☐ No	Required PPE: Hard hat, safety shoes, safety glasses. Hearing protection (noise > 85 dba). Avoid hot surfaces and piping. Long sleeve shirt or Ansell sleeves or coveralls. Gloves when operating valves or contacting pipe/fitting openings where there is potential for hot water/steam release. Be aware of encapsulated asbestos. Follow LANL Asbestos program/rqmts if PACM identified outside containment. Be aware of chemical containers and check labeling. Be aware of piping, associated systems for any leaks. If chemical leak is noticed contact operations manager, IH&S Rep during regular working hrs. Over100 gallons of a chemical spill leave area, and control	P101-6 PPE • P101-23 Asbestos • P101-31 Hearing Conservations/Noise Program	LANL PPE or equivalent • Hearing protection • Site specific training • Asbestos awareness

		access. Call Serf Operators 667-8982 or by Radio Lanl 2 Util 6 For mitigation cleanup process. For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation		
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:** Energized/rotating equipment, High Temperature, High Pressure Water and Steam equipment.	☒ Yes ☐ No	Stay within established walking areas. Observe safety signage alarm lights and horns. Identify explosive hazards and follow task specific IWD if working on plant equipment or components. Note: All TA3-22 independent verification requirement will be determined by the FOD or FOD designee . If questions consult with UI system engineer, Operation Mgr. Designee, or Safety rep.	P101-13 Electrical Safety P101-3 LOTO P101-34 Pressure, Vacuum, and Cryogenic System.	Site Specific Training video. Electrical Safety LOTO if applicable to task.
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☒ Yes ☐ No	Observe confined space signs or markings and follow LANL Confined Space Requirements if task requires confined space entry.	P 101-27 Conf. Space	Confined Space Training
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	Stay within established walking areas, stairways and paths. Observe safety signage. Follow LANL Fall Protection Requirements if task on roofs or work above 4 feet.	P101-20 Fall Protection	Fall Protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment.	☐ Yes ☒ No			

Specify Hazards:				
Security Requirements **Specify:**	☐ Yes ☒ No			
Other Hazards **Specify:** Look-alike Equipment in the vicinity of work site may contain un-controlled hazardous energy	☒ Yes ☐ No	Adequette barriers and controls will be established to prevent unauthorized personnel/workers from entering job site and encounter uncontrolled hazards.	IWD	Pre-job briefing emphasis. Worker confirmation of look-alike potential hazards, locations and barriers set in place to identify those potential hazards.

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** Pablo F. CdeVaca Digitally signed by Pablo F. CdeVaca DN: cn=Pablo F. CdeVaca, o=LANS, ou=UI, email=pfc@lanl.gov, c=US Date: 2017.11.01 07:28:54 -06'00'

Date Approval Expires: 09/30/2020

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 10/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00674031 01

MASTER

Date: 07/21/2020

Work Order Task Written To

Facility : F08 **Unit :** 030022 **Op Sys :**
Room : **Area :** **Sys/Cls :**
Equipment : **Component :**
Location :
Job Type : PM
Tag 1 : **Tag 2 :**
Work Item : TA03-0022 FGR **Ops Review Reqd :**

Authorization

Start Permission : Glenn Martinez **Start Date :** 9-24-2020

Complete Notice : Glenn Martinez **Complete Date :** 10-8-2020

Work Order Task Instructions

DO NOT lubricate the bearings if the FGR fan is NOT in operation or in service so that proper amount of grease can be applied
using headphones
You can hear when grease reaches the bearing rolling element. At this point, stop adding grease to prevent bearing damage from overheating

There are two bearings on the fan, each with its own zerk plug
Remove the shaft guard located in the middle of the drive. The two zerk plugs are located on each of the two bearings

1. Use grease gun with the Ultralube headphones to insert the correct amount

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
Written To : TA03–0022 FAN, FLUE GAS RECIRCULING (FGR–001, FGR–002, FGR–003)
Task Dspln : **Due Date :** 10/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00674031 01

MASTER

Date: 07/21/2020

of Mobilith SHC 100 grease into zerk fitting
b. Apply grease while fan is running and stop when you hear the grease enter the running bearing

Lubricated fan bearings on FGR–001,FGR–002 & FGR–003

4. Add grease with a hand–operated pressure gun until new grease enters the running bearing
a. This is accomplished by using the ultrasonic sensor and headphones to hear when the new grease enters the running bearing
b. Stop adding grease when the grease reaches the bearing to limit excess grease from migrating down the motor shaft and into the windings
Note: Be careful when greasing the fan end bearing of the TEFC (Totally (Totally Enclosed Fan Cooled) motors. Some motors have a spring–relief outlet grease fitting on the fan end that is not accessible. This spring–relief fitting normally does not have to be removed when regreasing. When greasing, take care in the amount of pressure you apply and verify relief is working
5. Putting in too much or too little grease can cause overheating of the motors and result in motor failure. Use this rule of thumb when adding grease to a motor that has been lubricated on a regular basis:
It is better to use a little grease more often than a lot of grease less often
Note: Watch out for motors that were shipped only with the bearings packed and not the fill tube or even the bearing housing
Apply new grease until you can hear it enter the running bearing
6. Now that greasing is complete, leave the relief plug off and run the motor for 10 minutes to expel any excess grease
7. Replace the drain plug and wipe the bearing housing clean
8. Dispose of dirty rags in accordance with Hazardous Waste Guidelines
9. Ensure correct operation of electric motors.

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 10/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00674031 01

MASTER

Date: 07/21/2020

QC Requirements / Comments

Work Completion Signatures

Name	Function/Dept.	Date
Jerry Lujan	Insert Text Here	Insert Text Here

Comments

(rework?)

Cost Accounting

Cost Center : 7D120C **Activity :** 640CL000

Percentage : 100 **Acct No :** XU5000 **Sub Acct :** 7E2P0000

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 10/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00674031 01

MASTER

Date: 07/21/2020

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

Insert Text Here

Topic 1MO FGR Fan Lube 10-05-20	**Completed (X)**
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

The Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the specific activity location.

FOD 8	TA 03	Bldg. 22-24	Room N/A	Other Location Power Plant Bldg - Inside
FOD Designated Facility Point-of-Contact	Name Nicholas Nelson	Phone 505-655-5508	Pager N/A	Email nelson_n@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☒ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☒ Work must be Scheduled
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Work-Area Training Required
- ☒ Check in Daily
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☒ Check out Daily
- ☒ Other Bounding Conditions: PIC is responsible to conduct a pre-job brief for work activities to ensure that work conditions and worker communications are adequate. A pre job briefing shall be conducted at the job site. UI-OPS will determine if onsite ESH representation is required during work activities.

Additional Comments

All work must be approved by the Utilities FOD or OM or OS. POD/POTW – 1:30pm Mon. thru Friday. Evaluate outside ground conditions during cold or wet weather events, wear appropriate foot wear (spiky-plus) in snow and ice conditions. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Check in with Plant Operations Manager/Specialist or Operations Shift Head for final approval to proceed with tasks. All personnel entering any area must view the site specific training video in room 116 (Boiler Control Room), one time requirement. Observe safety signs and floor markings in all buildings and areas. The West end front lobby and office areas of Bldg 22 are considered a no hazard area.

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Avoid using the same Part 2, Form 2101 for multiple facilities. Ensure that work area hazards, specific to the facility or work location are identified and controlled. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the work area hazards, and also special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				
Ionizing Radiation Work in posted radiological areas, work with radioactive materials,	☐ Yes ☒ No			

or work on or near radiation producing devices. **Specify Hazard:**				

IWD No./Work Request No: _____ Revision #: _____

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:** Hot Piping, Potential Hot Water/Steam from pipe/fitting openings, Boiler Water Treatment Chemicals, Asbestos.	☒ Yes ☐ No	Required PPE: Hard hat, safety shoes, safety glasses. Hearing protection (noise > 85 dba). Avoid hot surfaces and piping. Long sleeve shirt or Ansell sleeves or coveralls. Gloves when operating valves or contacting pipe/fitting openings where there is potential for hot water/steam release. Be aware of encapsulated asbestos. Follow LANL Asbestos program/rqmts if PACM identified outside containment. Be aware of chemical containers and check labeling. Be aware of piping, associated systems for any leaks. If chemical leak is noticed contact operations manager, IH&S Rep during regular working hrs. Over100 gallons of a chemical spill leave area, and control access. Call Serf Operators 667-8982 or by Radio Lanl for mitigation cleanup process. For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation	• P101-6 PPE •P101-23 Asbestos • P101-31Hearing Conservations/Noise Program	•LANL PPE or equivalent • Hearing protection • Site specific training • Asbestos awareness • Hazcom

Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:** Energized/rotating equipment, hot pressurized water/steam lines .	☒ Yes ☐ No	Stay within established walking areas. Observe safety signage alarm lights and horns. Identify explosive hazards and follow task specific IWD if working on plant equipment or components. Note: All TA3-22 LOTOs require independent verification and written specific procedure. If questions consult with UI system engineer, Operation Mgr. Designee, or Safety rep. .	P101-13 Electrical Safety P101-3 LOTO P101-34 Pressure, Vacuum, Cryogenic System	Site Specific Training video. Electrical Safety LOTO if applicable to task.
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☒ Yes ☐ No	Observe confined space signs or markings and follow LANL Confined Space Requirements if task requires confined space entry.	P101-27 Confined Space	Confined Space Traning
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	Stay within established walking areas, stairways and paths. Observe safety signage. Follow LANL Fall Protection Requirements if task on roofs or work above 4 feet.	P101-20.0	Fall Protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☐ Yes ☒ No			
Security Requirements **Specify:**	☐ Yes ☒ No			
Other Hazards **Specify:**	☒ Yes ☐ No	Call pest control for clean-up if excessive rat droppings, dead rodents, wasp nest, etc in area of task activity.		

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** NICHOLAS NELSON (Affiliate) Digitally signed by NICHOLAS NELSON (Affiliate) Date: 2020.07.29 11:27:49 -06'00'

Date Approval Expires: 9-30-2021

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 11/30/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00676053 01

MASTER

Date: 08/17/2020

Work Order Task Written To

Facility : F08 **Unit :** 030022 **Op Sys :**
Room : **Area :** **Sys/Cls :**
Equipment : **Component :**
Location :
Job Type : PM
Tag 1 : **Tag 2 :**
Work Item : TA03-0022 FGR **Ops Review Reqd :**

Authorization

Start Permission : Glenn Martinez **Start Date :** 10-29-2020 re

Complete Notice : Glenn martinez **Complete Date :** 11-12-2020

Work Order Task Instructions

DO NOT lubricate the bearings if the FGR fan is NOT in operation or in service so that proper amount of grease can be applied
using headphones
You can hear when grease reaches the bearing rolling element. At this point, stop adding grease to prevent bearing damage from overheating

There are two bearings on the fan, each with its own zerk plug
Remove the shaft guard located in the middle of the drive. The two zerk plugs are located on each of the two bearings

1. Use grease gun with the Ultralube headphones to insert the correct amount

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
Written To : TA03–0022 FAN, FLUE GAS RECIRCULING (FGR–001, FGR–002, FGR–003)
Task Dspln : **Due Date :** 11/30/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00676053 01

MASTER

Date: 08/17/2020

of Mobilith SHC 100 grease into zerk fitting
b. Apply grease while fan is running and stop when you hear the grease enter the running bearing

Lubricated fan bearings on FGR–001,FGR–002 & FGR–003

4. Add grease with a hand–operated pressure gun until new grease enters the running bearing
a. This is accomplished by using the ultrasonic sensor and headphones to hear when the new grease enters the running bearing
b. Stop adding grease when the grease reaches the bearing to limit excess grease from migrating down the motor shaft and into the windings
Note: Be careful when greasing the fan end bearing of the TEFC (Totally (Totally Enclosed Fan Cooled) motors. Some motors have a spring–relief outlet grease fitting on the fan end that is not accessible. This spring–relief fitting normally does not have to be removed when regreasing. When greasing, take care in the amount of pressure you apply and verify relief is working
5. Putting in too much or too little grease can cause overheating of the motors and result in motor failure. Use this rule of thumb when adding grease to a motor that has been lubricated on a regular basis: It is better to use a little grease more often than a lot of grease less often
Note: Watch out for motors that were shipped only with the bearings packed and not the fill tube or even the bearing housing
Apply new grease until you can hear it enter the running bearing
6. Now that greasing is complete, leave the relief plug off and run the motor for 10 minutes to expel any excess grease
7. Replace the drain plug and wipe the bearing housing clean
8. Dispose of dirty rags in accordance with Hazardous Waste Guidelines
9. Ensure correct operation of electric motors.

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 11/30/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00676053 01

MASTER

Date: 08/17/2020

QC Requirements / Comments

Work Completion Signatures

Name	Function/Dept.	Date
Chris Salazar	LOG-CS/PP MAINT....	Insert Text Here

Comments

(rework?)

Cost Accounting

Cost Center : 7D120C **Activity :** 640CL000

Percentage : 100 **Acct No :** XU5000 **Sub Acct :** 7E2P0000

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 11/30/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00676053 01

MASTER

Date: 08/17/2020

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

11-09-20 CS 202847

Topic 1mo FGR Fan Lube	**Completed (X)**
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

The Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the specific activity location.

FOD 8	TA 03	Bldg. 22-24	Room N/A	Other Location Power Plant Bldg - Inside
FOD Designated Facility Point-of-Contact	Name Nicholas Nelson	Phone 505-655-5508	Pager N/A	Email nelson_n@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☒ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☒ Work must be Scheduled
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Work-Area Training Required
- ☒ Check in Daily
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☒ Check out Daily
- ☒ Other Bounding Conditions: PIC is responsible to conduct a pre-job brief for work activities to ensure that work conditions and worker communications are adequate. A pre job briefing shall be conducted at the job site. UI-OPS will determine if onsite ESH representation is required during work activities.

Additional Comments

All work must be approved by the Utilities FOD or OM or OS. POD/POTW – 1:30pm Mon. thru Friday. Evaluate outside ground conditions during cold or wet weather events, wear appropriate foot wear (spiky-plus) in snow and ice conditions. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Check in with Plant Operations Manager/Specialist or Operations Shift Head for final approval to proceed with tasks. All personnel entering any area must view the site specific training video in room 116 (Boiler Control Room), one time requirement. Observe safety signs and floor markings in all buildings and areas. The West end front lobby and office areas of Bldg 22 are considered a no hazard area.

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Avoid using the same Part 2, Form 2101 for multiple facilities. Ensure that work area hazards, specific to the facility or work location are identified and controlled. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the work area hazards, and also special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				
Ionizing Radiation Work in posted radiological areas, work with radioactive materials,	☐ Yes ☒ No			

or work on or near radiation producing devices. **Specify Hazard:**				

IWD No./Work Request No: _____ Revision #: _____

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:** Hot Piping, Potential Hot Water/Steam from pipe/fitting openings, Boiler Water Treatment Chemicals, Asbestos.	☒ Yes ☐ No	Required PPE: Hard hat, safety shoes, safety glasses. Hearing protection (noise > 85 dba). Avoid hot surfaces and piping. Long sleeve shirt or Ansell sleeves or coveralls. Gloves when operating valves or contacting pipe/fitting openings where there is potential for hot water/steam release. Be aware of encapsulated asbestos. Follow LANL Asbestos program/rqmts if PACM identified outside containment. Be aware of chemical containers and check labeling. Be aware of piping, associated systems for any leaks. If chemical leak is noticed contact operations manager, IH&S Rep during regular working hrs. Over100 gallons of a chemical spill leave area, and control access. Call Serf Operators 667-8982 or by Radio Lanl for mitigation cleanup process. For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation	• P101-6 PPE •P101-23 Asbestos • P101-31Hearing Conservations/Noise Program	•LANL PPE or equivalent • Hearing protection • Site specific training • Asbestos awareness • Hazcom

Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:** Energized/rotating equipment, hot pressurized water/steam lines .	☒ Yes ☐ No	Stay within established walking areas. Observe safety signage alarm lights and horns. Identify explosive hazards and follow task specific IWD if working on plant equipment or components. Note: All TA3-22 LOTOs require independent verification and written specific procedure. If questions consult with UI system engineer, Operation Mgr. Designee, or Safety rep. .	P101-13 Electrical Safety P101-3 LOTO P101-34 Pressure, Vacuum, Cryogenic System	Site Specific Training video. Electrical Safety LOTO if applicable to task.
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☒ Yes ☐ No	Observe confined space signs or markings and follow LANL Confined Space Requirements if task requires confined space entry.	P101-27 Confined Space	Confined Space Traning
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	Stay within established walking areas, stairways and paths. Observe safety signage. Follow LANL Fall Protection Requirements if task on roofs or work above 4 feet.	P101-20.0	Fall Protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☐ Yes ☒ No			
Security Requirements **Specify:**	☐ Yes ☒ No			
Other Hazards **Specify:**	☒ Yes ☐ No	Call pest control for clean-up if excessive rat droppings, dead rodents, wasp nest, etc in area of task activity.		

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** NICHOLAS NELSON (Affiliate) Digitally signed by NICHOLAS NELSON (Affiliate) Date: 2020.07.29 11:27:49 -06'00'

Date Approval Expires: 9-30-2021

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 12/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00678684 01

MASTER

Date: 09/28/2020

Work Order Task Written To

Facility : F08 **Unit :** 030022 **Op Sys :**
Room : **Area :** **Sys/Cls :**
Equipment : **Component :**
Location :
Job Type : PM
Tag 1 : **Tag 2 :**
Work Item : TA03-0022 FGR **Ops Review Reqd :**

Authorization

Start Permission : Glenn Martinez **Start Date :** 11-24-2020

Complete Notice : Glenn Martinez **Complete Date :** 12-4-2020

Work Order Task Instructions

DO NOT lubricate the bearings if the FGR fan is NOT in operation or in service so that proper amount of grease can be applied
using headphones
You can hear when grease reaches the bearing rolling element. At this point, stop adding grease to prevent bearing damage from overheating

There are two bearings on the fan, each with its own zerk plug
Remove the shaft guard located in the middle of the drive. The two zerk plugs are located on each of the two bearings

1. Use grease gun with the Ultralube headphones to insert the correct amount

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3–22 FGR BEARINGS, LUBRICATE
Written To : TA03–0022 FAN, FLUE GAS RECIRCULING (FGR–001, FGR–002, FGR–003)
Task Dspln : **Due Date :** 12/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00678684 01

MASTER

Date: 09/28/2020

of Mobilith SHC 100 grease into zerk fitting
b. Apply grease while fan is running and stop when you hear the grease enter the running bearing

Lubricated fan bearings on FGR–001,FGR–002 & FGR–003

4. Add grease with a hand–operated pressure gun until new grease enters the running bearing
a. This is accomplished by using the ultrasonic sensor and headphones to hear when the new grease enters the running bearing
b. Stop adding grease when the grease reaches the bearing to limit excess grease from migrating down the motor shaft and into the windings
Note: Be careful when greasing the fan end bearing of the TEFC (Totally (Totally Enclosed Fan Cooled) motors. Some motors have a spring–relief outlet grease fitting on the fan end that is not accessible. This spring–relief fitting normally does not have to be removed when regreasing. When greasing, take care in the amount of pressure you apply and verify relief is working
5. Putting in too much or too little grease can cause overheating of the motors and result in motor failure. Use this rule of thumb when adding grease to a motor that has been lubricated on a regular basis: It is better to use a little grease more often than a lot of grease less often
Note: Watch out for motors that were shipped only with the bearings packed and not the fill tube or even the bearing housing
Apply new grease until you can hear it enter the running bearing
6. Now that greasing is complete, leave the relief plug off and run the motor for 10 minutes to expel any excess grease
7. Replace the drain plug and wipe the bearing housing clean
8. Dispose of dirty rags in accordance with Hazardous Waste Guidelines
9. Ensure correct operation of electric motors.

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 12/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00678684 01

MASTER

Date: 09/28/2020

QC Requirements / Comments

Work Completion Signatures

Name	Function/Dept.	Date
Insert Text Here	LOG-CS/PP MAINT.....	12-03-2020

Comments

(rework?)

Cost Accounting

Cost Center : 7D120C **Activity :** 640CL000

Percentage : 100 **Acct No :** XU5000 **Sub Acct :** 7E2P0000

Facility : F08 **Unit :** 030022 **Proj :**
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group :** UTIL **Task Priority :** 4
Planner : 185614 HARRIS JEANETTE S
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date :** 12/31/2020
Superintendant :

Hazard : LOW **IWD Reqmt :** N/A LOW HZRD

Work Order Task

00678684 01

MASTER

Date: 09/28/2020

Worker engagement questions are intended to focus attention on the task and ensure uncertainties are addressed. Examples of worker engagement questions are provided below. Worker engagement questions should be tailored to the situation.

Each of the questions listed below will be discussed at each Pre-Job Brief with all affected personnel.

C.Salazar 202847 12-03-20

Topic 1mo FGR Fan Lube 12-03-2020	**Completed (X)**
What permits, permissions, or support are required to safely start this work?	X
What is the most likely thing that could go wrong (not the worst thing) and what, specifically, will prevent it?	X
What can cause us to go beyond the scope of the work?	X
What hazards in the work area may not have been considered during planning of this job	X

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

The Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the specific activity location.

FOD 8	TA 03	Bldg. 22-24	Room N/A	Other Location Power Plant Bldg - Inside
FOD Designated Facility Point-of-Contact	Name Nicholas Nelson	Phone 505-655-5508	Pager N/A	Email nelson_n@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☒ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☒ Work must be Scheduled
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Work-Area Training Required
- ☒ Check in Daily
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☒ Check out Daily
- ☒ Other Bounding Conditions: PIC is responsible to conduct a pre-job brief for work activities to ensure that work conditions and worker communications are adequate. A pre job briefing shall be conducted at the job site. UI-OPS will determine if onsite ESH representation is required during work activities.

Additional Comments

All work must be approved by the Utilities FOD or OM or OS. POD/POTW – 1:30pm Mon. thru Friday. Evaluate outside ground conditions during cold or wet weather events, wear appropriate foot wear (spiky-plus) in snow and ice conditions. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Check in with Plant Operations Manager/Specialist or Operations Shift Head for final approval to proceed with tasks. All personnel entering any area must view the site specific training video in room 116 (Boiler Control Room), one time requirement. Observe safety signs and floor markings in all buildings and areas. The West end front lobby and office areas of Bldg 22 are considered a no hazard area.

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Avoid using the same Part 2, Form 2101 for multiple facilities. Ensure that work area hazards, specific to the facility or work location are identified and controlled. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the work area hazards, and also special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				
Ionizing Radiation Work in posted radiological areas, work with radioactive materials,	☐ Yes ☒ No			

or work on or near radiation producing devices. **Specify Hazard:**				

IWD No./Work Request No: _____ Revision #: _____

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:** Hot Piping, Potential Hot Water/Steam from pipe/fitting openings, Boiler Water Treatment Chemicals, Asbestos.	☒ Yes ☐ No	Required PPE: Hard hat, safety shoes, safety glasses. Hearing protection (noise > 85 dba). Avoid hot surfaces and piping. Long sleeve shirt or Ansell sleeves or coveralls. Gloves when operating valves or contacting pipe/fitting openings where there is potential for hot water/steam release. Be aware of encapsulated asbestos. Follow LANL Asbestos program/rqmts if PACM identified outside containment. Be aware of chemical containers and check labeling. Be aware of piping, associated systems for any leaks. If chemical leak is noticed contact operations manager, IH&S Rep during regular working hrs. Over100 gallons of a chemical spill leave area, and control access. Call Serf Operators 667-8982 or by Radio Lanl for mitigation cleanup process. For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation	• P101-6 PPE •P101-23 Asbestos • P101-31Hearing Conservations/Noise Program	•LANL PPE or equivalent • Hearing protection • Site specific training • Asbestos awareness • Hazcom

Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:** Energized/rotating equipment, hot pressurized water/steam lines .	☒ Yes ☐ No	Stay within established walking areas. Observe safety signage alarm lights and horns. Identify explosive hazards and follow task specific IWD if working on plant equipment or components. Note: All TA3-22 LOTOs require independent verification and written specific procedure. If questions consult with UI system engineer, Operation Mgr. Designee, or Safety rep. .	P101-13 Electrical Safety P101-3 LOTO P101-34 Pressure, Vacuum, Cryogenic System	Site Specific Training video. Electrical Safety LOTO if applicable to task.
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☒ Yes ☐ No	Observe confined space signs or markings and follow LANL Confined Space Requirements if task requires confined space entry.	P101-27 Confined Space	Confined Space Traning
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	Stay within established walking areas, stairways and paths. Observe safety signage. Follow LANL Fall Protection Requirements if task on roofs or work above 4 feet.	P101-20.0	Fall Protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☐ Yes ☒ No			
Security Requirements **Specify:**	☐ Yes ☒ No			
Other Hazards **Specify:**	☒ Yes ☐ No	Call pest control for clean-up if excessive rat droppings, dead rodents, wasp nest, etc in area of task activity.		

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** NICHOLAS NELSON (Affiliate) Digitally signed by NICHOLAS NELSON (Affiliate) Date: 2020.07.29 11:27:49 -06'00'

Date Approval Expires: 9-30-2021

ATTACHMENT A1307.H.

TA-03 Power Plant

Combustion Turbine Emission Stack Test Report

The most recent annual emission stack test for the TA-3 Combustion Turbine was conducted on January 10, 2019. An emission stack test is not required during this reporting period because the combustion turbine operated less than 25% of the monitoring period.

ATTACHMENT A1407.A.

Open Burning

There was no open burning conducted during this reporting period.

ATTACHMENT A1507.A.a

Evaporative Sprayers

The monitoring requirement for analysis of the evaporative sprayer basin water is required to be completed every two years beginning in 2018. The basin was tested in June of 2018 and was tested again in November/December of 2020.

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

November 17, 2020

Mr. Stanislaw Marczak
Los Alamos National Laboratory
TA-00, SM1237, Rm104C
Los Alamos, New Mexico 87545

Re: LANL- Discharge Permits
Work Order: 527512
SDG: 2021-128

Dear Mr. Marczak:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on November 14, 2020, and analyzed for General Chemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4485.

Sincerely,

Nina Gampe for
Valerie Davis
Project Manager

Chain of Custody: 2021-128
Enclosures



ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 527512
SDG # : 2021-128

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Case Narrative

Case Narrative for
ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 527512
SDG # : 2021-128

November 17, 2020

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on November 14, 2020 for analysis. The samples were delivered with proper chain of custody documentation and signatures. The samples were screened according to GEL Standard Operating Procedure. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. Shipping container temperatures were checked, documented, and within specifications. Shipping container temperature was within specification (0 - 6C). There are no additional comments concerning sample receipt.

Sample Identification The laboratory received the following samples:

Laboratory ID	Client ID
527512001	SMEB01-20-205957
527512002	SMEB01-20-205958
527512003	SMEB01-20-209963
527512004	SMEB02-20-205959
527512005	SMEB02-20-205960

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: General Chemistry.

I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.



Nina Gampe for
Valerie Davis
Project Manager

GEL Laboratories LLC PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178 www.gel.com

List of current GEL Certifications as of 17 November 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122021−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−33
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Chain of Custody and Supporting Documentation

SDG: 2021-128

General Engineering
Charleston SC

527512

Chain of Custody/Analysis Request

COC/Lab Request #: 2021-128

Page 1 of 1

Client Contact:

Lab Agreement

Project Number: LANL

Site Name: Los Alamos National Laboratory

Analysis Turnaround

24 Hour - ☐ Other - ☐

7 Days - ☒

14 Days - ☐

21 Days - ☐

28 Days - ☐

Rad Screening Info: Acceptable knowledge identifies no DOT hazard classification

Lab Reporting Limit Method Detection Limit

Field Sample ID	Sample Date	Sample Time	Sample Matrix	DP-NO3NO2	DP-TDS+Cl	DP-TKN
SMEB01-20-205957	11/10/2020	15:15	W			1
SMEB01-20-205958	11/10/2020	15:15	W	1	1	
SMEB01-20-209963	11/10/2020	15:15	W	1	1	
SMEB02-20-205959	11/10/2020	13:25	W			1
SMEB02-20-205960	11/10/2020	13:25	W	1	1	

Special Instructions:

Relinquished by:	Print Name: Nicholas Martz	Date/Time: 11/13/20 3:00	Received by: A. Alvarez	Print Name: A. Alvarez	Date/Time: 11/13/20 9:20
Relinquished by:	Print Name:	Date/Time:	Received by:	Print Name:	Date/Time:
Relinquished by:	Print Name:	Date/Time:	Received by:	Print Name:	Date/Time:

GEL Laboratories LLC

VD **SAMPLE RECEIPT & REVIEW FORM**

Client: ESHL	**SDG/AR/COC/Work Order:** 527512
Received By: AJA	**Date Received:** 11/14/20
Carrier and Tracking Number	Circle Applicable: (FedEx Express) FedEx Ground UPS Field Services Courier Other See FedEx Tags

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: (Wet Ice) (Ice Packs) Dry ice None Other: *all temperatures are recorded in Celsius TEMP: on tags
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR4-16 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?	✓			If Yes, are Encores or Soil Kits present for solids? Yes___ No✓ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes✓ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes✓ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?			✓	
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials NRG Date 11/17/20 Page 1 of 1

GL-CHL-SR-001 Rev 7

ORIGIN ID:SAFA (505) 665-8622
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US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 52.00 LB MAN
CAD: 0745193/CAFE3407

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GENERAL ENGINEERING L
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
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LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 56.00 LB MAN
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Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

P Organics-The concentrations between the primary and confirmation columns/detectors is >40% difference. For HPLC, the difference is >70%.

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
ARS International, LLC
SDG #: 2021-128
Work Order #: 527512

Product: **Ion Chromatography**
Analytical Method: EPA:300.0
Analytical Procedure: GL-GC-E-086 REV# 28
Analytical Batches: 2062974 and 2062981

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527512002	SMEB01-20-205958
527512003	SMEB01-20-209963
527512005	SMEB02-20-205960
1204694587	Method Blank (MB)
1204694588	Laboratory Control Sample (LCS)
1204694590	527512002(SMEB01-20-205958) Sample Duplicate (DUP)
1204694591	527512002(SMEB01-20-205958) Post Spike (PS)
1204694597	Method Blank (MB)
1204694598	Laboratory Control Sample (LCS)
1204694599	527509002(SMEB01-20-209971) Sample Duplicate (DUP)
1204694600	527509002(SMEB01-20-209971) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

Continuing Calibration Blanks
One or more of the calibration verification blanks was above the required limits. The results for the following samples bracketed by the failing CCB are less than the PQL or are QC samples associated with these samples. Therefore, the data is deemed acceptable. 1204694597 (MB), 1204694598 (LCS), 1204694599 (SMEB01-20-209971DUP) and 1204694600 (SMEB01-20-209971PS).

Technical Information

Sample Dilutions
The following samples 1204694590 (SMEB01-20-205958DUP), 1204694591 (SMEB01-20-205958PS), 527512002 (SMEB01-20-205958), 527512003 (SMEB01-20-209963), 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS) and 527512005 (SMEB02-20-205960) were diluted because target analyte concentrations exceeded the calibration range. The following samples 1204694590 (SMEB01-20-205958DUP), 1204694591 (SMEB01-20-205958PS), 527512002 (SMEB01-20-205958) and 527512003 (SMEB01-20-209963) in this sample group were diluted due to matrix interference. Samples 1204694590 (SMEB01-20-205958DUP), 1204694591

(SMEB01-20-205958PS), 527512002 (SMEB01-20-205958), 527512003 (SMEB01-20-209963), 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS) and 527512005 (SMEB02-20-205960) were diluted to minimize matrix effects on instrument performance. Samples 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS) and 527512005 (SMEB02-20-205960) were diluted based on historical data. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	527512		
	002	003	005
Chloride	10000X	10000X	10000X
Fluoride	100X	100X	100X

Sample Re-analysis
Samples1204694599 (SMEB01-20-209971DUP) and 1204694600 (SMEB01-20-209971PS) were re-analyzed to verify the results.

Miscellaneous Information

Manual Integrations
Samples 1204694590 (SMEB01-20-205958DUP), 1204694591 (SMEB01-20-205958PS), 527512002 (SMEB01-20-205958) and 527512003 (SMEB01-20-209963) were manually integrated to correctly position the baseline as set in the calibration standards.

Product: **Total Kjeldahl Nitrogen**
Analytical Method: EPA:351.2
Analytical Procedure: GL-GC-E-104 REV# 15
Analytical Batch: 2063654

Preparation Method: EPA 351.2 Prep
Preparation Procedure: GL-GC-E-071 REV# 17
Preparation Batch: 2063653

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527512001	SMEB01-20-205957
527512004	SMEB02-20-205959
1204696393	Method Blank (MB)
1204696394	Laboratory Control Sample (LCS)
1204696395	527509005(SMEB01-20-209986) Sample Duplicate (DUP)
1204696396	527509005(SMEB01-20-209986) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
The following sample 527512001 (SMEB01-20-205957) was diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	527512 001
Nitrogen, Total Kjeldahl	5X

Sample Re-analysis
Sample1204696394 (LCS) was re-analyzed due to instrument failure. The results from the reanalysis are reported.

Product: **Nitrate Nitrite by Cadmium Reduction**
Analytical Method: EPA:353.2
Analytical Procedure: GL-GC-E-128 REV# 10
Analytical Batch: 2063130

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527512002	SMEB01-20-205958
527512003	SMEB01-20-209963
527512005	SMEB02-20-205960
1204695092	Method Blank (MB)
1204695093	Laboratory Control Sample (LCS)
1204695094	527511005(NonSDG) Sample Duplicate (DUP)
1204695097	527511005(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
The following samples 1204695094 (Non SDG 527511005DUP) and 1204695097 (Non SDG 527511005PS) in this sample group were diluted due to matrix interference. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Product: **Solids, Total Dissolved**
Analytical Method: EPA:160.1
Analytical Procedure: GL-GC-E-001 REV# 16
Analytical Batch: 2063665

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527512002	SMEB01-20-205958
527512003	SMEB01-20-209963
527512005	SMEB02-20-205960
1204696423	Method Blank (MB)
1204696424	Laboratory Control Sample (LCS)
1204696426	527509007(SMEB01-20-209987) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-128 GEL Work Order: 527512

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
J Value is estimated
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Kristen Mizzell **Name: Kristen Mizzell**

Date: 20 NOV 2020 **Title: Team Leader**

Sample Data Summary

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company :	Los Alamos National Laboratory
Address :	TA-00, SM1237, Rm104C
	Los Alamos, New Mexico 87545
Contact:	Mr. Stanislaw Marczak
Project:	LANL- Discharge Permits

Client SDG: 2021-128

Client Sample ID:	SMEB01-20-205957	Project:	ESHL00118
Sample ID:	527512001	Client ID:	ARSL004
Matrix:	W		
Collect Date:	10-NOV-20 15:15		
Receive Date:	14-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Nutrient Analysis												
DP-TKN "As Received"												
Nitrogen, Total Kjeldahl		7.45	0.165	0.500	mg/L	1.00	5	KLP1	11/20/20	1206	2063654	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	11/19/20	1600	2063653

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:351.2	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C
Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits
Client SDG: 2021-128

Client Sample ID: SMEB01-20-205958
Sample ID: 527512002
Matrix: W
Collect Date: 10-NOV-20 15:15
Receive Date: 14-NOV-20
Collector: Client
Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
Chloride "As Received"												
Fluoride	U	ND	3.30	10.0	mg/L		100	JLD1	11/14/20	1458	2062974	1
Chloride		36100	670	2000	mg/L		10000	JLD1	11/15/20	0043	2062974	2
Nutrient Analysis												
DP-NO3NO2 "As Received"												
Nitrogen, Nitrate/Nitrite		0.678	0.0170	0.0500	mg/L		1	AXH3	11/16/20	1006	2063130	3
Solids Analysis												
TDS "As Received"												
Total Dissolved Solids		67500	3.40	14.3	mg/L			KLP1	11/17/20	1437	2063665	4

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:300.0	
3	EPA:353.2	
4	EPA:160.1	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C
Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits
Client SDG: 2021-128

Client Sample ID: SMEB01-20-209963
Sample ID: 527512003
Matrix: W
Collect Date: 10-NOV-20 15:15
Receive Date: 14-NOV-20
Collector: Client
Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
Chloride "As Received"												
Fluoride	U	ND	3.30	10.0	mg/L		100	JLD1	11/14/20	1427	2062974	1
Chloride		39500	670	2000	mg/L		10000	JLD1	11/15/20	0216	2062974	2
Nutrient Analysis												
DP-NO3NO2 "As Received"												
Nitrogen, Nitrate/Nitrite		0.672	0.0170	0.0500	mg/L		1	AXH3	11/16/20	1007	2063130	3
Solids Analysis												
TDS "As Received"												
Total Dissolved Solids		66800	3.40	14.3	mg/L			KLP1	11/17/20	1437	2063665	4

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:300.0	
3	EPA:353.2	
4	EPA:160.1	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company :	Los Alamos National Laboratory
Address :	TA-00, SM1237, Rm104C
	Los Alamos, New Mexico 87545
Contact:	Mr. Stanislaw Marczak
Project:	LANL- Discharge Permits

Client SDG: 2021-128

Client Sample ID:	SMEB02-20-205959	Project:	ESHL00118
Sample ID:	527512004	Client ID:	ARSL004
Matrix:	W		
Collect Date:	10-NOV-20 13:25		
Receive Date:	14-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Nutrient Analysis												
DP-TKN "As Received"												
Nitrogen, Total Kjeldahl		2.70	0.0330	0.100	mg/L	1.00	1	KLP1	11/20/20	1139	2063654	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	11/19/20	1600	2063653

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:351.2	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-128

Client Sample ID: SMEB02-20-205960
Sample ID: 527512005
Matrix: W
Collect Date: 10-NOV-20 13:25
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
Chloride "As Received"												
Fluoride	U	ND	3.30	10.0	mg/L		100	LXA2	11/14/20	1901	2062981	1
Chloride		52700	670	2000	mg/L		10000	LXA2	11/17/20	2355	2062981	2
Nutrient Analysis												
DP-NO3NO2 "As Received"												
Nitrogen, Nitrate/Nitrite	J	0.0371	0.0170	0.0500	mg/L		1	AXH3	11/16/20	1008	2063130	3
Solids Analysis												
TDS "As Received"												
Total Dissolved Solids		98300	3.40	14.3	mg/L			KLP1	11/17/20	1437	2063665	4

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:300.0	
3	EPA:353.2	
4	EPA:160.1	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

Quality Control Summary

QC Summary

Report Date: November 20, 2020

Los Alamos National Laboratory
TA-00, SM1237, Rm104C
Los Alamos, New Mexico

Contact: **Mr. Stanislaw Marczak**

Workorder: **527512**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography											
Batch 2062974											
QC1204694590 527512002 DUP											
Chloride			36100		35900	mg/L	0.475		(0%-20%)	JLD1	11/15/20 01:14
Fluoride		U	ND	U	ND	mg/L	N/A				11/14/20 15:28
QC1204694588 LCS											
Chloride	5.00				4.74	mg/L		94.7	(80%-120%)		11/14/20 19:04
Fluoride	2.50				2.48	mg/L		99	(80%-120%)		
QC1204694587 MB											
Chloride				U	ND	mg/L					11/14/20 18:33
Fluoride				U	ND	mg/L					
QC1204694591 527512002 PS											
Chloride	5.00		3.61		8.68	mg/L		101	(75%-125%)		11/15/20 01:45
Fluoride	2.50	U	ND		2.41	mg/L		96.6	(75%-125%)		11/14/20 15:59
Batch 2062981											
QC1204694599 527509002 DUP											
Chloride			61500		61500	mg/L	0.137		(0%-20%)	LXA2	11/16/20 14:47
Fluoride		J	3.36	J	3.50	mg/L	4.08 ^		(+/-10.0)		11/14/20 22:07
QC1204694598 LCS											
Chloride	5.00				4.88	mg/L		97.7	(80%-120%)		11/14/20 23:39
Fluoride	2.50				2.48	mg/L		99.1	(80%-120%)		

QC Summary

Workorder: 527512

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography											
Batch 2062981											
QC1204694597 MB											
Chloride				U	ND	mg/L				LXA2	11/14/20 23:08
Fluoride				U	ND	mg/L					
QC1204694600 527509002 PS											
Chloride	5.00		6.15		11.3	mg/L		103	(75%-125%)		11/16/20 15:18
Fluoride	2.50	J	0.0336		2.36	mg/L		93	(75%-125%)		11/14/20 22:37
Nutrient Analysis											
Batch 2063130											
QC1204695094 527511005 DUP											
Nitrogen, Nitrate/Nitrite			0.635		0.635	mg/L	0 ^		(+/-0.250)	AXH3	11/16/20 09:56
QC1204695093 LCS											
Nitrogen, Nitrate/Nitrite	1.00				0.969	mg/L		96.9	(90%-110%)		11/16/20 09:33
QC1204695092 MB											
Nitrogen, Nitrate/Nitrite				U	ND	mg/L					11/16/20 09:27
QC1204695097 527511005 PS											
Nitrogen, Nitrate/Nitrite	1.00		0.127		1.10	mg/L		97.3	(90%-110%)		11/16/20 09:58
Batch 2063654											
QC1204696395 527509005 DUP											
Nitrogen, Total Kjeldahl		U	ND	U	ND	mg/L	N/A			KLP1	11/20/20 11:36
QC1204696394 LCS											
Nitrogen, Total Kjeldahl	1.00				1.08	mg/L		108	(90%-110%)		11/20/20 11:47
QC1204696393 MB											
Nitrogen, Total Kjeldahl				U	ND	mg/L					11/20/20 11:34

QC Summary

Workorder: **527512**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Nutrient Analysis												
Batch 2063654												
QC1204696396 527509005 MS												
Nitrogen, Total Kjeldahl	1.00	U	ND		1.05	mg/L		105	(90%-110%)	KLP1	11/20/20	11:37
Solids Analysis												
Batch 2063665												
QC1204696426 527509007 DUP												
Total Dissolved Solids		U	ND	U	ND	mg/L	N/A			KLP1	11/17/20	14:37
QC1204696424 LCS												
Total Dissolved Solids	300				289	mg/L		96.2	(95%-105%)		11/17/20	14:37
QC1204696423 MB												
Total Dissolved Solids				U	ND	mg/L					11/17/20	14:37

Notes:

<	Result is less than value reported
>	Result is greater than value reported
B	The target analyte was detected in the associated blank.
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

QC Summary

Workorder: **527512**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

d 5-day BOD--The 2:1 depletion requirement was not met for this sample

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Instrument QC Data Summary

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:17

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-128

Ion Chromatography

Method: EPA 300.0

Instrument: DIONEX Aquion Ion Chromatograph (IC12)

Parmname: Chloride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 14:54:00**	**201114**	**4.9208**	**5**	**98.4**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 21:05:00	201114	7.4222	7.5	99	(90%-110%)	Yes
CCV	15-NOV-2020 00:41:00	201114	4.9095	5	98.2	(90%-110%)	Yes
ICV	**16-NOV-2020 08:46:00**	**201116**	**4.819**	**5**	**96.4**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 15:49:00	201116	7.1247	7.5	95	(90%-110%)	Yes
CCV	16-NOV-2020 18:54:00	201116	4.6619	5	93.2	(90%-110%)	Yes
ICV	**17-NOV-2020 08:24:00**	**201117**	**4.8108**	**5**	**96.2**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 12:17:00	201117	7.147	7.5	95.3	(90%-110%)	Yes
CCV	17-NOV-2020 22:53:00	201117	7.2361	7.5	96.5	(90%-110%)	Yes
CCV	18-NOV-2020 01:58:00	201117	4.5905	5	91.8	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 15:25:00**	**201114**	**0.1623**	**0.2**	**Yes**
CCB	14-NOV-2020 21:36:00	201114	0.2163	0.2	No
CCB	15-NOV-2020 01:12:00	201114	0.1405	0.2	Yes
ICB	**16-NOV-2020 09:17:00**	**201116**	**0.0736**	**0.2**	**Yes**
CCB	16-NOV-2020 16:20:00	201116	0	0.2	Yes
CCB	16-NOV-2020 19:25:00	201116	0	0.2	Yes
ICB	**17-NOV-2020 08:55:00**	**201117**	**0**	**0.2**	**Yes**
CCB	17-NOV-2020 12:48:00	201117	0	0.2	Yes
CCB	17-NOV-2020 23:24:00	201117	0	0.2	Yes
CCB	18-NOV-2020 02:29:00	201117	0	0.2	Yes

Parmname: Fluoride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 14:54:00**	**201114**	**2.4867**	**2.5**	**99.5**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 21:05:00	201114	3.7206	3.75	99.2	(90%-110%)	Yes
CCV	15-NOV-2020 00:41:00	201114	2.4459	2.5	97.8	(90%-110%)	Yes
ICV	**16-NOV-2020 08:46:00**	**201116**	**2.4431**	**2.5**	**97.7**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 15:49:00	201116	3.5865	3.75	95.6	(90%-110%)	Yes
CCV	16-NOV-2020 18:54:00	201116	2.4178	2.5	96.7	(90%-110%)	Yes
ICV	**17-NOV-2020 08:24:00**	**201117**	**2.5028**	**2.5**	**100**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 12:17:00	201117	3.6105	3.75	96.3	(90%-110%)	Yes
CCV	17-NOV-2020 22:53:00	201117	3.6446	3.75	97.2	(90%-110%)	Yes
CCV	18-NOV-2020 01:58:00	201117	2.3679	2.5	94.7	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:17

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-128

Ion Chromatography

Method: EPA 300.0

Instrument: DIONEX Aquion Ion Chromatograph (IC12)

Parmname: Fluoride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 15:25:00**	**201114**	**0**	**0.1**	**Yes**
CCB	14-NOV-2020 21:36:00	201114	0	0.1	Yes
CCB	15-NOV-2020 01:12:00	201114	0	0.1	Yes
ICB	**16-NOV-2020 09:17:00**	**201116**	**0**	**0.1**	**Yes**
CCB	16-NOV-2020 16:20:00	201116	0	0.1	Yes
CCB	16-NOV-2020 19:25:00	201116	0	0.1	Yes
ICB	**17-NOV-2020 08:55:00**	**201117**	**0**	**0.1**	**Yes**
CCB	17-NOV-2020 12:48:00	201117	0	0.1	Yes
CCB	17-NOV-2020 23:24:00	201117	0	0.1	Yes
CCB	18-NOV-2020 02:29:00	201117	0	0.1	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:17

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-128

Ion Chromatography

Method: EPA 300.0

Instrument: DIONEX ICS-5000 Ion Chromatograph (IC8)

Parmname: Chloride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 11:23:00**	**201114**	**4.8979**	**5**	**98**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 17:32:00	201114	7.2144	7.5	96.2	(90%-110%)	Yes
CCV	14-NOV-2020 20:37:00	201114	4.7267	5	94.5	(90%-110%)	Yes
CCV	15-NOV-2020 02:47:00	201114	7.2121	7.5	96.2	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 11:53:00**	**201114**	**0**	**0.2**	**Yes**
CCB	14-NOV-2020 18:03:00	201114	0	0.2	Yes
CCB	14-NOV-2020 21:08:00	201114	0	0.2	Yes
CCB	15-NOV-2020 03:18:00	201114	0.1767	0.2	Yes

Parmname: Fluoride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 11:23:00**	**201114**	**2.5174**	**2.5**	**101**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 17:32:00	201114	3.7254	3.75	99.3	(90%-110%)	Yes
CCV	14-NOV-2020 20:37:00	201114	2.4832	2.5	99.3	(90%-110%)	Yes
CCV	15-NOV-2020 02:47:00	201114	3.7383	3.75	99.7	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 11:53:00**	**201114**	**0**	**0.1**	**Yes**
CCB	14-NOV-2020 18:03:00	201114	0	0.1	Yes
CCB	14-NOV-2020 21:08:00	201114	0	0.1	Yes
CCB	15-NOV-2020 03:18:00	201114	0	0.1	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:17

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-128

Nutrient Analysis

Method: EPA 351.2

Instrument: Lachat Quickchem FIA+ 8500 Series (LACHAT3)

Parmname: Nitrogen, Total Kjeldahl Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**20-NOV-2020 10:24:44**	**OM_11-20-2020_10-17-23**	**0.987**	**1**	**98.7**	**(90%-110%)**	**Yes**
CCV	20-NOV-2020 11:29:59	OM_11-20-2020_11-29-09	1.04	1	104	(90%-110%)	Yes
CCV	20-NOV-2020 11:43:02	OM_11-20-2020_11-29-09	1.09	1	109	(90%-110%)	Yes
CCV	20-NOV-2020 11:56:01	OM_11-20-2020_11-29-09	1.06	1	106	(90%-110%)	Yes
CCV	20-NOV-2020 12:10:18	OM_11-20-2020_11-29-09	1.08	1	108	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**20-NOV-2020 10:26:55**	**OM_11-20-2020_10-17-23**	**0.0116**	**0.1**	**Yes**
CCB	20-NOV-2020 11:32:10	OM_11-20-2020_11-29-09	0.00341	0.1	Yes
CCB	20-NOV-2020 11:45:13	OM_11-20-2020_11-29-09	0.0148	0.1	Yes
CCB	20-NOV-2020 11:58:11	OM_11-20-2020_11-29-09	-0.00912	0.1	Yes
CCB	20-NOV-2020 12:12:30	OM_11-20-2020_11-29-09	0.00723	0.1	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:17

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-128

Nutrient Analysis

Method: EPA 353.2

Instrument: Lachat Quickchem FIA+ 8500 Series (LACHAT3)

Parmname: Nitrogen, Nitrate/Nitrite Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**16-NOV-2020 08:17:34**	**OM_11-16-2020_08-06-59**	**1.01**	**1**	**101**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 09:11:56	OM_11-16-2020_08-06-59	0.98	1	98	(90%-110%)	Yes
CCV	16-NOV-2020 09:28:33	OM_11-16-2020_08-06-59	0.981	1	98.1	(90%-110%)	Yes
CCV	16-NOV-2020 09:45:07	OM_11-16-2020_08-06-59	0.979	1	97.9	(90%-110%)	Yes
CCV	16-NOV-2020 10:01:40	OM_11-16-2020_08-06-59	0.979	1	97.9	(90%-110%)	Yes
CCV	16-NOV-2020 10:18:17	OM_11-16-2020_08-06-59	0.959	1	95.9	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**16-NOV-2020 08:19:55**	**OM_11-16-2020_08-06-59**	**-0.00457**	**0.05**	**Yes**
CCB	16-NOV-2020 09:14:17	OM_11-16-2020_08-06-59	-0.0044	0.05	Yes
CCB	16-NOV-2020 09:30:54	OM_11-16-2020_08-06-59	-0.00449	0.05	Yes
CCB	16-NOV-2020 09:47:28	OM_11-16-2020_08-06-59	-0.00439	0.05	Yes
CCB	16-NOV-2020 10:04:01	OM_11-16-2020_08-06-59	-0.00335	0.05	Yes
CCB	16-NOV-2020 10:20:38	OM_11-16-2020_08-06-59	-0.00426	0.05	Yes

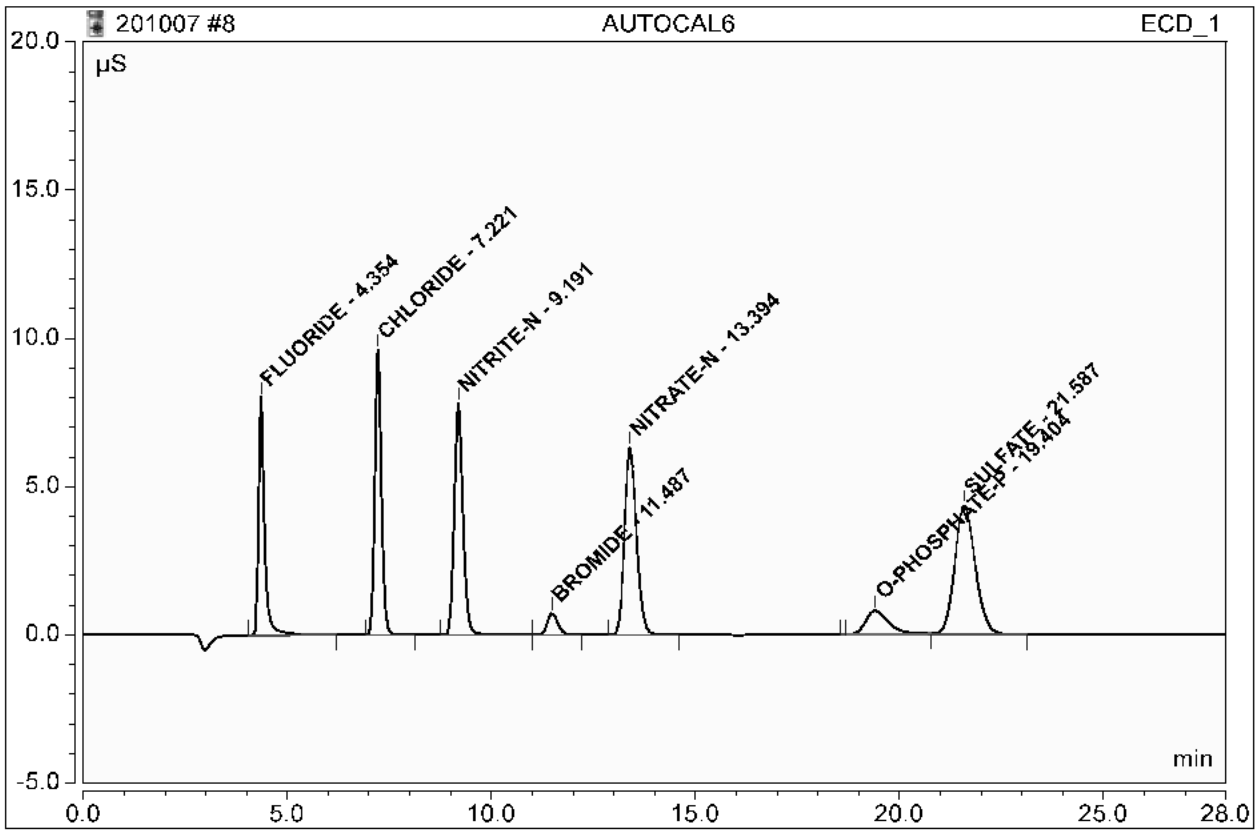
Ion Chromatography Raw Data

This is runlog for Sequence 201118.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
ICAL-06	10/07/20 13:10	1		201118	LXA2
ICAL-05	10/07/20 13:40	1		201118	LXA2
ICAL-04	10/07/20 14:11	1		201118	LXA2
ICAL-03	10/07/20 14:42	1		201118	LXA2
ICAL-02	10/07/20 15:13	1		201118	LXA2
ICAL-01	10/07/20 15:44	1		201118	LXA2
ICAL-06	10/07/20 13:10	1		201118	LXA2
ICAL-05	10/07/20 13:40	1		201118	LXA2
ICAL-04	10/07/20 14:11	1		201118	LXA2
ICAL-03	10/07/20 14:42	1		201118	LXA2
ICAL-02	10/07/20 15:13	1		201118	LXA2
ICAL-01	10/07/20 15:44	1		201118	LXA2

8 AUTOCAL6

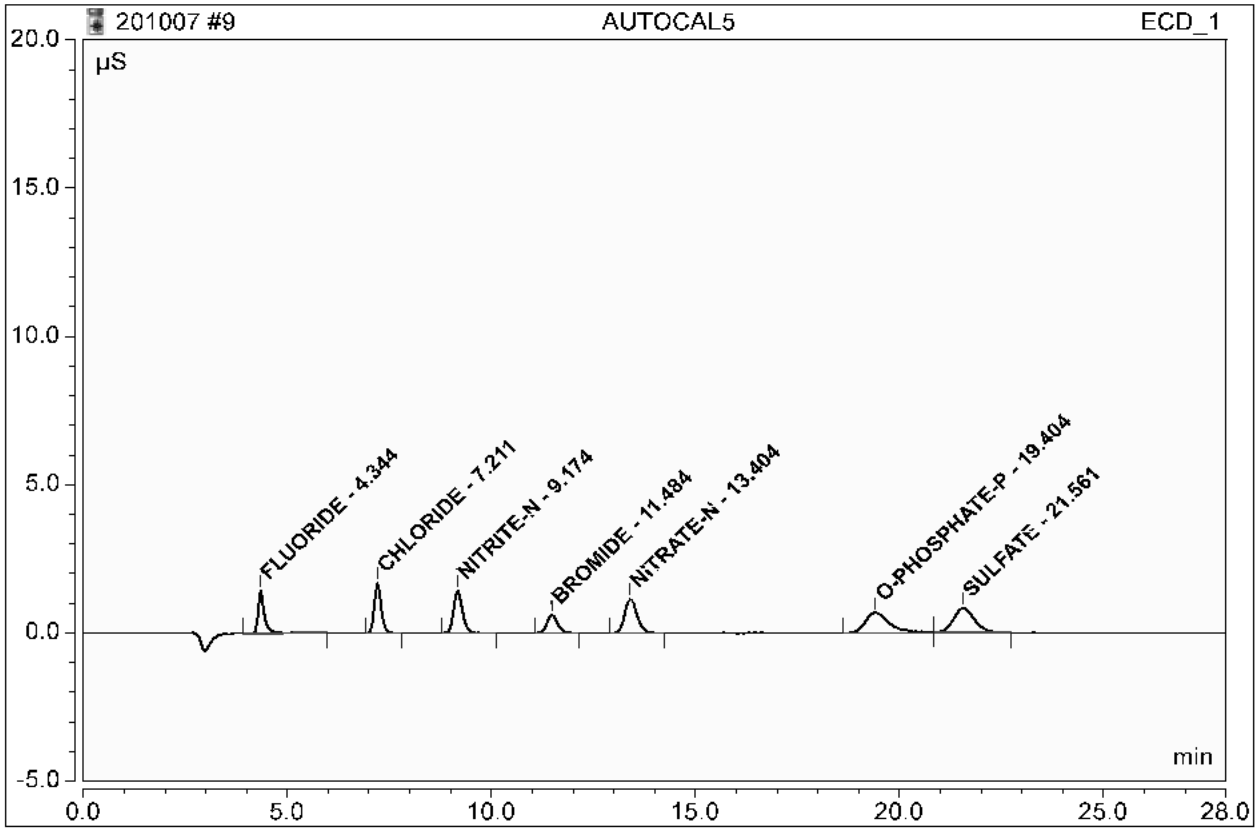
Sample Name:	**AUTOCAL6**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 13:10**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	5.0000	5.0072		1.35834	12.91
2	7.22	CHLORIDE	10.0000	10.0241		1.78569	16.97
3	9.19	NITRITE-N	5.0000	5.0101		1.92861	18.33
4	11.49	BROMIDE	3.0000	3.0164		0.21441	2.04
5	13.39	NITRATE-N	5.0000	5.0100		2.13420	20.28
6	19.40	O-PHOSPHATE-P	3.0000	2.8523		0.51574	4.90
7	21.59	SULFATE	20.0000	20.0308		2.58693	24.58
Total:				50.9510	0.000	10.524	100.00

9 AUTOCAL5

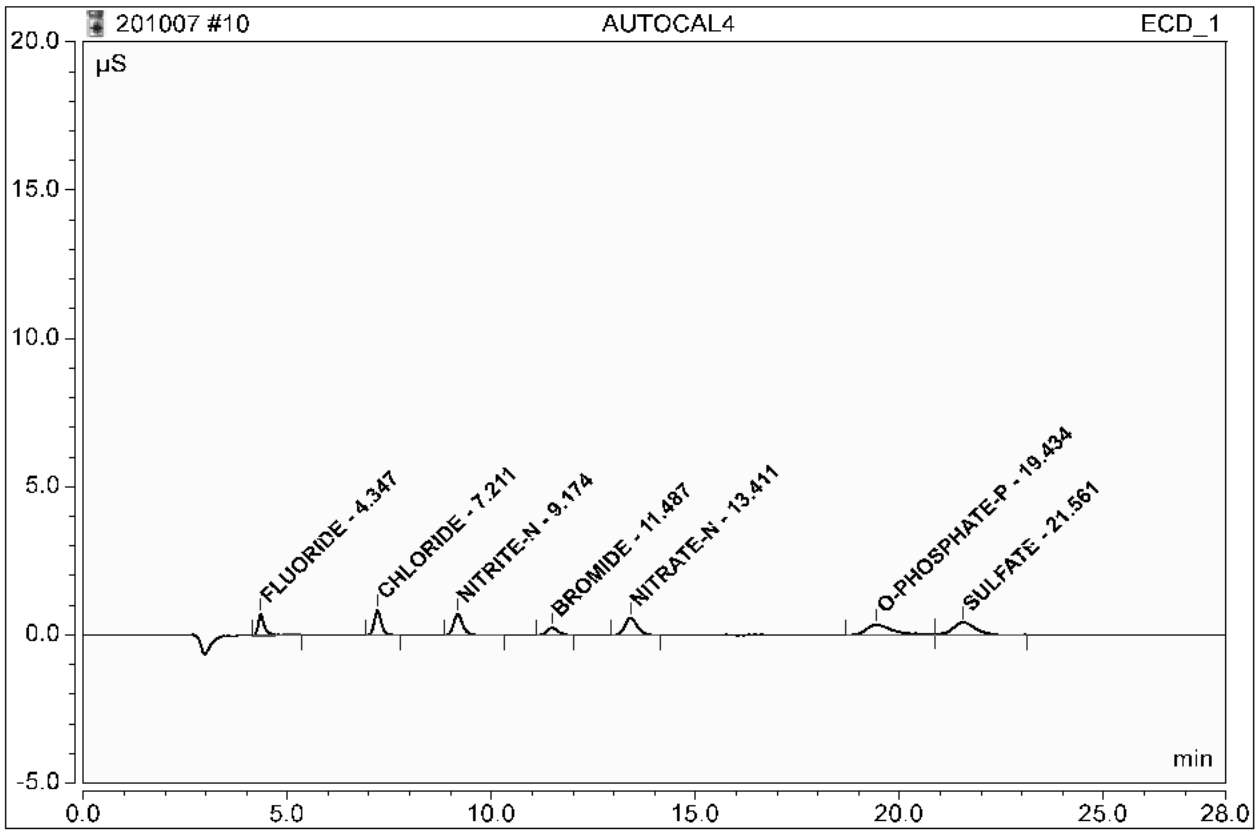
Sample Name:	**AUTOCAL5**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 13:40**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.34	FLUORIDE	1.0000	0.9629		0.25834	10.45
2	7.21	CHLORIDE	2.0000	1.8682		0.32306	13.07
3	9.17	NITRITE-N	1.0000	0.9444		0.35506	14.37
4	11.48	BROMIDE	2.5000	2.4821		0.17638	7.14
5	13.40	NITRATE-N	1.0000	0.9450		0.39390	15.94
6	19.40	O-PHOSPHATE-P	2.5000	2.5558		0.46834	18.95
7	21.56	SULFATE	4.0000	3.8208		0.49644	20.09
Total:				13.5792	0.000	2.472	100.00

10 AUTOCAL4

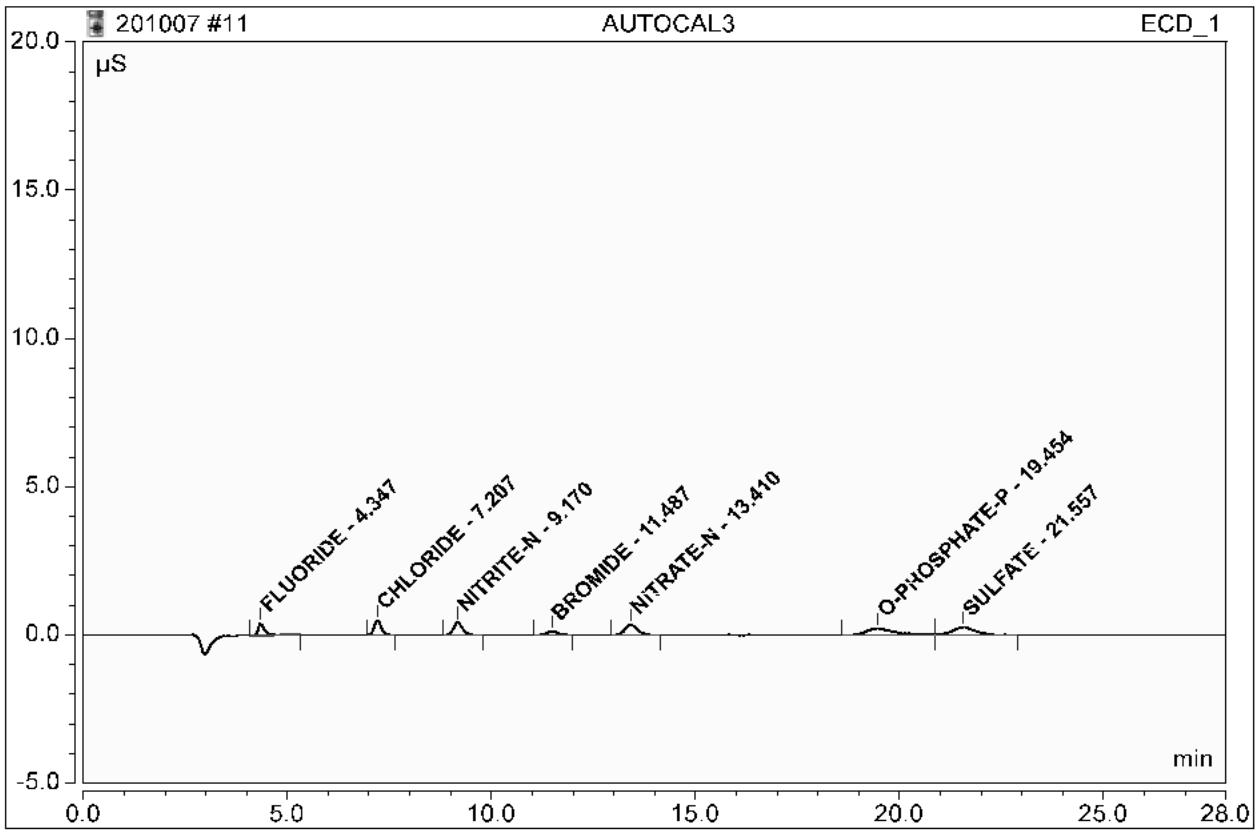
Sample Name:	**AUTOCAL4**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 14:11**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.5000	0.5090		0.12649	10.20
2	7.21	CHLORIDE	1.0000	1.0500		0.16094	12.97
3	9.17	NITRITE-N	0.5000	0.5210		0.17712	14.28
4	11.49	BROMIDE	1.0000	1.0043		0.07034	5.67
5	13.41	NITRATE-N	0.5000	0.5201		0.19620	15.82
6	19.43	O-PHOSPHATE-P	1.0000	0.9790		0.25293	20.39
7	21.56	SULFATE	2.0000	2.0722		0.25652	20.68
Total:				6.6558	0.000	1.241	100.00

11 AUTOCAL3

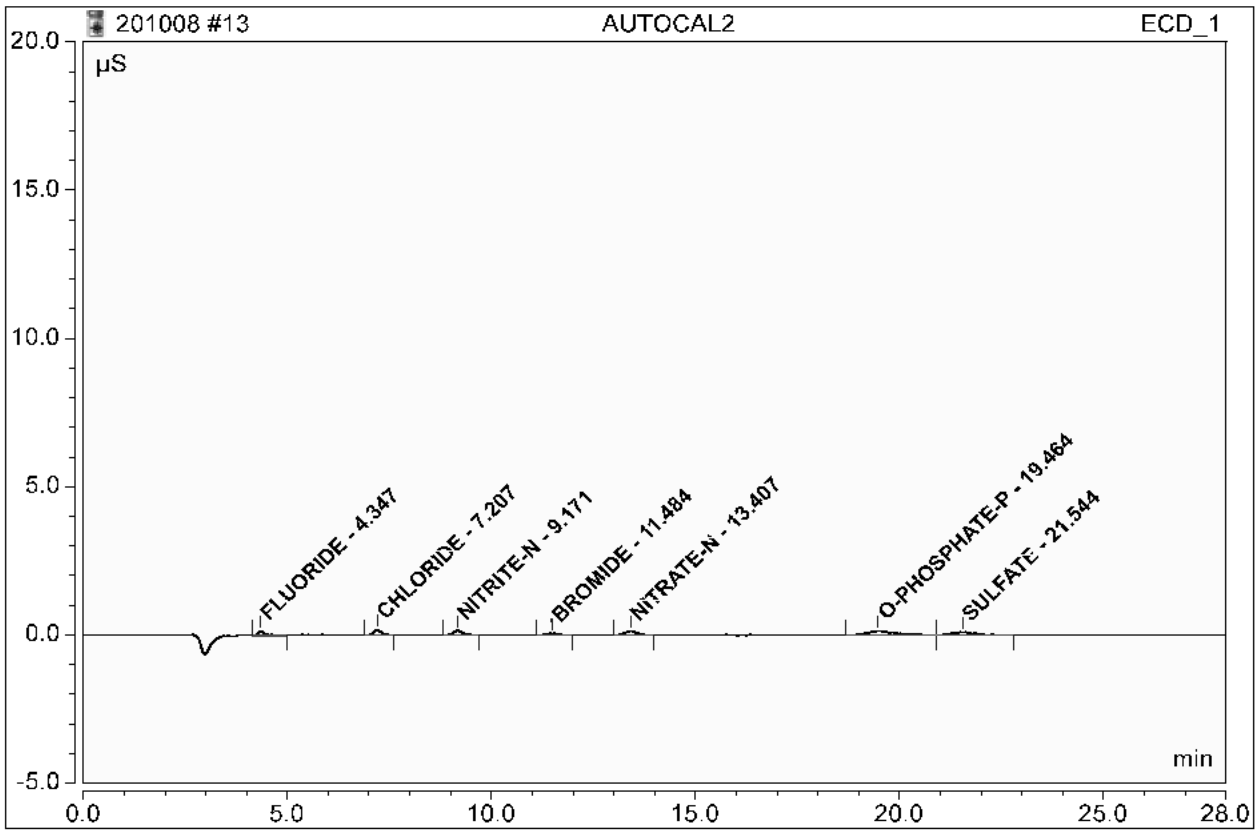
Sample Name:	**AUTOCAL3**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 14:42**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.2500	0.2960		0.07694	10.25
2	7.21	CHLORIDE	0.5000	0.5973		0.09515	12.67
3	9.17	NITRITE-N	0.2500	0.2952		0.10382	13.83
4	11.49	BROMIDE	0.5000	0.5040		0.03557	4.74
5	13.41	NITRATE-N	0.2500	0.2971		0.11653	15.52
6	19.45	O-PHOSPHATE-P	0.5000	0.6770		0.16788	22.36
7	21.56	SULFATE	1.0000	1.1732		0.15500	20.64
Total:				3.8398	0.000	0.751	100.00

13 AUTOCAL2

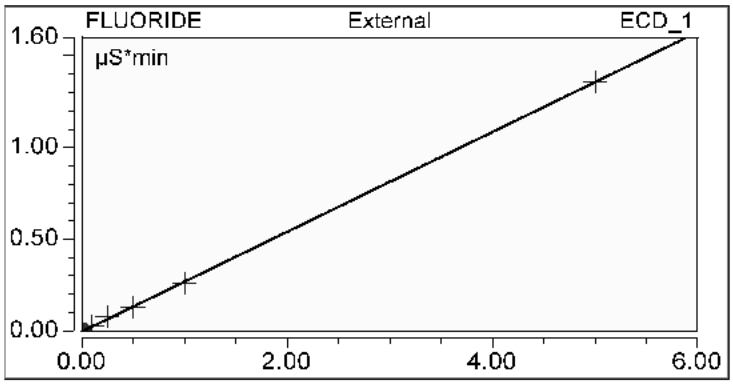
Sample Name:	**AUTOCAL2**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:13**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**

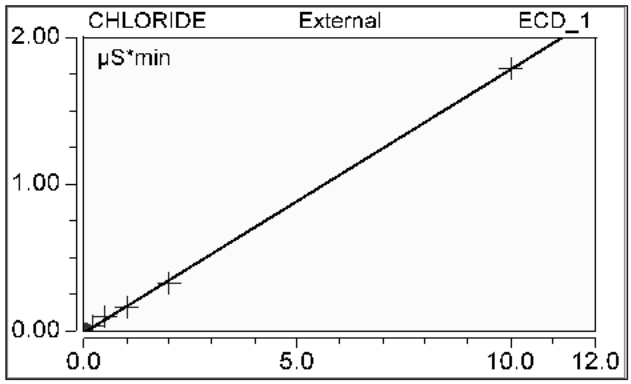


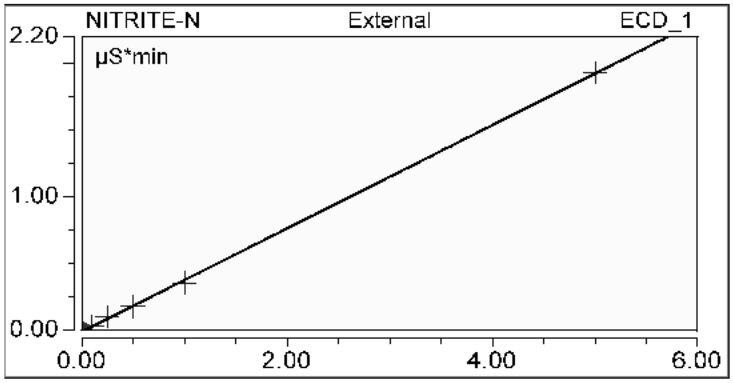
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.1000	0.1058		0.02521	8.45
2	7.21	CHLORIDE	0.2000	0.2461		0.03215	10.78
3	9.17	NITRITE-N	0.1000	0.1158		0.03437	11.52
4	11.48	BROMIDE	0.2000	0.2050		0.01428	4.79
5	13.41	NITRATE-N	0.1000	0.1148		0.03848	12.90
6	19.46	O-PHOSPHATE-P	0.2000	0.2317		0.09666	32.40
7	21.54	SULFATE	0.4000	0.4148		0.05719	19.17
Total:				1.4338	0.000	0.298	100.00

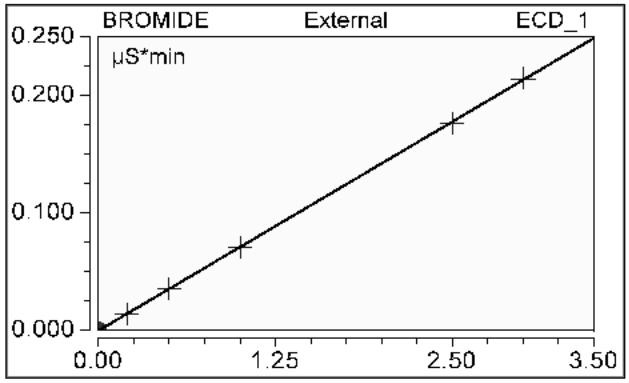
13 AUTOCAL1

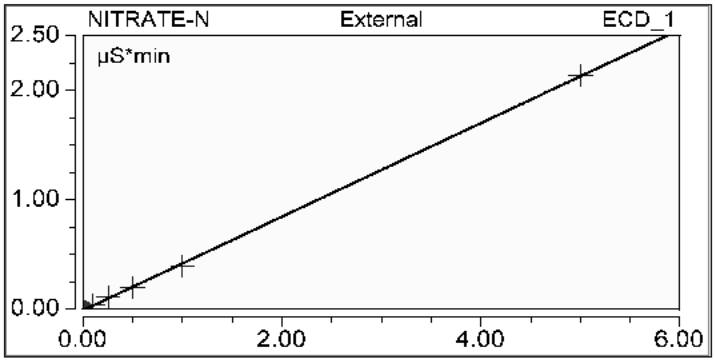
Sample Name:	**AUTOCAL1**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:44**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**n.a.**

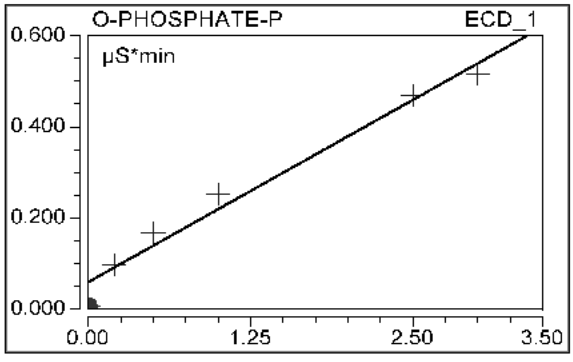


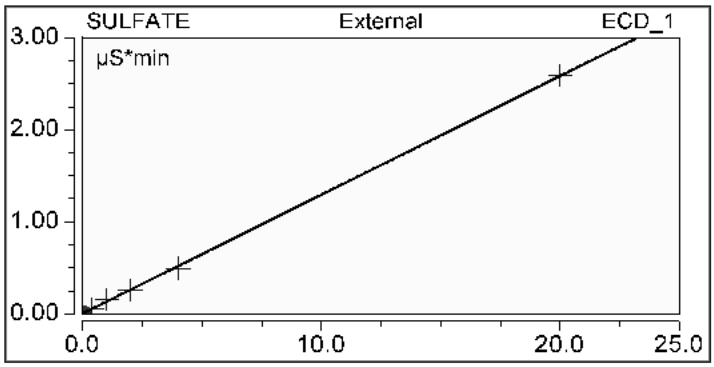








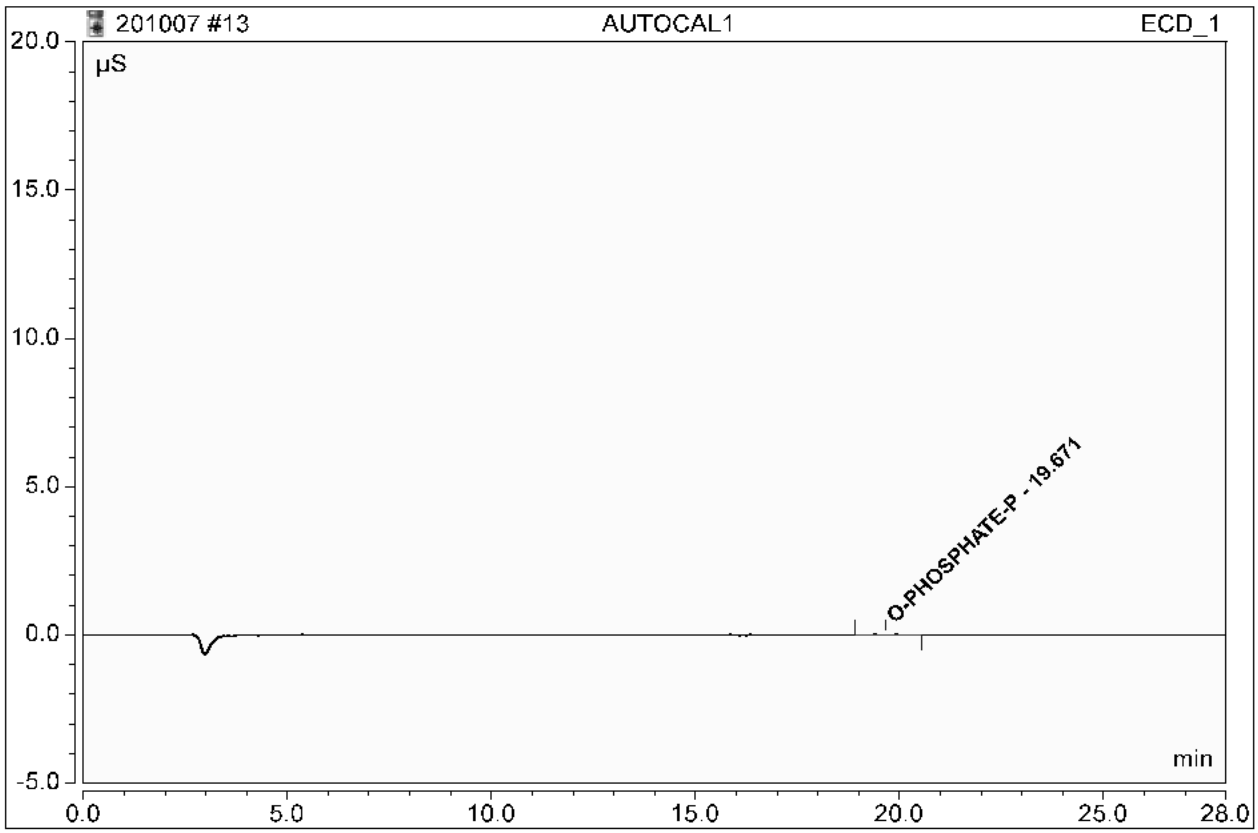




No.	Ret.Time min	Peak Name	Cal.Type	Coeff.Det. %	Offset	Slope	Curve
n.a.	n.a.	FLUORIDE	n, WithOffs	99.9761	-0.0036	0.2720	0.0000
n.a.	n.a.	CHLORIDE	n, WithOffs	99.9545	-0.0120	0.1793	0.0000
n.a.	n.a.	NITRITE-N	n, WithOffs	99.9662	-0.0104	0.3870	0.0000
n.a.	n.a.	BROMIDE	n, WithOffs	99.9888	-0.0003	0.0712	0.0000
n.a.	n.a.	NITRATE-N	n, WithOffs	99.9655	-0.0106	0.4281	0.0000
n.a.	n.a.	O-PHOSPHATE-P	n, WithOffs	97.4479	0.0596	0.1599	0.0000
n.a.	n.a.	SULFATE	n, WithOffs	99.9761	0.0037	0.1290	0.0000
Average:				99.6107	0.0038	0.2324	0.0000

13 AUTOCAL1

Sample Name:	**AUTOCAL1**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:44**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



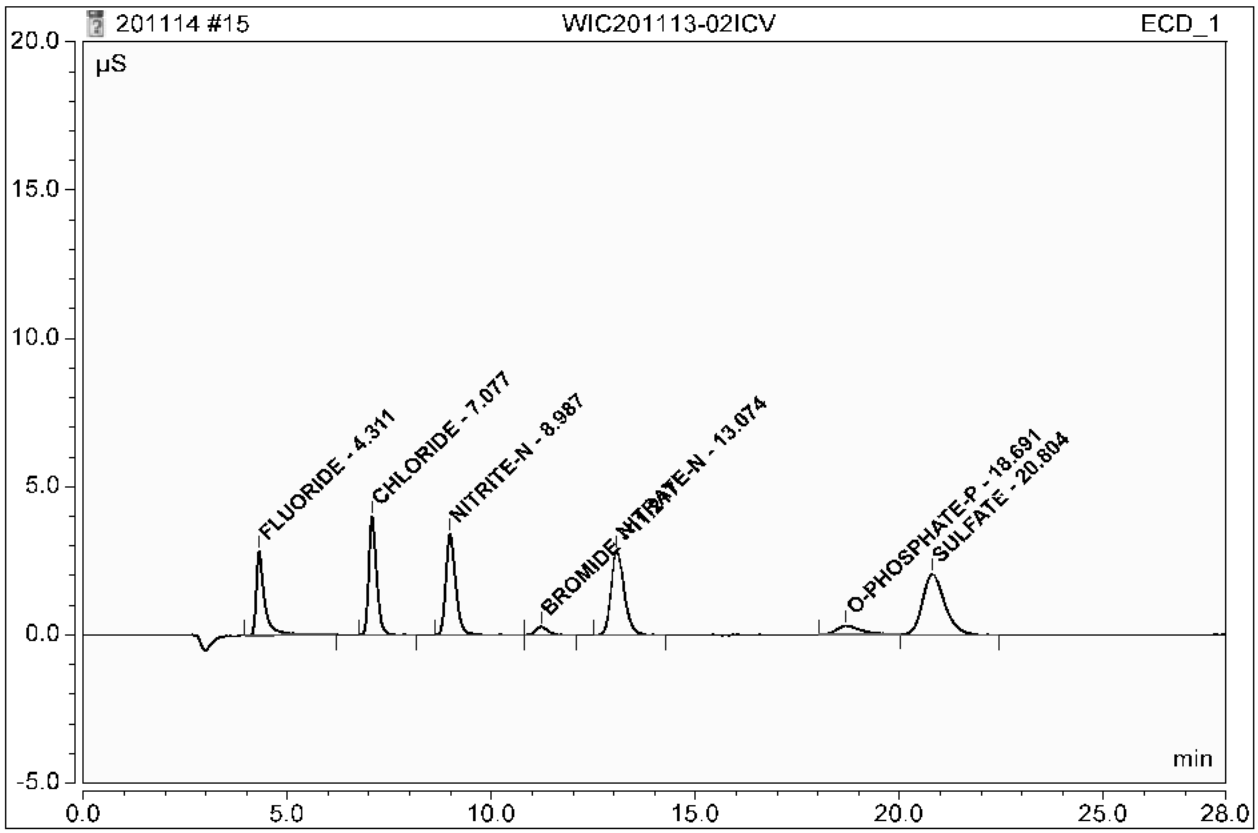
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	0.0000	n.a.	n.a.	n.a.	n.a.
1	19.67	O-PHOSPHATE-P	0.0000	n.a.		0.00755	100.00
n.a.	n.a.	SULFATE	0.0000	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.008	100.00

This is runlog for Sequence 201114.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/14/20 14:24		1	201114	LXA2
ICV	11/14/20 14:54		1	201114	LXA2
ICB	11/14/20 15:25		1	201114	LXA2
527509002	11/14/20 15:56	2062981	100	201114	LXA2
527509007	11/14/20 16:27	2062981	100	201114	LXA2
527509011	11/14/20 16:58	2062981	100	201114	LXA2
527510002	11/14/20 17:28	2062981	100	201114	LXA2
527510008	11/14/20 17:59	2062981	100	201114	LXA2
527510014	11/14/20 18:30	2062981	100	201114	LXA2
527512005	11/14/20 19:01	2062981	100	201114	LXA2
527513002	11/14/20 19:32	2062981	100	201114	LXA2
527513004	11/14/20 20:03	2062981	100	201114	LXA2
527513006	11/14/20 20:34	2062981	100	201114	LXA2
CVH	11/14/20 21:05		1	201114	LXA2
CCB	11/14/20 21:36		1	201114	LXA2
1204694599	11/14/20 22:07	2062981	100	201114	LXA2
1204694600	11/14/20 22:37	2062981	100	201114	LXA2
1204694597	11/14/20 23:08	2062981	1	201114	LXA2
1204694598	11/14/20 23:39	2062981	1	201114	LXA2

15 WIC201113-02ICV

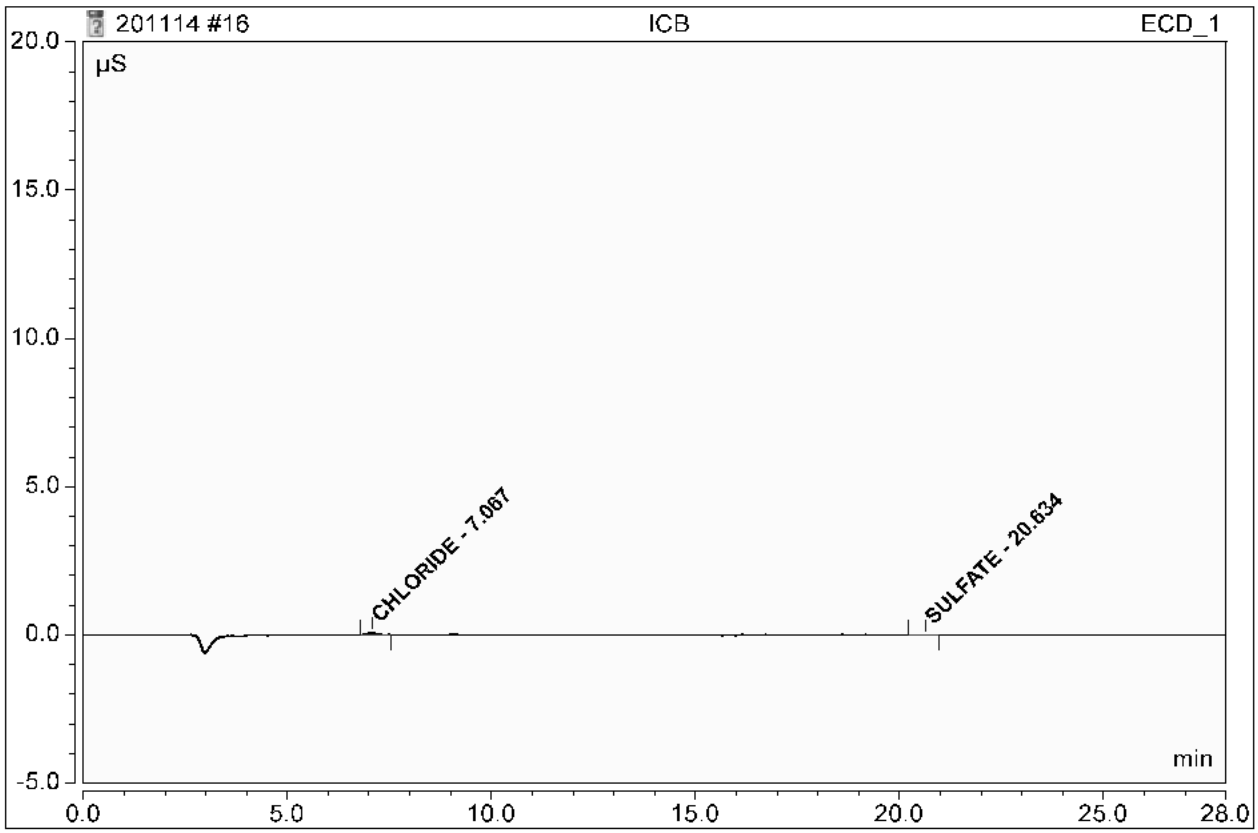
Sample Name:	**WIC201113-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 14:54**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	2.4867		0.67279	13.11
2	7.08	CHLORIDE	n.a.	4.9208		0.87049	16.96
3	8.99	NITRITE-N	n.a.	2.4699		0.94549	18.43
4	11.22	BROMIDE	n.a.	1.2449		0.08831	1.72
5	13.07	NITRATE-N	n.a.	2.4790		1.05063	20.47
6	18.69	O-PHOSPHATE-P	n.a.	0.8998		0.20351	3.97
7	20.80	SULFATE	n.a.	10.0534		1.30022	25.34
Total:				24.5545	0.000	5.131	100.00

16 ICB

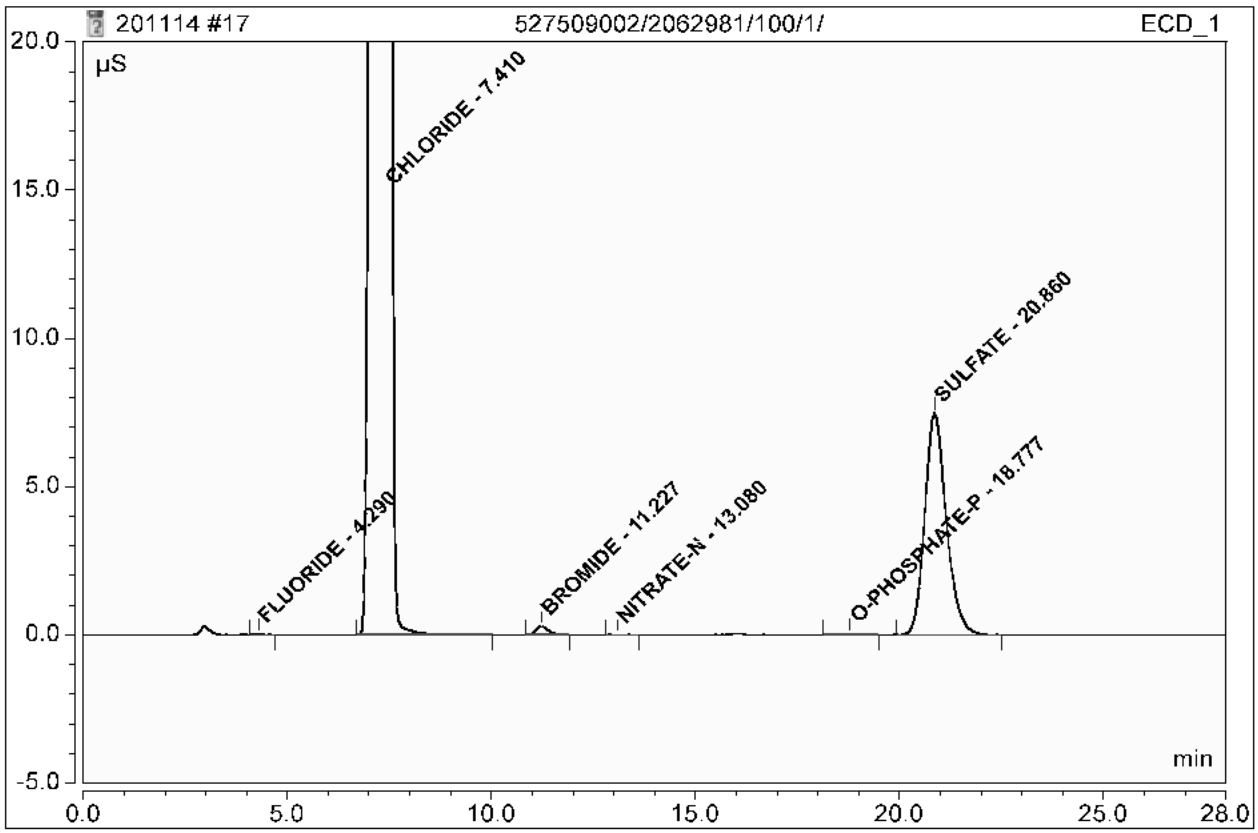
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:25**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.07	CHLORIDE	n.a.	0.1623		0.01713	92.13
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	20.63	SULFATE	n.a.	n.a.		0.00146	7.87
Total:				0.1623	0.000	0.019	100.00

17 527509002/2062981/100/1/

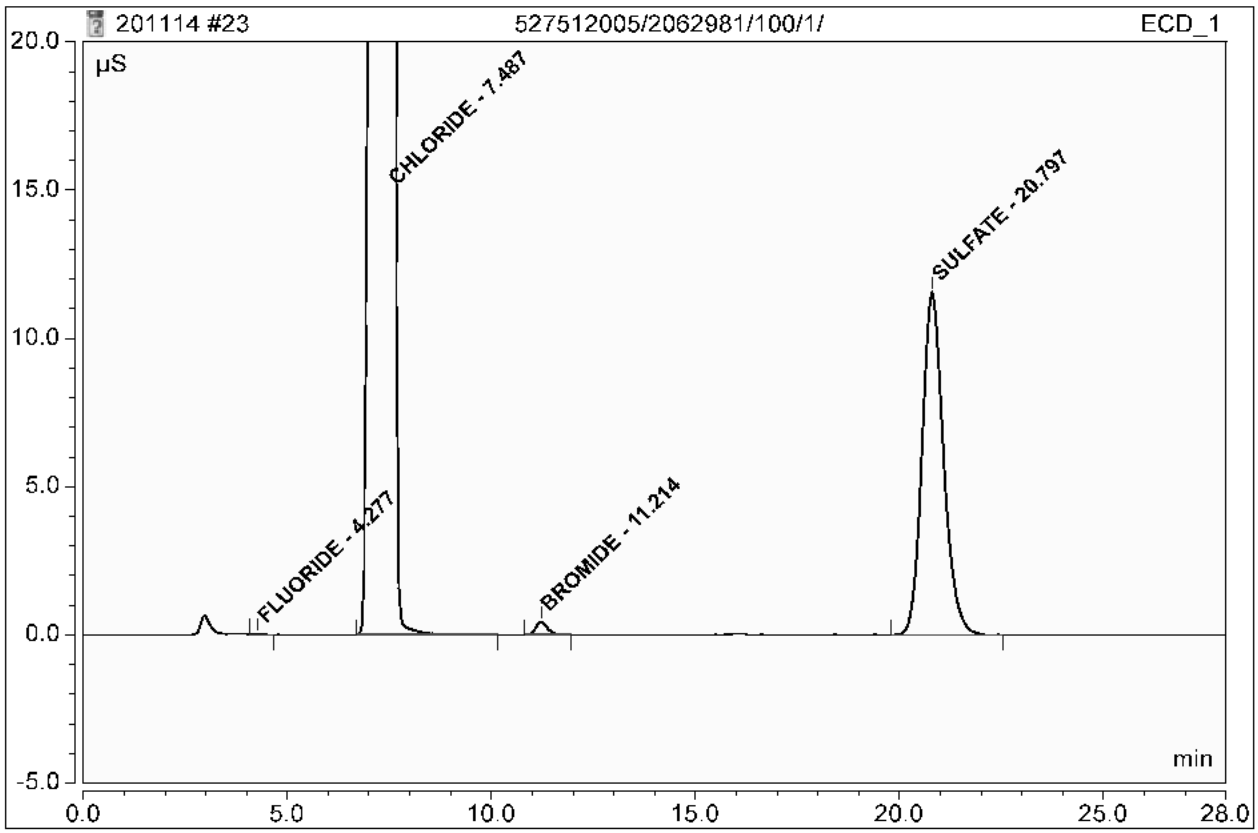
Sample Name:	**527509002/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:56**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	0.0336		0.00558	0.01
2	7.41	CHLORIDE	n.a.	566.7045		101.61736	95.61
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.23	BROMIDE	n.a.	1.2824		0.09098	0.09
4	13.08	NITRATE-N	n.a.	0.0312		0.00272	0.00
5	18.78	O-PHOSPHATE-P	n.a.	n.a.		0.00829	0.01
6	20.86	SULFATE	n.a.	35.2848		4.55412	4.29
Total:				603.3366	0.000	106.279	100.00

23 527512005/2062981/100/1/

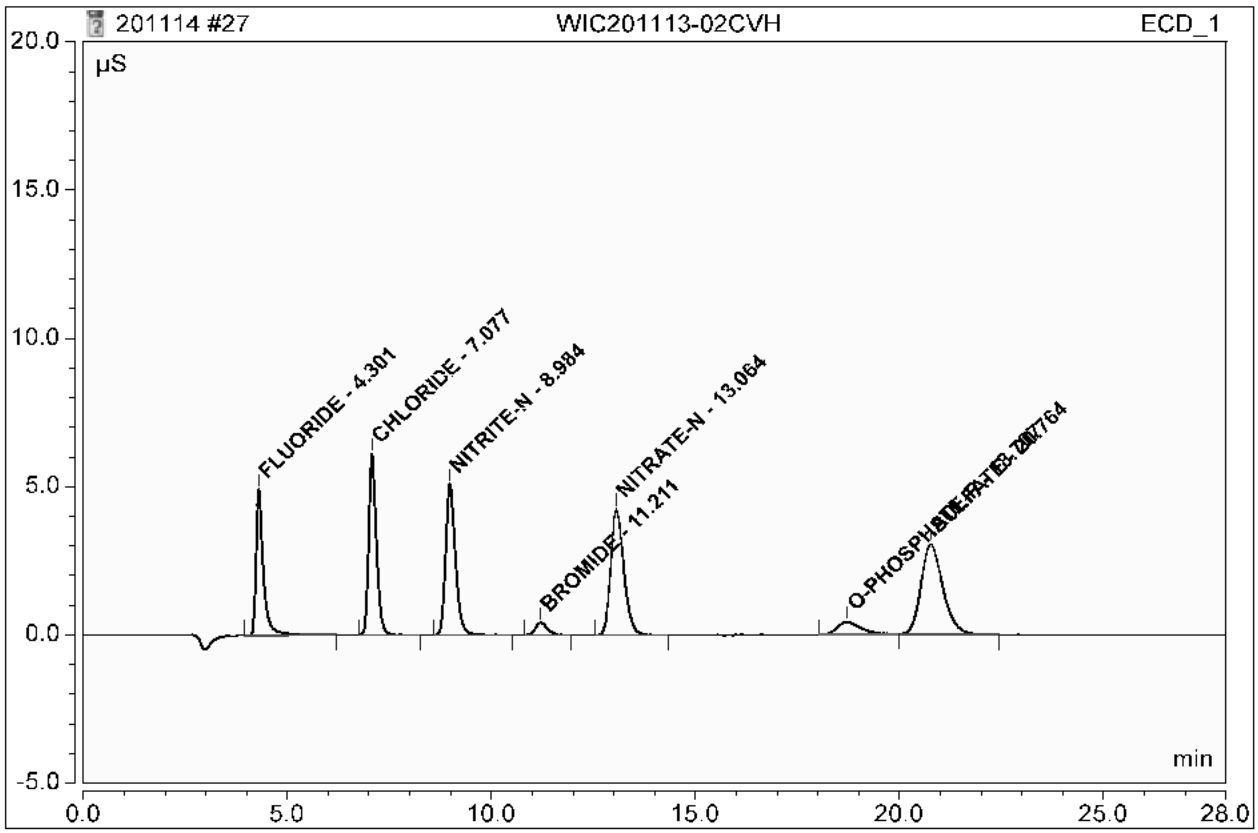
Sample Name:	**527512005/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 19:01**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.28	FLUORIDE	n.a.	0.0320		0.00515	0.00
2	7.49	CHLORIDE	n.a.	808.2144		144.92826	95.28
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	1.9145		0.13598	0.09
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.80	SULFATE	n.a.	54.5121		7.03372	4.62
Total:				864.6730	0.000	152.103	100.00

27 WIC201113-02CVH

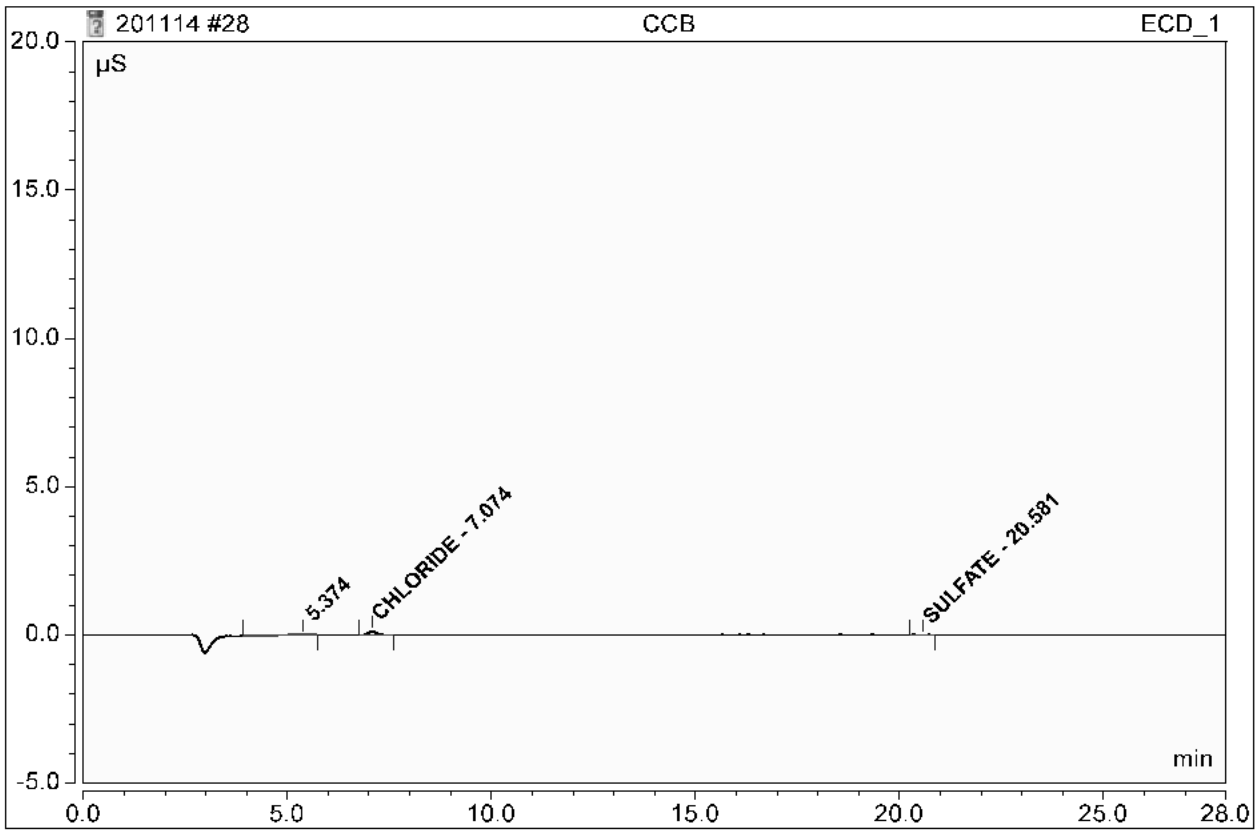
Sample Name:	**WIC201113-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 21:05**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.7206		1.00841	13.20
2	7.08	CHLORIDE	n.a.	7.4222		1.31907	17.27
3	8.98	NITRITE-N	n.a.	3.6575		1.40512	18.40
4	11.21	BROMIDE	n.a.	1.8795		0.13348	1.75
5	13.06	NITRATE-N	n.a.	3.6948		1.57114	20.57
6	18.71	O-PHOSPHATE-P	n.a.	1.3844		0.28100	3.68
7	20.76	SULFATE	n.a.	14.8608		1.92019	25.14
Total:				36.6197	0.000	7.638	100.00

28 CCB

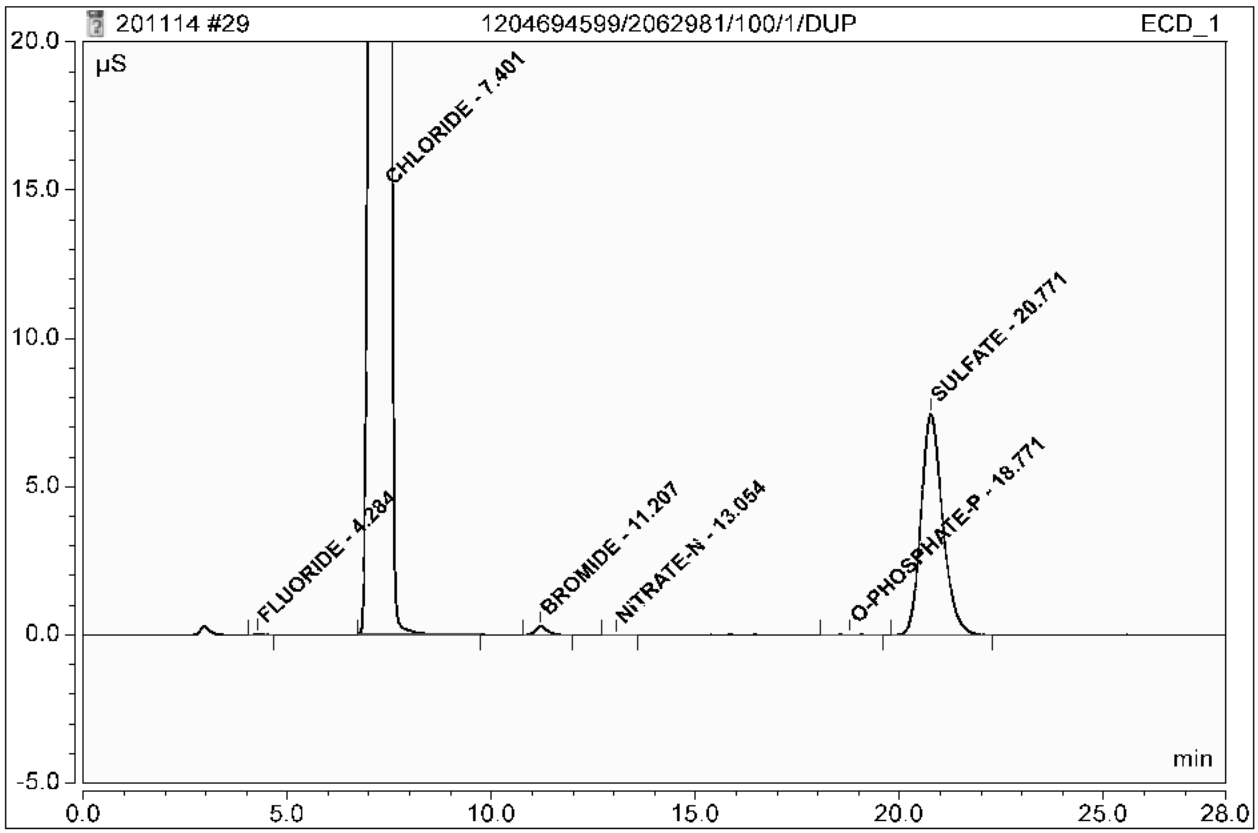
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 21:36**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
2	7.07	CHLORIDE	n.a.	0.2163		0.02681	76.12
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.58	SULFATE	n.a.	n.a.		0.00124	3.51
Total:				0.2163	0.000	0.028	79.63

29 1204694599/2062981/100/1/DUP

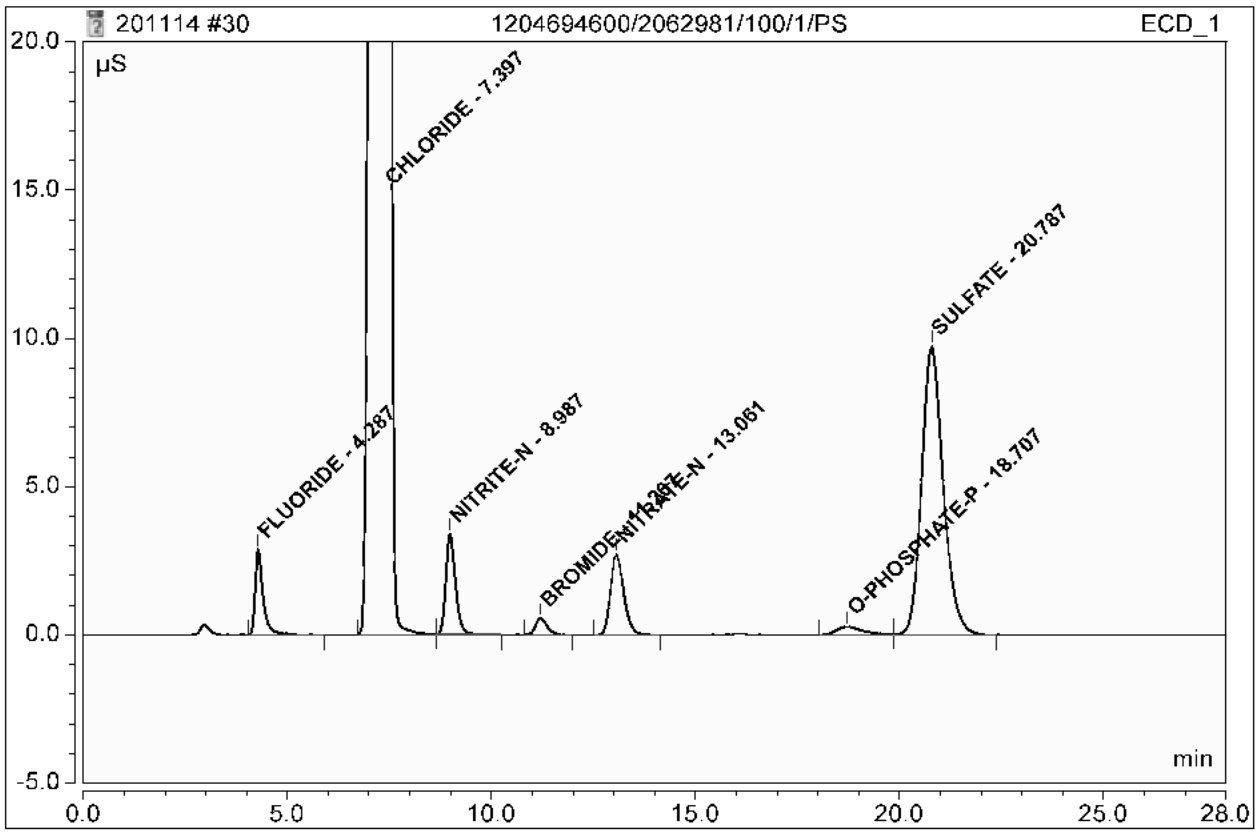
Sample Name:	**1204694599/2062981/100/1/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 22:07**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.28	FLUORIDE	n.a.	0.0350		0.00596	0.01
2	7.40	CHLORIDE	n.a.	567.0551		101.68024	95.62
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	1.2905		0.09156	0.09
4	13.05	NITRATE-N	n.a.	0.0312		0.00272	0.00
5	18.77	O-PHOSPHATE-P	n.a.	n.a.		0.00896	0.01
6	20.77	SULFATE	n.a.	35.2634		4.55136	4.28
Total:				603.6753	0.000	106.341	100.00

30 1204694600/2062981/100/1/PS

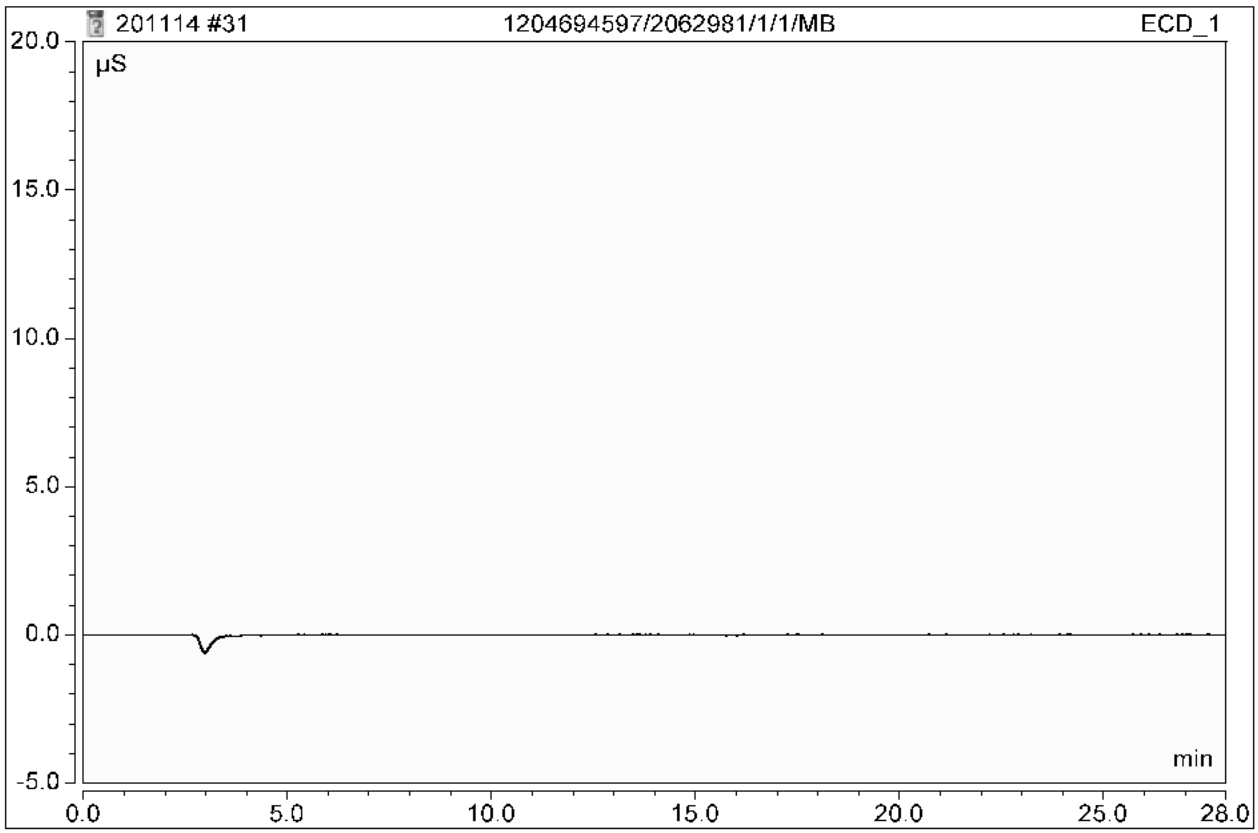
Sample Name:	**1204694600/2062981/100/1/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 22:37**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	2.3590		0.63807	0.58
2	7.40	CHLORIDE	n.a.	569.0249		102.03348	91.99
3	8.99	NITRITE-N	n.a.	2.4192		0.92588	0.83
4	11.21	BROMIDE	n.a.	2.5153		0.17874	0.16
5	13.06	NITRATE-N	n.a.	2.3916		1.01321	0.91
6	18.71	O-PHOSPHATE-P	n.a.	0.8826		0.20076	0.18
7	20.79	SULFATE	n.a.	45.9401		5.92826	5.34
Total:				625.5327	0.000	110.918	100.00

31 1204694597/2062981/1/1/MB

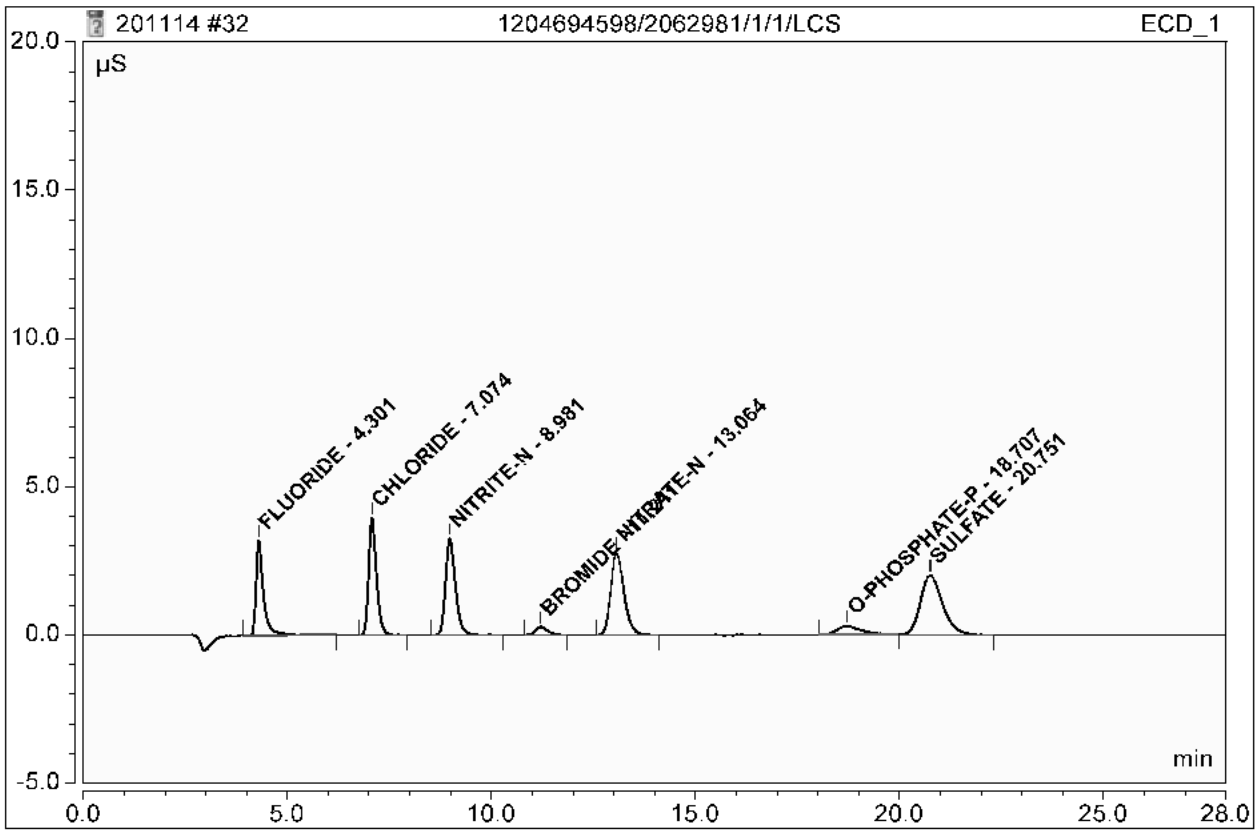
Sample Name:	**1204694597/2062981/1/1/MB**	*Injection Volume:*	**5000.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 23:08**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

32 1204694598/2062981/1/1/LCS

Sample Name:	**1204694598/2062981/1/1/LCS**	*Injection Volume:*	**5000.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 23:39**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



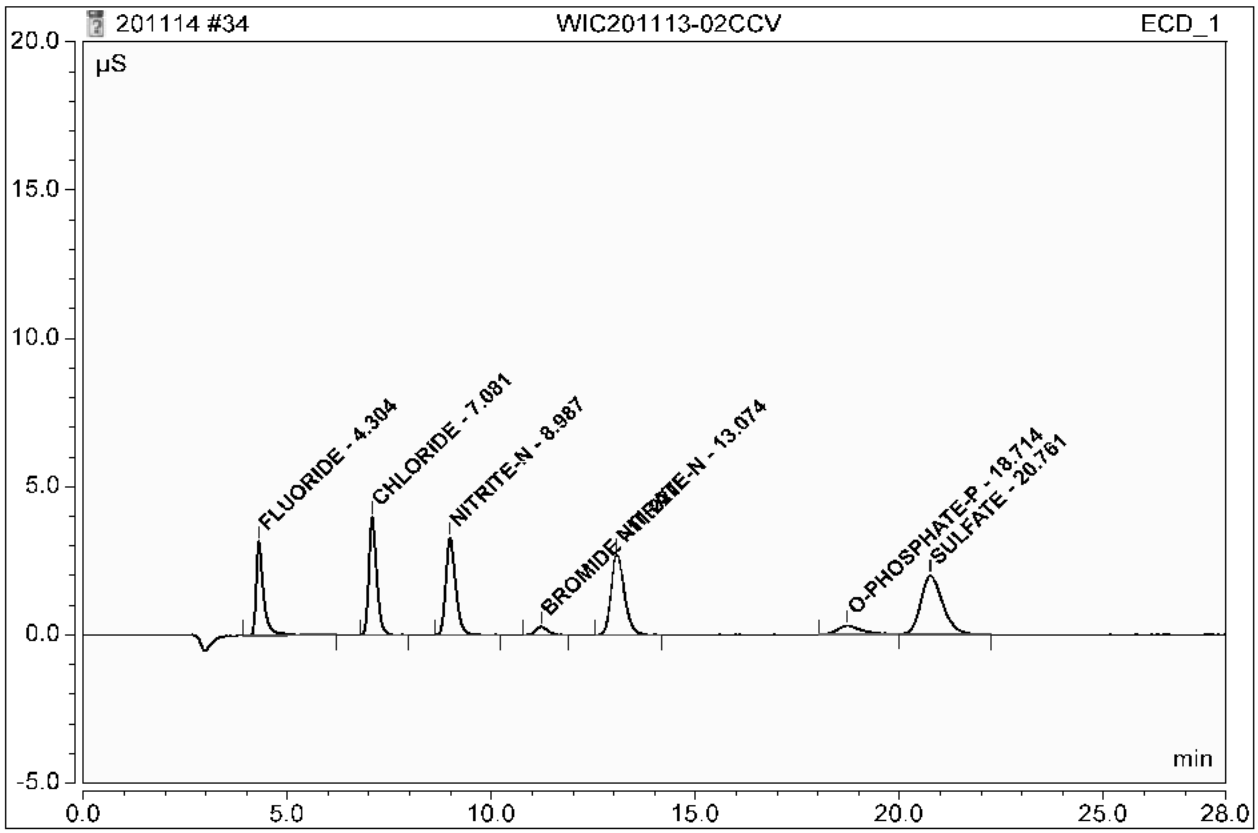
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4773		0.67025	13.36
2	7.07	CHLORIDE	n.a.	4.8838		0.86386	17.22
3	8.98	NITRITE-N	n.a.	2.3576		0.90201	17.98
4	11.21	BROMIDE	n.a.	1.2249		0.08688	1.73
5	13.06	NITRATE-N	n.a.	2.4233		1.02679	20.47
6	18.71	O-PHOSPHATE-P	n.a.	0.8331		0.19285	3.84
7	20.75	SULFATE	n.a.	9.8434		1.27313	25.38
Total:				24.0434	0.000	5.016	100.00

This is runlog for Sequence 201114.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
1204694179	11/15/20 00:10	2062706	1	201114	LXA2
CCV	11/15/20 00:41		1	201114	LXA2
CCB	11/15/20 01:12		1	201114	LXA2

34 WIC201113-02CCV

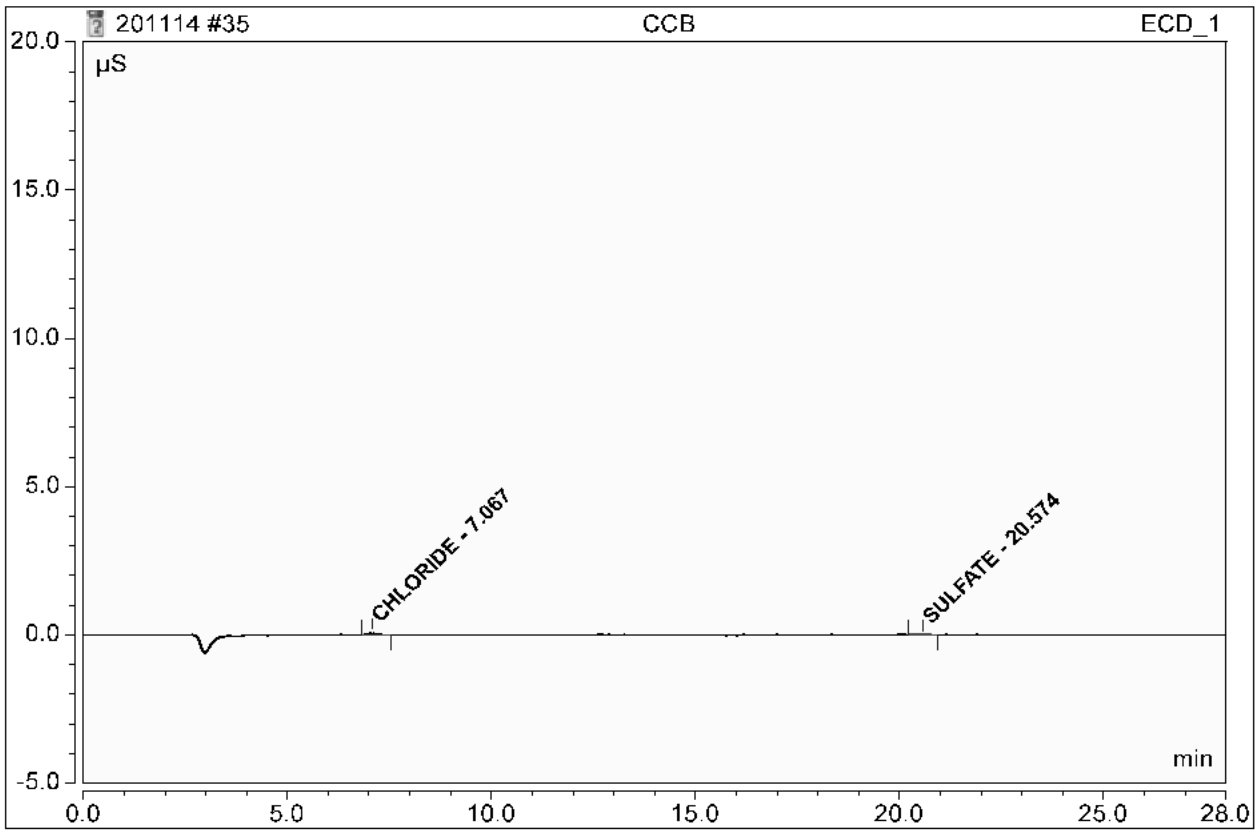
Sample Name:	**WIC201113-02CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 0:41**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4459		0.66171	13.26
2	7.08	CHLORIDE	n.a.	4.9095		0.86846	17.40
3	8.99	NITRITE-N	n.a.	2.3673		0.90577	18.15
4	11.22	BROMIDE	n.a.	1.2141		0.08612	1.73
5	13.07	NITRATE-N	n.a.	2.3980		1.01597	20.36
6	18.71	O-PHOSPHATE-P	n.a.	0.8394		0.19386	3.88
7	20.76	SULFATE	n.a.	9.7305		1.25857	25.22
Total:				23.9048	0.000	4.990	100.00

35 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 1:12**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



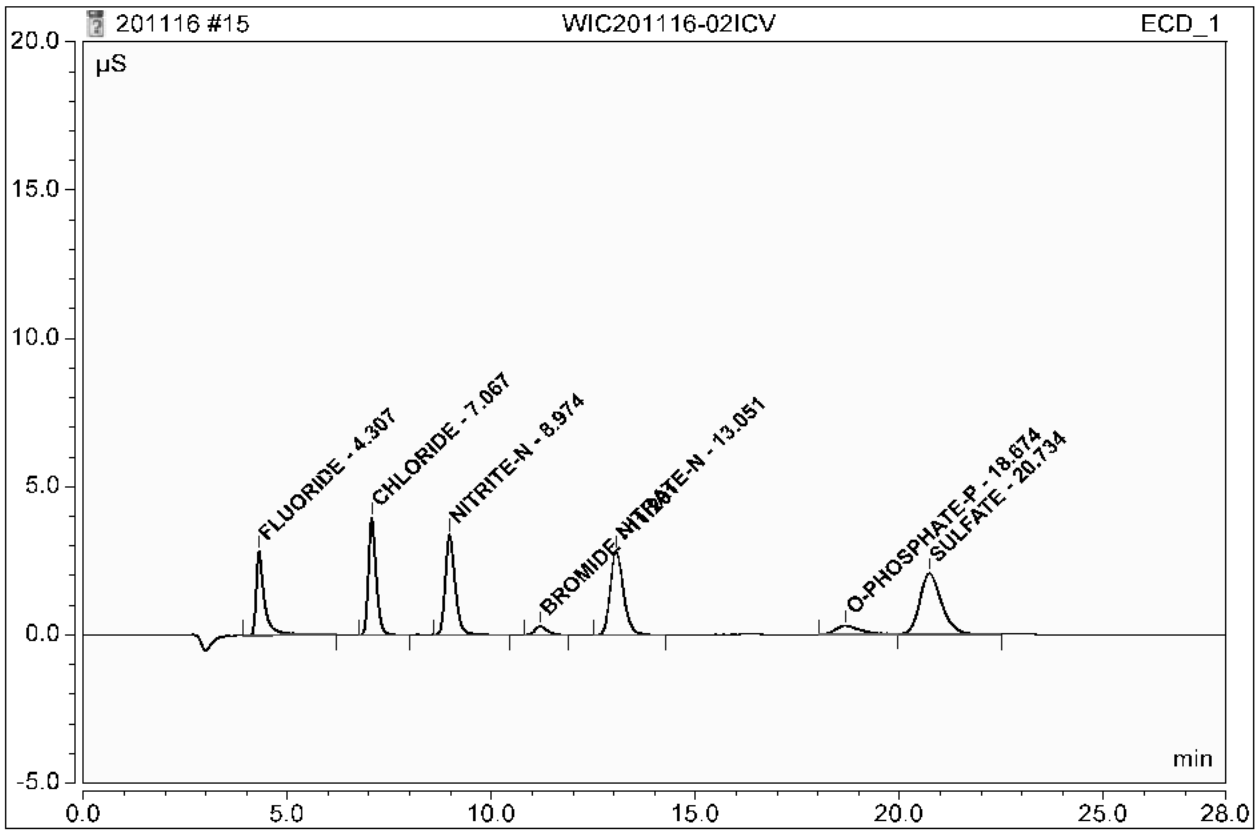
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.07	CHLORIDE	n.a.	0.1405		0.01323	90.33
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	20.57	SULFATE	n.a.	n.a.		0.00142	9.67
Total:				0.1405	0.000	0.015	100.00

This is runlog for Sequence 201116.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/16/20 08:16		1	201116	LXA2
ICV	11/16/20 08:46		1	201116	LXA2
ICB	11/16/20 09:17		1	201116	LXA2
527509007	11/16/20 10:40	2062981	1	201116	LXA2
527509011	11/16/20 11:11	2062981	500	201116	LXA2
527510002	11/16/20 11:42	2062981	1000	201116	LXA2
527510008	11/16/20 12:13	2062981	1000	201116	LXA2
527512005	11/16/20 12:43	2062981	500	201116	LXA2
527513002	11/16/20 13:14	2062981	1000	201116	LXA2
527513004	11/16/20 13:45	2062981	1000	201116	LXA2
527509002	11/16/20 14:16	2062981	10000	201116	LXA2
1204694599	11/16/20 14:47	2062981	10000	201116	LXA2
1204694600	11/16/20 15:18	2062981	10000	201116	LXA2
CVH	11/16/20 15:49		1	201116	LXA2
CCB	11/16/20 16:20		1	201116	LXA2
527509002	11/16/20 16:51	2062981	200	201116	LXA2
1204694599	11/16/20 17:21	2062981	200	201116	LXA2
1204694600	11/16/20 17:52	2062981	200	201116	LXA2
527509007	11/16/20 18:23	2062981	1	201116	LXA2
CCV	11/16/20 18:54		1	201116	LXA2
CCB	11/16/20 19:25		1	201116	LXA2

15 WIC201116-02ICV

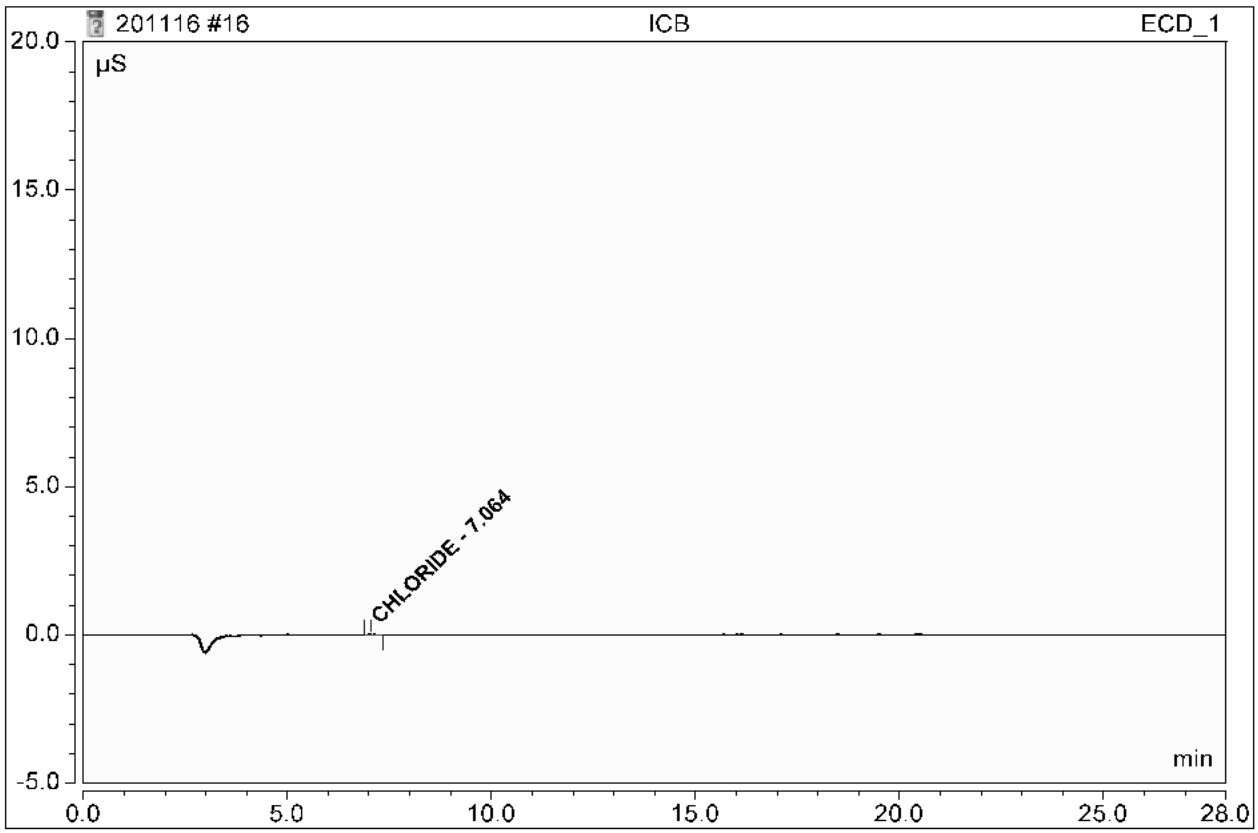
Sample Name:	**WIC201116-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 8:46**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	2.4431		0.66094	13.08
2	7.07	CHLORIDE	n.a.	4.8190		0.85223	16.87
3	8.97	NITRITE-N	n.a.	2.4316		0.93067	18.42
4	11.20	BROMIDE	n.a.	1.2403		0.08798	1.74
5	13.05	NITRATE-N	n.a.	2.4562		1.04086	20.60
6	18.67	O-PHOSPHATE-P	n.a.	0.8513		0.19576	3.87
7	20.73	SULFATE	n.a.	9.9257		1.28375	25.41
Total:				24.1673	0.000	5.052	100.00

16 ICB

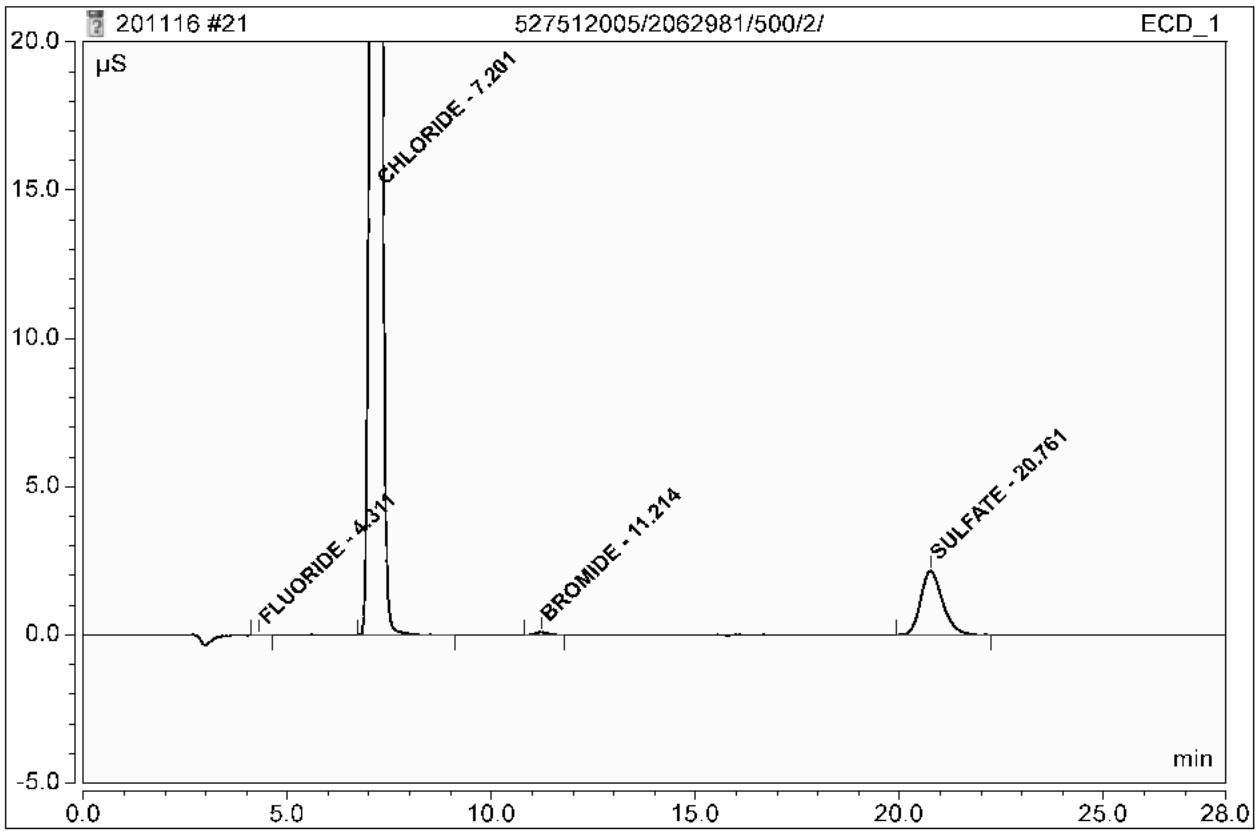
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 9:17**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.06	CHLORIDE	n.a.	0.0736		0.00122	100.00
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0736	0.000	0.001	100.00

21 527512005/2062981/500/2/

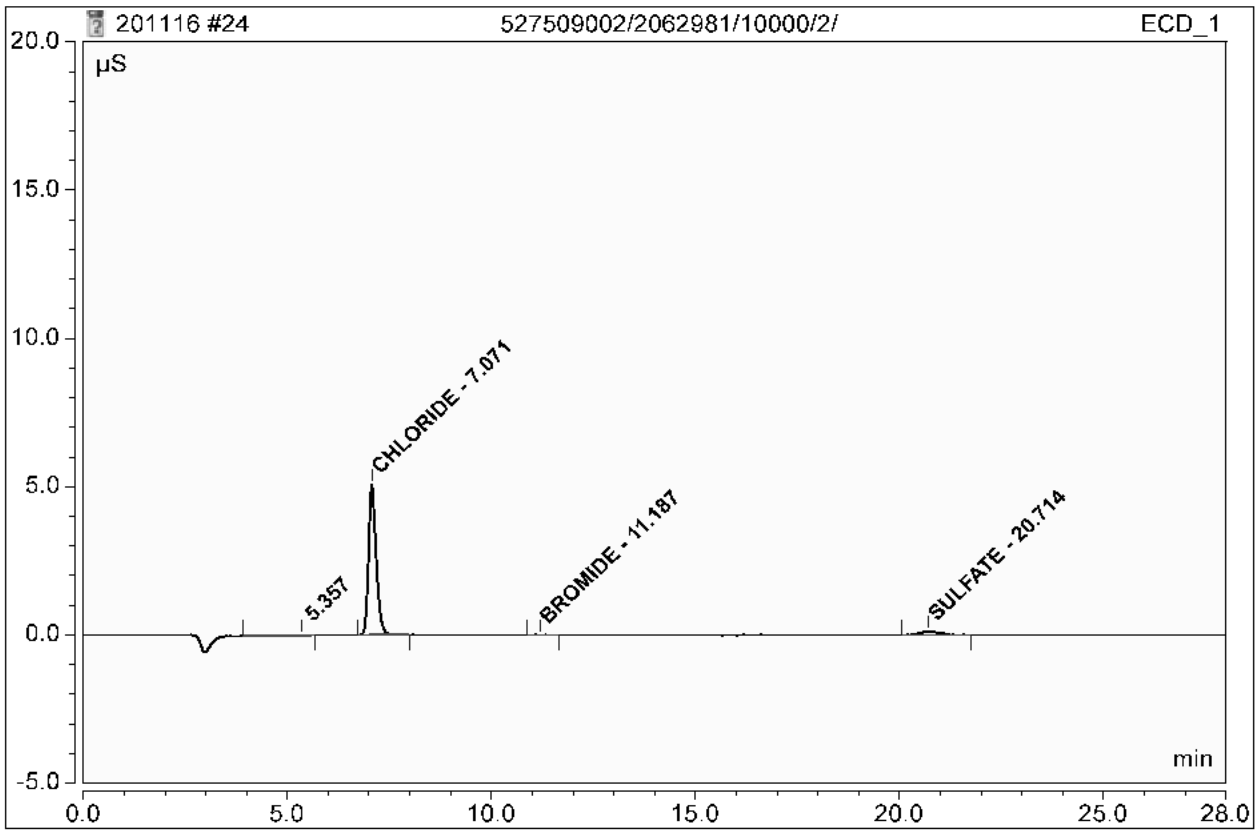
Sample Name:	**527512005/2062981/500/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 12:43**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	0.0172		0.00111	0.00
2	7.20	CHLORIDE	n.a.	151.2660		27.11514	95.25
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.3936		0.02771	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.76	SULFATE	n.a.	10.2244		1.32226	4.65
Total:				161.9011	0.000	28.466	100.00

24 527509002/2062981/10000/2/

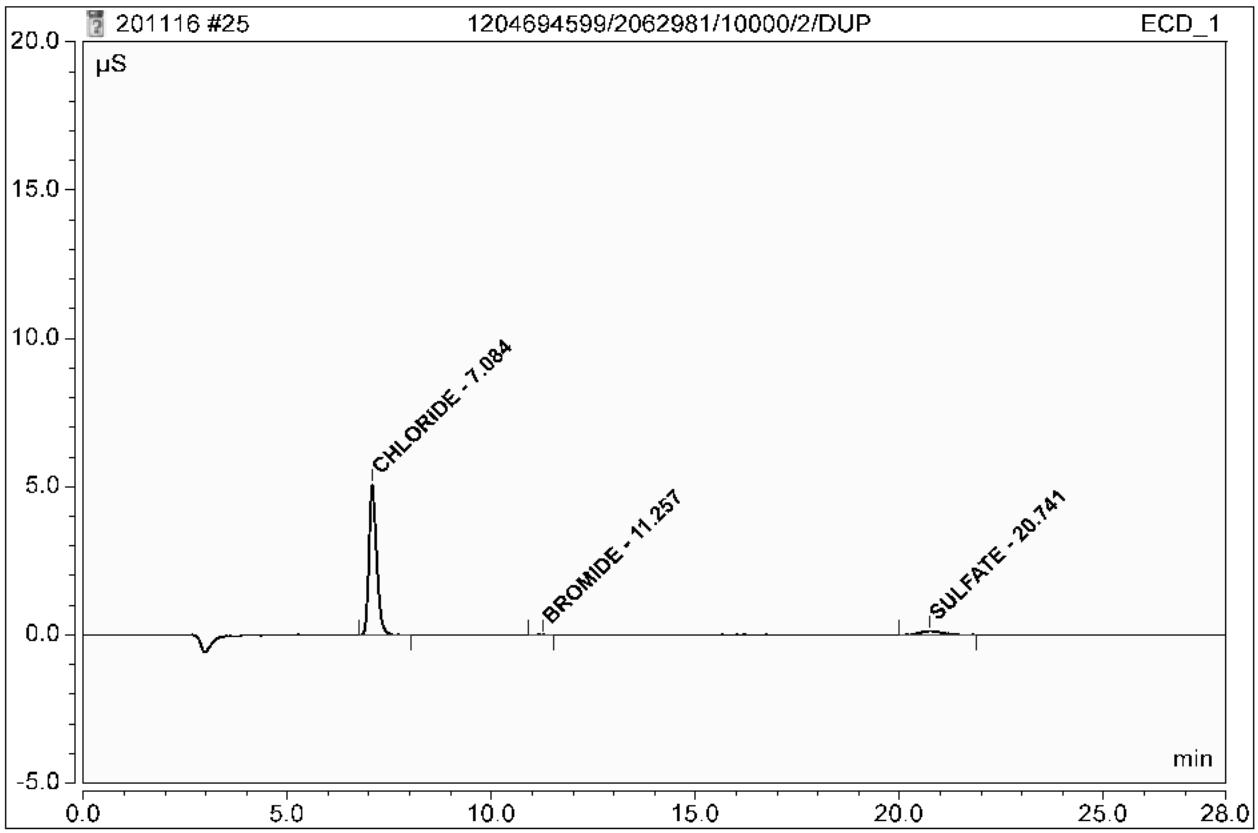
Sample Name:	**527509002/2062981/10000/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 14:16**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
2	7.07	CHLORIDE	n.a.	6.1539		1.09162	93.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.19	BROMIDE	n.a.	0.0300		0.00183	0.16
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.71	SULFATE	n.a.	0.5154		0.07017	6.00
Total:				6.6993	0.000	1.164	99.52

25 1204694599/2062981/10000/2/DUP

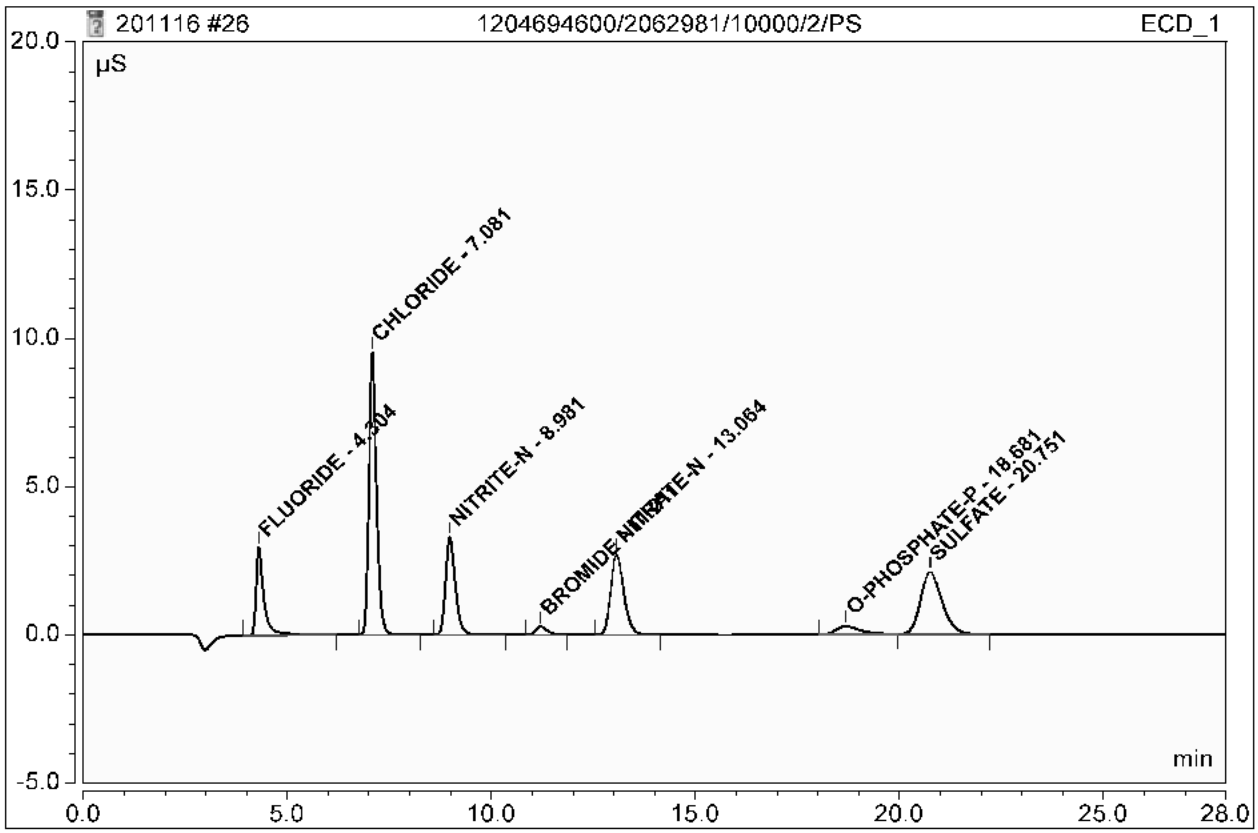
Sample Name:	**1204694599/2062981/10000/2/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 14:47**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.08	CHLORIDE	n.a.	6.1455		1.09013	93.73
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.26	BROMIDE	n.a.	0.0243		0.00142	0.12
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.74	SULFATE	n.a.	0.5255		0.07147	6.15
Total:				6.6953	0.000	1.163	100.00

26 1204694600/2062981/10000/2/PS

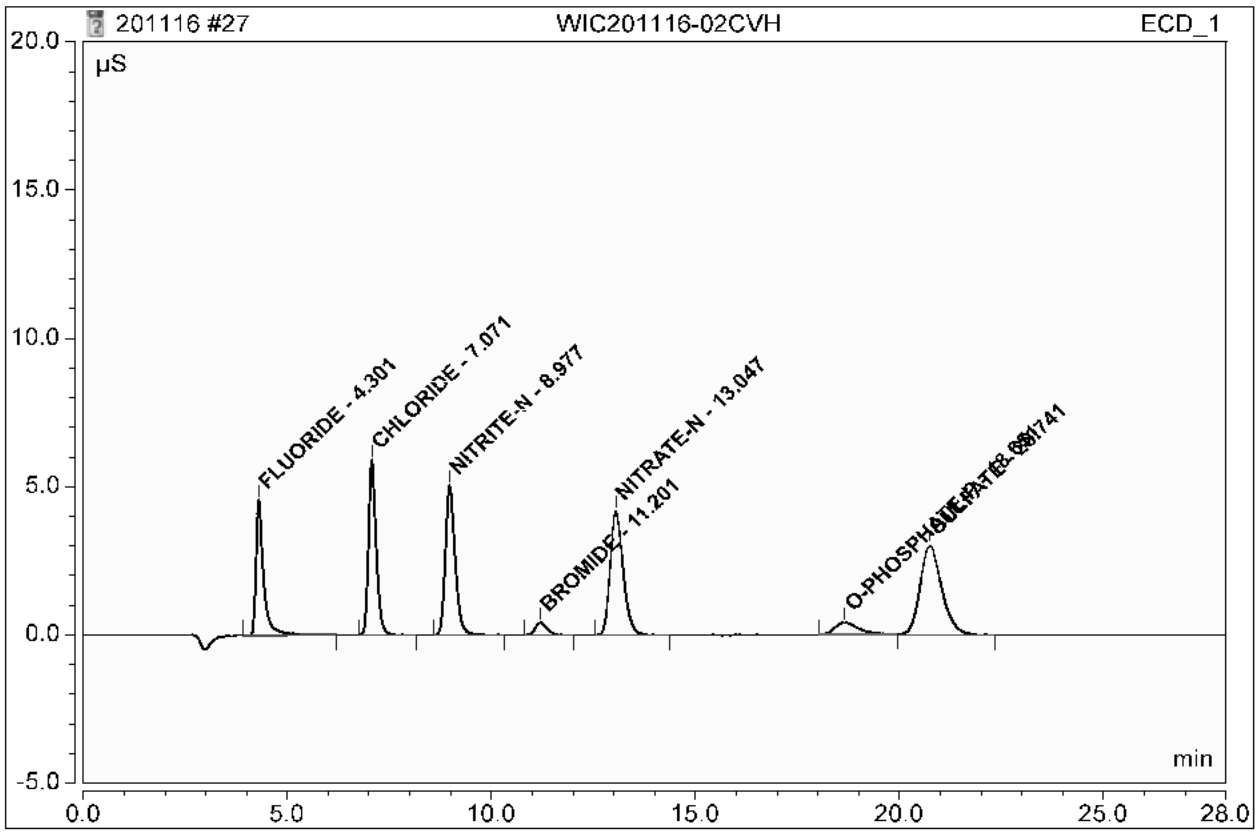
Sample Name:	**1204694600/2062981/10000/2/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 15:18**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4065		0.65099	10.56
2	7.08	CHLORIDE	n.a.	11.2848		2.01177	32.64
3	8.98	NITRITE-N	n.a.	2.3756		0.90898	14.75
4	11.21	BROMIDE	n.a.	1.2428		0.08816	1.43
5	13.06	NITRATE-N	n.a.	2.3733		1.00539	16.31
6	18.68	O-PHOSPHATE-P	n.a.	0.8010		0.18770	3.05
7	20.75	SULFATE	n.a.	10.1364		1.31092	21.27
Total:				30.6204	0.000	6.164	100.00

27 WIC201116-02CVH

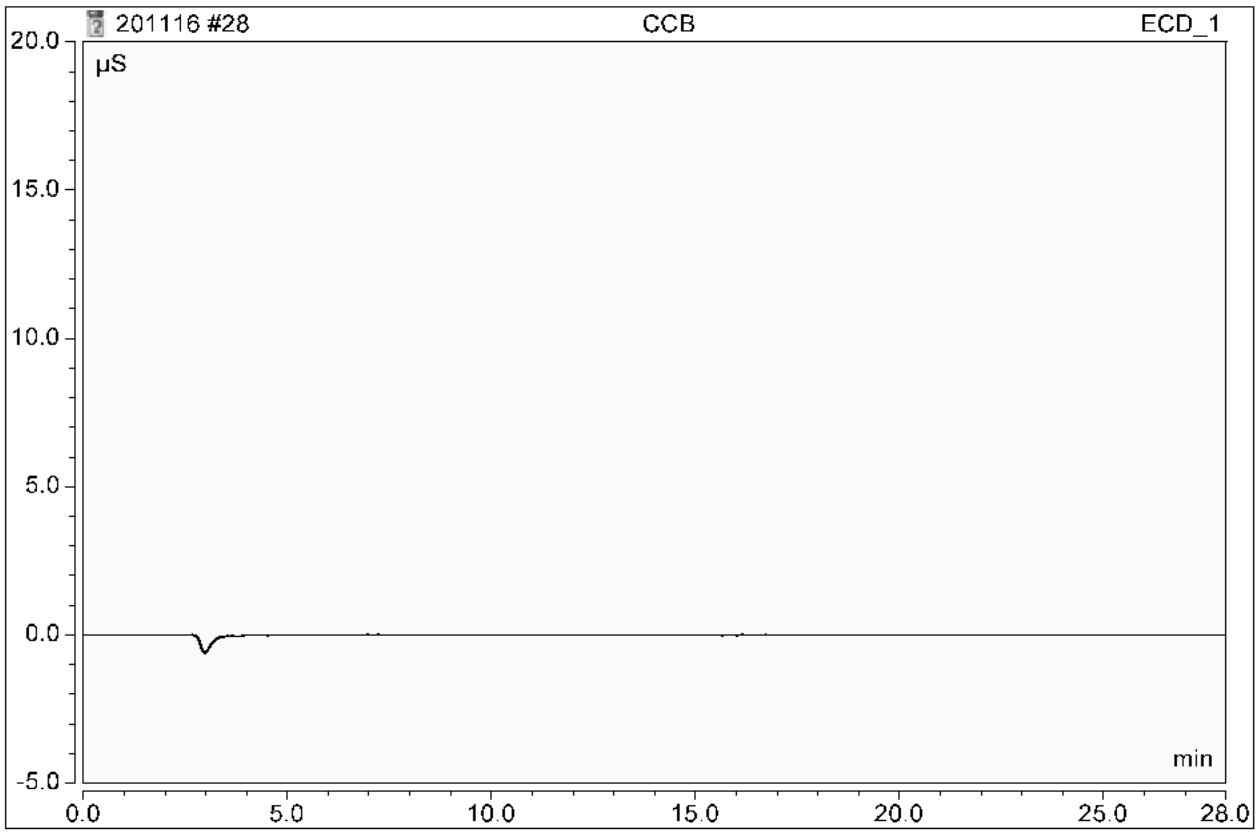
Sample Name:	**WIC201116-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 15:49**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.5865		0.97193	13.12
2	7.07	CHLORIDE	n.a.	7.1247		1.26573	17.09
3	8.98	NITRITE-N	n.a.	3.5939		1.38052	18.64
4	11.20	BROMIDE	n.a.	1.8309		0.13002	1.76
5	13.05	NITRATE-N	n.a.	3.5989		1.53007	20.66
6	18.65	O-PHOSPHATE-P	n.a.	1.3096		0.26904	3.63
7	20.74	SULFATE	n.a.	14.3892		1.85937	25.10
Total:				35.4337	0.000	7.407	100.00

28 CCB

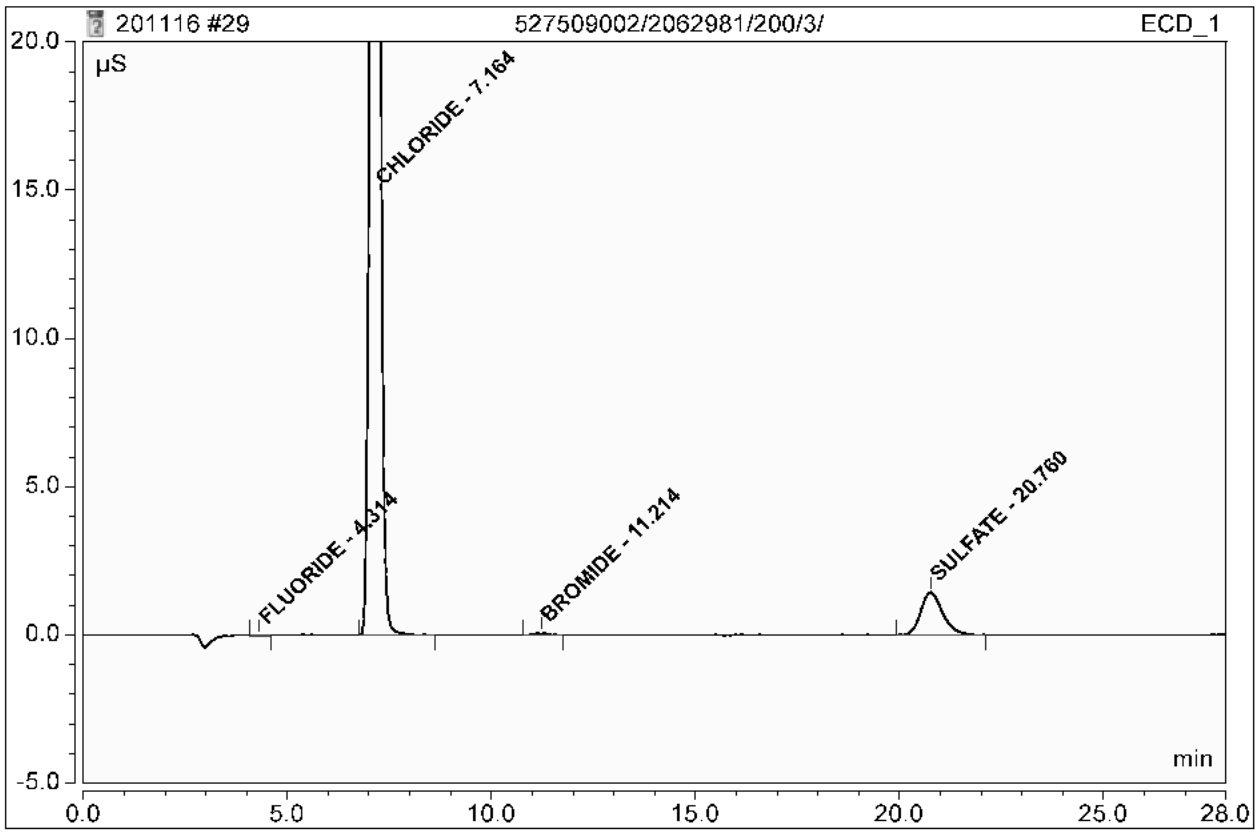
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 16:20**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

29 527509002/2062981/200/3/

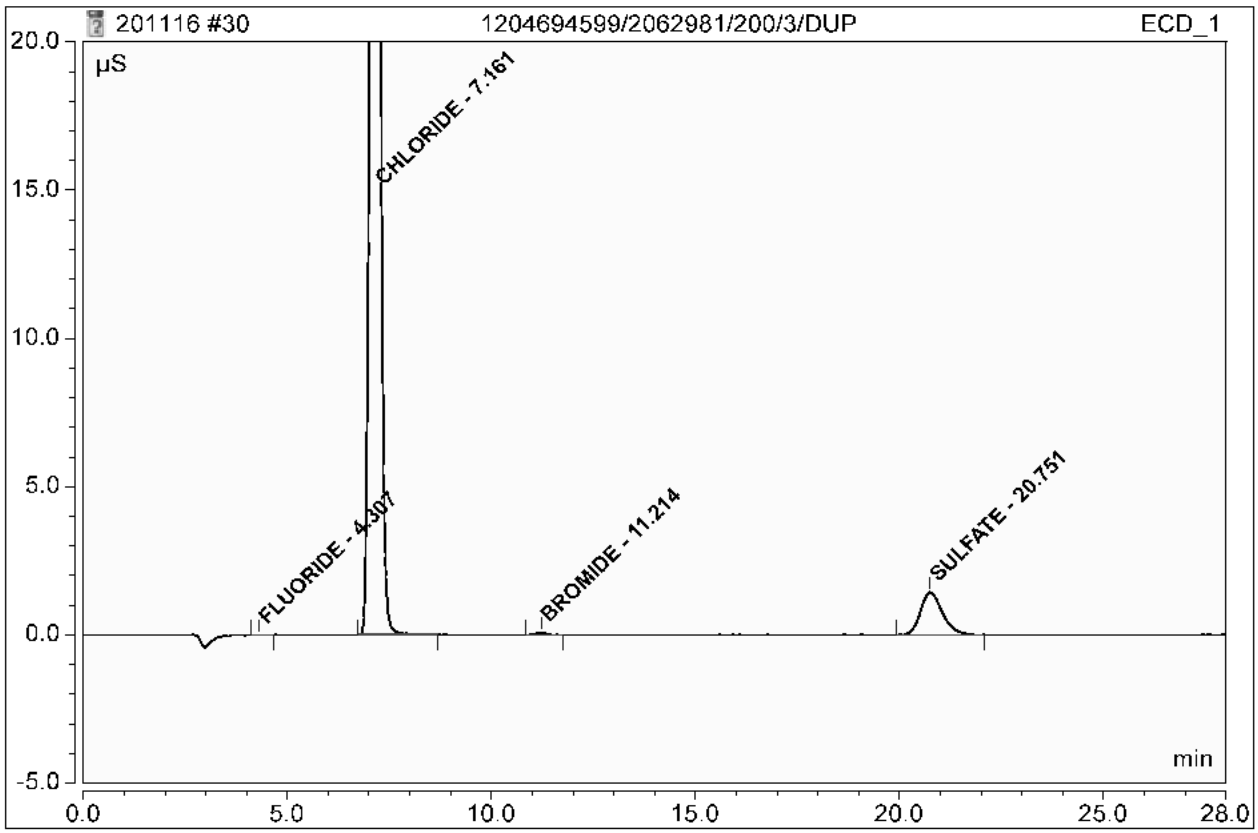
Sample Name:	**527509002/2062981/200/3/**	*Injection Volume:*	**5000.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 16:51**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	0.0176		0.00123	0.01
2	7.16	CHLORIDE	n.a.	102.8329		18.42944	95.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.2644		0.01851	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.76	SULFATE	n.a.	6.7658		0.87624	4.53
Total:				109.8807	0.000	19.325	100.00

30 1204694599/2062981/200/3/DUP

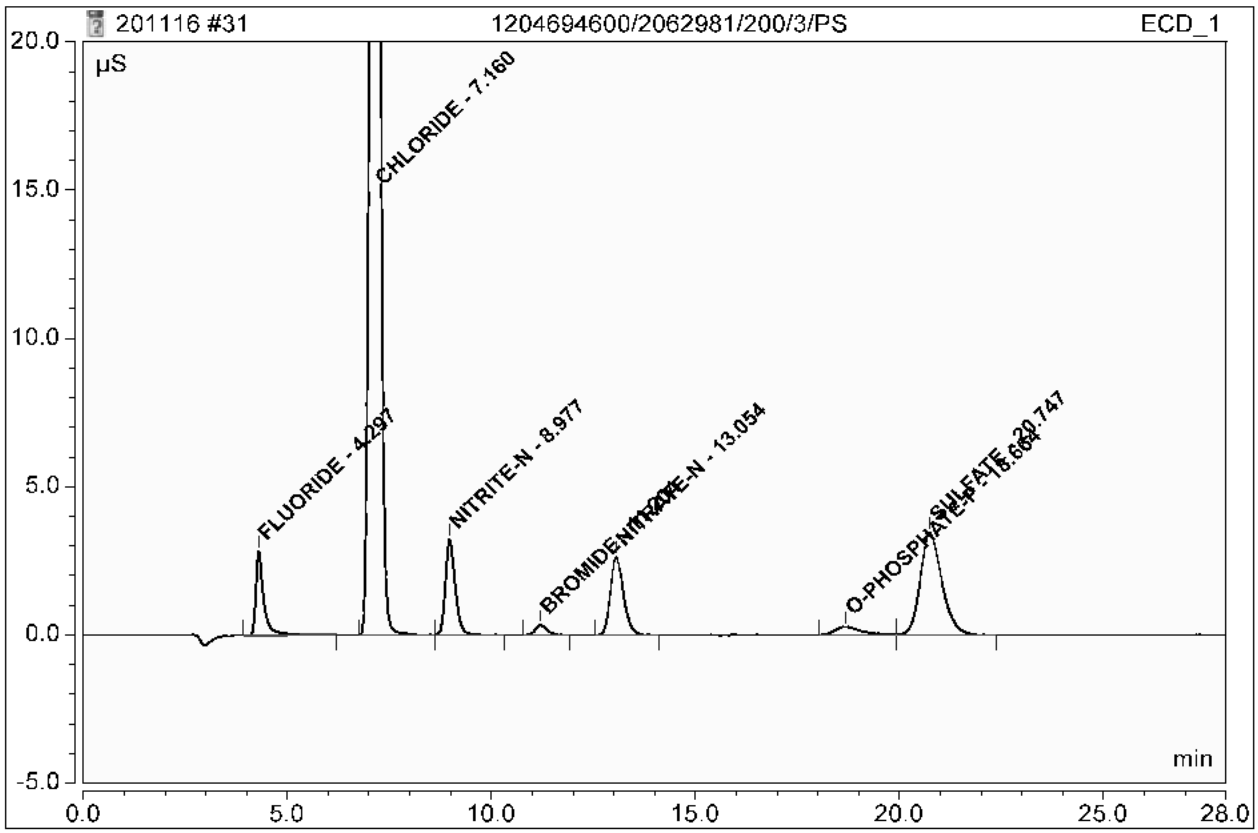
Sample Name:	**1204694599/2062981/200/3/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 17:21**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	0.0174		0.00118	0.01
2	7.16	CHLORIDE	n.a.	102.8487		18.43228	95.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.2673		0.01872	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.75	SULFATE	n.a.	6.7751		0.87744	4.54
Total:				109.9085	0.000	19.330	100.00

31 1204694600/2062981/200/3/PS

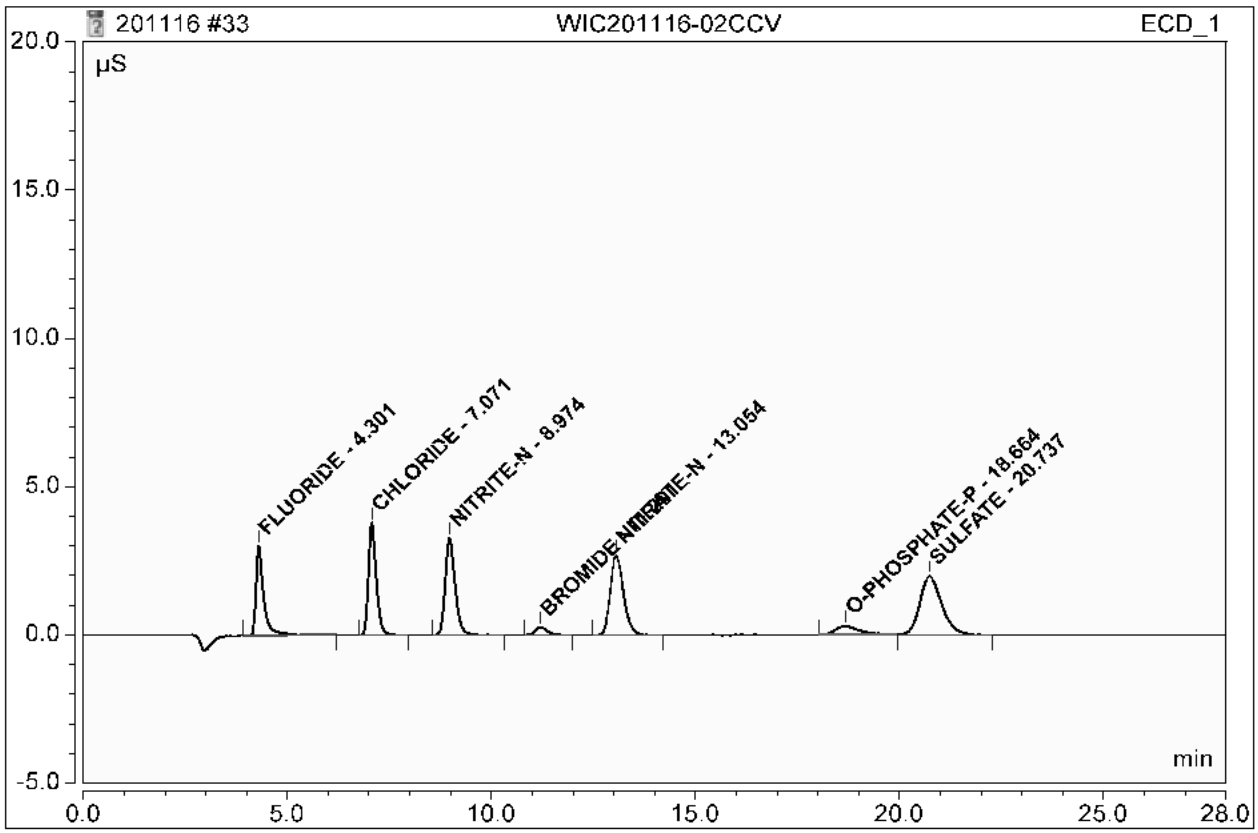
Sample Name:	**1204694600/2062981/200/3/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 17:52**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.3097		0.62465	2.56
2	7.16	CHLORIDE	n.a.	108.7050		19.48252	79.96
3	8.98	NITRITE-N	n.a.	2.3009		0.88009	3.61
4	11.20	BROMIDE	n.a.	1.4500		0.10291	0.42
5	13.05	NITRATE-N	n.a.	2.2920		0.97058	3.98
6	18.66	O-PHOSPHATE-P	n.a.	0.8756		0.19964	0.82
7	20.75	SULFATE	n.a.	16.3047		2.10640	8.64
Total:				134.2380	0.000	24.367	100.00

33 WIC201116-02CCV

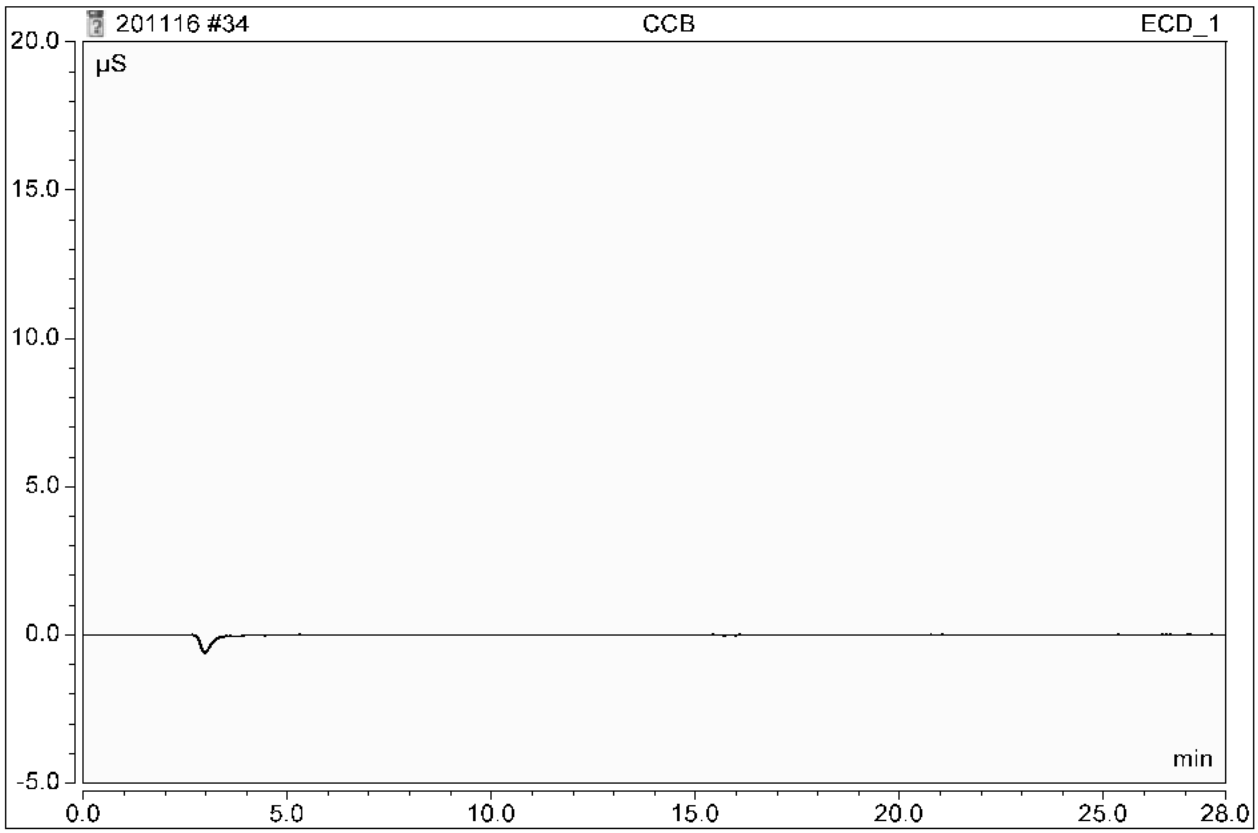
Sample Name:	**WIC201116-02CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 18:54**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4178		0.65406	13.35
2	7.07	CHLORIDE	n.a.	4.6619		0.82406	16.82
3	8.97	NITRITE-N	n.a.	2.3657		0.90515	18.47
4	11.20	BROMIDE	n.a.	1.2163		0.08627	1.76
5	13.05	NITRATE-N	n.a.	2.3622		1.00061	20.42
6	18.66	O-PHOSPHATE-P	n.a.	0.8239		0.19136	3.91
7	20.74	SULFATE	n.a.	9.5738		1.23837	25.27
Total:				23.4215	0.000	4.900	100.00

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 19:25**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



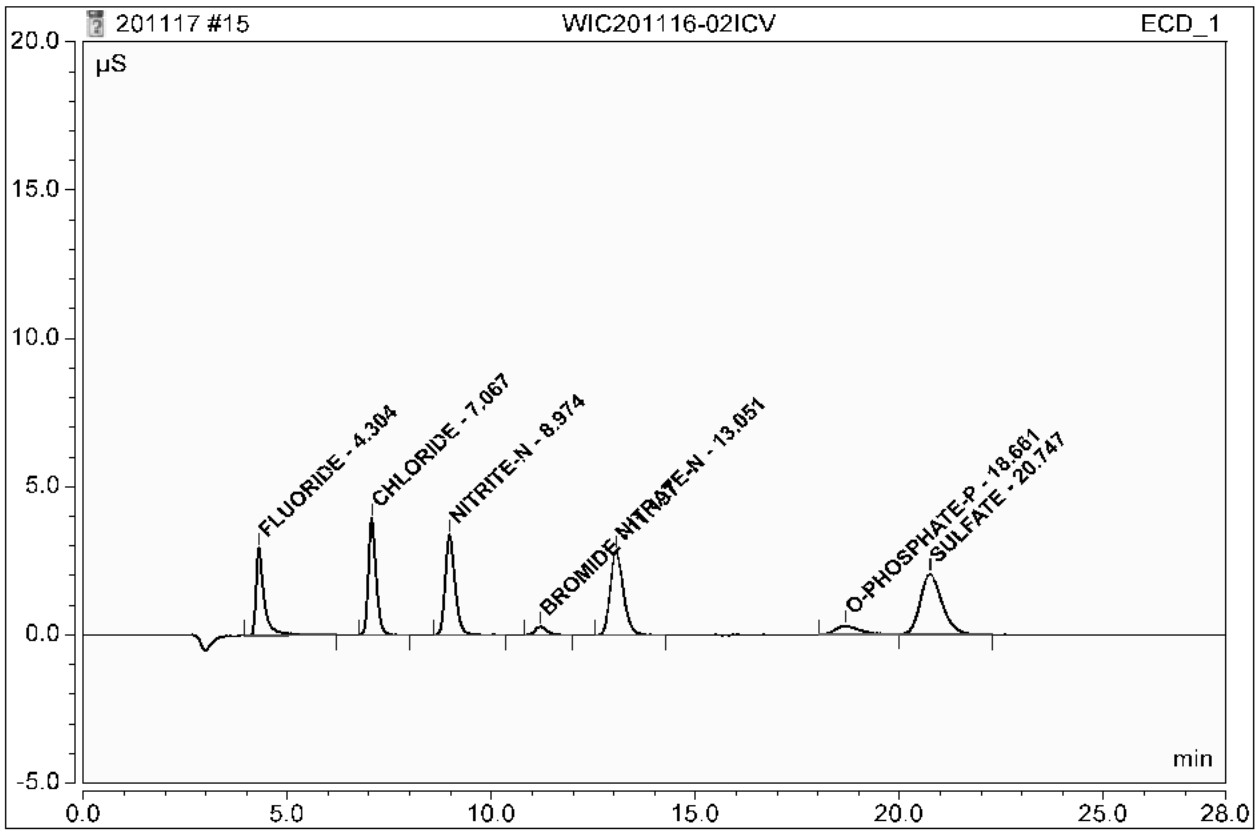
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 201117.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/17/20 07:54		1	201117	LXA2
ICV	11/17/20 08:24		1	201117	LXA2
ICB	11/17/20 08:55		1	201117	LXA2
527509002	11/17/20 10:45	2062981	200	201117	LXA2
1204694599	11/17/20 11:16	2062981	200	201117	LXA2
1204694600	11/17/20 11:47	2062981	200	201117	LXA2
CVH	11/17/20 12:17		1	201117	LXA2
CCB	11/17/20 12:48		1	201117	LXA2
527512005	11/17/20 14:35	10000	3	201117	LXA2
527513002	11/17/20 15:05	20000	3	201117	LXA2
527513004	11/17/20 15:36	20000	3	201117	LXA2
527513006	11/17/20 16:07	5000	2	201117	LXA2
CCV	11/17/20 16:38		1	201117	LXA2
CCB	11/17/20 17:08		1	201117	LXA2
527593020	11/17/20 17:44	2063976	1	201117	LXA2
527593021	11/17/20 18:15	2063976	1	201117	LXA2
527655001	11/17/20 18:46	2063976	1	201117	LXA2
527655002	11/17/20 19:17	2063976	200	201117	LXA2
527655003	11/17/20 19:47	2063976	200	201117	LXA2
527508001	11/17/20 20:18	2063976	1	201117	LXA2
1204697019	11/17/20 20:49	2063976	1	201117	LXA2
1204697020	11/17/20 21:20	2063976	1	201117	LXA2
1204697017	11/17/20 21:51	2063976	1	201117	LXA2
1204697018	11/17/20 22:22	2063976	1	201117	LXA2
CVH	11/17/20 22:53		1	201117	LXA2
CCB	11/17/20 23:24		1	201117	LXA2
527512005	11/17/20 23:55	2062981	10000	201117	LXA2

15 WIC201116-02ICV

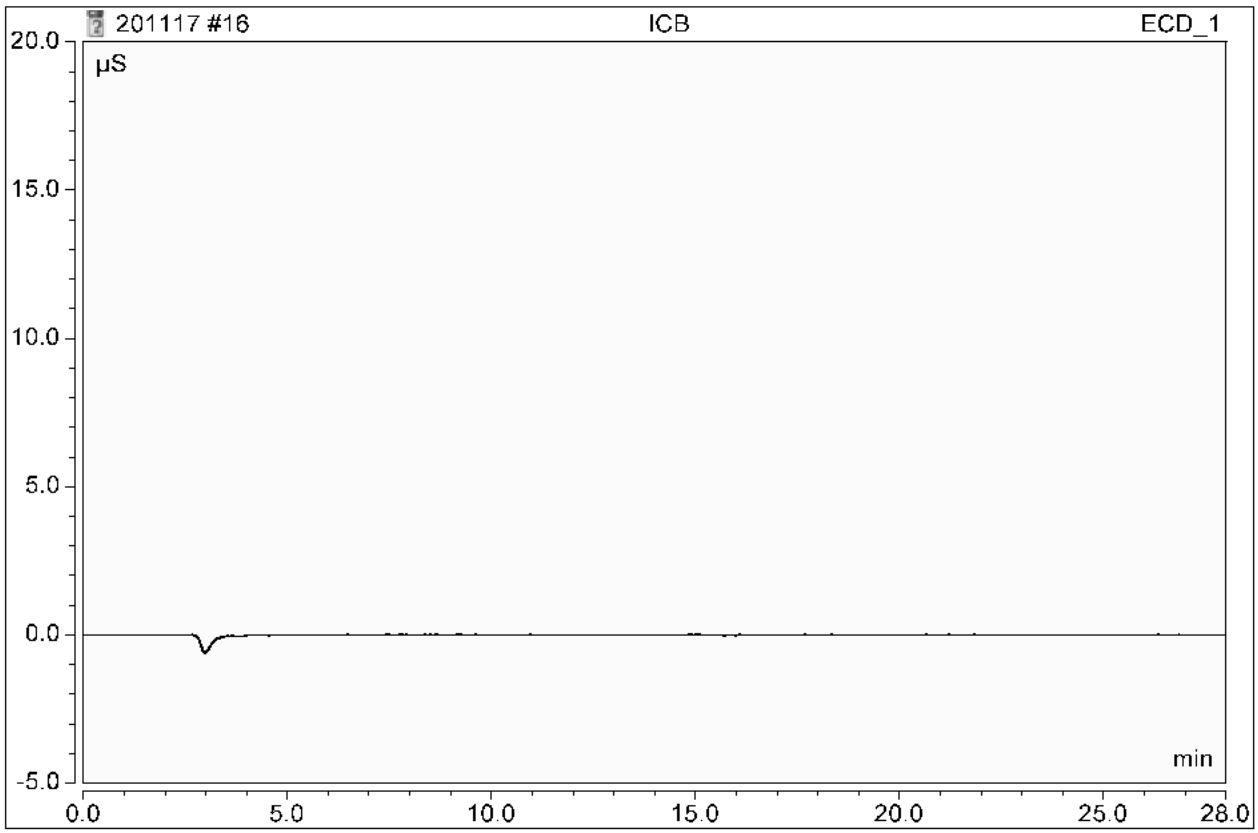
Sample Name:	**WIC201116-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 8:24**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.5028		0.67718	13.36
2	7.07	CHLORIDE	n.a.	4.8108		0.85076	16.78
3	8.97	NITRITE-N	n.a.	2.4351		0.93200	18.38
4	11.20	BROMIDE	n.a.	1.2430		0.08817	1.74
5	13.05	NITRATE-N	n.a.	2.4585		1.04186	20.55
6	18.66	O-PHOSPHATE-P	n.a.	0.8665		0.19819	3.91
7	20.75	SULFATE	n.a.	9.9067		1.28130	25.27
Total:				24.2234	0.000	5.069	100.00

16 ICB

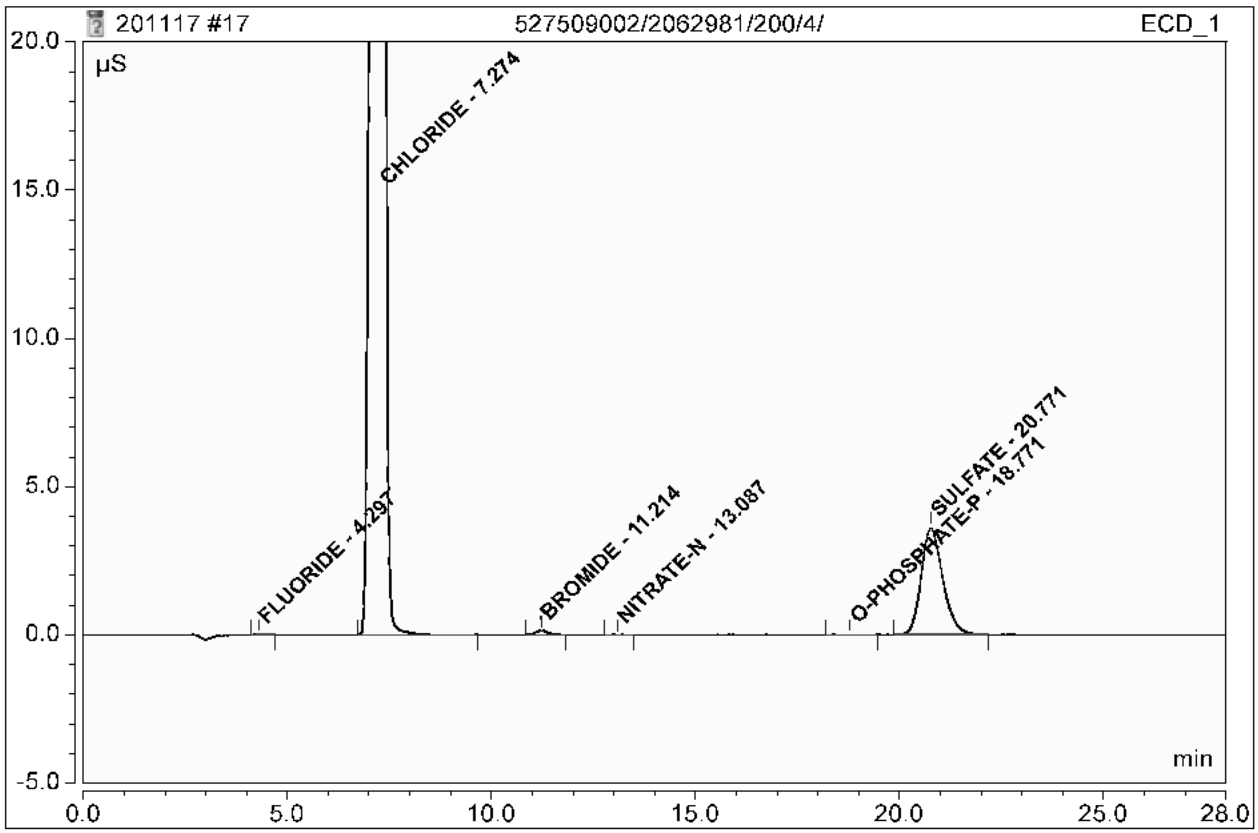
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 8:55**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

17 527509002/2062981/200/4/

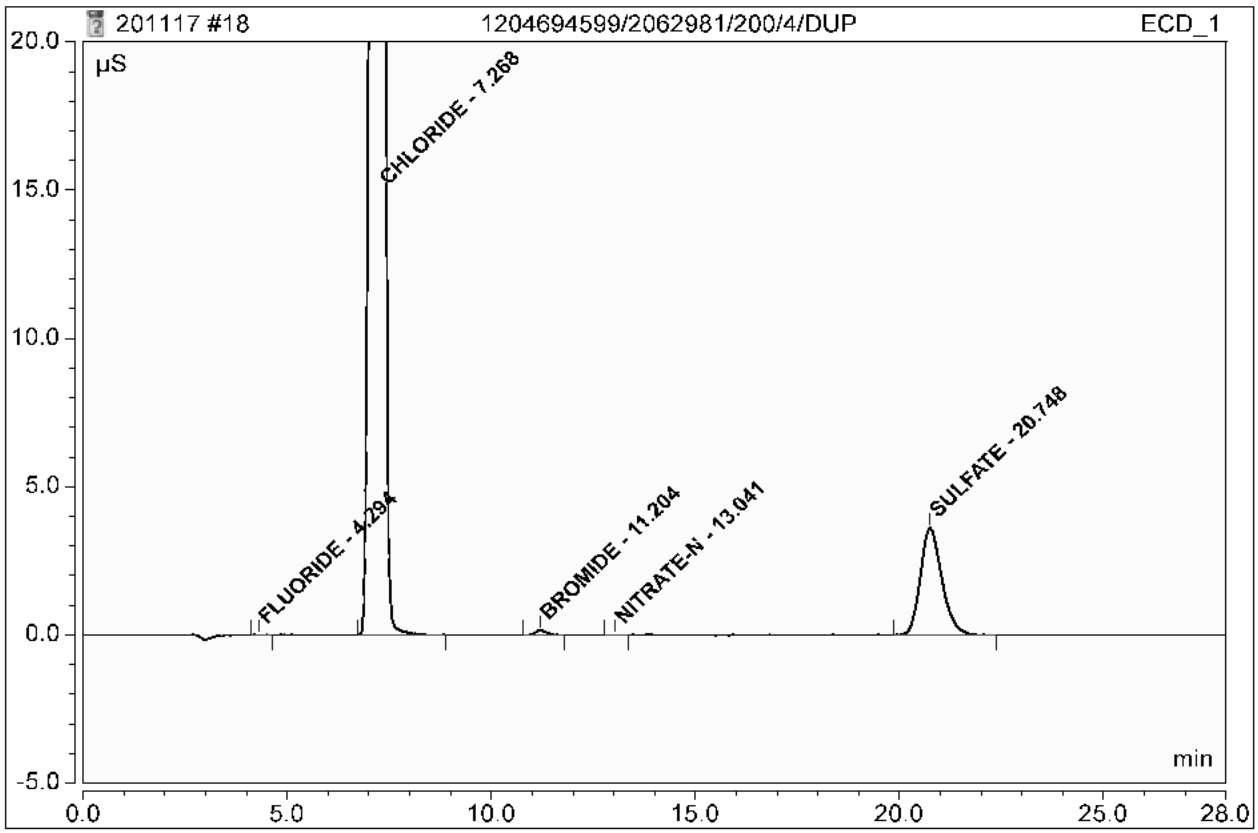
Sample Name:	**527509002/2062981/200/4/**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 10:45**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	0.0245		0.00310	0.01
2	7.27	CHLORIDE	n.a.	274.9938		49.30374	95.63
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.6441		0.04554	0.09
4	13.09	NITRATE-N	n.a.	0.0280		0.00133	0.00
5	18.77	O-PHOSPHATE-P	n.a.	n.a.		0.00458	0.01
6	20.77	SULFATE	n.a.	17.0294		2.19986	4.27
Total:				292.7198	0.000	51.558	100.00

18 1204694599/2062981/200/4/DUP

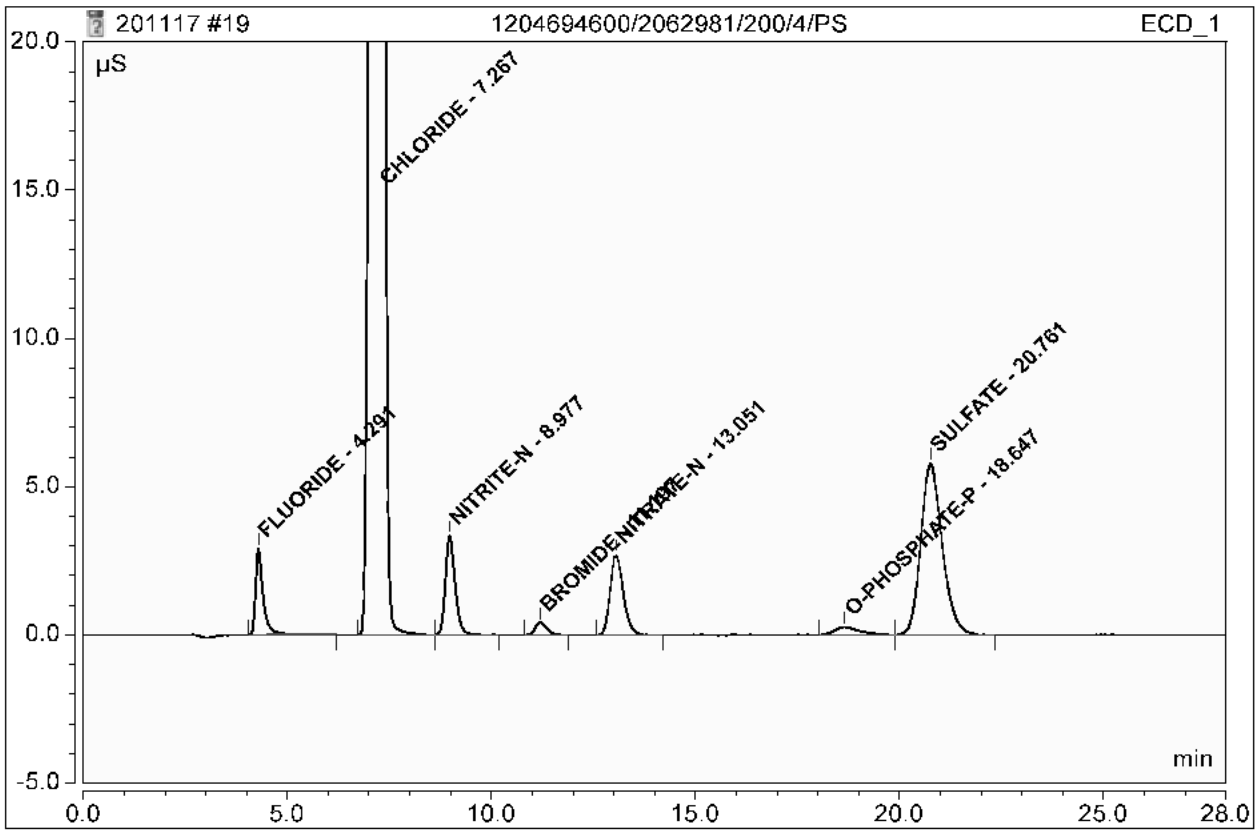
Sample Name:	**1204694599/2062981/200/4/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 11:16**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	0.0233		0.00278	0.01
2	7.27	CHLORIDE	n.a.	274.4562		49.20733	95.63
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.20	BROMIDE	n.a.	0.6487		0.04587	0.09
4	13.04	NITRATE-N	n.a.	0.0276		0.00116	0.00
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
5	20.75	SULFATE	n.a.	17.0210		2.19877	4.27
Total:				292.1768	0.000	51.456	100.00

19 1204694600/2062981/200/4/PS

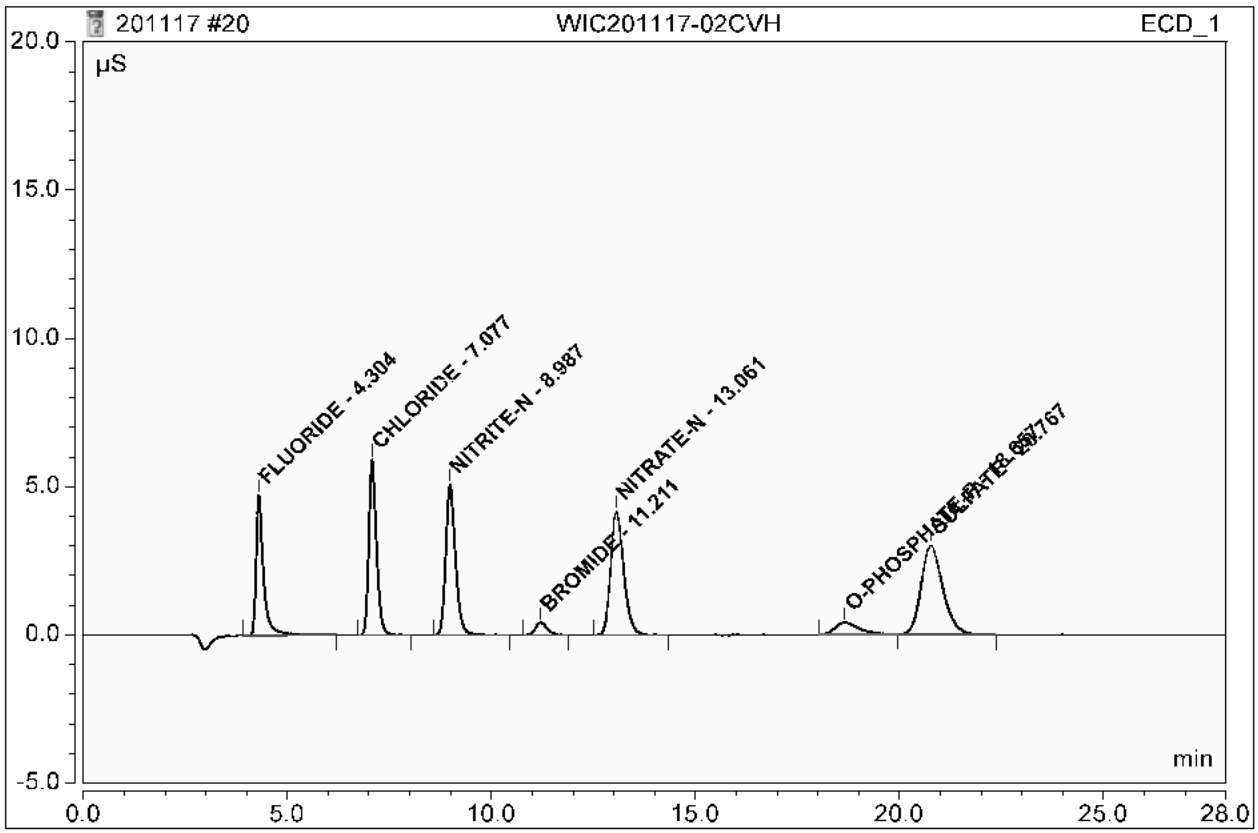
Sample Name:	**1204694600/2062981/200/4/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 11:47**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	2.3365		0.63193	1.12
2	7.27	CHLORIDE	n.a.	279.0131		50.02453	88.69
3	8.98	NITRITE-N	n.a.	2.3743		0.90849	1.61
4	11.20	BROMIDE	n.a.	1.8600		0.13209	0.23
5	13.05	NITRATE-N	n.a.	2.3665		1.00247	1.78
6	18.65	O-PHOSPHATE-P	n.a.	0.7884		0.18569	0.33
7	20.76	SULFATE	n.a.	27.2563		3.51875	6.24
Total:				315.9950	0.000	56.404	100.00

20 WIC201117-02CVH

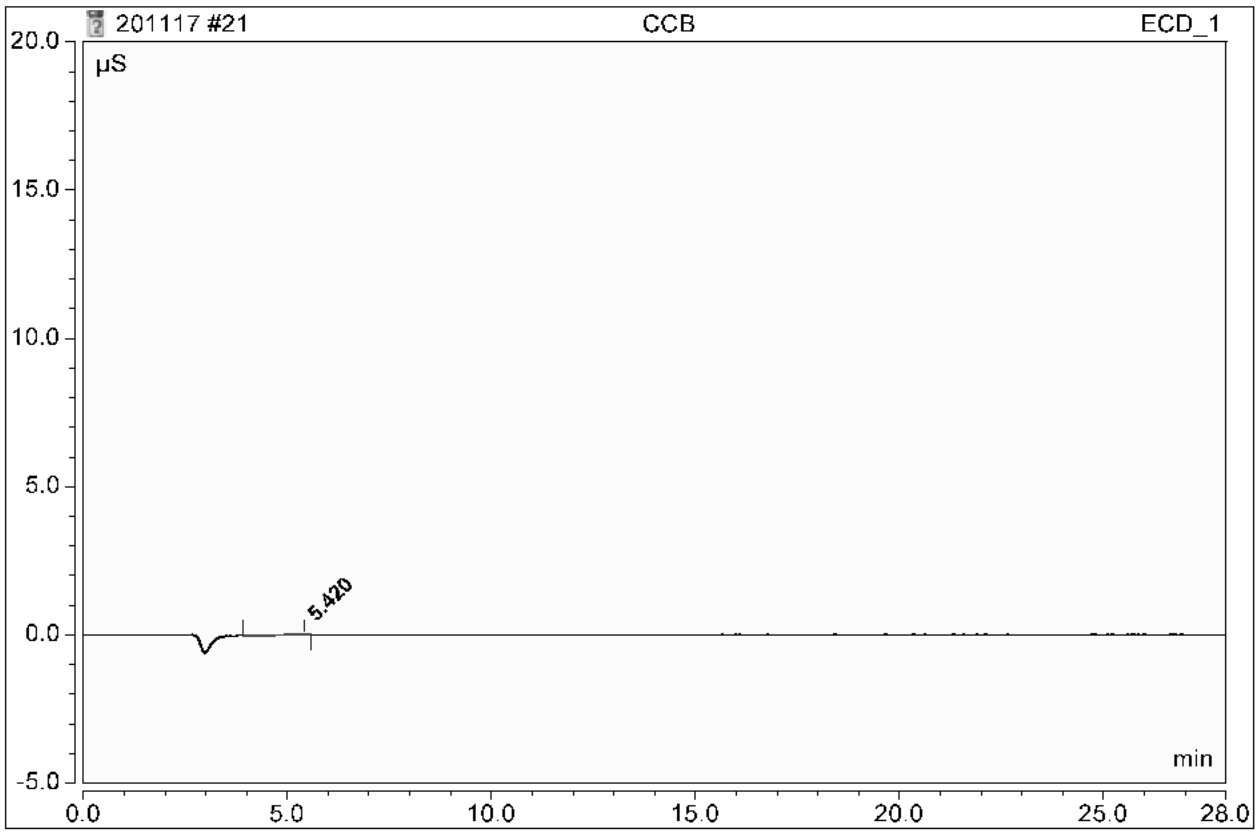
Sample Name:	**WIC201117-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 12:17**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.6105		0.97846	13.16
2	7.08	CHLORIDE	n.a.	7.1470		1.26973	17.08
3	8.99	NITRITE-N	n.a.	3.6097		1.38661	18.65
4	11.21	BROMIDE	n.a.	1.8465		0.13113	1.76
5	13.06	NITRATE-N	n.a.	3.6140		1.53655	20.67
6	18.66	O-PHOSPHATE-P	n.a.	1.3043		0.26819	3.61
7	20.77	SULFATE	n.a.	14.4278		1.86434	25.08
Total:				35.5597	0.000	7.435	100.00

21 CCB

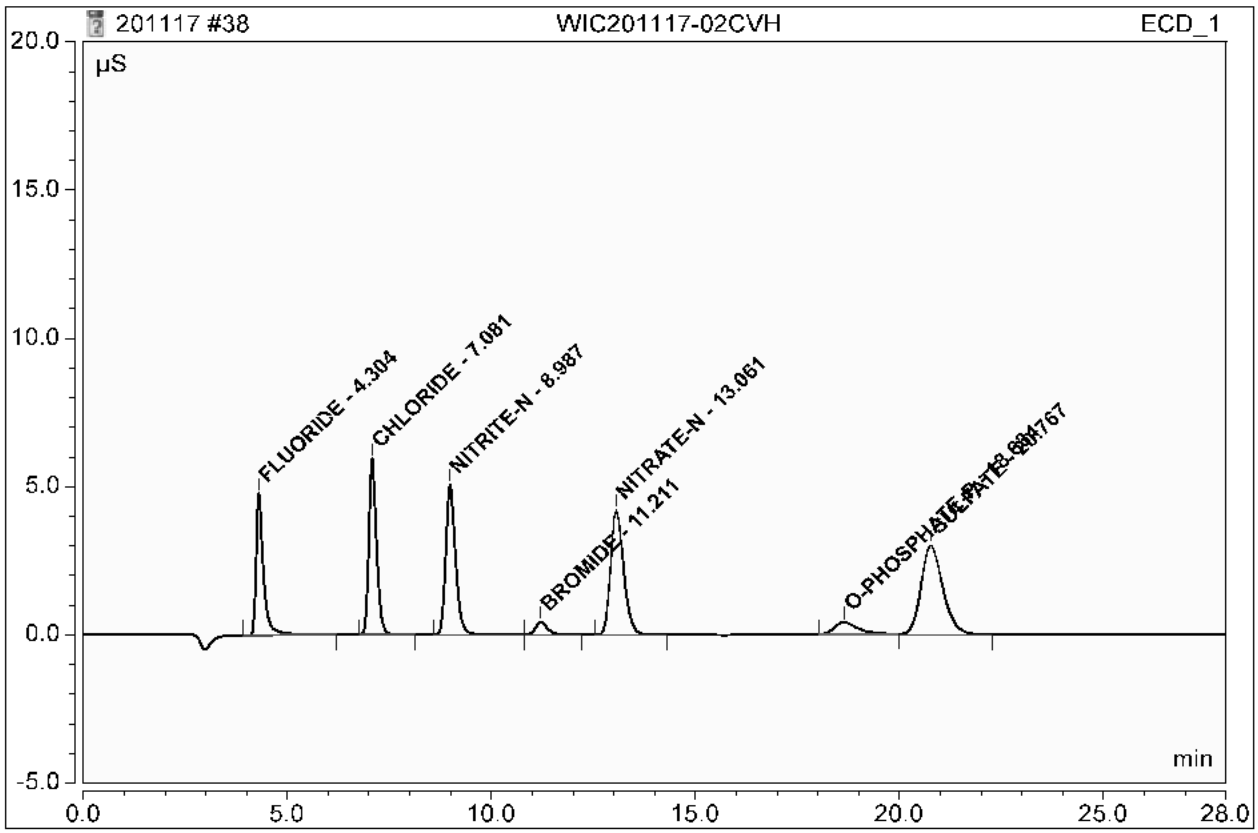
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 12:48**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

38 WIC201117-02CVH

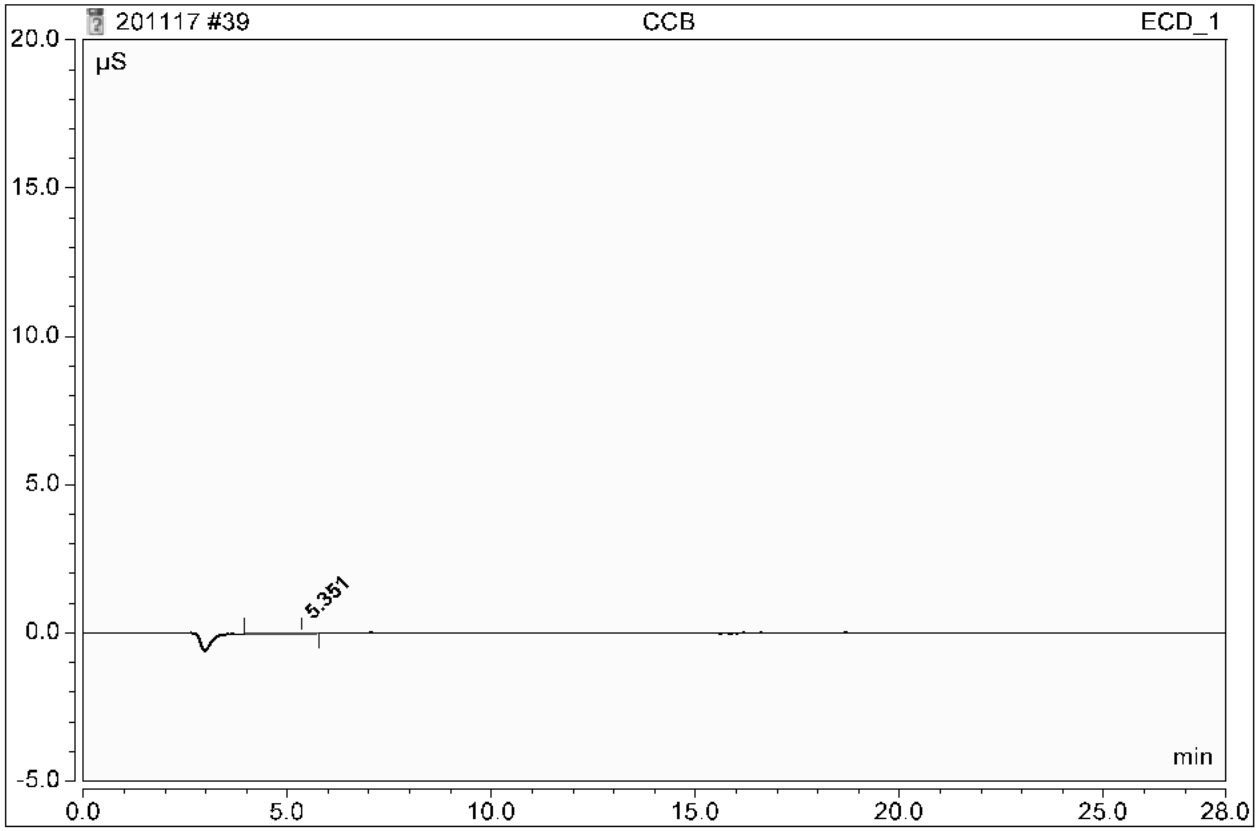
Sample Name:	**WIC201117-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 22:53**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.6446		0.98774	13.18
2	7.08	CHLORIDE	n.a.	7.2361		1.28571	17.15
3	8.99	NITRITE-N	n.a.	3.6342		1.39609	18.62
4	11.21	BROMIDE	n.a.	1.9191		0.13630	1.82
5	13.06	NITRATE-N	n.a.	3.6362		1.54606	20.62
6	18.63	O-PHOSPHATE-P	n.a.	1.3214		0.27093	3.61
7	20.77	SULFATE	n.a.	14.5013		1.87383	25.00
Total:				35.8929	0.000	7.497	100.00

39 CCB

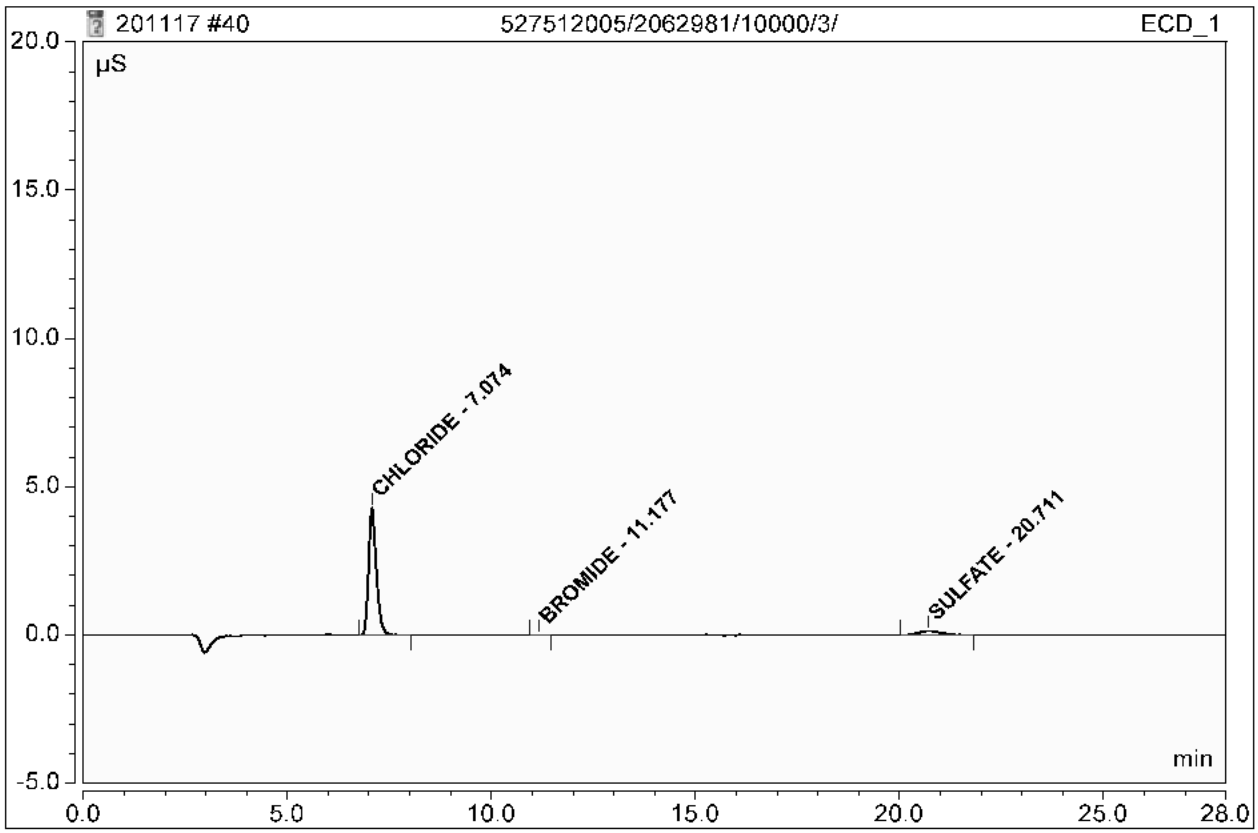
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 23:24**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

40 527512005/2062981/10000/3/

Sample Name:	**527512005/2062981/10000/3/**	*Injection Volume:*	**5000.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 23:55**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



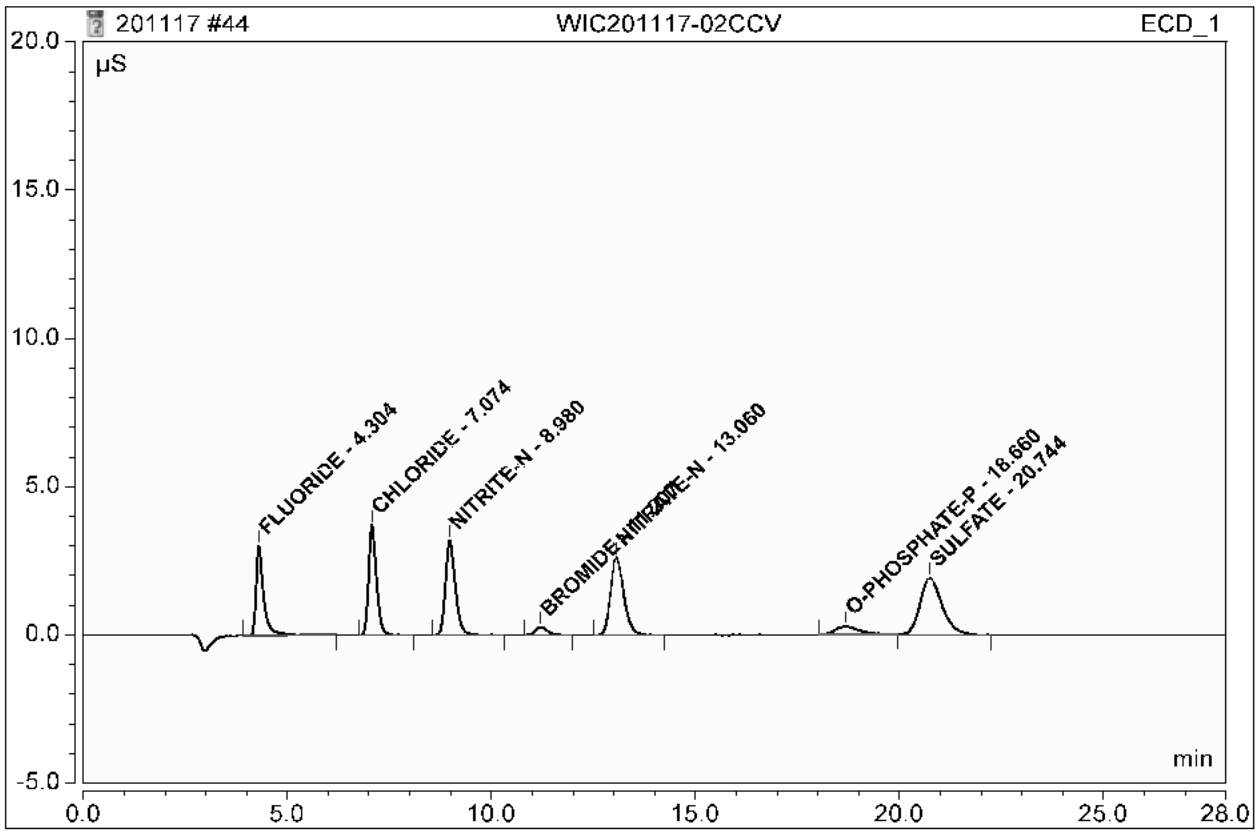
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.07	CHLORIDE	n.a.	5.2688		0.93290	92.13
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.18	BROMIDE	n.a.	0.0220		0.00125	0.12
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.71	SULFATE	n.a.	0.5792		0.07839	7.74
Total:				5.8700	0.000	1.013	100.00

This is runlog for Sequence 201117.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
527513002	11/18/20 00:26	2062981	20000	201117	LXA2
527513004	11/18/20 00:56	2062981	20000	201117	LXA2
527513006	11/18/20 01:27	2062981	5000	201117	LXA2
CCV	11/18/20 01:58	1		201117	LXA2
CCB	11/18/20 02:29	1		201117	LXA2

44 WIC201117-02CCV

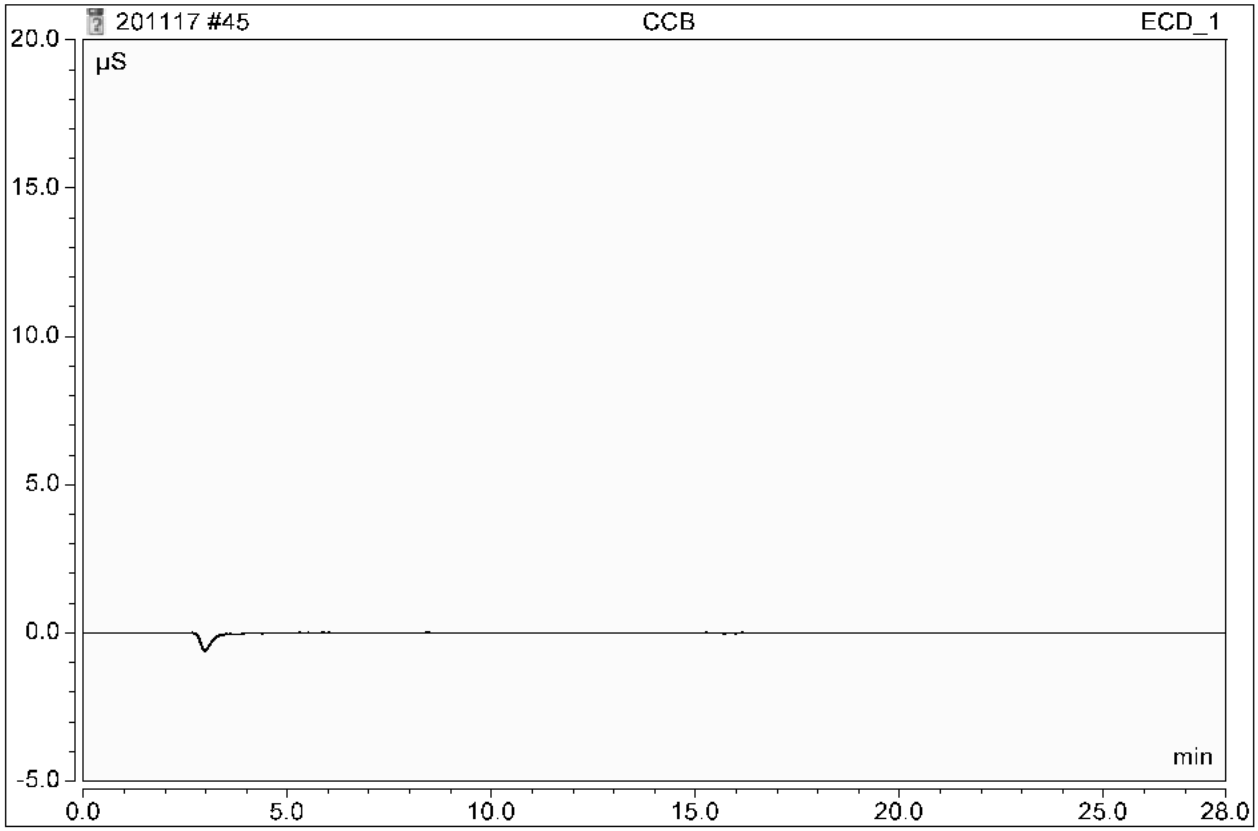
Sample Name:	**WIC201117-02CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/18/2020 1:58**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.3679		0.64049	13.39
2	7.07	CHLORIDE	n.a.	4.5905		0.81126	16.95
3	8.98	NITRITE-N	n.a.	2.3052		0.88176	18.43
4	11.21	BROMIDE	n.a.	1.1980		0.08497	1.78
5	13.06	NITRATE-N	n.a.	2.2994		0.97375	20.35
6	18.66	O-PHOSPHATE-P	n.a.	0.7833		0.18488	3.86
7	20.74	SULFATE	n.a.	9.3370		1.20783	25.24
Total:				22.8815	0.000	4.785	100.00

45 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/18/2020 2:29**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



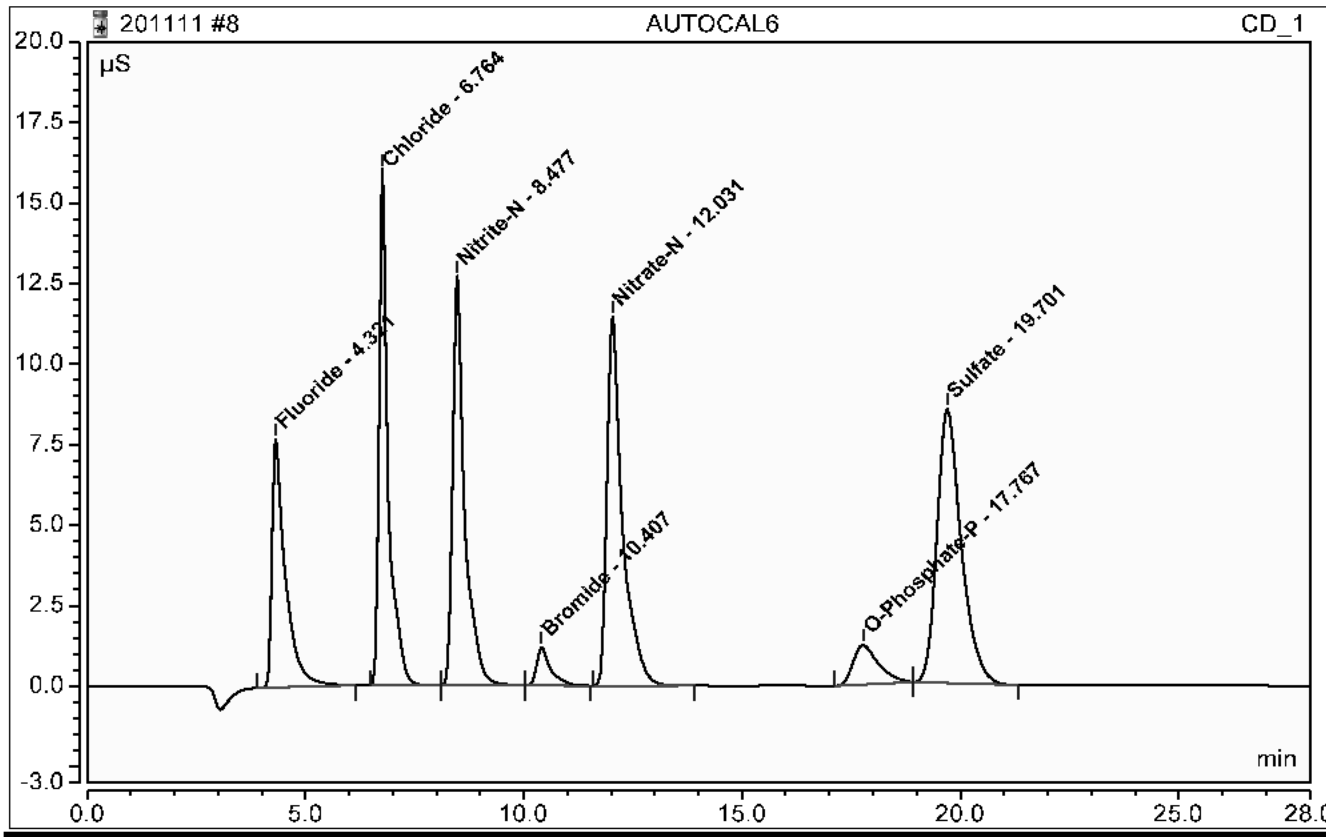
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 201111.seq for IC8

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/11/20 08:09		1	201111	LXA2
ICAL-06	11/11/20 08:39		1	201111	LXA2
ICAL-05	11/11/20 09:10		1	201111	LXA2
ICAL-04	11/11/20 09:41		1	201111	LXA2
ICAL-03	11/11/20 10:12		1	201111	LXA2
ICAL-02	11/11/20 10:43		1	201111	LXA2
ICAL-01	11/11/20 11:13		1	201111	LXA2
ICAL-06	11/11/20 08:39		1	201111	LXA2
ICAL-05	11/11/20 09:10		1	201111	LXA2
ICAL-04	11/11/20 09:41		1	201111	LXA2
ICAL-03	11/11/20 10:12		1	201111	LXA2
ICAL-02	11/11/20 10:43		1	201111	LXA2
ICAL-01	11/11/20 11:13		1	201111	LXA2
ICV	11/11/20 11:44		1	201111	JLD1
ICB	11/11/20 12:15		1	201111	JLD1
527083002	11/11/20 16:58	2061481	1	201111	JLD1
527083006	11/11/20 17:30	2061481	1	201111	JLD1
527083010	11/11/20 18:02	2061481	1	201111	JLD1
527085002	11/11/20 19:58	2061481	1	201111	JLD1
527085003	11/11/20 20:28	2061481	1	201111	JLD1
527085004	11/11/20 20:59	2061481	1	201111	JLD1
527085005	11/11/20 21:30	2061481	1	201111	JLD1
527085001	11/11/20 22:01	2061481	1	201111	JLD1
1204691530	11/11/20 22:32	2061481	1	201111	JLD1
1204691531	11/11/20 23:02	2061481	1	201111	JLD1
CVL	11/11/20 23:33		1	201111	JLD1

8 AUTOCAL6

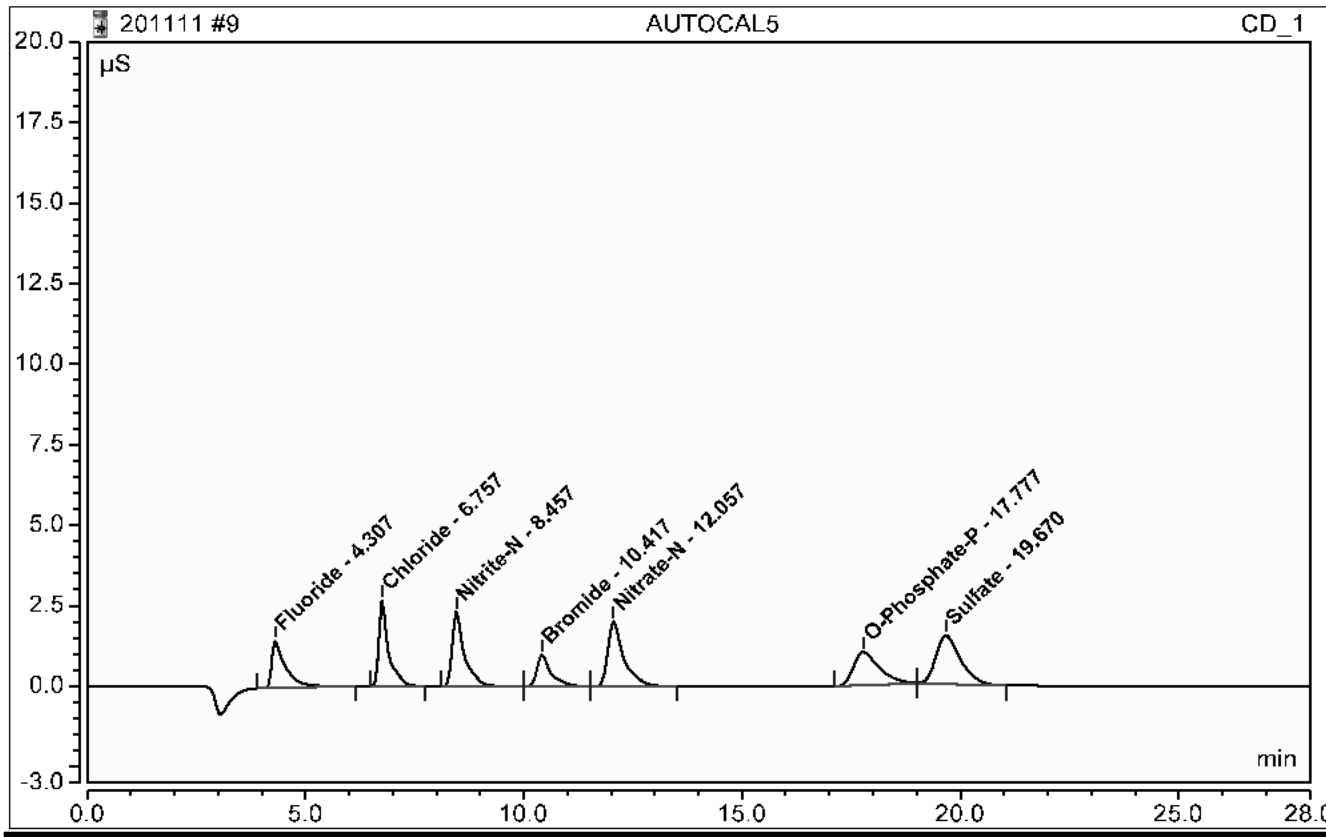
Sample Name:	**AUTOCAL6**	*Injection Volume:*	**1.0**
Vial Number:	**2**	*Channel:*	**CD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/11/2020 8:39**	Analyst:	**LXA2**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.32	Fluoride	5.0000	5.0094		2.74882	12.42
2	6.76	Chloride	10.0000	10.0283		3.86659	17.47
3	8.48	Nitrite-N	5.0000	5.0094		4.05483	18.32
4	10.41	Bromide	3.0000	2.9953		0.43685	1.97
5	12.03	Nitrate-N	5.0000	5.0120		4.71949	21.33
6	17.77	O-Phosphate-P	3.0000	2.9830		0.82877	3.75
7	19.70	Sulfate	20.0000	20.0513		5.47405	24.74
Total:				51.0886	0.000	22.129	100.00

9 AUTOCAL5

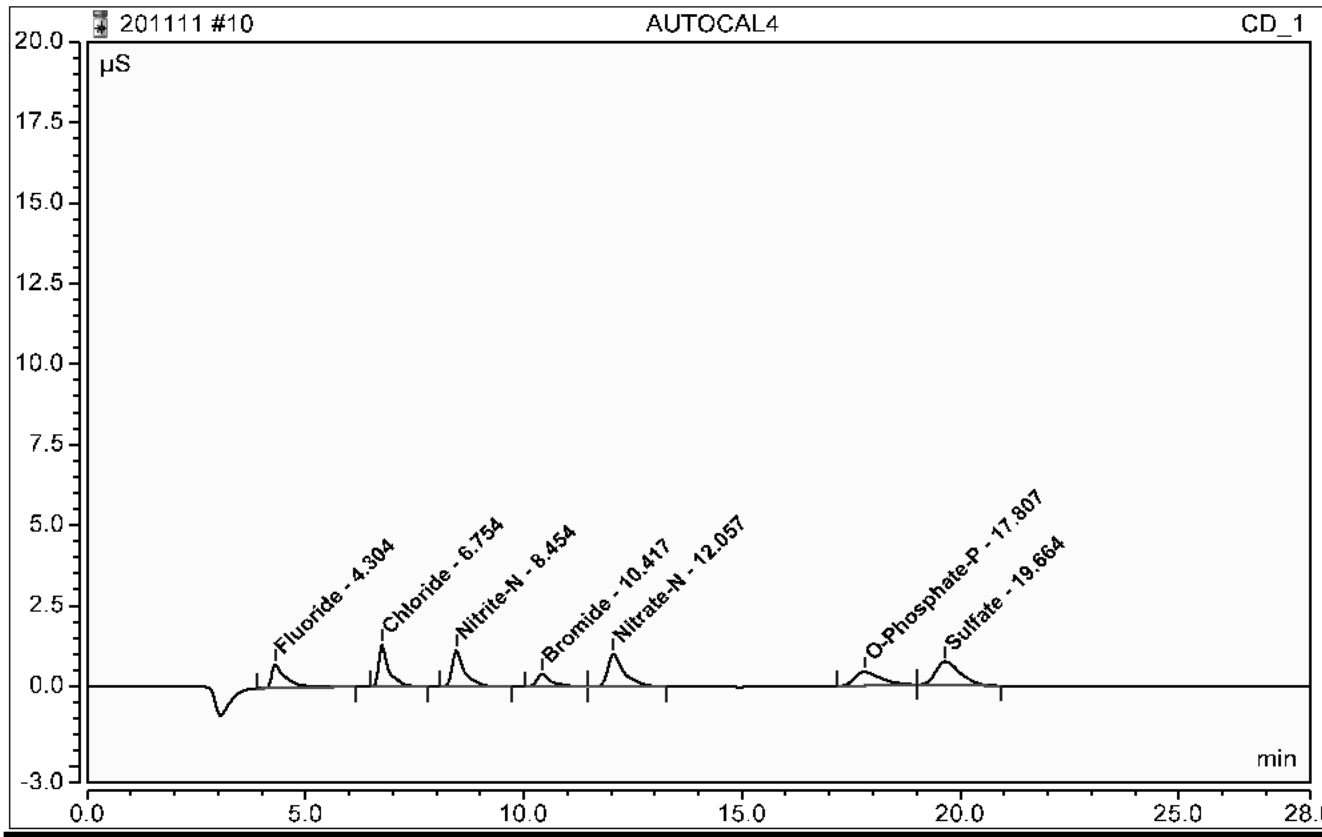
Sample Name:	**AUTOCAL5**	*Injection Volume:*	**1.0**
Vial Number:	**3**	*Channel:*	**CD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/11/2020 9:10**	Analyst:	**LXA2**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	Fluoride	1.0000	0.9532		0.54103	11.09
2	6.76	Chloride	2.0000	1.8468		0.68539	14.05
3	8.46	Nitrite-N	1.0000	0.9502		0.74911	15.36
4	10.42	Bromide	2.5000	2.5020		0.36476	7.48
5	12.06	Nitrate-N	1.0000	0.9303		0.85137	17.46
6	17.78	O-Phosphate-P	2.5000	2.5193		0.70644	14.48
7	19.67	Sulfate	4.0000	3.7217		0.97907	20.07
Total:				13.4235	0.000	4.877	100.00

10 AUTOCAL4

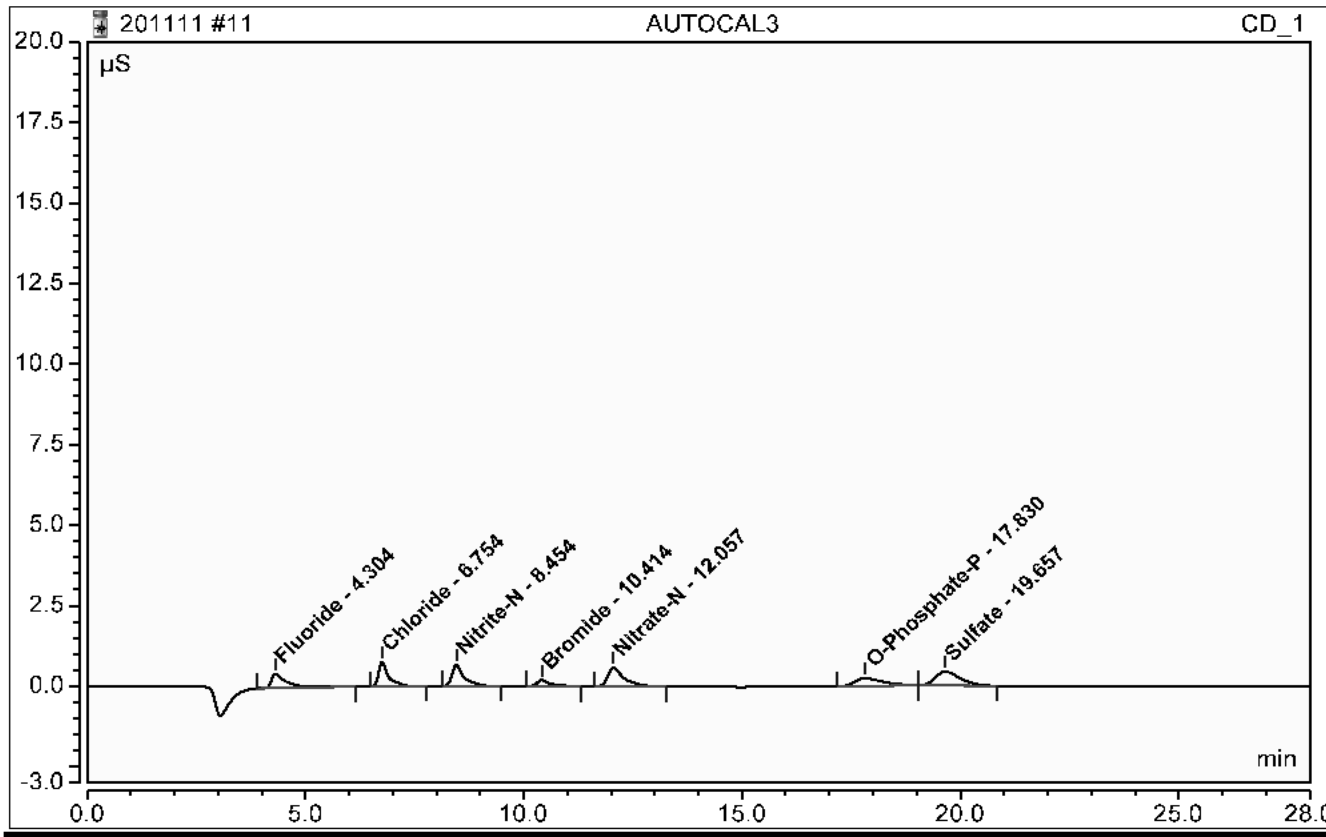
Sample Name:	**AUTOCAL4**	*Injection Volume:*	**1.0**
Vial Number:	**4**	*Channel:*	**CD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/11/2020 9:41**	Analyst:	**LXA2**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	Fluoride	0.5000	0.4730		0.27963	11.87
2	6.75	Chloride	1.0000	0.9585		0.33999	14.43
3	8.45	Nitrite-N	0.5000	0.4792		0.36560	15.52
4	10.42	Bromide	1.0000	1.0132		0.14716	6.25
5	12.06	Nitrate-N	0.5000	0.4908		0.43491	18.46
6	17.81	O-Phosphate-P	1.0000	0.9986		0.30531	12.96
7	19.66	Sulfate	2.0000	1.9218		0.48363	20.53
Total:				6.3351	0.000	2.356	100.00

11 AUTOCAL3

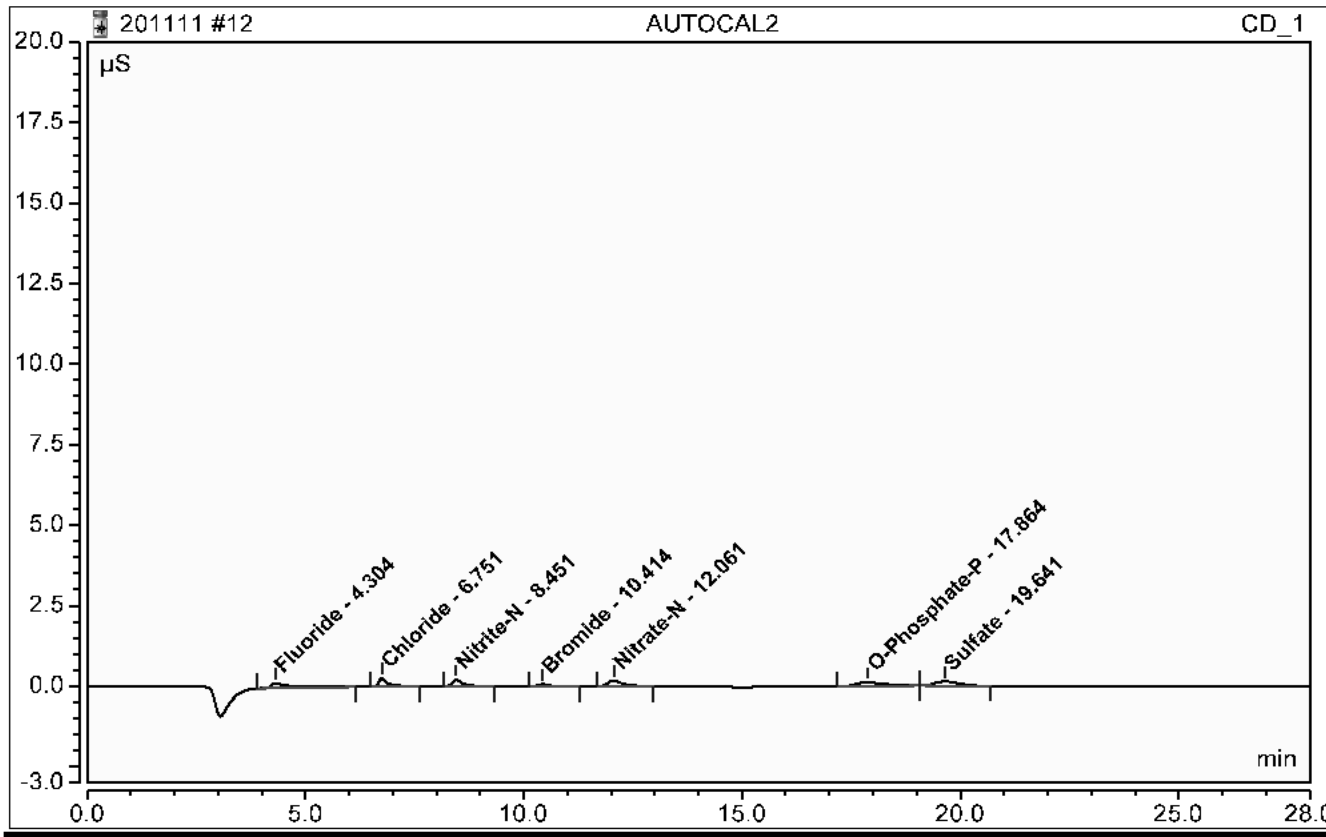
Sample Name:	**AUTOCAL3**	*Injection Volume:*	**1.0**
Vial Number:	**5**	*Channel:*	**CD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/11/2020 10:12**	Analyst:	**LXA2**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



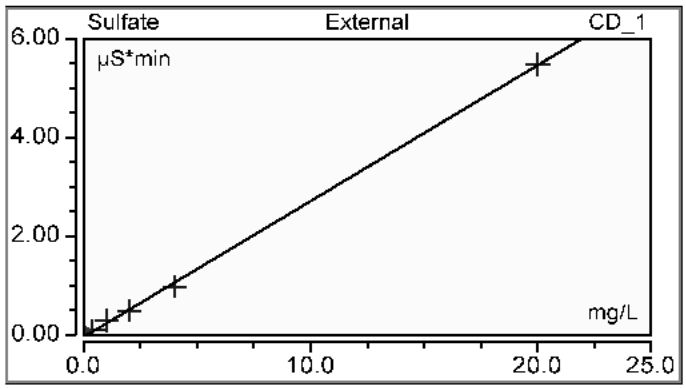
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	Fluoride	0.2500	0.2971		0.18388	13.20
2	6.75	Chloride	0.5000	0.6064		0.20308	14.58
3	8.45	Nitrite-N	0.2500	0.2980		0.21800	15.65
4	10.41	Bromide	0.5000	0.4930		0.07114	5.11
5	12.06	Nitrate-N	0.2500	0.2998		0.25388	18.22
6	17.83	O-Phosphate-P	0.5000	0.5147		0.17768	12.75
7	19.66	Sulfate	1.0000	1.2027		0.28568	20.50
Total:				3.7117	0.000	1.393	100.00

12 AUTOCAL2

Sample Name:	**AUTOCAL2**	*Injection Volume:*	**1.0**
Vial Number:	**6**	*Channel:*	**CD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/11/2020 10:43**	Analyst:	**LXA2**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



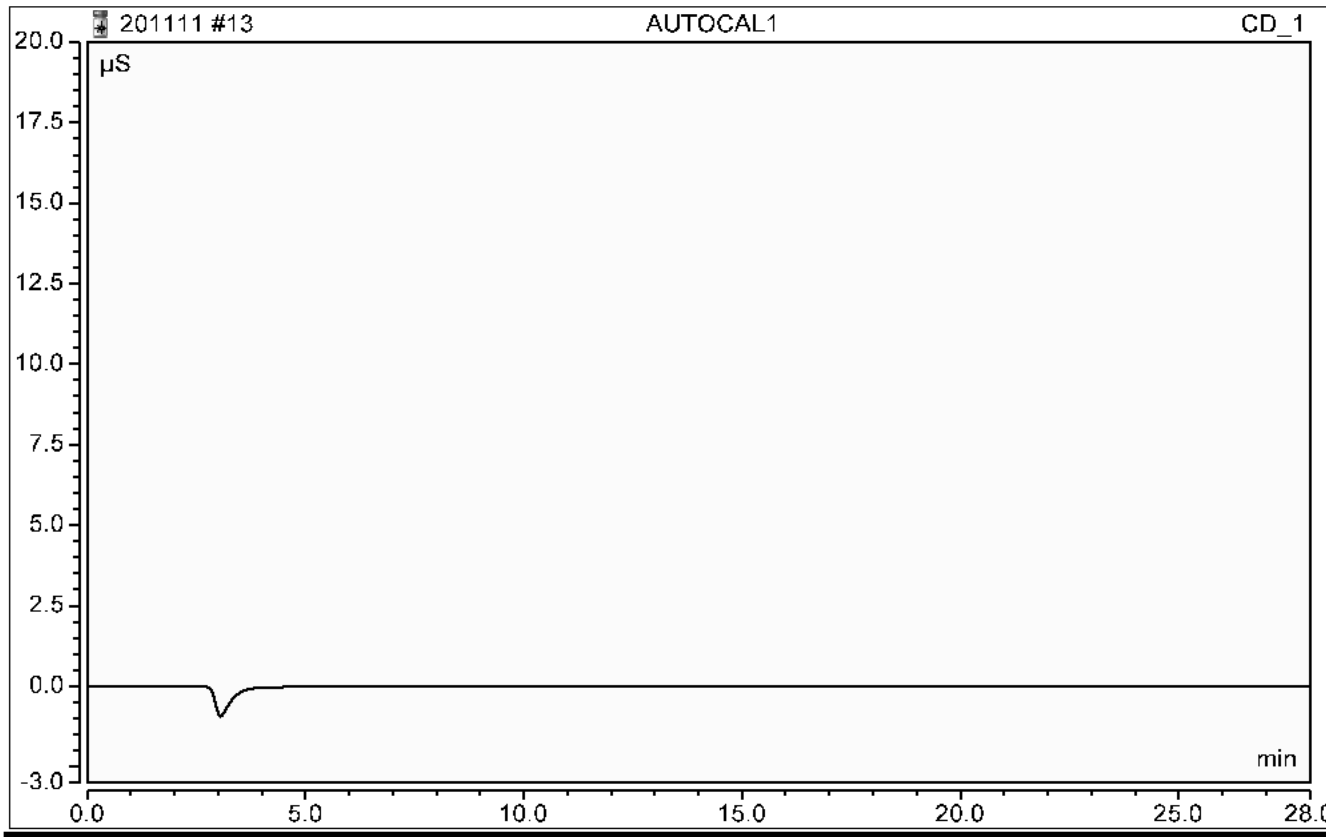
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	Fluoride	0.1000	0.1174		0.08606	16.74
2	6.75	Chloride	0.2000	0.2601		0.06846	13.32
3	8.45	Nitrite-N	0.1000	0.1133		0.06757	13.15
4	10.41	Bromide	0.2000	0.1965		0.02780	5.41
5	12.06	Nitrate-N	0.1000	0.1170		0.08062	15.69
6	17.86	O-Phosphate-P	0.2000	0.1845		0.09057	17.62
7	19.64	Sulfate	0.4000	0.5024		0.09291	18.08
Total:				1.4911	0.000	0.514	100.00



No.	Ret.Time min	Peak Name	Cal.Type	Coeff.Det. %	Offset	Slope	Curve
n.a.	n.a.	Fluoride	n, WithOffs	99.9674	0.0222	0.5443	0.0000
n.a.	n.a.	Chloride	n, WithOffs	99.9396	-0.0327	0.3888	0.0000
n.a.	n.a.	Nitrite-N	n, WithOffs	99.9676	-0.0247	0.8144	0.0000
n.a.	n.a.	Bromide	n, WithOffs	99.9958	-0.0009	0.1461	0.0000
n.a.	n.a.	Nitrate-N	n, WithOffs	99.9536	-0.0303	0.9477	0.0000
n.a.	n.a.	O-Phosphate-P	n, WithOffs	99.9819	0.0419	0.2638	0.0000
n.a.	n.a.	Sulfate	n, WithOffs	99.9492	-0.0454	0.2753	0.0000
Average:				99.9650	-0.0100	0.4829	0.0000

13 AUTOCAL1

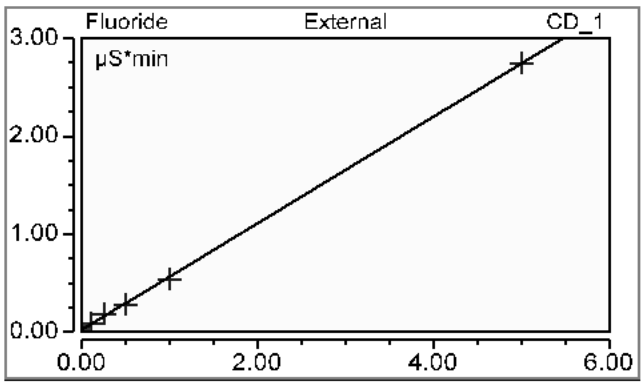
Sample Name:	**AUTOCAL1**	*Injection Volume:*	**1.0**
Vial Number:	**7**	*Channel:*	**CD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/11/2020 11:13**	Analyst:	**LXA2**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**

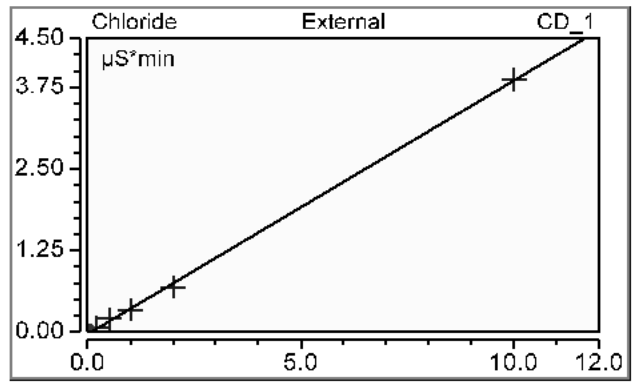


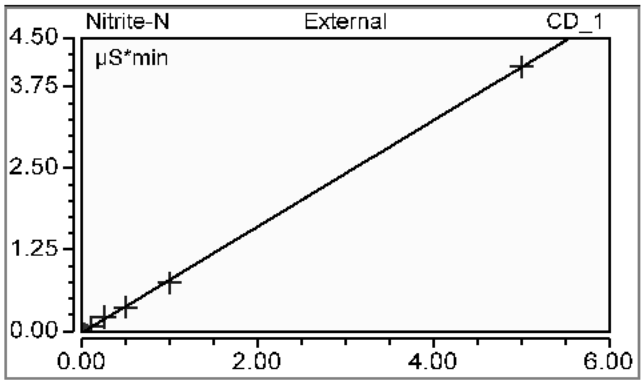
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	0.0000	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

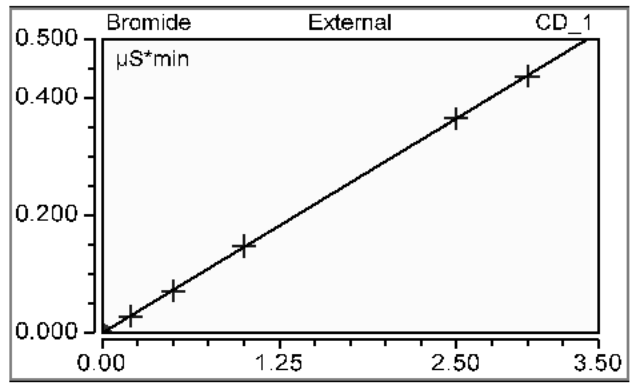
13 AUTOCAL1

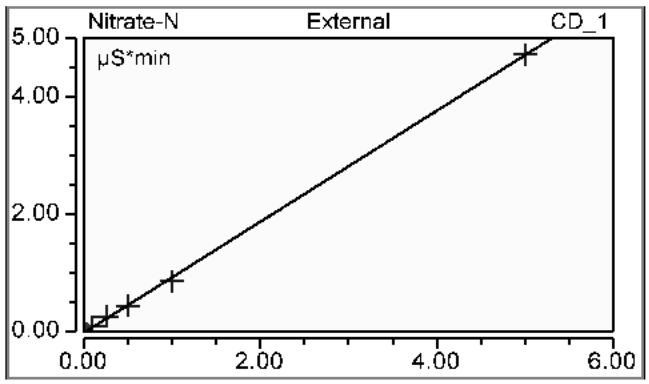
Sample Name:	**AUTOCAL1**	*Injection Volume:*	**1.0**
Vial Number:	**7**	*Channel:*	**CD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/11/2020 11:13**	Analyst:	**LXA2**
Run Time (min):	**28.00**	Column:	**AS23-190129272;GLGCEO86;300;9056**

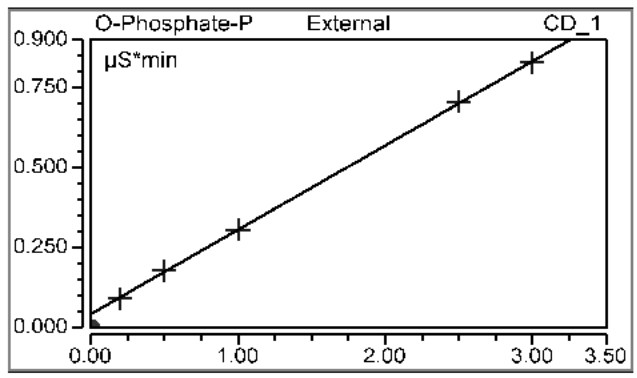










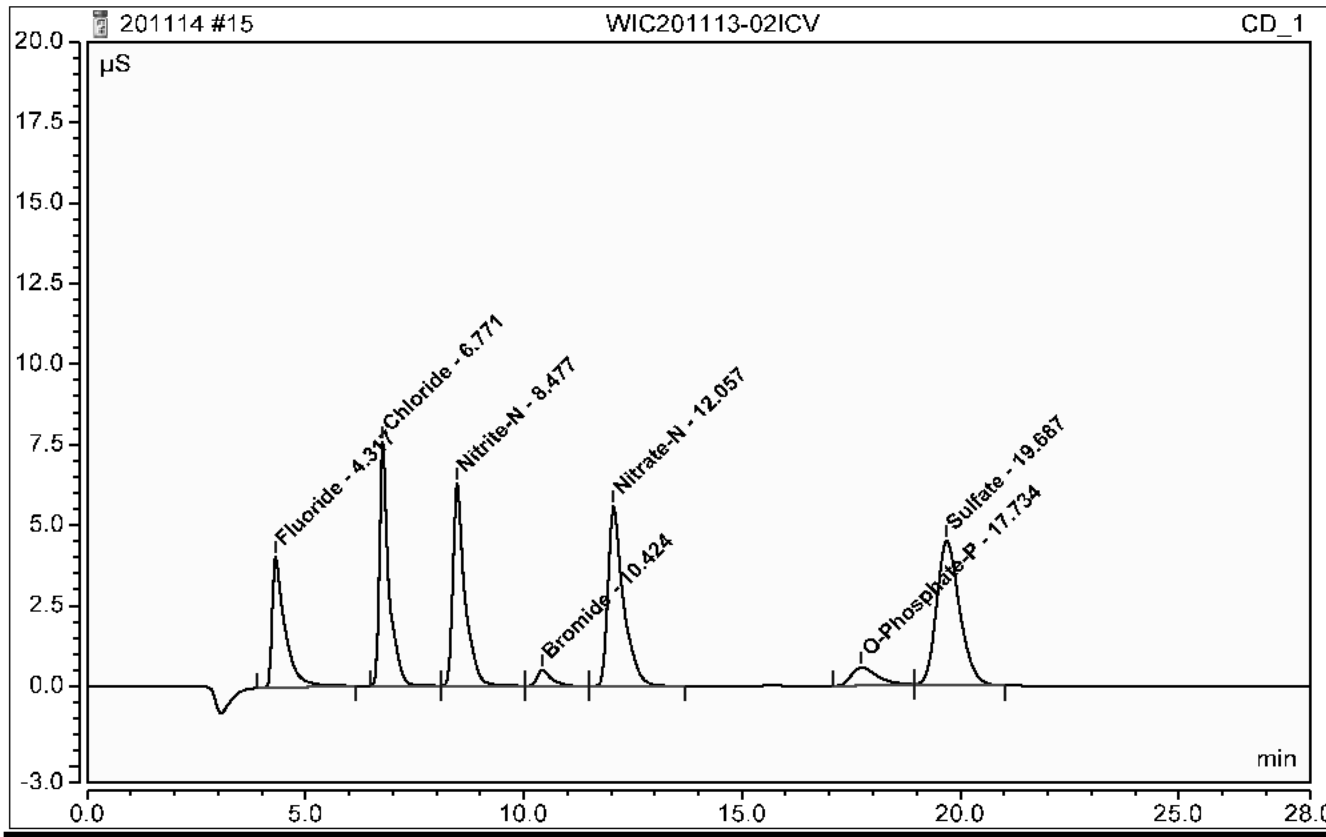


This is runlog for Sequence 201114.seq for IC8

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/14/20 10:52		1	201114	JLD1
ICV	11/14/20 11:23		1	201114	JLD1
ICB	11/14/20 11:53		1	201114	JLD1
527474011	11/14/20 12:24	2062974	1	201114	JLD1
527460001	11/14/20 12:55	2062974	1	201114	JLD1
527474012	11/14/20 13:26	2062974	1	201114	JLD1
527474010	11/14/20 13:56	2062974	1	201114	JLD1
527512003	11/14/20 14:27	2062974	100	201114	JLD1
527512002	11/14/20 14:58	2062974	100	201114	JLD1
1204694590	11/14/20 15:28	2062974	100	201114	JLD1
1204694591	11/14/20 15:59	2062974	100	201114	JLD1
1204694458	11/14/20 16:30	2062974	1	201114	JLD1
1204694459	11/14/20 17:01	2062974	1	201114	JLD1
CVH	11/14/20 17:32		1	201114	JLD1
CCB	11/14/20 18:03		1	201114	JLD1
1204694587	11/14/20 18:33	2062974	1	201114	JLD1
1204694588	11/14/20 19:04	2062974	1	201114	JLD1
526934001	11/14/20 19:35	2062424	5	201114	JLD1
527045001	11/14/20 20:06	2062424	10	201114	JLD1
CCV	11/14/20 20:37		1	201114	JLD1
CCB	11/14/20 21:08		1	201114	JLD1
527460001	11/14/20 21:38	2062974	5	201114	JLD1
1204694458	11/14/20 22:09	2062974	5	201114	JLD1
1204694459	11/14/20 22:40	2062974	5	201114	JLD1
527474010	11/14/20 23:11	2062974	5	201114	JLD1
527474011	11/14/20 23:42	2062974	5	201114	JLD1

15 WIC201113-02ICV

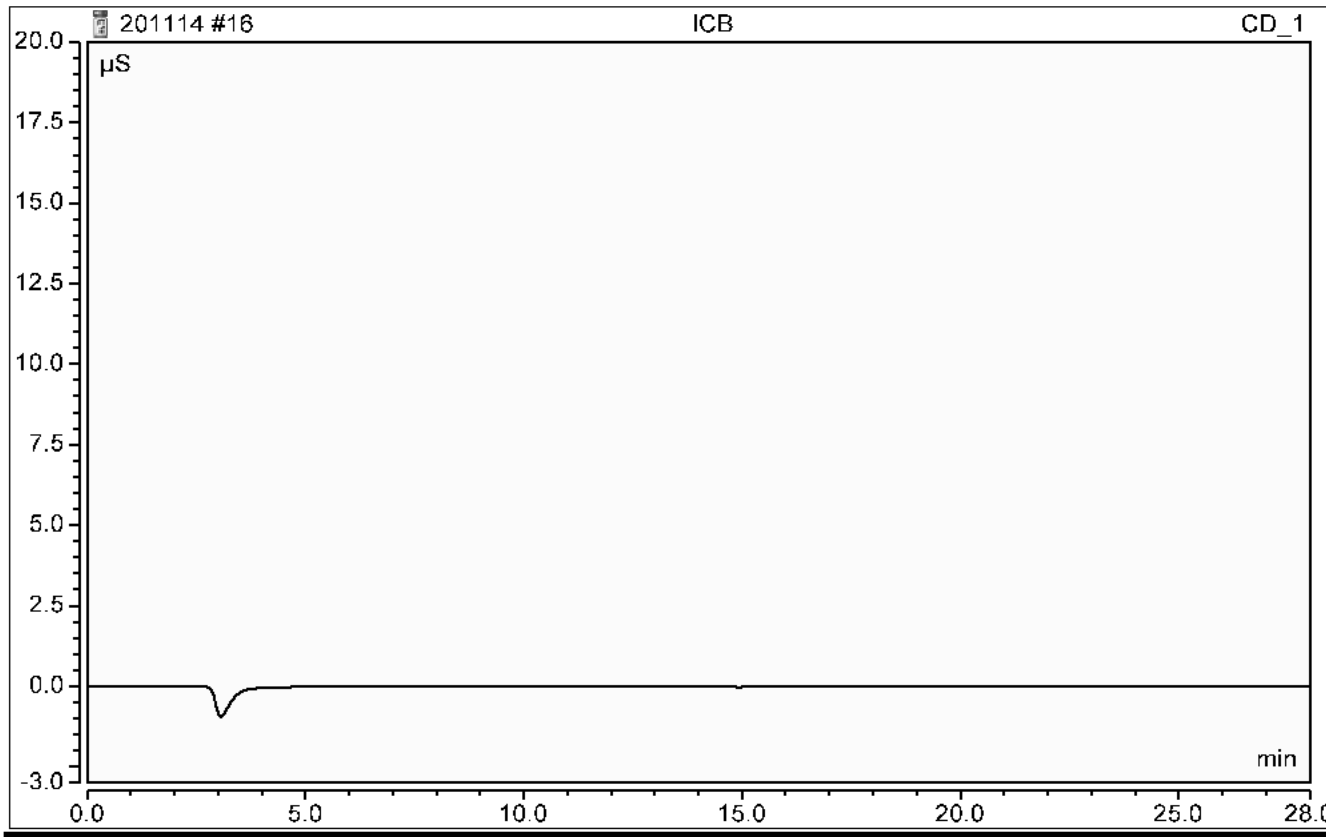
Sample Name:	**WIC201113-02ICV**	*Injection Volume:*	**1.0**
Vial Number:	**2**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 11:23**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.32	Fluoride	n.a.	2.5174		1.39241	12.81
2	6.77	Chloride	n.a.	4.8979		1.87177	17.22
3	8.48	Nitrite-N	n.a.	2.4896		2.00281	18.42
4	10.42	Bromide	n.a.	1.3234		0.19250	1.77
5	12.06	Nitrate-N	n.a.	2.4564		2.29764	21.14
6	17.73	O-Phosphate-P	n.a.	1.2895		0.38206	3.51
7	19.69	Sulfate	n.a.	10.0878		2.73143	25.13
Total:				25.0620	0.000	10.871	100.00

16 ICB

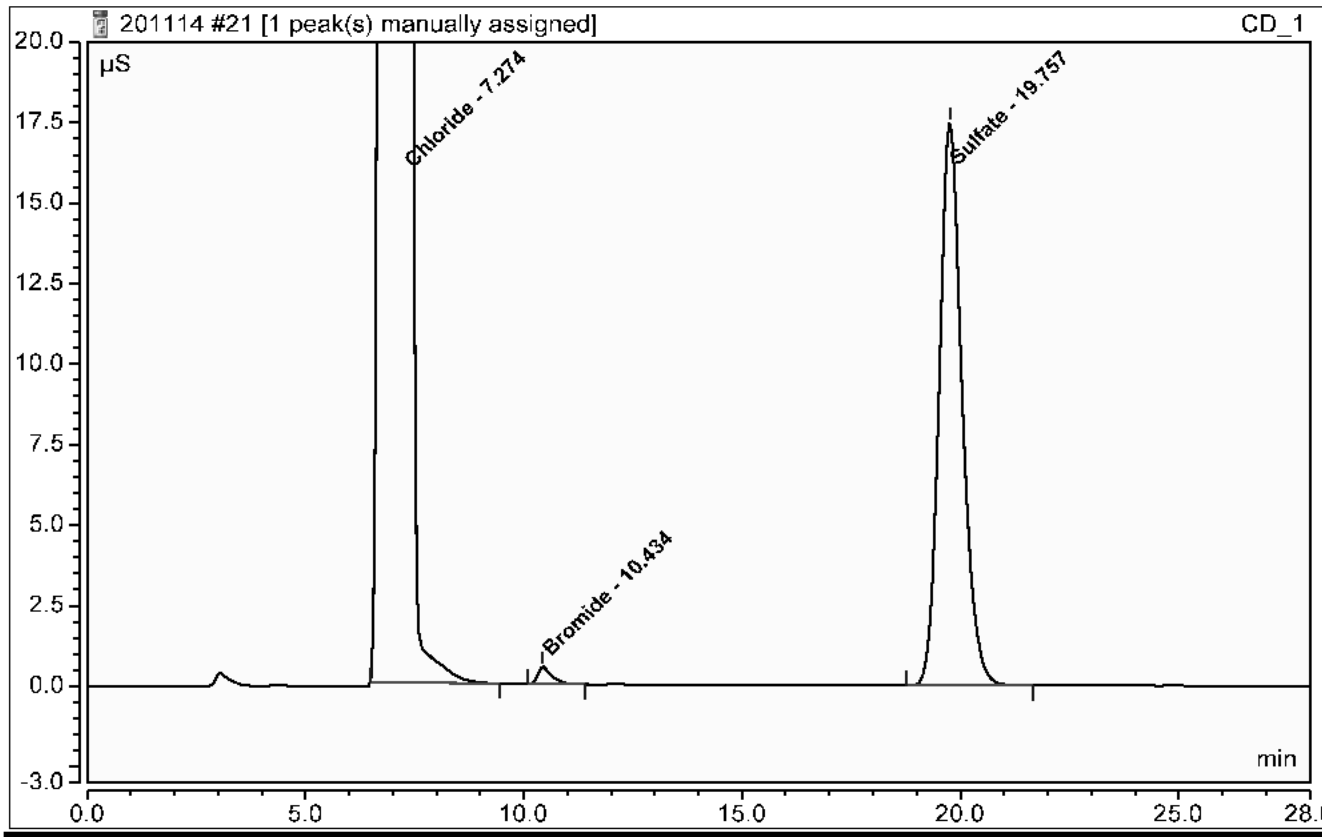
Sample Name:	**ICB**	*Injection Volume:*	**1.0**
Vial Number:	**3**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 11:53**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

21 527512003/2062974/100/1/

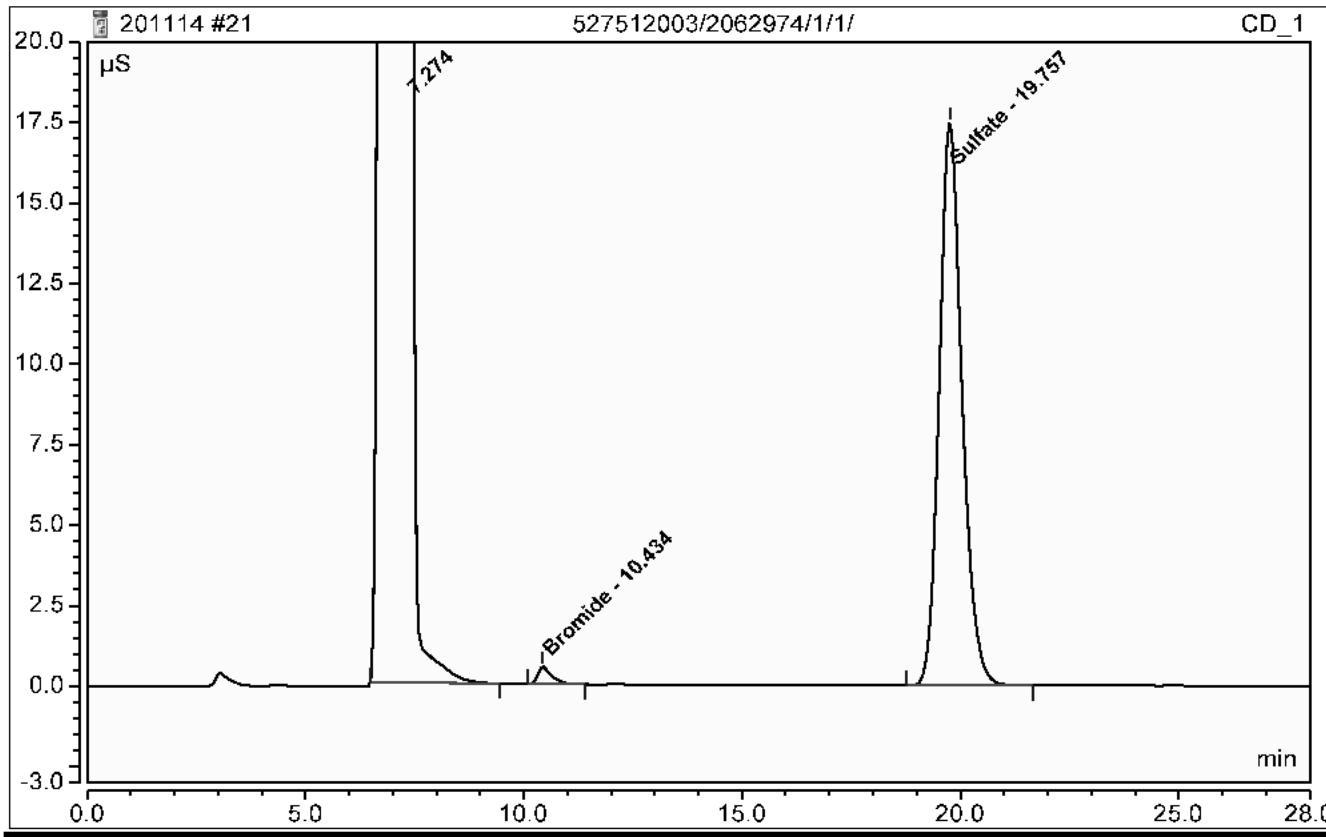
Sample Name:	**527512003/2062974/100/1/**	*Injection Volume:*	**1.0**
Vial Number:	**8**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 14:27**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.27	Chloride	n.a.	581.1131		225.92055	95.45
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	10.43	Bromide	n.a.	1.3656		0.19867	0.08
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	19.76	Sulfate	n.a.	38.5599		10.56884	4.47
Total:				621.0386	0.000	236.688	100.00

21 527512003/2062974/1/1/

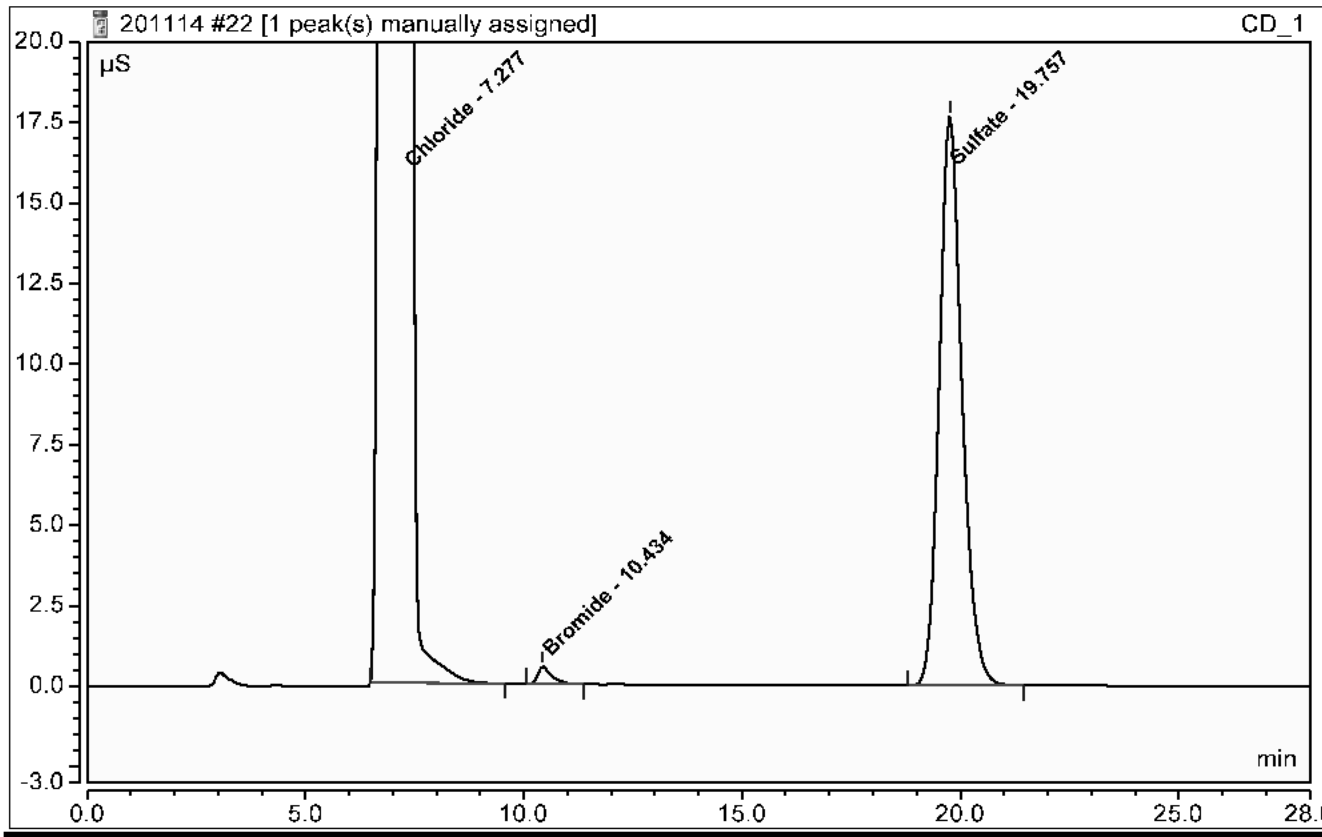
Sample Name:	**527512003/2062974/1/1/**	*Injection Volume:*	**1.0**
Vial Number:	**8**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 14:27**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	10.43	Bromide	n.a.	1.3656		0.19867	0.08
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	19.76	Sulfate	n.a.	38.5599		10.56884	4.47
Total:				39.9255	0.000	10.768	4.55

22 527512002/2062974/100/1/

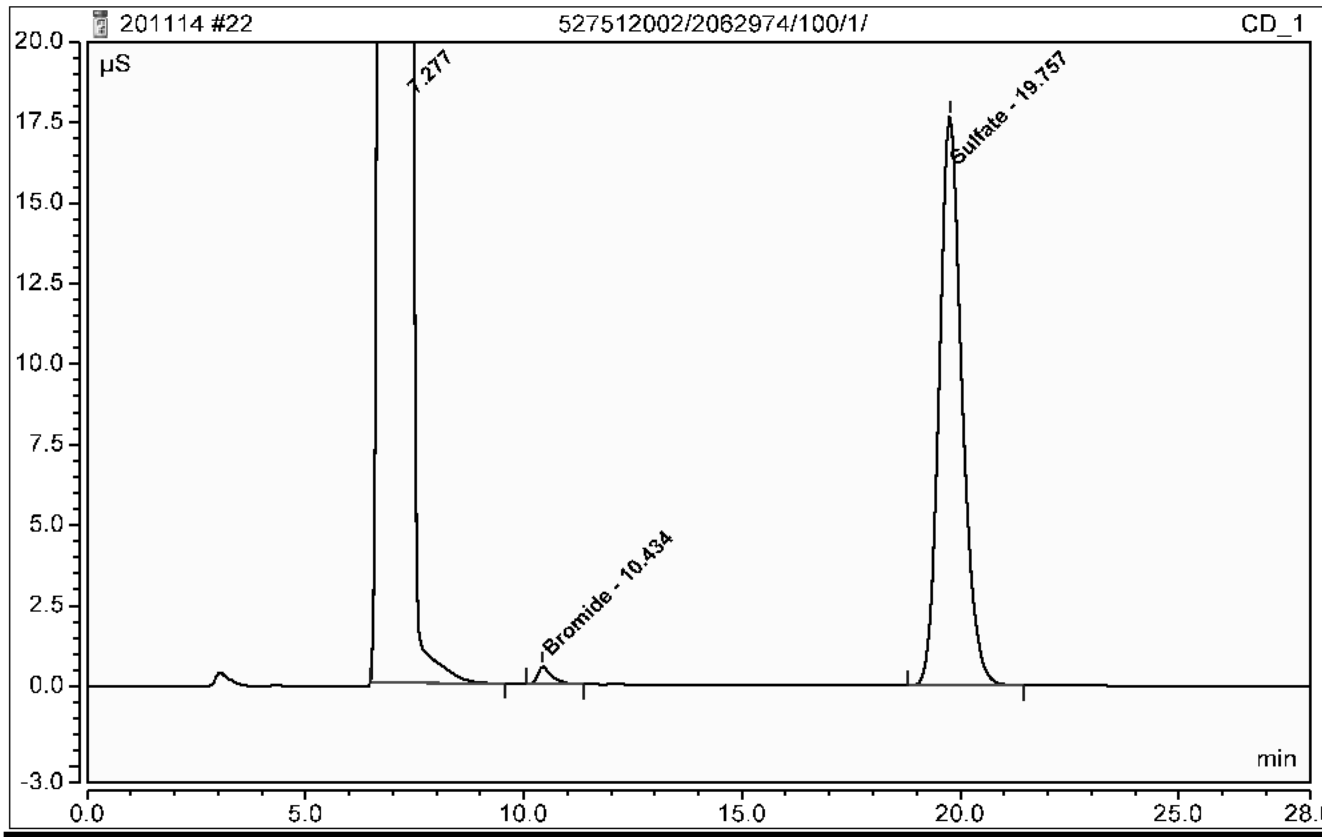
Sample Name:	**527512002/2062974/100/1/**	*Injection Volume:*	**1.0**
Vial Number:	**9**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 14:58**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.28	Chloride	n.a.	587.1022		228.24931	95.46
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	10.43	Bromide	n.a.	1.3779		0.20047	0.08
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	19.76	Sulfate	n.a.	38.9159		10.66684	4.46
Total:				627.3961	0.000	239.117	100.00

22 527512002/2062974/100/1/

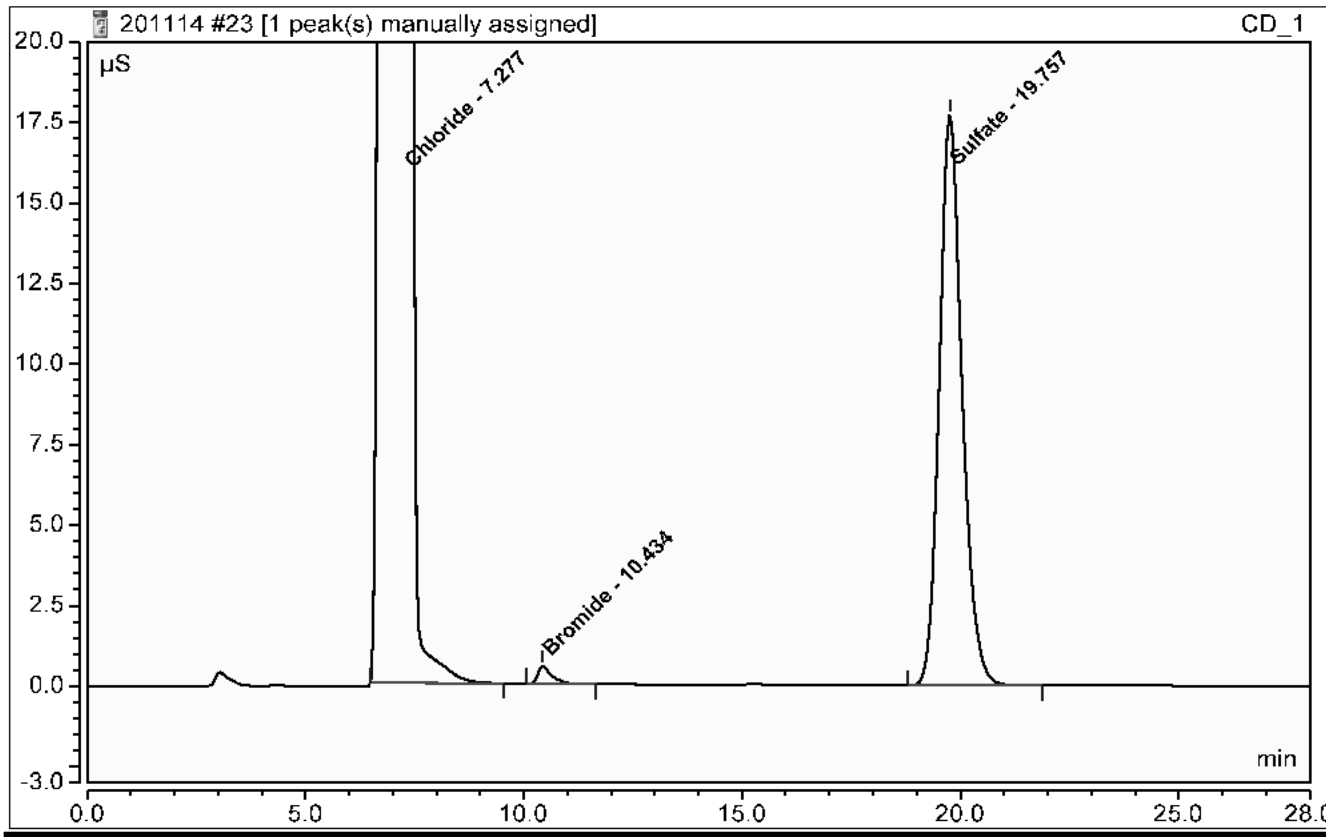
Sample Name:	**527512002/2062974/100/1/**	*Injection Volume:*	**1.0**
Vial Number:	**9**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 14:58**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	10.43	Bromide	n.a.	1.3779		0.20047	0.08
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	19.76	Sulfate	n.a.	38.9159		10.66684	4.46
Total:				40.2939	0.000	10.867	4.54

23 1204694590/2062974/100/1/DUP

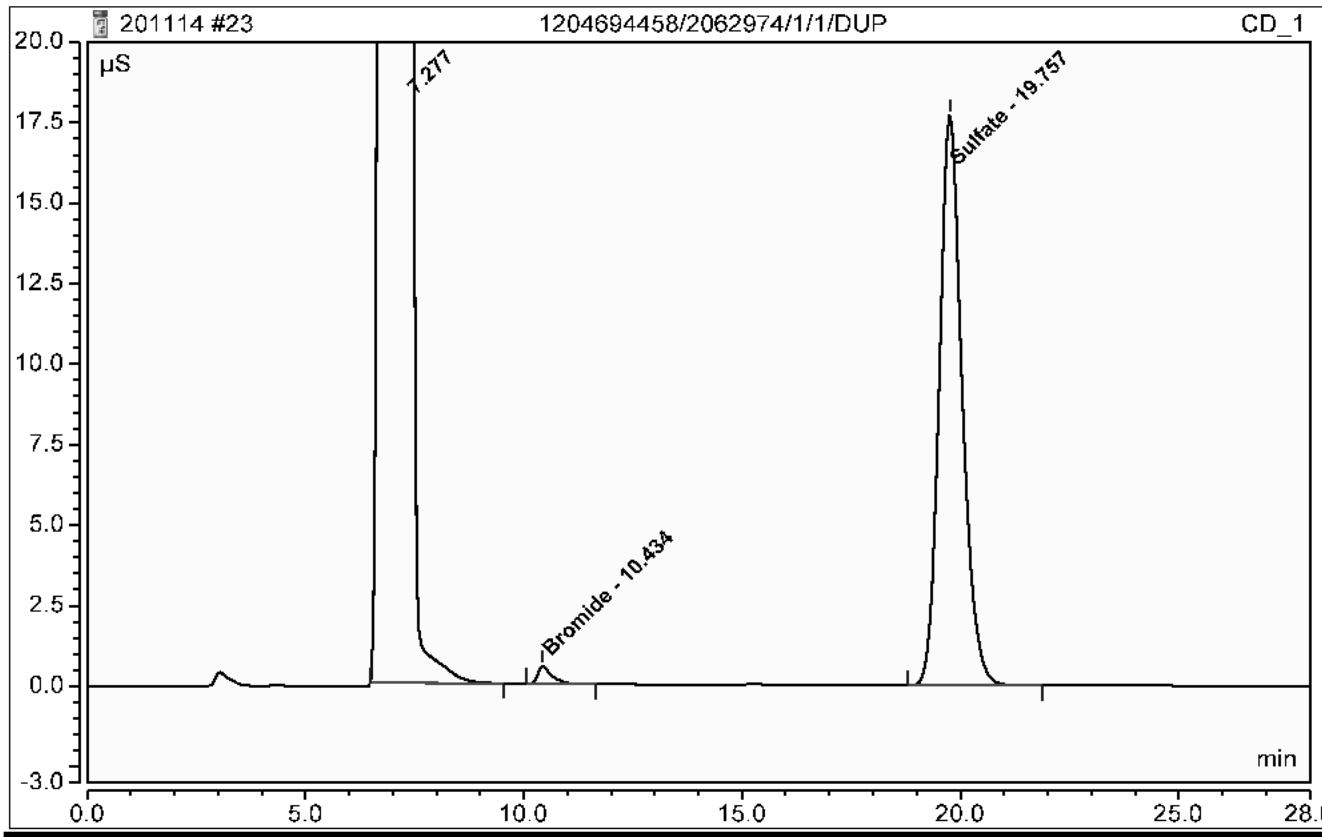
Sample Name:	**1204694590/2062974/100/1/DUP**	*Injection Volume:*	**1.0**
Vial Number:	**10**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:28**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.28	Chloride	n.a.	589.7129		229.26440	95.45
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	10.43	Bromide	n.a.	1.4162		0.20607	0.09
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	19.76	Sulfate	n.a.	39.1414		10.72891	4.47
Total:				630.2705	0.000	240.199	100.00

23 1204694458/2062974/1/1/DUP

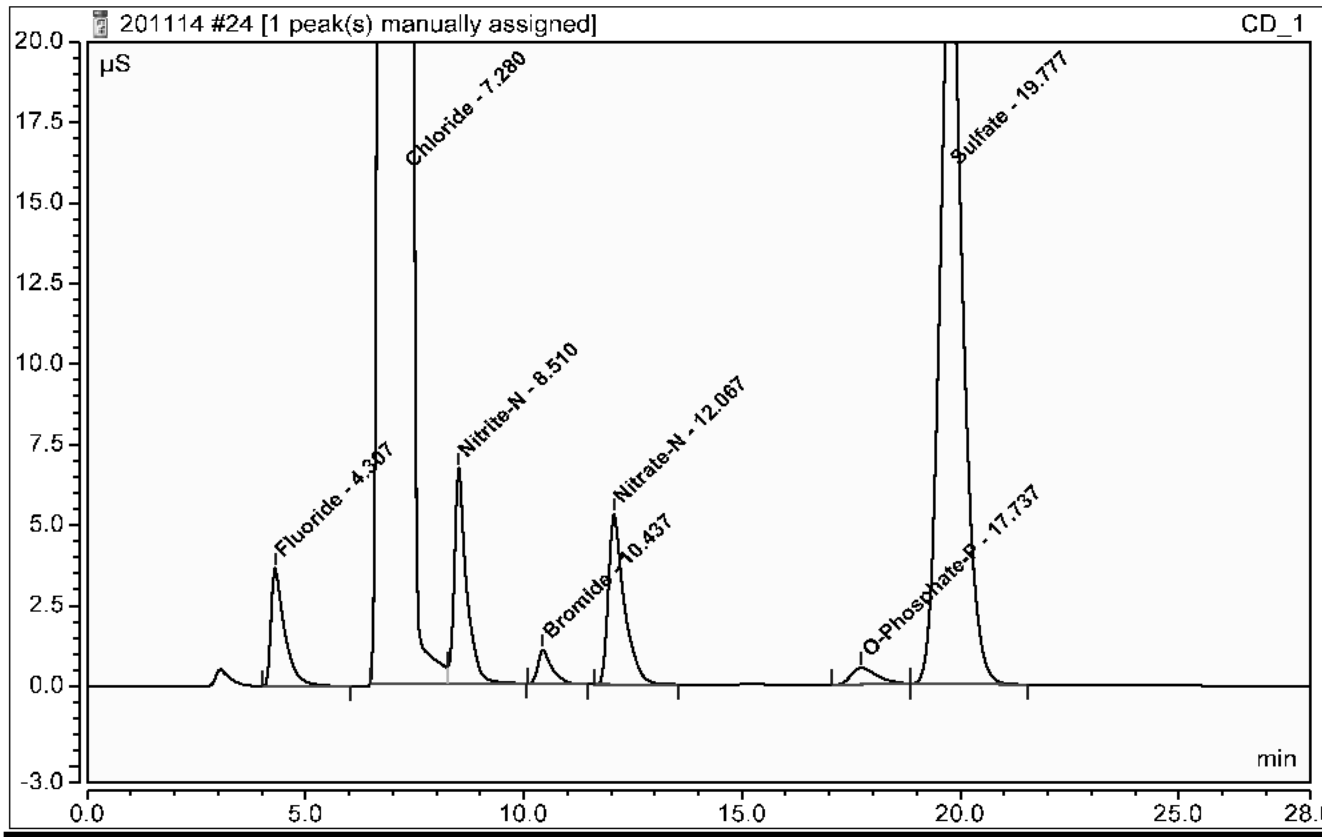
Sample Name:	**1204694458/2062974/1/1/DUP**	*Injection Volume:*	**1.0**
Vial Number:	**10**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:28**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	10.43	Bromide	n.a.	1.4162		0.20607	0.09
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	19.76	Sulfate	n.a.	39.1414		10.72891	4.47
Total:				40.5577	0.000	10.935	4.55

24 1204694591/2062974/100/1/PS

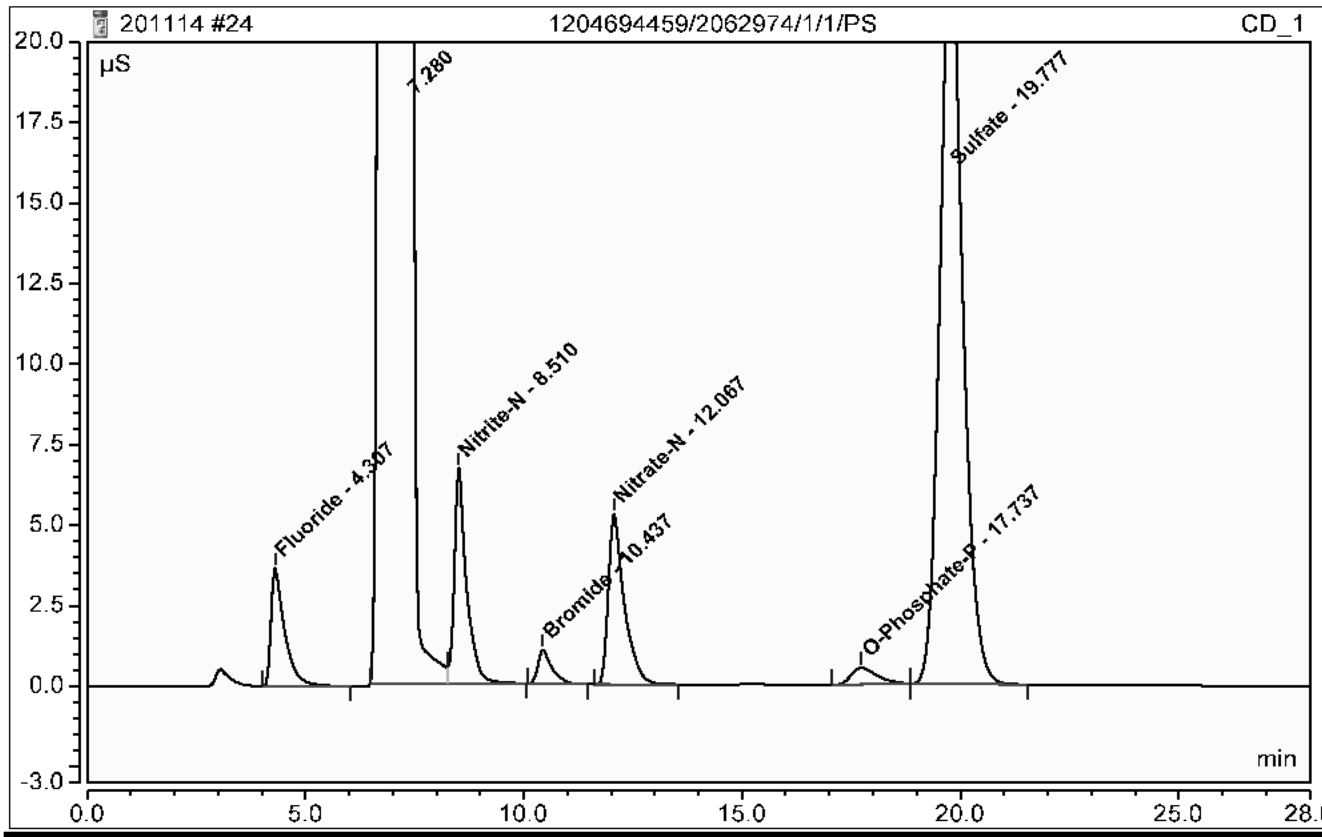
Sample Name:	**1204694591/2062974/100/1/PS**	*Injection Volume:*	**1.0**
Vial Number:	**11**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:59**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	Fluoride	n.a.	2.4138		1.33603	0.53
2	7.28	Chloride	n.a.	592.1113		230.19697	91.82
3	8.51	Nitrite-N	n.a.	2.6683		2.14836	0.86
4	10.44	Bromide	n.a.	2.6516		0.38662	0.15
5	12.07	Nitrate-N	n.a.	2.3808		2.22600	0.89
6	17.74	O-Phosphate-P	n.a.	1.1971		0.35767	0.14
7	19.78	Sulfate	n.a.	51.2073		14.05023	5.60
Total:				654.6302	0.000	250.702	100.00

24 1204694459/2062974/1/1/PS

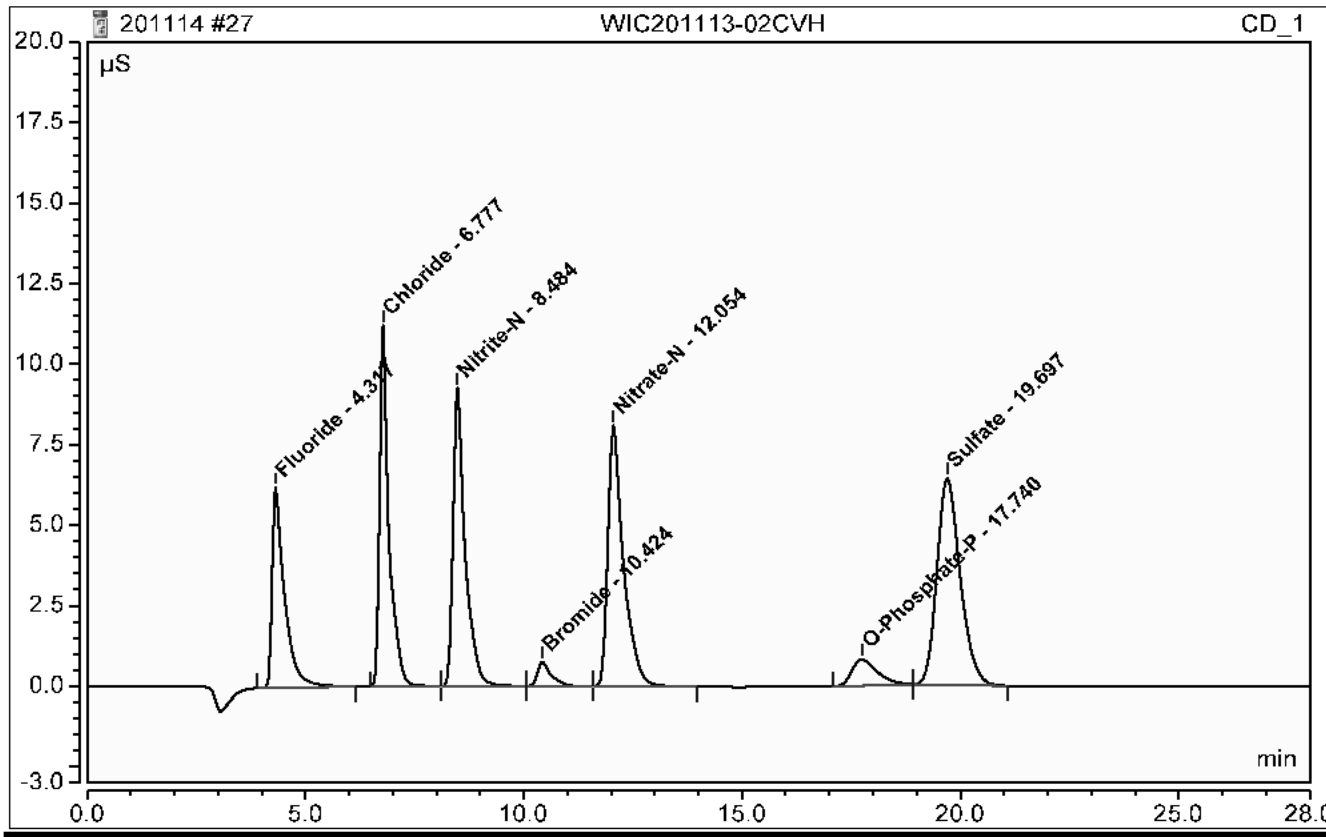
Sample Name:	**1204694459/2062974/1/1/PS**	*Injection Volume:*	**1.0**
Vial Number:	**11**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:59**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	Fluoride	n.a.	2.4138		1.33603	0.53
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
3	8.51	Nitrite-N	n.a.	2.6683		2.14836	0.86
4	10.44	Bromide	n.a.	2.6516		0.38662	0.15
5	12.07	Nitrate-N	n.a.	2.3808		2.22600	0.89
6	17.74	O-Phosphate-P	n.a.	1.1971		0.35767	0.14
7	19.78	Sulfate	n.a.	51.2073		14.05023	5.60
Total:				62.5189	0.000	20.505	8.18

27 WIC201113-02CVH

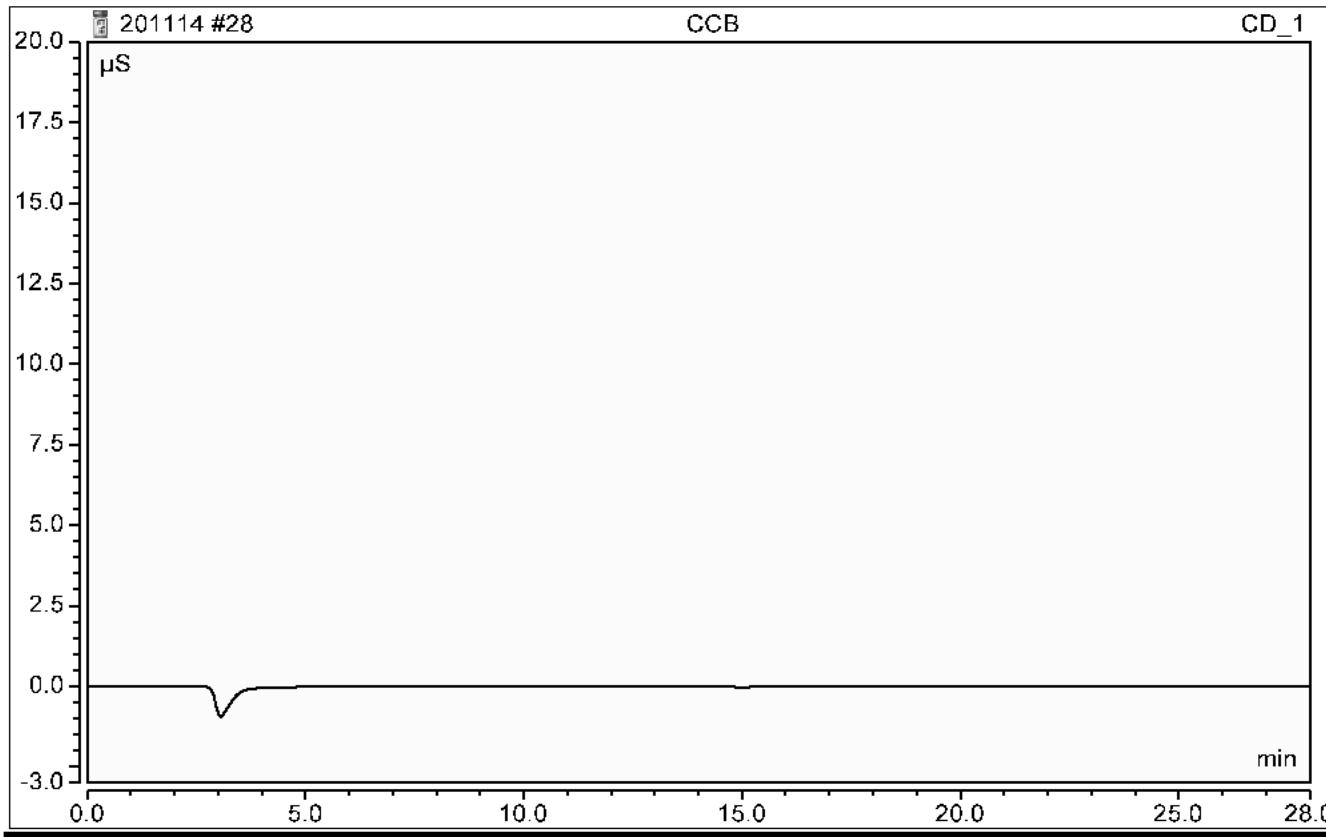
Sample Name:	**WIC201113-02CVH**	*Injection Volume:*	**1.0**
Vial Number:	**14**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 17:32**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.32	Fluoride	n.a.	3.7254		2.04995	12.85
2	6.78	Chloride	n.a.	7.2144		2.77248	17.38
3	8.48	Nitrite-N	n.a.	3.6796		2.97192	18.63
4	10.42	Bromide	n.a.	2.0113		0.29304	1.84
5	12.05	Nitrate-N	n.a.	3.5686		3.35156	21.01
6	17.74	O-Phosphate-P	n.a.	1.9504		0.55640	3.49
7	19.70	Sulfate	n.a.	14.5528		3.96050	24.82
Total:				36.7026	0.000	15.956	100.00

28 CCB

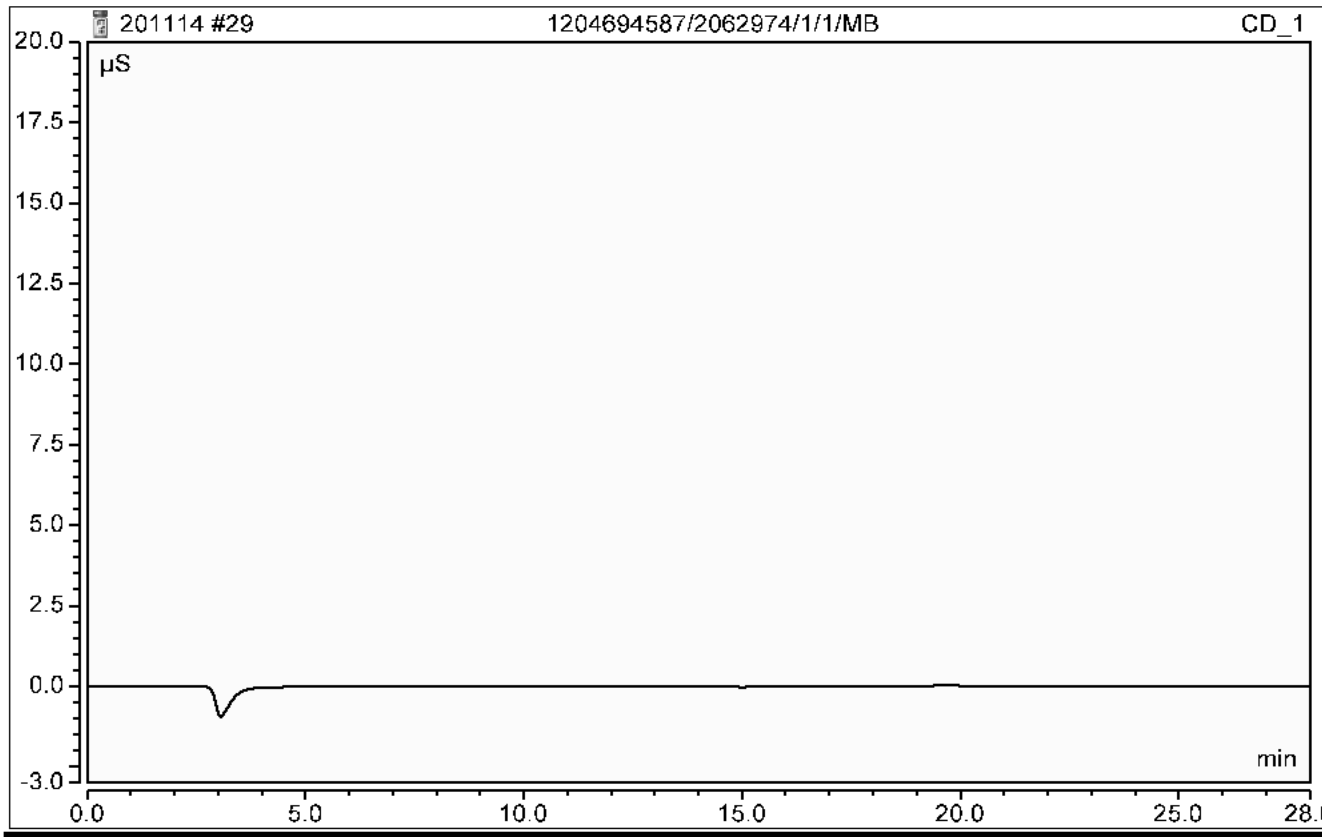
Sample Name:	**CCB**	*Injection Volume:*	**1.0**
Vial Number:	**15**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 18:03**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

29 1204694587/2062974/1/1/MB

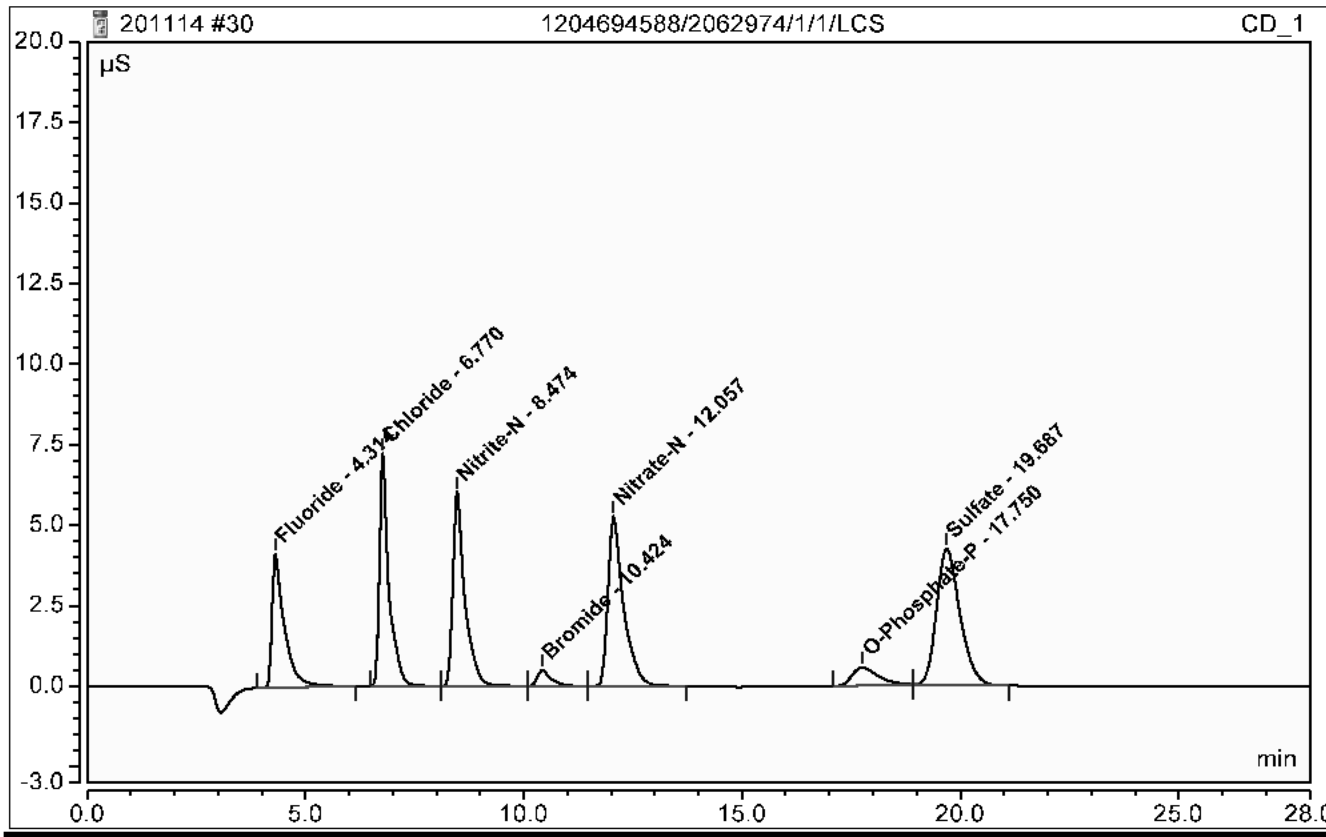
Sample Name:	**1204694587/2062974/1/1/MB**	*Injection Volume:*	**1.0**
Vial Number:	**16**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 18:33**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

30 1204694588/2062974/1/1/LCS

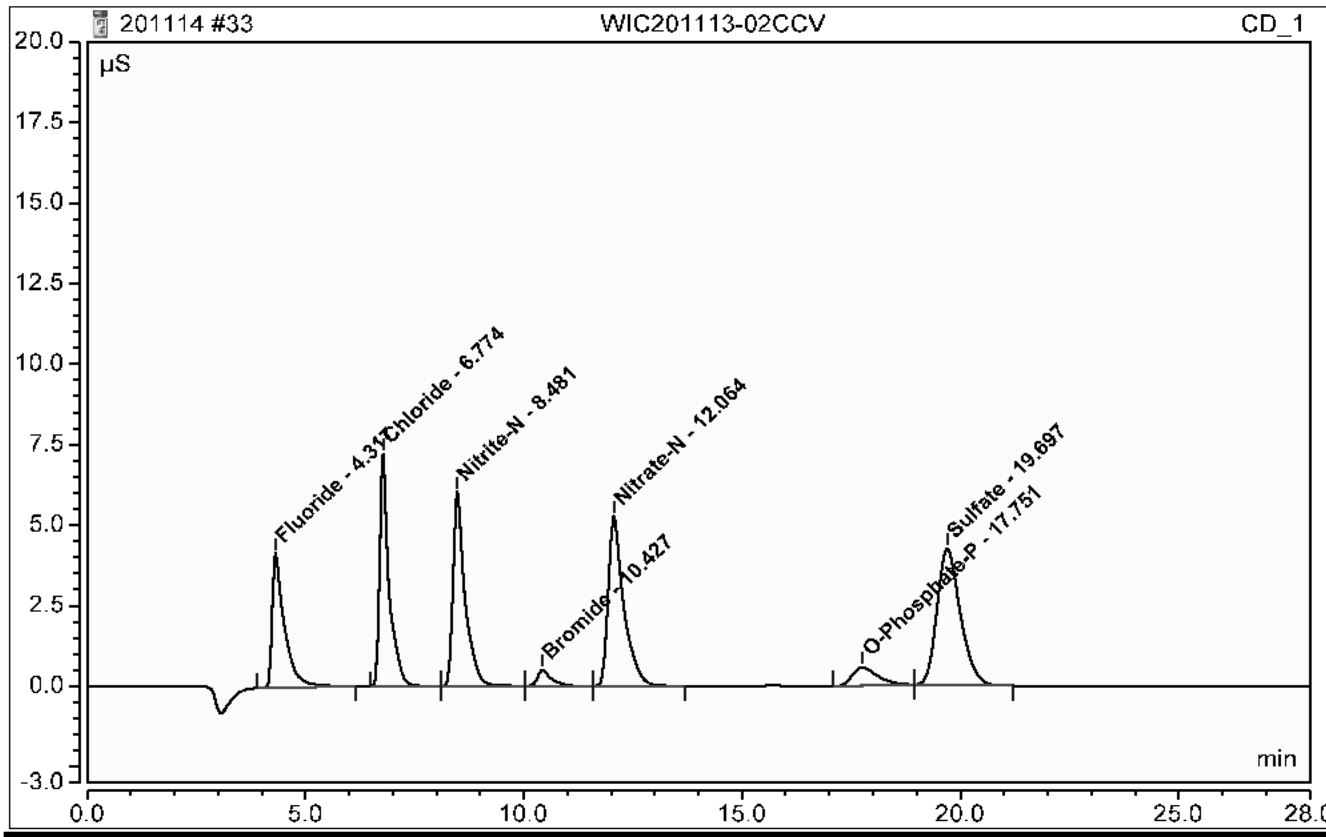
Sample Name:	**1204694588/2062974/1/1/LCS**	*Injection Volume:*	**1.0**
Vial Number:	**17**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 19:04**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	Fluoride	n.a.	2.4757		1.36972	13.09
2	6.77	Chloride	n.a.	4.7350		1.80842	17.28
3	8.47	Nitrite-N	n.a.	2.3894		1.92116	18.36
4	10.42	Bromide	n.a.	1.2432		0.18078	1.73
5	12.06	Nitrate-N	n.a.	2.3267		2.17470	20.78
6	17.75	O-Phosphate-P	n.a.	1.2999		0.38479	3.68
7	19.69	Sulfate	n.a.	9.7041		2.62581	25.09
Total:				24.1739	0.000	10.465	100.00

33 WIC201113-02CCV

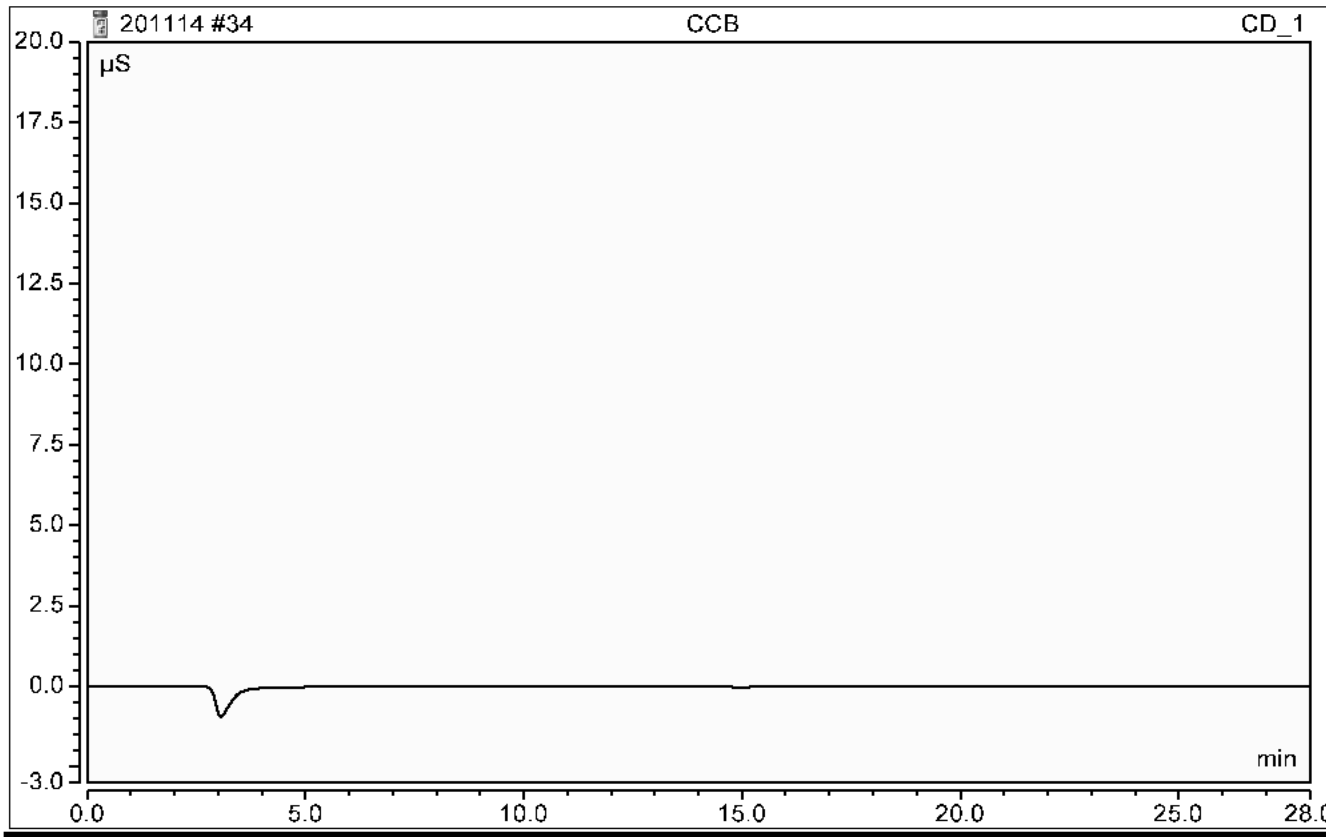
Sample Name:	**WIC201113-02CCV**	*Injection Volume:*	**1.0**
Vial Number:	**20**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 20:37**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.32	Fluoride	n.a.	2.4832		1.37383	13.10
2	6.77	Chloride	n.a.	4.7267		1.80519	17.21
3	8.48	Nitrite-N	n.a.	2.4009		1.93054	18.40
4	10.43	Bromide	n.a.	1.3120		0.19084	1.82
5	12.06	Nitrate-N	n.a.	2.3311		2.17886	20.77
6	17.75	O-Phosphate-P	n.a.	1.2989		0.38452	3.67
7	19.70	Sulfate	n.a.	9.7052		2.62612	25.03
Total:				24.2580	0.000	10.490	100.00

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**1.0**
Vial Number:	**21**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 21:08**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



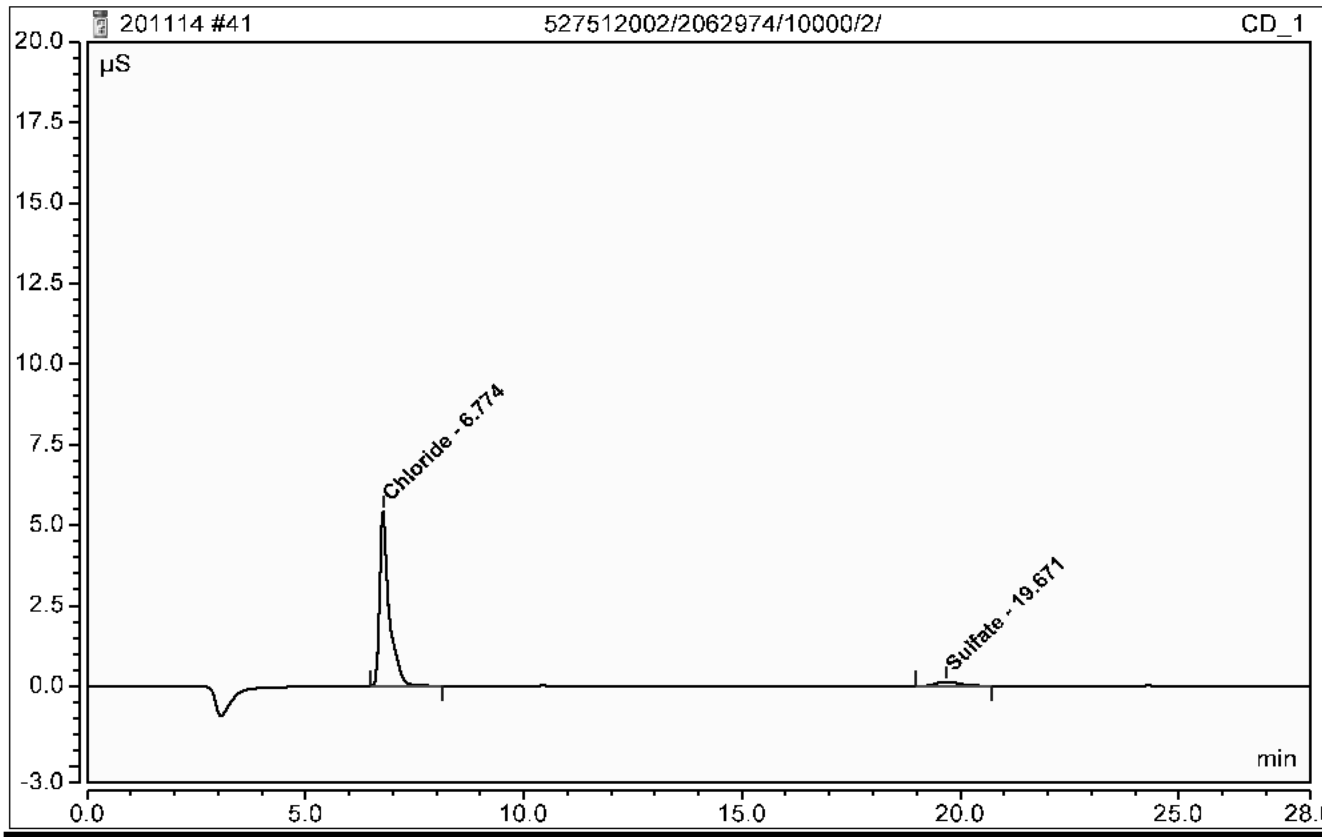
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 201114.seq for IC8

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
527474012	11/15/20 00:13	2062974	5	201114	JLD1
527512002	11/15/20 00:43	2062974	10000	201114	JLD1
1204694590	11/15/20 01:14	2062974	10000	201114	JLD1
1204694591	11/15/20 01:45	2062974	10000	201114	JLD1
527512003	11/15/20 02:16	2062974	10000	201114	JLD1
CVH	11/15/20 02:47		1	201114	JLD1
CCB	11/15/20 03:18		1	201114	JLD1

41 527512002/2062974/10000/2/

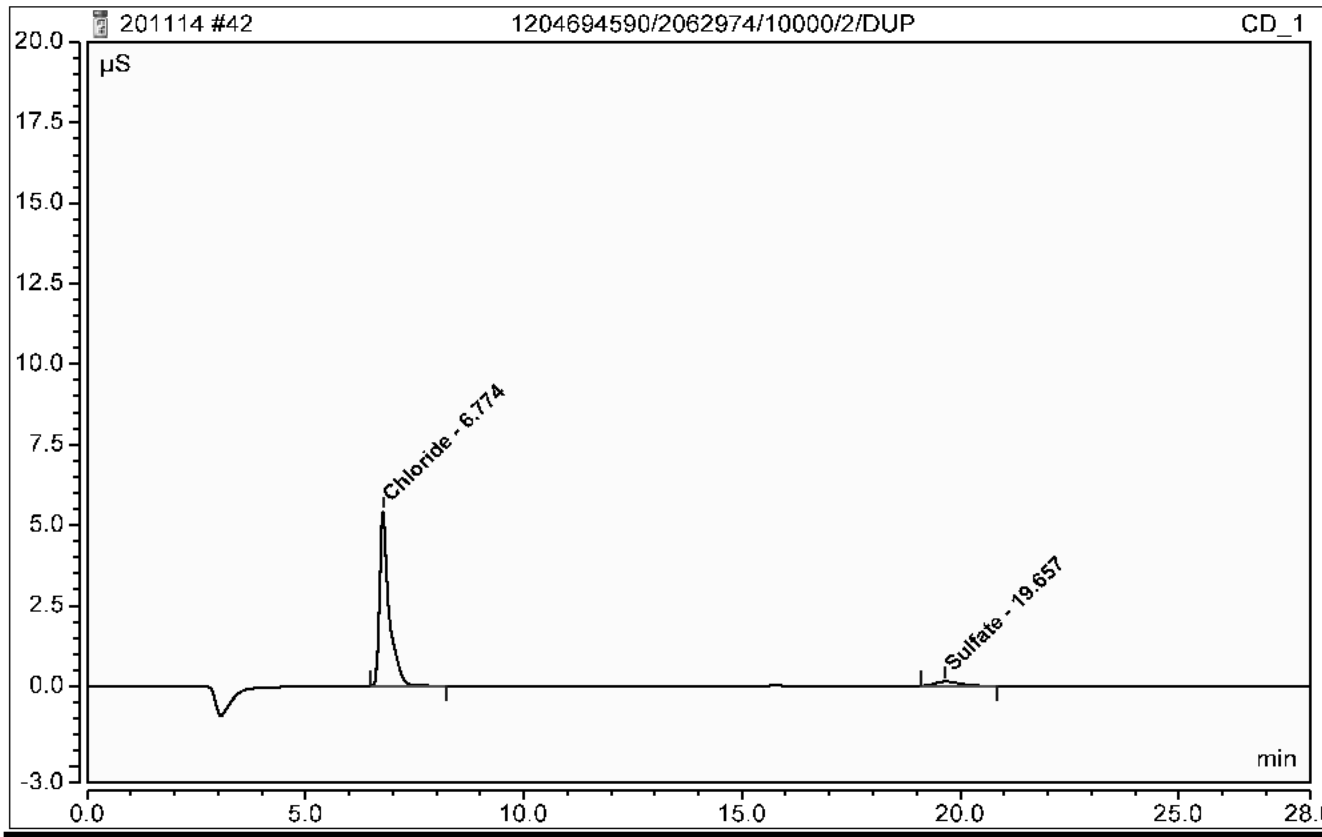
Sample Name:	**527512002/2062974/10000/2/**	*Injection Volume:*	**1.0**
Vial Number:	**28**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 0:43**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
1	6.77	Chloride	n.a.	3.6109		1.37133	93.81
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	19.67	Sulfate	n.a.	0.4939		0.09055	6.19
Total:				4.1048	0.000	1.462	100.00

42 1204694590/2062974/10000/2/DUP

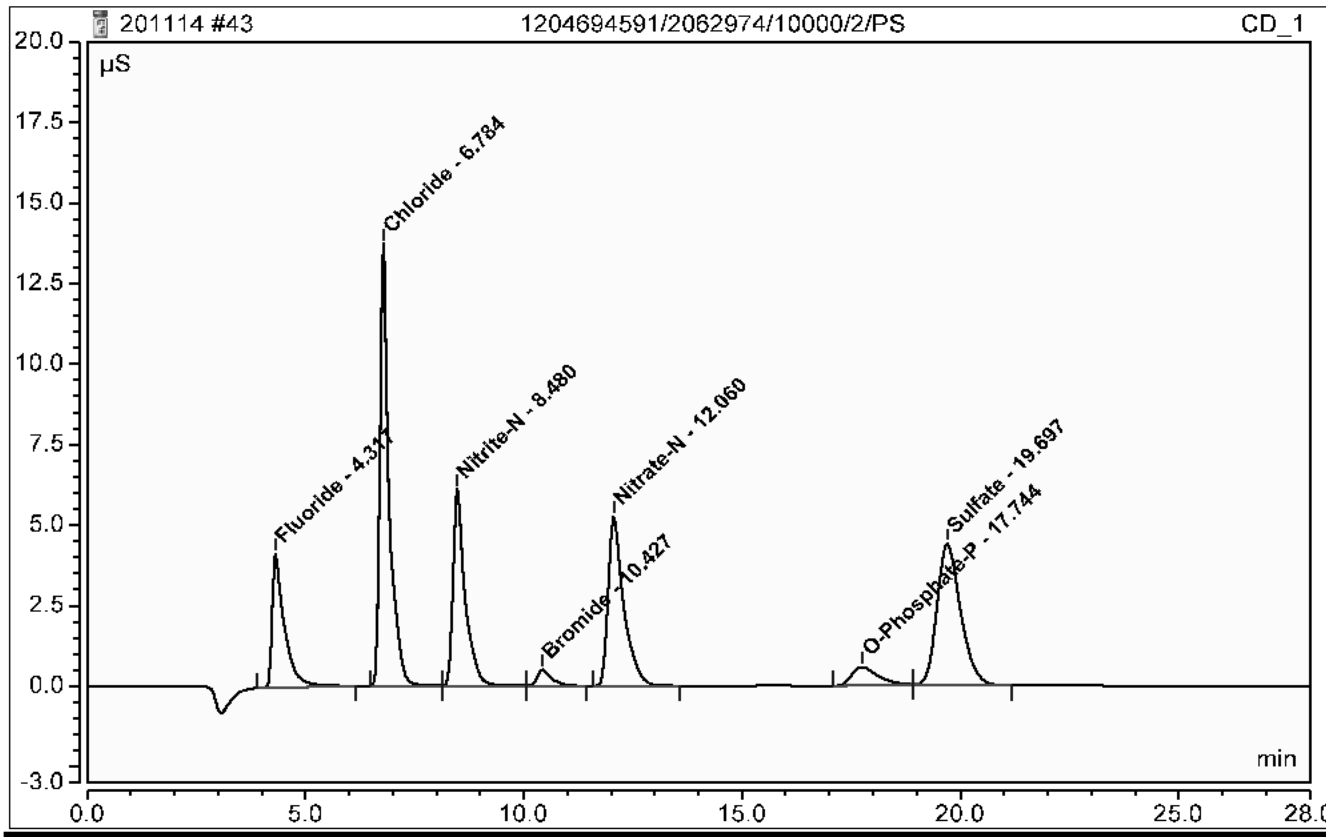
Sample Name:	**1204694590/2062974/10000/2/DUP**	*Injection Volume:*	**1.0**
Vial Number:	**29**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 1:14**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
1	6.77	Chloride	n.a.	3.5938		1.36469	93.73
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	19.66	Sulfate	n.a.	0.4967		0.09135	6.27
Total:				4.0906	0.000	1.456	100.00

43 1204694591/2062974/10000/2/PS

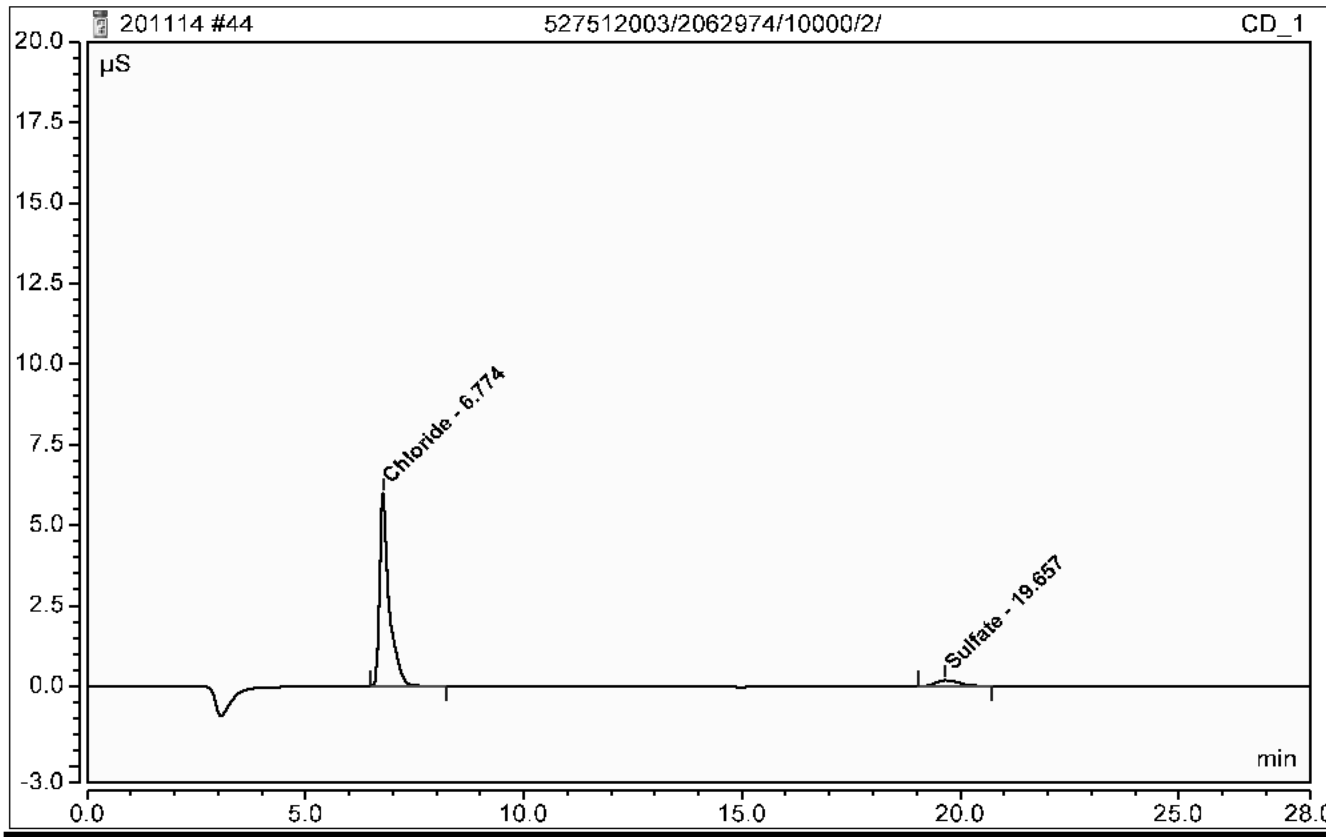
Sample Name:	**1204694591/2062974/10000/2/PS**	*Injection Volume:*	**1.0**
Vial Number:	**30**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 1:45**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.32	Fluoride	n.a.	2.4630		1.36282	11.21
2	6.78	Chloride	n.a.	8.6770		3.34119	27.48
3	8.48	Nitrite-N	n.a.	2.4356		1.95880	16.11
4	10.43	Bromide	n.a.	1.3173		0.19161	1.58
5	12.06	Nitrate-N	n.a.	2.3304		2.17815	17.92
6	17.74	O-Phosphate-P	n.a.	1.3265		0.39181	3.22
7	19.70	Sulfate	n.a.	10.0953		2.73350	22.48
Total:				28.6451	0.000	12.158	100.00

44 527512003/2062974/10000/2/

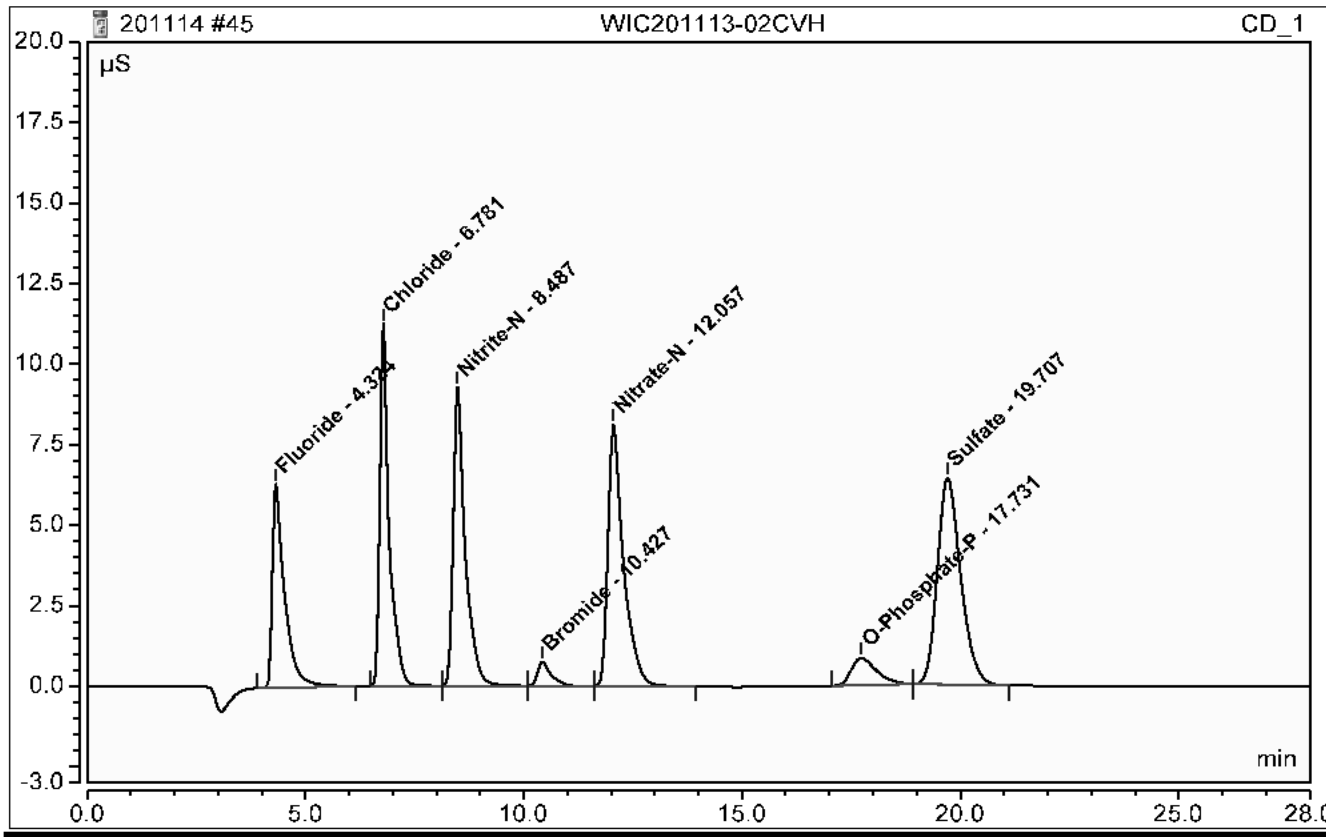
Sample Name:	**527512003/2062974/10000/2/**	*Injection Volume:*	**1.0**
Vial Number:	**31**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 2:16**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
1	6.77	Chloride	n.a.	3.9535		1.50453	92.66
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	19.66	Sulfate	n.a.	0.5981		0.11924	7.34
Total:				4.5515	0.000	1.624	100.00

45 WIC201113-02CVH

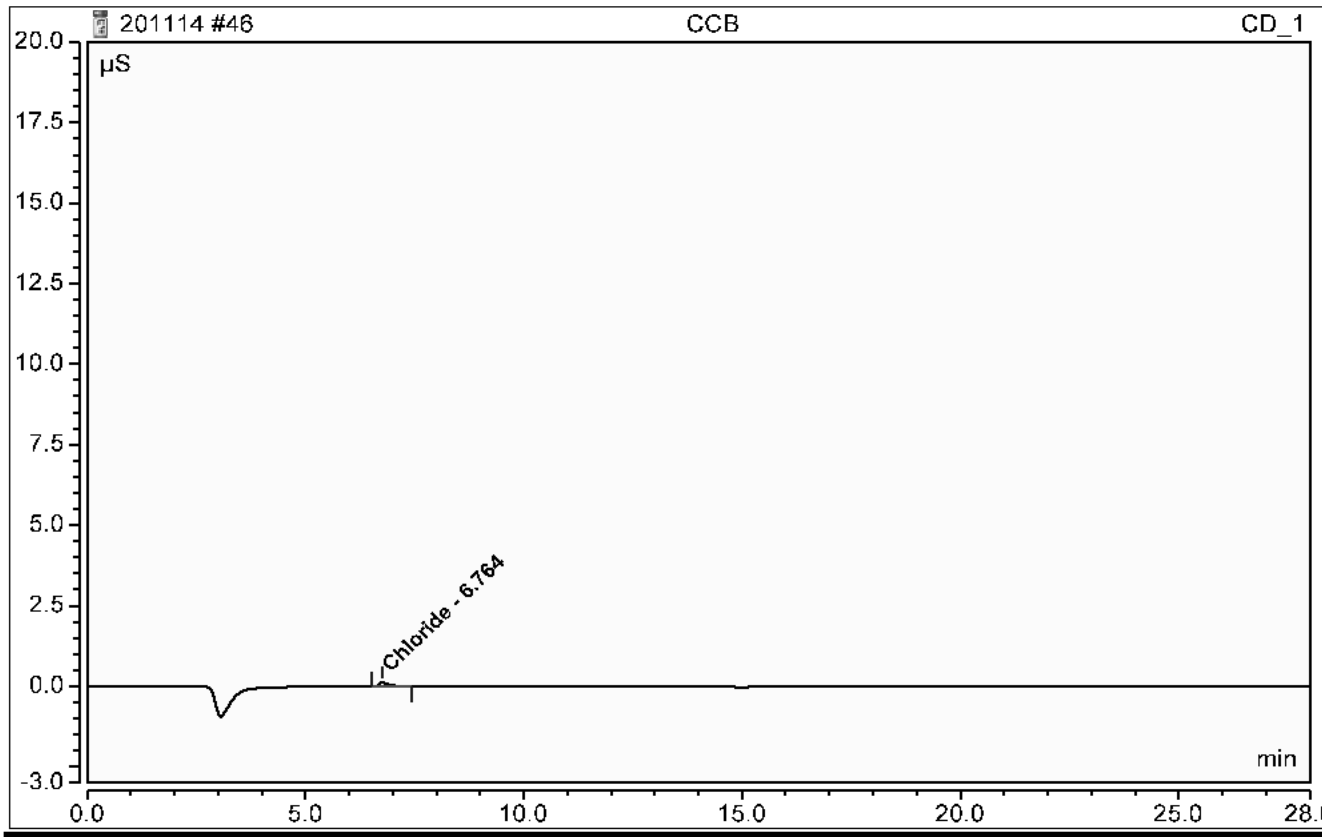
Sample Name:	**WIC201113-02CVH**	*Injection Volume:*	**1.0**
Vial Number:	**32**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 2:47**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.32	Fluoride	n.a.	3.7383		2.05699	12.88
2	6.78	Chloride	n.a.	7.2121		2.77157	17.36
3	8.49	Nitrite-N	n.a.	3.6692		2.96339	18.56
4	10.43	Bromide	n.a.	1.9573		0.28515	1.79
5	12.06	Nitrate-N	n.a.	3.5577		3.34124	20.93
6	17.73	O-Phosphate-P	n.a.	2.0074		0.57142	3.58
7	19.71	Sulfate	n.a.	14.6159		3.97787	24.91
Total:				36.7578	0.000	15.968	100.00

46 CCB

Sample Name:	**CCB**	*Injection Volume:*	**1.0**
Vial Number:	**33**	*Channel:*	**CD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201111an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 3:18**	Analyst:	**JLD1**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
1	6.76	Chloride	n.a.	0.1767		0.03602	100.00
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.1767	0.000	0.036	100.00

Nitrate Nitrite by Cadmium Reduction Raw Data

This is runlog lachat3

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
1.5 ppm		1	AXH3	11/16/2020 8:07:59	OM_11-16-2020_08-06-59
1.0 ppm		1	AXH3	11/16/2020 8:09:11	OM_11-16-2020_08-06-59
0.5 ppm		1	AXH3	11/16/2020 8:10:23	OM_11-16-2020_08-06-59
0.1 ppm		1	AXH3	11/16/2020 8:11:35	OM_11-16-2020_08-06-59
0.05 ppm		1	AXH3	11/16/2020 8:12:47	OM_11-16-2020_08-06-59
0.02 ppm		1	AXH3	11/16/2020 8:14:00	OM_11-16-2020_08-06-59
ICAL-00		1	AXH3	11/16/2020 8:15:13	OM_11-16-2020_08-06-59
1.0 ppm ICV		1	AXH3	11/16/2020 8:17:34	OM_11-16-2020_08-06-59
ICB		1	AXH3	11/16/2020 8:19:55	OM_11-16-2020_08-06-59
Nitrate 1.0 ppm		1	AXH3	11/16/2020 8:22:14	OM_11-16-2020_08-06-59
Nitrite 1.0 ppm		1	AXH3	11/16/2020 8:24:33	OM_11-16-2020_08-06-59
1204691053	2061299	1	AXH3	11/16/2020 8:26:54	OM_11-16-2020_08-06-59
1204691054	2061299	1	AXH3	11/16/2020 8:28:06	OM_11-16-2020_08-06-59
526834001	2061299	10	AXH3	11/16/2020 8:29:18	OM_11-16-2020_08-06-59
1204691055	2061299	10	AXH3	11/16/2020 8:30:30	OM_11-16-2020_08-06-59
1204691057	2061299	10	AXH3	11/16/2020 8:31:41	OM_11-16-2020_08-06-59
526834003	2061299	1	AXH3	11/16/2020 8:32:53	OM_11-16-2020_08-06-59
526837003	2061299	1	AXH3	11/16/2020 8:34:05	OM_11-16-2020_08-06-59
1204691056	2061299	1	AXH3	11/16/2020 8:35:16	OM_11-16-2020_08-06-59
1204691058	2061299	1	AXH3	11/16/2020 8:36:28	OM_11-16-2020_08-06-59
526982001	2061299	25	AXH3	11/16/2020 8:37:39	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 8:38:50	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 8:41:11	OM_11-16-2020_08-06-59
526982004	2061299	10	AXH3	11/16/2020 8:43:30	OM_11-16-2020_08-06-59
526982008	2061299	10	AXH3	11/16/2020 8:44:41	OM_11-16-2020_08-06-59
527003003	2061299	1	AXH3	11/16/2020 8:45:52	OM_11-16-2020_08-06-59
1204692160	2061299	1	AXH3	11/16/2020 8:47:03	OM_11-16-2020_08-06-59
1204692162	2061299	1	AXH3	11/16/2020 8:48:13	OM_11-16-2020_08-06-59
527003011	2061299	1	AXH3	11/16/2020 8:49:26	OM_11-16-2020_08-06-59
527062001	2061299	50	AXH3	11/16/2020 8:50:38	OM_11-16-2020_08-06-59
1204692161	2061299	50	AXH3	11/16/2020 8:51:50	OM_11-16-2020_08-06-59
1204692163	2061299	50	AXH3	11/16/2020 8:53:01	OM_11-16-2020_08-06-59
527171001	2061299	1	AXH3	11/16/2020 8:54:13	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 8:55:25	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 8:57:45	OM_11-16-2020_08-06-59
1204693489	2061299	1	AXH3	11/16/2020 9:00:05	OM_11-16-2020_08-06-59
1204693490	2061299	1	AXH3	11/16/2020 9:01:17	OM_11-16-2020_08-06-59
527171004	2061299	5	AXH3	11/16/2020 9:02:28	OM_11-16-2020_08-06-59
527171007	2061299	1	AXH3	11/16/2020 9:03:40	OM_11-16-2020_08-06-59
527228003	2061299	1	AXH3	11/16/2020 9:04:51	OM_11-16-2020_08-06-59
1204692168	2061893	1	AXH3	11/16/2020 9:06:02	OM_11-16-2020_08-06-59
1204692169	2061893	1	AXH3	11/16/2020 9:07:13	OM_11-16-2020_08-06-59
527016004	2061893	10	AXH3	11/16/2020 9:08:24	OM_11-16-2020_08-06-59
1204692170	2061893	10	AXH3	11/16/2020 9:09:34	OM_11-16-2020_08-06-59
1204692171	2061893	10	AXH3	11/16/2020 9:10:45	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 9:11:56	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 9:14:17	OM_11-16-2020_08-06-59
527083002	2061893	5	AXH3	11/16/2020 9:16:37	OM_11-16-2020_08-06-59
527083006	2061893	5	AXH3	11/16/2020 9:17:49	OM_11-16-2020_08-06-59
527083010	2061893	1	AXH3	11/16/2020 9:19:01	OM_11-16-2020_08-06-59
1204692164	2061892	1	AXH3	11/16/2020 9:20:12	OM_11-16-2020_08-06-59
1204692165	2061892	1	AXH3	11/16/2020 9:21:25	OM_11-16-2020_08-06-59
526974001	2061892	1	AXH3	11/16/2020 9:22:36	OM_11-16-2020_08-06-59
1204692166	2061892	1	AXH3	11/16/2020 9:23:48	OM_11-16-2020_08-06-59
1204692167	2061892	1	AXH3	11/16/2020 9:24:59	OM_11-16-2020_08-06-59
526974002	2061892	1	AXH3	11/16/2020 9:26:11	OM_11-16-2020_08-06-59
1204695092	2063130	1	AXH3	11/16/2020 9:27:22	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 9:28:33	OM_11-16-2020_08-06-59

CCB		1	AXH3	11/16/2020 9:30:54	OM_11-16-2020_08-06-59
1204695093	2063130	1	AXH3	11/16/2020 9:33:13	OM_11-16-2020_08-06-59
527300003	2063130	1	AXH3	11/16/2020 9:34:24	OM_11-16-2020_08-06-59
1204695096	2063130	1	AXH3	11/16/2020 9:35:35	OM_11-16-2020_08-06-59
1204695099	2063130	1	AXH3	11/16/2020 9:36:45	OM_11-16-2020_08-06-59
527489001	2063130	1	AXH3	11/16/2020 9:37:56	OM_11-16-2020_08-06-59
527489004	2063130	5	AXH3	11/16/2020 9:39:08	OM_11-16-2020_08-06-59
527489007	2063130	10	AXH3	11/16/2020 9:40:21	OM_11-16-2020_08-06-59
527493001	2063130	25	AXH3	11/16/2020 9:41:32	OM_11-16-2020_08-06-59
1204695095	2063130	25	AXH3	11/16/2020 9:42:44	OM_11-16-2020_08-06-59
1204695098	2063130	25	AXH3	11/16/2020 9:43:56	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 9:45:07	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 9:47:28	OM_11-16-2020_08-06-59
527497001	2063130	1	AXH3	11/16/2020 9:49:48	OM_11-16-2020_08-06-59
527501001	2063130	5	AXH3	11/16/2020 9:51:00	OM_11-16-2020_08-06-59
527501004	2063130	1	AXH3	11/16/2020 9:52:11	OM_11-16-2020_08-06-59
527501006	2063130	1	AXH3	11/16/2020 9:53:23	OM_11-16-2020_08-06-59
527509007	2063130	1	AXH3	11/16/2020 9:54:34	OM_11-16-2020_08-06-59
527511005	2063130	5	AXH3	11/16/2020 9:55:45	OM_11-16-2020_08-06-59
1204695094	2063130	5	AXH3	11/16/2020 9:56:56	OM_11-16-2020_08-06-59
1204695097	2063130	5	AXH3	11/16/2020 9:58:06	OM_11-16-2020_08-06-59
527511009	2063130	1	AXH3	11/16/2020 9:59:17	OM_11-16-2020_08-06-59
527511013	2063130	10	AXH3	11/16/2020 10:00:28	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 10:01:40	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 10:04:01	OM_11-16-2020_08-06-59
527512002	2063130	1	AXH3	11/16/2020 10:06:21	OM_11-16-2020_08-06-59
527512003	2063130	1	AXH3	11/16/2020 10:07:33	OM_11-16-2020_08-06-59
527512005	2063130	1	AXH3	11/16/2020 10:08:45	OM_11-16-2020_08-06-59
527513002	2063130	5	AXH3	11/16/2020 10:09:57	OM_11-16-2020_08-06-59
527513004	2063130	5	AXH3	11/16/2020 10:11:09	OM_11-16-2020_08-06-59
527513006	2063130	1	AXH3	11/16/2020 10:12:20	OM_11-16-2020_08-06-59
1204695100	2063131	1	AXH3	11/16/2020 10:13:32	OM_11-16-2020_08-06-59
1204695101	2063131	1	AXH3	11/16/2020 10:14:44	OM_11-16-2020_08-06-59
527290006	2063131	1	AXH3	11/16/2020 10:15:55	OM_11-16-2020_08-06-59
1204695102	2063131	1	AXH3	11/16/2020 10:17:06	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 10:18:17	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 10:20:38	OM_11-16-2020_08-06-59
1204695103	2063131	1	AXH3	11/16/2020 10:22:57	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 10:25:15	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 10:27:36	OM_11-16-2020_08-06-59

Author: lachat Date : 11/16/2020

Original Run Filename: OM_11-16-2020_08-06-59.OMN created 11/16/2020 08:06:59
Original Run Author's Signature: [lachat]
Current Run Filename: OM_11-16-2020_08-06-59.OMN last modified 11/16/2020 10:28:58
Current Run Author's Signature: [lachat]
Description: EPA 353.2
Cadmium Colum AR1111A
LCS nominal 1.0 mg/L

Sample	Rep.	Cup No.	Channel 1 NO3 + NO2 Conc. (mg/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WTR201116-26	1	S9	1.50	14.5	11/16/2020@08:07:59			1.5 ppm
WTR201116-25	1	S10	1.00	9.83	11/16/2020@08:09:11			1.0 ppm
WTR201116-24	1	S11	0.500	4.99	11/16/2020@08:10:23			0.5 ppm
WTR201116-23	1	S12	0.100	1.03	11/16/2020@08:11:35			0.1 ppm
WTR201116-21	1	S13	0.0500	0.518	11/16/2020@08:12:47			0.05 ppm
WTR201116-20	1	S14	0.0200	0.228	11/16/2020@08:14:00			0.02 ppm
0.0ppm	1	S15	0.00	0.0116	11/16/2020@08:15:13			0.0 ppm
DQM Test: Minimum Correlation Coefficient								
Result:			0.99994 > 0.99500					
Message			Calibration Passed					
Action			Continue					
WTR201116-27 ICV	1	S16	1.01	9.88	11/16/2020@08:17:34			1.0 ppm ICV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.01 < 1.10					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			1.01 > 0.899					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
ICB	1	S15	-0.00457	0.0113	11/16/2020@08:19:55			ICB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.00457 < 0.0200					
Message			ICB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.00457 > -0.0200					
Message			ICB Passed					
Action			Continue					
WTR201116-22	1	S1	1.05	10.2	11/16/2020@08:22:14			Nitrate 1.0 ppm
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.05 < 1.10					
Message			Nitrate Standard Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			1.05 > 0.900					
Message			Nitrate Standard Passed					
Action			None					
WTR201116-28	1	S2	1.05	10.2	11/16/2020@08:24:33			Nitrite 1.0 ppm
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.05 < 1.10					
Message			Pass					
Action			None					
DQM Test: < - Concentration Limit								
Result:			1.05 > 0.900					
Message			Nitrite Standard Passed					
Action			Continue					
1204691053|2061299|MB	1	1	-0.00445	0.0125	11/16/2020@08:26:54			
1204691054||LCS	1	2	0.989	9.64	11/16/2020@08:28:06			
526834001	1	3	0.214	2.13	11/16/2020@08:29:18		10.00	
1204691055||DUP	1	4	0.212	2.11	11/16/2020@08:30:30		10.00	

1204691057||PS	1	5	1.21	11.8	11/16/2020@08:31:41		10.00	
526834003	1	6	0.379	3.73	11/16/2020@08:32:53			
526837003	1	7	0.0105	0.158	11/16/2020@08:34:05			
1204691056||DUP	1	8	0.0102	0.155	11/16/2020@08:35:16			
1204691058||PS	1	9	0.991	9.66	11/16/2020@08:36:28			
526982001	1	10	0.477	4.68	11/16/2020@08:37:39		25.00	
WTR201116-25 CCV	1	S10	1.00	9.79	11/16/2020@08:38:50			1.0 ppm CCV
	Known Conc:		1.00					
DQM Test: > + Concentration Limit								
	Result:		1.00 < 1.10					
	Message		CCV Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		1.00 > 0.899					
	Message		CCV Passed					
	Action		Continue					
CCB	1	S15	-0.00416	0.0153	11/16/2020@08:41:11			CCB
	Known Conc:		0.00					
DQM Test: > + Concentration Limit								
	Result:		-0.00416 < 0.0200					
	Message		CCB Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		-0.00416 > -0.0200					
	Message		CCB Passed					
	Action		Continue					
526982004	1	11	0.268	2.65	11/16/2020@08:43:30		10.00	
526982008	1	12	0.388	3.81	11/16/2020@08:44:41		10.00	
527003003	1	13	0.00471	0.101	11/16/2020@08:45:52			
1204692160||DUP	1	14	0.00492	0.103	11/16/2020@08:47:03			
1204692162||PS	1	15	0.957	9.33	11/16/2020@08:48:13			
527003011	1	16	0.00232	0.0781	11/16/2020@08:49:26			
527062001	1	17	0.291	2.88	11/16/2020@08:50:38		50.00	
1204692161||DUP	1	18	0.285	2.82	11/16/2020@08:51:50		50.00	
1204692163||PS	1	19	1.28	12.4	11/16/2020@08:53:01		50.00	
527171001	1	20	0.0109	0.162	11/16/2020@08:54:13			
WTR201116-25 CCV	1	S10	0.989	9.64	11/16/2020@08:55:25			1.0 ppm CCV
	Known Conc:		1.00					
DQM Test: > + Concentration Limit								
	Result:		0.989 < 1.10					
	Message		CCV Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		0.989 > 0.899					
	Message		CCV Passed					
	Action		Continue					
CCB	1	S15	-0.00419	0.0151	11/16/2020@08:57:45			CCB
	Known Conc:		0.00					
DQM Test: > + Concentration Limit								
	Result:		-0.00419 < 0.0200					
	Message		CCB Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		-0.00419 > -0.0200					
	Message		CCB Passed					
	Action		Continue					
1204693489||DUP	1	21	0.0107	0.159	11/16/2020@09:00:05			
1204693490||PS	1	22	0.949	9.25	11/16/2020@09:01:17			
527171004	1	23	0.262	2.60	11/16/2020@09:02:28		5.00	
527171007	1	24	0.744	7.27	11/16/2020@09:03:40			
527228003	1	25	-5.68e-4	0.0502	11/16/2020@09:04:51			
1204692168|2061893|MB	1	26	-0.00345	0.0222	11/16/2020@09:06:02			
1204692169||LCS	1	27	0.966	9.42	11/16/2020@09:07:13			
527016004	1	28	0.259	2.56	11/16/2020@09:08:24		10.00	
1204692170||DUP	1	29	0.253	2.51	11/16/2020@09:09:34		10.00	
1204692171||PS	1	30	1.22	11.8	11/16/2020@09:10:45		10.00	
WTR201116-25 CCV	1	S10	0.980	9.55	11/16/2020@09:11:56			1.0 ppm CCV
	Known Conc:		1.00					

DQM Test: > + Concentration Limit								
		Result:	0.980 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.980 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00440	0.0130	11/16/2020@09:14:17			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00440 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00440 > -0.0200					
		Message	CCB Passed					
		Action	Continue					
527083002	1	31	0.453	4.45	11/16/2020@09:16:37		5.00	
527083006	1	32	0.452	4.44	11/16/2020@09:17:49		5.00	
527083010	1	33	-0.00321	0.0245	11/16/2020@09:19:01			
1204692164|2061892|MB	1	34	-0.00518	0.00541	11/16/2020@09:20:12			
1204692165||LCS	1	35	0.974	9.50	11/16/2020@09:21:25			
526974001	1	36	0.586	5.74	11/16/2020@09:22:36			
1204692166||DUP	1	37	0.615	6.01	11/16/2020@09:23:48			
1204692167||MS	1	38	1.39	13.5	11/16/2020@09:24:59			
526974002	1	39	0.0139	0.190	11/16/2020@09:26:11			
1204695092|2063130|MB	1	40	-0.00742	-0.0163	11/16/2020@09:27:22			
WTR201116-25 CCV	1	S10	0.981	9.56	11/16/2020@09:28:33			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.981 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.981 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00449	0.0121	11/16/2020@09:30:54			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00449 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00449 > -0.0200					
		Message	CCB Passed					
		Action	Continue					
1204695093||LCS	1	41	0.969	9.45	11/16/2020@09:33:13			
527300003	1	42	0.00151	0.0703	11/16/2020@09:34:24			
1204695096||DUP	1	43	7.23e-4	0.0627	11/16/2020@09:35:35			
1204695099||PS	1	44	0.956	9.32	11/16/2020@09:36:45			
527489001	1	45	0.414	4.07	11/16/2020@09:37:56			
527489004	1	46	0.211	2.10	11/16/2020@09:39:08		5.00	
527489007	1	47	0.246	2.44	11/16/2020@09:40:21		10.00	
527493001	1	48	0.193	1.93	11/16/2020@09:41:32		25.00	
1204695095||DUP	1	49	0.187	1.87	11/16/2020@09:42:44		25.00	
1204695098||PS	1	50	1.17	11.4	11/16/2020@09:43:56		25.00	
WTR201116-25 CCV	1	S10	0.979	9.54	11/16/2020@09:45:07			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.979 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.979 > 0.899					
		Message	CCV Passed					
		Action	Continue					

CCB	1	S15	-0.00439	0.0131	11/16/2020@09:47:28			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00439 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00439 > -0.0200					
		Message	CCB Passed					
		Action	Continue					
527497001	1	51	0.729	7.12	11/16/2020@09:49:48			
527501001	1	52	0.146	1.47	11/16/2020@09:51:00		5.00	
527501004	1	53	0.462	4.54	11/16/2020@09:52:11			
527501006	1	54	-0.00110	0.0450	11/16/2020@09:53:23			
527509007	1	55	-0.00376	0.0192	11/16/2020@09:54:34			
527511005	1	56	0.127	1.28	11/16/2020@09:55:45		5.00	
1204695094||DUP	1	57	0.127	1.28	11/16/2020@09:56:56		5.00	
1204695097||PS	1	58	1.10	10.7	11/16/2020@09:58:06		5.00	
527511009	1	59	0.224	2.23	11/16/2020@09:59:17			
527511013	1	60	0.228	2.27	11/16/2020@10:00:28		10.00	
WTR201116-25 CCV	1	S10	0.979	9.55	11/16/2020@10:01:40			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.979 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.979 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00335	0.0232	11/16/2020@10:04:01			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00335 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00335 > -0.0200					
		Message	CCB Passed					
		Action	Continue					
527512002	1	61	0.678	6.62	11/16/2020@10:06:21			
527512003	1	62	0.672	6.57	11/16/2020@10:07:33			
527512005	1	63	0.0371	0.416	11/16/2020@10:08:45			
527513002	1	64	0.0124	0.176	11/16/2020@10:09:57		5.00	
527513004	1	65	-0.0198	-0.136	11/16/2020@10:11:09		5.00	
527513006	1	66	0.0137	0.188	11/16/2020@10:12:20			
1204695100|2063131|MB	1	67	-0.00712	-0.0133	11/16/2020@10:13:32			
1204695101||LCS	1	68	0.956	9.32	11/16/2020@10:14:44			
527290006	1	69	0.432	4.24	11/16/2020@10:15:55			
1204695102||DUP	1	70	0.432	4.25	11/16/2020@10:17:06			
WTR201116-25 CCV	1	S10	0.959	9.35	11/16/2020@10:18:17			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.959 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.959 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00426	0.0144	11/16/2020@10:20:38			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00426 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00426 > -0.0200					

Message			CCB Passed					
Action			Continue					
1204695103||PS	1	71	1.36	13.2	11/16/2020@10:22:57			
WTR201116-25 CCV	1	S10	0.964	9.40	11/16/2020@10:25:15			1.0 ppm CCV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			0.964 < 1.10					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.964 > 0.899					
Message			CCV Passed					
Action			Continue					
CCB	1	S15	-0.00474	0.00969	11/16/2020@10:27:36			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.00474 < 0.0200					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.00474 > -0.0200					
Message			CCB Passed					
Action			Continue					

Channel 1 (NO3 + NO2) : Current View

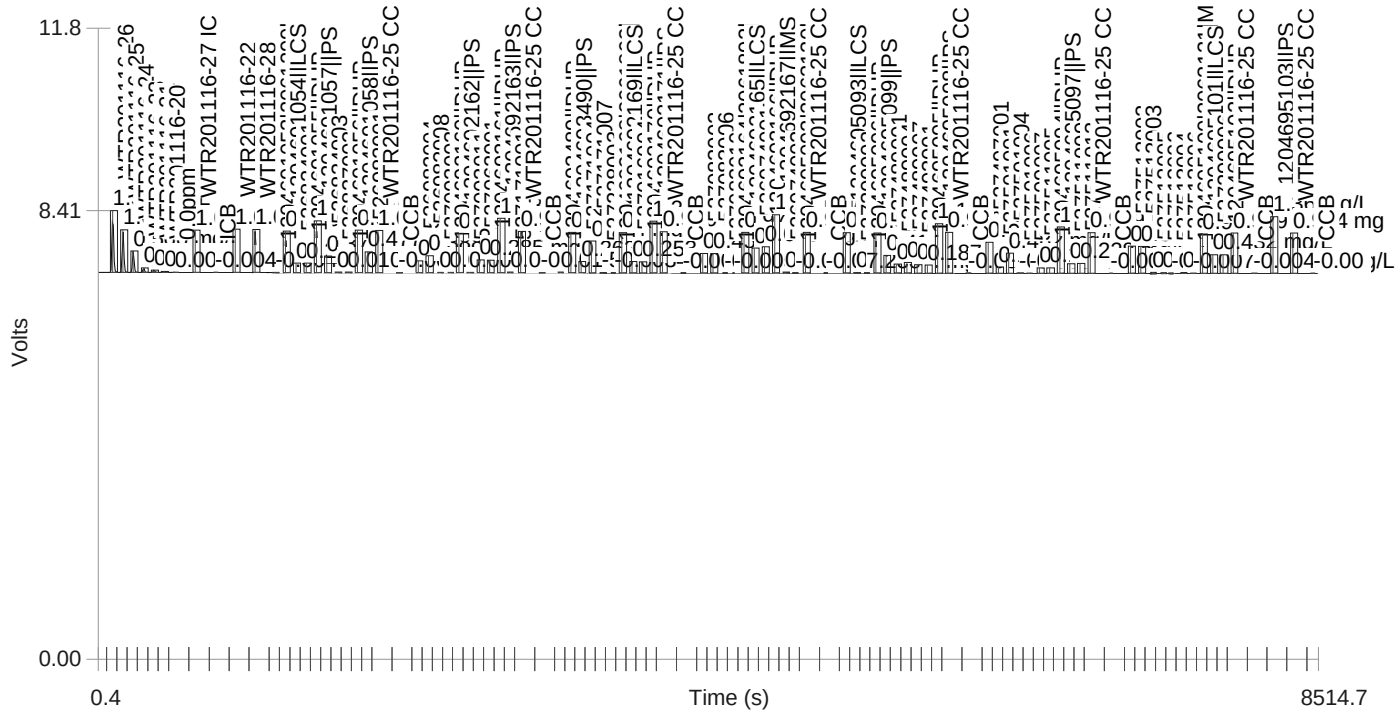
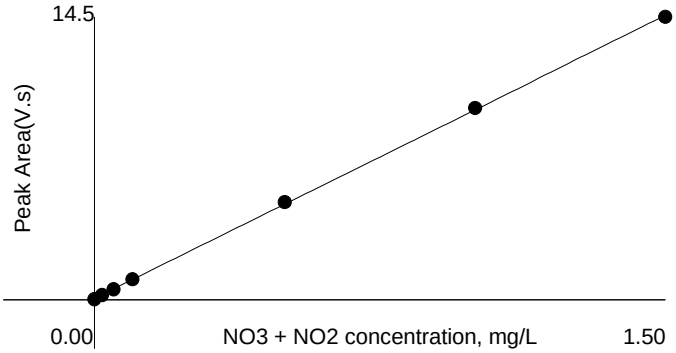


Table 1: NO3 + NO2

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	1.50	1	14.5	1.16	0.6	11/16/2020	08:09:20
2	1.00	1	9.83	0.796	-0.8	11/16/2020	08:10:31
3	0.500	1	4.99	0.402	-1.9	11/16/2020	08:11:43
4	0.100	1	1.03	0.0818	-0.0	11/16/2020	08:12:55
5	0.0500	1	0.518	0.0409	4.3	11/16/2020	08:14:07
6	0.0200	1	0.228	0.0178	9.0	11/16/2020	08:15:20
7	0.00	1	0.0116	7.34e-4		11/16/2020	08:16:33

Figure 1: NO3 + NO2



Solids, Total Dissolved
Raw Data

Batch: 2063665
Analyst: KLP1

TDS/TS/VS LogBook

Procedure Code BALDSSM_L
Procedure Description SM2540C Solids, Dissolved
Lab Sop GL-GC-E-001

Sample Type	Sample Id	Lot Id	Nc(mg/L)	Recovery(%)
LCS	1204696424	3124185	300	96.19

Sample Type	Sample Id	Rpd(%)
DUP	1204696425	3.0030030030030
DUP	1204696426	100.00000000000

Sample Id	Sample Type	Original Hsn	Instrument	Run Date	Crucible ID	Aliquot (L)	Crucible Wt(g)	Final Wt Event 1	Final Wt Event 2	Final Wt Event 3	Final Wt Event 4	Result	Units
1204696423	MB		BAL216	17-NOV-2020 14:37	700	0.07	72.8862	72.8857	72.8859			-4.28571	mg/L
1204696424	LCS		BAL216	17-NOV-2020 14:37	106	0.07	78.5289	78.5491	78.5491			288.57143	mg/L
527011025	SAMPLE		BAL216	17-NOV-2020 14:37	9	0.07	69.5553	69.5775	69.5771			311.42857	mg/L
527011026	SAMPLE		BAL216	17-NOV-2020 14:37	71	0.07	74.0024	74.0238	74.0241			310	mg/L
527016005	SAMPLE		BAL216	17-NOV-2020 14:37	57	0.07	76.6481	76.6647	76.665			241.42857	mg/L
1204696425	DUP	527016005	BAL216	17-NOV-2020 14:37	933	0.07	82.6954	82.7119	82.7118			234.28571	mg/L
527017001	SAMPLE		BAL216	17-NOV-2020 14:37	28	0.07	72.3563	72.7002	72.7001			4911.42857	mg/L
527180001	SAMPLE		BAL216	17-NOV-2020 14:37	40	0.07	66.7399	66.7672	66.7668			384.28571	mg/L
527180002	SAMPLE		BAL216	17-NOV-2020 14:37	MEH	0.07	103.5542	103.5589	103.5587			64.28571	mg/L
527180003	SAMPLE		BAL216	17-NOV-2020 14:37	M	0.07	72.3662	72.367	72.3667			7.14286	mg/L
527180004	SAMPLE		BAL216	17-NOV-2020 14:37	8	0.07	75.7814	75.7909	75.7908			134.28571	mg/L
527221003	SAMPLE		BAL216	17-NOV-2020 14:37	16	0.07	67.8348	67.8567	67.8567			312.85714	mg/L
527221008	SAMPLE		BAL216	17-NOV-2020 14:37	940	0.07	69.5912	69.6238	69.6237			464.28571	mg/L
527305003	SAMPLE		BAL216	17-NOV-2020 14:37	980	0.07	72.9475	72.9601	72.96			178.57143	mg/L
527312003	SAMPLE		BAL216	17-NOV-2020 14:37	107	0.07	80.6636	80.6892	80.6887			358.57143	mg/L
527312008	SAMPLE		BAL216	17-NOV-2020 14:37	177	0.07	72.0857	72.1041	72.1037			257.14286	mg/L
527509007	SAMPLE		BAL216	17-NOV-2020 14:37	7	0.07	76.5104	76.5099	76.5098			-8.57143	mg/L
1204696426	DUP	527509007	BAL216	17-NOV-2020 14:37	32	0.07	76.1239	76.1237	76.1237			-2.85714	mg/L
527512002	SAMPLE		BAL216	17-NOV-2020 14:37	ABC	0.07	75.23	79.9661	79.9578	79.9579		67541.42857	mg/L
527512003	SAMPLE		BAL216	17-NOV-2020 14:37	422	0.07	74.7831	79.4675	79.4596	79.4596		66807.14286	mg/L
527512005	SAMPLE		BAL216	17-NOV-2020 14:37	TT	0.07	89.3628	96.2553	96.2413	96.2413		98264.28571	mg/L
527513002	SAMPLE		BAL216	17-NOV-2020 14:37	500	0.07	65.6664	87.0315	81.5338	81.5338		2.27E+05	mg/L
527513004	SAMPLE		BAL216	17-NOV-2020 14:37	967	0.07	69.0547	87.5315	84.8331	84.8327		2.25E+05	mg/L
527513006	SAMPLE		BAL216	17-NOV-2020 14:37	17	0.07	77.08	79.7535	79.7489	79.7487		38124.28571	mg/L

Comments: **All Weights are in Grams**

A) Result = (Final - Crucible)/Aliquot * 1000

B) Prep Factor = 0.5 / Aliquot

In Oven Date/Time: 18-NOV-2020 05:00:00
In Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
Out Oven Date/Time: 18-NOV-2020 06:00:00
Out Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
In Oven Date/Time: 18-NOV-2020 10:00:00
In Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
Out Oven Date/Time: 18-NOV-2020 11:00:00
Out Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
In Oven Date/Time: 18-NOV-2020 15:00:00

In Oven Temperature (178-182C): 181 C
Temperature within limits (Y/N)?: Y
Out Oven Date/Time: 19-NOV-2020 06:00:00
Out Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
Filter Lot Number: 600024-0070-K

Note: Aliquot is used for the determination of the effective MDL and PQL in LIMS

Total Kjeldahl Nitrogen Raw Data

Prep Logbook

Total Phosphorous and Total Kjeldahl Nitrogen Sample Preparation

Batch ID: **2063653**
Analyst: Kristen Mizzell
Method: EPA 351.2 Prep
Lab SOP: GL-GC-E-071 REV# 17
Instrument: No instrument-manual method

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204696394	TRASPIKE2	UTR3125391-02	.2	mL
MS	1204696396	TRASPIKE2	UTR3125391-02	.2	mL
MS	1204698327	TRASPIKE2	UTR3125391-02	.2	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204696393 MB	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204696394 LCS	19-NOV-2020 16:00:00	Water	20	20	1	<2
527509005	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204696395 DUP (527509005)	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204696396 MS (527509005)	19-NOV-2020 16:00:00	Water	20	20	1	<2
527512001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527512004	19-NOV-2020 16:00:00	Water	20	20	1	<2
527513001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527513003	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204698326 DUP (527705001)	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204698327 MS (527705001)	19-NOV-2020 16:00:00	Water	20	20	1	<2
527513005	19-NOV-2020 16:00:00	Water	20	20	1	<2
527569001	19-NOV-2020 16:00:00	Waste Water	20	20	1	<2
527654001	19-NOV-2020 16:00:00	Ground Water	20	20	1	<2
527654002	19-NOV-2020 16:00:00	Ground Water	20	20	1	<2
527705001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705002	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705003	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705004	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705005	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705006	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705007	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705008	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705009	19-NOV-2020 16:00:00	Water	20	20	1	<2
527771001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527784001	19-NOV-2020 16:00:00	Water	20	20	1	<2

Reagent/Solvent Lot ID	Description	Amount
3127042-C	TKN/PO4 Digestion Solution	4 mL
WTR201119-12	TKN,TP Working Standard 5ppm	20 mL
WTR201119-13	TKN, TP Working Standard 3ppm	20 mL
WTR201119-14	TKN,TP Working Standard 1ppm CCV	20 mL
WTR201119-15	TKN, TP Working Standard 0.5ppm	20 mL
WTR201119-16	TKN, TP Working Standard 0.1ppm	20 mL
WTR201119-18	TKN, TP Standard 1ppm ICV	20 mL
WTR201119-19	TKN, TP Working Standard 0ppm	20 mL

Comments:
Digestion Start Time: 19-NOV-2020 12:00
Digestion Stop Time: 19-NOV-2020 16:00
Pipette ID: Rachel and Monica

Prep Logbook

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check

Reagent/Solvent Lot ID	Description	Amount

Comments:

This is runlog lachat3

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
5.0 ppm Std.		1	KLP1	11/20/2020 10:18:11	OM_11-20-2020_10-17-23
3.0 ppm Std.		1	KLP1	11/20/2020 10:19:01	OM_11-20-2020_10-17-23
1.0 ppm Std.		1	KLP1	11/20/2020 10:19:53	OM_11-20-2020_10-17-23
0.5 ppm Std		1	KLP1	11/20/2020 10:20:46	OM_11-20-2020_10-17-23
0.1 ppm Std		1	KLP1	11/20/2020 10:21:38	OM_11-20-2020_10-17-23
ICAL-00		1	KLP1	11/20/2020 10:22:32	OM_11-20-2020_10-17-23
ICV		1	KLP1	11/20/2020 10:24:44	OM_11-20-2020_10-17-23
ICB		1	KLP1	11/20/2020 10:26:55	OM_11-20-2020_10-17-23
1204693497	2062509	1	KLP1	11/20/2020 10:29:05	OM_11-20-2020_10-17-23
1204693498	2062509	1	KLP1	11/20/2020 10:29:59	OM_11-20-2020_10-17-23
526974001	2062509	50	KLP1	11/20/2020 10:30:51	OM_11-20-2020_10-17-23
1204693499	2062509	50	KLP1	11/20/2020 10:31:44	OM_11-20-2020_10-17-23
1204693500	2062509	50	KLP1	11/20/2020 10:32:36	OM_11-20-2020_10-17-23
526974002	2062509	100	KLP1	11/20/2020 10:33:29	OM_11-20-2020_10-17-23
CCV		1	KLP1	11/20/2020 10:35:39	OM_11-20-2020_10-17-23
CCB		1	KLP1	11/20/2020 10:37:50	OM_11-20-2020_10-17-23

Author: lachat Date : 11/20/2020

Original Run Filename: OM_11-20-2020_10-17-23.OMN created 11/20/2020 10:17:23
Original Run Author's Signature: [lachat]
Current Run Filename: OM_11-20-2020_10-17-23.OMN last modified 11/20/2020 10:39:15
Current Run Author's Signature: [lachat]
Description: TKN EPA Method 351.2 GEL SOP: GL-GC-E-104
Detection 660 nM
Sample spiked with 100ppm stock standard LCS/ICV/CCV/Spike nominal 1.0 ppm

Sample	Rep.	Cup No.	Channel 1 TKN Conc. (mg/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WTR201120-12	1	S1	5.00	10.6	11/20/2020@10:18:11			5.0 ppm Std.
WTR201120-13	1	S2	3.00	6.39	11/20/2020@10:19:01			3.0 ppm Std.
WTR201120-14	1	S3	1.00	2.21	11/20/2020@10:19:53			1.0 ppm Std.
WTR201120-15	1	S4	0.500	1.05	11/20/2020@10:20:46			0.5 ppm Std
WTR201120-16	1	S5	0.100	0.156	11/20/2020@10:21:38			0.1 ppm Std
WTR201120-19 0.0 ppm	1	S7	0.00	0.0212	11/20/2020@10:22:32			0.0 ppm
DQM Test: Minimum Correlation Coefficient								
Result:			0.99993 > 0.99500					
Message			Calibration Passed					
Action			Continue					
WTR201120-18 ICV	1	S8	0.987	2.10	11/20/2020@10:24:44			ICV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			0.987 < 1.10					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.987 > 0.895					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WTR201120-19 ICB	1	S7	0.0116	0.0328	11/20/2020@10:26:55			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			0.0116 < 0.100					
Message			ICB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.0116 > -0.100					
Message			ICB Passed					
Action			Continue					
1204693497|2062509|MB	1	1	-0.0313	-0.0582	11/20/2020@10:29:05			
1204693498||LCS	1	2	1.10	2.33	11/20/2020@10:29:59			
526974001	1	3	0.695	1.48	11/20/2020@10:30:51		50.00	
1204693499||DUP	1	4	0.793	1.69	11/20/2020@10:31:44		50.00	
1204693500||MS	1	5	1.14	2.42	11/20/2020@10:32:36		50.00	
526974002	1	6	1.87	3.97	11/20/2020@10:33:29		100.00	
WTR201120-14 CCV	1	S3	1.00	2.14	11/20/2020@10:35:39			CCV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.00 < 1.10					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			1.00 > 0.895					
Message			CCV Passed					
Action			Continue					
WTR201120-19 CCB	1	S7	0.00891	0.0271	11/20/2020@10:37:50			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			0.00891 < 0.0990					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.00891 > -0.100					

Message	CCB Passed					
Action	Continue					

Channel 1 (TKN) : Current View

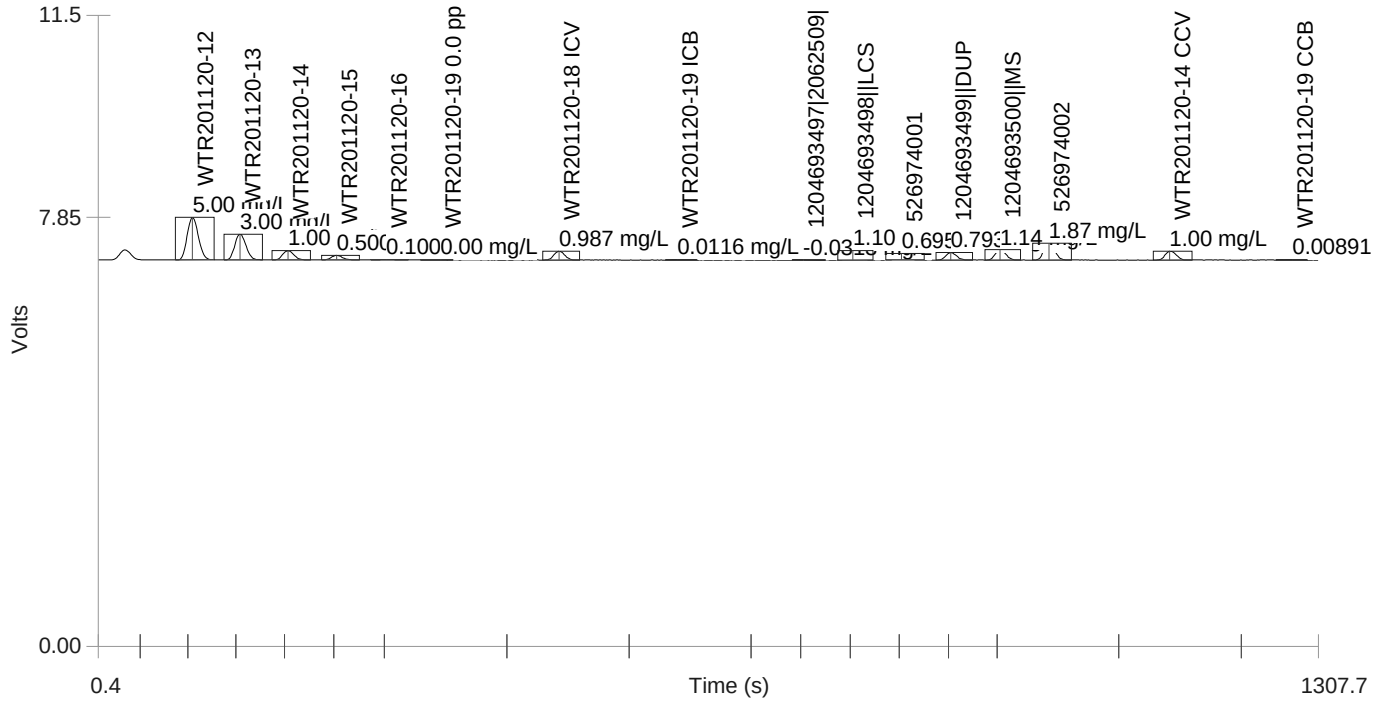
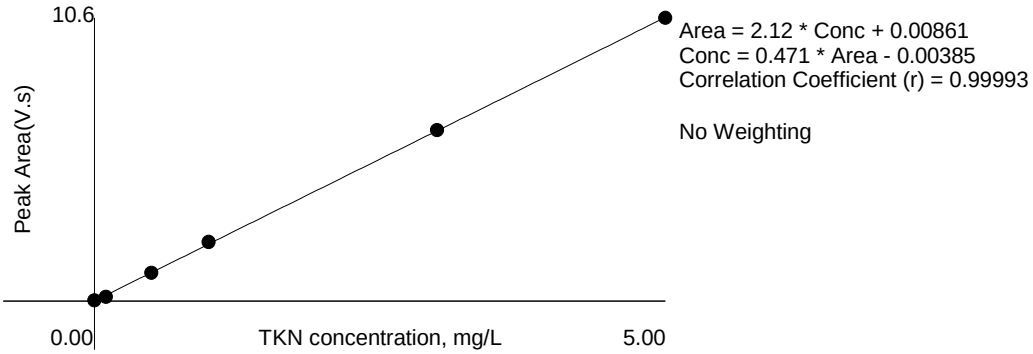


Table 1: TKN

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	5.00	1	10.6	0.771	0.2	11/20/2020	10:19:34
2	3.00	1	6.39	0.464	-0.2	11/20/2020	10:20:25
3	1.00	1	2.21	0.161	-3.7	11/20/2020	10:21:17
4	0.500	1	1.05	0.0764	1.9	11/20/2020	10:22:09
5	0.100	1	0.156	0.0103	29.2	11/20/2020	10:23:01
6	0.00	1	0.0212	0.00127		11/20/2020	10:23:55

Figure 1: TKN



This is runlog lachat3

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
CCV		1	KLP1	11/20/2020 11:29:59	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 11:32:10	OM_11-20-2020_11-29-09
1204696393	2063654	1	KLP1	11/20/2020 11:34:20	OM_11-20-2020_11-29-09
1204696394*	2063654	1	KLP1	11/20/2020 11:35:13	OM_11-20-2020_11-29-09
527509005	2063654	1	KLP1	11/20/2020 11:36:06	OM_11-20-2020_11-29-09
1204696395	2063654	1	KLP1	11/20/2020 11:36:58	OM_11-20-2020_11-29-09
1204696396	2063654	1	KLP1	11/20/2020 11:37:51	OM_11-20-2020_11-29-09
527512001	2063654	1	KLP1	11/20/2020 11:38:43	OM_11-20-2020_11-29-09
527512004	2063654	1	KLP1	11/20/2020 11:39:35	OM_11-20-2020_11-29-09
527513001	2063654	1	KLP1	11/20/2020 11:40:27	OM_11-20-2020_11-29-09
527513003	2063654	1	KLP1	11/20/2020 11:41:19	OM_11-20-2020_11-29-09
527513005	2063654	1	KLP1	11/20/2020 11:42:10	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 11:43:02	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 11:45:13	OM_11-20-2020_11-29-09
1204696394	2063654	1	KLP1	11/20/2020 11:47:24	OM_11-20-2020_11-29-09
527569001	2063654	1	KLP1	11/20/2020 11:48:15	OM_11-20-2020_11-29-09
527654001	2063654	1	KLP1	11/20/2020 11:49:06	OM_11-20-2020_11-29-09
527654002	2063654	1	KLP1	11/20/2020 11:49:57	OM_11-20-2020_11-29-09
527705001	2063654	1	KLP1	11/20/2020 11:50:47	OM_11-20-2020_11-29-09
1204698326	2063654	1	KLP1	11/20/2020 11:51:38	OM_11-20-2020_11-29-09
1204698327	2063654	1	KLP1	11/20/2020 11:52:30	OM_11-20-2020_11-29-09
527705002	2063654	1	KLP1	11/20/2020 11:53:23	OM_11-20-2020_11-29-09
527705003	2063654	1	KLP1	11/20/2020 11:54:16	OM_11-20-2020_11-29-09
527705004	2063654	1	KLP1	11/20/2020 11:55:08	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 11:56:01	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 11:58:11	OM_11-20-2020_11-29-09
527705005	2063654	1	KLP1	11/20/2020 12:00:21	OM_11-20-2020_11-29-09
527705006	2063654	1	KLP1	11/20/2020 12:01:14	OM_11-20-2020_11-29-09
527705007	2063654	1	KLP1	11/20/2020 12:02:06	OM_11-20-2020_11-29-09
527705008	2063654	1	KLP1	11/20/2020 12:02:58	OM_11-20-2020_11-29-09
527705009	2063654	1	KLP1	11/20/2020 12:03:49	OM_11-20-2020_11-29-09
527771001	2063654	1	KLP1	11/20/2020 12:04:41	OM_11-20-2020_11-29-09
527784001	2063654	1	KLP1	11/20/2020 12:05:32	OM_11-20-2020_11-29-09
527512001	2063654	5	KLP1	11/20/2020 12:06:24	OM_11-20-2020_11-29-09
527513001	2063654	5	KLP1	11/20/2020 12:07:15	OM_11-20-2020_11-29-09
527513005	2063654	10	KLP1	11/20/2020 12:08:07	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:10:18	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:12:30	OM_11-20-2020_11-29-09
527771001	2063654	10	KLP1	11/20/2020 12:14:40	OM_11-20-2020_11-29-09
1204698332	2064569	1	KLP1	11/20/2020 12:15:30	OM_11-20-2020_11-29-09
1204698333	2064569	1	KLP1	11/20/2020 12:16:21	OM_11-20-2020_11-29-09
527719002	2064569	1	KLP1	11/20/2020 12:17:11	OM_11-20-2020_11-29-09
1204698334	2064569	1	KLP1	11/20/2020 12:18:02	OM_11-20-2020_11-29-09
1204698335	2064569	1	KLP1	11/20/2020 12:18:53	OM_11-20-2020_11-29-09
527719004	2064569	1	KLP1	11/20/2020 12:19:46	OM_11-20-2020_11-29-09
527719006	2064569	1	KLP1	11/20/2020 12:20:39	OM_11-20-2020_11-29-09
527719008	2064569	1	KLP1	11/20/2020 12:21:32	OM_11-20-2020_11-29-09
527731001	2064569	1	KLP1	11/20/2020 12:22:24	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:23:17	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:25:28	OM_11-20-2020_11-29-09
1204698336	2064569	1	KLP1	11/20/2020 12:27:38	OM_11-20-2020_11-29-09
1204698337	2064569	1	KLP1	11/20/2020 12:28:30	OM_11-20-2020_11-29-09
527734006	2064569	1	KLP1	11/20/2020 12:29:22	OM_11-20-2020_11-29-09
527826002	2064569	1	KLP1	11/20/2020 12:30:13	OM_11-20-2020_11-29-09
527826004	2064569	1	KLP1	11/20/2020 12:31:05	OM_11-20-2020_11-29-09
1204699917	2065369	1	KLP1	11/20/2020 12:31:56	OM_11-20-2020_11-29-09
1204699918	2065369	1	KLP1	11/20/2020 12:32:47	OM_11-20-2020_11-29-09
527936001	2065369	1	KLP1	11/20/2020 12:33:38	OM_11-20-2020_11-29-09

527871001	2065369	1	KLP1	11/20/2020 12:34:30	OM_11-20-2020_11-29-09
1204699919	2065369	1	KLP1	11/20/2020 12:35:20	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:36:12	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:38:23	OM_11-20-2020_11-29-09
1204699920	2065369	1	KLP1	11/20/2020 12:40:32	OM_11-20-2020_11-29-09
527871004	2065369	1	KLP1	11/20/2020 12:41:24	OM_11-20-2020_11-29-09
527871006	2065369	1	KLP1	11/20/2020 12:42:17	OM_11-20-2020_11-29-09
527936001	2065369	10	KLP1	11/20/2020 12:43:10	OM_11-20-2020_11-29-09
527826004	2064569	100	KLP1	11/20/2020 12:44:02	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:46:13	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:48:24	OM_11-20-2020_11-29-09

Original Run Filename: OM_11-20-2020_11-29-09.OMN created 11/20/2020 11:29:09
Original Run Author's Signature: [lachat]
Current Run Filename: OM_11-20-2020_11-29-09.OMN last modified 11/20/2020 12:49:48
Current Run Author's Signature: [lachat]
Description: TKN EPA Method 351.2 GEL SOP: GL-GC-E-104
Detection 660 nM
Sample spiked with 100ppm stock standard LCS/ICV/CCV/Spike nominal 1.0 ppm

Sample	Rep.	Cup No.	Channel 1 TKN Conc. (mg/L)	Channel 1 TKN Area (Vs)	Detection Time	ADF	MDF
WTR201120-14 CCV	1	S3	1.04	2.21	11/20/2020@11:29:59		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.04 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.04 > 0.895				
Message			CCV Passed				
Action			Continue				
Calibration:			Table/Fig. 1				
WTR201120-19 CCB	1	S7	0.00341	0.0154	11/20/2020@11:32:10		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00341 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00341 > -0.100				
Message			CCB Passed				
Action			Continue				
1204696393|2063654|MB	1	1	0.0109	0.0313	11/20/2020@11:34:20		
1204696394||LCS	1	2	1.11	2.36	11/20/2020@11:35:13		
527509005	1	3	-0.0160	-0.0258	11/20/2020@11:36:06		
1204696395||DUP	1	4	-0.0157	-0.0251	11/20/2020@11:36:58		
1204696396||MS	1	5	1.05	2.23	11/20/2020@11:37:51		
527512001	1	6	5.42	11.5	11/20/2020@11:38:43		
527512004	1	7	2.70	5.74	11/20/2020@11:39:35		
527513001	1	8	6.30	13.4	11/20/2020@11:40:27		
527513003	1	9	3.94	8.36	11/20/2020@11:41:19		
527513005	1	10	14.8	31.4	11/20/2020@11:42:10		
WTR201120-14 CCV	1	S3	1.09	2.32	11/20/2020@11:43:02		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.09 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.09 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.0148	0.0396	11/20/2020@11:45:13		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.0148 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.0148 > -0.100				
Message			CCB Passed				
Action			Continue				
1204696394||LCS	1	2	1.08	2.29	11/20/2020@11:47:24		
527569001	1	11	0.260	0.559	11/20/2020@11:48:15		
527654001	1	12	0.103	0.227	11/20/2020@11:49:06		
527654002	1	13	0.464	0.992	11/20/2020@11:49:57		

527705001	1	14	0.346	0.741	11/20/2020@11:50:47		
1204698326||DUP	1	15	0.399	0.854	11/20/2020@11:51:38		
1204698327||MS	1	16	1.42	3.02	11/20/2020@11:52:30		
527705002	1	17	0.502	1.07	11/20/2020@11:53:23		
527705003	1	18	0.384	0.824	11/20/2020@11:54:16		
527705004	1	19	0.631	1.35	11/20/2020@11:55:08		
WTR201120-14 CCV	1	S3	1.06	2.26	11/20/2020@11:56:01		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.06 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.06 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	-0.00912	-0.0112	11/20/2020@11:58:11		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-0.00912 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-0.00912 > -0.100				
Message			CCB Passed				
Action			Continue				
527705005	1	20	0.334	0.716	11/20/2020@12:00:21		
527705006	1	21	0.380	0.814	11/20/2020@12:01:14		
527705007	1	22	1.03	2.18	11/20/2020@12:02:06		
527705008	1	23	0.385	0.824	11/20/2020@12:02:58		
527705009	1	24	0.419	0.896	11/20/2020@12:03:49		
527771001	1	25	8.21	17.4	11/20/2020@12:04:41		
527784001	1	26	0.433	0.928	11/20/2020@12:05:32		
527512001	1	6	1.49	3.17	11/20/2020@12:06:24		5.00
527513001	1	8	1.66	3.53	11/20/2020@12:07:15		5.00
527513005	1	10	1.85	3.93	11/20/2020@12:08:07		10.00
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:10:18		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00723	0.0235	11/20/2020@12:12:30		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00723 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00723 > -0.100				
Message			CCB Passed				
Action			Continue				
527771001	1	25	0.958	2.04	11/20/2020@12:14:40		10.00
1204698332|2064569|MB	1	27	0.0140	0.0378	11/20/2020@12:15:30		
1204698333||LCS	1	28	1.08	2.31	11/20/2020@12:16:21		
527719002	1	29	-0.0274	-0.0500	11/20/2020@12:17:11		
1204698334||DUP	1	30	-0.0630	-0.125	11/20/2020@12:18:02		
1204698335||MS	1	31	0.982	2.09	11/20/2020@12:18:53		
527719004	1	32	0.0463	0.106	11/20/2020@12:19:46		
527719006	1	33	0.0188	0.0481	11/20/2020@12:20:39		
527719008	1	34	-0.00738	-0.00747	11/20/2020@12:21:32		
527731001	1	35	0.0453	0.104	11/20/2020@12:22:24		
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:23:17		
Known Conc:			1.00				

DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00328	0.0151	11/20/2020@12:25:28		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00328 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00328 > -0.100				
Message			CCB Passed				
Action			Continue				
1204698336||DUP	1	36	0.0434	0.100	11/20/2020@12:27:38		
1204698337||MS	1	37	1.20	2.56	11/20/2020@12:28:30		
527734006	1	38	-0.0180	-0.0301	11/20/2020@12:29:22		
527826002	1	39	2.09	4.45	11/20/2020@12:30:13		
527826004	1	40	35.9	76.1	11/20/2020@12:31:05		
1204699917|2065369|MB	1	41	0.0713	0.159	11/20/2020@12:31:56		
1204699918||LCS	1	42	1.09	2.32	11/20/2020@12:32:47		
527936001	1	48	7.27	15.4	11/20/2020@12:33:38		
527871001	1	43	0.676	1.44	11/20/2020@12:34:30		
1204699919||DUP	1	44	0.575	1.23	11/20/2020@12:35:20		
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:36:12		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00291	0.0143	11/20/2020@12:38:23		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00291 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00291 > -0.100				
Message			CCB Passed				
Action			Continue				
1204699920||MS	1	45	1.24	2.64	11/20/2020@12:40:32		
527871004	1	46	0.358	0.767	11/20/2020@12:41:24		
527871006	1	47	0.00789	0.0249	11/20/2020@12:42:17		
527936001	1	48	0.775	1.65	11/20/2020@12:43:10		10.00
527826004|2064569|	1	40	0.635	1.36	11/20/2020@12:44:02		100.00
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:46:13		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00347	0.0155	11/20/2020@12:48:24		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00347 < 0.0990				
Message			CCB Passed				

Action	Continue				
DQM Test: < - Concentration Limit					
Result:	0.00347 > -0.100				
Message	CCB Passed				
Action	Continue				

Channel 1 (TKN) : Current View

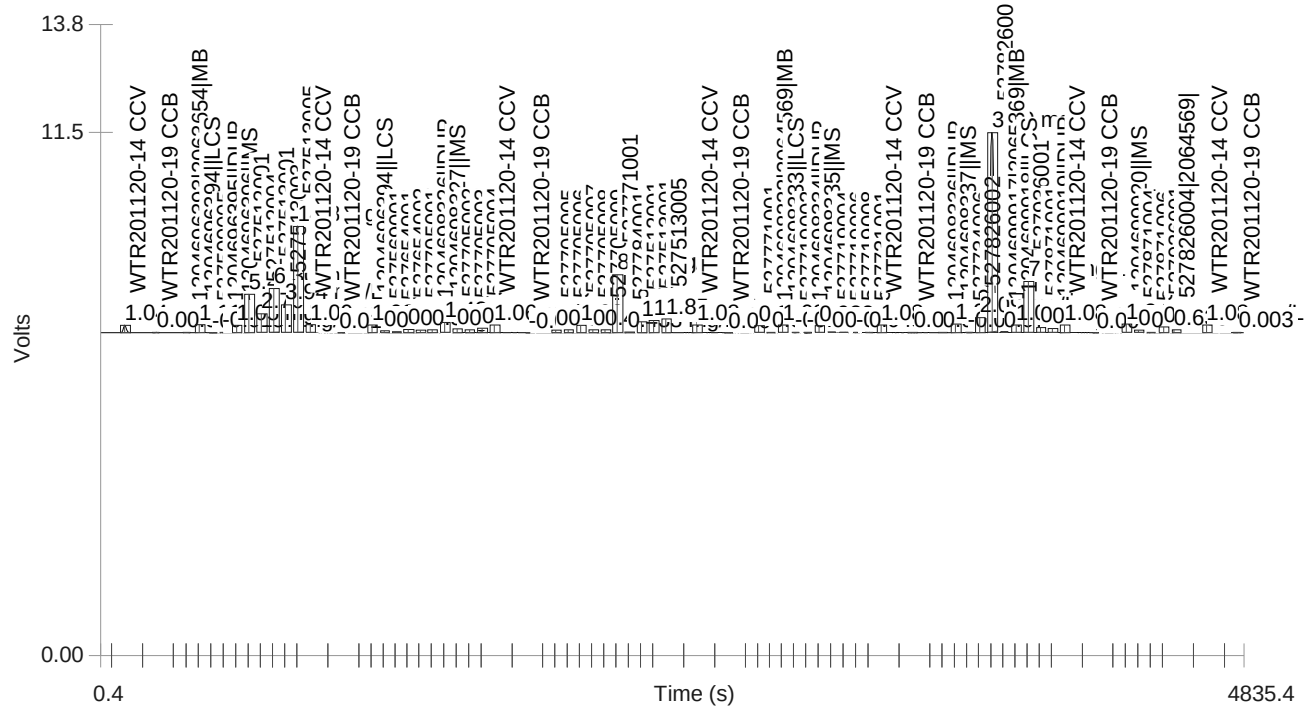
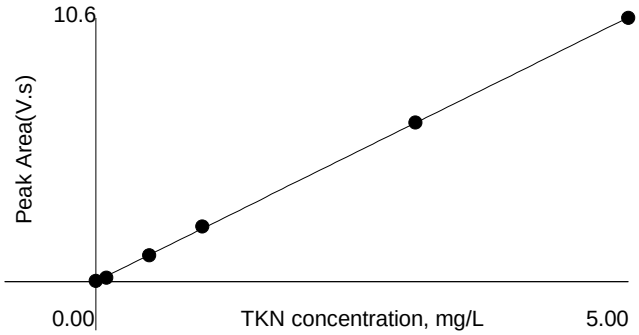


Table 1: TKN

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	5.00	1	10.6	0.771	0.2	11/20/2020	10:19:34
2	3.00	1	6.39	0.464	-0.2	11/20/2020	10:20:25
3	1.00	1	2.21	0.161	-3.7	11/20/2020	10:21:17
4	0.500	1	1.05	0.0764	1.9	11/20/2020	10:22:09
5	0.100	1	0.156	0.0103	29.2	11/20/2020	10:23:01
6	0.00	1	0.0212	0.00127		11/20/2020	10:23:55

Author: lachat Date : 11/20/2020

Figure 1: TKN



Area = 2.12 * Conc + 0.00861
Conc = 0.471 * Area - 0.00385
Correlation Coefficient (r) = 0.99993

No Weighting

GEL Laboratories LLC
a member of The GEL Group INC

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gel.com

November 17, 2020

Mr. Stanislaw Marczak
Los Alamos National Laboratory
TA-00, SM1237, Rm104C
Los Alamos, New Mexico 87545

Re: LANL- Discharge Permits
Work Order: 527509
SDG: 2021-129

Dear Mr. Marczak:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on November 14, 2020, and analyzed for GC Semivolatile PCB, GC/MS Semivolatile, GC/MS Volatile, General Chemistry, Metals and Radiochemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4485.

Sincerely,

Nina Gampe for
Valerie Davis
Project Manager

Chain of Custody: 2021-129
Enclosures

ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 527509
SDG # : 2021-129

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Runlogs.....1328

Case Narrative

Case Narrative for
ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 527509
SDG # : 2021-129

November 17, 2020

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on November 14, 2020 for analysis. The samples were delivered with proper chain of custody documentation and signatures. The samples were screened according to GEL Standard Operating Procedure. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. Shipping container temperatures were checked, documented, and within specifications. Shipping container temperature was within specification (0 - 6C). There are no additional comments concerning sample receipt.

Sample Identification The laboratory received the following samples:

Laboratory ID	Client ID
527509001	SMEB01-20-209970
527509002	SMEB01-20-209971
527509003	SMEB01-20-209972
527509004	SMEB01-20-209972
527509005	SMEB01-20-209986
527509006	SMEB01-20-209986
527509007	SMEB01-20-209987
527509008	SMEB01-20-209988
527509009	SMEB01-20-209993
527509010	SMEB02-20-209973
527509011	SMEB02-20-209975
527509012	SMEB02-20-209976
527509013	SMEB02-20-209976
527509014	SMEB02-20-209989
527509015	SMEB02-20-209996

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

GEL Laboratories LLC PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178 www.gel.com

Data Package

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: GC Semivolatile PCB, GC/MS Semivolatile, GC/MS Volatile, General Chemistry, Metals and Radiochemistry.

I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.

Nina Gampe for
Valerie Davis
Project Manager

GEL Laboratories LLC P.O. Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178 www.gel.com

List of current GEL Certifications as of 17 November 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122021−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−33
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Chain of Custody and Supporting Documentation

General Engineering
Charleston SC

527509

Chain of Custody/Analysis Request

COC/Lab Request #: 2021-129
Page 1 of 1

Client Contact:

Lab Agreement

Project Number: LANL

Analysis Turnaround
24 Hour - ☐ Other - ☐
7 Days - ☒
14 Days - ☐
21 Days - ☐
28 Days - ☐

Site Name: Los Alamos National Laboratory

Rad Screening Info: Acceptable knowledge identifies no DOT hazard classification

Lab Reporting Limit Method Detection Limit

SDG: 2021-129

Field Sample ID	Sample Date	Sample Time	Sample Matrix	DP-3103-8260	DP-3103-8270	DP-8082	DP-CN(TOTAL)	DP-F+SO4	DP-Hg	DP-Metals	DP-NO3NO2	DP-Ra226+228	DP-TDS+Cl	DP-TKN
SMEB01-20-209970	11/10/2020	15:15	W				1		1			4		
SMEB01-20-209971	11/10/2020	15:15	W					1		1				
SMEB01-20-209972	11/10/2020	15:15	W	2	2	3								
SMEB01-20-209986	11/10/2020	13:40	W	2	2	3	1		1					1
SMEB01-20-209987	11/10/2020	13:40	W					1		1	1		1	
SMEB01-20-209988	11/10/2020	15:15	W	2										
SMEB01-20-209993	11/10/2020	14:10	W		2									
SMEB02-20-209973	11/10/2020	13:25	W				1		1			4		
SMEB02-20-209975	11/10/2020	13:25	W					1		1				
SMEB02-20-209976	11/10/2020	13:25	W	2	2	3								
SMEB02-20-209989	11/10/2020	13:25	W	2										
SMEB02-20-209996	11/10/2020	13:25	W			3								

Special Instructions:

Relinquished by:	Print Name: Melissa Montoya	Date/Time: 11/12/20 3pm	Received by: A. Almers	Print Name: A. Almers	Date/Time: 11/13/20 7:30
Relinquished by:	Print Name:	Date/Time:	Received by:	Print Name:	Date/Time:
Relinquished by:	Print Name:	Date/Time:	Received by:	Print Name:	Date/Time:

GEL Laboratories LLC

VD

SAMPLE RECEIPT & REVIEW FORM

Client: ESHL	**SDG/AR/COC/Work Order:** 527504
Received By: AJA	**Date Received:** 11/14/20
Carrier and Tracking Number	Circle Applicable: (FedEx Express) FedEx Ground UPS Field Services Courier Other See FedEx Tags

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr **Classified as: Rad 1 Rad 2 Rad 3**
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: (Wet Ice) (Ice Packs) Dry ice None Other: *all temperatures are recorded in Celsius TEMP: on tags
4	Daily check performed and passed on IR temperature gun?	✓			**Temperature Device Serial #:** IR4-16 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?	✓			If Yes, are Encores or Soil Kits present for solids? Yes___ No✓ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes✓ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes✓ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?			✓	
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials NRG Date 11/17/20 Page 1 of 1

GL-CHL-SR-001 Rev 7

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 52.00 LB MAN
CAD: 0745193/CAFE3407

TO VALERIE DAVIS
GENERAL ENGINEERING L
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWESW11520000

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ST F1 12:00 B
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FedEx Express

2 of 2
MPS# 0263 9072 4837 3654
Mstr# 9072 4837 3643 0201

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO RBWA

29407
SC-US CHS

Part # 156148-434 RIT EXP 07/19

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 56.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWE6L11570000

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Exp

2 of 2
MPS# 0263 9072 4837 3595
Mstr# 9072 4837 3584 0201

SATURDAY 12:
PRIORITY OVERNI(

XO RBWA

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SC-US C

Part # 156148-434 RIT EXP 07/19

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 56.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 556-8171
REF: 8A030AWE6L11570000

2

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FedEx Express

J201019110601uv

2 of 2
MPS# 0263 9072 4837 3610
Mstr# 9072 4837 3600

SATURDAY 12:00P
PRIORITY OVERNIGHT

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X0 RBWA

29407
SC-US CHS

SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 57.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 556-8171
REF: 8A030AWE6L11570000

56DC5/BAB9/05A2

FedEx Express

J201019110601uv

1 of 2
TRK# 0201 9072 4837 3584
MASTER

SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 RBWA

29407
SC-US CHS

Part # 156148-434 RIT EXP 07/19

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 60.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 556-8171
REF: 8A030AWESW11520000

56DC5/BAB9/05A2

FedEx Express

J201019110601uv

1 of 2
TRK# 0201 9072 4837 3643
MASTER

SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 RBWA

29407
SC-US CHS

Part # 156148-434 RIT EXP 07/19

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 43.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWE6L11550000

FedEx Express

TRK# 0201 9072 4837 3665

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO RBWA

29407
SC-US CHS

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 64.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWE6L11570000

FedEx Express

2 of 2
MPS# 0263 9072 4837 3632
Mstr# 9072 4837 3621 0201

SATURDAY 12:00
PRIORITY OVERNIGHT

XO RBWA

2940
SC-US CH

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 56.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWE6L11570000

FedEx Express

1 of 2
TRK# 0201 9072 4837 3621
MASTER

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO RBWA

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SC-US CHS

Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

P Organics-The concentrations between the primary and confirmation columns/detectors is >40% difference. For HPLC, the difference is >70%.

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Volatile Analysis

Case Narrative

GC/MS Volatile
Technical Case Narrative
ARS International, LLC
SDG #: 2021-129
Work Order #: 527509

Product: **Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer**
Analytical Method: SW-846:8260B
Analytical Procedure: GL-OA-E-038 REV# 28
Analytical Batch: 2063772

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509003	SMEB01-20-209972
527509005	SMEB01-20-209986
527509008	SMEB01-20-209988
527509012	SMEB02-20-209976
527509014	SMEB02-20-209989
1204696631	Method Blank (MB)
1204696632	Laboratory Control Sample (LCS)
1204696633	527510011(SMEB04-20-209991) Post Spike (PS)
1204696634	527510011(SMEB04-20-209991) Post Spike Duplicate (PSD)
1204699778	Method Blank (MB)
1204699780	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Preservation and Integrity
Preservation for sample 527509012 (SMEB02-20-209976) was indicated on the vial, however the sample pH value was above 2. The sample was analyzed within 7 days from collection.

Miscellaneous Information

TIC Comment
Tentatively identified compounds (TIC) may be requested for samples in this delivery group/work order. Please note that non-requested calibrated analytes detected in a client sample may be reported on the Form 1/Certificate of Analysis as TICs. TIC data, if requested, were included on the Sample Data Summary (Form 1) and included with the sample raw data.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-129 GEL Work Order: 527509

The Qualifiers in this report are defined as follows:

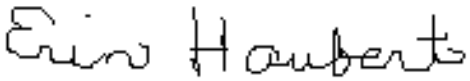
* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
E Concentration of the target analyte exceeds the instrument calibration range
J Value is estimated
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Erin Haubert**

Date: 20 NOV 2020 **Title: Data Validator**

Sample Data Summary

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**527509003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209972**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 18:00**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 18:00**				
Data File:	**111720V6\6J221.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	J	0.780	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	56.1	50.0	ug/L	112	(71%-134%)
Bromofluorobenzene	49.8	50.0	ug/L	100	(70%-131%)
Toluene-d8	50.2	50.0	ug/L	100	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.624	76.8	ug/L		J

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:40**	**Matrix:**	**W**
Lab Sample ID:	**527509005**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209986**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 18:26**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 18:26**				
Data File:	**111720V6\6J222.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	52.4	50.0	ug/L	105	(71%-134%)
Bromofluorobenzene	50.8	50.0	ug/L	102	(70%-131%)
Toluene-d8	51.8	50.0	ug/L	104	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**527509008**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209988**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 18:52**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 18:52**				
Data File:	**111720V6\6J223.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	52.1	50.0	ug/L	104	(71%-134%)
Bromofluorobenzene	51.9	50.0	ug/L	104	(70%-131%)
Toluene-d8	51.5	50.0	ug/L	103	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509012**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 19:17**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 19:17**				
Data File:	**111720V6\6J224.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	J	0.610	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	57.4	50.0	ug/L	115	(71%-134%)
Bromofluorobenzene	51.0	50.0	ug/L	102	(70%-131%)
Toluene-d8	50.6	50.0	ug/L	101	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.592	80.8	ug/L		J

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509014**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209989**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 19:43**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 19:43**				
Data File:	**111720V6\6J225.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	53.4	50.0	ug/L	107	(71%-134%)
Bromofluorobenzene	51.3	50.0	ug/L	103	(70%-131%)
Toluene-d8	51.4	50.0	ug/L	103	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Quality Control Summary

Surrogate Recovery Report

SDG Number: 2021-129

Matrix Type: LIQUID

Sample ID	Client ID	DCED4 %REC	TOL %REC	BFB %REC
1204696632	LCS for batch 2063772	102	100	103
1204696631	MB for batch 2063772	102	102	106
527509003	SMEB01-20-209972	112	100	100
527509005	SMEB01-20-209986	105	104	102
527509008	SMEB01-20-209988	104	103	104
527509012	SMEB02-20-209976	115	101	102
527509014	SMEB02-20-209989	107	103	103
1204699780	LCS for batch 2063772	97	99	89
1204699778	MB for batch 2063772	99	96	93
1204696633	SMEB04-20-209991PS	96	99	89
1204696634	SMEB04-20-209991PSD	98	98	91

Surrogate	Parmname	Acceptance Limits
DCED4	= 1,2-Dichloroethane-d4	(71%-134%)
TOL	= Toluene-d8	(74%-124%)
BFB	= Bromofluorobenzene	(70%-131%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 2063772 **Matrix:** WATER

Lab Sample ID 1204696632

Instrument: VOA6.I **Analysis Date:** 11/17/2020 10:18 **Dilution:** 1

Analyst: WD1

Purge Vol: 5 mL **Batch ID:** 2063772

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
1330-20-7	LCS	Xylenes (total)	150	0.0	146	97	66-128
75-01-4	LCS	Vinyl chloride	50.0	0.0	41.7	83	68-135
75-35-4	LCS	1,1-Dichloroethylene	50.0	0.0	51.1	102	73-131
75-09-2	LCS	Methylene chloride	50.0	0.0	47.6	95	68-123
75-34-3	LCS	1,1-Dichloroethane	50.0	0.0	52.1	104	76-123
67-66-3	LCS	Chloroform	50.0	0.0	47.5	95	76-126
71-55-6	LCS	1,1,1-Trichloroethane	50.0	0.0	50.2	100	72-140
56-23-5	LCS	Carbon tetrachloride	50.0	0.0	50.9	102	74-145
107-06-2	LCS	1,2-Dichloroethane	50.0	0.0	46.8	94	72-127
71-43-2	LCS	Benzene	50.0	0.0	47.1	94	73-120
79-01-6	LCS	Trichloroethylene	50.0	0.0	47.3	95	74-125
74-95-3	LCS	Dibromomethane	50.0	0.0	47.4	95	75-123
108-88-3	LCS	Toluene	50.0	0.0	48.9	98	74-120
79-00-5	LCS	1,1,2-Trichloroethane	50.0	0.0	49.0	98	74-120
127-18-4	LCS	Tetrachloroethylene	50.0	0.0	47.3	95	72-124
100-41-4	LCS	Ethylbenzene	50.0	0.0	49.2	98	76-123
79-34-5	LCS	1,1,2,2-Tetrachloroethane	50.0	0.0	52.8	106	69-126

Quality Control Summary
Spike Recovery Report

SDG Number: **2021-129**
Sample Type: **Post Spike**
Client ID: **SMEB04-20-209991PS**
Matrix: **W**
Lab Sample ID **1204696633**
Instrument: **VOA9.I**
Analysis Date: **11/19/2020 17:08**
Dilution: **1**
Analyst: **WD1**
Purge Vol: **5 mL**
Batch ID: **2063772**

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits
1330-20-7	PS	Xylenes (total)	150	0.000	U	147	98	48-137
75-01-4	PS	Vinyl chloride	50.0	0.000	U	39.2	78	58-134
75-35-4	PS	1,1-Dichloroethylene	50.0	0.000	U	40.5	81	62-134
75-09-2	PS	Methylene chloride	50.0	0.000	U	47.6	95	62-129
75-34-3	PS	1,1-Dichloroethane	50.0	0.000	U	46.1	92	67-129
67-66-3	PS	Chloroform	50.0	0.000	U	48.3	97	66-133
71-55-6	PS	1,1,1-Trichloroethane	50.0	0.000	U	48.6	97	66-138
56-23-5	PS	Carbon tetrachloride	50.0	0.000	U	50.6	101	63-146
107-06-2	PS	1,2-Dichloroethane	50.0	0.000	U	42.9	86	69-132
71-43-2	PS	Benzene	50.0	0.000	U	45.0	90	63-124
79-01-6	PS	Trichloroethylene	50.0	0.000	U	46.2	92	66-128
74-95-3	PS	Dibromomethane	50.0	0.000	U	53.3	107	70-129
108-88-3	PS	Toluene	50.0	0.000	U	44.3	89	60-122
79-00-5	PS	1,1,2-Trichloroethane	50.0	0.000	U	48.3	97	68-126
127-18-4	PS	Tetrachloroethylene	50.0	0.000	U	52.0	104	57-132
100-41-4	PS	Ethylbenzene	50.0	0.000	U	45.1	90	57-126
79-34-5	PS	1,1,2,2-Tetrachloroethane	50.0	0.000	U	45.6	91	52-142

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129 **Sample Type:** Post Spike Duplicate

Client ID: SMEB04-20-209991PSD **Matrix:** W

Lab Sample ID 1204696634

Instrument: VOA9.I **Analysis Date:** 11/19/2020 17:33 **Dilution:** 1

Analyst: WD1

Purge Vol: 5 mL **Batch ID:** 2063772

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1330-20-7	PSD	Xylenes (total)	150	0.000	U	138	92	48-137	6	0-20
75-01-4	PSD	Vinyl chloride	50.0	0.000	U	37.7	75	58-134	4	0-20
75-35-4	PSD	1,1-Dichloroethylene	50.0	0.000	U	38.4	77	62-134	5	0-20
75-09-2	PSD	Methylene chloride	50.0	0.000	U	45.4	91	62-129	5	0-20
75-34-3	PSD	1,1-Dichloroethane	50.0	0.000	U	44.2	88	67-129	4	0-20
67-66-3	PSD	Chloroform	50.0	0.000	U	46.6	93	66-133	4	0-20
71-55-6	PSD	1,1,1-Trichloroethane	50.0	0.000	U	46.2	92	66-138	5	0-20
56-23-5	PSD	Carbon tetrachloride	50.0	0.000	U	48.2	96	63-146	5	0-20
107-06-2	PSD	1,2-Dichloroethane	50.0	0.000	U	41.3	83	69-132	4	0-20
71-43-2	PSD	Benzene	50.0	0.000	U	43.1	86	63-124	4	0-20
79-01-6	PSD	Trichloroethylene	50.0	0.000	U	44.8	90	66-128	3	0-20
74-95-3	PSD	Dibromomethane	50.0	0.000	U	51.0	102	70-129	4	0-20
108-88-3	PSD	Toluene	50.0	0.000	U	42.2	84	60-122	5	0-20
79-00-5	PSD	1,1,2-Trichloroethane	50.0	0.000	U	45.7	91	68-126	6	0-20
127-18-4	PSD	Tetrachloroethylene	50.0	0.000	U	48.3	97	57-132	7	0-20
100-41-4	PSD	Ethylbenzene	50.0	0.000	U	42.6	85	57-126	6	0-20
79-34-5	PSD	1,1,2,2-Tetrachloroethane	50.0	0.000	U	44.3	89	52-142	3	0-20

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 2063772 **Matrix:** WATER

Lab Sample ID 1204699780

Instrument: VOA9.I **Analysis Date:** 11/19/2020 14:33 **Dilution:** 1

Analyst: WD1

Purge Vol: 5 mL **Batch ID:** 2063772

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
1330-20-7	LCS	Xylenes (total)	150	0.0	145	97	66-128
75-01-4	LCS	Vinyl chloride	50.0	0.0	36.0	72	68-135
75-35-4	LCS	1,1-Dichloroethylene	50.0	0.0	40.2	80	73-131
75-09-2	LCS	Methylene chloride	50.0	0.0	47.0	94	68-123
75-34-3	LCS	1,1-Dichloroethane	50.0	0.0	46.2	92	76-123
67-66-3	LCS	Chloroform	50.0	0.0	49.0	98	76-126
71-55-6	LCS	1,1,1-Trichloroethane	50.0	0.0	48.5	97	72-140
56-23-5	LCS	Carbon tetrachloride	50.0	0.0	50.9	102	74-145
107-06-2	LCS	1,2-Dichloroethane	50.0	0.0	43.6	87	72-127
71-43-2	LCS	Benzene	50.0	0.0	45.7	91	73-120
79-01-6	LCS	Trichloroethylene	50.0	0.0	46.9	94	74-125
74-95-3	LCS	Dibromomethane	50.0	0.0	53.6	107	75-123
108-88-3	LCS	Toluene	50.0	0.0	44.7	89	74-120
79-00-5	LCS	1,1,2-Trichloroethane	50.0	0.0	48.8	98	74-120
127-18-4	LCS	Tetrachloroethylene	50.0	0.0	52.2	104	72-124
100-41-4	LCS	Ethylbenzene	50.0	0.0	44.9	90	76-123
79-34-5	LCS	1,1,2,2-Tetrachloroethane	50.0	0.0	45.1	90	69-126

Method Blank Summary

SDG Number:	**2021-129**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2063772**	**Instrument ID:**	**VOA6.I**	**Data File:**	**111720V6\6J206A.D**
Lab Sample ID:	**1204696631**	**Prep Date:**	**11/17/2020 11:35**	**Analyzed:**	**11/17/20 11:35**
Column:	**DB-624**				

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 2063772	1204696632	111720V6\6J203A.D	11/17/20	1018
02	SMEB01-20-209972	527509003	111720V6\6J221.D	11/17/20	1800
03	SMEB01-20-209986	527509005	111720V6\6J222.D	11/17/20	1826
04	SMEB01-20-209988	527509008	111720V6\6J223.D	11/17/20	1852
05	SMEB02-20-209976	527509012	111720V6\6J224.D	11/17/20	1917
06	SMEB02-20-209989	527509014	111720V6\6J225.D	11/17/20	1943

Method Blank Summary

SDG Number:	**2021-129**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2063772**	**Instrument ID:**	**VOA9.I**	**Data File:**	**111920V9\9S406A.D**
Lab Sample ID:	**1204699778**	**Prep Date:**	**11/19/2020 15:50**	**Analyzed:**	**11/19/20 15:50**
Column:	**DB-624**				

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
08	**LCS for batch 2063772**	**1204699780**	**111920V9\9S403A.D**	**11/19/20**	**1433**
09	**SMEB04-20-209991PS**	**1204696633**	**111920V9\9S409.D**	**11/19/20**	**1708**
10	**SMEB04-20-209991PSD**	**1204696634**	**111920V9\9S410.D**	**11/19/20**	**1733**

Instrument Performance Check

BROMOFLUOROBENZENE

Lab Name GEL Laboratories LLC **Client SDG:** 2021-129

Instrument ID: VOA6.I **Injection Date/Time:** 20-OCT-20 13:12

Column Description: DB-624 **Lab File ID** 102020V6\6F201.D

m/e	Ion Abundance Criteria	% Relative Abundance
50	15.0 - 40.0% of mass 95	25.5
75	30.0 - 60.0% of mass 95	51.6
95	Base Peak, 100% Relative Abundance	100
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.3
174	50.0 - 100.0% of mass 95	82.4
175	5.0 -9.0% of mass 174	6.5
176	95.0 - 101.0% of mass 174	99.1
177	5.0 - 9.0% of mass 176	6.6

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
ICALMIX[A]	W6VM201020-01	102020V6\6F202.D	20-OCT-20 13:37
ICALMIX[A]	W6VM201020-02	102020V6\6F203.D	20-OCT-20 14:03
ICALMIX[A]	W6VM201020-03	102020V6\6F204.D	20-OCT-20 14:28
ICALMIX[A]	W6VM201020-04	102020V6\6F205.D	20-OCT-20 14:54
ICALMIX[A]	W6VM201020-05	102020V6\6F206.D	20-OCT-20 15:20
ICALMIX[A]	W6VM201020-06	102020V6\6F207.D	20-OCT-20 15:46
ICALMIX[A]	W6VM201020-07	102020V6\6F208.D	20-OCT-20 16:11
ICALMIX[A]	W6VM201020-08	102020V6\6F209.D	20-OCT-20 16:37
ICALMIX[A]	W6VM201020-09	102020V6\6F210.D	20-OCT-20 17:02
ICVMIX[A]01	W6VM201020-10	102020V6\6F212.D	20-OCT-20 17:53

Instrument Performance Check

BROMOFLUOROBENZENE

Lab Name GEL Laboratories LLC **Client SDG:** 2021-129

Instrument ID: VOA6.I **Injection Date/Time:** 17-NOV-20 09:27

Column Description: DB-624 **Lab File ID** 111720V6\6J201.D

m/e	Ion Abundance Criteria	% Relative Abundance
50	15.0 - 40.0% of mass 95	30.1
75	30.0 - 60.0% of mass 95	50.4
95	Base Peak, 100% Relative Abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.3
174	50.0 - 100.0% of mass 95	73.3
175	5.0 -9.0% of mass 174	7
176	95.0 - 101.0% of mass 174	98.1
177	5.0 - 9.0% of mass 176	6.7

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
CCVMIX[A]01	W6VM201117-02	111720V6\6J203.D	17-NOV-20 10:18
BLK01LCS	1204696632	111720V6\6J203A.D	17-NOV-20 10:18
BLK01	1204696631	111720V6\6J206A.D	17-NOV-20 11:35
SMEB01-20-209972	527509003	111720V6\6J221.D	17-NOV-20 18:00
SMEB01-20-209986	527509005	111720V6\6J222.D	17-NOV-20 18:26
SMEB01-20-209988	527509008	111720V6\6J223.D	17-NOV-20 18:52
SMEB02-20-209976	527509012	111720V6\6J224.D	17-NOV-20 19:17
SMEB02-20-209989	527509014	111720V6\6J225.D	17-NOV-20 19:43

Instrument Performance Check

BROMOFLUOROBENZENE

Lab Name GEL Laboratories LLC **Client SDG:** 2021-129

Instrument ID: VOA9.I **Injection Date/Time:** 09-SEP-20 19:34

Column Description: DB-624 **Lab File ID** 090920V9\9I301.D

m/e	Ion Abundance Criteria	% Relative Abundance
50	15.0 - 40.0% of mass 95	20.4
75	30.0 - 60.0% of mass 95	48.1
95	Base Peak, 100% Relative Abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0
174	50.0 - 100.0% of mass 95	91.8
175	5.0 -9.0% of mass 174	7.1
176	95.0 - 101.0% of mass 174	96
177	5.0 - 9.0% of mass 176	6.5

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
ICALMIX[A]	W9VM200909-01	090920V9\9I302.D	09-SEP-20 20:00
ICALMIX[A]	W9VM200909-02	090920V9\9I303.D	09-SEP-20 20:26
ICALMIX[A]	W9VM200909-03	090920V9\9I304.D	09-SEP-20 20:53
ICALMIX[A]	W9VM200909-04	090920V9\9I305.D	09-SEP-20 21:20
ICALMIX[A]	W9VM200909-05	090920V9\9I306.D	09-SEP-20 21:47
ICALMIX[A]	W9VM200909-06	090920V9\9I307.D	09-SEP-20 22:14
ICALMIX[A]	W9VM200909-07	090920V9\9I308.D	09-SEP-20 22:41
ICALMIX[A]	W9VM200909-08	090920V9\9I309.D	09-SEP-20 23:07
ICALMIX[A]	W9VM200909-09	090920V9\9I310.D	09-SEP-20 23:34
ICVMIX[A]01	W9VM200909-10	090920V9\9I312.D	10-SEP-20 00:27

Instrument Performance Check

BROMOFLUOROBENZENE

Lab Name GEL Laboratories LLC **Client SDG:** 2021-129

Instrument ID: VOA9.I **Injection Date/Time:** 19-NOV-20 13:43

Column Description: DB-624 **Lab File ID** 111920V9\9S401.D

m/e	Ion Abundance Criteria	% Relative Abundance
50	15.0 - 40.0% of mass 95	18.3
75	30.0 - 60.0% of mass 95	46.7
95	Base Peak, 100% Relative Abundance	100
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.3
174	50.0 - 100.0% of mass 95	99.5
175	5.0 -9.0% of mass 174	6.9
176	95.0 - 101.0% of mass 174	97.7
177	5.0 - 9.0% of mass 176	6.4

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
CCVMIX[A]01	W9VM201119-01	111920V9\9S402.D	19-NOV-20 14:07
BLK02LCS	1204699780	111920V9\9S403A.D	19-NOV-20 14:33
BLK02	1204699778	111920V9\9S406A.D	19-NOV-20 15:50
SMEB04-20-209991MS	1204696633	111920V9\9S409.D	19-NOV-20 17:08
SMEB04-20-209991MSD	1204696634	111920V9\9S410.D	19-NOV-20 17:33

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 2021-129

Instrument: VOA6.I

STD Analysis Time: 17-NOV-20 10:18

GC Column: DB-624

Data File: 111720V6\6J203.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Area #	RT #	Area #	RT #	Area #	RT #
12 Hour STD	1849348	9.44	1379680	12.6	765395	15.1
Upper Limit	3698696	9.94	2759360	13.1	1530790	15.6
Lower Limit	924674	8.94	689840	12.1	382698	14.6
Sample ID						
BLK01LCS	1849348	9.44	1379680	12.6	765395	15.1
BLK01	2005499	9.44	1433569	12.6	768461	15.1
SMEB01-20-209972	1514404	9.44	1092102	12.6	611312	15.1
SMEB01-20-209986	1640429	9.44	1153158	12.6	628034	15.1
SMEB01-20-209988	1625238	9.44	1143768	12.6	618835	15.1
SMEB02-20-209976	1466430	9.44	1040862	12.6	569195	15.1
SMEB02-20-209989	1571452	9.44	1117650	12.6	609075	15.1

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT
RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Value outside of QC Limits

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 2021-129

Instrument: VOA9.I

STD Analysis Time: 19-NOV-20 14:07

GC Column: DB-624

Data File: 111920V9\9S402.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Area #	RT #	Area #	RT #	Area #	RT #
12 Hour STD	1444383	9.96	1275869	13.1	865998	15.5
Upper Limit	2888766	10.5	2551738	13.6	1731996	16.0
Lower Limit	722192	9.46	637935	12.6	432999	15.0
Sample ID						
BLK02LCS	1457913	9.97	1262810	13.1	847529	15.5
BLK02	1373130	9.97	1195212	13.1	747344	15.5
SMEB04-20-209991MS	1370868	9.97	1193147	13.1	786343	15.5
SMEB04-20-209991MSD	1423623	9.97	1258951	13.1	836989	15.5

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT
RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Value outside of QC Limits

Sample Data

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**527509003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209972**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 18:00**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 18:00**				
Data File:	**111720V6\6J221.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	J	0.780	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	56.1	50.0	ug/L	112	(71%-134%)
Bromofluorobenzene	49.8	50.0	ug/L	100	(70%-131%)
Toluene-d8	50.2	50.0	ug/L	100	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.624	76.8	ug/L		J

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J221.D
Acq On : 17 Nov 2020 18:00
Operator : WD1
InstName : VOA6
Sample : |527509003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 21 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 18 09:18:54 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	1514404	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1092102	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	611312	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1514404	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1092471	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	611312	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	599310	56.10	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1496259	50.17	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	583091	49.82	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	112%
45) Toluene-d8	50.000	74 - 124	100%
63) Bromofluorobenzene	50.000	70 - 131	100%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Q	Value
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.			
3) Chloromethane	50	4.354	4.338	0.461	32113	1.62	ug/L	#	41
4) Vinyl chloride	62	4.707	4.522	0.499	2175	N.D.			
5) Bromomethane		0.000	5.020	0.000	0	N.D.			
6) Chloroethane		0.000	5.140	0.000	0	N.D.			
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.			
8) Ethyl ether		0.000	5.814	0.000	0	N.D.			
9) Acetone	43	6.191	6.179	0.656	31383	12.74	ug/L		93
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0m	N.D.	d		
11) Iodomethane		0.000	6.404	0.000	0	N.D.			
12) Acetonitrile	41	6.538	6.526	0.693	2073	N.D.			
13) Methyl acetate	43	6.666	6.563	0.706	231	N.D.			
14) Carbon disulfide	76	6.526	6.538	0.691	301	N.D.			
15) Methylene chloride	84	6.746	6.739	0.715	3381	Below Cal		#	63
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.			
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.			
18) Hexane	57	7.367	7.355	0.780	1321	N.D.			
19) Vinyl acetate	43	7.563	7.532	0.801	123	N.D.			
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.			
21) 2-Butanone	43	8.184	8.160	0.867	6579	1.77	ug/L		74
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.			
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.			
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.			
25) Chloroform	83	8.514	8.514	0.902	10834	0.78	ug/L		98
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.			
27) Cyclohexane		0.000	8.867	0.000	0	N.D.			
28) 1,1-Dichloropropene		0.000	8.940	0.000	0	N.D.			
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.			
31) 1,2-Dichloroethane	62	9.074	9.172	0.961	276	N.D.			
32) Benzene	78	9.178	9.178	0.972	112	N.D.			
33) Cyclohexene	67	9.294	9.288	0.985	2905	N.D.			
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.			
35) Trichloroethylene	95	9.824	9.830	1.041	964	N.D.			
36) 2-Pentanone	43	9.952	9.928	1.054	1706	N.D.			
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.			
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.			

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J221.D
Acq On : 17 Nov 2020 18:00
Operator : WD1
InstName : VOA6
Sample : |527509003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 18 09:18:54 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
39) Dibromomethane		0.000	10.214	0.000	0	N.D.		
40) Bromodichloromethane	83	10.336	10.330	1.095	7978	1.32	ug/L	99
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.		
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.		
44) 4-Methyl-2-pentanone	58	10.897	10.891	0.862	4367	N.D.		
46) Toluene	91	11.165	11.172	0.884	1220	N.D.		
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.		
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.		
49) 2-Hexanone	43	11.745	11.751	0.930	813	N.D.		
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.		
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.		
52) Dibromochloromethane	129	12.013	12.019	0.951	4863	1.56	ug/L	95
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.		
54) Chlorobenzene		0.000	12.671	0.000	0	N.D.		
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.		
56) Ethylbenzene		0.000	12.738	0.000	0	N.D.		
57) m,p-Xylenes	106	12.848	12.848	1.017	3354	N.D.		
58) o-Xylene		0.000	13.287	0.000	0	N.D.		
59) Styrene		0.000	13.293	0.000	0	N.D.		
61) Bromoform		0.000	13.543	0.000	0	N.D.		
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.		
64) 1,1,2,2-Tetrachloroethane	83	13.836	13.933	0.918	395	N.D.		
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.		
66) Bromobenzene		0.000	14.049	0.000	0	N.D.		
67) n-Propylbenzene		0.000	14.079	0.000	0	N.D.		
68) 1,3,5-Trimethylbenzene	105	14.171	14.238	0.941	141	N.D.		
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.		
70) 4-Chlorotoluene	91	14.287	14.323	0.948	318	N.D.		
71) tert-Butylbenzene		0.000	14.604	0.000	0	N.D.		
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	404	N.D.		
73) sec-Butylbenzene		0.000	14.829	0.000	0	N.D.		
74) 4-Isopropyltoluene	119	14.951	14.957	0.992	242	N.D.		
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	728	N.D.		
76) 1,4-Dichlorobenzene	146	15.092	15.091	1.002	795	N.D.		
77) n-Butylbenzene		0.000	15.384	0.000	0	N.D.		
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	125	N.D.		
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.		
80) 1,2,4-Trichlorobenzene	180	17.286	17.292	1.147	263	N.D.		
81) Hexachlorobutadiene		0.000	17.457	0.000	0	N.D.		
82) Naphthalene	128	17.640	17.646	1.171	1782	N.D.		
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	925	N.D.		
85) Acrolein	56	6.014	6.008	0.637	144	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol	45	6.270	6.270	0.664	506970	789.43	ug/L	97
88) Allyl chloride	41	6.538	6.593	0.693	2073	N.D.		
89) tert-Butyl Alcohol	59	6.782	6.758	0.718	1414	N.D.		
90) Acrylonitrile		0.000	7.001	0.000	0	N.D.		
91) Isopropyl ether	45	7.611	7.544	0.806	249	N.D.		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.		
93) Ethyl tert-butyl ether	59	7.867	7.952	0.833	2010	N.D.		
94) Ethyl acetate	43	8.184	8.172	0.867	6579	N.D.		
95) Propionitrile		0.000	8.233	0.000	0	N.D.		
96) Methacrylonitrile	41	8.526	8.410	0.903	1075	N.D.		
97) Tetrahydrofuran	42	8.520	8.519	0.902	1567	N.D.		
98) Isobutyl alcohol	41	8.983	8.867	0.952	117	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J221.D
Acq On : 17 Nov 2020 18:00
Operator : WD1
InstName : VOA6
Sample : |527509003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 18 09:18:54 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

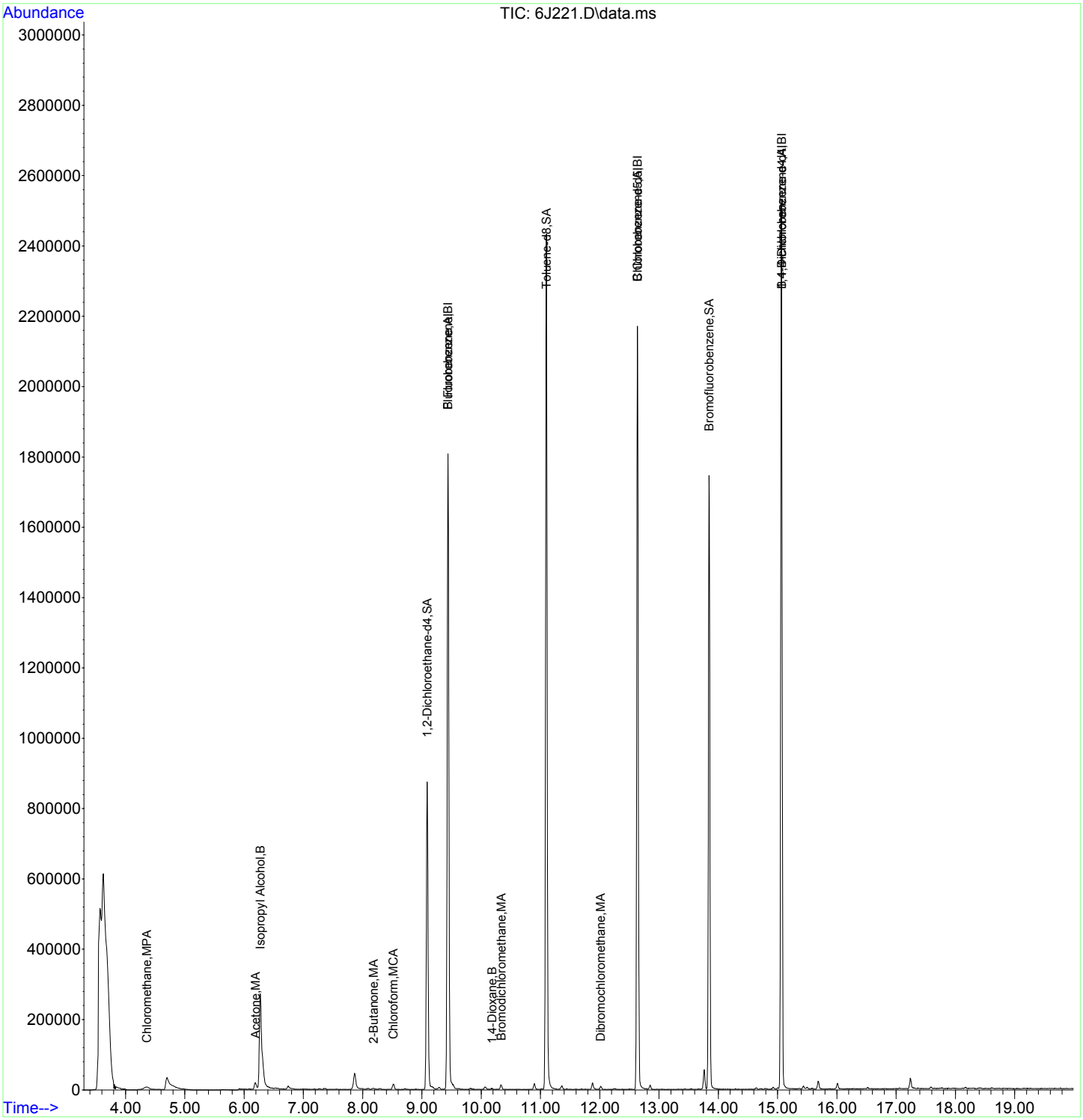
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.		
100)	Methyl methacrylate		0.000	10.068	0.000	0	N.D.		
101)	1,4-Dioxane	88	10.184	10.172	1.079	1296	16.87	ug/L #	46
102)	2-Nitropropane		0.000	10.550	0.000	0	N.D.		
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.		
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d	
107)	cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.		
108)	Cyclohexanone		0.000	13.799	0.000	0	N.D.		
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.		
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.		
111)	Benzyl chloride		0.000	15.213	0.000	0	N.D.		
112)	bis(2-Chloroisopropyl)...	45	15.677	15.603	1.040	1595	N.D.		

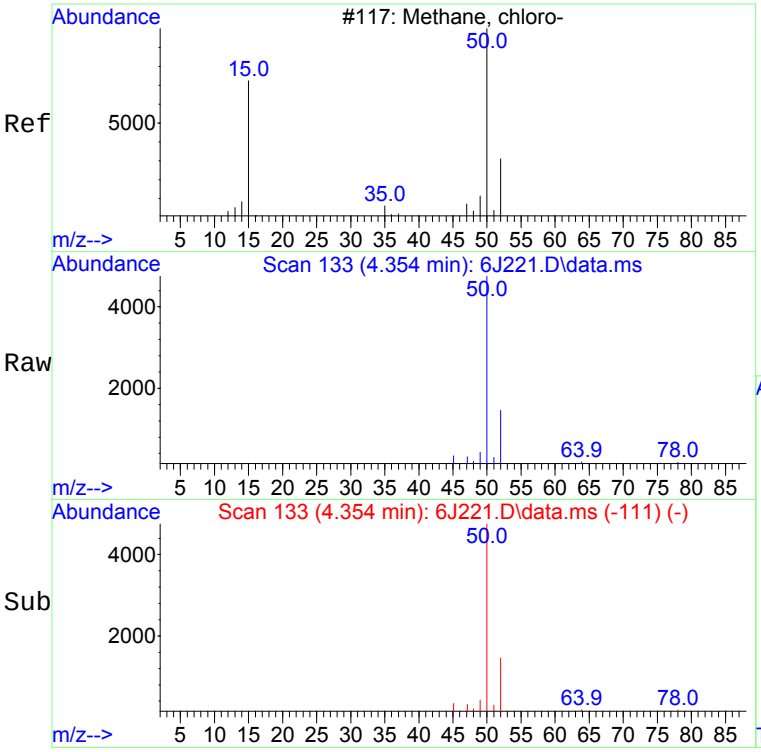
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J221.D
Acq On : 17 Nov 2020 18:00
Operator : WD1
InstName : VOA6
Sample : |527509003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 18 09:18:54 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

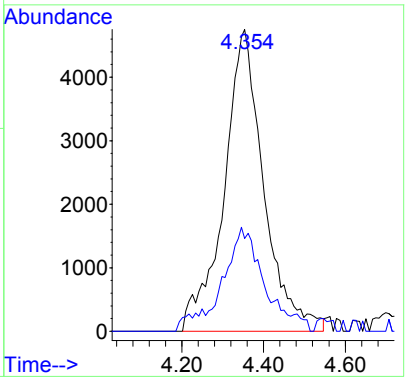


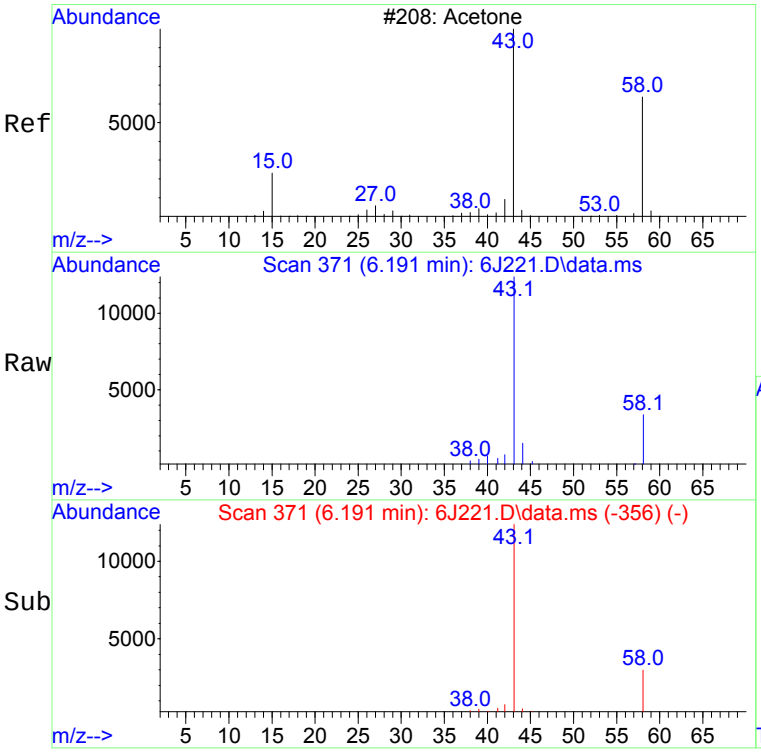


#3
Chloromethane
Concen: 1.62 ug/L
RT: 4.354 min Scan# 133
Delta R.T. 0.016 min
Lab File: 6J221.D
Acq: 17 Nov 2020 18:00

Tgt Ion: 50 Resp: 32113

Ion	Ratio	Lower	Upper
50	100		
52	0.0	3.8	63.8#

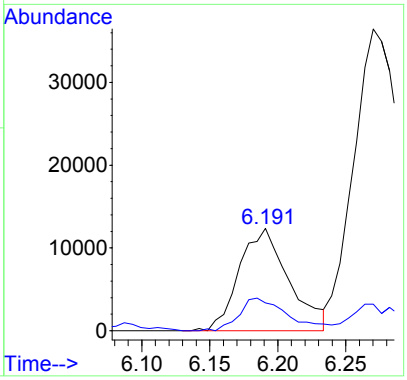


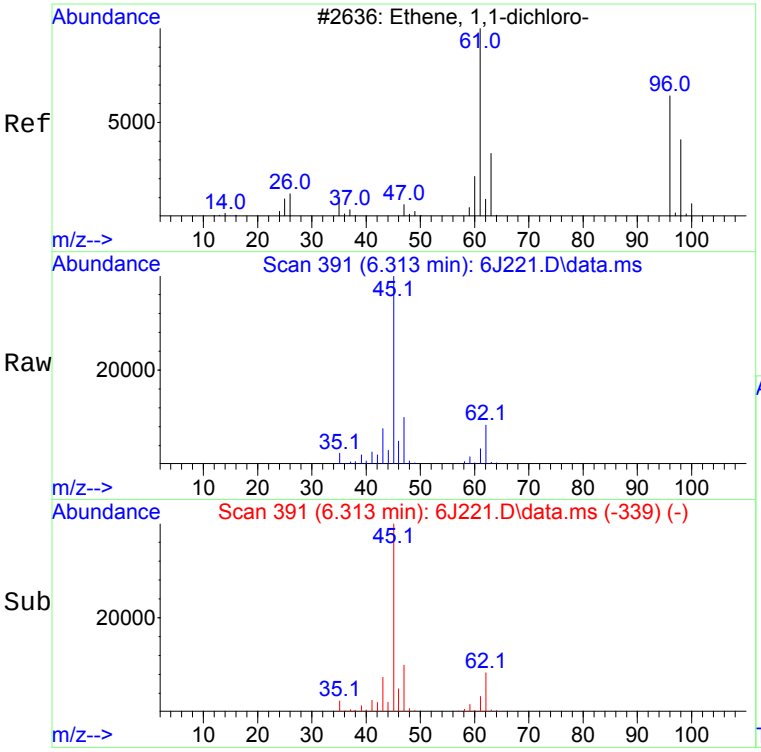


#9
Acetone
Concen: 12.74 ug/L
RT: 6.191 min Scan# 371
Delta R.T. 0.012 min
Lab File: 6J221.D
Acq: 17 Nov 2020 18:00

Tgt Ion: 43 Resp: 31383

Ion	Ratio	Lower	Upper
43	100		
58	31.4	5.4	65.4

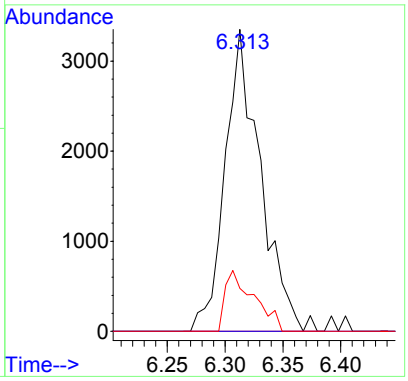


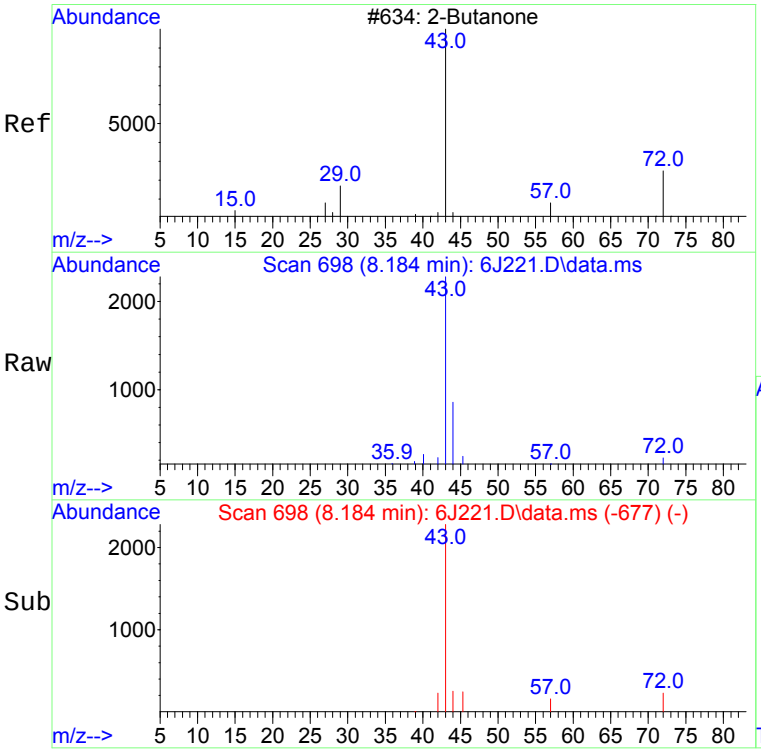


#10 BEFORE analyst DELETION
1,1-Dichloroethylene
Concen: 0.45 ug/L
RT: 6.313 min Scan# 391
Delta R.T. 0.140 min
Lab File: 6J221.D
Acq: 17 Nov 2020 18:00

Tgt Ion: 61 Resp: 7140

Ion	Ratio	Lower	Upper
61	100		
96	0.0	14.7	74.7#
63	16.3	1.1	61.1

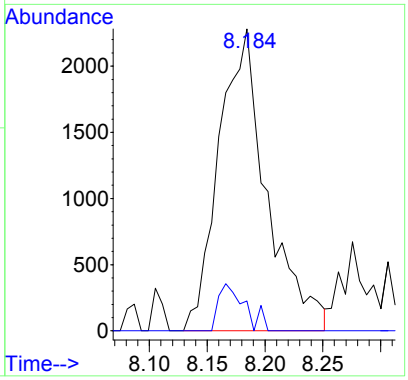


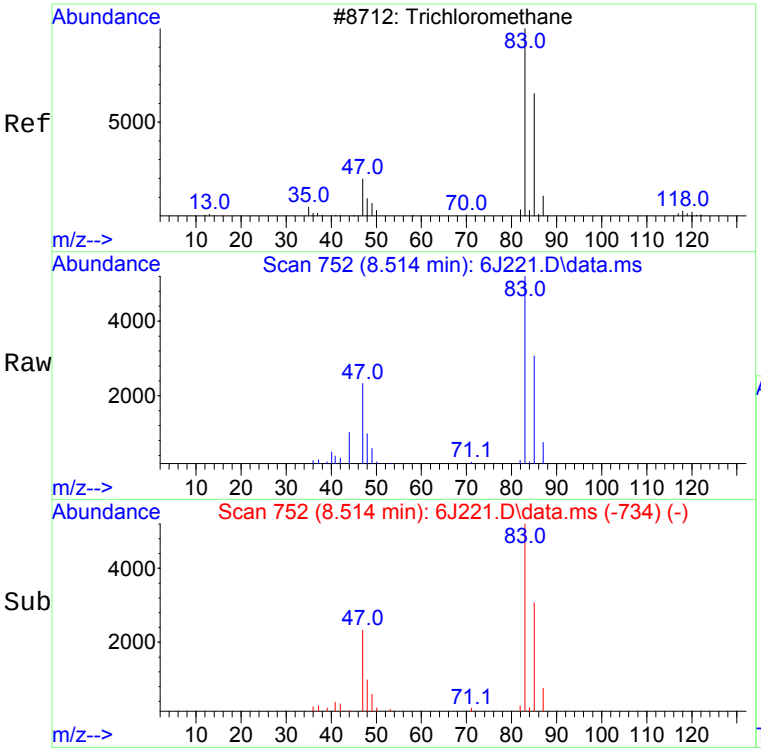


#21
2-Butanone
Concen: 1.77 ug/L
RT: 8.184 min Scan# 698
Delta R.T. 0.024 min
Lab File: 6J221.D
Acq: 17 Nov 2020 18:00

Tgt Ion: 43 Resp: 6579

Ion	Ratio	Lower	Upper
43	100		
72	8.5	0.0	50.5

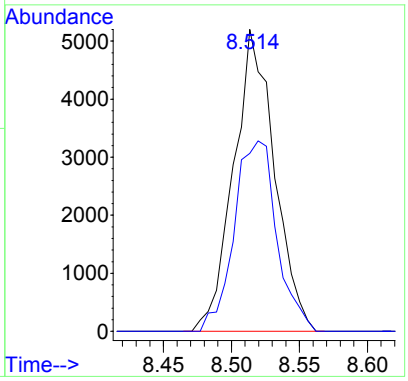


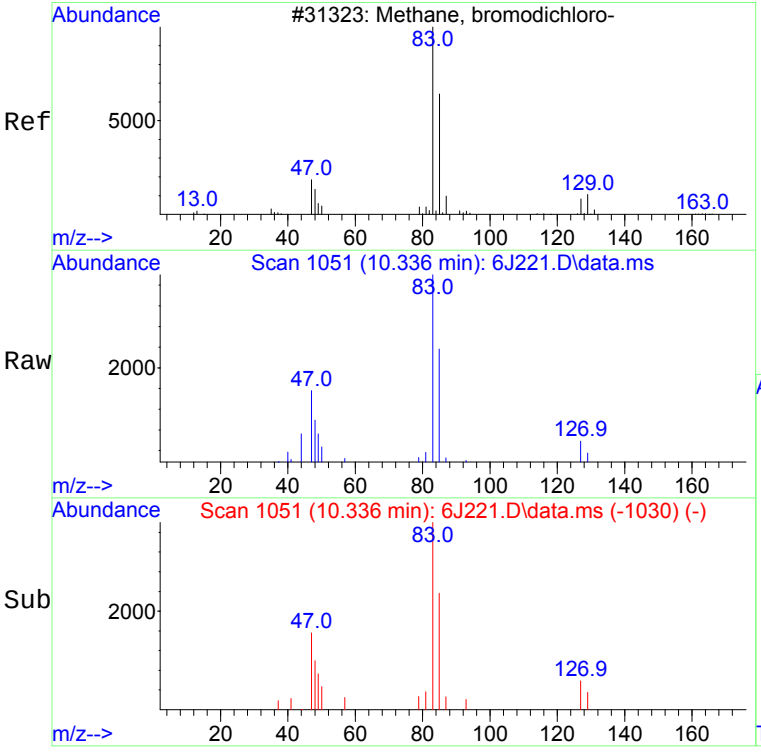


#25
Chloroform
Concen: 0.78 ug/L
RT: 8.514 min Scan# 752
Delta R.T. -0.000 min
Lab File: 6J221.D
Acq: 17 Nov 2020 18:00

Tgt Ion: 83 Resp: 10834

Ion	Ratio	Lower	Upper
83	100		
85	65.7	34.4	94.4

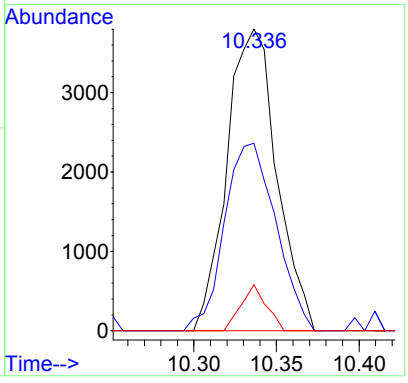


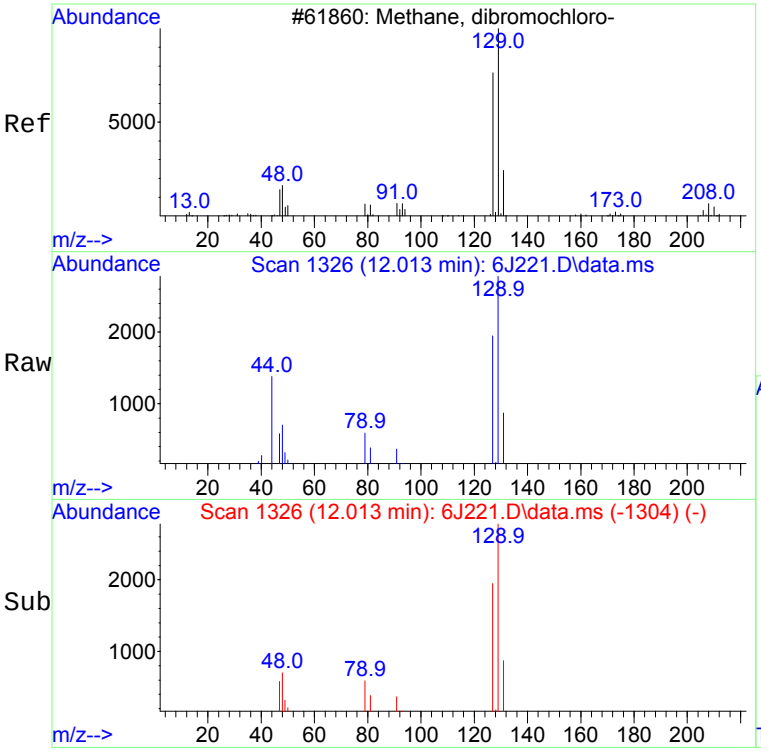


#40
Bromodichloromethane
Concen: 1.32 ug/L
RT: 10.336 min Scan# 1051
Delta R.T. 0.006 min
Lab File: 6J221.D
Acq: 17 Nov 2020 18:00

Tgt Ion: 83 Resp: 7978

Ion	Ratio	Lower	Upper
83	100		
85	64.2	33.6	93.6
127	7.8	0.0	27.8

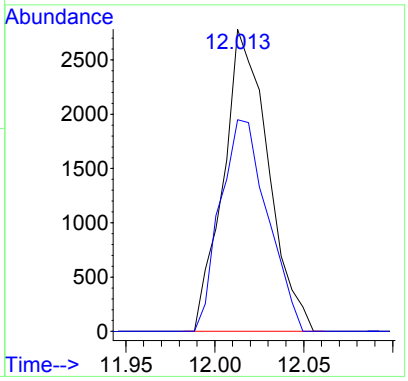


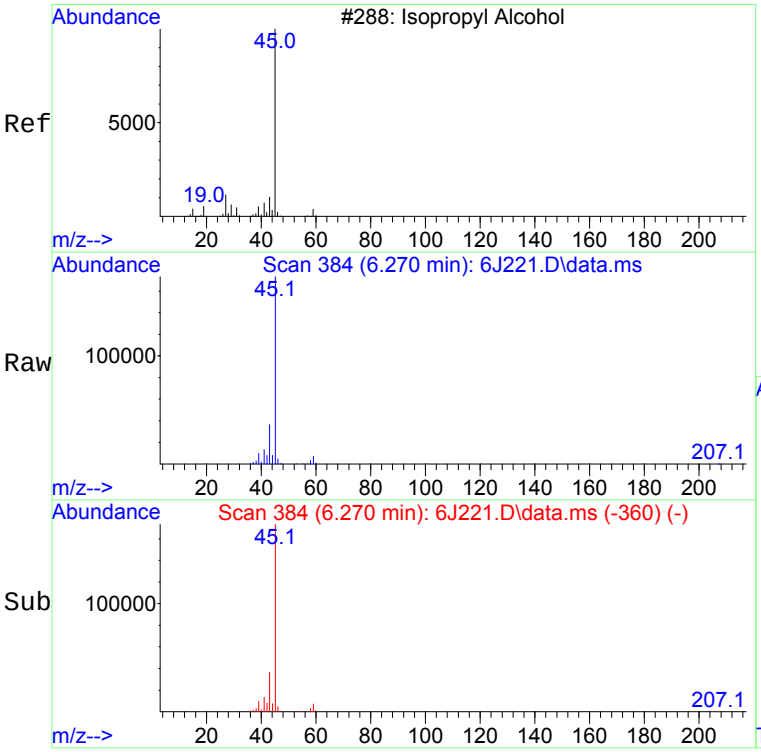


#52
Dibromochloromethane
Concen: 1.56 ug/L
RT: 12.013 min Scan# 1326
Delta R.T. -0.006 min
Lab File: 6J221.D
Acq: 17 Nov 2020 18:00

Tgt Ion:129 Resp: 4863

Ion	Ratio	Lower	Upper
129	100		
127	73.9	48.1	108.1

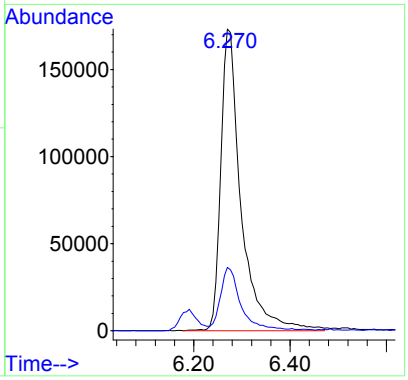


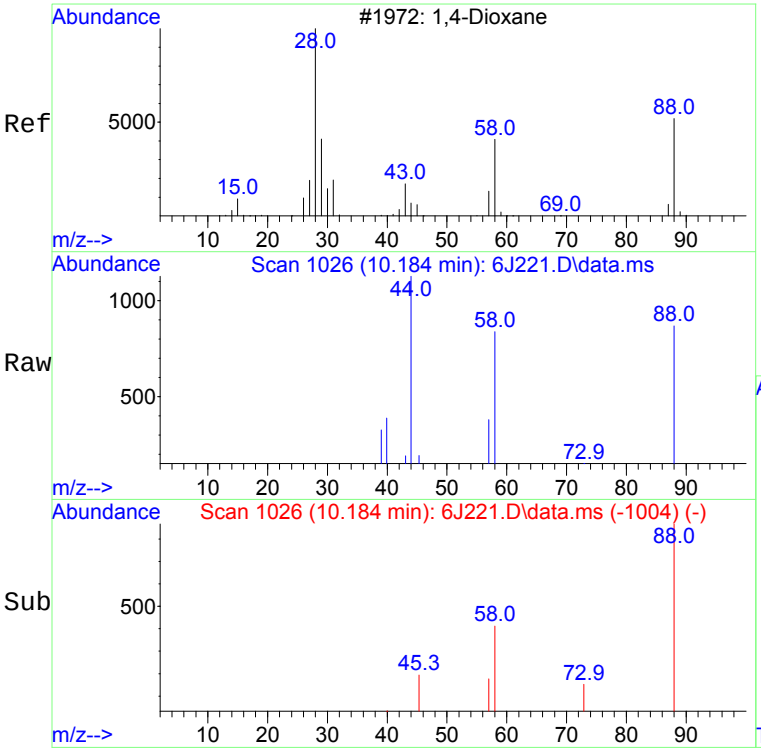


#87
Isopropyl Alcohol
Concen: 789.43 ug/L
RT: 6.270 min Scan# 384
Delta R.T. 0.000 min
Lab File: 6J221.D
Acq: 17 Nov 2020 18:00

Tgt Ion: 45 Resp: 506970

Ion	Ratio	Lower	Upper
45	100		
43	20.9	0.0	49.6

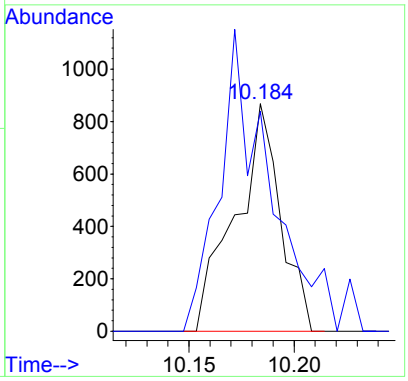


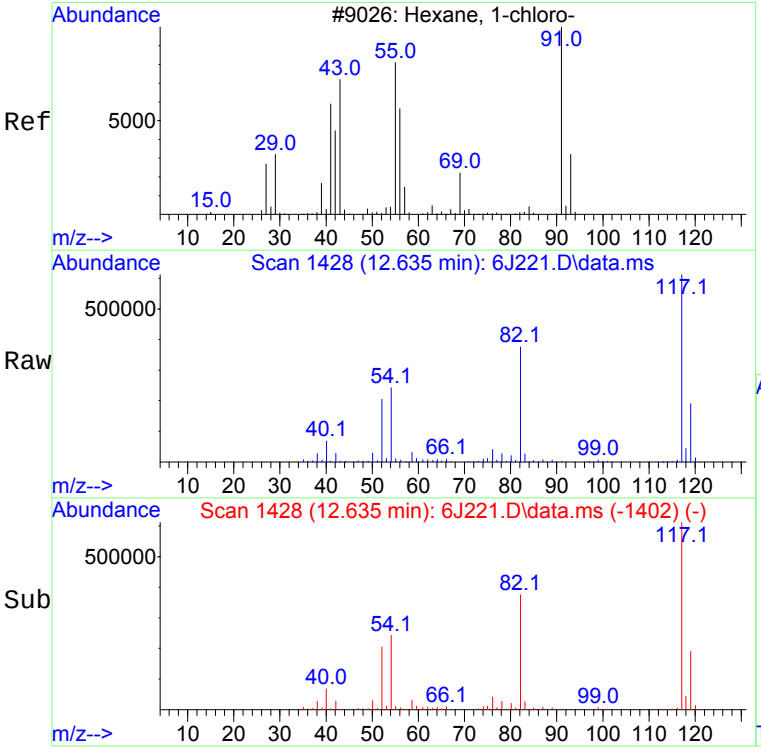


#101
1,4-Dioxane
Concen: 16.87 ug/L
RT: 10.184 min Scan# 1026
Delta R.T. 0.012 min
Lab File: 6J221.D
Acq: 17 Nov 2020 18:00

Tgt Ion: 88 Resp: 1296

Ion	Ratio	Lower	Upper
88	100		
58	152.1	68.7	128.7#

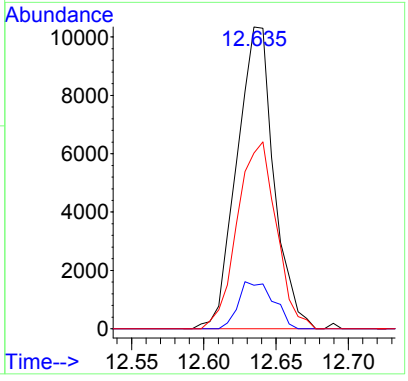




#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.75 ug/L
RT: 12.635 min Scan# 1428
Delta R.T. 0.086 min
Lab File: 6J221.D
Acq: 17 Nov 2020 18:00

Tgt Ion: 55 Resp: 18450

Ion	Ratio	Lower	Upper
55	100		
91	14.8	65.1	125.1#
56	65.1	30.4	90.4



Library Search Compound Report
GEL Laboratories, LLC

WMD
11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J221.D
Acq On : 17 Nov 2020 18:00
Operator : WD1
Sample : |527509003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 21 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

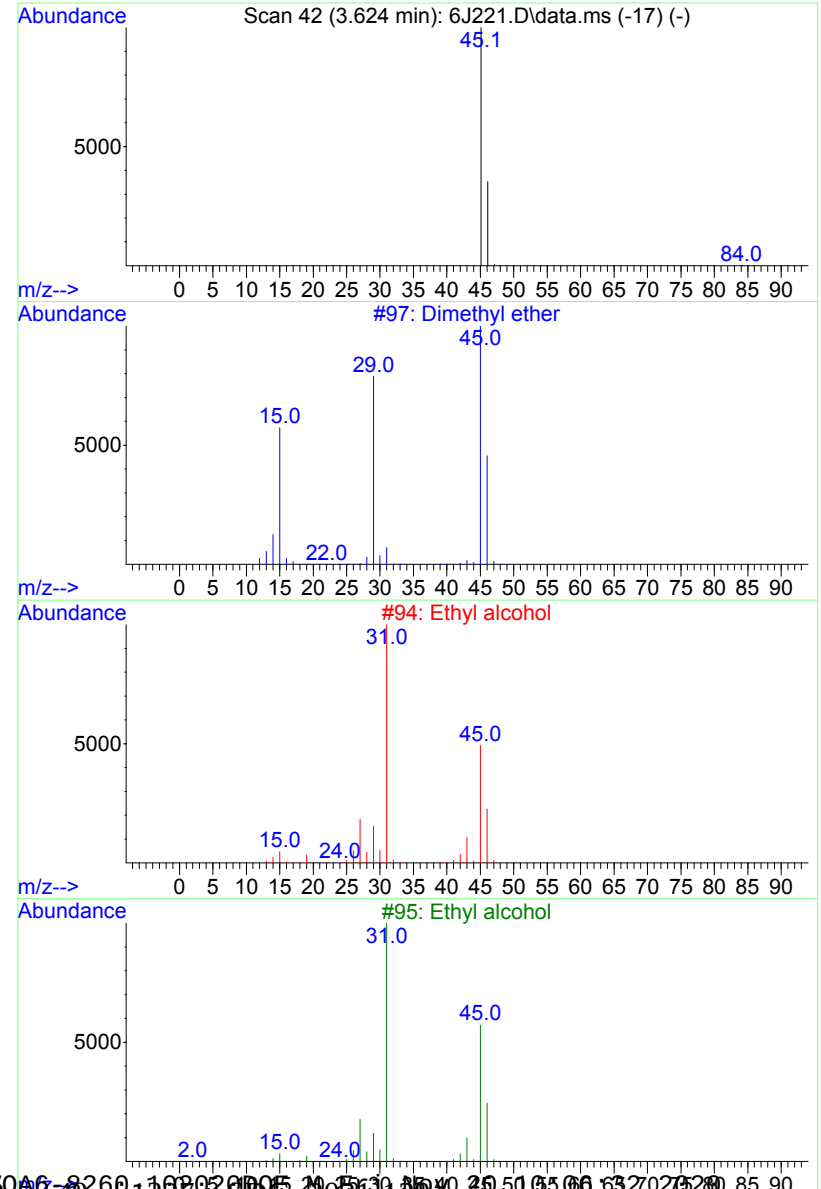
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

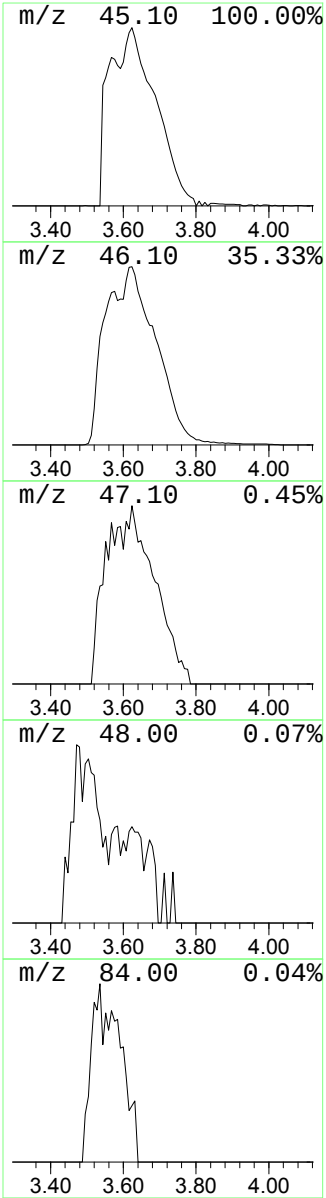
****

Peak Number 1 Unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.624	76.75 ug/L	5538980	Fluorobenzene	9.440

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl ether	46	C2H6O	000115-10-6	5
2	Ethyl alcohol	46	C2H6O	000064-17-5	4
3	Ethyl alcohol	46	C2H6O	000064-17-5	4
4	Ethyl alcohol	46	C2H6O	000064-17-5	4
5	Formic acid	46	CH2O2	000064-18-6	3





Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J221.D
Acq On : 17 Nov 2020 18:00
Operator : WD1
Sample : |527509003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc
Unknown	000115-10-6	3.624	76.8	5538980	1 9.440	3608430	50.0

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:40**	**Matrix:**	**W**
Lab Sample ID:	**527509005**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209986**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 18:26**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 18:26**				
Data File:	**111720V6\6J222.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	52.4	50.0	ug/L	105	(71%-134%)
Bromofluorobenzene	50.8	50.0	ug/L	102	(70%-131%)
Toluene-d8	51.8	50.0	ug/L	104	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J222.D
Acq On : 17 Nov 2020 18:26
Operator : WD1
InstName : VOA6
Sample : |527509005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 22 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 18 09:17:38 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	1640429	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1153158	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	628034	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1640429	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1154017	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	628034	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	606406	52.41	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1630580	51.78	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	610792	50.80	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	105%
45) Toluene-d8	50.000	74 - 124	104%
63) Bromofluorobenzene	50.000	70 - 131	102%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane		0.000	4.338	0.000	0	N.D.		
4) Vinyl chloride	62	4.699	4.522	0.498	450	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether	59	5.822	5.814	0.617	685	N.D.		
9) Acetone	43	6.191	6.179	0.656	9028	3.38	ug/L	98
10) 1,1-Dichloroethylene	61	6.264	6.173	0.664	708	N.D.		
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile		0.000	6.526	0.000	0	N.D.		
13) Methyl acetate		0.000	6.563	0.000	0	N.D.		
14) Carbon disulfide	76	6.532	6.538	0.692	594	N.D.		
15) Methylene chloride	84	6.745	6.739	0.715	4986	Below Cal	#	63
16) tert-Butyl methyl ether	73	7.026	7.032	0.744	132	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.349	7.355	0.778	1471	N.D.		
19) Vinyl acetate	43	7.550	7.532	0.800	935	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.166	8.160	0.865	8312	2.06	ug/L	80
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform	83	8.526	8.514	0.903	717	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane		0.000	8.867	0.000	0	N.D.		
28) 1,1-Dichloropropene	75	8.861	8.940	0.939	138	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	365	N.D.		
32) Benzene		0.000	9.178	0.000	0	N.D.		
33) Cyclohexene		0.000	9.288	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene		0.000	9.830	0.000	0	N.D.		
36) 2-Pentanone	43	9.940	9.928	1.053	1296	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J222.D
Acq On : 17 Nov 2020 18:26
Operator : WD1
InstName : VOA6
Sample : |527509005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 18 09:17:38 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
39) Dibromomethane		0.000	10.214	0.000	0	N.D.		
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.		
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.		
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.		
44) 4-Methyl-2-pentanone		0.000	10.891	0.000	0	N.D.		
46) Toluene	91	11.171	11.172	0.884	2457	N.D.		
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.		
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.		
49) 2-Hexanone	43	11.757	11.751	0.931	647	N.D.		
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.		
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.		
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.		
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.		
54) Chlorobenzene		0.000	12.671	0.000	0	N.D.		
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.		
56) Ethylbenzene	91	12.738	12.738	1.008	306	N.D.		
57) m,p-Xylenes	106	12.842	12.848	1.016	354	N.D.		
58) o-Xylene	91	13.287	13.287	1.052	110	N.D.		
59) Styrene		0.000	13.293	0.000	0	N.D.		
61) Bromoform		0.000	13.543	0.000	0	N.D.		
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.		
64) 1,1,2,2-Tetrachloroethane	83	13.842	13.933	0.919	346	N.D.		
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.		
66) Bromobenzene		0.000	14.049	0.000	0	N.D.		
67) n-Propylbenzene	91	14.085	14.079	0.935	124	N.D.		
68) 1,3,5-Trimethylbenzene		0.000	14.238	0.000	0	N.D.		
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.		
70) 4-Chlorotoluene	91	14.335	14.323	0.951	123	N.D.		
71) tert-Butylbenzene		0.000	14.604	0.000	0	N.D.		
72) 1,2,4-Trimethylbenzene	105	14.652	14.646	0.972	101	N.D.		
73) sec-Butylbenzene		0.000	14.829	0.000	0	N.D.		
74) 4-Isopropyltoluene	119	15.061	14.957	1.000	164	N.D.		
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	2591	N.D.		
76) 1,4-Dichlorobenzene	146	15.067	15.091	1.000	941	N.D.		
77) n-Butylbenzene		0.000	15.384	0.000	0	N.D.		
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	151	N.D.		
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.		
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	553	N.D.		
81) Hexachlorobutadiene		0.000	17.457	0.000	0	N.D.		
82) Naphthalene	128	17.646	17.646	1.171	1668	N.D.		
83) 1,2,3-Trichlorobenzene	180	17.963	17.957	1.192	551	N.D.		
85) Acrolein		0.000	6.008	0.000	0	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol	45	6.270	6.270	0.664	3436898	4940.63	ug/L	99
88) Allyl chloride		0.000	6.593	0.000	0	N.D.		
89) tert-Butyl Alcohol	59	6.764	6.758	0.716	936	N.D.		
90) Acrylonitrile		0.000	7.001	0.000	0	N.D.		
91) Isopropyl ether		0.000	7.544	0.000	0	N.D.		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.		
93) Ethyl tert-butyl ether	59	7.861	7.952	0.833	6367	N.D.		
94) Ethyl acetate	43	8.166	8.172	0.865	8312	N.D.		
95) Propionitrile		0.000	8.233	0.000	0	N.D.		
96) Methacrylonitrile	41	8.410	8.410	0.891	146	N.D.		
97) Tetrahydrofuran	42	8.538	8.519	0.904	907	N.D.		
98) Isobutyl alcohol	41	8.818	8.867	0.934	194	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J222.D
Acq On : 17 Nov 2020 18:26
Operator : WD1
InstName : VOA6
Sample : |527509005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 18 09:17:38 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

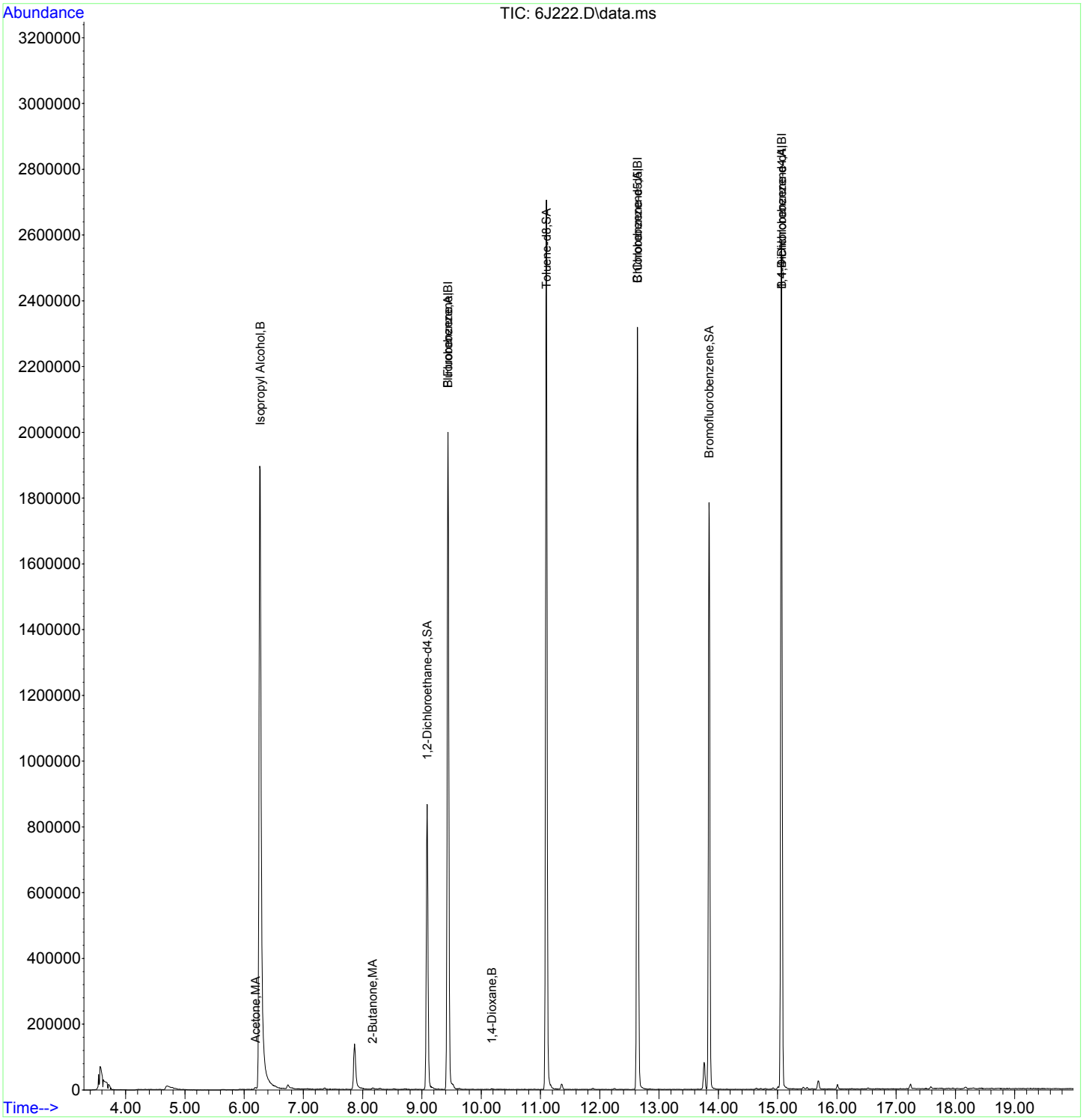
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.		
100)	Methyl methacrylate		0.000	10.068	0.000	0	N.D.		
101)	1,4-Dioxane	88	10.178	10.172	1.078	1410	16.94	ug/L	93
102)	2-Nitropropane		0.000	10.550	0.000	0	N.D.		
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.		
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d	
107)	cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.		
108)	Cyclohexanone	42	13.793	13.799	0.915	105	N.D.		
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.		
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.		
111)	Benzyl chloride		0.000	15.213	0.000	0	N.D.		
112)	bis(2-Chloroisopropyl)...	45	15.689	15.603	1.041	1974	N.D.		

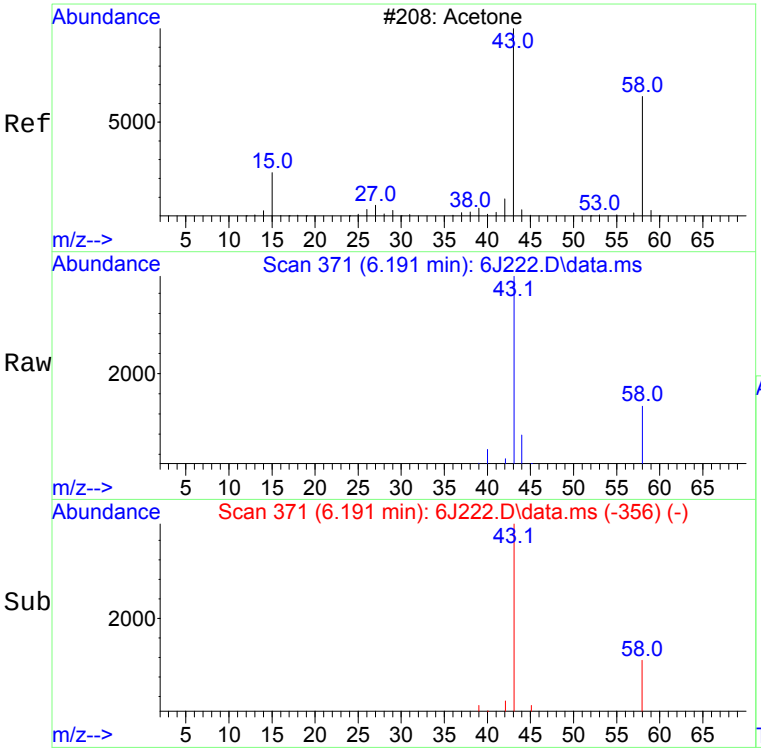
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J222.D
Acq On : 17 Nov 2020 18:26
Operator : WD1
InstName : VOA6
Sample : |527509005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 18 09:17:38 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

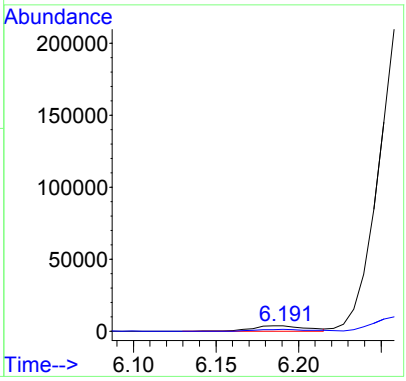


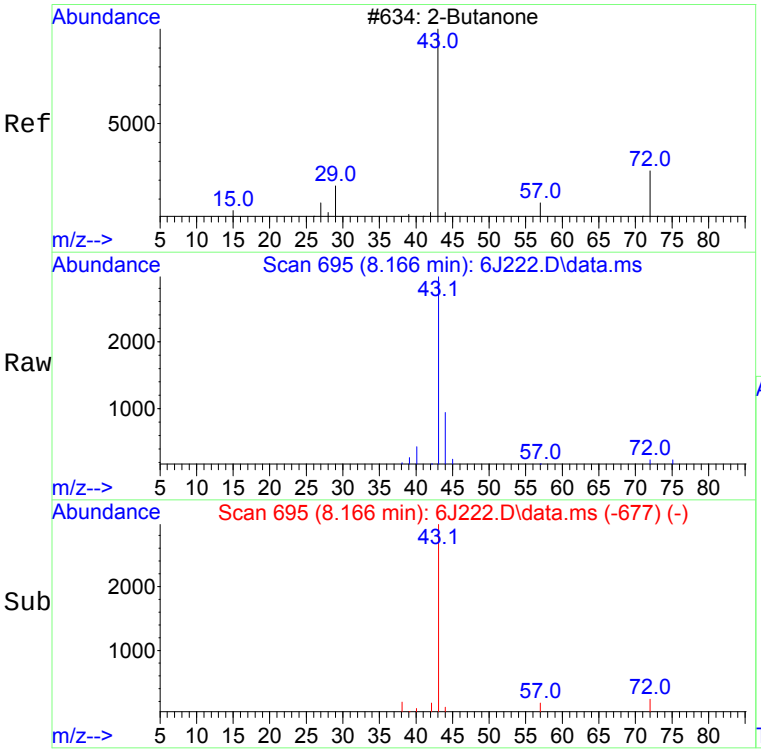


#9
Acetone
Concen: 3.38 ug/L
RT: 6.191 min Scan# 371
Delta R.T. 0.012 min
Lab File: 6J222.D
Acq: 17 Nov 2020 18:26

Tgt Ion: 43 Resp: 9028

Ion	Ratio	Lower	Upper
43	100		
58	34.2	5.4	65.4

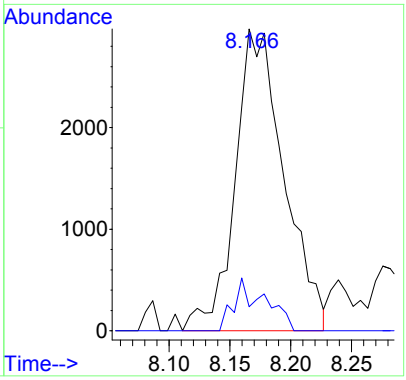


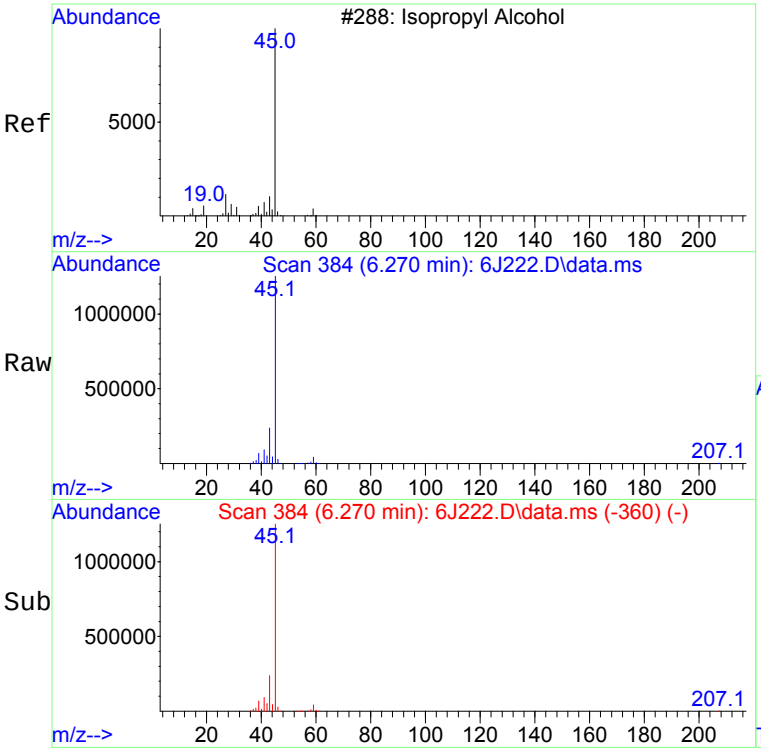


#21
2-Butanone
Concen: 2.06 ug/L
RT: 8.166 min Scan# 695
Delta R.T. 0.006 min
Lab File: 6J222.D
Acq: 17 Nov 2020 18:26

Tgt Ion: 43 Resp: 8312

Ion	Ratio	Lower	Upper
43	100		
72	11.1	0.0	50.5

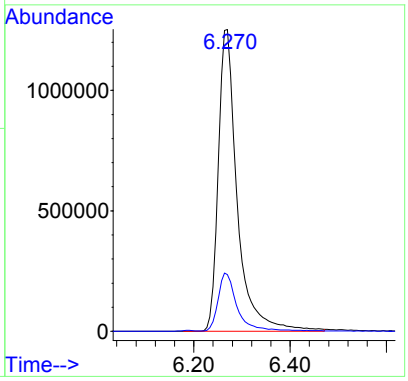


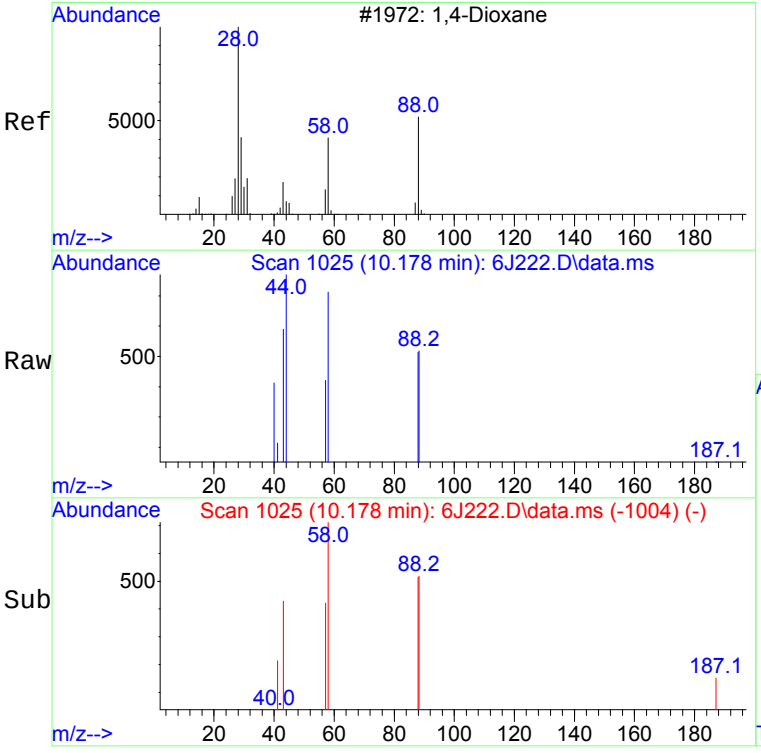


#87
Isopropyl Alcohol
Concen: 4940.63 ug/L
RT: 6.270 min Scan# 384
Delta R.T. -0.000 min
Lab File: 6J222.D
Acq: 17 Nov 2020 18:26

Tgt Ion: 45 Resp: 3436898

Ion	Ratio	Lower	Upper
45	100		
43	19.2	0.0	49.6

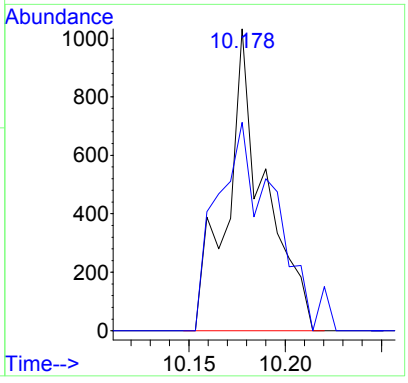


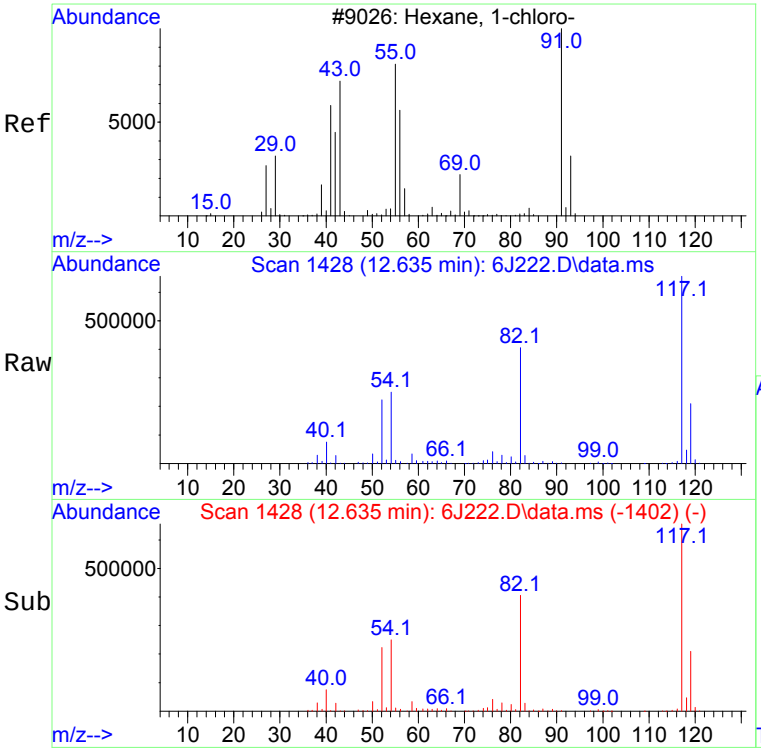


#101
1,4-Dioxane
Concen: 16.94 ug/L
RT: 10.178 min Scan# 1025
Delta R.T. 0.006 min
Lab File: 6J222.D
Acq: 17 Nov 2020 18:26

Tgt Ion: 88 Resp: 1410

Ion	Ratio	Lower	Upper
88	100		
58	105.7	68.7	128.7

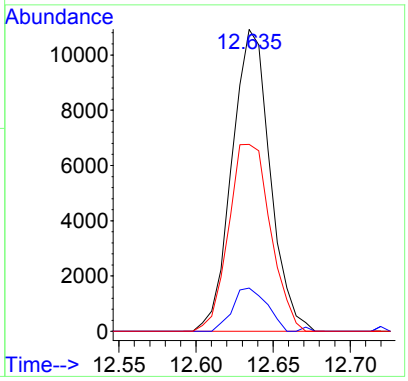




#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.74 ug/L
RT: 12.635 min Scan# 1428
Delta R.T. 0.086 min
Lab File: 6J222.D
Acq: 17 Nov 2020 18:26

Tgt Ion: 55 Resp: 18839

Ion	Ratio	Lower	Upper
55	100		
91	13.0	65.1	125.1#
56	67.8	30.4	90.4



Library Search Compound Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J222.D
Acq On : 17 Nov 2020 18:26
Operator : WD1
Sample : |527509005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 22 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J222.D
Acq On : 17 Nov 2020 18:26
Operator : WD1
Sample : |527509005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**527509008**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209988**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 18:52**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 18:52**				
Data File:	**111720V6\6J223.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	52.1	50.0	ug/L	104	(71%-134%)
Bromofluorobenzene	51.9	50.0	ug/L	104	(70%-131%)
Toluene-d8	51.5	50.0	ug/L	103	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Quantitation Report
GEL Laboratories, LLC

WMD
11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J223.D
Acq On : 17 Nov 2020 18:52
Operator : WD1
InstName : VOA6
Sample : |527509008|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 18 09:19:34 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1625238	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.634	12.635	1.000	1143768	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	618835	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1625238	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.634	12.641	1.000	1143994	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	618835	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	596942	52.07	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1609671	51.54	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	615026	51.91	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	104%
45) Toluene-d8	50.000	74 - 124	103%
63) Bromofluorobenzene	50.000	70 - 131	104%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane		0.000	4.338	0.000	0	N.D.		
4) Vinyl chloride		0.000	4.522	0.000	0	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.184	6.179	0.655	3862	N.D.		
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0	N.D.		
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.758	6.526	0.716	1027	N.D.		
13) Methyl acetate	43	6.575	6.563	0.696	343	N.D.		
14) Carbon disulfide	76	6.520	6.538	0.691	731	N.D.		
15) Methylene chloride	84	6.739	6.739	0.714	4863	Below Cal		86
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.355	7.355	0.779	1375	N.D.		
19) Vinyl acetate	43	7.568	7.532	0.802	138	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.178	8.160	0.866	2470	N.D.		
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform		0.000	8.514	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane		0.000	8.867	0.000	0	N.D.		
28) 1,1-Dichloropropene		0.000	8.940	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.160	9.172	0.970	469	N.D.		
32) Benzene		0.000	9.178	0.000	0	N.D.		
33) Cyclohexene		0.000	9.288	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene		0.000	9.830	0.000	0	N.D.		
36) 2-Pentanone	43	9.958	9.928	1.055	558	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J223.D
Acq On : 17 Nov 2020 18:52
Operator : WD1
InstName : VOA6
Sample : |527509008|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 18 09:19:34 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
39) Dibromomethane		0.000	10.214	0.000	0	N.D.	
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.	
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.	
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.	
44) 4-Methyl-2-pentanone	58	10.909	10.891	0.863	284	N.D.	
46) Toluene	91	11.171	11.172	0.884	353	N.D.	
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.	
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.	
49) 2-Hexanone	43	11.769	11.751	0.931	248	N.D.	
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.	
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.	
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.	
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.	
54) Chlorobenzene		0.000	12.671	0.000	0	N.D.	
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.	
56) Ethylbenzene		0.000	12.738	0.000	0	N.D.	
57) m,p-Xylenes		0.000	12.848	0.000	0	N.D.	
58) o-Xylene	91	13.299	13.287	1.053	109	N.D.	
59) Styrene		0.000	13.293	0.000	0	N.D.	
61) Bromoform		0.000	13.543	0.000	0	N.D.	
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.	
64) 1,1,2,2-Tetrachloroethane	83	13.848	13.933	0.919	385	N.D.	
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.	
66) Bromobenzene		0.000	14.049	0.000	0	N.D.	
67) n-Propylbenzene		0.000	14.079	0.000	0	N.D.	
68) 1,3,5-Trimethylbenzene		0.000	14.238	0.000	0	N.D.	
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.	
70) 4-Chlorotoluene		0.000	14.323	0.000	0	N.D.	
71) tert-Butylbenzene		0.000	14.604	0.000	0	N.D.	
72) 1,2,4-Trimethylbenzene	105	14.713	14.646	0.977	215	N.D.	
73) sec-Butylbenzene		0.000	14.829	0.000	0	N.D.	
74) 4-Isopropyltoluene	119	14.951	14.957	0.992	294	N.D.	
75) 1,3-Dichlorobenzene	146	15.067	15.006	1.000	407	N.D.	
76) 1,4-Dichlorobenzene	146	15.067	15.091	1.000	407	N.D.	
77) n-Butylbenzene		0.000	15.384	0.000	0	N.D.	
78) 1,2-Dichlorobenzene		0.000	15.500	0.000	0	N.D.	
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.	
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	179	N.D.	
81) Hexachlorobutadiene		0.000	17.457	0.000	0	N.D.	
82) Naphthalene	128	17.652	17.646	1.172	1447	N.D.	
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	364	N.D.	
85) Acrolein		0.000	6.008	0.000	0	N.D.	
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.	
87) Isopropyl Alcohol	45	6.276	6.270	0.665	1769	N.D.	
88) Allyl chloride	41	6.623	6.593	0.702	117	N.D.	
89) tert-Butyl Alcohol	59	6.764	6.758	0.716	1432	N.D.	
90) Acrylonitrile		0.000	7.001	0.000	0	N.D.	
91) Isopropyl ether	45	7.635	7.544	0.809	116	N.D.	
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.	
93) Ethyl tert-butyl ether	59	8.032	7.952	0.851	139	N.D.	
94) Ethyl acetate	43	8.178	8.172	0.866	2470	N.D.	
95) Propionitrile		0.000	8.233	0.000	0	N.D.	
96) Methacrylonitrile	41	8.525	8.410	0.903	684	N.D.	
97) Tetrahydrofuran	42	8.538	8.519	0.904	1608	N.D.	
98) Isobutyl alcohol		0.000	8.867	0.000	0	N.D.	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J223.D
Acq On : 17 Nov 2020 18:52
Operator : WD1
InstName : VOA6
Sample : |527509008|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 18 09:19:34 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

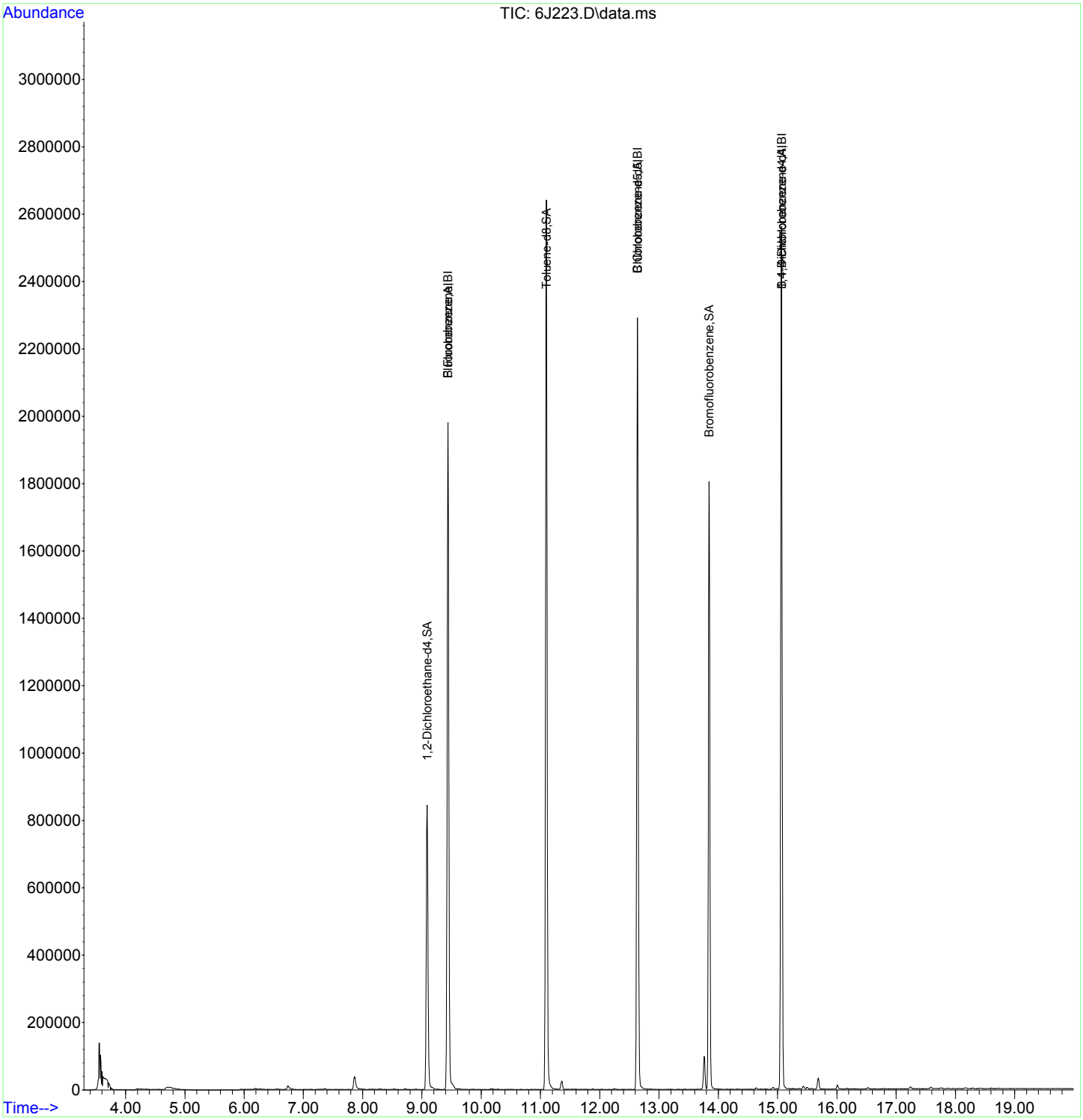
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.	
100)	Methyl methacrylate		0.000	10.068	0.000	0	N.D.	
101)	1,4-Dioxane	88	10.184	10.172	1.079	1233	N.D.	
102)	2-Nitropropane		0.000	10.550	0.000	0	N.D.	
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108)	Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111)	Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112)	bis(2-Chloroisopropyl)...	45	15.683	15.603	1.041	2482	N.D.	

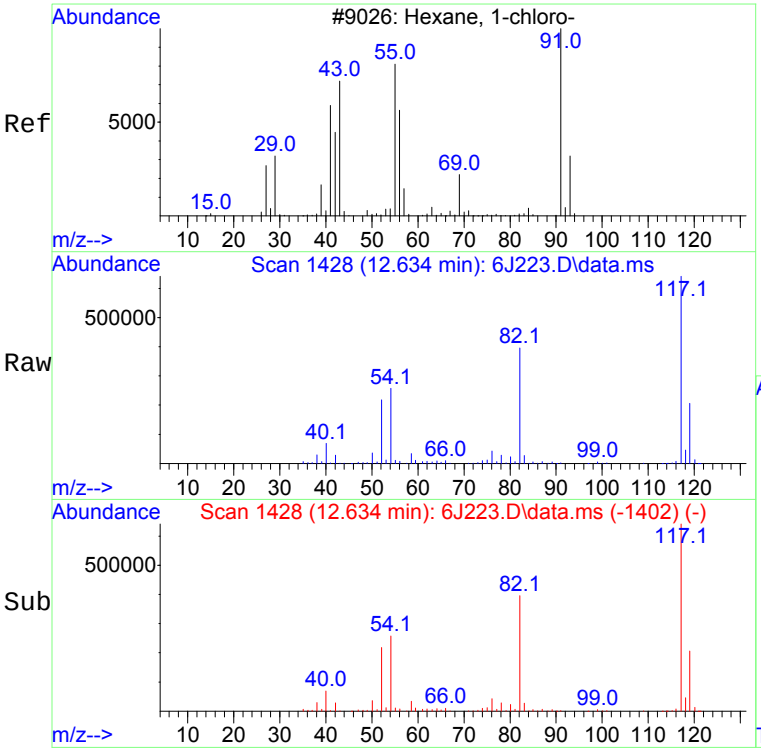
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J223.D
Acq On : 17 Nov 2020 18:52
Operator : WD1
InstName : VOA6
Sample : |527509008|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 18 09:19:34 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

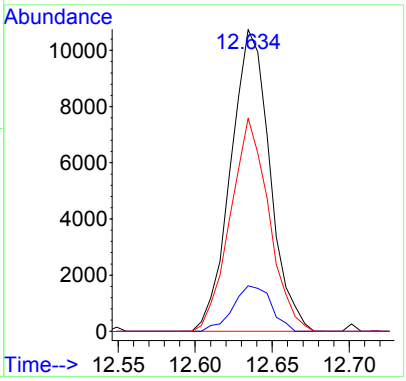




#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.78 ug/L
RT: 12.634 min Scan# 1428
Delta R.T. 0.085 min
Lab File: 6J223.D
Acq: 17 Nov 2020 18:52

Tgt Ion: 55 Resp: 18991

Ion	Ratio	Lower	Upper
55	100		
91	14.7	65.1	125.1#
56	69.6	30.4	90.4



Library Search Compound Report
GEL Laboratories, LLC

WMD
11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J223.D
Acq On : 17 Nov 2020 18:52
Operator : WD1
Sample : |527509008|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J223.D
Acq On : 17 Nov 2020 18:52
Operator : WD1
Sample : |527509008|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509012**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 19:17**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 19:17**				
Data File:	**111720V6\6J224.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	J	0.610	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	57.4	50.0	ug/L	115	(71%-134%)
Bromofluorobenzene	51.0	50.0	ug/L	102	(70%-131%)
Toluene-d8	50.6	50.0	ug/L	101	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.592	80.8	ug/L		J

Quantitation Report
GEL Laboratories, LLC

WMD
11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J224.D
Acq On : 17 Nov 2020 19:17
Operator : WD1
InstName : VOA6
Sample : |527509012|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 18 09:20:05 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	1466430	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1040862	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	569195	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1466430	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1040862	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	569195	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	593478	57.37	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1439369	50.64	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	555634	50.99	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	115%
45) Toluene-d8	50.000	74 - 124	101%
63) Bromofluorobenzene	50.000	70 - 131	102%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane		0.000	4.338	0.000	0	N.D.		
4) Vinyl chloride		0.000	4.522	0.000	0	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.179	6.179	0.655	74699	31.31	ug/L	93
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0m	N.D.	d	
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.697	6.526	0.709	395	N.D.		
13) Methyl acetate		0.000	6.563	0.000	0	N.D.		
14) Carbon disulfide	76	6.514	6.538	0.690	1871	N.D.		
15) Methylene chloride	84	6.746	6.739	0.715	4765	Below Cal	#	78
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.361	7.355	0.780	1429	N.D.		
19) Vinyl acetate	43	7.471	7.532	0.791	2196	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.178	8.160	0.866	7397	2.05	ug/L	61
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform	83	8.514	8.514	0.902	8131	0.61	ug/L	88
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane		0.000	8.867	0.000	0	N.D.		
28) 1,1-Dichloropropene	75	8.898	8.940	0.943	134	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.178	9.172	0.972	181	N.D.		
32) Benzene		0.000	9.178	0.000	0	N.D.		
33) Cyclohexene		0.000	9.288	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene	95	9.812	9.830	1.039	160	N.D.		
36) 2-Pentanone	43	9.946	9.928	1.054	2161	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J224.D
Acq On : 17 Nov 2020 19:17
Operator : WD1
InstName : VOA6
Sample : |527509012|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 18 09:20:05 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
39) Dibromomethane		0.000	10.214	0.000	0	N.D.		
40) Bromodichloromethane	83	10.336	10.330	1.095	6142	1.17	ug/L	90
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.		
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.		
44) 4-Methyl-2-pentanone	58	10.897	10.891	0.862	592	N.D.		
46) Toluene	91	11.184	11.172	0.885	1198	N.D.		
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.		
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.		
49) 2-Hexanone	43	11.763	11.751	0.931	670	N.D.		
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.		
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.		
52) Dibromochloromethane	129	12.019	12.019	0.951	3758	1.41	ug/L	84
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.		
54) Chlorobenzene		0.000	12.671	0.000	0	N.D.		
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.		
56) Ethylbenzene		0.000	12.738	0.000	0	N.D.		
57) m,p-Xylenes		0.000	12.848	0.000	0	N.D.		
58) o-Xylene		0.000	13.287	0.000	0	N.D.		
59) Styrene		0.000	13.293	0.000	0	N.D.		
61) Bromoform		0.000	13.543	0.000	0	N.D.		
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.		
64) 1,1,2,2-Tetrachloroethane	83	13.854	13.933	0.919	308	N.D.		
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.		
66) Bromobenzene		0.000	14.049	0.000	0	N.D.		
67) n-Propylbenzene		0.000	14.079	0.000	0	N.D.		
68) 1,3,5-Trimethylbenzene		0.000	14.238	0.000	0	N.D.		
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.		
70) 4-Chlorotoluene		0.000	14.323	0.000	0	N.D.		
71) tert-Butylbenzene		0.000	14.604	0.000	0	N.D.		
72) 1,2,4-Trimethylbenzene	105	14.653	14.646	0.972	236	N.D.		
73) sec-Butylbenzene	105	14.732	14.829	0.978	118	N.D.		
74) 4-Isopropyltoluene		0.000	14.957	0.000	0	N.D.		
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	512	N.D.		
76) 1,4-Dichlorobenzene	146	15.055	15.091	0.999	233	N.D.		
77) n-Butylbenzene		0.000	15.384	0.000	0	N.D.		
78) 1,2-Dichlorobenzene	146	15.506	15.500	1.029	136	N.D.		
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.		
80) 1,2,4-Trichlorobenzene	180	17.286	17.292	1.147	239	N.D.		
81) Hexachlorobutadiene		0.000	17.457	0.000	0	N.D.		
82) Naphthalene	128	17.658	17.646	1.172	1108	N.D.		
83) 1,2,3-Trichlorobenzene	180	17.963	17.957	1.192	279	N.D.		
85) Acrolein	56	6.008	6.008	0.636	201	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol	45	6.264	6.270	0.664	3468611	5577.86	ug/L	99 A
88) Allyl chloride	41	6.697	6.593	0.709	395	N.D.		
89) tert-Butyl Alcohol	59	6.758	6.758	0.716	2081	N.D.		
90) Acrylonitrile		0.000	7.001	0.000	0	N.D.		
91) Isopropyl ether	45	7.605	7.544	0.806	501	N.D.		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.		
93) Ethyl tert-butyl ether	59	7.867	7.952	0.833	3490	N.D.		
94) Ethyl acetate	43	8.178	8.172	0.866	7397	N.D.		
95) Propionitrile		0.000	8.233	0.000	0	N.D.		
96) Methacrylonitrile	41	8.532	8.410	0.904	964	N.D.		
97) Tetrahydrofuran	42	8.520	8.519	0.902	477	N.D.		
98) Isobutyl alcohol	41	8.873	8.867	0.940	314	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J224.D
Acq On : 17 Nov 2020 19:17
Operator : WD1
InstName : VOA6
Sample : |527509012|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 18 09:20:05 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

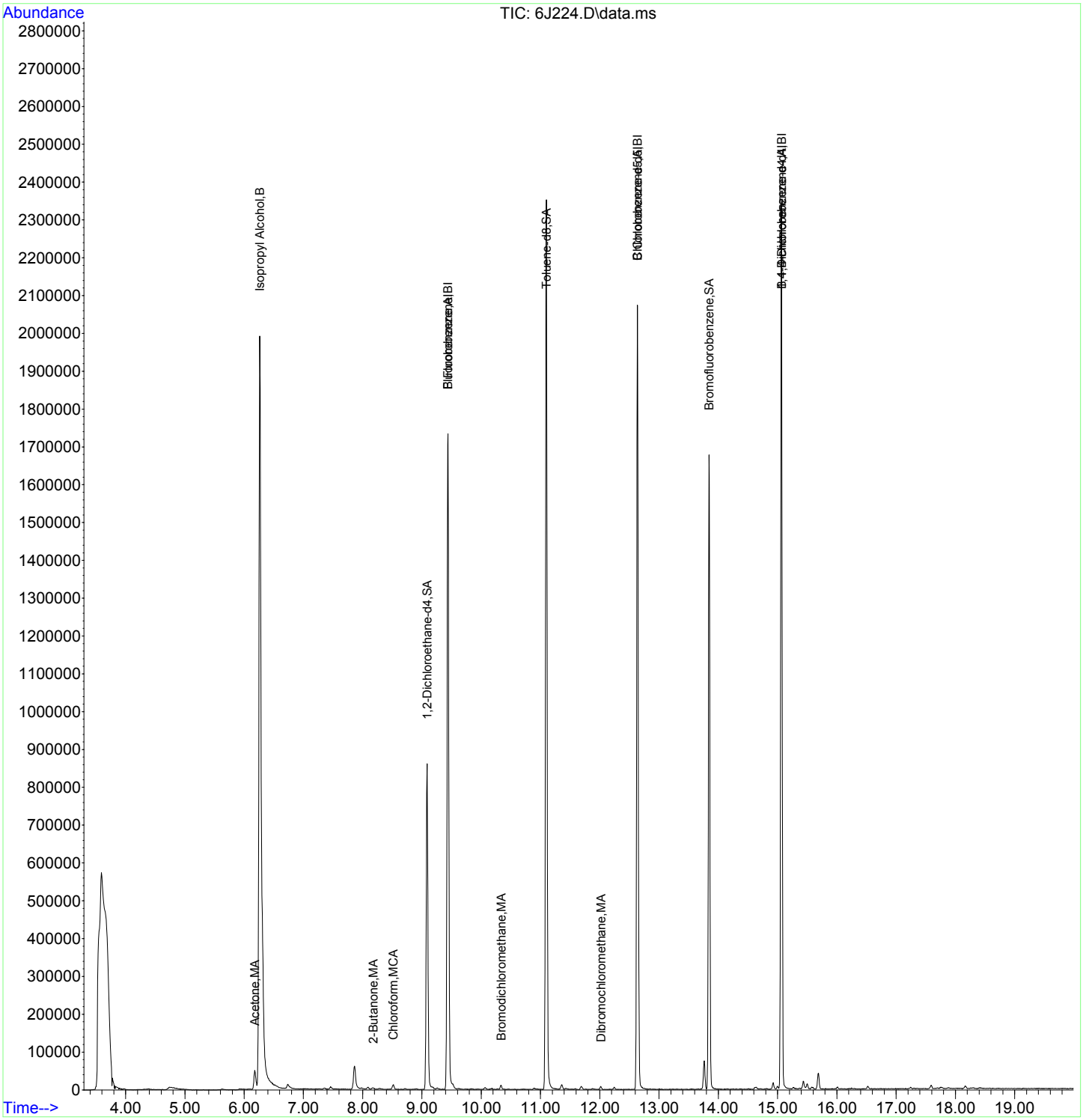
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.	
100)	Methyl methacrylate		0.000	10.068	0.000	0	N.D.	
101)	1,4-Dioxane	88	10.160	10.172	1.076	699	N.D.	
102)	2-Nitropropane		0.000	10.550	0.000	0m	N.D.	d
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108)	Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111)	Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112)	bis(2-Chloroisopropyl)...	45	15.604	15.603	1.036	150	N.D.	

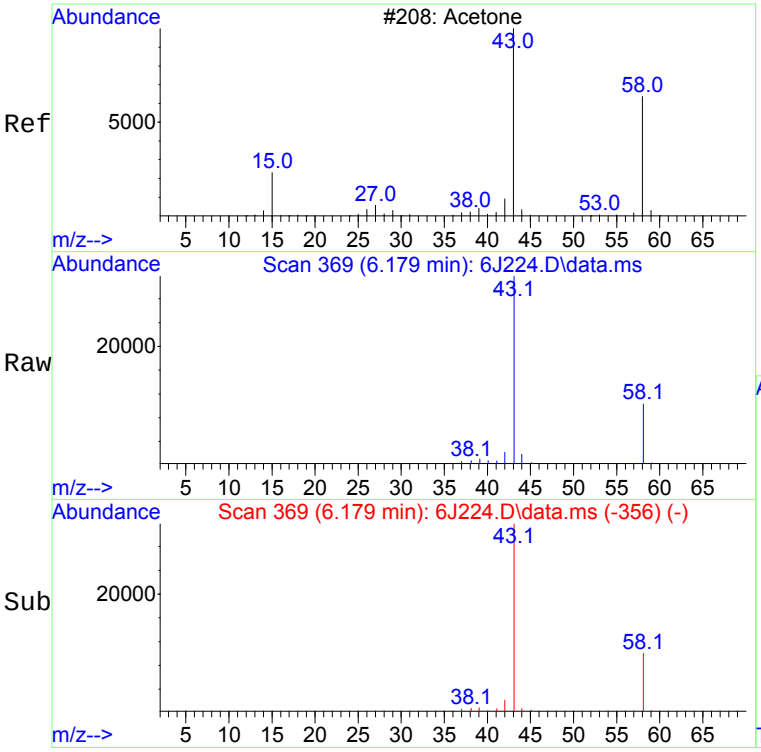
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J224.D
Acq On : 17 Nov 2020 19:17
Operator : WD1
InstName : VOA6
Sample : |527509012|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 18 09:20:05 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

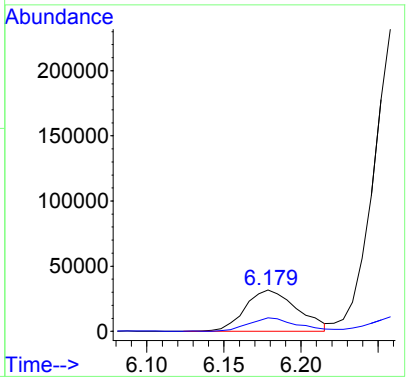


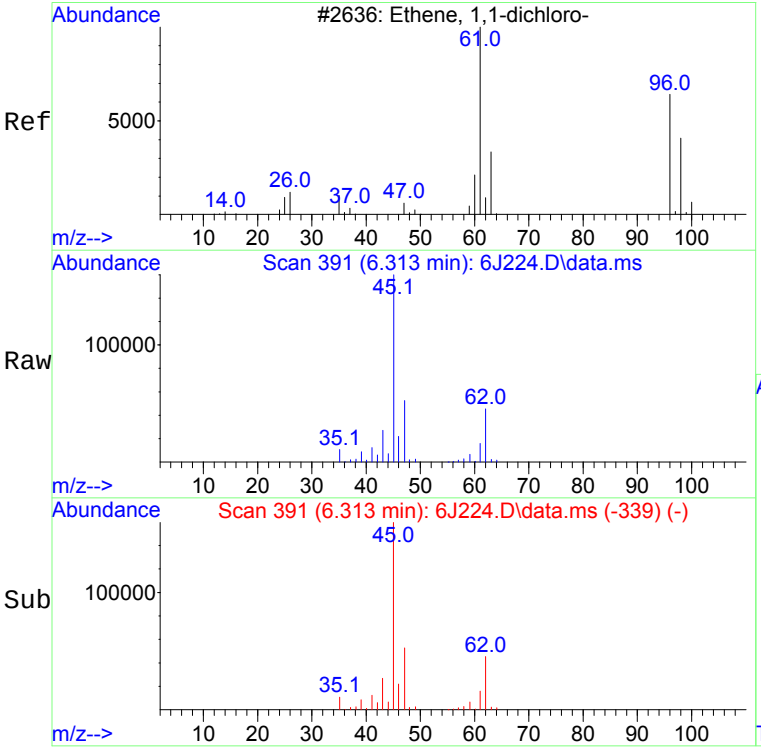


#9
Acetone
Concen: 31.31 ug/L
RT: 6.179 min Scan# 369
Delta R.T. -0.000 min
Lab File: 6J224.D
Acq: 17 Nov 2020 19:17

Tgt Ion: 43 Resp: 74699

Ion	Ratio	Lower	Upper
43	100		
58	31.2	5.4	65.4

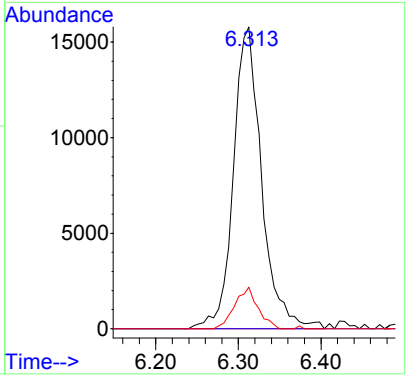


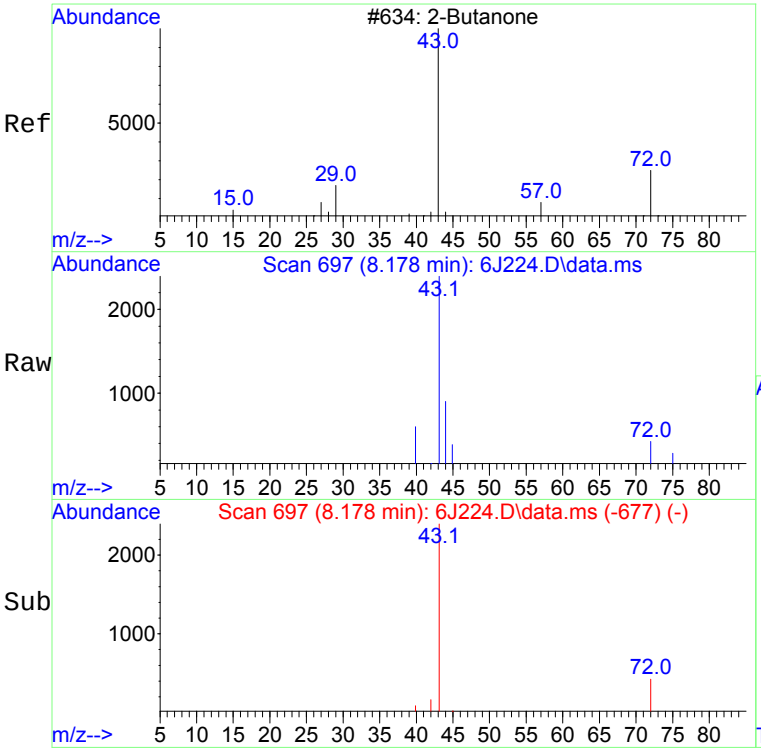


#10 BEFORE analyst DELETION
1,1-Dichloroethylene
Concen: 2.47 ug/L
RT: 6.313 min Scan# 391
Delta R.T. 0.140 min
Lab File: 6J224.D
Acq: 17 Nov 2020 19:17

Tgt Ion: 61 Resp: 37564

Ion	Ratio	Lower	Upper
61	100		
96	0.0	14.7	74.7#
63	11.3	1.1	61.1

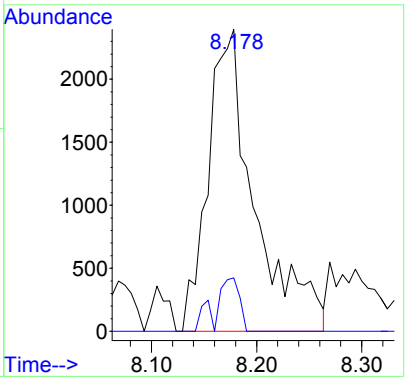


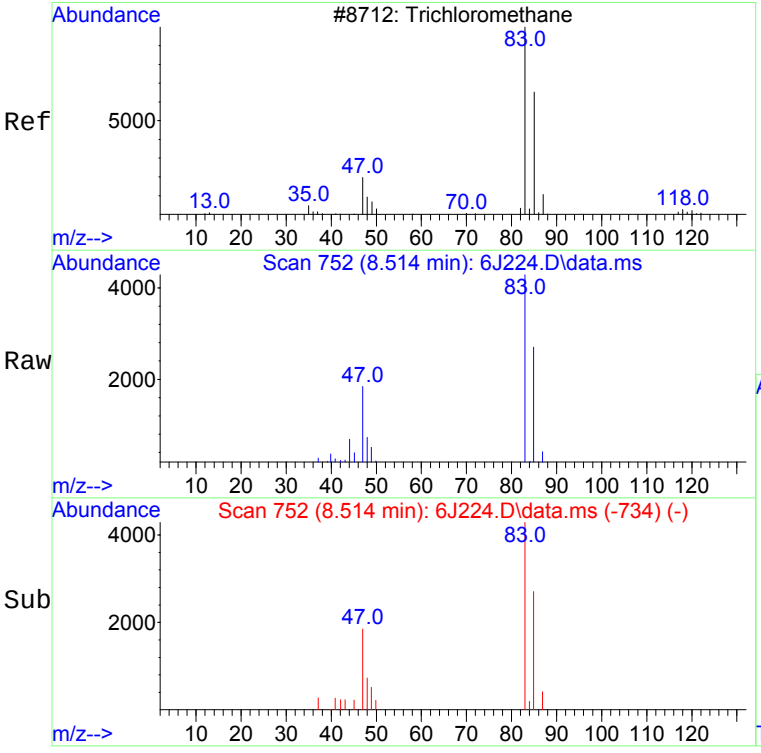


#21
2-Butanone
Concen: 2.05 ug/L
RT: 8.178 min Scan# 697
Delta R.T. 0.018 min
Lab File: 6J224.D
Acq: 17 Nov 2020 19:17

Tgt Ion: 43 Resp: 7397

Ion	Ratio	Lower	Upper
43	100		
72	2.2	0.0	50.5

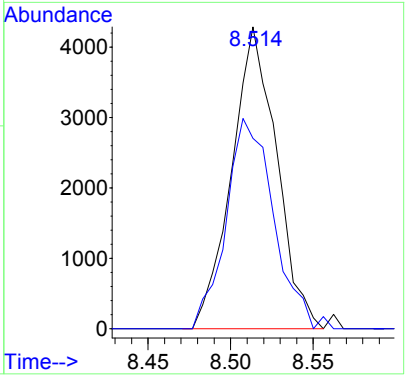


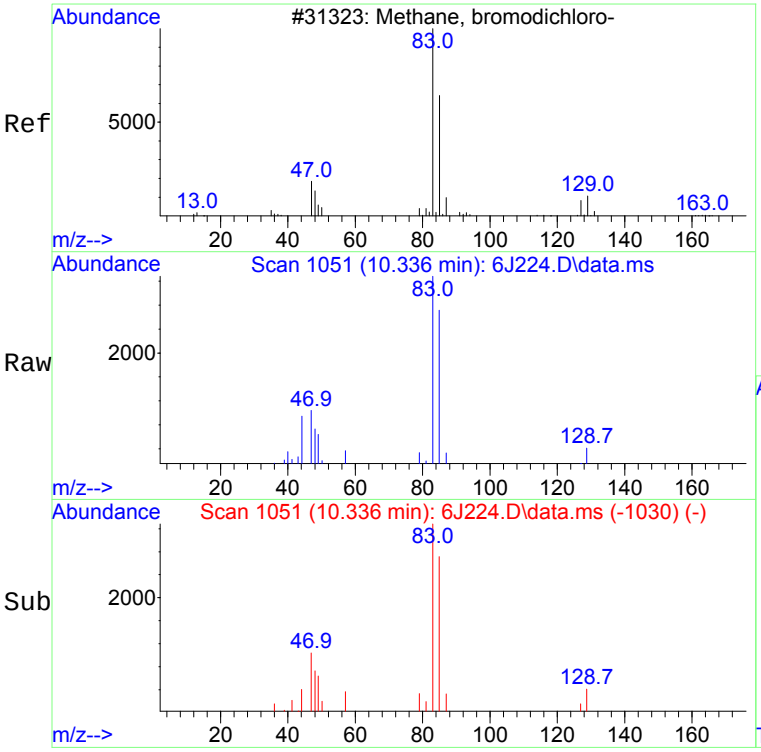


#25
Chloroform
Concen: 0.61 ug/L
RT: 8.514 min Scan# 752
Delta R.T. -0.000 min
Lab File: 6J224.D
Acq: 17 Nov 2020 19:17

Tgt Ion: 83 Resp: 8131

Ion	Ratio	Lower	Upper
83	100		
85	73.7	34.4	94.4

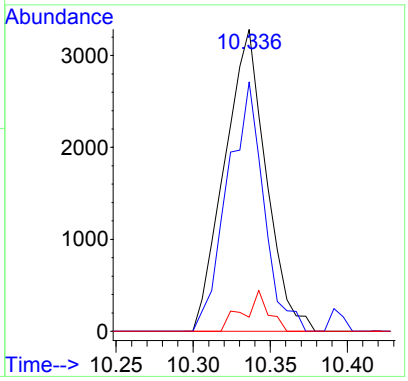


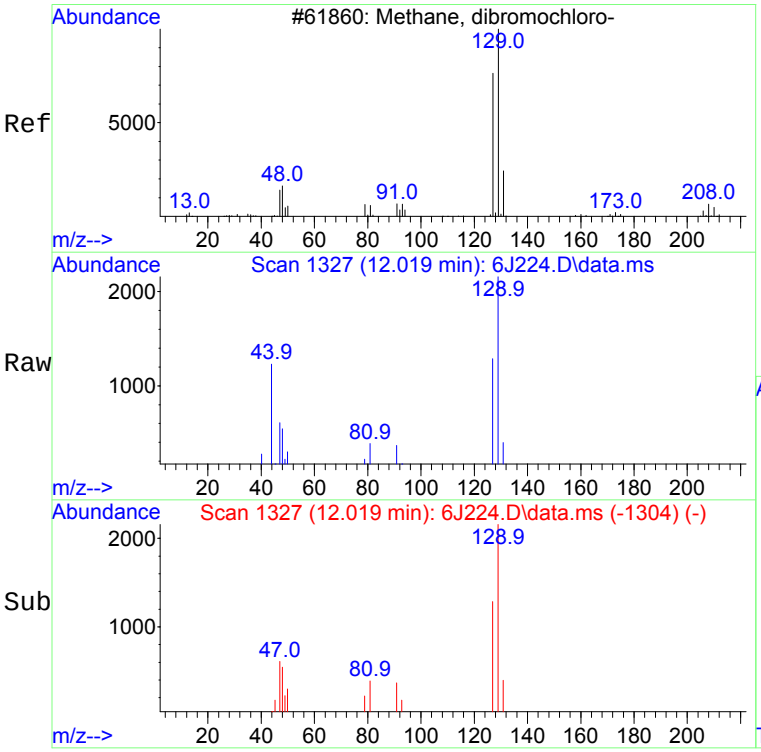


#40
Bromodichloromethane
Concen: 1.17 ug/L
RT: 10.336 min Scan# 1051
Delta R.T. 0.006 min
Lab File: 6J224.D
Acq: 17 Nov 2020 19:17

Tgt Ion: 83 Resp: 6142

Ion	Ratio	Lower	Upper
83	100		
85	72.4	33.6	93.6
127	8.1	0.0	27.8

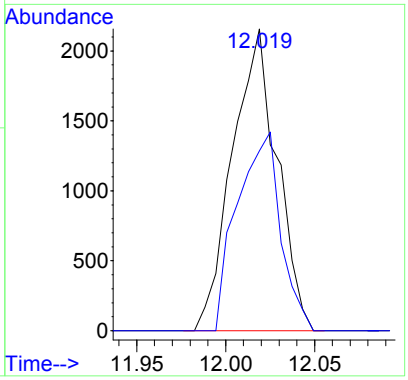


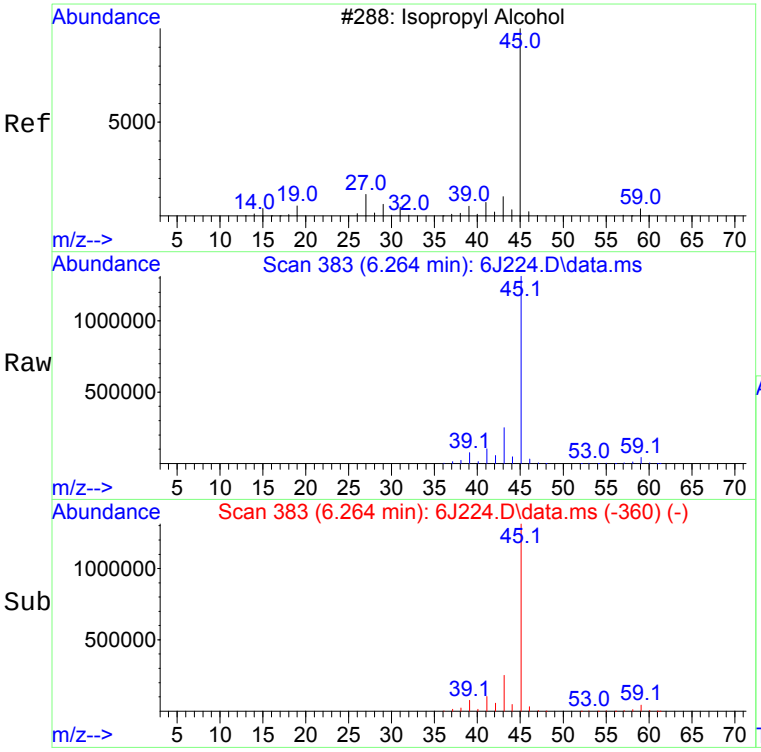


#52
Dibromochloromethane
Concen: 1.41 ug/L
RT: 12.019 min Scan# 1327
Delta R.T. -0.000 min
Lab File: 6J224.D
Acq: 17 Nov 2020 19:17

Tgt Ion:129 Resp: 3758

Ion	Ratio	Lower	Upper
129	100		
127	63.8	48.1	108.1

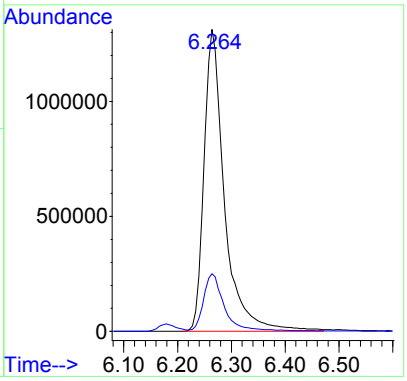


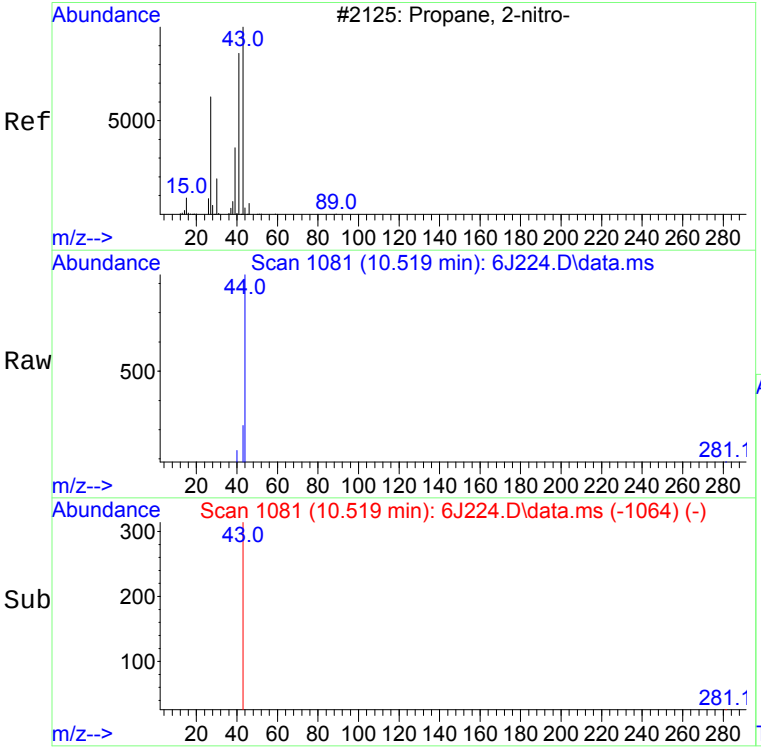


#87
Isopropyl Alcohol
Concen: 5577.86 ug/L
RT: 6.264 min Scan# 383
Delta R.T. -0.006 min
Lab File: 6J224.D
Acq: 17 Nov 2020 19:17

Tgt Ion: 45 Resp: 3468611

Ion	Ratio	Lower	Upper
45	100		
43	19.0	0.0	49.6

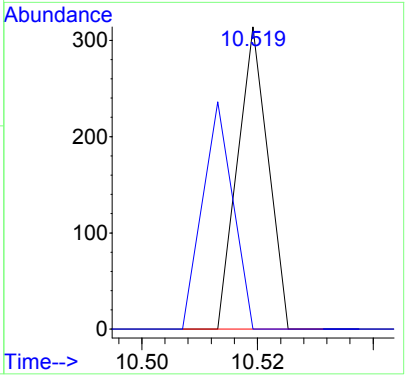


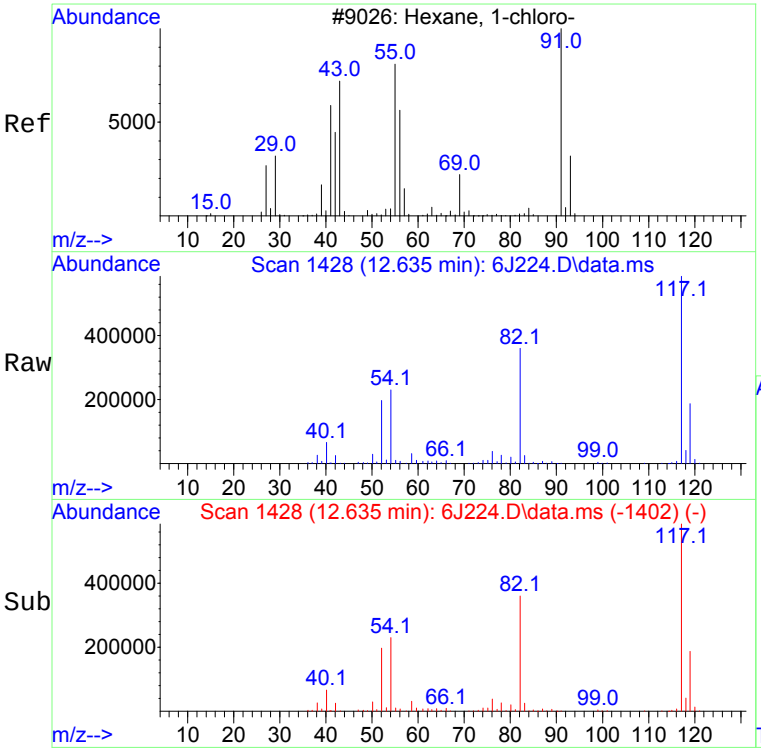


#102 BEFORE analyst DELETION
2-Nitropropane
Concen: 4.31 ug/L
RT: 10.519 min Scan# 1081
Delta R.T. -0.031 min
Lab File: 6J224.D
Acq: 17 Nov 2020 19:17

Tgt Ion: 43 Resp: 115

Ion	Ratio	Lower	Upper
43	100		
41	105.2	52.3	112.3

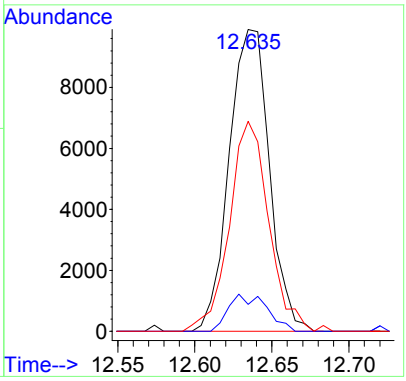




#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.83 ug/L
RT: 12.635 min Scan# 1428
Delta R.T. 0.086 min
Lab File: 6J224.D
Acq: 17 Nov 2020 19:17

Tgt Ion: 55 Resp: 18008

Ion	Ratio	Lower	Upper
55	100		
91	11.7	65.1	125.1#
56	68.3	30.4	90.4



Library Search Compound Report
GEL Laboratories, LLC

WMD
11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J224.D
Acq On : 17 Nov 2020 19:17
Operator : WD1
Sample : |527509012|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

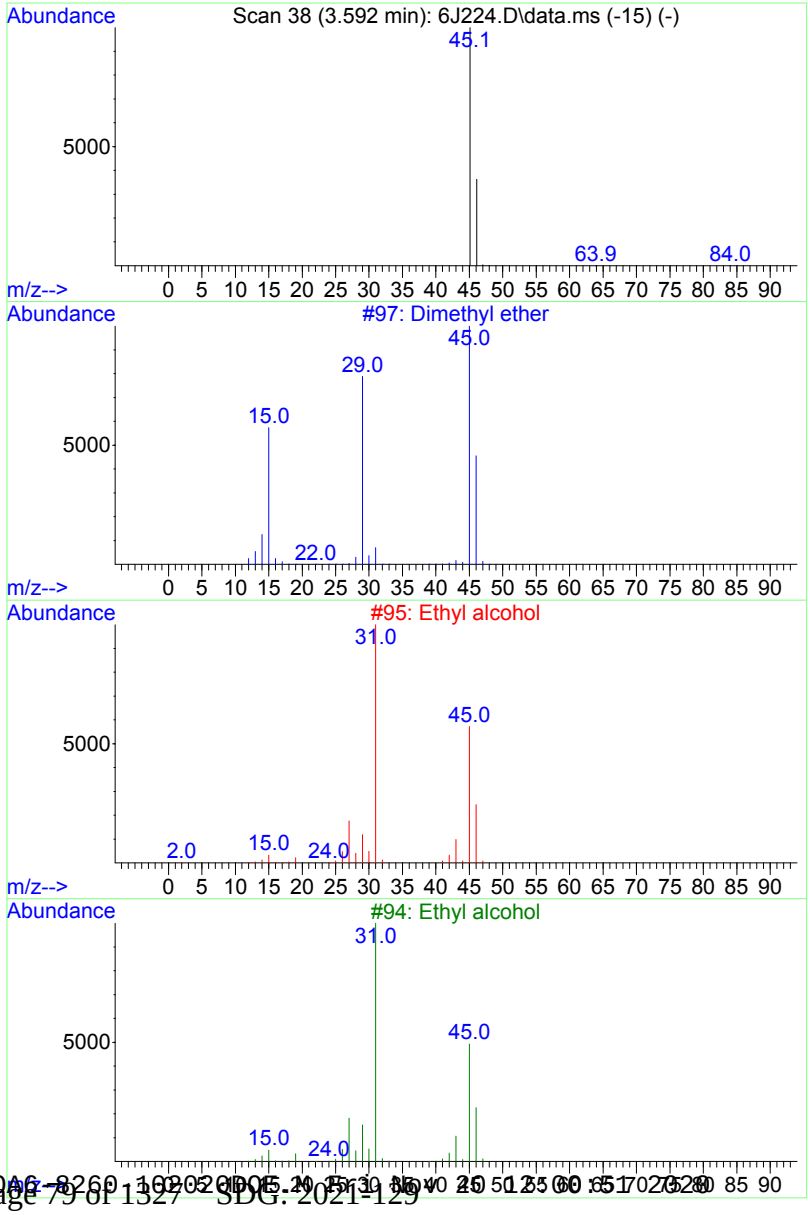
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

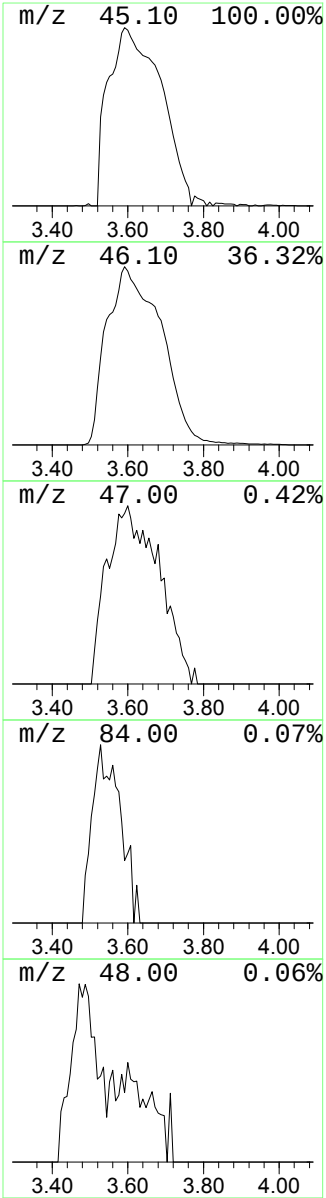
****

Peak Number 1 Unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.592	80.80 ug/L	5637240	Fluorobenzene	9.440

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl ether	46	C2H6O	000115-10-6	5
2	Ethyl alcohol	46	C2H6O	000064-17-5	4
3	Ethyl alcohol	46	C2H6O	000064-17-5	4
4	Ethyl alcohol	46	C2H6O	000064-17-5	4
5	Formic acid	46	CH2O2	000064-18-6	3





Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J224.D
Acq On : 17 Nov 2020 19:17
Operator : WD1
Sample : |527509012|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc
Unknown	000115-10-6	3.592	80.8	5637240	1 9.440	3488390	50.0

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509014**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209989**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 19:43**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 19:43**				
Data File:	**111720V6\6J225.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	53.4	50.0	ug/L	107	(71%-134%)
Bromofluorobenzene	51.3	50.0	ug/L	103	(70%-131%)
Toluene-d8	51.4	50.0	ug/L	103	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J225.D
Acq On : 17 Nov 2020 19:43
Operator : WD1
InstName : VOA6
Sample : |527509014|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 25 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 18 09:23:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	1571452	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1117650	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	609075	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1571452	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1117981	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	609075	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	592290	53.43	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1568499	51.39	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	598096	51.29	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	107%
45) Toluene-d8	50.000	74 - 124	103%
63) Bromofluorobenzene	50.000	70 - 131	103%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane		0.000	4.338	0.000	0	N.D.		
4) Vinyl chloride		0.000	4.522	0.000	0	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.191	6.179	0.656	4161	N.D.		
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0	N.D.		
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.532	6.526	0.692	372	N.D.		
13) Methyl acetate	43	6.563	6.563	0.695	399	N.D.		
14) Carbon disulfide	76	6.514	6.538	0.690	257	N.D.		
15) Methylene chloride	84	6.739	6.739	0.714	4119	Below Cal	#	70
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.349	7.355	0.778	1716	N.D.		
19) Vinyl acetate		0.000	7.532	0.000	0	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.178	8.160	0.866	2294	N.D.		
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform		0.000	8.514	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane		0.000	8.867	0.000	0	N.D.		
28) 1,1-Dichloropropene		0.000	8.940	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	264	N.D.		
32) Benzene	78	9.178	9.178	0.972	262	N.D.		
33) Cyclohexene	67	9.282	9.288	0.983	262	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene	95	9.830	9.830	1.041	200	N.D.		
36) 2-Pentanone	43	9.946	9.928	1.054	975	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J225.D
Acq On : 17 Nov 2020 19:43
Operator : WD1
InstName : VOA6
Sample : |527509014|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 18 09:23:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
39) Dibromomethane		0.000	10.214	0.000	0	N.D.	
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.	
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.	
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.	
44) 4-Methyl-2-pentanone		0.000	10.891	0.000	0	N.D.	
46) Toluene	91	11.171	11.172	0.884	235	N.D.	
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.	
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.	
49) 2-Hexanone	43	11.775	11.751	0.932	256	N.D.	
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.	
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.	
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.	
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.	
54) Chlorobenzene		0.000	12.671	0.000	0	N.D.	
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.	
56) Ethylbenzene		0.000	12.738	0.000	0	N.D.	
57) m,p-Xylenes		0.000	12.848	0.000	0	N.D.	
58) o-Xylene		0.000	13.287	0.000	0	N.D.	
59) Styrene		0.000	13.293	0.000	0	N.D.	
61) Bromoform		0.000	13.543	0.000	0	N.D.	
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.	
64) 1,1,2,2-Tetrachloroethane	83	13.836	13.933	0.918	409	N.D.	
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.	
66) Bromobenzene		0.000	14.049	0.000	0	N.D.	
67) n-Propylbenzene		0.000	14.079	0.000	0	N.D.	
68) 1,3,5-Trimethylbenzene		0.000	14.238	0.000	0	N.D.	
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.	
70) 4-Chlorotoluene	91	14.335	14.323	0.951	266	N.D.	
71) tert-Butylbenzene		0.000	14.604	0.000	0	N.D.	
72) 1,2,4-Trimethylbenzene	105	14.659	14.646	0.973	332	N.D.	
73) sec-Butylbenzene		0.000	14.829	0.000	0	N.D.	
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	535	N.D.	
75) 1,3-Dichlorobenzene		0.000	15.006	0.000	0	N.D.	
76) 1,4-Dichlorobenzene	146	15.079	15.091	1.001	444	N.D.	
77) n-Butylbenzene		0.000	15.384	0.000	0	N.D.	
78) 1,2-Dichlorobenzene		0.000	15.500	0.000	0	N.D.	
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.	
80) 1,2,4-Trichlorobenzene	180	17.310	17.292	1.149	230	N.D.	
81) Hexachlorobutadiene		0.000	17.457	0.000	0	N.D.	
82) Naphthalene	128	17.652	17.646	1.172	1269	N.D.	
83) 1,2,3-Trichlorobenzene	180	17.951	17.957	1.191	227	N.D.	
85) Acrolein		0.000	6.008	0.000	0	N.D.	
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.	
87) Isopropyl Alcohol	45	6.288	6.270	0.666	2763	N.D.	
88) Allyl chloride	41	6.532	6.593	0.692	372	N.D.	
89) tert-Butyl Alcohol	59	6.758	6.758	0.716	1123	N.D.	
90) Acrylonitrile		0.000	7.001	0.000	0	N.D.	
91) Isopropyl ether		0.000	7.544	0.000	0	N.D.	
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.	
93) Ethyl tert-butyl ether	59	7.849	7.952	0.831	1299	N.D.	
94) Ethyl acetate	43	8.178	8.172	0.866	2294	N.D.	
95) Propionitrile		0.000	8.233	0.000	0	N.D.	
96) Methacrylonitrile	41	8.532	8.410	0.904	982	N.D.	
97) Tetrahydrofuran	42	8.544	8.519	0.905	1527	N.D.	
98) Isobutyl alcohol	41	8.885	8.867	0.941	172	N.D.	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J225.D
Acq On : 17 Nov 2020 19:43
Operator : WD1
InstName : VOA6
Sample : |527509014|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 18 09:23:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

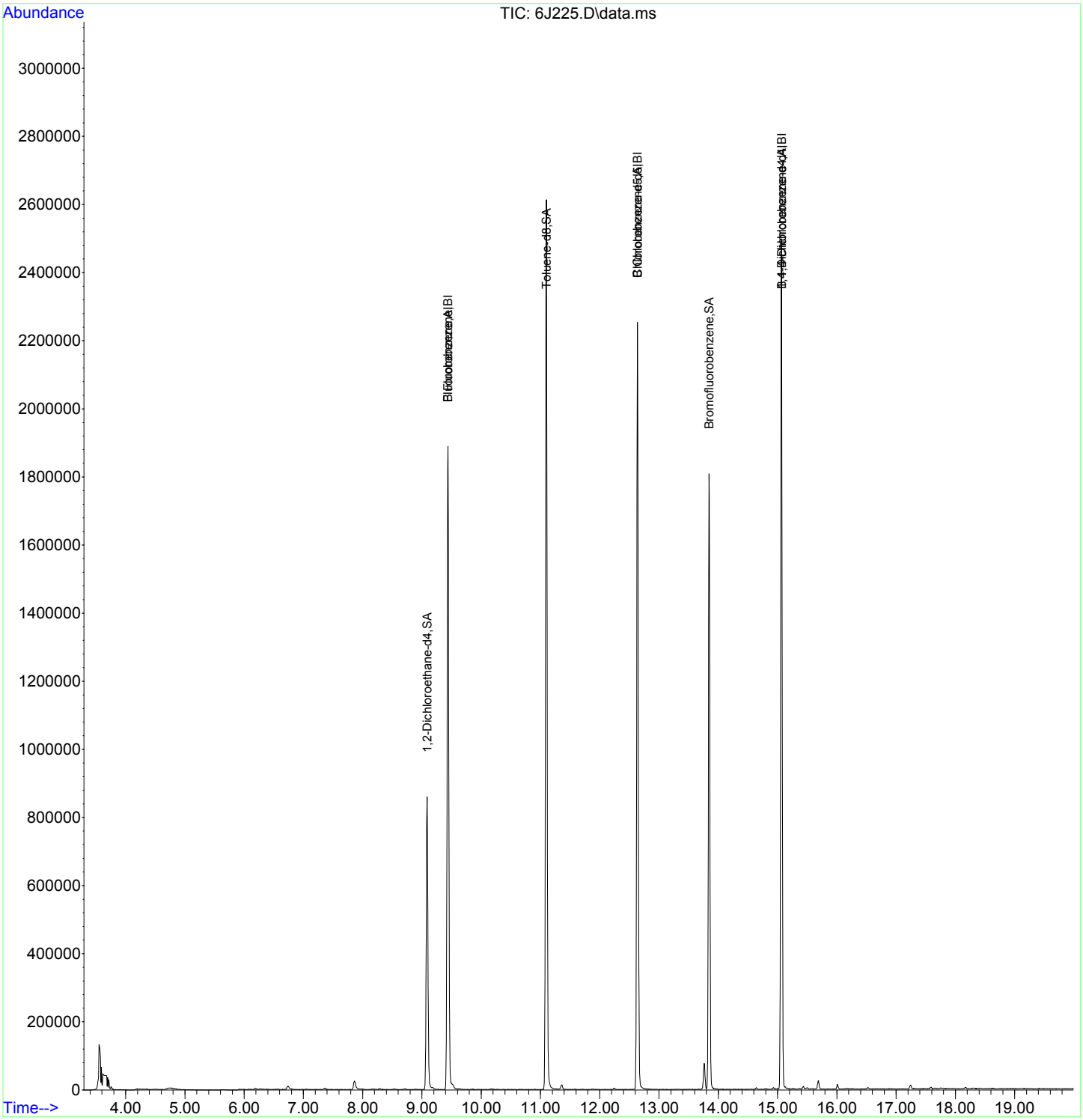
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.	
100)	Methyl methacrylate		0.000	10.068	0.000	0	N.D.	
101)	1,4-Dioxane	88	10.184	10.172	1.079	1165	N.D.	
102)	2-Nitropropane		0.000	10.550	0.000	0	N.D.	
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108)	Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111)	Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112)	bis(2-Chloroisopropyl)...	45	15.689	15.603	1.041	1833	N.D.	

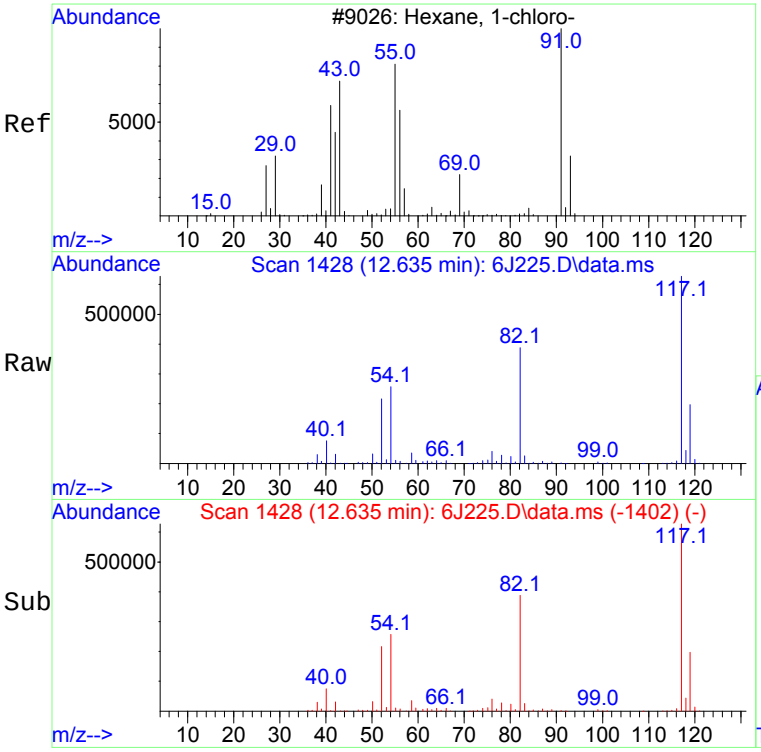
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J225.D
Acq On : 17 Nov 2020 19:43
Operator : WD1
InstName : VOA6
Sample : |527509014|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 18 09:23:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

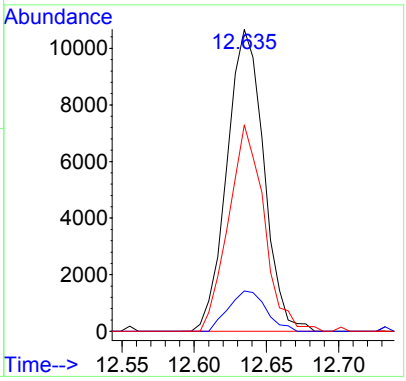




#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.80 ug/L
RT: 12.635 min Scan# 1428
Delta R.T. 0.086 min
Lab File: 6J225.D
Acq: 17 Nov 2020 19:43

Tgt Ion: 55 Resp: 18870

Ion	Ratio	Lower	Upper
55	100		
91	13.6	65.1	125.1#
56	66.0	30.4	90.4



Library Search Compound Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J225.D
Acq On : 17 Nov 2020 19:43
Operator : WD1
Sample : |527509014|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 25 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J225.D
Acq On : 17 Nov 2020 19:43
Operator : WD1
Sample : |527509014|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc

Standards

Low level SW846 8260B and Regular level 8260B and EPA 624

Calibration Standard Concentration Levels

	Level 1	Level 1a	Level 2	Level 3	Level 4	Level 5	Level 6 #	Level 7 !	Level 7a
Fluorobenzene (IS)	20	20/50	20/50	20/50	20/50	20/50	20/50	20/50	20/50
1,2-Dichloroethane-d4(surr)		20/50	20/50	20/50	20/50	20/50	20/50	20/50	20/50
Dichlorodifluoromethane		0.5	1	2	5	10	20	50	100
Chloromethane		0.5	1	2	5	10	20	50	100
Vinyl chloride		0.5	1	2	5	10	20	50	100
Bromomethane		0.5	1	2	5	10	20	50	100
Chloroethane		0.5	1	2	5	10	20	50	100
Trichlorofluoromethane		0.5	1	2	5	10	20	50	100
1,1-Dichloroethene		0.5	1	2	5	10	20	50	100
Acetone	1	2.5	5	10	25	50	100	250	500
Iodomethane	1	2.5	5	10	25	50	100	250	500
Carbon disulfide	1	2.5	5	10	25	50	100	250	500
Methylene chloride		0.5	1	2	5	10	20	50	100
trans-1,2-Dichloroethene		0.5	1	2	5	10	20	50	100
1,1-Dichloroethane		0.5	1	2	5	10	20	50	100
Ethyl ether		0.5	1	2	5	10	20	50	100
Vinyl acetate	1	2.5	5	10	25	50	100	250	500
cis-1,2-Dichloroethene		0.5	1	2	5	10	20	50	100
1,2-Dichloroethene (total)		1	2	4	10	20	40	100	200
Cyclohexene		0.5	1	2	5	10	20	50	100
2-Chloroethylvinyl ether			5	10	25	50	100	250	500
2,2-Dichloropropane		0.5	1	2	5	10	20	50	100
2-Butanone	1	2.5	5	10	25	50	100	250	500
Bromochloromethane		0.5	1	2	5	10	20	50	100
Chloroform		0.5	1	2	5	10	20	50	100
1,1,1-Trichloroethane		0.5	1	2	5	10	20	50	100
1,1-Dichloropropene		0.5	1	2	5	10	20	50	100
Carbon tetrachloride		0.5	1	2	5	10	20	50	100
Benzene		0.5	1	2	5	10	20	50	100
1,2-Dichloroethane		0.5	1	2	5	10	20	50	100
Trichloroethene		0.5	1	2	5	10	20	50	100
1,2-Dichloropropane		0.5	1	2	5	10	20	50	100
Dibromomethane		0.5	1	2	5	10	20	50	100
Bromodichloromethane		0.5	1	2	5	10	20	50	100
cis-1,3-Dichloropropene		0.5	1	2	5	10	20	50	100
tert-Butylmethylether		0.5	1	2	5	10	20	50	100
Ethyl Ether			1	2	5	10	20	50	100
Acetonitrile			25	50	125	250	500	1250	2500
Methyl acetate			5	10	25	50	100	250	500
Cyclohexane			1	2	5	10	20	50	100
Methylcyclohexane			1	2	5	10	20	50	100
n-Butyl alcohol		50	100	200	500	1000	2000	5000	10000
2-Nitropropane			5	10	25	50	100	250	500
Ethyl acetate			5	10	25	50	100	250	500
Acrolein			5	10	25	50	100	250	500
Trichlorotrifluoroethane		2	5	10	25	50	100	250	500
Allyl chloride			5	10	25	50	100	250	500
Acrylonitrile			5	10	25	50	100	250	500
1,4-Dioxane			50	100	250	500	1000	2500	5000
Isobutyl alcohol			50	100	250	500	1000	2500	5000
Methacrylonitrile			5	10	25	50	100	250	500
Propionitrile			5	10	25	50	100	250	500
Methyl methacrylate			5	10	25	50	100	250	500
Chlorotrifluoroethylene			5	10	25	50	100	150	200
2-Chloro-1,1,1-trifluoroethane			5	10	25	50	100	150	200
Tetrahydrofuran			5	10	25	50	100	250	500
tert-Butyl alcohol			50	100	250	500	1000	2500	5000
Isopropyl ether			1	2	5	10	20	50	100
Ethyl tert-butyl ether			1	2	5	10	20	50	100
Isopropyl alcohol			50	100	250	500	1000	2500	5000
Methyl tert-amyl ether			1	2	5	10	20	50	100
1-Chlorohexane			1	2	5	10	20	50	100
2-Chloro-1,3-butadiene(chloroprene)			1	2	5	10	20	50	100
Chlorobenzene-d5 (IS)	20	20	20/50	20/50	20/50	20/50	20/50	20/50	20/50
Toluene-d8 (surr)		20	20/50	20/50	20/50	20/50	20/50	20/50	20/50
4-Methyl-2-pentanone	1	2.5	5	10	25	50	100	250	500
Toluene		0.5	1	2	5	10	20	50	100
trans-1,3-Dichloropropene		0.5	1	2	5	10	20	50	100
1,1,2-Trichloroethane		0.5	1	2	5	10	20	50	100
Tetrachloroethene		0.5	1	2	5	10	20	50	100
1,3-Dichloropropane		0.5	1	2	5	10	20	50	100
2-Hexanone	1	2.5	5	10	25	50	20	250	500
Dibromochloromethane		0.5	1	2	5	10	20	50	100
1,2-Dibromoethane		0.5	1	2	5	10	20	50	100
Chlorobenzene		0.5	1	2	5	10	20	50	100
1,1,1,2-Tetrachloroethane		0.5	1	2	5	10	20	50	100
Ethylbenzene		0.5	1	2	5	10	20	50	100
m,p-Xylene		1	2	4	10	20	20	100	200
o-Xylene		0.5	1	2	5	10	20	50	100
Xylenes (total)		1.5	3	6	15	30	60	150	300
Stryene		0.5	1	2	5	10	20	50	100
Ethyl methacrylate			5	10	25	50	100	250	500
1,4-Dichlorobenzene-d4 (IS)	20	20	20/50	20/50	20/50	20/50	20/50	20/50	20/50
Bromofluorobenzene (surr)		20	20/50	20/50	20/50	20/50	20/50	20/50	20/50
Bromoform		0.5	1	2	5	10	20	50	100
Isopropylbenzene		0.5	1	2	5	10	20	50	100
1,1,2,2-Tetrachloroethane		0.5	1	2	5	10	20	50	100
Bromobenzene		0.5	1	2	5	10	20	50	100
1,2,3-Trichloropropane		0.5	1	2	5	10	20	50	100
n-Propylbenzene		0.5	1	2	5	10	20	50	100
2-Chlorotoluene		0.5	1	2	5	10	20	50	100
1,3,5-Trimethylbenzene		0.5	1	2	5	10	20	50	100
4-Chlorotoluene		0.5	1	2	5	10	20	50	100
1,2,4-Trimethylbenzene		0.5	1	2	5	10	20	50	100
sec-Butylbenzene		0.5	1	2	5	10	20	50	100
1,3-Dichlorobenzene		0.5	1	2	5	10	20	50	100
tert-Butylbenzene		0.5	1	2	5	10	20	50	100
Isopropyltoluene		0.5	1	2	5	10	20	50	100
1,4-Dichlorobenzene		0.5	1	2	5	10	20	50	100
n-Butylbenzene		0.5	1	2	5	10	20	50	100
1,2-Dichlorobenzene		0.5	1	2	5	10	20	50	100
1,2-Dibromo-3-chloropropa		0.5	1	2	5	10	20	50	100
1,2,4-Trichlorobenzene		0.5	1	2	5	10	20	50	100
Hexachlorobutadiene		0.5	1	2	5	10	20	50	100
Naphthalene		0.5	1	2	5	10	20	50	100
1,2,3-Trichlorobenzene		0.5	1	2	5	10	20	50	100
cis-1,4-Dichloro-2-butene			5	10	25	50	100	250	500
trans-1,4-Dichloro-2-butene			5	10	25	50	100	250	500
Pentachloroethane			5	10	25	50	100	250	500
Benzyl chloride			5	10	25	50	100	250	500
Cyclohexanone			25	50	125	250	500	1250	2500
bis(2-Chloro-isopropyl)ether			5	10	25	50	100	250	500

Method	PQL	Concentration range		
SW 846 8260B low level	Level 1 &1a	Levels 1-> 7a	IS/SS @ 20 ppb	
EPA 524.2	Level 1a	Levels 1a-> 7a	IS/SS @ 20 ppb	
SW846 8260B/624	Level 2	Levels 1a-> 7a	IS/SS @ 50 ppb	n-butyl alchol only in 1a

#: Indicates calibration verification concentration level used for low level analysis

!: Indicates calibration verification concentration level used for regular level analysis

MEL

Calibration History Report VOA6
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M 10/21/2020
Last Update : Wed Oct 21 15:27:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

KP 10/21/2020

Cal Lvl:8 Amt:0.00 Last Updated with: C:\msdchem\1\data\102020V6\6F202.D

Injection Date	Mix	Calibration File
20 Oct 2020 13:37	A	C:\msdchem\1\data\102020V6\6F202.D

Cal Lvl:1 Amt:1.00 Last Updated with: C:\msdchem\1\data\102020V6\6F213.D

Injection Date	Mix	Calibration File
20 Oct 2020 14:03	A	C:\msdchem\1\data\102020V6\6F203.D
20 Oct 2020 18:19	B	C:\msdchem\1\data\102020V6\6F213.D

Cal Lvl:2 Amt:2.00 Last Updated with: C:\msdchem\1\data\102020V6\6F214.D

Injection Date	Mix	Calibration File
20 Oct 2020 14:28	A	C:\msdchem\1\data\102020V6\6F204.D
20 Oct 2020 18:44	B	C:\msdchem\1\data\102020V6\6F214.D

Cal Lvl:3 Amt:5.00 Last Updated with: C:\msdchem\1\data\102020V6\6F215.D

Injection Date	Mix	Calibration File
20 Oct 2020 14:54	A	C:\msdchem\1\data\102020V6\6F205.D
20 Oct 2020 19:10	B	C:\msdchem\1\data\102020V6\6F215.D

Cal Lvl:4 Amt:10.00 Last Updated with: C:\msdchem\1\data\102020V6\6F216.D

Injection Date	Mix	Calibration File
20 Oct 2020 15:20	A	C:\msdchem\1\data\102020V6\6F206.D
20 Oct 2020 19:36	B	C:\msdchem\1\data\102020V6\6F216.D

Cal Lvl:5 Amt:20.00 Last Updated with: C:\msdchem\1\data\102020V6\6F217.D

Injection Date	Mix	Calibration File
20 Oct 2020 15:46	A	C:\msdchem\1\data\102020V6\6F207.D
20 Oct 2020 20:02	B	C:\msdchem\1\data\102020V6\6F217.D

Cal Lvl:6 Amt:50.00 Last Updated with: C:\msdchem\1\data\102020V6\6F218.D

Injection Date	Mix	Calibration File
20 Oct 2020 16:11	A	C:\msdchem\1\data\102020V6\6F208.D
20 Oct 2020 20:27	B	C:\msdchem\1\data\102020V6\6F218.D

Cal Lvl:7 Amt:100.00 Last Updated with: C:\msdchem\1\data\102020V6\6F220.D

Injection Date	Mix	Calibration File
20 Oct 2020 17:02	A	C:\msdchem\1\data\102020V6\6F210.D
20 Oct 2020 21:19	B	C:\msdchem\1\data\102020V6\6F220.D

Cal Lvl:9 Amt:80.00 Last Updated with: C:\msdchem\1\data\102020V6\6F219.D

Injection Date	Mix	Calibration File
20 Oct 2020 16:37	A	C:\msdchem\1\data\102020V6\6F209.D

Calibration History Report VOA6
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Last Update : Wed Oct 21 15:27:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

20 Oct 2020 20:53	B	C:\msdchem\1\data\102020V6\6F219.D	

VOA6-8260-102020DOE.M Wed Oct 21 15:30:54 2020

SDG: 2021-129

Response Factor Report VOA6
GEL Laboratories, LLC

MEL 10/21/2020

Method File : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Last Update : Wed Oct 21 15:27:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

KP 10/21/2020

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	6	7	9							
2)MA Dichlorodifluoromethane		0.3753261	0.3097616	0.3620452	0.3188557	0.3602942				
	0.2815689	0.2740904	0.2848176				0.3208	AVRG		12.5642
3)MPA Chloromethane		0.7717084	0.6356728	0.7233163	0.6683777	0.6700985				
	0.6162436	0.5753428	0.5858111				0.6558	AVRG		10.2607
4)MCA Vinyl chloride		0.6209178	0.5603873	0.6128982	0.5654490	0.5715513				
	0.5292676	0.4959811	0.5099525				0.5583	AVRG		8.0664
5)MA Bromomethane		0.3194967	0.2781414	0.2961521	0.2733871	0.2657534				
	0.2524311	0.2329086	0.2426292				0.2701	AVRG		10.5302
6)MA Chloroethane		0.3557441	0.3357777	0.3575139	0.3347836	0.3394426				
	0.3258756	0.3099077	0.3086534				0.3335	AVRG		5.4896
7)MA Trichlorofluoromethane		0.5201877	0.4916846	0.5194239	0.4924191	0.4998531				
	0.4774831	0.4618042	0.4611241				0.4905	AVRG		4.6659
8)MA Ethyl ether		0.3147214	0.3181442	0.3186881	0.3273777	0.3238709				
	0.3299001	0.3285959	0.3277001				0.3236	AVRG		1.7655
9)MA Acetone		0.0913846	0.0840092	0.0810311	0.0798468	0.0767578				
	0.0805709	0.0781240	0.0790786				0.0814	AVRG		5.6405
10)MCA 1,1-Dichloroethylene		0.4741332	0.4955839	0.5094472	0.5266189	0.5389820				
	0.5439301	0.5354579	0.5266171				0.5188	AVRG		4.6418
11)MA Iodomethane		0.3745569	0.3748365	0.4045601	0.4172276	0.4160520				
	0.4274482	0.4142571	0.4092979				0.4048	AVRG		4.8664
12)MA Acetonitrile		0.0374781	0.0378508	0.0373585	0.0392516	0.0375208				
	0.0410847	0.0385992	0.0383697				0.0384	AVRG		3.2568
13)MA Methyl acetate		0.1818333	0.1870915	0.1872315	0.1935832	0.1885548				
	0.2014792	0.1932973	0.1984968				0.1914	AVRG		3.3958
14)MA Carbon disulfide		0.6575947	0.6696200	0.7790044	0.8501574	0.8734225				
	0.9191665	0.8349477	0.8557501				0.8050	AVRG		11.8749
15)MA Methylene chloride		16236	27255	48469	93455	193224		1/x		
0.0053 | 0.2762 | 0.00	475279	1028182	786662					LINR	#	0.9998
16)MA tert-Butyl methyl ether		0.6110146	0.6372515	0.7090886	0.7191065	0.7205047				
	0.7506051	0.7418873	0.7323015				0.7027	AVRG		7.2208

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
17)MA trans-1,2-Dichloroethyle		0.4568268	0.4873749	0.4842751	0.5026775	0.5107040				
	0.5117386	0.5052724	0.4991474				0.4948	AVRG		3.6942
18)MA Hexane				0.5559941	0.6088646	0.5593416				
	0.5695527	0.5464274	0.5401940				0.5634	AVRG		4.3497
19)MA Vinyl acetate		0.5178609	0.5840701	0.6049689	0.6554671	0.6643234				
	0.6846583	0.5693670	0.6217076				0.6128	AVRG		9.0448
20)MPA 1,1-Dichloroethane		0.5306677	0.5843037	0.5634283	0.5871232	0.5958442				
	0.6135048	0.6018073	0.5965252				0.5842	AVRG		4.4650
21)MA 2-Butanone		0.1198698	0.1235353	0.1197434	0.1230955	0.1207595				
	0.1272097	0.1244806	0.1255579				0.1230	AVRG		2.2189
22)MA cis-1,2-Dichloroethylene		0.5157649	0.5590928	0.5429743	0.5576977	0.5723160				
	0.5860752	0.5753208	0.5648328				0.5593	AVRG		3.9047
23)MA 2,2-Dichloropropane		0.2696284	0.2951276	0.2743968	0.2915023	0.3041831				
	0.3053845	0.3044532	0.2951868				0.2925	AVRG		4.6796
24)MA Bromochloromethane		0.1228439	0.1116417	0.1197408	0.1230200	0.1232027				
	0.1276331	0.1253925	0.1220557				0.1219	AVRG		3.9061
25)MCA Chloroform		0.4237522	0.4597487	0.4473913	0.4564382	0.4680608				
	0.4715492	0.4660790	0.4603214				0.4567	AVRG		3.3438
26)MA 1,1,1-Trichloroethane		0.3251053	0.3511695	0.3598096	0.3775437	0.3965820				
	0.3996565	0.3947895	0.3895687				0.3743	AVRG		7.1178
27)MA Cyclohexane		0.6999506	0.7178255	0.7153616	0.7308614	0.7310707				
	0.7348615	0.7142878	0.7146070				0.7199	AVRG		1.6193
28)MA 1,1-Dichloropropene		0.3217722	0.3485174	0.3364594	0.3577593	0.3653640				
	0.3644108	0.3622674	0.3573704				0.3517	AVRG		4.3871
29)MA Carbon tetrachloride		0.2249841	0.2722688	0.2736093	0.2945753	0.3143408				
	0.3199056	0.3221273	0.3194968				0.2927	AVRG		11.6685
30)SA 1,2-Dichloroethane-d4		0.3515361	0.3585487	0.3542860	0.3578041	0.3492249				
	0.3576559	0.3446307	0.3478246				0.3527	AVRG		1.4758
31)MA 1,2-Dichloroethane		0.4245534	0.4469774	0.4205242	0.4432188	0.4441563				
	0.4557846	0.4479697	0.4451260				0.4410	AVRG		2.7431

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Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
32)MA Benzene		0.9760530	1.0201044	1.0108196	1.0551852	1.0467505				
	1.0810487	1.0734499	1.0558707				1.0399	AVRG		3.3840
33)MA Cyclohexene		0.5132010	0.5275041	0.5223202	0.5589480	0.5763742				
	0.5759019	0.5691889	0.5686428				0.5515	AVRG		4.7335
34)MA n-Butyl alcohol	0.0058926	0.0059624	0.0069445	0.0077261	0.0087253	0.0096481				
	0.0107363	0.0115160	0.0111938				0.0087	AVRG	# #	25.2340
35)MA Trichloroethylene		0.2374833	0.2594660	0.2459948	0.2549841	0.2570947				
	0.2627651	0.2650217	0.2590816				0.2552	AVRG		3.5945
36)MA 2-Pentanone			0.1847488	0.1783025	0.1937929	0.1960838				
	0.2048359	0.2011593	0.2042963				0.1947	AVRG		5.1655
37)MCA 1,2-Dichloropropane		0.2861978	0.3254218	0.3176537	0.3324493	0.3481181				
	0.3596826	0.3620916	0.3583038				0.3362	AVRG		7.8097
38)MA Methylcyclohexane		0.4809597	0.4691416	0.4802110	0.4943602	0.4953760				
	0.5039598	0.5004691	0.5012282				0.4907	AVRG		2.5395
39)MA Dibromomethane		0.1259527	0.1356529	0.1389735	0.1388360	0.1408705				
	0.1457363	0.1459903	0.1447311				0.1396	AVRG		4.7614
40)MA Bromodichloromethane		7183	16264	39738	92042	205644		1/x		
-0.0039 | 0.3455 | 0.00	567382	1302734	975022					LINR	#	0.9984
41)MA 2-Chloroethylvinyl ether		0.1488228	0.1673458	0.2240176	0.1925343	0.1999927				
	0.2083112	0.1928629	0.1964210				0.1913	AVRG		12.2500
42)MA cis-1,3-Dichloropropylen		8671	20384	51231	116372	262784		1/x		
-0.0046 | 0.4297 | 0.00	711584	1610905	1206830					LINR	#	0.9990
44)MA 4-Methyl-2-pentanone		0.1131896	0.1361503	0.1418999	0.1533507	0.1550617				
	0.1639814	0.1659530	0.1674682				0.1496	AVRG		12.3832
45)SA Toluene-d8		1.3648973	1.3603761	1.3426741	1.3698614	1.3862752				
	1.3782954	1.3636939	1.3572460				1.3654	AVRG		0.9721
46)MCA Toluene		1.3297114	1.4166690	1.4101275	1.4021780	1.4199639				
	1.4366010	1.4219759	1.4159836				1.4067	AVRG		2.3190
47)MA trans-1,3-Dichloropropyl		7412	16499	43039	103586	232469		1/x		
-0.0060 | 0.5035 | 0.00	634899	1444082	1084865					LINR	#	0.9988

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Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	6	7	9							
48)MA 1,1,2-Trichloroethane		0.1998642	0.2327537	0.2169515	0.2296631	0.2289868				
	0.2349798	0.2365308	0.2333738				0.2266	AVRG		5.4693
49)MA 2-Hexanone		0.1702201	0.1906753	0.2106872	0.2214191	0.2382078				
	0.2480560	0.2360545	0.2449388				0.2200	AVRG		12.6522
50)MA 1,3-Dichloropropane		0.4478422	0.4671318	0.4777321	0.5044338	0.5046115				
	0.5216220	0.5190029	0.5221898				0.4956	AVRG		5.6570
51)MA Tetrachloroethylene		0.2667616	0.2887428	0.2607717	0.2744322	0.2763378				
	0.2750509	0.2694497	0.2698919				0.2727	AVRG		3.0214
52)MA Dibromochloromethane		3989	8416	21687	52642	121373		1/x		
-0.0045 | 0.2864 | 0.00	355544	830612	626374					LINR	#	0.9961
53)MA 1,2-Dibromoethane		0.1982953	0.2284923	0.2377294	0.2472120	0.2591233				
	0.2654842	0.2667126	0.2640150				0.2459	AVRG		9.6701
54)MPA Chlorobenzene		0.8955537	0.9458243	0.9024359	0.9136347	0.9407195				
	0.9358425	0.9340388	0.9212541				0.9237	AVRG		1.9985
55)MA 1,1,1,2-Tetrachloroethan		0.2233110	0.2599466	0.2673527	0.2955053	0.3165077				
	0.3355428	0.3430639	0.3388801				0.2975	AVRG		14.7192
56)MCA Ethylbenzene		1.4666441	1.5814087	1.5571471	1.6008766	1.6703457				
	1.6866830	1.6449721	1.6567509				1.6081	AVRG		4.5300
57)MA m,p-Xylenes		0.5631368	0.6115560	0.6104178	0.6145058	0.6445892				
	0.6526340	0.6427005	0.6478457				0.6234	AVRG		4.8096
58)MA o-Xylene		1.2028460	1.3080450	1.3031598	1.3528819	1.4221092				
	1.4712483	1.4249233	1.4453038				1.3663	AVRG		6.6670
59)MA Styrene		16378	39330	101695	225070	525114				
-0.0193 | 1.1273 | 0.00	1432810	3136726	2439431					LINR	#	0.9998
61)MPA Bromoform			0.1599424	0.1695674	0.1995188	0.2328930				
	0.2820350	0.3160814	0.3104749				0.2386	AVRG	#	27.3542
62)MA Isopropylbenzene		2.5017850	2.8343420	2.8214068	3.0022741	3.0448635				
	3.0400844	2.9923156	3.0475801				2.9106	AVRG		6.4869
63)SA Bromofluorobenzene		0.9454078	0.9488628	0.9445153	0.9669432	0.9676955				
	0.9565262	0.9569795	0.9712299				0.9573	AVRG		1.0969

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
64)MPA 1,1,2,2-Tetrachloroethan		0.5178942	0.5714797	0.5670573	0.6282588	0.6294602				
	0.6449049	0.6620616	0.6667951				0.6110	AVRG		8.6760
65)MA 1,2,3-Trichloropropane		0.1921258	0.1745487	0.1800600	0.1879933	0.1889825				
	0.1878764	0.1929809	0.1953906				0.1875	AVRG		3.7136
66)MA Bromobenzene		0.6088682	0.6599585	0.6506988	0.6805309	0.6935744				
	0.6849645	0.6935634	0.6930486				0.6707	AVRG		4.4319
67)MA n-Propylbenzene		3.1551224	3.4285723	3.4831969	3.6575265	3.7162432				
	3.6903255	3.5358706	3.6525110				3.5399	AVRG		5.2733
68)MA 1,3,5-Trimethylbenzene		2.2093686	2.4831034	2.5305128	2.6816097	2.7705730				
	2.8209374	2.7734971	2.8087400				2.6348	AVRG		8.1103
69)MA 2-Chlorotoluene		0.6448820	0.7173129	0.6795613	0.7227211	0.7257316				
	0.7289951	0.7311611	0.7324356				0.7104	AVRG		4.4328
70)MA 4-Chlorotoluene		2.0538829	2.1403532	2.1286116	2.2299740	2.2829068				
	2.3009947	2.2914743	2.2940577				2.2153	AVRG		4.2934
71)MA tert-Butylbenzene		0.5115526	0.5227667	0.5232121	0.5416896	0.5698250				
	0.5756404	0.5994534	0.5936296				0.5547	AVRG		6.1804
72)MA 1,2,4-Trimethylbenzene		2.2726276	2.5269986	2.6456794	2.7766076	2.8359025				
	2.9035202	2.8577385	2.8857249				2.7131	AVRG		8.1146
73)MA sec-Butylbenzene		2.9041219	3.2832744	3.3230035	3.5091389	3.5840469				
	3.6158091	3.5207312	3.6075041				3.4185	AVRG		7.1031
74)MA 4-Isopropyltoluene		2.4321061	2.6999414	2.8191539	2.9784858	3.0532674				
	3.0891693	3.0215594	3.0692065				2.8954	AVRG		7.9850
75)MA 1,3-Dichlorobenzene		1.3205323	1.4014750	1.3795722	1.4254026	1.4512023				
	1.4287230	1.4409147	1.4283390				1.4095	AVRG		3.0074
76)MA 1,4-Dichlorobenzene		1.4143247	1.4605118	1.4198411	1.4336528	1.4685105				
	1.4522368	1.4452224	1.4349476				1.4412	AVRG		1.3195
77)MA n-Butylbenzene		2.5336494	2.8098325	2.8812745	3.0048120	3.1805414				
	3.1833873	3.0758731	3.1055651				2.9719	AVRG		7.4654
78)MA 1,2-Dichlorobenzene		1.2449033	1.3997544	1.3625099	1.4109899	1.4015152				
	1.4138863	1.4139810	1.3998798				1.3809	AVRG		4.1565

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Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
79)MA 1,2-Dibromo-3-chloroprop				0.0826647	0.0815942	0.0941195				
	0.1119618	0.1240472	0.1222641				0.1028	AVRG	#	18.6891
80)MA 1,2,4-Trichlorobenzene		1.2276793	1.1252560	1.1187854	1.1661997	1.1557429				
	1.1563088	1.1368053	1.1133299				1.1500	AVRG		3.1991
81)MA Hexachlorobutadiene		0.7251301	0.7230866	0.7045955	0.7315068	0.7658602				
	0.7532411	0.7369671	0.7373839				0.7347	AVRG		2.5567
82)MA Naphthalene		2.7079249	2.3322994	2.2581621	2.4634328	2.3749280				
	2.4496447	2.5177919	2.4985390				2.4503	AVRG		5.5604
83)MA 1,2,3-Trichlorobenzene		1.3022122	1.0982612	1.0579882	1.0808413	1.0595215				
	1.0481342	1.0558908	1.0423327				1.0931	AVRG		7.9033
85)B Acrolein		0.0428978	0.0454292	0.0475713	0.0495992	0.0504648				
	0.0522603	0.0548969	0.0551481				0.0498	AVRG		8.7500
86)B Trichlorotrifluoroethane		0.1243235	0.1268065	0.1302764	0.1390618	0.1365867				
	0.1306091	0.1244694	0.1292027				0.1302	AVRG		4.0999
87)B Isopropyl Alcohol		0.0201442	0.0187526	0.0198173	0.0213649	0.0227388				
	0.0217847	0.0229837	0.0220375				0.0212	AVRG		7.0489
88)B Allyl chloride		0.4133373	0.4284096	0.4784501	0.4922319	0.5026704				
	0.4947758	0.4569488	0.5057628				0.4716	AVRG		7.4400
89)B tert-Butyl Alcohol		0.0339039	0.0352162	0.0358119	0.0381182	0.0401701				
	0.0392023	0.0397991	0.0390816				0.0377	AVRG		6.2656
90)B Acrylonitrile		0.1135012	0.1179194	0.1226471	0.1262689	0.1277515				
	0.1240431	0.1253522	0.1246920				0.1228	AVRG		3.8758
91)B Isopropyl ether		1.0839932	1.1067524	1.1983587	1.2214362	1.2136388				
	1.2034967	1.1860052	1.2167822				1.1788	AVRG		4.5000
92)B 2-Chloro-1,3-butadiene		0.4216853	0.4339509	0.4908028	0.5064958	0.5211347				
	0.5167487	0.5229780	0.5281920				0.4927	AVRG		8.4903
93)B Ethyl tert-butyl ether		1.0793112	1.0708527	1.1210700	1.1634174	1.1685307				
	1.1693519	1.1590966	1.1794554				1.1389	AVRG		3.7778
94)B Ethyl acetate		0.2704563	0.2601792	0.2821462	0.2733478	0.2766661				
	0.2562622	0.2357902	0.2366976				0.2614	AVRG		6.7533

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Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
95)B Propionitrile		0.0390841	0.0443786	0.0466401	0.0464597	0.0473124				
	0.0463401	0.0472767	0.0471125				0.0456	AVRG		6.1135
96)B Methacrylonitrile		0.1497819	0.1595316	0.1766221	0.1766251	0.1836752				
	0.1820224	0.1841956	0.1850125				0.1747	AVRG		7.4611
97)B Tetrahydrofuran		0.0963512	0.0897792	0.0936009	0.0925102	0.0931609				
	0.0906986	0.0923387	0.0916581				0.0925	AVRG		2.1565
98)B Isobutyl alcohol		0.0091817	0.0090213	0.0100474	0.0105075	0.0110864				
	0.0108979	0.0115379	0.0110638				0.0104	AVRG	$	8.8666
99)B Methyl tert-amyl ether		0.6613998	0.6777690	0.7317230	0.7649022	0.7792197				
	0.7914671	0.7945927	0.7983280				0.7499	AVRG		7.2199
100)B Methyl methacrylate		0.1249194	0.1299754	0.1541617	0.1543472	0.1635789				
	0.1705195	0.1777277	0.1783533				0.1567	AVRG		12.9568
101)B 1,4-Dioxane		0.0030776	0.0027932	0.0023594	0.0024005	0.0024567				
	0.0023358	0.0025020	0.0023690				0.0025	AVRG	#	10.3694
102)B 2-Nitropropane		8406	16207	49027	100961	239440		1/x		
-0.0072 | 0.0839 | 0.00	690963	1657533	892497					LINR	#	0.9948
104)B Ethyl methacrylate		0.3084678	0.3497594	0.4157113	0.4248881	0.4487648				
	0.4633375	0.4346832	0.4678026				0.4142	AVRG		13.6429
106)B 1-Chlorohexane		0.8180198	0.7868599	0.8656560	0.8226215	0.8564001				
	0.8896813	0.9415651	0.9210173				0.8627	AVRG		6.1571
107)B cis-1,4-Dichloro-2-buten		13156	28999	88644	164737	389930		1/x		
-0.0283 | 0.3433 | 0.00	1096604	2673832	1418559					LINR	#	0.9939
108)B Cyclohexanone		0.0144827	0.0149420	0.0160526	0.0175386	0.0186970				
	0.0210133	0.0211323	0.0199011				0.0180	AVRG		14.6798
109)B trans-1,4-Dichloro-2-but		11380	26370	77112	141395	329272		1/x		
-0.0204 | 0.2820 | 0.00	910214	2182888	1161186					LINR	#	0.9955
110)B Pentachloroethane		21693	48118	144587	298259	636739		1/x		
-0.0252 | 0.4950 | 0.00	1746621	3543660	2090612					LINR	#	0.9989
111)B Benzyl chloride		56895	131104	418676	855522	1852205		1/x		
-0.0539 | 1.3369 | 0.00	4884413	8967434	5907632					LINR	#	0.9936

Response Factor Report VOA6
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Last Update : Wed Oct 21 15:27:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	86	17	29	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2										
112)B bis(2-Chloroisopropyl)et		0.3368526	0.3617882	0.3989922	0.4293960	0.4440197				
	0.4533408	0.4618152	0.4527783				0.4174	AVRG		11.1970

(*) = Out of Range ($) = Individual RF Out of Range
AVRG = Average, LINR = Linear Regression, 1/x = the inverse of concentration, 1/x^2 = the inverse square of concentration

MEL

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F202.D
Acq On : 20 Oct 2020 13:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-01|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

10/21/2020

KP

10/21/2020

Quant Time: Oct 21 15:28:19 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1642404	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.641	12.635	1.000	1223130	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	660375	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.641	12.641	1.000	0m	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	577321	49.83	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1686232	50.48	ug/L		0.00
63) Bromofluorobenzene	95	13.848	13.842	0.919	643278	50.88	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.953	3.969	0.419	3464	N.D.			
3) Chloromethane	50	4.322	4.338	0.458	16947	0.79	ug/L	#	41
4) Vinyl chloride	62	4.522	4.522	0.479	12036	0.66	ug/L	#	45
5) Bromomethane	94	5.020	5.020	0.532	5642	0.64	ug/L		98
6) Chloroethane	64	5.124	5.140	0.543	6573	0.60	ug/L		98
7) Trichlorofluoromethane	101	5.517	5.517	0.584	10506	0.65	ug/L		95
8) Ethyl ether	59	5.814	5.814	0.616	5634	0.53	ug/L		95
9) Acetone	43	6.185	6.179	0.655	10100	3.78	ug/L		93
10) 1,1-Dichloroethylene	61	6.166	6.173	0.653	8273	0.49	ug/L		92
11) Iodomethane	142	6.404	6.404	0.678	30178	2.27	ug/L		97
12) Acetonitrile	41	6.538	6.526	0.693	14969	11.86	ug/L	#	75
13) Methyl acetate	43	6.562	6.563	0.695	15494	2.46	ug/L		98
14) Carbon disulfide	76	6.526	6.538	0.691	54314	2.05	ug/L		98
15) Methylene chloride	84	6.739	6.739	0.714	13491	N.D.			
16) tert-Butyl methyl ether	73	7.026	7.032	0.744	10682	0.46	ug/L		86
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	8310	0.51	ug/L		99
18) Hexane	57	7.355	7.355	0.779	2641	N.D.			
19) Vinyl acetate	43	7.532	7.532	0.798	51671	2.57	ug/L		97
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	9273	0.48	ug/L		99
21) 2-Butanone	43	8.166	8.160	0.865	11843	2.93	ug/L		97
22) cis-1,2-Dichloroethylene	61	8.202	8.197	0.869	8864	0.48	ug/L		98
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	4394	0.46	ug/L		68
24) Bromochloromethane	128	8.471	8.471	0.897	1667	0.42	ug/L	#	67
25) Chloroform	83	8.513	8.514	0.902	7839	0.52	ug/L		99
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	6082	0.49	ug/L		97
27) Cyclohexane	56	8.861	8.867	0.939	12386	0.52	ug/L		98
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	5742	0.50	ug/L		83
29) Carbon tetrachloride	117	8.964	8.965	0.950	4337	0.45	ug/L		93
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	8270	0.57	ug/L		96
32) Benzene	78	9.184	9.178	0.973	17984	0.53	ug/L	#	71
33) Cyclohexene	67	9.288	9.288	0.984	9231	0.51	ug/L		98
34) n-Butyl alcohol	56	9.574	9.568	1.014	9678	33.85	ug/L		76
35) Trichloroethylene	95	9.830	9.830	1.041	4553	0.54	ug/L		94
36) 2-Pentanone	43	9.946	9.928	1.054	1167	N.D.			
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	5004	0.45	ug/L		98
38) Methylcyclohexane	83	10.068	10.068	1.067	8078	0.50	ug/L		97
39) Dibromomethane	93	10.214	10.214	1.082	2083	0.45	ug/L		95
40) Bromodichloromethane	83	10.336	10.330	1.095	4088	0.92	ug/L		98
41) 2-Chloroethylvinyl ether	63	10.574	10.568	1.120	13966	2.22	ug/L		96
42) cis-1,3-Dichloropropylene	75	10.793	10.787	1.143	4825	0.88	ug/L		84

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F202.D
Acq On : 20 Oct 2020 13:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-01|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 21 15:28:19 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	10.897	10.891	0.862	7127	1.95	ug/L	#	82
46)	Toluene	91	11.171	11.172	0.884	17632	0.51	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.342	11.342	0.897	4101	0.93	ug/L		88
48)	1,1,2-Trichloroethane	83	11.562	11.562	0.915	2722	0.49	ug/L		99
49)	2-Hexanone	43	11.757	11.751	0.930	11810	2.19	ug/L		91
50)	1,3-Dichloropropane	76	11.763	11.751	0.931	5884	0.49	ug/L		95
51)	Tetrachloroethylene	164	11.763	11.763	0.931	3655	0.55	ug/L		97
52)	Dibromochloromethane	129	12.019	12.019	0.951	2118	1.08	ug/L		89
53)	1,2-Dibromoethane	107	12.183	12.177	0.964	2587	0.43	ug/L		95
54)	Chlorobenzene	112	12.671	12.671	1.002	11451	0.51	ug/L	#	16
55)	1,1,1,2-Tetrachloroethane	131	12.732	12.726	1.007	2684	0.37	ug/L	#	64
56)	Ethylbenzene	91	12.738	12.738	1.008	18519	0.47	ug/L		96
57)	m,p-Xylenes	106	12.854	12.848	1.017	13954	0.91	ug/L		99
58)	o-Xylene	91	13.287	13.287	1.051	14329	0.43	ug/L		92
59)	Styrene	104	13.293	13.293	1.052	8813	1.18	ug/L		94
61)	Bromoform		0.000	13.543	0.000	0	N.D.			
62)	Isopropylbenzene	105	13.646	13.647	0.906	18046	0.47	ug/L		97
64)	1,1,2,2-Tetrachloroethane	83	13.939	13.933	0.925	3878	0.48	ug/L		94
65)	1,2,3-Trichloropropane	110	14.018	14.019	0.930	1047	0.42	ug/L	#	51
66)	Bromobenzene	156	14.049	14.049	0.932	4782	0.54	ug/L		98
67)	n-Propylbenzene	91	14.079	14.079	0.934	22086	0.47	ug/L		97
68)	1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	14777	0.42	ug/L		96
69)	2-Chlorotoluene	126	14.220	14.220	0.944	4663	0.50	ug/L		92
70)	4-Chlorotoluene	91	14.329	14.323	0.951	14345	0.49	ug/L		97
71)	tert-Butylbenzene	134	14.604	14.604	0.969	3008	0.41	ug/L	#	73
72)	1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	15295	0.43	ug/L		93
73)	sec-Butylbenzene	105	14.829	14.829	0.984	19568	0.43	ug/L		97
74)	4-Isopropyltoluene	119	14.957	14.957	0.993	15909	0.42	ug/L		98
75)	1,3-Dichlorobenzene	146	15.006	15.006	0.996	9213	0.49	ug/L		96
76)	1,4-Dichlorobenzene	146	15.091	15.091	1.002	10488	0.55	ug/L	#	32
77)	n-Butylbenzene	91	15.390	15.384	1.021	17335	0.44	ug/L		98
78)	1,2-Dichlorobenzene	146	15.506	15.500	1.029	9375	0.51	ug/L		99
79)	1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.			
80)	1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	10493	0.69	ug/L		99
81)	Hexachlorobutadiene	225	17.457	17.457	1.159	4998	0.52	ug/L		94
82)	Naphthalene	128	17.652	17.646	1.172	24000	0.74	ug/L		96
83)	1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	12097	0.84	ug/L		92
85)	Acrolein		0.000	6.008	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.270	6.270	0.664	0m	N.D.	d		
88)	Allyl chloride		6.538	6.593	0.693	0m	N.D.	d		
89)	tert-Butyl Alcohol		6.758	6.758	0.716	0m	N.D.	d		
90)	Acrylonitrile		0.000	7.001	0.000	0	N.D.			
91)	Isopropyl ether		7.520	7.544	0.797	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		7.855	7.952	0.832	0m	N.D.	d		
94)	Ethyl acetate		8.166	8.172	0.865	0m	N.D.	d		
95)	Propionitrile		0.000	8.233	0.000	0	N.D.			
96)	Methacrylonitrile		8.513	8.410	0.902	0m	N.D.	d		
97)	Tetrahydrofuran		8.519	8.519	0.902	0m	N.D.	d		
98)	Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100)	Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d		
101)	1,4-Dioxane		10.172	10.172	1.077	0m	N.D.	d		
102)	2-Nitropropane		10.574	10.550	1.120	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F202.D
Acq On : 20 Oct 2020 13:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-01|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 21 15:28:19 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

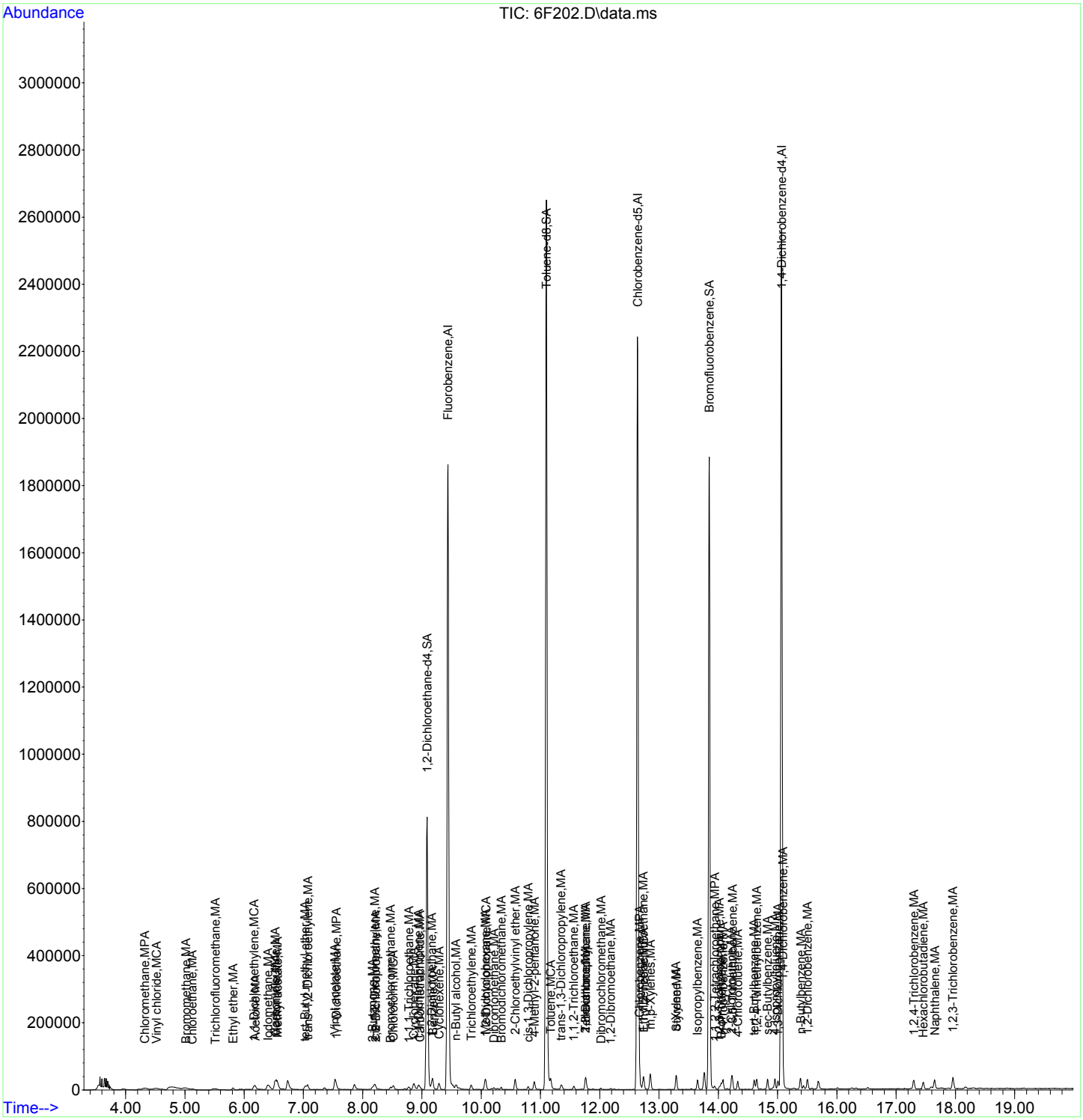
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.634	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.683	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F202.D
Acq On : 20 Oct 2020 13:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-01|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 21 15:28:19 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

10/21/2020

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F203.D
Acq On : 20 Oct 2020 14:03
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-02|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

KP

10/21/2020

Quant Time: Oct 21 15:28:23 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1560110	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1147279	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	638644	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	0m	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	548435	49.84	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1565918	49.98	ug/L		0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	603779	49.38	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	11711	1.17	ug/L		92
3) Chloromethane	50	4.330	4.338	0.459	24079	1.18	ug/L		85
4) Vinyl chloride	62	4.522	4.522	0.479	19374	1.11	ug/L		85
5) Bromomethane	94	5.036	5.020	0.533	9969	1.18	ug/L		97
6) Chloroethane	64	5.132	5.140	0.544	11100	1.07	ug/L		98
7) Trichlorofluoromethane	101	5.517	5.517	0.584	16231	1.06	ug/L		97
8) Ethyl ether	59	5.814	5.814	0.616	9820	0.97	ug/L		97
9) Acetone	43	6.179	6.179	0.654	14257	5.62	ug/L		98
10) 1,1-Dichloroethylene	61	6.166	6.173	0.653	14794	0.91	ug/L		97
11) Iodomethane	142	6.404	6.404	0.678	58435	4.63	ug/L		99
12) Acetonitrile	41	6.532	6.526	0.692	29235	24.37	ug/L		95
13) Methyl acetate	43	6.569	6.563	0.696	28368	4.75	ug/L		99
14) Carbon disulfide	76	6.538	6.538	0.693	102592	4.08	ug/L		100
15) Methylene chloride	84	6.739	6.739	0.714	16236	N.D.			
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	19065	0.87	ug/L		94
17) trans-1,2-Dichloroethy...	61	7.069	7.075	0.749	14254	0.92	ug/L		98
18) Hexane	57	7.355	7.355	0.779	3191	N.D.			
19) Vinyl acetate	43	7.532	7.532	0.798	80792	4.23	ug/L		98
20) 1,1-Dichloroethane	63	7.562	7.556	0.801	16558	0.91	ug/L		99
21) 2-Butanone	43	8.166	8.160	0.865	18701	4.87	ug/L		96
22) cis-1,2-Dichloroethylene	61	8.203	8.197	0.869	16093	0.92	ug/L		98
23) 2,2-Dichloropropane	77	8.215	8.221	0.870	8413	0.92	ug/L		68
24) Bromochloromethane	128	8.477	8.471	0.898	3833	1.01	ug/L		93
25) Chloroform	83	8.520	8.514	0.902	13222	0.93	ug/L		99
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	10144	0.87	ug/L		95
27) Cyclohexane	56	8.867	8.867	0.939	21840	0.97	ug/L		97
28) 1,1-Dichloropropene	75	8.946	8.940	0.948	10040	0.91	ug/L		89
29) Carbon tetrachloride	117	8.971	8.965	0.950	7020	0.77	ug/L		99
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	13247	0.96	ug/L		100
32) Benzene	78	9.184	9.178	0.973	30455	0.94	ug/L	#	72
33) Cyclohexene	67	9.288	9.288	0.984	16013	0.93	ug/L		99
34) n-Butyl alcohol	56	9.574	9.568	1.014	18604	68.49	ug/L		82
35) Trichloroethylene	95	9.830	9.830	1.041	7410	0.93	ug/L		94
36) 2-Pentanone	43	9.910	9.928	1.050	277	N.D.			
37) 1,2-Dichloropropane	63	10.074	10.080	1.067	8930	0.85	ug/L		100
38) Methylcyclohexane	83	10.062	10.068	1.066	15007	0.98	ug/L		95
39) Dibromomethane	93	10.214	10.214	1.082	3930	0.90	ug/L		97
40) Bromodichloromethane	83	10.330	10.330	1.094	7183	1.23	ug/L		95
41) 2-Chloroethylvinyl ether	63	10.574	10.568	1.120	23218	3.89	ug/L		97
42) cis-1,3-Dichloropropylene	75	10.794	10.787	1.143	8671	1.18	ug/L		93

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F203.D
Acq On : 20 Oct 2020 14:03
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-02|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 15:28:23 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	12986	3.78	ug/L		89
46) Toluene	91	11.172	11.172	0.884	30511	0.95	ug/L		98
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	7412	1.23	ug/L		95
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	4586	0.88	ug/L		94
49) 2-Hexanone	43	11.757	11.751	0.931	19529	3.87	ug/L		98
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	10276	0.90	ug/L		98
51) Tetrachloroethylene	164	11.775	11.763	0.932	6121	0.98	ug/L		99
52) Dibromochloromethane	129	12.013	12.019	0.951	3989	1.38	ug/L		89
53) 1,2-Dibromoethane	107	12.184	12.177	0.964	4550	0.81	ug/L		96
54) Chlorobenzene	112	12.671	12.671	1.003	20549	0.97	ug/L	#	55
55) 1,1,1,2-Tetrachloroethane	131	12.732	12.726	1.008	5124	0.75	ug/L	#	63
56) Ethylbenzene	91	12.738	12.738	1.008	33653	0.91	ug/L		98
57) m,p-Xylenes	106	12.848	12.848	1.017	25843	1.81	ug/L		99
58) o-Xylene	91	13.281	13.287	1.051	27600	0.88	ug/L		98
59) Styrene	104	13.293	13.293	1.052	16378	1.49	ug/L		100
61) Bromoform		0.000	13.543	0.000	0	N.D.			
62) Isopropylbenzene	105	13.647	13.647	0.906	31955	0.86	ug/L		99
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	6615	0.85	ug/L		87
65) 1,2,3-Trichloropropane	110	14.025	14.019	0.931	2454	1.02	ug/L	#	73
66) Bromobenzene	156	14.055	14.049	0.933	7777	0.91	ug/L		92
67) n-Propylbenzene	91	14.079	14.079	0.934	40300	0.89	ug/L		100
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	28220	0.84	ug/L		97
69) 2-Chlorotoluene	126	14.220	14.220	0.944	8237	0.91	ug/L		87
70) 4-Chlorotoluene	91	14.323	14.323	0.951	26234	0.93	ug/L		98
71) tert-Butylbenzene	134	14.604	14.604	0.969	6534	0.92	ug/L	#	90
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	29028	0.84	ug/L		99
73) sec-Butylbenzene	105	14.829	14.829	0.984	37094	0.85	ug/L		97
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	31065	0.84	ug/L		96
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	16867	0.94	ug/L		98
76) 1,4-Dichlorobenzene	146	15.098	15.091	1.002	18065	0.98	ug/L	#	63
77) n-Butylbenzene	91	15.390	15.384	1.021	32362	0.85	ug/L		100
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	15901	0.90	ug/L		97
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.			
80) 1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	15681	1.07	ug/L		95
81) Hexachlorobutadiene	225	17.457	17.457	1.159	9262	0.99	ug/L		97
82) Naphthalene	128	17.646	17.646	1.171	34588	1.11	ug/L		100
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	16633	1.19	ug/L		98
85) Acrolein		0.000	6.008	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87) Isopropyl Alcohol		6.264	6.270	0.664	0m	N.D.	d		
88) Allyl chloride		6.532	6.593	0.692	0m	N.D.	d		
89) tert-Butyl Alcohol		6.776	6.758	0.718	0m	N.D.	d		
90) Acrylonitrile		7.020	7.001	0.744	0m	N.D.	d		
91) Isopropyl ether		7.526	7.544	0.797	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.			
93) Ethyl tert-butyl ether		7.855	7.952	0.832	0m	N.D.	d		
94) Ethyl acetate		8.166	8.172	0.865	0m	N.D.	d		
95) Propionitrile		0.000	8.233	0.000	0	N.D.			
96) Methacrylonitrile		8.526	8.410	0.903	0m	N.D.	d		
97) Tetrahydrofuran		8.526	8.519	0.903	0m	N.D.	d		
98) Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d		
101) 1,4-Dioxane		10.178	10.172	1.078	0m	N.D.	d		
102) 2-Nitropropane		10.574	10.550	1.120	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F203.D
Acq On : 20 Oct 2020 14:03
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-02|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 15:28:23 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

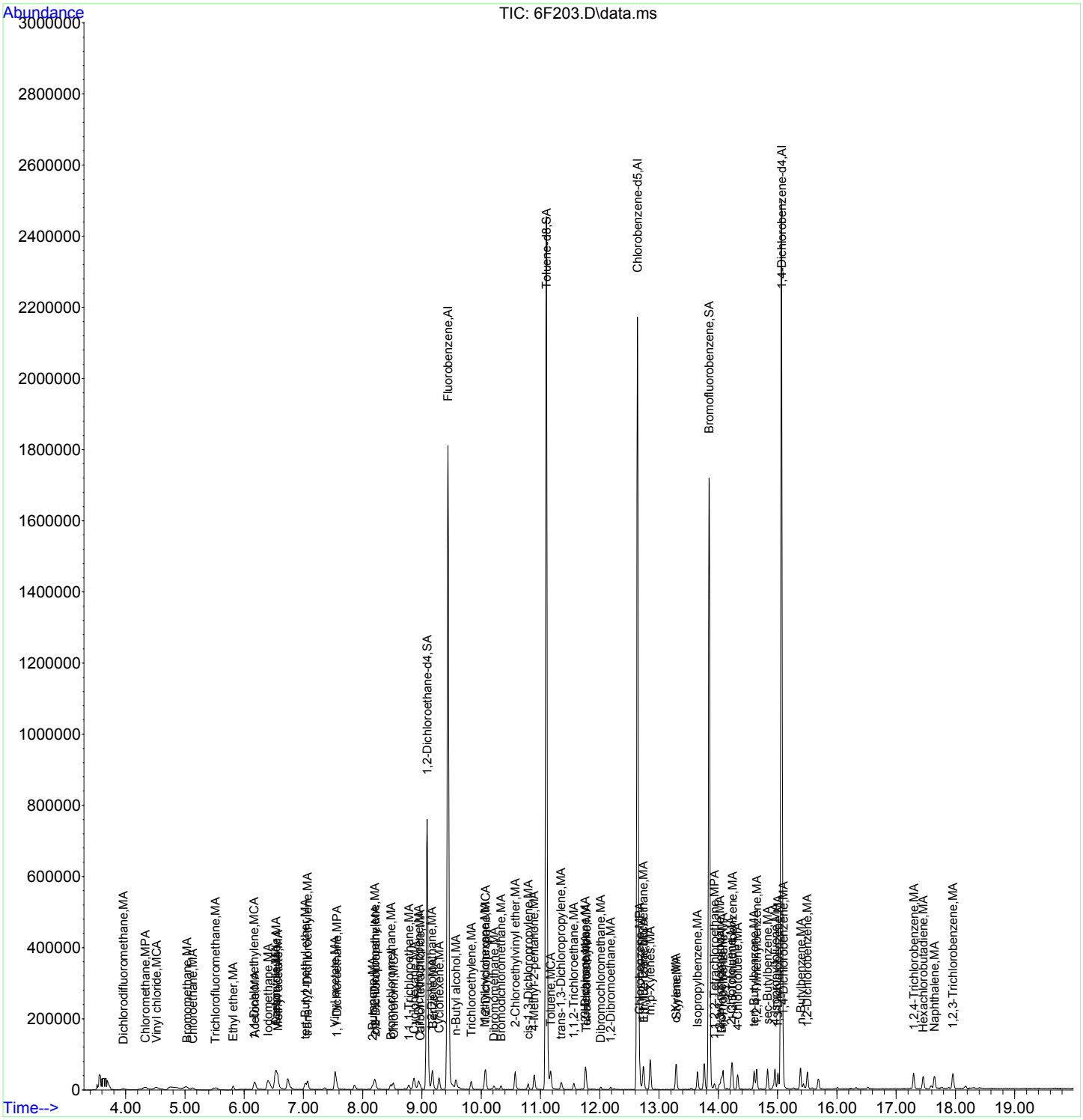
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.695	15.603	1.042	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F203.D
Acq On : 20 Oct 2020 14:03
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-02|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 15:28:23 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F204.D
Acq On : 20 Oct 2020 14:28
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-03|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

10/21/2020

KP

10/21/2020

Quant Time: Oct 21 15:28:25 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1583637	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.641	12.635	1.000	1185051	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	653829	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.641	12.641	1.000	0m	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	567811	50.83	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1612115	49.82	ug/L		0.00
63) Bromofluorobenzene	95	13.848	13.842	0.919	620394	49.56	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	19622	1.93	ug/L		93
3) Chloromethane	50	4.330	4.338	0.459	40267	1.94	ug/L	#	41
4) Vinyl chloride	62	4.514	4.522	0.478	35498	2.01	ug/L	#	45
5) Bromomethane	94	5.020	5.020	0.532	17619	2.06	ug/L		100
6) Chloroethane	64	5.132	5.140	0.544	21270	2.01	ug/L		99
7) Trichlorofluoromethane	101	5.517	5.517	0.584	31146	2.00	ug/L		99
8) Ethyl ether	59	5.814	5.814	0.616	20153	1.97	ug/L		95
9) Acetone	43	6.185	6.179	0.655	26608	10.33	ug/L		99
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	31393	1.91	ug/L		97
11) Iodomethane	142	6.404	6.404	0.678	118721	9.26	ug/L		99
12) Acetonitrile	41	6.532	6.526	0.692	59942	49.23	ug/L		99
13) Methyl acetate	43	6.563	6.563	0.695	59257	9.77	ug/L		99
14) Carbon disulfide	76	6.526	6.538	0.691	212087	8.32	ug/L		98
15) Methylene chloride	84	6.733	6.739	0.713	27255	2.16	ug/L		96
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	40367	1.81	ug/L		88
17) trans-1,2-Dichloroethy...	61	7.069	7.075	0.749	30873	1.97	ug/L		96
18) Hexane	57	7.355	7.355	0.779	40304	2.26	ug/L		93
19) Vinyl acetate	43	7.532	7.532	0.798	184991	9.53	ug/L		98
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	37013	2.00	ug/L		99
21) 2-Butanone	43	8.160	8.160	0.864	39127	10.04	ug/L		96
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	35416	2.00	ug/L		99
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	18695	2.02	ug/L		98
24) Bromochloromethane	128	8.471	8.471	0.897	7072	1.83	ug/L		89
25) Chloroform	83	8.507	8.514	0.901	29123	2.01	ug/L		99
26) 1,1,1-Trichloroethane	97	8.776	8.776	0.930	22245	1.88	ug/L		95
27) Cyclohexane	56	8.861	8.867	0.939	45471	1.99	ug/L		98
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	22077	1.98	ug/L		93
29) Carbon tetrachloride	117	8.965	8.965	0.950	17247	1.86	ug/L		94
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	28314	2.03	ug/L		99
32) Benzene	78	9.178	9.178	0.972	64619	1.96	ug/L		94
33) Cyclohexene	67	9.288	9.288	0.984	33415	1.91	ug/L		95
34) n-Butyl alcohol	56	9.574	9.568	1.014	43990	159.55	ug/L		92
35) Trichloroethylene	95	9.830	9.830	1.041	16436	2.03	ug/L		98
36) 2-Pentanone	43	9.934	9.928	1.052	58515	9.49	ug/L		99
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	20614	1.94	ug/L		99
38) Methylcyclohexane	83	10.062	10.068	1.066	29718	1.91	ug/L		97
39) Dibromomethane	93	10.214	10.214	1.082	8593	1.94	ug/L		99
40) Bromodichloromethane	83	10.330	10.330	1.094	16264	2.05	ug/L		98
41) 2-Chloroethylvinyl ether	63	10.574	10.568	1.120	53003	8.75	ug/L		99
42) cis-1,3-Dichloropropylene	75	10.793	10.787	1.143	20384	2.03	ug/L		99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F204.D
Acq On : 20 Oct 2020 14:28
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-03|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 15:28:25 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	32269	9.10	ug/L		94
46) Toluene	91	11.171	11.172	0.884	67153	2.01	ug/L		96
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.897	16499	1.98	ug/L		96
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	11033	2.05	ug/L		94
49) 2-Hexanone	43	11.757	11.751	0.930	45192	8.67	ug/L		97
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	22143	1.89	ug/L		98
51) Tetrachloroethylene	164	11.763	11.763	0.931	13687	2.12	ug/L		95
52) Dibromochloromethane	129	12.019	12.019	0.951	8416	2.02	ug/L		96
53) 1,2-Dibromoethane	107	12.183	12.177	0.964	10831	1.86	ug/L		98
54) Chlorobenzene	112	12.671	12.671	1.002	44834	2.05	ug/L		82
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	12322	1.75	ug/L		97
56) Ethylbenzene	91	12.738	12.738	1.008	74962	1.97	ug/L		100
57) m,p-Xylenes	106	12.848	12.848	1.016	57978	3.92	ug/L		99
58) o-Xylene	91	13.287	13.287	1.051	62004	1.91	ug/L		99
59) Styrene	104	13.293	13.293	1.052	39330	2.33	ug/L		97
61) Bromoform	173	13.543	13.543	0.899	4183	1.34	ug/L		100
62) Isopropylbenzene	105	13.647	13.647	0.906	74127	1.95	ug/L		99
64) 1,1,2,2-Tetrachloroethane	83	13.939	13.933	0.925	14946	1.87	ug/L		99
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	4565	1.86	ug/L	#	92
66) Bromobenzene	156	14.049	14.049	0.932	17260	1.97	ug/L		98
67) n-Propylbenzene	91	14.079	14.079	0.934	89668	1.94	ug/L		99
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	64941	1.88	ug/L		98
69) 2-Chlorotoluene	126	14.220	14.220	0.944	18760	2.02	ug/L		87
70) 4-Chlorotoluene	91	14.329	14.323	0.951	55977	1.93	ug/L		99
71) tert-Butylbenzene	134	14.604	14.604	0.969	13672	1.88	ug/L		93
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	66089	1.86	ug/L		98
73) sec-Butylbenzene	105	14.829	14.829	0.984	85868	1.92	ug/L		100
74) 4-Isopropyltoluene	119	14.951	14.957	0.992	70612	1.87	ug/L		99
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	36653	1.99	ug/L		100
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	38197	2.03	ug/L		82
77) n-Butylbenzene	91	15.384	15.384	1.021	73486	1.89	ug/L		97
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	36608	2.03	ug/L		97
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.			
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	29429	1.96	ug/L		96
81) Hexachlorobutadiene	225	17.457	17.457	1.159	18911	1.97	ug/L		97
82) Naphthalene	128	17.646	17.646	1.171	60997	1.90	ug/L		99
83) 1,2,3-Trichlorobenzene	180	17.963	17.957	1.192	28723	2.01	ug/L		97
85) Acrolein		0.000	6.008	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87) Isopropyl Alcohol		6.203	6.270	0.657	0m	N.D.	d		
88) Allyl chloride		6.532	6.593	0.692	0m	N.D.	d		
89) tert-Butyl Alcohol		6.752	6.758	0.715	0m	N.D.	d		
90) Acrylonitrile		7.026	7.001	0.744	0m	N.D.	d		
91) Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.			
93) Ethyl tert-butyl ether		7.861	7.952	0.833	0m	N.D.	d		
94) Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d		
95) Propionitrile		0.000	8.233	0.000	0	N.D.			
96) Methacrylonitrile		8.440	8.410	0.894	0m	N.D.	d		
97) Tetrahydrofuran		8.526	8.519	0.903	0m	N.D.	d		
98) Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.172	9.208	0.972	0m	N.D.	d		
100) Methyl methacrylate		10.062	10.068	1.066	0m	N.D.	d		
101) 1,4-Dioxane		10.178	10.172	1.078	0m	N.D.	d		
102) 2-Nitropropane		10.483	10.550	1.110	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F204.D
Acq On : 20 Oct 2020 14:28
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-03|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 15:28:25 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

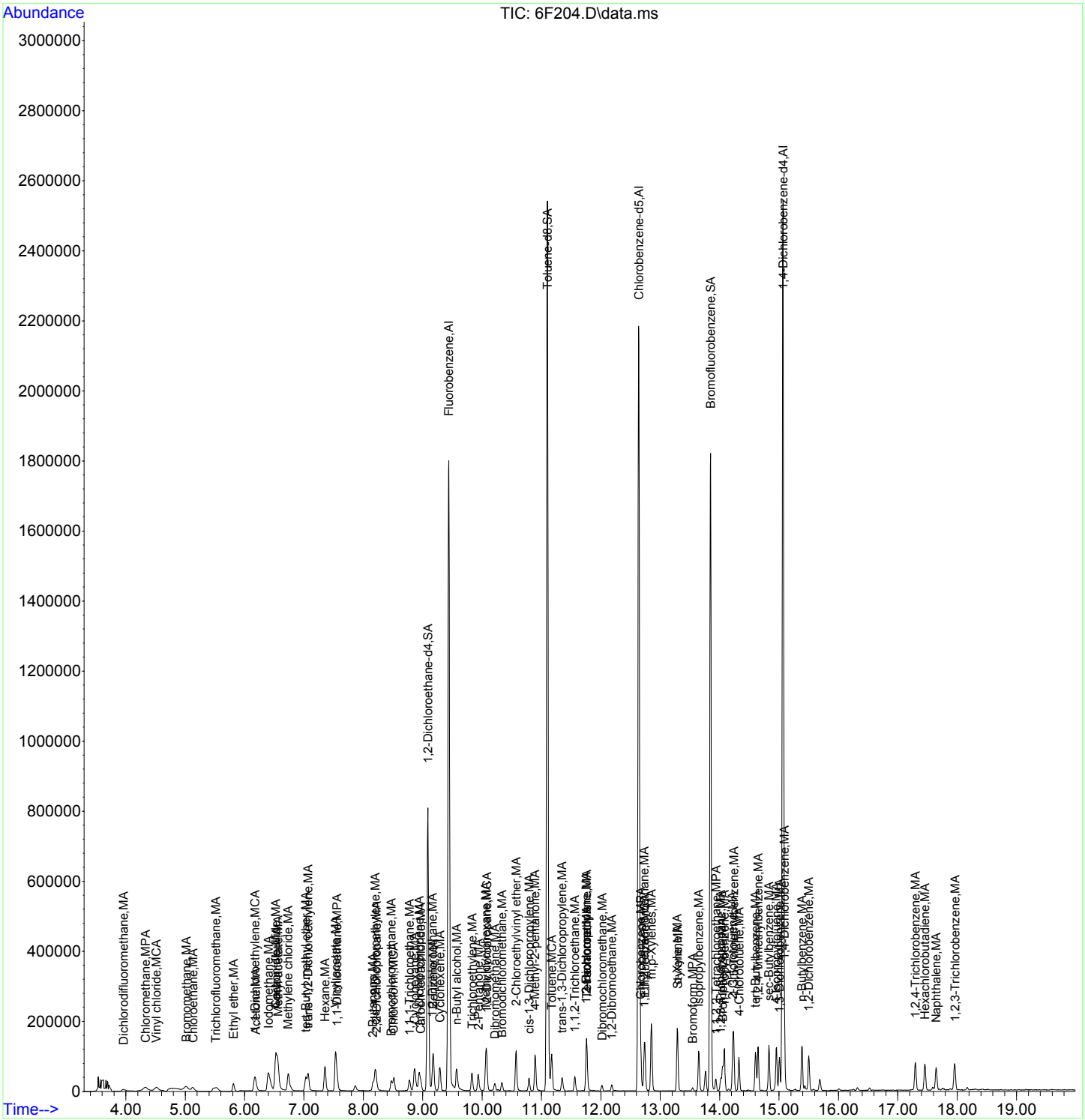
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.683	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F204.D
Acq On : 20 Oct 2020 14:28
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-03|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 15:28:25 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F205.D
Acq On : 20 Oct 2020 14:54
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-04|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

10/21/2020

KP

10/21/2020

Quant Time: Oct 21 15:28:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1498487	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.641	12.635	1.000	1130529	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	634733	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.641	12.641	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.093	9.087	0.963	530893	50.23	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1517932	49.17	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	599515	49.33	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.977	3.969	0.421	54252	5.64	ug/L	98
3) Chloromethane	50	4.346	4.338	0.460	108388	5.51	ug/L	96
4) Vinyl chloride	62	4.530	4.522	0.480	91842	5.49	ug/L	97
5) Bromomethane	94	5.028	5.020	0.533	44378	5.48	ug/L	98
6) Chloroethane	64	5.140	5.140	0.545	53573	5.36	ug/L	99
7) Trichlorofluoromethane	101	5.525	5.517	0.585	77835	5.29	ug/L	97
8) Ethyl ether	59	5.822	5.814	0.617	47755	4.92	ug/L	99
9) Acetone	43	6.191	6.179	0.656	60712	24.90	ug/L	98
10) 1,1-Dichloroethylene	61	6.173	6.173	0.654	76340	4.91	ug/L	98
11) Iodomethane	142	6.404	6.404	0.678	303114	24.99	ug/L	99
12) Acetonitrile	41	6.538	6.526	0.693	139953	121.49	ug/L	98
13) Methyl acetate	43	6.569	6.563	0.696	140282	24.45	ug/L	98
14) Carbon disulfide	76	6.544	6.538	0.693	583664	24.19	ug/L	99
15) Methylene chloride	84	6.746	6.739	0.715	48469	4.90	ug/L	97
16) tert-Butyl methyl ether	73	7.038	7.032	0.746	106256	5.05	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	72568	4.89	ug/L	98
18) Hexane	57	7.361	7.355	0.780	83315	4.93	ug/L	97
19) Vinyl acetate	43	7.532	7.532	0.798	453269	24.68	ug/L	99
20) 1,1-Dichloroethane	63	7.562	7.556	0.801	84429	4.82	ug/L	99
21) 2-Butanone	43	8.160	8.160	0.864	89717	24.33	ug/L	97
22) cis-1,2-Dichloroethylene	61	8.203	8.197	0.869	81364	4.85	ug/L	100
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	41118	4.69	ug/L	90
24) Bromochloromethane	128	8.477	8.471	0.898	17943	4.91	ug/L	97
25) Chloroform	83	8.514	8.514	0.902	67041	4.90	ug/L	99
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	53917	4.81	ug/L	99
27) Cyclohexane	56	8.867	8.867	0.939	107196	4.97	ug/L	99
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	50418	4.78	ug/L	97
29) Carbon tetrachloride	117	8.971	8.965	0.950	41000	4.67	ug/L	100
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	63015	4.77	ug/L	100
32) Benzene	78	9.184	9.178	0.973	151470	4.86	ug/L	98
33) Cyclohexene	67	9.288	9.288	0.984	78269	4.74	ug/L	98
34) n-Butyl alcohol	56	9.568	9.568	1.014	115774	443.77	ug/L	95
35) Trichloroethylene	95	9.830	9.830	1.041	36862	4.82	ug/L	99
36) 2-Pentanone	43	9.934	9.928	1.052	133592	22.89	ug/L	99
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	47600	4.72	ug/L	98
38) Methylcyclohexane	83	10.068	10.068	1.067	71959	4.89	ug/L	99
39) Dibromomethane	93	10.214	10.214	1.082	20825	4.98	ug/L	98
40) Bromodichloromethane	83	10.330	10.330	1.094	39738	4.40	ug/L	99
41) 2-Chloroethylvinyl ether	63	10.574	10.568	1.120	134275	23.42	ug/L	100
42) cis-1,3-Dichloropropylene	75	10.794	10.787	1.143	51231	4.51	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F205.D
Acq On : 20 Oct 2020 14:54
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-04|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 15:28:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	10.891	10.891	0.862	80211	23.71	ug/L		96
46)	Toluene	91	11.172	11.172	0.884	159419	5.01	ug/L		97
47)	trans-1,3-Dichloroprop...	75	11.342	11.342	0.897	43039	4.37	ug/L		95
48)	1,1,2-Trichloroethane	83	11.556	11.562	0.914	24527	4.79	ug/L		99
49)	2-Hexanone	43	11.757	11.751	0.930	119094	23.94	ug/L		96
50)	1,3-Dichloropropane	76	11.751	11.751	0.930	54009	4.82	ug/L		97
51)	Tetrachloroethylene	164	11.763	11.763	0.931	29481	4.78	ug/L		100
52)	Dibromochloromethane	129	12.019	12.019	0.951	21687	4.13	ug/L		100
53)	1,2-Dibromoethane	107	12.184	12.177	0.964	26876	4.83	ug/L		98
54)	Chlorobenzene	112	12.671	12.671	1.002	102023	4.89	ug/L		94
55)	1,1,1,2-Tetrachloroethane	131	12.732	12.726	1.007	30225	4.49	ug/L		97
56)	Ethylbenzene	91	12.738	12.738	1.008	176040	4.84	ug/L		100
57)	m,p-Xylenes	106	12.848	12.848	1.016	138019	9.79	ug/L		98
58)	o-Xylene	91	13.287	13.287	1.051	147326	4.77	ug/L		99
59)	Styrene	104	13.293	13.293	1.052	101695	4.85	ug/L		100
61)	Bromoform	173	13.543	13.543	0.899	10763	3.55	ug/L		95
62)	Isopropylbenzene	105	13.653	13.647	0.906	179084	4.85	ug/L		98
64)	1,1,2,2-Tetrachloroethane	83	13.939	13.933	0.925	35993	4.64	ug/L		96
65)	1,2,3-Trichloropropane	110	14.019	14.019	0.930	11429	4.80	ug/L	#	94
66)	Bromobenzene	156	14.049	14.049	0.932	41302	4.85	ug/L		97
67)	n-Propylbenzene	91	14.079	14.079	0.934	221090	4.92	ug/L		100
68)	1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	160620	4.80	ug/L		100
69)	2-Chlorotoluene	126	14.220	14.220	0.944	43134	4.78	ug/L		97
70)	4-Chlorotoluene	91	14.323	14.323	0.951	135110	4.80	ug/L		99
71)	tert-Butylbenzene	134	14.604	14.604	0.969	33210	4.72	ug/L		96
72)	1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	167930	4.88	ug/L		99
73)	sec-Butylbenzene	105	14.829	14.829	0.984	210922	4.86	ug/L		99
74)	4-Isopropyltoluene	119	14.957	14.957	0.993	178941	4.87	ug/L		100
75)	1,3-Dichlorobenzene	146	15.006	15.006	0.996	87566	4.89	ug/L		99
76)	1,4-Dichlorobenzene	146	15.092	15.091	1.002	90122	4.93	ug/L		94
77)	n-Butylbenzene	91	15.384	15.384	1.021	182884	4.85	ug/L		99
78)	1,2-Dichlorobenzene	146	15.500	15.500	1.029	86483	4.93	ug/L		99
79)	1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	5247	4.02	ug/L		94
80)	1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	71013	4.86	ug/L		98
81)	Hexachlorobutadiene	225	17.457	17.457	1.159	44723	4.79	ug/L		98
82)	Naphthalene	128	17.646	17.646	1.171	143333	4.61	ug/L		99
83)	1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	67154	4.84	ug/L		99
85)	Acrolein		0.000	6.008	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.276	6.270	0.665	0m	N.D.	d		
88)	Allyl chloride		6.538	6.593	0.693	0m	N.D.	d		
89)	tert-Butyl Alcohol		6.770	6.758	0.717	0m	N.D.	d		
90)	Acrylonitrile		7.044	7.001	0.746	0m	N.D.	d		
91)	Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		7.873	7.952	0.834	0m	N.D.	d		
94)	Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d		
95)	Propionitrile		0.000	8.233	0.000	0	N.D.			
96)	Methacrylonitrile		8.520	8.410	0.902	0m	N.D.	d		
97)	Tetrahydrofuran		8.538	8.519	0.904	0m	N.D.	d		
98)	Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.190	9.208	0.974	0m	N.D.	d		
100)	Methyl methacrylate		10.074	10.068	1.067	0m	N.D.	d		
101)	1,4-Dioxane		10.172	10.172	1.077	0m	N.D.	d		
102)	2-Nitropropane		10.574	10.550	1.120	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F205.D
Acq On : 20 Oct 2020 14:54
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-04|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 15:28:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

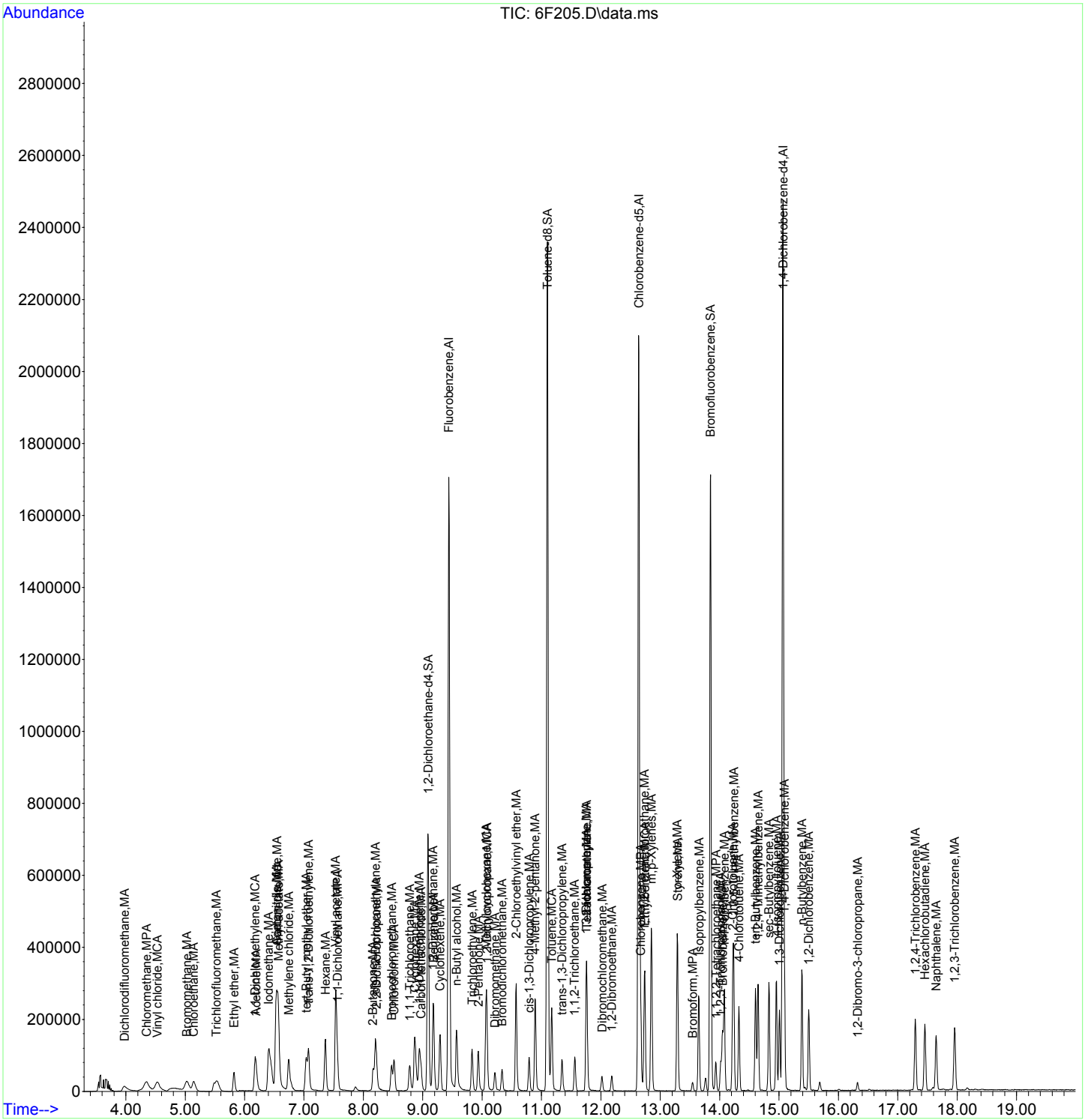
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.689	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F205.D
Acq On : 20 Oct 2020 14:54
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-04|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 15:28:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL
10/21/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F206.D
Acq On : 20 Oct 2020 15:20
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-05|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

KP
10/21/2020

Quant Time: Oct 21 15:28:29 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1563607	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1181840	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	644225	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	559465	50.73	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1618957	50.16	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	622929	50.51	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	99713	9.94	ug/L	97
3) Chloromethane	50	4.338	4.338	0.460	209016	10.19	ug/L	98
4) Vinyl chloride	62	4.522	4.522	0.479	176828	10.13	ug/L	98
5) Bromomethane	94	5.020	5.020	0.532	85494	10.12	ug/L	100
6) Chloroethane	64	5.140	5.140	0.544	104694	10.04	ug/L	99
7) Trichlorofluoromethane	101	5.533	5.517	0.586	153990	10.04	ug/L	99
8) Ethyl ether	59	5.814	5.814	0.616	102378	10.12	ug/L	99
9) Acetone	43	6.185	6.179	0.655	124849	49.08	ug/L	99
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	164685	10.15	ug/L	99
11) Iodomethane	142	6.410	6.404	0.679	652380	51.54	ug/L	99
12) Acetonitrile	41	6.532	6.526	0.692	306870	255.28	ug/L	99
13) Methyl acetate	43	6.563	6.563	0.695	302688	50.56	ug/L	99
14) Carbon disulfide	76	6.532	6.538	0.692	1329312	52.81	ug/L	99
15) Methylene chloride	84	6.739	6.739	0.714	93455	9.87	ug/L	97
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	224880	10.23	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	157198	10.16	ug/L	98
18) Hexane	57	7.355	7.355	0.779	190405	10.81	ug/L	99
19) Vinyl acetate	43	7.532	7.532	0.798	1024893	53.48	ug/L	99
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	183606	10.05	ug/L	99
21) 2-Butanone	43	8.160	8.160	0.864	192473	50.03	ug/L	100
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	174404	9.97	ug/L	98
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	91159	9.97	ug/L	96
24) Bromochloromethane	128	8.471	8.471	0.897	38471	10.09	ug/L	97
25) Chloroform	83	8.513	8.514	0.902	142738	9.99	ug/L	99
26) 1,1,1-Trichloroethane	97	8.776	8.776	0.930	118066	10.09	ug/L	99
27) Cyclohexane	56	8.867	8.867	0.939	228556	10.15	ug/L	99
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	111879	10.17	ug/L	98
29) Carbon tetrachloride	117	8.971	8.965	0.950	92120	10.07	ug/L	100
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	138604	10.05	ug/L	100
32) Benzene	78	9.184	9.178	0.973	329979	10.15	ug/L	99
33) Cyclohexene	67	9.288	9.288	0.984	174795	10.13	ug/L	100
34) n-Butyl alcohol	56	9.568	9.568	1.014	272858	1002.33	ug/L	97
35) Trichloroethylene	95	9.830	9.830	1.041	79739	9.99	ug/L	98
36) 2-Pentanone	43	9.934	9.928	1.052	303016	49.76	ug/L	98
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	103964	9.89	ug/L	100
38) Methylcyclohexane	83	10.068	10.068	1.067	154597	10.07	ug/L	98
39) Dibromomethane	93	10.214	10.214	1.082	43417	9.95	ug/L	99
40) Bromodichloromethane	83	10.330	10.330	1.094	92042	9.08	ug/L	98
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	301048	50.33	ug/L	99
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	116372	9.19	ug/L	98

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F206.D
Acq On : 20 Oct 2020 15:20
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-05|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 15:28:29 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	181236	51.24	ug/L	99
46) Toluene	91	11.171	11.172	0.884	331430	9.97	ug/L	100
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	103586	9.30	ug/L	97
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	54285	10.13	ug/L	97
49) 2-Hexanone	43	11.751	11.751	0.930	261682	50.32	ug/L	98
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	119232	10.18	ug/L	99
51) Tetrachloroethylene	164	11.763	11.763	0.931	64867	10.06	ug/L	98
52) Dibromochloromethane	129	12.019	12.019	0.951	52642	8.55	ug/L	96
53) 1,2-Dibromoethane	107	12.183	12.177	0.964	58433	10.05	ug/L	98
54) Chlorobenzene	112	12.671	12.671	1.003	215954	9.89	ug/L	97
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	69848	9.93	ug/L	99
56) Ethylbenzene	91	12.738	12.738	1.008	378396	9.96	ug/L	99
57) m,p-Xylenes	106	12.848	12.848	1.017	290499	19.71	ug/L	100
58) o-Xylene	91	13.287	13.287	1.052	319778	9.90	ug/L	100
59) Styrene	104	13.293	13.293	1.052	225070	9.30	ug/L	100
61) Bromoform	173	13.543	13.543	0.899	25707	8.36	ug/L	95
62) Isopropylbenzene	105	13.647	13.647	0.906	386828	10.32	ug/L	100
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	80948	10.28	ug/L	98
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	24222	10.03	ug/L	97
66) Bromobenzene	156	14.049	14.049	0.932	87683	10.15	ug/L	99
67) n-Propylbenzene	91	14.079	14.079	0.934	471254	10.33	ug/L	99
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	345512	10.18	ug/L	99
69) 2-Chlorotoluene	126	14.220	14.220	0.944	93119	10.17	ug/L	95
70) 4-Chlorotoluene	91	14.323	14.323	0.951	287321	10.07	ug/L	99
71) tert-Butylbenzene	134	14.604	14.604	0.969	69794	9.77	ug/L	97
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	357752	10.23	ug/L	100
73) sec-Butylbenzene	105	14.829	14.829	0.984	452135	10.27	ug/L	99
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	383763	10.29	ug/L	99
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	183656	10.11	ug/L	99
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	184719	9.95	ug/L	96
77) n-Butylbenzene	91	15.384	15.384	1.021	387155	10.11	ug/L	99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	181799	10.22	ug/L	99
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	10513	7.94	ug/L	90
80) 1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	150259	10.14	ug/L	99
81) Hexachlorobutadiene	225	17.457	17.457	1.159	94251	9.96	ug/L	98
82) Naphthalene	128	17.646	17.646	1.171	317401	10.05	ug/L	100
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	139261	9.89	ug/L	98
85) Acrolein		0.000	6.008	0.000	0	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol		6.288	6.270	0.666	0m	N.D.	d	
88) Allyl chloride		6.532	6.593	0.692	0m	N.D.	d	
89) tert-Butyl Alcohol		6.764	6.758	0.716	0m	N.D.	d	
90) Acrylonitrile		7.044	7.001	0.746	0m	N.D.	d	
91) Isopropyl ether		7.526	7.544	0.797	0m	N.D.	d	
92) 2-Chloro-1,3-butadiene		7.678	7.666	0.813	0m	N.D.	d	
93) Ethyl tert-butyl ether		7.879	7.952	0.835	0m	N.D.	d	
94) Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d	
95) Propionitrile		8.172	8.233	0.866	0m	N.D.	d	
96) Methacrylonitrile		8.428	8.410	0.893	0m	N.D.	d	
97) Tetrahydrofuran		8.532	8.519	0.904	0m	N.D.	d	
98) Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d	
99) Methyl tert-amyl ether		9.172	9.208	0.972	0m	N.D.	d	
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d	
101) 1,4-Dioxane		10.184	10.172	1.079	0m	N.D.	d	
102) 2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F206.D
Acq On : 20 Oct 2020 15:20
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-05|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 15:28:29 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

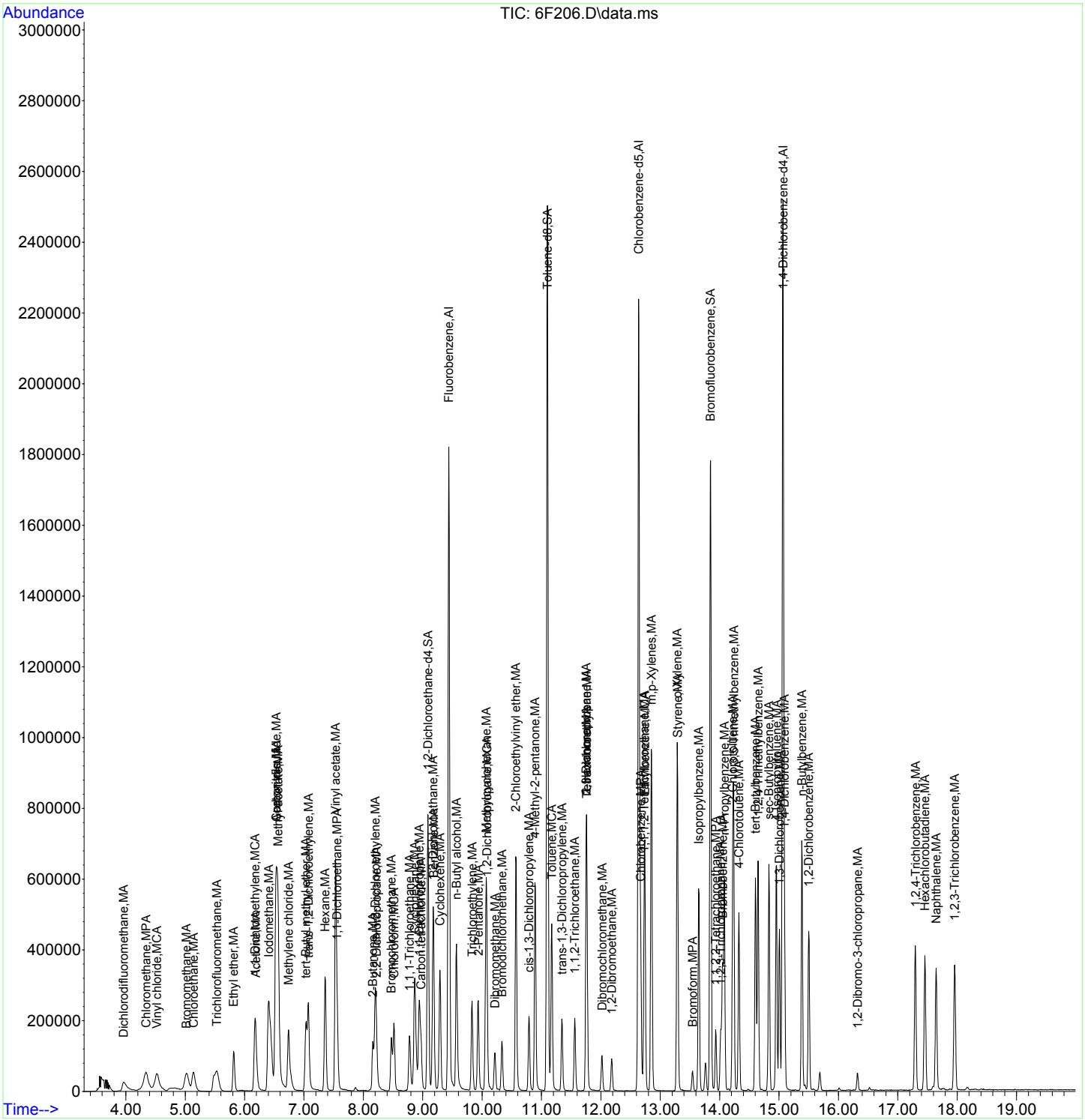
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.842	13.799	0.919	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.677	15.603	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F206.D
Acq On : 20 Oct 2020 15:20
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-05|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 15:28:29 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

10/21/2020

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F207.D
Acq On : 20 Oct 2020 15:46
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-06|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

KP

10/21/2020

Quant Time: Oct 21 15:28:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1641117	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1248074	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	699377	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	573119	49.51	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1730174	50.76	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	676784	50.54	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	236514	22.46	ug/L	98
3) Chloromethane	50	4.338	4.338	0.460	439884	20.44	ug/L	99
4) Vinyl chloride	62	4.522	4.522	0.479	375193	20.47	ug/L	100
5) Bromomethane	94	5.020	5.020	0.532	174453	19.68	ug/L	100
6) Chloroethane	64	5.132	5.140	0.544	222826	20.36	ug/L	99
7) Trichlorofluoromethane	101	5.517	5.517	0.584	328127	20.38	ug/L	100
8) Ethyl ether	59	5.814	5.814	0.616	212604	20.02	ug/L	100
9) Acetone	43	6.179	6.179	0.655	251937	94.35	ug/L	100
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	353813	20.78	ug/L	99
11) Iodomethane	142	6.404	6.404	0.678	1365580	102.78	ug/L	100
12) Acetonitrile	41	6.526	6.526	0.691	615761	488.05	ug/L	97
13) Methyl acetate	43	6.563	6.563	0.695	618881	98.49	ug/L	100
14) Carbon disulfide	76	6.532	6.538	0.692	2866777	108.51	ug/L	99
15) Methylene chloride	84	6.739	6.739	0.714	193224	20.36	ug/L	98
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	472973	20.51	ug/L	99
17) trans-1,2-Dichloroethy...	61	7.069	7.075	0.749	335250	20.64	ug/L	100
18) Hexane	57	7.355	7.355	0.779	367178	19.86	ug/L	98
19) Vinyl acetate	43	7.532	7.532	0.798	2180465	108.41	ug/L	99
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	391140	20.40	ug/L	99
21) 2-Butanone	43	8.160	8.160	0.864	396361	98.15	ug/L	98
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	375695	20.47	ug/L	99
23) 2,2-Dichloropropane	77	8.215	8.221	0.870	199680	20.80	ug/L	98
24) Bromochloromethane	128	8.471	8.471	0.897	80876	20.21	ug/L	96
25) Chloroform	83	8.514	8.514	0.902	307257	20.50	ug/L	99
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	260335	21.19	ug/L	99
27) Cyclohexane	56	8.867	8.867	0.939	479909	20.31	ug/L	99
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	239842	20.77	ug/L	100
29) Carbon tetrachloride	117	8.965	8.965	0.950	206348	21.48	ug/L	97
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	291565	20.14	ug/L	100
32) Benzene	78	9.178	9.178	0.972	687136	20.13	ug/L	100
33) Cyclohexene	67	9.288	9.288	0.984	378359	20.90	ug/L	100
34) n-Butyl alcohol	56	9.568	9.568	1.014	633349	2216.69	ug/L	98
35) Trichloroethylene	95	9.830	9.830	1.041	168769	20.15	ug/L	98
36) 2-Pentanone	43	9.928	9.928	1.052	643593	100.69	ug/L	99
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	228521	20.71	ug/L	99
38) Methylcyclohexane	83	10.068	10.068	1.067	325188	20.19	ug/L	98
39) Dibromomethane	93	10.214	10.214	1.082	92474	20.18	ug/L	99
40) Bromodichloromethane	83	10.330	10.330	1.094	205644	18.70	ug/L	99
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	656423	104.55	ug/L	99
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	262784	19.17	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F207.D
Acq On : 20 Oct 2020 15:46
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-06|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 15:28:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
44)	4-Methyl-2-pentanone	58	10.891	10.891	0.862	387057	103.63	ug/L	97
46)	Toluene	91	11.172	11.172	0.884	708888	20.19	ug/L	99
47)	trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	232469	19.09	ug/L	99
48)	1,1,2-Trichloroethane	83	11.562	11.562	0.915	114317	20.21	ug/L	100
49)	2-Hexanone	43	11.751	11.751	0.930	594602	108.26	ug/L	98
50)	1,3-Dichloropropane	76	11.751	11.751	0.930	251917	20.36	ug/L	98
51)	Tetrachloroethylene	164	11.763	11.763	0.931	137956	20.27	ug/L	99
52)	Dibromochloromethane	129	12.019	12.019	0.951	121373	17.76	ug/L	100
53)	1,2-Dibromoethane	107	12.177	12.177	0.964	129362	21.08	ug/L	99
54)	Chlorobenzene	112	12.671	12.671	1.003	469635	20.37	ug/L	100
55)	1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	158010	21.28	ug/L	100
56)	Ethylbenzene	91	12.738	12.738	1.008	833886	20.77	ug/L	100
57)	m,p-Xylenes	106	12.848	12.848	1.017	643596	41.36	ug/L	99
58)	o-Xylene	91	13.287	13.287	1.052	709959	20.82	ug/L	99
59)	Styrene	104	13.293	13.293	1.052	525114	19.52	ug/L	100
61)	Bromoform	173	13.543	13.543	0.899	65152	19.52	ug/L	99
62)	Isopropylbenzene	105	13.647	13.647	0.906	851803	20.92	ug/L	100
64)	1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	176092	20.60	ug/L	100
65)	1,2,3-Trichloropropane	110	14.019	14.019	0.930	52868	20.16	ug/L	98
66)	Bromobenzene	156	14.049	14.049	0.932	194028	20.68	ug/L	98
67)	n-Propylbenzene	91	14.079	14.079	0.934	1039622	21.00	ug/L	99
68)	1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	775070	21.03	ug/L	99
69)	2-Chlorotoluene	126	14.220	14.220	0.944	203024	20.43	ug/L	98
70)	4-Chlorotoluene	91	14.323	14.323	0.951	638645	20.61	ug/L	100
71)	tert-Butylbenzene	134	14.604	14.604	0.969	159409	20.54	ug/L	100
72)	1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	793346	20.91	ug/L	100
73)	sec-Butylbenzene	105	14.829	14.829	0.984	1002640	20.97	ug/L	100
74)	4-Isopropyltoluene	119	14.957	14.957	0.993	854154	21.09	ug/L	99
75)	1,3-Dichlorobenzene	146	15.006	15.006	0.996	405975	20.59	ug/L	99
76)	1,4-Dichlorobenzene	146	15.091	15.091	1.002	410817	20.38	ug/L	98
77)	n-Butylbenzene	91	15.384	15.384	1.021	889759	21.40	ug/L	99
78)	1,2-Dichlorobenzene	146	15.500	15.500	1.029	392075	20.30	ug/L	100
79)	1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	26330	18.32	ug/L	100
80)	1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	323320	20.10	ug/L	100
81)	Hexachlorobutadiene	225	17.457	17.457	1.159	214250	20.85	ug/L	99
82)	Naphthalene	128	17.646	17.646	1.171	664388	19.38	ug/L	100
83)	1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	296402	19.38	ug/L	100
85)	Acrolein		0.000	6.008	0.000	0	N.D.		
86)	Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87)	Isopropyl Alcohol		6.288	6.270	0.666	0m	N.D.	d	
88)	Allyl chloride		6.526	6.593	0.691	0m	N.D.	d	
89)	tert-Butyl Alcohol		6.776	6.758	0.718	0m	N.D.	d	
90)	Acrylonitrile		7.032	7.001	0.745	0m	N.D.	d	
91)	Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d	
92)	2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.		
93)	Ethyl tert-butyl ether		7.849	7.952	0.831	0m	N.D.	d	
94)	Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d	
95)	Propionitrile		8.166	8.233	0.865	0m	N.D.	d	
96)	Methacrylonitrile		8.514	8.410	0.902	0m	N.D.	d	
97)	Tetrahydrofuran		8.532	8.519	0.904	0m	N.D.	d	
98)	Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d	
99)	Methyl tert-amyl ether		9.184	9.208	0.973	0m	N.D.	d	
100)	Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d	
101)	1,4-Dioxane		10.172	10.172	1.077	0m	N.D.	d	
102)	2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F207.D
Acq On : 20 Oct 2020 15:46
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-06|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 15:28:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.683	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

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Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 15:28:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
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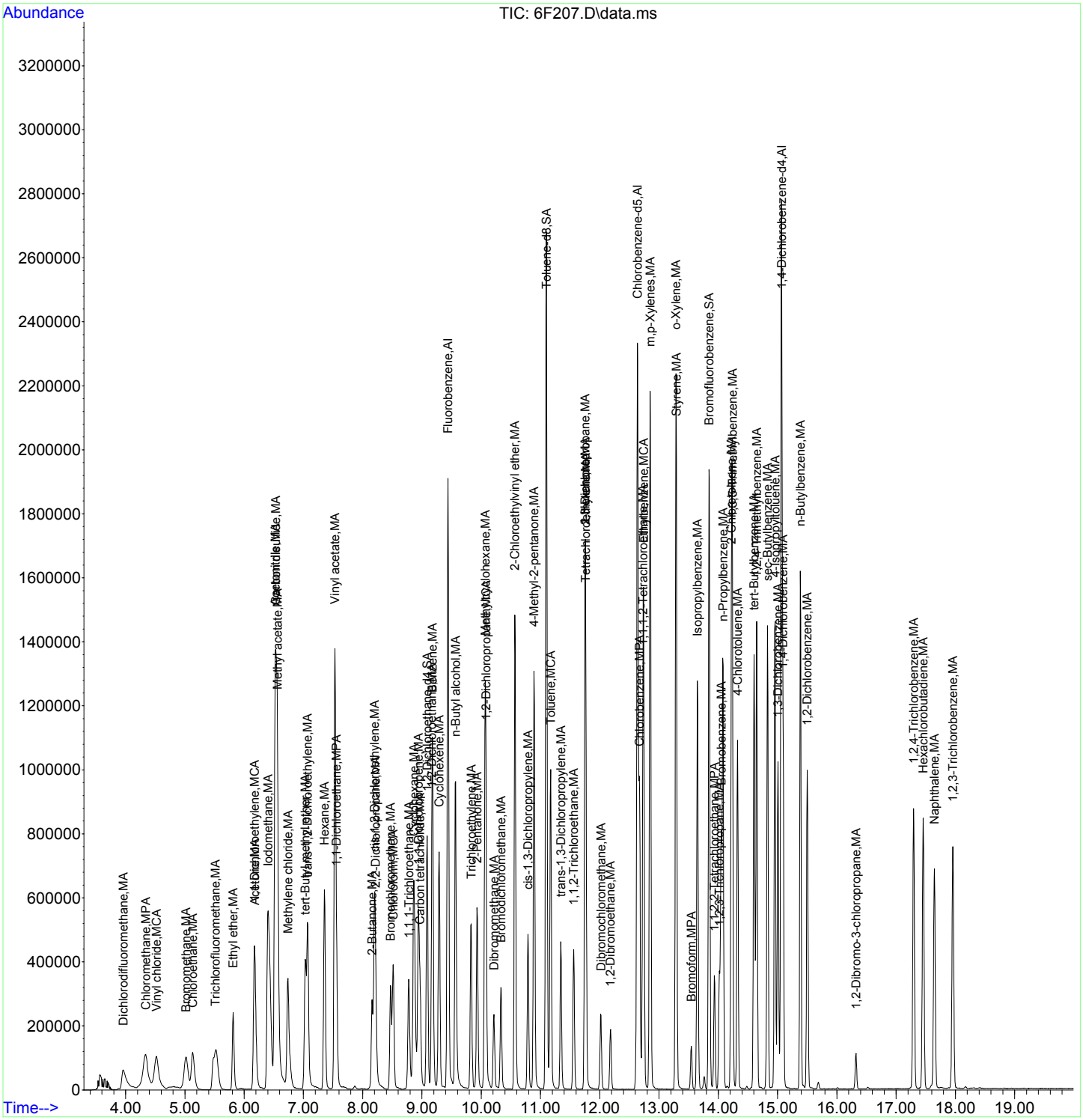

MEL

Quantitation Report
GEL Laboratories, LLC

10/21/2020

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F208.D
Acq On : 20 Oct 2020 16:11
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-07|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

KP

10/21/2020

Quant Time: Oct 21 15:28:33 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1661309	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1280272	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	723747	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	594177	50.70	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1764593	50.47	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	692283	49.96	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.969	3.969	0.420	467773	43.88	ug/L	100
3) Chloromethane	50	4.338	4.338	0.460	1023771	46.98	ug/L	100
4) Vinyl chloride	62	4.522	4.522	0.479	879277	47.40	ug/L	100
5) Bromomethane	94	5.020	5.020	0.532	419366	46.73	ug/L	100
6) Chloroethane	64	5.140	5.140	0.545	541380	48.86	ug/L	100
7) Trichlorofluoromethane	101	5.517	5.517	0.584	793247	48.67	ug/L	100
8) Ethyl ether	59	5.814	5.814	0.616	548066	50.97	ug/L	100
9) Acetone	43	6.179	6.179	0.655	669266	247.60	ug/L	100
10) 1,1-Dichloroethylene	61	6.173	6.173	0.654	903636	52.42	ug/L	100
11) Iodomethane	142	6.404	6.404	0.678	3550618	264.00	ug/L	100
12) Acetonitrile	41	6.526	6.526	0.691	1706361	1336.03	ug/L	100
13) Methyl acetate	43	6.563	6.563	0.695	1673596	263.10	ug/L	100
14) Carbon disulfide	76	6.538	6.538	0.693	7635098	285.47	ug/L	100
15) Methylene chloride	84	6.739	6.739	0.714	475279	50.83	ug/L	100
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	1246987	53.41	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	850156	51.72	ug/L	100
18) Hexane	57	7.355	7.355	0.779	946203	50.55	ug/L	100
19) Vinyl acetate	43	7.532	7.532	0.798	5687145	279.31	ug/L	100
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	1019221	52.51	ug/L	100
21) 2-Butanone	43	8.160	8.160	0.864	1056673	258.49	ug/L	100
22) cis-1,2-Dichloroethylene	61	8.197	8.197	0.868	973652	52.40	ug/L	100
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	507338	52.21	ug/L	99
24) Bromochloromethane	128	8.471	8.471	0.897	212038	52.33	ug/L	100
25) Chloroform	83	8.514	8.514	0.902	783389	51.63	ug/L	100
26) 1,1,1-Trichloroethane	97	8.776	8.776	0.930	663953	53.39	ug/L	100
27) Cyclohexane	56	8.867	8.867	0.939	1220832	51.04	ug/L	100
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	605399	51.80	ug/L	100
29) Carbon tetrachloride	117	8.965	8.965	0.950	531462	54.65	ug/L	100
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	757199	51.67	ug/L	100
32) Benzene	78	9.178	9.178	0.972	1795956	51.98	ug/L	100
33) Cyclohexene	67	9.288	9.288	0.984	956751	52.21	ug/L	100
34) n-Butyl alcohol	56	9.568	9.568	1.014	1783628	6166.73	ug/L	100
35) Trichloroethylene	95	9.830	9.830	1.041	436534	51.47	ug/L	100
36) 2-Pentanone	43	9.928	9.928	1.052	1701479	262.95	ug/L	100
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	597544	53.49	ug/L	100
38) Methylcyclohexane	83	10.068	10.068	1.067	837233	51.35	ug/L	100
39) Dibromomethane	93	10.214	10.214	1.082	242113	52.20	ug/L	100
40) Bromodichloromethane	83	10.330	10.330	1.094	567382	49.99	ug/L	100
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	1730346	272.25	ug/L	100
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	711584	50.37	ug/L	100

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Sample : |W6VM201020-07|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 15:28:33 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
44)	4-Methyl-2-pentanone	58	10.891	10.891	0.862	1049704	273.97	ug/L	100
46)	Toluene	91	11.172	11.172	0.884	1839240	51.06	ug/L	100
47)	trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	634899	49.84	ug/L	100
48)	1,1,2-Trichloroethane	83	11.562	11.562	0.915	300838	51.84	ug/L	100
49)	2-Hexanone	43	11.751	11.751	0.930	1587896	281.84	ug/L	100
50)	1,3-Dichloropropane	76	11.751	11.751	0.930	667818	52.63	ug/L	100
51)	Tetrachloroethylene	164	11.763	11.763	0.931	352140	50.43	ug/L	100
52)	Dibromochloromethane	129	12.019	12.019	0.951	355544	49.26	ug/L	100
53)	1,2-Dibromoethane	107	12.177	12.177	0.964	339892	53.99	ug/L	100
54)	Chlorobenzene	112	12.671	12.671	1.003	1198133	50.66	ug/L	100
55)	1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	429586	56.39	ug/L	100
56)	Ethylbenzene	91	12.738	12.738	1.008	2159413	52.44	ug/L	100
57)	m,p-Xylenes	106	12.848	12.848	1.017	1671098	104.69	ug/L	100
58)	o-Xylene	91	13.287	13.287	1.052	1883598	53.84	ug/L	100
59)	Styrene	104	13.293	13.293	1.052	1432810	50.49	ug/L	100
61)	Bromoform	173	13.543	13.543	0.899	204122	59.09	ug/L	100
62)	Isopropylbenzene	105	13.647	13.647	0.906	2200252	52.22	ug/L	100
64)	1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	466748	52.78	ug/L	100
65)	1,2,3-Trichloropropane	110	14.019	14.019	0.930	135975	50.10	ug/L	100
66)	Bromobenzene	156	14.049	14.049	0.932	495741	51.07	ug/L	100
67)	n-Propylbenzene	91	14.079	14.079	0.934	2670862	52.12	ug/L	100
68)	1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	2041645	53.53	ug/L	100
69)	2-Chlorotoluene	126	14.220	14.220	0.944	527608	51.31	ug/L	100
70)	4-Chlorotoluene	91	14.323	14.323	0.951	1665338	51.93	ug/L	100
71)	tert-Butylbenzene	134	14.604	14.604	0.969	416618	51.89	ug/L	100
72)	1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	2101414	53.51	ug/L	100
73)	sec-Butylbenzene	105	14.829	14.829	0.984	2616931	52.89	ug/L	100
74)	4-Isopropyltoluene	119	14.957	14.957	0.993	2235777	53.35	ug/L	100
75)	1,3-Dichlorobenzene	146	15.006	15.006	0.996	1034034	50.68	ug/L	100
76)	1,4-Dichlorobenzene	146	15.091	15.091	1.002	1051052	50.38	ug/L	100
77)	n-Butylbenzene	91	15.384	15.384	1.021	2303967	53.56	ug/L	100
78)	1,2-Dichlorobenzene	146	15.500	15.500	1.029	1023296	51.19	ug/L	100
79)	1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	81032	54.47	ug/L	100
80)	1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	836875	50.27	ug/L	100
81)	Hexachlorobutadiene	225	17.457	17.457	1.159	545156	51.26	ug/L	100
82)	Naphthalene	128	17.646	17.646	1.171	1772923	49.99	ug/L	100
83)	1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	758584	47.94	ug/L	100
85)	Acrolein		6.179	6.008	0.655	0m	N.D.	d	
86)	Trichlorotrifluoroethane		6.166	6.154	0.653	0m	N.D.	d	
87)	Isopropyl Alcohol		6.197	6.270	0.656	0m	N.D.	d	
88)	Allyl chloride		6.526	6.593	0.691	0m	N.D.	d	
89)	tert-Butyl Alcohol		6.697	6.758	0.709	0m	N.D.	d	
90)	Acrylonitrile		7.032	7.001	0.745	0m	N.D.	d	
91)	Isopropyl ether		7.526	7.544	0.797	0m	N.D.	d	
92)	2-Chloro-1,3-butadiene		7.660	7.666	0.811	0m	N.D.	d	
93)	Ethyl tert-butyl ether		7.867	7.952	0.833	0m	N.D.	d	
94)	Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d	
95)	Propionitrile		8.160	8.233	0.864	0m	N.D.	d	
96)	Methacrylonitrile		8.501	8.410	0.901	0m	N.D.	d	
97)	Tetrahydrofuran		8.520	8.519	0.902	0m	N.D.	d	
98)	Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d	
99)	Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d	
100)	Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d	
101)	1,4-Dioxane		10.178	10.172	1.078	0m	N.D.	d	
102)	2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d	

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Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 15:28:33 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.677	15.603	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

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ALS Vial : 8 Sample Multiplier: 1

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QLast Update : Wed Oct 21 15:27:57 2020
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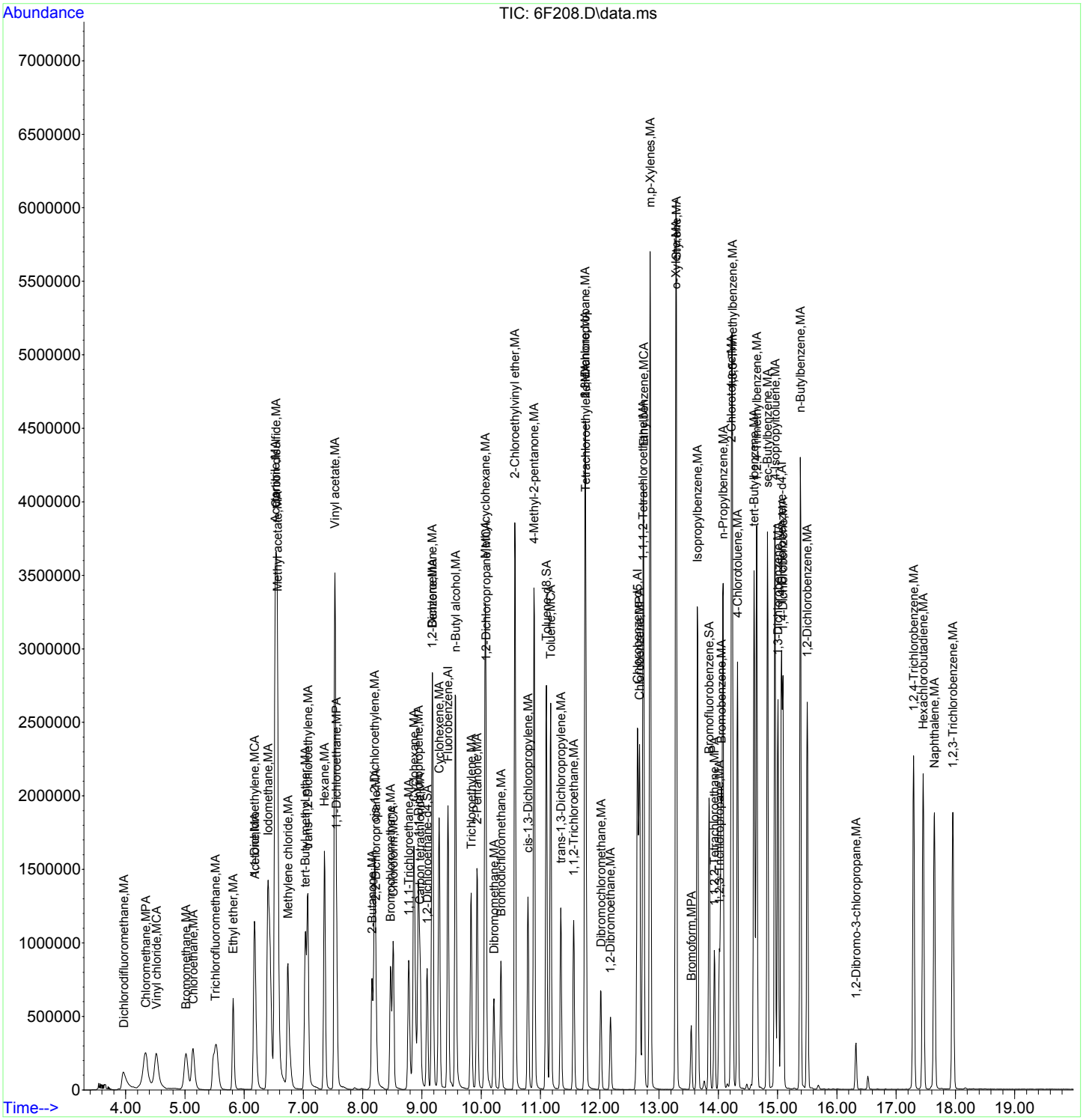

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Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F209.D
Acq On : 20 Oct 2020 16:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-08|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

10/21/2020

KP

10/21/2020

Quant Time: Oct 21 15:28:35 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1779075	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.634	12.635	1.000	1357958	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	752899	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.634	12.641	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	618806	49.31	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1843083	49.70	ug/L	0.00
63) Bromofluorobenzene	95	13.848	13.842	0.919	731238	50.73	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	810739	71.02	ug/L	99
3) Chloromethane	50	4.330	4.338	0.459	1667523	71.46	ug/L	99
4) Vinyl chloride	62	4.522	4.522	0.479	1451590	73.07	ug/L	100
5) Bromomethane	94	5.020	5.020	0.532	690649	71.86	ug/L	100
6) Chloroethane	64	5.132	5.140	0.544	878588	74.05	ug/L	100
7) Trichlorofluoromethane	101	5.517	5.517	0.584	1312599	75.21	ug/L	100
8) Ethyl ether	59	5.814	5.814	0.616	932805	81.01	ug/L	100
9) Acetone	43	6.172	6.179	0.654	1125494	388.83	ug/L	100
10) 1,1-Dichloroethylene	61	6.166	6.173	0.653	1499026	81.20	ug/L	100
11) Iodomethane	142	6.404	6.404	0.678	5825374	404.47	ug/L	100
12) Acetonitrile	41	6.526	6.526	0.691	2730502	1996.38	ug/L	98
13) Methyl acetate	43	6.556	6.563	0.695	2825126	414.73	ug/L	99
14) Carbon disulfide	76	6.532	6.538	0.692	12179549	425.24	ug/L	99
15) Methylene chloride	84	6.733	6.739	0.713	786662	79.08	ug/L	97
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	2084511	83.37	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.068	7.075	0.749	1420833	80.71	ug/L	99
18) Hexane	57	7.355	7.355	0.779	1537673	76.71	ug/L	100
19) Vinyl acetate	43	7.526	7.532	0.797	8848516	405.81	ug/L	97
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	1698021	81.69	ug/L	100
21) 2-Butanone	43	8.154	8.160	0.864	1787015	408.21	ug/L	99
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	1607808	80.80	ug/L	99
23) 2,2-Dichloropropane	77	8.215	8.221	0.870	840255	80.74	ug/L	99
24) Bromochloromethane	128	8.471	8.471	0.897	347434	80.08	ug/L	98
25) Chloroform	83	8.513	8.514	0.902	1310314	80.64	ug/L	100
26) 1,1,1-Trichloroethane	97	8.775	8.776	0.930	1108915	83.27	ug/L	100
27) Cyclohexane	56	8.867	8.867	0.939	2034143	79.42	ug/L	100
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	1017262	81.28	ug/L	99
29) Carbon tetrachloride	117	8.964	8.965	0.950	909454	87.33	ug/L	99
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	1267060	80.74	ug/L	99
32) Benzene	78	9.178	9.178	0.972	3005557	81.23	ug/L	100
33) Cyclohexene	67	9.288	9.288	0.984	1618653	82.49	ug/L	99
34) n-Butyl alcohol	56	9.568	9.568	1.014	3186346	10287.27	ug/L	100 A
35) Trichloroethylene	95	9.830	9.830	1.041	737481	81.21	ug/L	100
36) 2-Pentanone	43	9.928	9.928	1.052	2907668	419.62	ug/L	100
37) 1,2-Dichloropropane	63	10.074	10.080	1.067	1019919	85.25	ug/L	99
38) Methylcyclohexane	83	10.068	10.068	1.067	1426756	81.71	ug/L	99
39) Dibromomethane	93	10.214	10.214	1.082	411980	82.94	ug/L	99
40) Bromodichloromethane	83	10.330	10.330	1.094	975022	79.87	ug/L	99
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	2795582	410.73	ug/L	100
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	1206830	79.46	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F209.D
Acq On : 20 Oct 2020 16:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-08|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 15:28:35 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	1819318	447.68	ug/L	96	
46) Toluene	91	11.171	11.172	0.884	3076554	80.53	ug/L	99	
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	1084865	79.93	ug/L	99	
48) 1,1,2-Trichloroethane	83	11.561	11.562	0.915	507059	82.38	ug/L	100	
49) 2-Hexanone	43	11.750	11.751	0.930	2660933	445.28	ug/L	98	
50) 1,3-Dichloropropane	76	11.750	11.751	0.930	1134579	84.30	ug/L	97	
51) Tetrachloroethylene	164	11.763	11.763	0.931	586403	79.18	ug/L	99	
52) Dibromochloromethane	129	12.013	12.019	0.951	626374	81.31	ug/L	99	
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	573634	85.90	ug/L	100	
54) Chlorobenzene	112	12.671	12.671	1.003	2001639	79.79	ug/L	99	
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	736296	91.12	ug/L	99	
56) Ethylbenzene	91	12.738	12.738	1.008	3599677	82.42	ug/L	99	
57) m,p-Xylenes	106	12.848	12.848	1.017	2815191	166.27	ug/L	95	
58) o-Xylene	91	13.287	13.287	1.052	3140259	84.62	ug/L	100	
59) Styrene	104	13.293	13.293	1.052	2439431	80.53	ug/L	100	
61) Bromoform	173	13.543	13.543	0.899	374010	104.08	ug/L	98	A
62) Isopropylbenzene	105	13.646	13.647	0.906	3671232	83.77	ug/L	98	
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	803247	87.31	ug/L	99	
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	235375	83.37	ug/L	97	
66) Bromobenzene	156	14.049	14.049	0.932	834873	82.67	ug/L	99	
67) n-Propylbenzene	91	14.079	14.079	0.934	4399955	82.54	ug/L	99	
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	3383516	85.28	ug/L	100	
69) 2-Chlorotoluene	126	14.220	14.220	0.944	882320	82.49	ug/L	100	
70) 4-Chlorotoluene	91	14.323	14.323	0.951	2763510	82.84	ug/L	100	
71) tert-Butylbenzene	134	14.604	14.604	0.969	715109	85.61	ug/L	99	
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	3476255	85.09	ug/L	99	
73) sec-Butylbenzene	105	14.829	14.829	0.984	4345738	84.42	ug/L	99	
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	3697284	84.80	ug/L	99	
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	1720632	81.07	ug/L	100	
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	1728593	79.66	ug/L	99	
77) n-Butylbenzene	91	15.384	15.384	1.021	3741083	83.60	ug/L	99	
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1686349	81.10	ug/L	100	
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	147284	95.17	ug/L	99	
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	1341160	77.45	ug/L	100	
81) Hexachlorobutadiene	225	17.457	17.457	1.159	888281	80.29	ug/L	99	
82) Naphthalene	128	17.646	17.646	1.171	3009836	81.57	ug/L	100	
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	1255634	76.28	ug/L	99	
85) Acrolein		6.026	6.008	0.638	0m	N.D.	d		
86) Trichlorotrifluoroethane		6.166	6.154	0.653	0m	N.D.	d		
87) Isopropyl Alcohol		6.191	6.270	0.656	0m	N.D.	d		
88) Allyl chloride		6.526	6.593	0.691	0m	N.D.	d		
89) tert-Butyl Alcohol		0.000	6.758	0.000	0	N.D.			
90) Acrylonitrile		7.026	7.001	0.744	0m	N.D.	d		
91) Isopropyl ether		7.526	7.544	0.797	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		7.654	7.666	0.811	0m	N.D.	d		
93) Ethyl tert-butyl ether		7.873	7.952	0.834	0m	N.D.	d		
94) Ethyl acetate		8.154	8.172	0.864	0m	N.D.	d		
95) Propionitrile		8.148	8.233	0.863	0m	N.D.	d		
96) Methacrylonitrile		8.519	8.410	0.902	0m	N.D.	d		
97) Tetrahydrofuran		8.507	8.519	0.901	0m	N.D.	d		
98) Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d		
101) 1,4-Dioxane		10.178	10.172	1.078	0m	N.D.	d		
102) 2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F209.D
Acq On : 20 Oct 2020 16:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-08|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 15:28:35 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

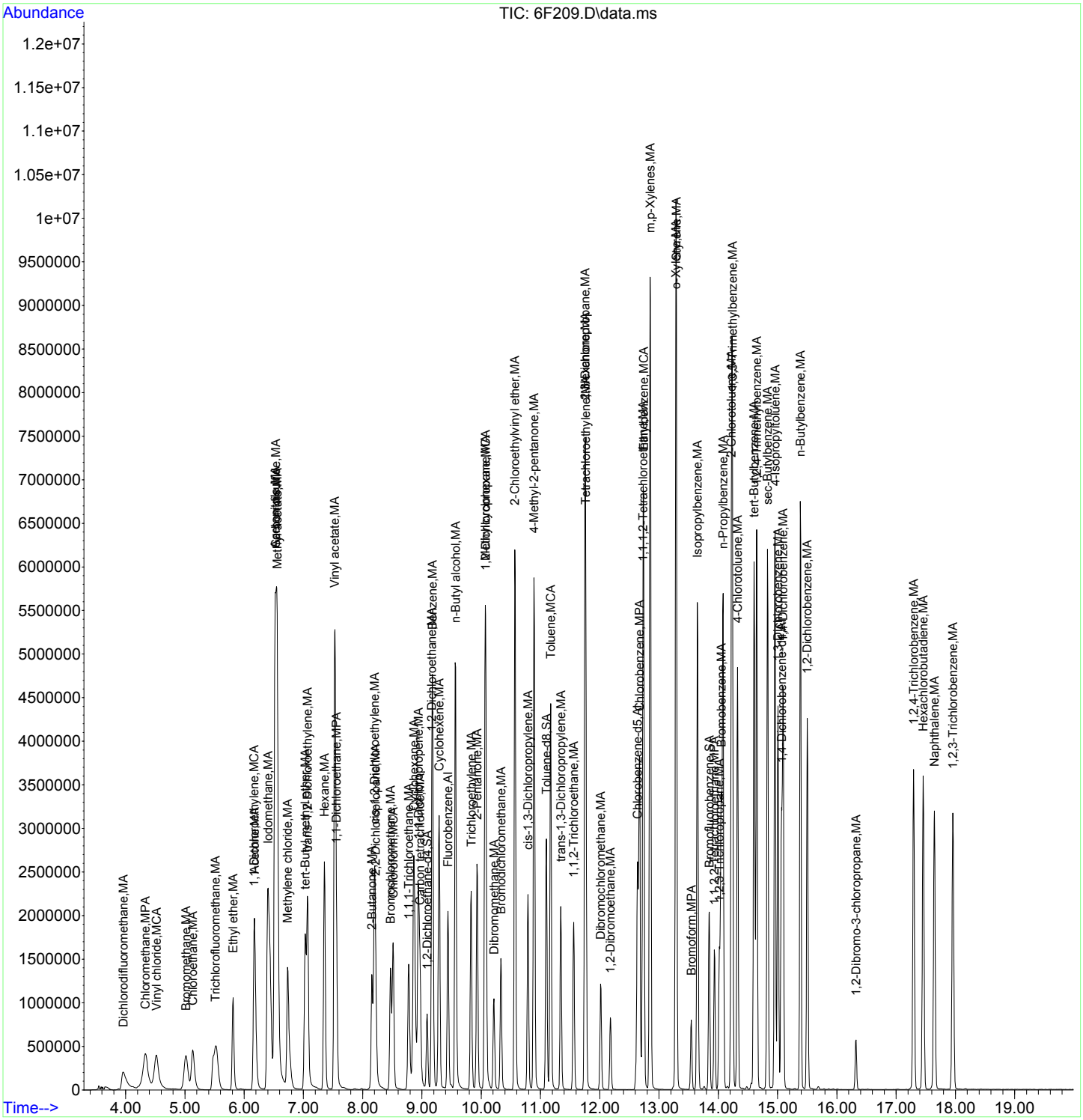
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.634	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.646	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.817	13.799	0.917	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.689	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F209.D
Acq On : 20 Oct 2020 16:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-08|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 15:28:35 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F210.D
Acq On : 20 Oct 2020 17:02
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-09|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

10/21/2020

KP

10/21/2020

Quant Time: Oct 21 15:28:37 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue	
Internal Standards								Dev(Min)	
1) Fluorobenzene	96	9.440	9.440	1.000	1845924	50.00	ug/L	0.00	
43) Chlorobenzene-d5	117	12.641	12.635	1.000	1410571	50.00	ug/L	0.00	
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	793226	50.00	ug/L	0.00	
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00	
103) B Chlorobenzene-d5	117	12.641	12.641	1.000	0m	50.00	ug/L	0.00	
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00	
System Monitoring Compounds								Dev(Min)	
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	636162	48.86	ug/L	0.00	
45) Toluene-d8	98	11.098	11.098	0.878	1923587	49.94	ug/L	0.00	
63) Bromofluorobenzene	95	13.842	13.842	0.919	759101	49.98	ug/L	0.00	
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue	
2) Dichlorodifluoromethane	85	3.969	3.969	0.420	1011900	85.43	ug/L	99	
3) Chloromethane	50	4.346	4.338	0.460	2124078	87.73	ug/L	100	
4) Vinyl chloride	62	4.530	4.522	0.480	1831087	88.84	ug/L	100	
5) Bromomethane	94	5.028	5.020	0.533	859863	86.23	ug/L	100	
6) Chloroethane	64	5.140	5.140	0.544	1144132	92.94	ug/L	100	
7) Trichlorofluoromethane	101	5.533	5.517	0.586	1704911	94.15	ug/L	100	
8) Ethyl ether	59	5.814	5.814	0.616	1213126	101.54	ug/L	99	A
9) Acetone	43	6.178	6.179	0.654	1442110	480.17	ug/L	99	
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	1976829	103.20	ug/L	99	A
11) Iodomethane	142	6.404	6.404	0.678	7646871	511.71	ug/L	100	A
12) Acetonitrile	41	6.526	6.526	0.691	3562556	2510.40	ug/L	100	A
13) Methyl acetate	43	6.562	6.563	0.695	3568121	504.84	ug/L	99	A
14) Carbon disulfide	76	6.538	6.538	0.693	15412500	518.63	ug/L	98	A
15) Methylene chloride	84	6.739	6.739	0.714	1028182	99.87	ug/L	98	
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	2738935	105.57	ug/L	100	A
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	1865389	102.13	ug/L	100	A
18) Hexane	57	7.355	7.355	0.779	2017327	96.99	ug/L	99	
19) Vinyl acetate	43	7.532	7.532	0.798	10510083	464.56	ug/L	95	
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	2221781	103.02	ug/L	100	A
21) 2-Butanone	43	8.154	8.160	0.864	2297817	505.89	ug/L	99	A
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	2123997	102.87	ug/L	99	A
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	1123995	104.09	ug/L	97	A
24) Bromochloromethane	128	8.471	8.471	0.897	462930	102.83	ug/L	99	A
25) Chloroform	83	8.513	8.514	0.902	1720693	102.06	ug/L	100	A
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	1457503	105.48	ug/L	100	A
27) Cyclohexane	56	8.867	8.867	0.939	2637042	99.23	ug/L	99	
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	1337436	102.99	ug/L	98	A
29) Carbon tetrachloride	117	8.964	8.965	0.950	1189245	110.07	ug/L	100	A
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	1653836	101.57	ug/L	100	A
32) Benzene	78	9.178	9.178	0.972	3963014	103.23	ug/L	99	A
33) Cyclohexene	67	9.288	9.288	0.984	2101359	103.21	ug/L	99	A
34) n-Butyl alcohol	56	9.568	9.568	1.014	4251522	13229.15	ug/L	99	A
35) Trichloroethylene	95	9.830	9.830	1.041	978420	103.83	ug/L	99	A
36) 2-Pentanone	43	9.928	9.928	1.052	3713247	516.47	ug/L	99	A
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	1336787	107.69	ug/L	100	A
38) Methylcyclohexane	83	10.068	10.068	1.067	1847656	101.99	ug/L	98	A
39) Dibromomethane	93	10.214	10.214	1.082	538974	104.58	ug/L	99	A
40) Bromodichloromethane	83	10.330	10.330	1.094	1302734	102.69	ug/L	99	A
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	3560102	504.12	ug/L	100	A
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	1610905	102.08	ug/L	98	A

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F210.D
Acq On : 20 Oct 2020 17:02
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-09|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 15:28:37 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	2340885	554.54	ug/L	93	A
46) Toluene	91	11.171	11.172	0.884	4011596	101.09	ug/L	99	A
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.897	1444082	102.26	ug/L	97	A
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	667287	104.37	ug/L	99	A
49) 2-Hexanone	43	11.750	11.751	0.930	3329717	536.41	ug/L	96	A
50) 1,3-Dichloropropane	76	11.750	11.751	0.930	1464181	104.73	ug/L	95	A
51) Tetrachloroethylene	164	11.763	11.763	0.931	760156	98.82	ug/L	99	
52) Dibromochloromethane	129	12.019	12.019	0.951	830612	103.59	ug/L	100	A
53) 1,2-Dibromoethane	107	12.177	12.177	0.963	752434	108.47	ug/L	100	A
54) Chlorobenzene	112	12.671	12.671	1.002	2635056	101.12	ug/L	100	A
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	967832	115.31	ug/L	99	A
56) Ethylbenzene	91	12.738	12.738	1.008	4640700	102.29	ug/L	98	A
57) m,p-Xylenes	106	12.854	12.848	1.017	3626299	206.18	ug/L	92	A
58) o-Xylene	91	13.287	13.287	1.051	4019911	104.29	ug/L	99	A
59) Styrene	104	13.293	13.293	1.052	3136726	99.49	ug/L	100	
61) Bromoform	173	13.543	13.543	0.899	501448	132.45	ug/L	100	A
62) Isopropylbenzene	105	13.646	13.647	0.906	4747165	102.81	ug/L	97	A
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	1050329	108.36	ug/L	99	A
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	306155	102.93	ug/L	99	A
66) Bromobenzene	156	14.049	14.049	0.932	1100305	103.42	ug/L	98	A
67) n-Propylbenzene	91	14.079	14.079	0.934	5609489	99.89	ug/L	97	
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	4400020	105.26	ug/L	99	A
69) 2-Chlorotoluene	126	14.220	14.220	0.944	1159952	102.93	ug/L	99	A
70) 4-Chlorotoluene	91	14.323	14.323	0.951	3635314	103.44	ug/L	99	A
71) tert-Butylbenzene	134	14.604	14.604	0.969	951004	108.06	ug/L	97	A
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	4533665	105.33	ug/L	98	A
73) sec-Butylbenzene	105	14.829	14.829	0.984	5585471	102.99	ug/L	98	A
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	4793559	104.36	ug/L	98	A
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	2285942	102.23	ug/L	100	A
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	2292776	100.28	ug/L	99	A
77) n-Butylbenzene	91	15.384	15.384	1.021	4879725	103.50	ug/L	98	A
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	2243213	102.39	ug/L	100	A
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	196795	120.70	ug/L	99	A
80) 1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	1803487	98.85	ug/L	100	
81) Hexachlorobutadiene	225	17.457	17.457	1.159	1169163	100.31	ug/L	99	A
82) Naphthalene	128	17.646	17.646	1.171	3994356	102.75	ug/L	100	A
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	1675120	96.59	ug/L	100	
85) Acrolein		6.008	6.008	0.636	0m	N.D.	d		
86) Trichlorotrifluoroethane		6.136	6.154	0.650	0m	N.D.	d		
87) Isopropyl Alcohol		6.191	6.270	0.656	0m	N.D.	d		
88) Allyl chloride		6.526	6.593	0.691	0m	N.D.	d		
89) tert-Butyl Alcohol		6.758	6.758	0.716	0m	N.D.	d		
90) Acrylonitrile		7.038	7.001	0.746	0m	N.D.	d		
91) Isopropyl ether		7.526	7.544	0.797	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		7.678	7.666	0.813	0m	N.D.	d		
93) Ethyl tert-butyl ether		7.861	7.952	0.833	0m	N.D.	d		
94) Ethyl acetate		8.154	8.172	0.864	0m	N.D.	d		
95) Propionitrile		8.239	8.233	0.873	0m	N.D.	d		
96) Methacrylonitrile		8.526	8.410	0.903	0m	N.D.	d		
97) Tetrahydrofuran		8.513	8.519	0.902	0m	N.D.	d		
98) Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d		
101) 1,4-Dioxane		10.184	10.172	1.079	0m	N.D.	d		
102) 2-Nitropropane		10.458	10.550	1.108	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F210.D
Acq On : 20 Oct 2020 17:02
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-09|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 15:28:37 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

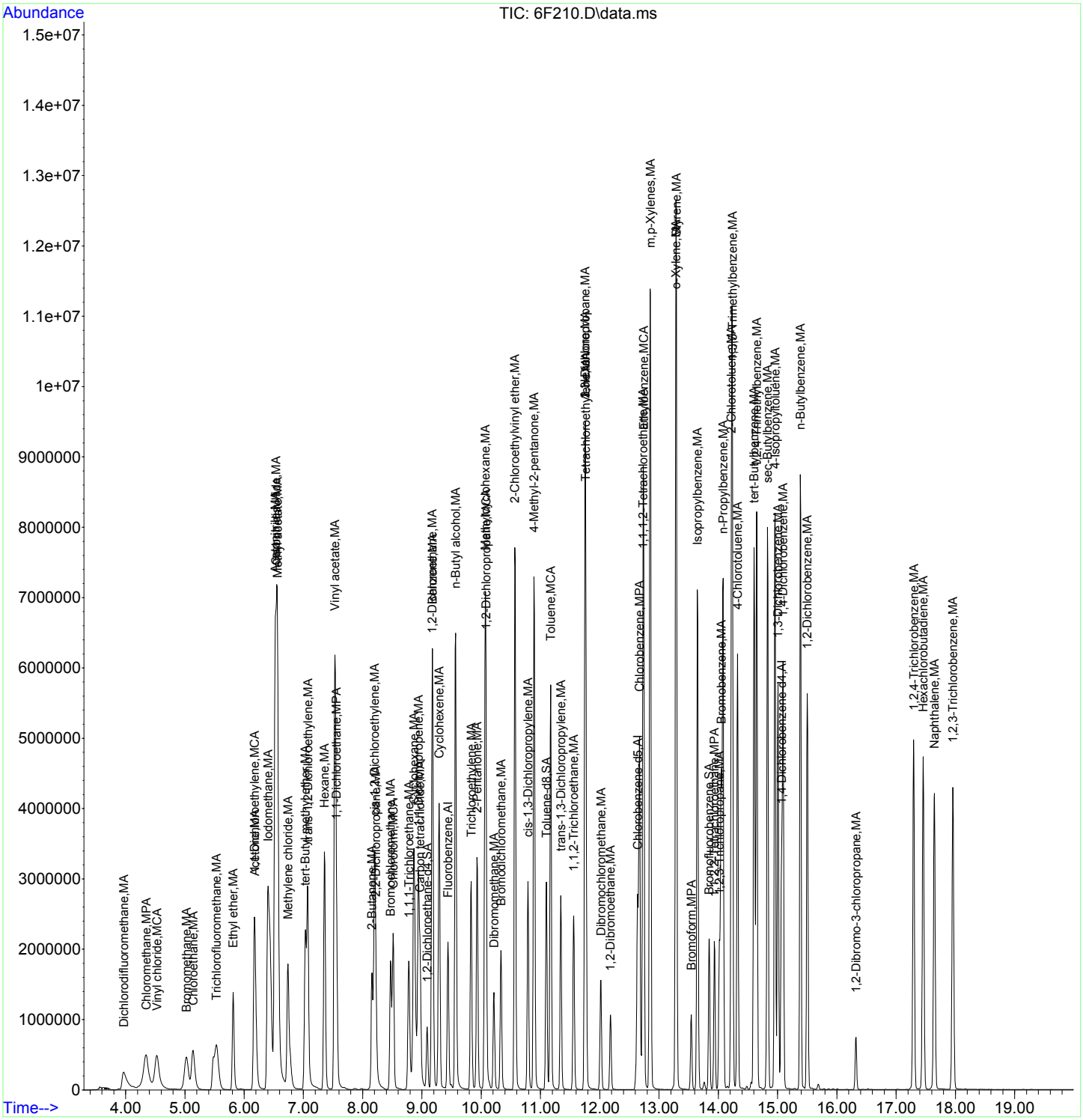
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.634	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.646	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.799	13.799	0.916	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		14.665	14.671	0.973	0m	N.D.	d
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.597	15.603	1.035	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F210.D
Acq On : 20 Oct 2020 17:02
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-09|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 15:28:37 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



Continuing Calibration Summary

Client SDG: 2021-129

Instrument ID: VOA6.I **Injection Date:** 20-OCT-20 17:53

Data File: 102020V6\6F212.D **Init. Cal. Date(s)** 20-OCT-20 13:37 - 20-OCT-20 17:0

Lab Sample ID W6VM201020-10 **Method:** 102020V6\VOA6-8260-102020DOE.M

Quant Type ISTD **Method Update:** 21-OCT-20 15:27

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type	
S	1,2-Dichloroethane-d4	0.3527	0.3545		.01		0.51035	60		Averaged	
S	Toluene-d8	1.3654	1.38691		.01		1.57536	60		Averaged	
S	Bromofluorobenzene	0.9573	0.99062		.01		3.48062	60		Averaged	
	Chloromethane	0.6558	0.65324		.1		-0.39036	60		Averaged	SPCC
	Vinyl chloride	0.5583	0.52764		.01		-5.49167	20		Averaged	CCC
	1,1-Dichloroethylene	0.5188	0.50138		.01		-3.35775	20		Averaged	CCC
	Methylene chloride	50	48.04	50			-3.92	60		Linear	
	1,1-Dichloroethane	0.5842	0.59513		.1		1.87093	60		Averaged	SPCC
	Chloroform	0.4567	0.45335		.01		-0.73352	20		Averaged	CCC
	1,1,1-Trichloroethane	0.3743	0.38996		.01		4.18381	60		Averaged	
	Carbon tetrachloride	0.2927	0.31671		.01		8.20294	60		Averaged	
	1,2-Dichloroethane	0.441	0.41704		.01		-5.43311	60		Averaged	
	Benzene	1.0399	1.01266		.01		-2.61948	60		Averaged	
	Trichloroethylene	0.2552	0.24888		.01		-2.47649	60		Averaged	
	1,2-Dichloropropane	0.3362	0.33671		.01		0.1517	20		Averaged	CCC
	Dibromomethane	0.1396	0.13671		.01		-2.0702	60		Averaged	
	Toluene	1.4067	1.38413		.01		-1.60446	20		Averaged	CCC
	1,1,2-Trichloroethane	0.2266	0.22311		.01		-1.54016	60		Averaged	
	Tetrachloroethylene	0.2727	0.26468		.01		-2.94096	60		Averaged	
	Chlorobenzene	0.9237	0.88058		.3		-4.66818	60		Averaged	SPCC
	Ethylbenzene	1.6081	1.61152		.01		0.21267	20		Averaged	CCC
	m,p-Xylenes	0.6234	0.62275		.01		-0.10427	60		Averaged	
	o-Xylene	1.3663	1.35355		.01		-0.93318	60		Averaged	
	Bromoform	0.2386	0.2836		.1		18.86002	60		Averaged	SPCC
	1,1,2,2-Tetrachloroethane	0.611	0.62506		.3		2.30115	60		Averaged	SPCC

MEL

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F212.D
Acq On : 20 Oct 2020 17:53
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-10|ICV|1|VOAF|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

10/21/2020

KP

10/21/2020

Quant Time: Oct 21 15:28:41 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1780858	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1350269	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	738420	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1780858	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1350269	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	739536	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	631320	50.26	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1872695	50.79	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	731493	51.74	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.969	3.969	0.420	590776	51.70	ug/L	99
3) Chloromethane	50	4.338	4.338	0.460	1163336	49.80	ug/L	100
4) Vinyl chloride	62	4.522	4.522	0.479	939646	47.25	ug/L	98
5) Bromomethane	94	5.020	5.020	0.532	483059	50.21	ug/L	100
6) Chloroethane	64	5.132	5.140	0.544	580071	48.84	ug/L	100
7) Trichlorofluoromethane	101	5.525	5.517	0.585	877081	50.20	ug/L	99
8) Ethyl ether	59	5.814	5.814	0.616	551469	47.84	ug/L	99
9) Acetone	43	6.178	6.179	0.654	713837	246.37	ug/L	100
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	892881	48.32	ug/L	100
11) Iodomethane	142	6.404	6.404	0.678	3649594	253.14	ug/L	100
12) Acetonitrile	41	6.526	6.526	0.691	1649951	1205.14	ug/L	100
13) Methyl acetate	43	6.563	6.563	0.695	1560425	228.84	ug/L	100
14) Carbon disulfide	76	6.538	6.538	0.693	8137987	283.85	ug/L	100
15) Methylene chloride	84	6.739	6.739	0.714	481986	48.04	ug/L	98
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	1288268	51.47	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	828530	47.02	ug/L	99
18) Hexane	57	7.355	7.355	0.779	1093322	54.48	ug/L	99
19) Vinyl acetate	43	7.532	7.532	0.798	5928389	271.62	ug/L	100
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	1059836	50.94	ug/L	100
21) 2-Butanone	43	8.154	8.160	0.864	1108444	252.95	ug/L	99
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	949365	47.66	ug/L	99
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	534432	51.30	ug/L	99
24) Bromochloromethane	128	8.471	8.471	0.897	215913	49.71	ug/L	98
25) Chloroform	83	8.513	8.514	0.902	807354	49.64	ug/L	99
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	694463	52.09	ug/L	100
27) Cyclohexane	56	8.867	8.867	0.939	1232802	48.08	ug/L	100
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	612105	48.86	ug/L	99
29) Carbon tetrachloride	117	8.965	8.965	0.950	564016	54.11	ug/L	99
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	742694	47.28	ug/L	100
32) Benzene	78	9.178	9.178	0.972	1803408	48.69	ug/L	99
33) Cyclohexene	67	9.288	9.288	0.984	1004328	51.13	ug/L	99
34) n-Butyl alcohol	56	9.568	9.568	1.014	1915011	6176.51	ug/L	99
35) Trichloroethylene	95	9.830	9.830	1.041	443217	48.75	ug/L	99
36) 2-Pentanone	43	9.928	9.928	1.052	1901792	274.18	ug/L	99
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	599626	50.07	ug/L	100
38) Methylcyclohexane	83	10.068	10.068	1.067	846457	48.43	ug/L	99
39) Dibromomethane	93	10.214	10.214	1.082	243469	48.97	ug/L	100
40) Bromodichloromethane	83	10.330	10.330	1.094	565642	46.53	ug/L	100
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	1840651	270.16	ug/L	100
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	728125	48.11	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F212.D
Acq On : 20 Oct 2020 17:53
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-10|ICV|1|VOAF|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 21 15:28:41 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	1086862	268.97	ug/L	99
46) Toluene	91	11.171	11.172	0.884	1868954	49.20	ug/L	100
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	650224	48.41	ug/L	98
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	301264	49.22	ug/L	100
49) 2-Hexanone	43	11.751	11.751	0.930	1625798	273.61	ug/L	99
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	668564	49.96	ug/L	99
51) Tetrachloroethylene	164	11.769	11.763	0.931	357384	48.53	ug/L	99
52) Dibromochloromethane	129	12.019	12.019	0.951	367213	48.26	ug/L	99
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	344889	51.94	ug/L	100
54) Chlorobenzene	112	12.671	12.671	1.003	1189014	47.67	ug/L	99
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	418657	52.11	ug/L	99
56) Ethylbenzene	91	12.738	12.738	1.008	2175983	50.11	ug/L	100
57) m,p-Xylenes	106	12.848	12.848	1.017	1681762	99.89	ug/L	99
58) o-Xylene	91	13.287	13.287	1.052	1827650	49.53	ug/L	99
59) Styrene	104	13.293	13.293	1.052	1410560	47.19	ug/L	100
61) Bromoform	173	13.543	13.543	0.899	209419	59.42	ug/L	99
62) Isopropylbenzene	105	13.647	13.647	0.906	2219364	51.63	ug/L	99
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	461556	51.15	ug/L	99
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	136099	49.15	ug/L	98
66) Bromobenzene	156	14.049	14.049	0.932	497291	50.21	ug/L	99
67) n-Propylbenzene	91	14.079	14.079	0.934	2610233	49.93	ug/L	100
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	1956231	50.27	ug/L	99
69) 2-Chlorotoluene	126	14.220	14.220	0.944	530015	50.52	ug/L	100
70) 4-Chlorotoluene	91	14.323	14.323	0.951	1615653	49.38	ug/L	99
71) tert-Butylbenzene	134	14.604	14.604	0.969	406285	49.59	ug/L	100
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	1966403	49.08	ug/L	100
73) sec-Butylbenzene	105	14.829	14.829	0.984	2517539	49.87	ug/L	100
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	2109657	49.34	ug/L	100
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	1005084	48.28	ug/L	100
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	1009615	47.44	ug/L	99
77) n-Butylbenzene	91	15.384	15.384	1.021	2145587	48.89	ug/L	99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1002114	49.14	ug/L	99
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	82158	54.13	ug/L	99
80) 1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	828814	48.80	ug/L	99
81) Hexachlorobutadiene	225	17.457	17.457	1.159	520893	48.01	ug/L	99
82) Naphthalene	128	17.646	17.646	1.171	1752315	48.42	ug/L	100
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	762411	47.23	ug/L	100
85) Acrolein		0.000	6.008	0.000	0	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol		6.325	6.270	0.670	0m	N.D.	d	
88) Allyl chloride		6.526	6.593	0.691	0m	N.D.	d	
89) tert-Butyl Alcohol		6.764	6.758	0.716	0m	N.D.	d	
90) Acrylonitrile		7.038	7.001	0.746	0m	N.D.	d	
91) Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d	
92) 2-Chloro-1,3-butadiene		7.678	7.666	0.813	0m	N.D.	d	
93) Ethyl tert-butyl ether		7.867	7.952	0.833	0m	N.D.	d	
94) Ethyl acetate		8.154	8.172	0.864	0m	N.D.	d	
95) Propionitrile		8.154	8.233	0.864	0m	N.D.	d	
96) Methacrylonitrile		8.519	8.410	0.902	0m	N.D.	d	
97) Tetrahydrofuran		8.593	8.519	0.910	0m	N.D.	d	
98) Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d	
99) Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d	
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d	
101) 1,4-Dioxane		10.196	10.172	1.080	0m	N.D.	d	
102) 2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F212.D
Acq On : 20 Oct 2020 17:53
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-10|ICV|1|VOAF|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 21 15:28:41 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

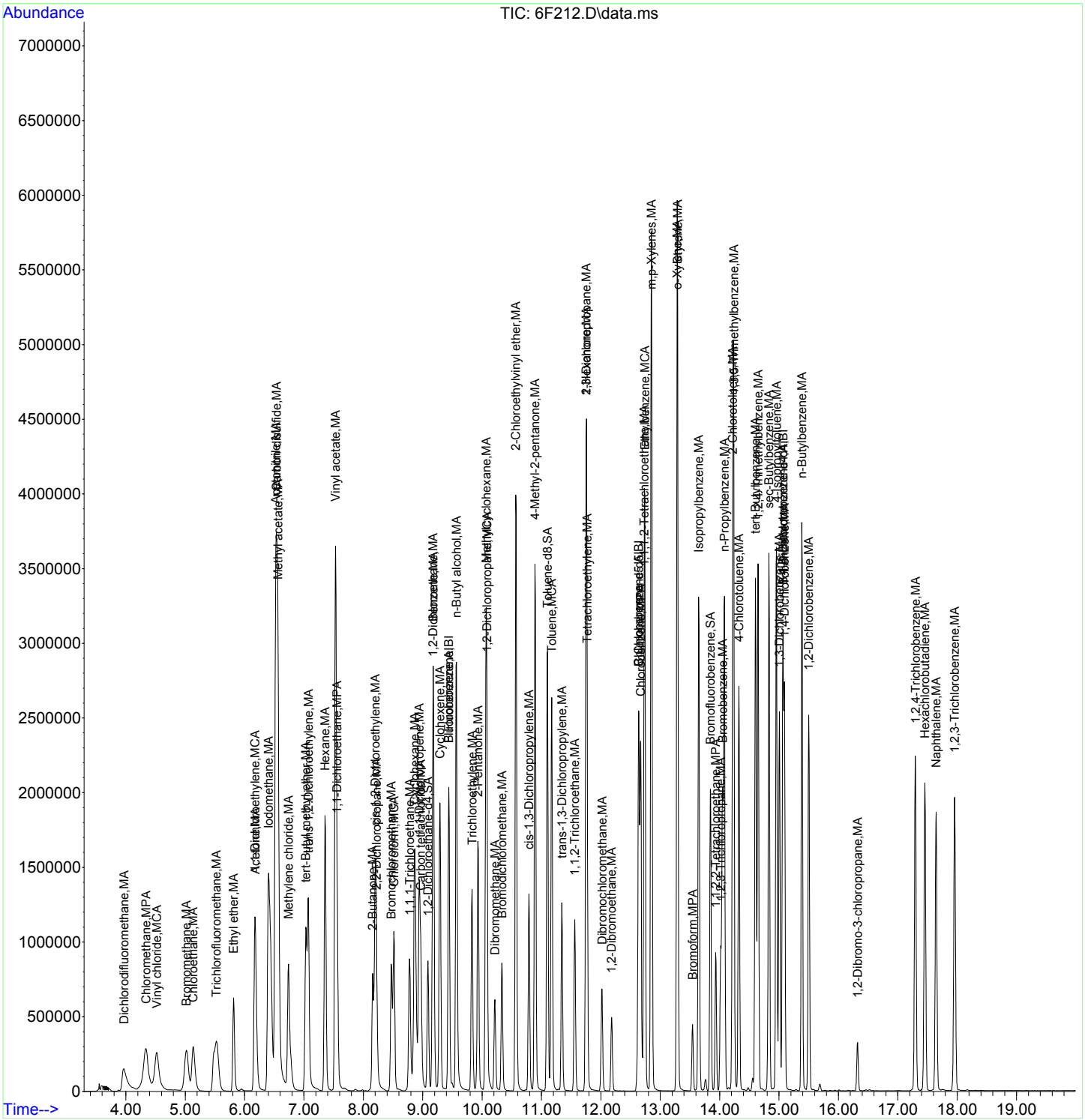
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.805	13.799	0.916	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.073	13.988	0.934	0m	N.D.	d
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.683	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F212.D
Acq On : 20 Oct 2020 17:53
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-10|ICV|1|VOAF|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 21 15:28:41 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



Continuing Calibration Summary

Client SDG: 2021-129

Instrument ID: VOA6.I **Injection Date:** 17-NOV-20 10:18

Data File: 111720V6\6J203.D **Init. Cal. Date(s)** 20-OCT-20 13:37 - 20-OCT-20 17:0

Lab Sample ID W6VM201117-02 **Method:** 102020V6\VOA6-8260-102020DOE.M

Quant Type ISTD **Method Update:** 21-OCT-20 15:27

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type	
S	1,2-Dichloroethane-d4	0.3527	0.36009		.01		2.09527	60		Averaged	
S	Toluene-d8	1.3654	1.36381		.01		-0.11645	60		Averaged	
S	Bromofluorobenzene	0.9573	0.98155		.01		2.53317	60		Averaged	
	Chloromethane	0.6558	0.71038		.1		8.32266	60		Averaged	SPCC
	Vinyl chloride	0.5583	0.46526		.01		-16.66488	20		Averaged	CCC
	1,1-Dichloroethylene	0.5188	0.53031		.01		2.21858	20		Averaged	CCC
	Methylene chloride	50	47.62	50			-4.76	60		Linear	
	1,1-Dichloroethane	0.5842	0.60877		.1		4.20575	60		Averaged	SPCC
	Chloroform	0.4567	0.43348		.01		-5.0843	20		Averaged	CCC
	1,1,1-Trichloroethane	0.3743	0.37573		.01		0.38205	60		Averaged	
	Carbon tetrachloride	0.2927	0.29783		.01		1.75265	60		Averaged	
	1,2-Dichloroethane	0.441	0.41318		.01		-6.30839	60		Averaged	
	Benzene	1.0399	0.97955		.01		-5.80344	60		Averaged	
	Trichloroethylene	0.2552	0.2414		.01		-5.40752	60		Averaged	
	1,2-Dichloropropane	0.3362	0.34343		.01		2.15051	20		Averaged	CCC
	Dibromomethane	0.1396	0.13224		.01		-5.27221	60		Averaged	
	Toluene	1.4067	1.37652		.01		-2.14545	20		Averaged	CCC
	1,1,2-Trichloroethane	0.2266	0.22222		.01		-1.93292	60		Averaged	
	Tetrachloroethylene	0.2727	0.258		.01		-5.39054	60		Averaged	
	Chlorobenzene	0.9237	0.87284		.3		-5.50612	60		Averaged	SPCC
	Ethylbenzene	1.6081	1.58118		.01		-1.67403	20		Averaged	CCC
	m,p-Xylenes	0.6234	0.60771		.01		-2.51684	60		Averaged	
	o-Xylene	1.3663	1.31685		.01		-3.61926	60		Averaged	
	Bromoform	0.2386	0.27635		.1		15.82146	60		Averaged	SPCC
	1,1,2,2-Tetrachloroethane	0.611	0.64556		.3		5.6563	60		Averaged	SPCC

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |W6VM201117-02|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV/LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 17 12:24:28 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1849348	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1379680	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	765395	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1849348	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1379680	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	765468	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	665938	51.05	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1881620	49.94	ug/L		0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	751273	51.27	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.977	3.969	0.421	535910	45.16	ug/L		100
3) Chloromethane	50	4.346	4.338	0.460	1313748	54.16	ug/L		97
4) Vinyl chloride	62	4.530	4.522	0.480	860422	41.67	ug/L		99
5) Bromomethane	94	5.036	5.020	0.533	437791	43.82	ug/L		100
6) Chloroethane	64	5.148	5.140	0.545	563449	45.68	ug/L		99
7) Trichlorofluoromethane	101	5.533	5.517	0.586	790390	43.57	ug/L		99
8) Ethyl ether	59	5.822	5.814	0.617	628121	52.48	ug/L		81
9) Acetone	43	6.179	6.179	0.654	928149	308.47	ug/L		94
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	980727	51.10	ug/L		97
11) Iodomethane	142	6.404	6.404	0.678	3647768	243.65	ug/L		100
12) Acetonitrile	41	6.532	6.526	0.692	2422466	1703.86	ug/L		100
13) Methyl acetate	43	6.563	6.563	0.695	2171001	306.60	ug/L		91
14) Carbon disulfide	76	6.532	6.538	0.692	8485602	285.01	ug/L		100
15) Methylene chloride	84	6.739	6.739	0.714	496316	47.62	ug/L	#	75
16) tert-Butyl methyl ether	73	7.038	7.032	0.746	1283137	49.37	ug/L		93
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	901524	49.27	ug/L		95
18) Hexane	57	7.361	7.355	0.780	1290960	61.95	ug/L		90
19) Vinyl acetate	43	7.532	7.532	0.798	7821390	345.08	ug/L		95
20) 1,1-Dichloroethane	63	7.562	7.556	0.801	1125832	52.11	ug/L		99
21) 2-Butanone	43	8.160	8.160	0.864	1504857	330.70	ug/L		89
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	1011958	48.92	ug/L		95
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	550325	50.87	ug/L		85
24) Bromochloromethane	128	8.477	8.471	0.898	208510	46.23	ug/L	#	66
25) Chloroform	83	8.513	8.514	0.902	801660	47.46	ug/L		100
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	694849	50.19	ug/L		97
27) Cyclohexane	56	8.867	8.867	0.939	1486996	55.85	ug/L		91
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	634122	48.74	ug/L		88
29) Carbon tetrachloride	117	8.971	8.965	0.950	550785	50.88	ug/L		100
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	764109	46.84	ug/L		99
32) Benzene	78	9.178	9.178	0.972	1811522	47.10	ug/L		95
33) Cyclohexene	67	9.288	9.288	0.984	1045674	51.26	ug/L		85
34) n-Butyl alcohol	56	9.568	9.568	1.014	2277610	7073.95	ug/L		88
35) Trichloroethylene	95	9.830	9.830	1.041	446436	47.29	ug/L		99
36) 2-Pentanone	43	9.928	9.928	1.052	2480306	344.34	ug/L		92
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	635113	51.07	ug/L		99
38) Methylcyclohexane	83	10.068	10.068	1.067	875960	48.26	ug/L		88
39) Dibromomethane	93	10.214	10.214	1.082	244555	47.37	ug/L		96
40) Bromodichloromethane	83	10.330	10.330	1.094	576772	45.69	ug/L		99
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	1933624	273.30	ug/L		98
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	747369	47.56	ug/L		91

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |W6VM201117-02|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV/LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 12:24:28 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	1209798	293.01	ug/L	#	75
46) Toluene	91	11.171	11.172	0.884	1899162	48.93	ug/L		100
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	664869	48.45	ug/L		91
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	306590	49.02	ug/L		99
49) 2-Hexanone	43	11.751	11.751	0.930	2100937	346.03	ug/L		89
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	665216	48.65	ug/L	#	76
51) Tetrachloroethylene	164	11.763	11.763	0.931	355960	47.31	ug/L		99
52) Dibromochloromethane	129	12.019	12.019	0.951	375194	48.26	ug/L		99
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	348203	51.32	ug/L		99
54) Chlorobenzene	112	12.671	12.671	1.003	1204245	47.25	ug/L		100
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	418698	51.00	ug/L		99
56) Ethylbenzene	91	12.738	12.738	1.008	2181518	49.16	ug/L		99
57) m,p-Xylenes	106	12.848	12.848	1.017	1676900	97.48	ug/L		99
58) o-Xylene	91	13.287	13.287	1.052	1816834	48.19	ug/L		99
59) Styrene	104	13.293	13.293	1.052	1365415	44.75	ug/L		99
61) Bromoform	173	13.543	13.543	0.899	211519	57.90	ug/L		98
62) Isopropylbenzene	105	13.647	13.647	0.906	2288349	51.36	ug/L		99
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	494110	52.83	ug/L		100
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	138908	48.40	ug/L		98
66) Bromobenzene	156	14.049	14.049	0.932	485609	47.30	ug/L		95
67) n-Propylbenzene	91	14.079	14.079	0.934	2728168	50.35	ug/L		99
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	2001939	49.64	ug/L		98
69) 2-Chlorotoluene	126	14.220	14.220	0.944	538345	49.51	ug/L		99
70) 4-Chlorotoluene	91	14.323	14.323	0.951	1640878	48.39	ug/L		100
71) tert-Butylbenzene	134	14.604	14.604	0.969	431757	50.85	ug/L	#	88
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	2059386	49.59	ug/L		99
73) sec-Butylbenzene	105	14.829	14.829	0.984	2739301	52.35	ug/L		99
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	2258664	50.96	ug/L		100
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	1040018	48.20	ug/L		99
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	1046078	47.42	ug/L		99
77) n-Butylbenzene	91	15.384	15.384	1.021	2400886	52.77	ug/L		99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1055330	49.92	ug/L		99
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	90191	57.33	ug/L		96
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	883325	50.18	ug/L		100
81) Hexachlorobutadiene	225	17.457	17.457	1.159	547963	48.72	ug/L		99
82) Naphthalene	128	17.646	17.646	1.171	1929909	51.45	ug/L		99
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	803312	48.01	ug/L		99
85) Acrolein		0.000	6.008	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87) Isopropyl Alcohol		6.203	6.270	0.657	0m	N.D.	d		
88) Allyl chloride		6.532	6.593	0.692	0m	N.D.	d		
89) tert-Butyl Alcohol		0.000	6.758	0.000	0	N.D.			
90) Acrylonitrile		7.038	7.001	0.746	0m	N.D.	d		
91) Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		7.672	7.666	0.813	0m	N.D.	d		
93) Ethyl tert-butyl ether		7.855	7.952	0.832	0m	N.D.	d		
94) Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d		
95) Propionitrile		8.154	8.233	0.864	0m	N.D.	d		
96) Methacrylonitrile		8.507	8.410	0.901	0m	N.D.	d		
97) Tetrahydrofuran		8.513	8.519	0.902	0m	N.D.	d		
98) Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d		
101) 1,4-Dioxane		10.184	10.172	1.079	0m	N.D.	d		
102) 2-Nitropropane		10.476	10.550	1.110	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |W6VM201117-02|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV/LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 12:24:28 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

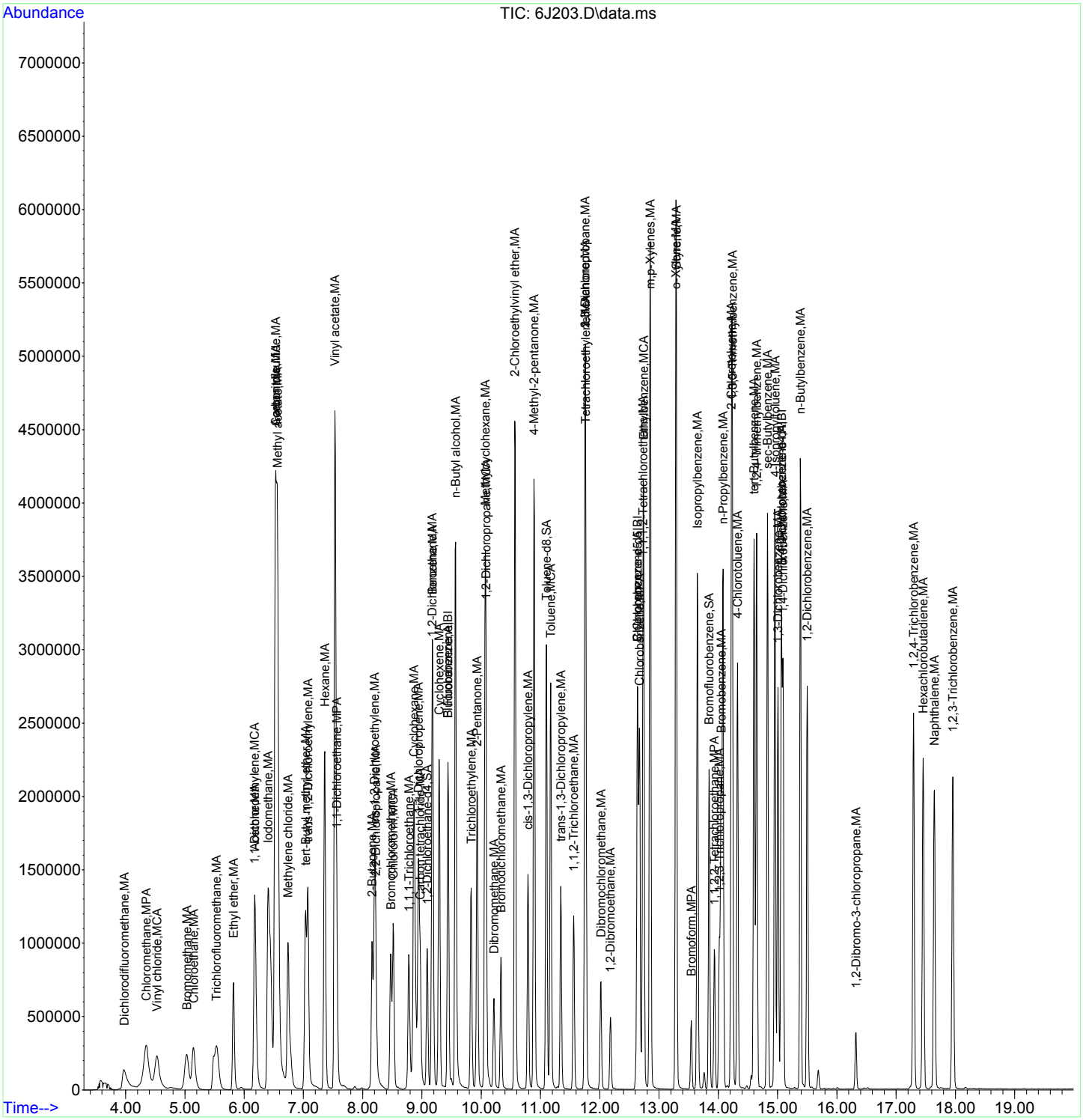
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.805	13.799	0.916	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.604	15.603	1.036	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |W6VM201117-02|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV/LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 12:24:28 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



JP

Calibration History Report VOA9
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M 09/10/2020
Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

EH 09/16/2020

Cal Lvl:8 Amt:0.00 Last Updated with: C:\msdchem\1\data\090920V9\9I302.D

Injection Date	Mix	Calibration File
09 Sep 2020 20:00	A	C:\msdchem\1\data\090920V9\9I302.D

Cal Lvl:1 Amt:1.00 Last Updated with: C:\msdchem\1\data\090920V9\9I313.D

Injection Date	Mix	Calibration File
09 Sep 2020 20:26	A	C:\msdchem\1\data\090920V9\9I303.D
10 Sep 2020 00:54	B	C:\msdchem\1\data\090920V9\9I313.D

Cal Lvl:2 Amt:2.00 Last Updated with: C:\msdchem\1\data\090920V9\9I314.D

Injection Date	Mix	Calibration File
09 Sep 2020 20:53	A	C:\msdchem\1\data\090920V9\9I304.D
10 Sep 2020 01:20	B	C:\msdchem\1\data\090920V9\9I314.D

Cal Lvl:3 Amt:5.00 Last Updated with: C:\msdchem\1\data\090920V9\9I315.D

Injection Date	Mix	Calibration File
09 Sep 2020 21:20	A	C:\msdchem\1\data\090920V9\9I305.D
10 Sep 2020 01:47	B	C:\msdchem\1\data\090920V9\9I315.D

Cal Lvl:4 Amt:10.00 Last Updated with: C:\msdchem\1\data\090920V9\9I316.D

Injection Date	Mix	Calibration File
09 Sep 2020 21:47	A	C:\msdchem\1\data\090920V9\9I306.D
10 Sep 2020 02:13	B	C:\msdchem\1\data\090920V9\9I316.D

Cal Lvl:5 Amt:20.00 Last Updated with: C:\msdchem\1\data\090920V9\9I317.D

Injection Date	Mix	Calibration File
09 Sep 2020 22:14	A	C:\msdchem\1\data\090920V9\9I307.D
10 Sep 2020 02:40	B	C:\msdchem\1\data\090920V9\9I317.D

Cal Lvl:6 Amt:50.00 Last Updated with: C:\msdchem\1\data\090920V9\9I318.D

Injection Date	Mix	Calibration File
09 Sep 2020 22:41	A	C:\msdchem\1\data\090920V9\9I308.D
10 Sep 2020 03:06	B	C:\msdchem\1\data\090920V9\9I318.D

Cal Lvl:7 Amt:100.00 Last Updated with: C:\msdchem\1\data\090920V9\9I320.D

Injection Date	Mix	Calibration File
09 Sep 2020 23:34	A	C:\msdchem\1\data\090920V9\9I310.D
10 Sep 2020 04:00	B	C:\msdchem\1\data\090920V9\9I320.D

Cal Lvl:9 Amt:80.00 Last Updated with: C:\msdchem\1\data\090920V9\9I319.D

Injection Date	Mix	Calibration File
09 Sep 2020 23:07	A	C:\msdchem\1\data\090920V9\9I309.D

Calibration History Report VOA9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

10 Sep 2020 03:33	B	C:\msdchem\1\data\090920V9\9I319.D

VOA9-8260-090920.M Thu Sep 10 19:08:56 2020

SDG: 2021-129

Response Factor Report VOA9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

JP 09/10/2020

09/16/2020

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	6	7	9							
2)MA Dichlorodifluoromethane		0.3489942	0.3242474	0.3713686	0.3503969	0.3482425				
	0.3333568	0.3282850	0.2432046				0.3310	AVRG		11.6409
3)MPA Chloromethane		0.5361025	0.4900654	0.4709390	0.4376599	0.4275164				
	0.4112142	0.3976002	0.3327967				0.4380	AVRG		14.1660
4)MCA Vinyl chloride		0.4671613	0.4308122	0.4447780	0.3999805	0.3907349				
	0.3906675	0.3659457	0.3116917				0.4002	AVRG		12.1660
5)MA Bromomethane		0.3418479	0.3176660	0.3018538	0.2987455	0.2953095				
	0.3042939	0.2962802	0.2353271				0.2989	AVRG		10.0329
6)MA Chloroethane		0.2545783	0.2583507	0.2501569	0.2369879	0.2315518				
	0.2410414	0.2384217	0.1919524				0.2379	AVRG		8.7158
7)MA Trichlorofluoromethane		0.5276110	0.5616329	0.5377547	0.5175511	0.5133095				
	0.5389604	0.5338782	0.4113758				0.5178	AVRG		8.7808
8)MA Ethyl ether		0.1681074	0.1787117	0.1779191	0.1763278	0.1782290				
	0.1886240	0.1923437	0.1532984				0.1767	AVRG		6.8195
9)MA Acetone		0.0586085	0.0544683	0.0505633	0.0482554	0.0507114				
	0.0517881	0.0528770	0.0490804				0.0520	AVRG		6.3659
10)MCA 1,1-Dichloroethylene		0.3946048	0.4314124	0.3895270	0.3670246	0.3992756				
	0.4184057	0.4221090	0.3973696				0.4025	AVRG		5.1432
11)MA Iodomethane		0.4448394	0.4749116	0.4439278	0.4340407	0.4846400				
	0.5324324	0.5823294	0.5278055				0.4906	AVRG		10.7030
12)MA Acetonitrile		0.0271276	0.0274125	0.0261772	0.0248818	0.0264617				
	0.0270579	0.0269745	0.0251028				0.0264	AVRG		3.6102
13)MA Methyl acetate		0.1207061	0.1249223	0.1205769	0.1173279	0.1240701				
	0.1243790	0.1232497	0.1165681				0.1215	AVRG		2.6562
14)MA Carbon disulfide		0.7942624	0.8724650	0.8170474	0.7982267	0.8698519				
	0.9087070	0.8917759	0.8492297				0.8502	AVRG		5.0617
15)MA Methylene chloride		22179	28579	46498	78471	147780		1/x		
0.0130 | 0.2532 | 0.00	349065	725789	529404					LINR	#	0.9985
16)MA tert-Butyl methyl ether		0.6041190	0.6403819	0.6174886	0.5944232	0.6408153				
	0.6555776	0.6711958	0.6250363				0.6311	AVRG		4.0980

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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
17)MA trans-1,2-Dichloroethyle		0.3616475	0.3909927	0.3814927	0.3478609	0.3786056				
	0.3810417	0.3793168	0.3644632				0.3732	AVRG		3.7424
18)MA Hexane				0.3833528	0.3688564	0.3640611				
	0.3981915	0.3797089	0.3793408				0.3789	AVRG		3.1535
19)MA Vinyl acetate		0.4092506	0.4268716	0.4464782	0.4558167	0.4503380				
	0.4820138	0.4710046	0.3829465				0.4406	AVRG		7.4271
20)MPA 1,1-Dichloroethane		0.4345823	0.4667408	0.4347568	0.4228039	0.4452691				
	0.4544961	0.4609135	0.4373844				0.4446	AVRG		3.3781
21)MA 2-Butanone		0.0827548	0.0831118	0.0796611	0.0779981	0.0808383				
	0.0826245	0.0830576	0.0773221				0.0809	AVRG		2.9064
22)MA cis-1,2-Dichloroethylene		0.3966646	0.4303776	0.4071947	0.3920618	0.4224159				
	0.4347157	0.4357062	0.4133272				0.4166	AVRG		4.0736
23)MA 2,2-Dichloropropane		0.4207520	0.4385939	0.3954796	0.3938561	0.4190841				
	0.4300505	0.4292978	0.4107179				0.4172	AVRG		3.8902
24)MA Bromochloromethane		0.1173683	0.1096071	0.1190032	0.1094609	0.1215667				
	0.1263705	0.1315401	0.1227153				0.1197	AVRG		6.3926
25)MCA Chloroform		0.4085191	0.4458376	0.4200892	0.4126227	0.4343265				
	0.4470726	0.4552158	0.4301232				0.4317	AVRG		3.9490
26)MA 1,1,1-Trichloroethane		0.4091076	0.4314745	0.4166221	0.4133831	0.4445807				
	0.4654225	0.4729149	0.4485932				0.4378	AVRG		5.5058
27)MA Cyclohexane		0.5371955	0.5518643	0.5189472	0.4901466	0.5206464				
	0.5326420	0.5302881	0.4986527				0.5225	AVRG		3.8771
28)MA 1,1-Dichloropropene		0.3501292	0.3440537	0.3253394	0.3210220	0.3358926				
	0.3399080	0.3367448	0.3218147				0.3344	AVRG		3.1935
29)MA Carbon tetrachloride		0.3497509	0.3569474	0.3494820	0.3563228	0.3900940				
	0.4096584	0.4160255	0.3933608				0.3777	AVRG		7.3222
30)SA 1,2-Dichloroethane-d4		0.2704331	0.2697618	0.2679417	0.2621037	0.2630446				
	0.2642799	0.2644336	0.2638990				0.2657	AVRG		1.1965
31)MA 1,2-Dichloroethane		0.3679951	0.3509662	0.3092390	0.2973221	0.3098692				
	0.3096543	0.3126355	0.2928302				0.3188	AVRG		8.2846

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
32)MA Benzene		1.0043988	0.9901685	0.9586275	0.9393886	0.9826851				
	0.9999869	1.0102271	0.9455647				0.9789	AVRG		2.8112
33)MA Cyclohexene		0.5255091	0.5367560	0.5071371	0.4968816	0.5308150				
	0.5297043	0.5281982	0.5034960				0.5198	AVRG		2.8732
34)MA n-Butyl alcohol	0.0031553	0.0036984	0.0031102	0.0041159	0.0040938	0.0034063				
	0.0044515	0.0044094	0.0040626				0.0038	AVRG	#	13.3557
35)MA Trichloroethylene		0.2550827	0.2567778	0.2504023	0.2456707	0.2625844				
	0.2695428	0.2701811	0.2571440				0.2584	AVRG		3.3406
36)MA 2-Pentanone			0.1392813	0.1455031	0.1424100	0.1441628				
	0.1486773	0.1403877	0.1397875				0.1429	AVRG		2.4088
37)MCA 1,2-Dichloropropane		0.2459606	0.2475887	0.2461200	0.2462738	0.2566376				
	0.2633481	0.2607523	0.2466242				0.2517	AVRG		2.9207
38)MA Methylcyclohexane		0.4783432	0.5022141	0.4729496	0.4618955	0.4931245				
	0.5102394	0.5117575	0.4877438				0.4898	AVRG		3.6712
39)MA Dibromomethane		0.1157709	0.1244877	0.1249241	0.1263658	0.1344282				
	0.1377733	0.1406038	0.1326220				0.1296	AVRG		6.3217
40)MA Bromodichloromethane		0.2642048	0.2649735	0.2750911	0.2836947	0.3113735				
	0.3343164	0.3404365	0.3208503				0.2994	AVRG		10.3867
41)MA 2-Chloroethylvinyl ether		0.1160484	0.1190984	0.1328840	0.1352465	0.1360827				
	0.1386428	0.1264981	0.1048557				0.1262	AVRG		9.4169
42)MA cis-1,3-Dichloropropylen		0.3059900	0.3231505	0.3322259	0.3342823	0.3731533				
	0.3882007	0.3923918	0.3691193				0.3523	AVRG		9.1885
44)MA 4-Methyl-2-pentanone		0.0758234	0.0788846	0.0801703	0.0813643	0.0848875				
	0.0865595	0.0875317	0.0833033				0.0823	AVRG		4.8644
45)SA Toluene-d8		1.2289772	1.2378685	1.2211352	1.2061533	1.1914403				
	1.1988121	1.1951225	1.2153480				1.2119	AVRG		1.3834
46)MCA Toluene		1.3262740	1.3145824	1.2330663	1.2247469	1.2579865				
	1.2782103	1.2929434	1.2298878				1.2697	AVRG		3.1097
47)MA trans-1,3-Dichloropropyl		0.3085578	0.3325208	0.3480934	0.3548308	0.3868678				
	0.3976514	0.4080201	0.3822880				0.3649	AVRG		9.4512

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
48)MA 1,1,2-Trichloroethane		0.1888714	0.1825097	0.1800923	0.1844405	0.1879447				
	0.1895620	0.1925537	0.1811602				0.1859	AVRG		2.4101
49)MA 2-Hexanone		0.1486535	0.1520965	0.1570846	0.1543496	0.1618774				
	0.1629765	0.1563860	0.1499231				0.1554	AVRG		3.3583
50)MA 1,3-Dichloropropane		0.3721427	0.3683936	0.3642522	0.3605548	0.3788057				
	0.3914446	0.3836241	0.3660566				0.3732	AVRG		2.8435
51)MA Tetrachloroethylene		0.2914524	0.2734601	0.2682210	0.2687600	0.2851434				
	0.2925302	0.3053880	0.2863235				0.2839	AVRG		4.5822
52)MA Dibromochloromethane		4035	8161	23512	51789	116245		1/x		
-0.0034 | 0.2886 | 0.00	313806	697740	496353					LINR	#	0.9966
53)MA 1,2-Dibromoethane		0.1882095	0.2111014	0.2077372	0.2143729	0.2270793				
	0.2347371	0.2371537	0.2228645				0.2179	AVRG		7.3724
54)MPA Chlorobenzene		0.8295576	0.8350441	0.8234373	0.8153006	0.8383524				
	0.8665960	0.8838451	0.8353265				0.8409	AVRG		2.7211
55)MA 1,1,1,2-Tetrachloroethan		0.2924706	0.3060095	0.2963127	0.3047345	0.3276123				
	0.3561234	0.3845354	0.3556917				0.3279	AVRG		10.3380
56)MCA Ethylbenzene		1.4349132	1.4881366	1.4481476	1.4336825	1.4894492				
	1.5328405	1.4871394	1.4343260				1.4686	AVRG		2.4731
57)MA m,p-Xylenes		0.5729013	0.5789622	0.5696485	0.5609984	0.4684815				
	0.6127738	0.6220728	0.5904916				0.5720	AVRG		8.2004
58)MA o-Xylene		0.5510869	0.5714782	0.5475930	0.5709012	0.5903521				
	0.6344548	0.6634603	0.6243451				0.5942	AVRG		7.0919
59)MA Styrene		0.8035942	0.8213191	0.8489786	0.8858565	0.9451181				
	1.0265302	1.0556142	1.0028074				0.9237	AVRG		10.5607
61)MPA Bromoform		2295	4482	13489	31493	73976		1/x		
-0.0049 | 0.3192 | 0.00	208793	471473	327748					LINR	#	0.9946
62)MA Isopropylbenzene		2.5206440	2.6439878	2.5266746	2.5507926	2.6294413				
	2.6824052	2.7732036	2.6224162				2.6187	AVRG		3.2720
63)SA Bromofluorobenzene		0.8302627	0.8248717	0.8397732	0.8307951	0.8112224				
	0.8034288	0.7902295	0.8029749				0.8167	AVRG		2.1091

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
64)MPA 1,1,2,2-Tetrachloroethan		0.4222841	0.4670203	0.4613801	0.4673611	0.4794926				
	0.4862450	0.4883813	0.4587722				0.4664	AVRG		4.4973
65)MA 1,2,3-Trichloropropane		0.1119706	0.1367280	0.1363139	0.1339200	0.1391831				
	0.1393220	0.1394170	0.1312644				0.1335	AVRG		6.8659
66)MA Bromobenzene		0.6246321	0.6538110	0.6296908	0.6471041	0.6588372				
	0.7034807	0.7389474	0.6848195				0.6677	AVRG		5.8406
67)MA n-Propylbenzene		3.0965176	3.2147373	3.0962876	3.0797130	3.1317261				
	3.1640577	3.1004108	3.0183951				3.1127	AVRG		1.8841
68)MA 1,3,5-Trimethylbenzene		2.1515591	2.3243768	2.2384799	2.2363289	2.3341115				
	2.4266639	2.4908869	2.3635266				2.3207	AVRG		4.7401
69)MA 2-Chlorotoluene		0.6186244	0.6513361	0.6380337	0.6386201	0.6635729				
	0.7046958	0.7426649	0.6965853				0.6693	AVRG		6.2435
70)MA 4-Chlorotoluene		1.7823870	1.8417689	1.8157612	1.8230593	1.8423083				
	1.8777835	1.8304432	1.7628258				1.8220	AVRG		1.9785
71)MA tert-Butylbenzene		0.4319487	0.5001928	0.4640012	0.4729350	0.4873266				
	0.5191248	0.5676937	0.5237773				0.4959	AVRG		8.4181
72)MA 1,2,4-Trimethylbenzene		2.1488599	2.3281108	2.2490922	2.2718741	2.3408188				
	2.4054395	2.4321707	2.3412548				2.3147	AVRG		3.9067
73)MA sec-Butylbenzene		2.8455851	3.0890378	2.9493454	2.9646704	3.1021815				
	3.1870423	3.2927523	3.1137892				3.0681	AVRG		4.6524
74)MA 4-Isopropyltoluene		2.4487251	2.5943159	2.4972031	2.5516241	2.6632221				
	2.8133762	2.9343634	2.7325527				2.6544	AVRG		6.2234
75)MA 1,3-Dichlorobenzene		1.2294996	1.2554752	1.2385726	1.2704498	1.2850277				
	1.3573722	1.3892247	1.2992462				1.2906	AVRG		4.3803
76)MA 1,4-Dichlorobenzene		1.2790418	1.2938146	1.2401229	1.2658383	1.2996178				
	1.3708591	1.3937134	1.3260829				1.3086	AVRG		3.9934
77)MA n-Butylbenzene		2.4683156	2.5589724	2.4517651	2.4911426	2.5689625				
	2.6677686	2.6160777	2.5134638				2.5421	AVRG		2.9473
78)MA 1,2-Dichlorobenzene		1.1638497	1.2045875	1.1531626	1.1916607	1.2251723				
	1.2983718	1.3608119	1.2743273				1.2340	AVRG		5.8150

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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
79)MA 1,2-Dibromo-3-chloroprop		771	1827	5170	11255	25917		1/x		
-0.0017 0.1156 0.00	75760	172562	117506					LINR	#	0.9934
80)MA 1,2,4-Trichlorobenzene		0.9994637	1.0659056	1.0039349	1.0041958	1.0673431				
	1.1678460	1.2882025	1.1553809				1.0940	AVRG		9.3693
81)MA Hexachlorobutadiene		0.6039968	0.6674447	0.6347413	0.6250703	0.6807205				
	0.7440770	0.8476204	0.7482717				0.6940	AVRG		11.7186
82)MA Naphthalene		1.9611394	2.1045003	1.9583243	1.9495885	2.1122470				
	2.2185371	2.4027110	2.1871579				2.1118	AVRG		7.4727
83)MA 1,2,3-Trichlorobenzene		0.9885800	1.0323423	0.9507454	0.9544695	1.0342345				
	1.1094383	1.2189202	1.1032528				1.0490	AVRG		8.6927
85)B Acrolein		0.0250829	0.0266265	0.0253469	0.0267902	0.0282145				
	0.0307215	0.0312729	0.0300701				0.0280	AVRG		8.6749
86)B Trichlorotrifluoroethane		0.1341203	0.1480260	0.1480836	0.1486394	0.1489170				
	0.1418892	0.1482314	0.1425066				0.1451	AVRG		3.6100
87)B Isopropyl Alcohol		0.0133274	0.0145338	0.0144837	0.0142372	0.0144009				
	0.0145307	0.0149317	0.0145027				0.0144	AVRG		3.2264
88)B Allyl chloride		0.4157114	0.4401683	0.4312097	0.4430731	0.4353586				
	0.4309829	0.4390219	0.4278904				0.4329	AVRG		2.0040
89)B tert-Butyl Alcohol		0.0232894	0.0248509	0.0249787	0.0251372	0.0253805				
	0.0253803	0.0260135	0.0253804				0.0251	AVRG		3.1677
90)B Acrylonitrile		0.0586992	0.0678609	0.0686586	0.0683251	0.0681250				
	0.0689771	0.0700998	0.0681359				0.0674	AVRG		5.2991
91)B Isopropyl ether		0.8160944	0.9163051	0.9083829	0.9278246	0.9296376				
	0.9213704	0.9590306	0.9110751				0.9112	AVRG		4.5602
92)B 2-Chloro-1,3-butadiene		0.3293446	0.3600230	0.3641784	0.3727383	0.3679301				
	0.3717731	0.3836282	0.3669085				0.3646	AVRG		4.3497
93)B Ethyl tert-butyl ether		0.7315107	0.7972491	0.8086766	0.8212447	0.8181028				
	0.8092306	0.8456564	0.8109069				0.8053	AVRG		4.0955
94)B Ethyl acetate		0.1844435	0.1882572	0.1839282	0.1871086	0.1813045				
	0.1781713	0.1678288	0.1650295				0.1795	AVRG		4.8439

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
95)B Propionitrile		0.0204754	0.0238667	0.0249065	0.0252149	0.0252302				
	0.0249111	0.0251787	0.0247974				0.0243	AVRG		6.6430
96)B Methacrylonitrile		0.1115172	0.1177911	0.1190356	0.1229678	0.1210844				
	0.1230990	0.1258627	0.1223458				0.1205	AVRG		3.6525
97)B Tetrahydrofuran		0.0623477	0.0599384	0.0595302	0.0588255	0.0578626				
	0.0580652	0.0592392	0.0581629				0.0592	AVRG		2.4575
98)B Isobutyl alcohol		0.0070222	0.0075514	0.0072354	0.0074922	0.0074849				
	0.0075118	0.0077129	0.0075343				0.0074	AVRG	#	2.8817
99)B Methyl tert-amyl ether		0.6190945	0.7001406	0.6771514	0.6983409	0.7006782				
	0.6974998	0.7381699	0.7010761				0.6915	AVRG		4.8764
100)B Methyl methacrylate		0.1468640	0.1348773	0.1233580	0.1292706	0.1289691				
	0.1336906	0.1386655	0.1340634				0.1337	AVRG		5.2760
101)B 1,4-Dioxane		0.0013306	0.0017047	0.0018543	0.0018581	0.0019056				
	0.0018775	0.0019907	0.0018759				0.0018	AVRG	#	11.4082
102)B 2-Nitropropane		0.0454160	0.0411115	0.0445603	0.0484379	0.0516717				
	0.0574202	0.0607380	0.0575937				0.0509	AVRG		14.0357
104)B Ethyl methacrylate		0.2731608	0.3094750	0.3243749	0.3347012	0.3318282				
	0.3407427	0.3441835	0.3350585				0.3242	AVRG		7.1691
106)B 1-Chlorohexane		0.5057999	0.5164073	0.5405890	0.5377116	0.5253411				
	0.5372151	0.5546965	0.5225796				0.5300	AVRG		2.9234
107)B cis-1,4-Dichloro-2-buten		0.1444121	0.1562355	0.1653118	0.1738520	0.1808964				
	0.1900052	0.2001290	0.1911490				0.1752	AVRG		10.8580
108)B Cyclohexanone		0.0119590	0.0110064	0.0113237	0.0113707	0.0124246				
	0.0128326	0.0127355	0.0121913				0.0120	AVRG		5.7227
109)B trans-1,4-Dichloro-2-but		0.1171855	0.1284826	0.1387845	0.1435153	0.1465941				
	0.1511395	0.1579780	0.1507481				0.1418	AVRG		9.4133
110)B Pentachloroethane		21830	45997	128712	284958	604165		1/x		
-0.0510 | 0.6076 | 0.00	1876958	4350331	2268413					LINR	#	0.9904
111)B Benzyl chloride		0.6920335	0.8053810	0.8871887	0.9423030	0.9794985				
	1.0263724	1.0544212	1.0087787				0.9245	AVRG		13.3935

Response Factor Report VOA9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	86	17	29	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2										
(12)B bis(2-Chloroisopropyl)et		0.2181933	0.2541309	0.2601561	0.2566712	0.2572615				
	0.2630386	0.2716697	0.2650603				0.2558	AVRG		6.3197

(#) = Out of Range ($) = Individual RF Out of Range
AVRG = Average, LINR = Linear Regression, 1/x = the inverse of concentration, 1/x^2 = the inverse square of concentration

JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I302.D
Acq On : 09 Sep 2020 20:00
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-01|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:02 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.967	9.967	1.000	1277514	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1079244	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	610655	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	342481	50.44	ug/L		0.00
45) Toluene-d8	98	11.604	11.604	0.884	1326877	50.73	ug/L		0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	517354	51.87	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	5320	0.63	ug/L		73
3) Chloromethane	50	4.761	4.761	0.478	7796	0.70	ug/L		91
4) Vinyl chloride	62	4.963	4.963	0.498	6075	0.59	ug/L		99
5) Bromomethane		0.000	5.508	0.000	0	N.D.			
6) Chloroethane	64	5.627	5.627	0.565	3215	0.53	ug/L		71
7) Trichlorofluoromethane	101	6.042	6.042	0.606	8329	0.63	ug/L		98
8) Ethyl ether	59	6.339	6.327	0.636	2202	0.49	ug/L		98
9) Acetone	43	6.706	6.694	0.673	4251	3.20	ug/L		77
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	5237	0.51	ug/L		96
11) Iodomethane	142	6.943	6.955	0.697	28134	2.24	ug/L		99
12) Acetonitrile	41	7.074	7.050	0.710	8987	13.32	ug/L		89
13) Methyl acetate	43	7.097	7.086	0.712	7951	2.56	ug/L	#	82
14) Carbon disulfide	76	7.074	7.086	0.710	48806	2.25	ug/L		99
15) Methylene chloride	84	7.275	7.275	0.730	20437	N.D.			
16) tert-Butyl methyl ether	73	7.572	7.584	0.760	7509	0.47	ug/L		89
17) trans-1,2-Dichloroethy...	61	7.607	7.619	0.763	4664	0.49	ug/L		96
18) Hexane	57	7.892	7.904	0.792	10690	N.D.			
19) Vinyl acetate	43	8.058	8.058	0.808	33367	2.96	ug/L		99
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	5600	0.49	ug/L		87
21) 2-Butanone	43	8.687	8.675	0.872	5744	2.78	ug/L		72
22) cis-1,2-Dichloroethylene	61	8.722	8.734	0.875	5311	0.50	ug/L		88
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	5511	0.52	ug/L		97
24) Bromochloromethane	128	8.995	9.007	0.902	1551	0.51	ug/L		88
25) Chloroform	83	9.042	9.042	0.907	5871	0.53	ug/L		99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	5093	0.46	ug/L		96
27) Cyclohexane	56	9.410	9.410	0.944	7407	0.55	ug/L		79
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	4293	0.50	ug/L		81
29) Carbon tetrachloride	117	9.505	9.517	0.954	4589	0.48	ug/L		97
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	5532	0.68	ug/L		97
32) Benzene	78	9.706	9.706	0.974	12883	0.52	ug/L	#	77
33) Cyclohexene	67	9.825	9.825	0.986	6327	0.48	ug/L		98
34) n-Butyl alcohol	41	10.062	10.062	1.010	4031	41.15	ug/L		95
35) Trichloroethylene	95	10.347	10.347	1.038	3154	0.48	ug/L		91
36) 2-Pentanone	43	10.442	10.430	1.048	9713	N.D.			
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	3393	0.53	ug/L		99
38) Methylcyclohexane	83	10.596	10.607	1.063	6137	0.49	ug/L		94
39) Dibromomethane	93	10.726	10.726	1.076	1369	0.41	ug/L		86
40) Bromodichloromethane	83	10.845	10.845	1.088	3521	0.46	ug/L	#	95
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	8524	2.64	ug/L		96
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	3939	0.44	ug/L		84

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I302.D
Acq On : 09 Sep 2020 20:00
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-01|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 10 19:10:02 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	4194	2.36	ug/L		99
46)	Toluene	91	11.675	11.687	0.889	14519	0.53	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	3406	0.43	ug/L		84
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	1698	0.42	ug/L		95
49)	2-Hexanone	43	12.244	12.232	0.932	8830	2.63	ug/L		92
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	3984	0.49	ug/L		93
51)	Tetrachloroethylene	164	12.280	12.280	0.935	2908	0.47	ug/L		87
52)	Dibromochloromethane	129	12.517	12.517	0.953	2512	0.99	ug/L		95
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	2141	0.46	ug/L		99
54)	Chlorobenzene	112	13.169	13.169	1.003	9358	0.52	ug/L	#	2
55)	1,1,1,2-Tetrachloroethane	131	13.216	13.228	1.006	3465	0.49	ug/L		87
56)	Ethylbenzene	91	13.228	13.228	1.007	16508	0.52	ug/L		97
57)	m,p-Xylenes	106	13.335	13.347	1.015	11874	0.96	ug/L		88
58)	o-Xylene	106	13.774	13.774	1.049	6070	0.47	ug/L		96
59)	Styrene	104	13.774	13.774	1.049	8415	0.42	ug/L		90
61)	Bromoform	173	14.035	14.035	0.903	1329	1.11	ug/L		81
62)	Isopropylbenzene	105	14.130	14.129	0.909	15761	0.49	ug/L		97
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	2704	0.47	ug/L		91
65)	1,2,3-Trichloropropane	110	14.485	14.497	0.932	615	0.38	ug/L	#	6
66)	Bromobenzene	156	14.533	14.533	0.935	3983	0.49	ug/L		89
67)	n-Propylbenzene	91	14.556	14.556	0.937	18672	0.49	ug/L		98
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	13089	N.D.			
69)	2-Chlorotoluene	126	14.699	14.711	0.946	3854	0.47	ug/L		92
70)	4-Chlorotoluene	91	14.806	14.805	0.953	11249	0.51	ug/L		95
71)	tert-Butylbenzene	134	15.078	15.078	0.970	2793	0.46	ug/L		94
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	12724	0.45	ug/L		99
73)	sec-Butylbenzene	105	15.304	15.303	0.985	17517	0.47	ug/L		96
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	14982	0.46	ug/L		99
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	7700	0.49	ug/L		93
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	7789	0.49	ug/L	#	19
77)	n-Butylbenzene	91	15.861	15.861	1.021	14432	0.46	ug/L		97
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	7296	0.48	ug/L		99
79)	1,2-Dibromo-3-chloropr...		0.000	16.833	0.000	0	N.D.			
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	6179	0.46	ug/L		99
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	3675	0.43	ug/L		95
82)	Naphthalene	128	18.221	18.221	1.172	11446	0.44	ug/L		97
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	5818	0.45	ug/L		98
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		0.000	6.777	0.000	0	N.D.			
88)	Allyl chloride		7.074	7.133	0.710	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		0.000	7.524	0.000	0	N.D.			
91)	Isopropyl ether		0.000	8.082	0.000	0	N.D.			
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.687	8.687	0.872	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.746	8.924	0.877	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		0.000	9.730	0.000	0	N.D.			
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I302.D
Acq On : 09 Sep 2020 20:00
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-01|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 10 19:10:02 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

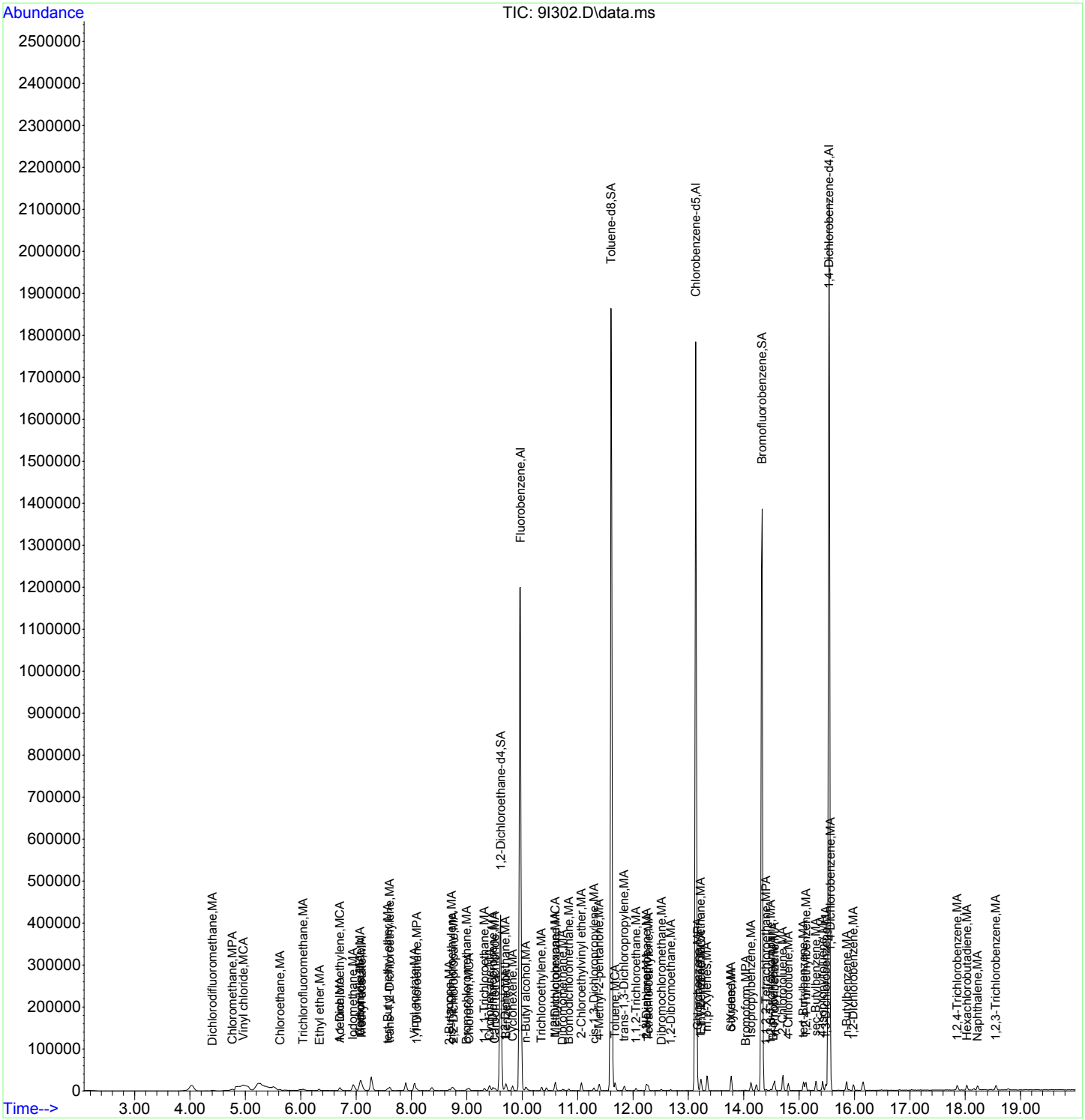
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.841	11.841	0.902	0m	N.D.	d
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	14.165	0.000	0	N.D.	
108) Cyclohexanone		0.000	14.284	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	14.450	0.000	0	N.D.	
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I302.D
Acq On : 09 Sep 2020 20:00
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-01|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 10 19:10:02 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I303.D
Acq On : 09 Sep 2020 20:26
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-02|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:06 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1189418	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	982150	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	574258	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	321658	50.88	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1207040	50.71	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	476785	50.83	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	8302	1.05	ug/L	90
3) Chloromethane	50	4.761	4.761	0.478	12753	1.22	ug/L	97
4) Vinyl chloride	62	4.963	4.963	0.498	11113	1.17	ug/L	100
5) Bromomethane	94	5.520	5.508	0.554	8132	1.14	ug/L	87
6) Chloroethane	64	5.639	5.627	0.566	6056	1.07	ug/L	95
7) Trichlorofluoromethane	101	6.042	6.042	0.606	12551	1.02	ug/L	98
8) Ethyl ether	59	6.339	6.327	0.636	3999	0.95	ug/L	98
9) Acetone	43	6.706	6.694	0.673	6971	5.63	ug/L	88
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	9387	0.98	ug/L	96
11) Iodomethane	142	6.955	6.955	0.698	52910	4.53	ug/L	100
12) Acetonitrile	41	7.074	7.050	0.710	16133	25.69	ug/L	73
13) Methyl acetate	43	7.097	7.086	0.712	14357	4.97	ug/L	94
14) Carbon disulfide	76	7.086	7.086	0.711	94471	4.67	ug/L	99
15) Methylene chloride	84	7.275	7.275	0.730	22179	N.D.		
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	14371	0.96	ug/L	97
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	8603	0.97	ug/L	97
18) Hexane	57	7.904	7.904	0.793	10210	N.D.		
19) Vinyl acetate	43	8.058	8.058	0.808	48677	4.64	ug/L	100
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	10338	0.98	ug/L	97
21) 2-Butanone	43	8.687	8.675	0.872	9843	5.11	ug/L	91
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	9436	0.95	ug/L	95
23) 2,2-Dichloropropane	77	8.770	8.758	0.880	10009	1.01	ug/L	98
24) Bromochloromethane	128	9.007	9.007	0.904	2792	0.98	ug/L	93
25) Chloroform	83	9.042	9.042	0.907	9718	0.95	ug/L	100
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	9732	0.93	ug/L	96
27) Cyclohexane	56	9.410	9.410	0.944	12779	1.03	ug/L	94
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	8329	1.05	ug/L	90
29) Carbon tetrachloride	117	9.517	9.517	0.955	8320	0.93	ug/L	96
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	8754	1.15	ug/L	98
32) Benzene	78	9.718	9.706	0.975	23893	1.03	ug/L	97
33) Cyclohexene	67	9.825	9.825	0.986	12501	1.01	ug/L	99
34) n-Butyl alcohol	41	10.074	10.062	1.011	8798	96.47	ug/L	94
35) Trichloroethylene	95	10.347	10.347	1.038	6068	0.99	ug/L	96
36) 2-Pentanone	43	10.442	10.430	1.048	16554	4.87	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	5851	0.98	ug/L	96
38) Methylcyclohexane	83	10.608	10.607	1.064	11379	0.98	ug/L	93
39) Dibromomethane	93	10.726	10.726	1.076	2754	0.89	ug/L	93
40) Bromodichloromethane	83	10.845	10.845	1.088	6285	0.88	ug/L	96
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	13803	4.60	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	7279	0.87	ug/L	86

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I303.D
Acq On : 09 Sep 2020 20:26
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-02|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 10 19:10:06 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	7447	4.61	ug/L		93
46)	Toluene	91	11.687	11.687	0.890	26052	1.04	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	6061	0.85	ug/L		91
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	3710	1.02	ug/L		89
49)	2-Hexanone	43	12.244	12.232	0.932	14600	4.78	ug/L		99
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	7310	1.00	ug/L		97
51)	Tetrachloroethylene	164	12.280	12.280	0.935	5725	1.03	ug/L		97
52)	Dibromochloromethane	129	12.517	12.517	0.953	4035	1.30	ug/L		95
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	3697	0.86	ug/L		98
54)	Chlorobenzene	112	13.169	13.169	1.003	16295	0.99	ug/L	#	48
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	5745	0.89	ug/L		93
56)	Ethylbenzene	91	13.228	13.228	1.007	28186	0.98	ug/L		98
57)	m,p-Xylenes	106	13.347	13.347	1.016	22507	2.00	ug/L		97
58)	o-Xylene	106	13.774	13.774	1.049	10825	0.93	ug/L		93
59)	Styrene	104	13.774	13.774	1.049	15785	0.87	ug/L		94
61)	Bromoform	173	14.023	14.035	0.902	2295	1.40	ug/L		84
62)	Isopropylbenzene	105	14.130	14.129	0.909	28950	0.96	ug/L		100
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	4850	0.91	ug/L		94
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	1286	0.84	ug/L	#	36
66)	Bromobenzene	156	14.533	14.533	0.935	7174	0.94	ug/L		90
67)	n-Propylbenzene	91	14.556	14.556	0.937	35564	0.99	ug/L		97
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	24711	0.93	ug/L		99
69)	2-Chlorotoluene	126	14.711	14.711	0.947	7105	0.92	ug/L		90
70)	4-Chlorotoluene	91	14.806	14.805	0.953	20471	0.98	ug/L		97
71)	tert-Butylbenzene	134	15.078	15.078	0.970	4961	0.87	ug/L	#	86
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	24680	0.93	ug/L		94
73)	sec-Butylbenzene	105	15.304	15.303	0.985	32682	0.93	ug/L		100
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	28124	0.92	ug/L		95
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	14121	0.95	ug/L		98
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	14690	0.98	ug/L	#	63
77)	n-Butylbenzene	91	15.861	15.861	1.021	28349	0.97	ug/L		99
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	13367	0.94	ug/L		99
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	771	1.33	ug/L		88
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	11479	0.91	ug/L		98
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	6937	0.87	ug/L		98
82)	Naphthalene	128	18.221	18.221	1.172	22524	0.93	ug/L		98
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	11354	0.94	ug/L		98
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.074	7.133	0.710	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		0.000	7.524	0.000	0	N.D.			
91)	Isopropyl ether		0.000	8.082	0.000	0	N.D.			
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.687	8.687	0.872	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		0.000	9.730	0.000	0	N.D.			
100)	Methyl methacrylate		10.608	10.572	1.064	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I303.D
Acq On : 09 Sep 2020 20:26
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-02|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 10 19:10:06 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

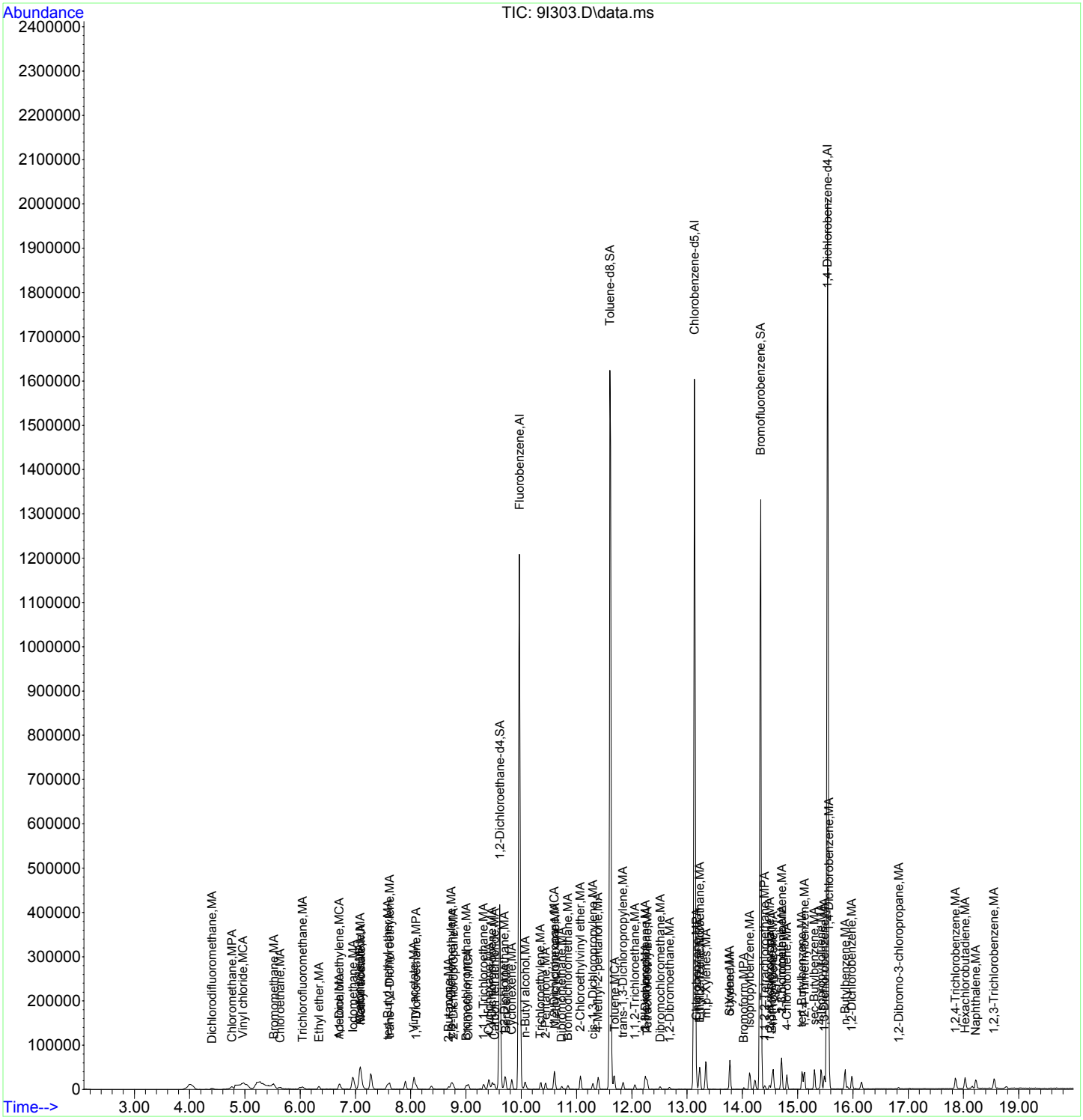
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.782	11.841	0.897	0m	N.D.	d
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	14.165	0.000	0	N.D.	
108) Cyclohexanone		0.000	14.284	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	14.450	0.000	0	N.D.	
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I303.D
Acq On : 09 Sep 2020 20:26
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-02|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 10 19:10:06 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

09/21/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I304.D
Acq On : 09 Sep 2020 20:53
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-03|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 10 19:10:09 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1207951	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	985427	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	575778	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.612	9.611	0.964	325859	50.76	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1219829	51.07	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	474943	50.50	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	15667	1.96	ug/L	91
3) Chloromethane	50	4.761	4.761	0.478	23679	2.24	ug/L	98
4) Vinyl chloride	62	4.975	4.963	0.499	20816	2.15	ug/L	98
5) Bromomethane	94	5.520	5.508	0.554	15349	2.13	ug/L	95
6) Chloroethane	64	5.639	5.627	0.566	12483	2.17	ug/L	95
7) Trichlorofluoromethane	101	6.042	6.042	0.606	27137	2.17	ug/L	97
8) Ethyl ether	59	6.339	6.327	0.636	8635	2.02	ug/L	98
9) Acetone	43	6.706	6.694	0.673	13159	10.47	ug/L	98
10) 1,1-Dichloroethylene	61	6.718	6.706	0.674	20845	2.14	ug/L	97
11) Iodomethane	142	6.955	6.955	0.698	114734	9.68	ug/L	99
12) Acetonitrile	41	7.062	7.050	0.709	33113	51.92	ug/L	86
13) Methyl acetate	43	7.098	7.086	0.712	30180	10.28	ug/L	97
14) Carbon disulfide	76	7.086	7.086	0.711	210779	10.26	ug/L	100
15) Methylene chloride	84	7.275	7.275	0.730	28579	2.10	ug/L	99
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	30942	2.03	ug/L	96
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	18892	2.10	ug/L	98
18) Hexane	57	7.904	7.904	0.793	24755	2.70	ug/L	98
19) Vinyl acetate	43	8.058	8.058	0.808	103128	9.69	ug/L	99
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	22552	2.10	ug/L	98
21) 2-Butanone	43	8.687	8.675	0.872	20079	10.27	ug/L	94
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	20795	2.07	ug/L	97
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	21192	2.10	ug/L	97
24) Bromochloromethane	128	9.007	9.007	0.904	5296	1.83	ug/L	88
25) Chloroform	83	9.042	9.042	0.907	21542	2.07	ug/L	99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	20848	1.97	ug/L	98
27) Cyclohexane	56	9.410	9.410	0.944	26665	2.11	ug/L	96
28) 1,1-Dichloropropene	75	9.481	9.469	0.951	16624	2.06	ug/L	94
29) Carbon tetrachloride	117	9.517	9.517	0.955	17247	1.89	ug/L	98
31) 1,2-Dichloroethane	62	9.695	9.694	0.973	16958	2.20	ug/L	99
32) Benzene	78	9.718	9.706	0.975	47843	2.02	ug/L	96
33) Cyclohexene	67	9.825	9.825	0.986	25935	2.07	ug/L	99
34) n-Butyl alcohol	41	10.062	10.062	1.010	18785	202.82	ug/L	94
35) Trichloroethylene	95	10.347	10.347	1.038	12407	1.99	ug/L	97
36) 2-Pentanone	43	10.442	10.430	1.048	33649	9.75	ug/L	96
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	11963	1.97	ug/L	97
38) Methylcyclohexane	83	10.608	10.607	1.064	24266	2.05	ug/L	98
39) Dibromomethane	93	10.726	10.726	1.076	6015	1.92	ug/L	93
40) Bromodichloromethane	83	10.845	10.845	1.088	12803	1.77	ug/L	97
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	28773	9.44	ug/L	98
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	15614	1.83	ug/L	91

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I304.D
Acq On : 09 Sep 2020 20:53
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-03|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 10 19:10:09 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	15547	9.58	ug/L		95
46)	Toluene	91	11.687	11.687	0.890	51817	2.07	ug/L		98
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	13107	1.82	ug/L		92
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	7194	1.96	ug/L		97
49)	2-Hexanone	43	12.244	12.232	0.932	29976	9.79	ug/L		98
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	14521	1.97	ug/L		100
51)	Tetrachloroethylene	164	12.280	12.280	0.935	10779	1.93	ug/L		94
52)	Dibromochloromethane	129	12.517	12.517	0.953	8161	2.02	ug/L		98
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	8321	1.94	ug/L		100
54)	Chlorobenzene	112	13.169	13.169	1.003	32915	1.99	ug/L	#	72
55)	1,1,1,2-Tetrachloroethane	131	13.217	13.228	1.006	12062	1.87	ug/L		97
56)	Ethylbenzene	91	13.228	13.228	1.007	58658	2.03	ug/L		99
57)	m,p-Xylenes	106	13.347	13.347	1.016	45642	4.05	ug/L		93
58)	o-Xylene	106	13.774	13.774	1.049	22526	1.92	ug/L		93
59)	Styrene	104	13.774	13.774	1.049	32374	1.78	ug/L		90
61)	Bromoform	173	14.035	14.035	0.903	4482	1.99	ug/L		97
62)	Isopropylbenzene	105	14.130	14.129	0.909	60894	2.02	ug/L		100
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	10756	2.00	ug/L		98
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	3149	2.05	ug/L	#	83
66)	Bromobenzene	156	14.533	14.533	0.935	15058	1.96	ug/L		96
67)	n-Propylbenzene	91	14.557	14.556	0.937	74039	2.07	ug/L		98
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	53533	2.00	ug/L		93
69)	2-Chlorotoluene	126	14.711	14.711	0.947	15001	1.95	ug/L		97
70)	4-Chlorotoluene	91	14.806	14.805	0.953	42418	2.02	ug/L		98
71)	tert-Butylbenzene	134	15.078	15.078	0.970	11520	2.02	ug/L	#	92
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	53619	2.01	ug/L		97
73)	sec-Butylbenzene	105	15.304	15.303	0.985	71144	2.01	ug/L		99
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	59750	1.95	ug/L		97
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	28915	1.95	ug/L		95
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	29798	1.98	ug/L		82
77)	n-Butylbenzene	91	15.861	15.861	1.021	58936	2.01	ug/L		99
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	27743	1.95	ug/L		98
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	1827	2.13	ug/L		87
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	24549	1.95	ug/L		99
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	15372	1.92	ug/L		98
82)	Naphthalene	128	18.221	18.221	1.172	48469	1.99	ug/L		99
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	23776	1.97	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.742	6.777	0.676	0m	N.D.	d		
88)	Allyl chloride		7.062	7.133	0.709	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		0.000	7.524	0.000	0	N.D.			
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.687	8.687	0.872	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.718	9.730	0.975	0m	N.D.	d		
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I304.D
Acq On : 09 Sep 2020 20:53
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-03|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 10 19:10:09 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

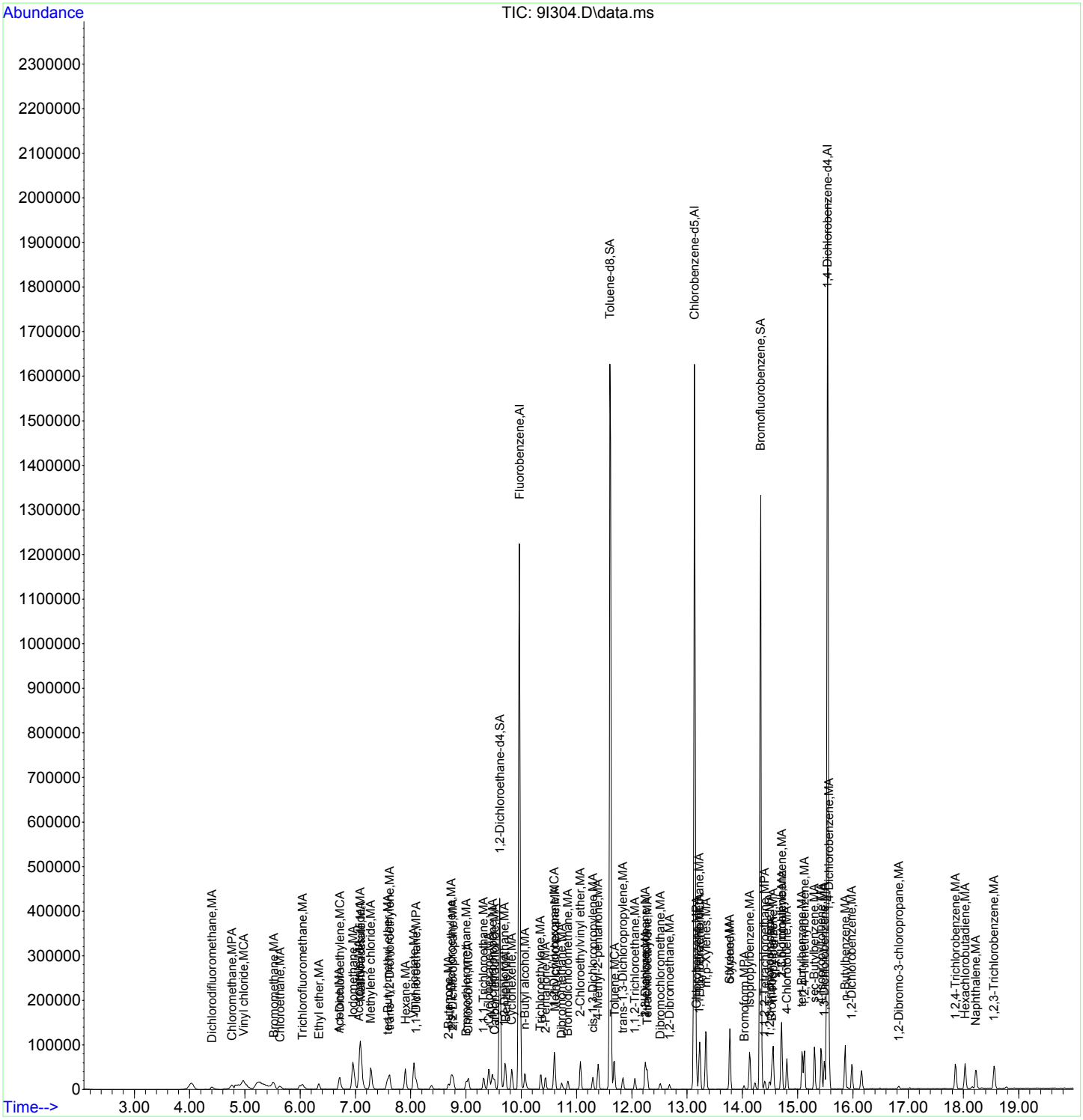
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.841	0.000	0	N.D.	
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		0.000	14.284	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		14.557	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.157	16.074	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I304.D
Acq On : 09 Sep 2020 20:53
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-03|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 10 19:10:09 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I305.D
Acq On : 09 Sep 2020 21:20
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-04|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:12 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1263327	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1074338	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	625688	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	338498	50.41	ug/L	0.00
45) Toluene-d8	98	11.615	11.604	0.884	1311912	50.38	ug/L	0.01
63) Bromofluorobenzene	95	14.331	14.331	0.922	525436	51.41	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.404	4.405	0.442	46916	5.61	ug/L	95
3) Chloromethane	50	4.761	4.761	0.478	59495	5.38	ug/L	99
4) Vinyl chloride	62	4.975	4.963	0.499	56190	5.56	ug/L	98
5) Bromomethane	94	5.520	5.508	0.554	38134	5.05	ug/L	98
6) Chloroethane	64	5.627	5.627	0.565	31603	5.26	ug/L	96
7) Trichlorofluoromethane	101	6.042	6.042	0.606	67936	5.19	ug/L	100
8) Ethyl ether	59	6.338	6.327	0.636	22477	5.03	ug/L	96
9) Acetone	43	6.706	6.694	0.673	31939	24.29	ug/L	96
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	49210	4.84	ug/L	99
11) Iodomethane	142	6.955	6.955	0.698	280413	22.62	ug/L	100
12) Acetonitrile	41	7.062	7.050	0.709	82676	123.95	ug/L	93
13) Methyl acetate	43	7.097	7.086	0.712	76164	24.82	ug/L	99
14) Carbon disulfide	76	7.085	7.086	0.711	516099	24.03	ug/L	100
15) Methylene chloride	84	7.275	7.275	0.730	46498	4.70	ug/L	100
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	78009	4.89	ug/L	98
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	48195	5.11	ug/L	96
18) Hexane	57	7.904	7.904	0.793	48430	5.06	ug/L	98
19) Vinyl acetate	43	8.058	8.058	0.808	282024	25.33	ug/L	99
20) 1,1-Dichloroethane	63	8.093	8.093	0.812	54924	4.89	ug/L	99
21) 2-Butanone	43	8.686	8.675	0.872	50319	24.61	ug/L	97
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	51442	4.89	ug/L	98
23) 2,2-Dichloropropane	77	8.769	8.758	0.880	49962	4.74	ug/L	97
24) Bromochloromethane	128	9.007	9.007	0.904	15034	4.97	ug/L	92
25) Chloroform	83	9.042	9.042	0.907	53071	4.87	ug/L	98
26) 1,1,1-Trichloroethane	97	9.327	9.315	0.936	52633	4.76	ug/L	98
27) Cyclohexane	56	9.410	9.410	0.944	65560	4.97	ug/L	96
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	41101	4.87	ug/L	97
29) Carbon tetrachloride	117	9.516	9.517	0.955	44151	4.63	ug/L	95
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	39067	4.85	ug/L	98
32) Benzene	78	9.718	9.706	0.975	121106	4.90	ug/L	98
33) Cyclohexene	67	9.825	9.825	0.986	64068	4.88	ug/L	97
34) n-Butyl alcohol	41	10.062	10.062	1.010	51997	536.80	ug/L	96
35) Trichloroethylene	95	10.358	10.347	1.039	31634	4.84	ug/L	97
36) 2-Pentanone	43	10.441	10.430	1.048	91909	25.46	ug/L	100
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	31093	4.89	ug/L	100
38) Methylcyclohexane	83	10.607	10.607	1.064	59749	4.83	ug/L	96
39) Dibromomethane	93	10.726	10.726	1.076	15782	4.82	ug/L	96
40) Bromodichloromethane	83	10.845	10.845	1.088	34753	4.59	ug/L	99
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	83938	26.33	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	41971	4.71	ug/L	93

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I305.D
Acq On : 09 Sep 2020 21:20
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-04|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 10 19:10:12 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	43065	24.35	ug/L		98
46)	Toluene	91	11.687	11.687	0.890	132473	4.86	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	37397	4.77	ug/L		95
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	19348	4.84	ug/L		99
49)	2-Hexanone	43	12.244	12.232	0.932	84381	25.27	ug/L		98
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	39133	4.88	ug/L		97
51)	Tetrachloroethylene	164	12.280	12.280	0.935	28816	4.72	ug/L		97
52)	Dibromochloromethane	129	12.517	12.517	0.953	23512	4.38	ug/L		97
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	22318	4.77	ug/L		97
54)	Chlorobenzene	112	13.169	13.169	1.003	88465	4.90	ug/L		88
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	31834	4.52	ug/L		99
56)	Ethylbenzene	91	13.228	13.228	1.007	155580	4.93	ug/L		98
57)	m,p-Xylenes	106	13.347	13.347	1.016	122399	9.96	ug/L		96
58)	o-Xylene	106	13.774	13.774	1.049	58830	4.61	ug/L		91
59)	Styrene	104	13.774	13.774	1.049	91209	4.60	ug/L		91
61)	Bromoform	173	14.035	14.035	0.903	13489	4.15	ug/L		94
62)	Isopropylbenzene	105	14.129	14.129	0.909	158091	4.82	ug/L		100
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	28868	4.95	ug/L		100
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	8529	5.10	ug/L	#	85
66)	Bromobenzene	156	14.533	14.533	0.935	39399	4.72	ug/L		93
67)	n-Propylbenzene	91	14.556	14.556	0.937	193731	4.97	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	140059	4.82	ug/L		96
69)	2-Chlorotoluene	126	14.711	14.711	0.947	39921	4.77	ug/L		98
70)	4-Chlorotoluene	91	14.805	14.805	0.953	113610	4.98	ug/L		99
71)	tert-Butylbenzene	134	15.078	15.078	0.970	29032	4.68	ug/L		96
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	140723	4.86	ug/L		97
73)	sec-Butylbenzene	105	15.303	15.303	0.985	184537	4.81	ug/L		99
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	156247	4.70	ug/L		97
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	77496	4.80	ug/L		98
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	77593	4.74	ug/L		91
77)	n-Butylbenzene	91	15.861	15.861	1.021	153404	4.82	ug/L		99
78)	1,2-Dichlorobenzene	146	15.979	15.979	1.028	72152	4.67	ug/L		98
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	5170	4.33	ug/L		98
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	62815	4.59	ug/L		100
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	39715	4.57	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	122530	4.64	ug/L		99
83)	1,2,3-Trichlorobenzene	180	18.565	18.553	1.195	59487	4.53	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.742	6.777	0.676	0m	N.D.	d		
88)	Allyl chloride		7.062	7.133	0.709	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		7.584	7.524	0.761	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.686	8.687	0.872	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.066	9.054	0.910	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.706	9.730	0.974	0m	N.D.	d		
100)	Methyl methacrylate		10.607	10.572	1.064	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I305.D
Acq On : 09 Sep 2020 21:20
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-04|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 10 19:10:12 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

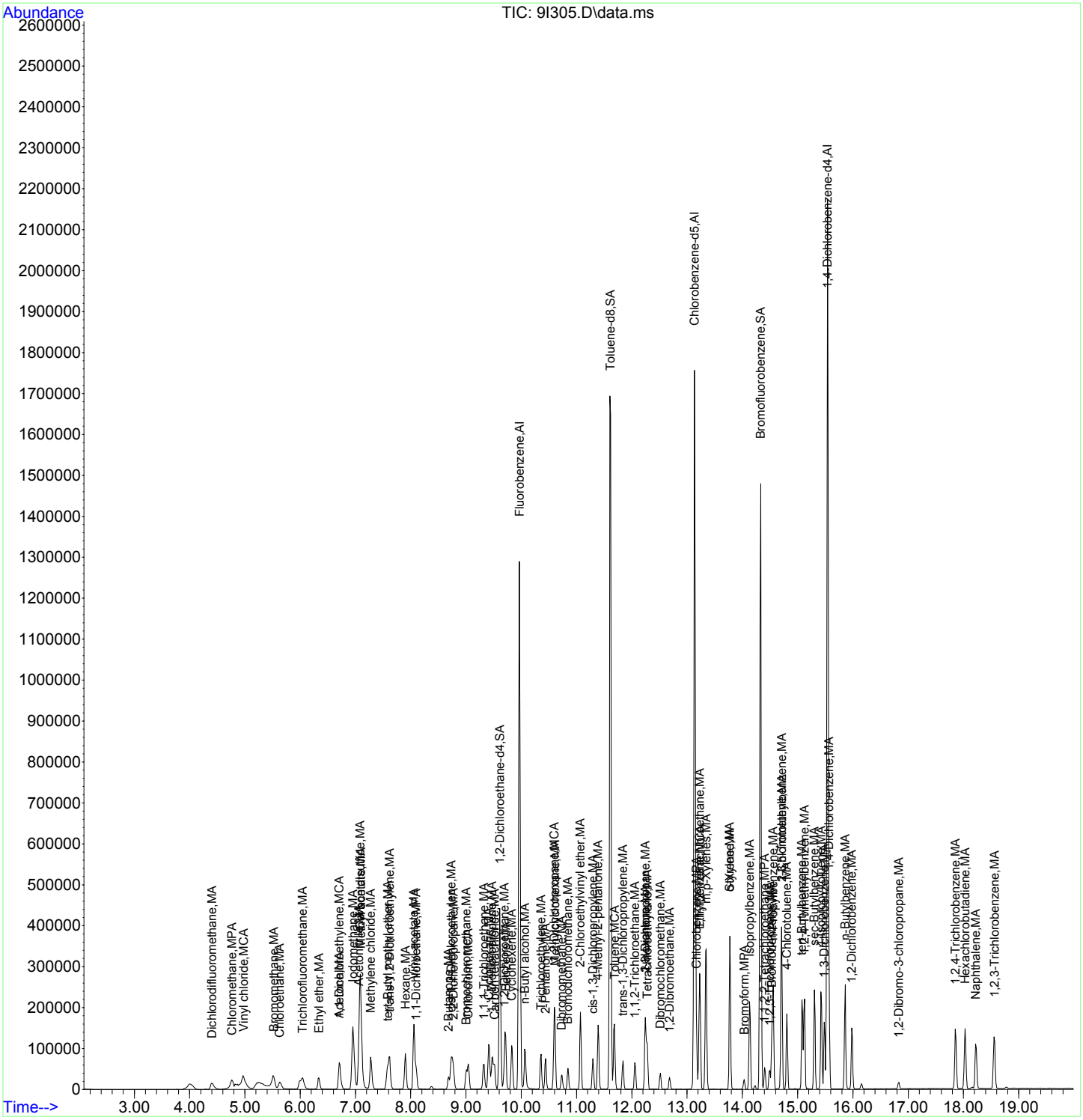
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.841	0.000	0	N.D.	
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.129	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.129	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.145	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I305.D
Acq On : 09 Sep 2020 21:20
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-04|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 10 19:10:12 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I306.D
Acq On : 09 Sep 2020 21:47
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-05|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:15 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1334815	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.134	13.133	1.000	1116349	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	649455	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.134	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.612	9.611	0.964	349860	49.32	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1346488	49.76	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	539564	50.86	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.390	4.405	0.440	93543	10.59	ug/L	98
3) Chloromethane	50	4.761	4.761	0.478	116839	9.99	ug/L	99
4) Vinyl chloride	62	4.963	4.963	0.498	106780	9.99	ug/L	94
5) Bromomethane	94	5.509	5.508	0.553	79754	9.99	ug/L	97
6) Chloroethane	64	5.627	5.627	0.565	63267	9.96	ug/L	100
7) Trichlorofluoromethane	101	6.030	6.042	0.605	138167	10.00	ug/L	100
8) Ethyl ether	59	6.327	6.327	0.635	47073	9.98	ug/L	97
9) Acetone	43	6.694	6.694	0.672	64412	46.36	ug/L	99
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	97982	9.12	ug/L	99
11) Iodomethane	142	6.943	6.955	0.697	579364	44.23	ug/L	99
12) Acetonitrile	41	7.050	7.050	0.707	166063	235.63	ug/L	95
13) Methyl acetate	43	7.086	7.086	0.711	156611	48.29	ug/L	99
14) Carbon disulfide	76	7.074	7.086	0.710	1065485	46.94	ug/L	99
15) Methylene chloride	84	7.276	7.275	0.730	78471	9.04	ug/L	99
16) tert-Butyl methyl ether	73	7.572	7.584	0.760	158689	9.42	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.608	7.619	0.763	92866	9.32	ug/L	100
18) Hexane	57	7.904	7.904	0.793	98471	9.73	ug/L	100
19) Vinyl acetate	43	8.058	8.058	0.808	608431	51.73	ug/L	99
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	112873	9.51	ug/L	99
21) 2-Butanone	43	8.675	8.675	0.870	104113	48.19	ug/L	98
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	104666	9.41	ug/L	98
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	105145	9.44	ug/L	95
24) Bromochloromethane	128	9.007	9.007	0.904	29222	9.14	ug/L	96
25) Chloroform	83	9.042	9.042	0.907	110155	9.56	ug/L	100
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	110358	9.44	ug/L	99
27) Cyclohexane	56	9.410	9.410	0.944	130851	9.38	ug/L	99
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	85701	9.60	ug/L	94
29) Carbon tetrachloride	117	9.505	9.517	0.954	95125	9.43	ug/L	99
31) 1,2-Dichloroethane	62	9.695	9.694	0.973	79374	9.33	ug/L	99
32) Benzene	78	9.707	9.706	0.974	250782	9.60	ug/L	98
33) Cyclohexene	67	9.825	9.825	0.986	132649	9.56	ug/L	97
34) n-Butyl alcohol	41	10.062	10.062	1.010	109289	1067.84	ug/L	98
35) Trichloroethylene	95	10.359	10.347	1.039	65585	9.51	ug/L	99
36) 2-Pentanone	43	10.430	10.430	1.046	190091	49.83	ug/L	100
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	65746	9.79	ug/L	100
38) Methylcyclohexane	83	10.596	10.607	1.063	123309	9.43	ug/L	97
39) Dibromomethane	93	10.726	10.726	1.076	33735	9.75	ug/L	96
40) Bromodichloromethane	83	10.845	10.845	1.088	75736	9.48	ug/L	98
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	180529	53.60	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.296	11.295	1.133	89241	9.49	ug/L	97

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I306.D
Acq On : 09 Sep 2020 21:47
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-05|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 10 19:10:15 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	90831	49.42	ug/L		98
46)	Toluene	91	11.687	11.687	0.890	273449	9.65	ug/L		100
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	79223	9.73	ug/L		96
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	41180	9.92	ug/L		96
49)	2-Hexanone	43	12.232	12.232	0.931	172308	49.66	ug/L		99
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	80501	9.66	ug/L		99
51)	Tetrachloroethylene	164	12.280	12.280	0.935	60006	9.47	ug/L		97
52)	Dibromochloromethane	129	12.517	12.517	0.953	51789	8.63	ug/L		99
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	47863	9.84	ug/L		97
54)	Chlorobenzene	112	13.169	13.169	1.003	182032	9.70	ug/L		95
55)	1,1,1,2-Tetrachloroethane	131	13.217	13.228	1.006	68038	9.29	ug/L		98
56)	Ethylbenzene	91	13.228	13.228	1.007	320098	9.76	ug/L		99
57)	m,p-Xylenes	106	13.347	13.347	1.016	250508	19.61	ug/L		95
58)	o-Xylene	106	13.774	13.774	1.049	127465	9.61	ug/L		95
59)	Styrene	104	13.774	13.774	1.049	197785	9.59	ug/L		93
61)	Bromoform	173	14.035	14.035	0.903	31493	8.37	ug/L		97
62)	Isopropylbenzene	105	14.130	14.129	0.909	331325	9.74	ug/L		99
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	60706	10.02	ug/L		100
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	17395	10.03	ug/L	#	84
66)	Bromobenzene	156	14.533	14.533	0.935	84053	9.69	ug/L		98
67)	n-Propylbenzene	91	14.557	14.556	0.937	400027	9.89	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	290479	9.64	ug/L		98
69)	2-Chlorotoluene	126	14.711	14.711	0.947	82951	9.54	ug/L		97
70)	4-Chlorotoluene	91	14.806	14.805	0.953	236799	10.01	ug/L		100
71)	tert-Butylbenzene	134	15.078	15.078	0.970	61430	9.54	ug/L		95
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	295096	9.81	ug/L		98
73)	sec-Butylbenzene	105	15.304	15.303	0.985	385084	9.66	ug/L		99
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	331433	9.61	ug/L		98
75)	1,3-Dichlorobenzene	146	15.482	15.481	0.996	165020	9.84	ug/L		99
76)	1,4-Dichlorobenzene	146	15.565	15.564	1.002	164421	9.67	ug/L		97
77)	n-Butylbenzene	91	15.861	15.861	1.021	323577	9.80	ug/L		100
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	154786	9.66	ug/L		99
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	11255	8.25	ug/L		99
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	130436	9.18	ug/L		98
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	81191	9.01	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	253234	9.23	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	123977	9.10	ug/L		100
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		7.572	7.524	0.760	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.707	9.730	0.974	0m	N.D.	d		
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I306.D
Acq On : 09 Sep 2020 21:47
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-05|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 10 19:10:15 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

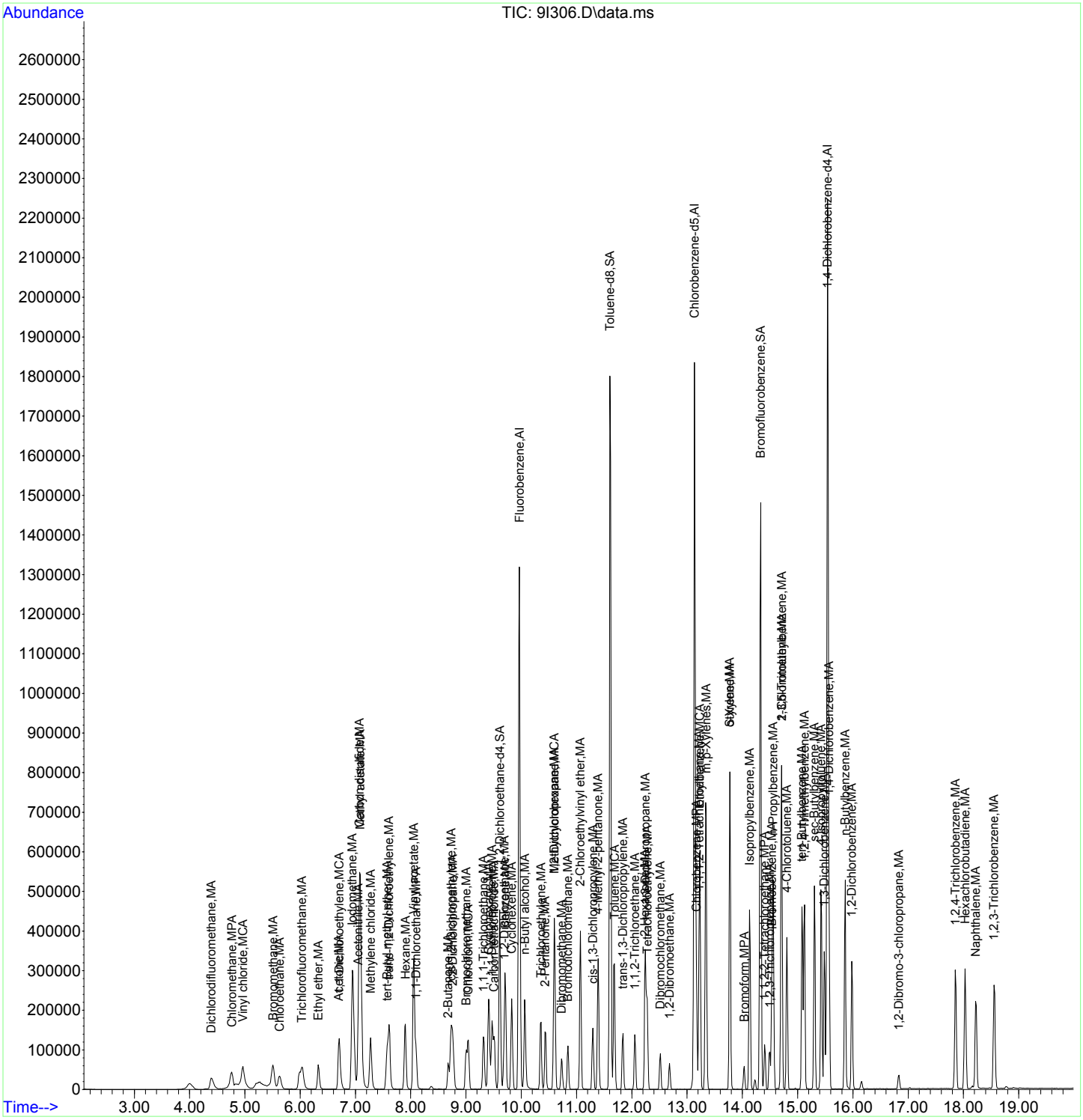
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.877	11.841	0.904	0m	N.D.	d
106) 1-Chlorohexane		13.134	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.557	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I306.D
Acq On : 09 Sep 2020 21:47
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-05|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 10 19:10:15 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Quantitation Report
GEL Laboratories, LLC

JP
09/10/2020

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I307.D
Acq On : 09 Sep 2020 22:14
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-06|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:18 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1314587	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1124706	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	665688	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	345795	49.49	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1340020	49.16	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	540021	49.66	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.390	4.405	0.440	183118	21.04	ug/L	98
3) Chloromethane	50	4.761	4.761	0.478	224803	19.52	ug/L	100
4) Vinyl chloride	62	4.963	4.963	0.498	205462	19.53	ug/L	96
5) Bromomethane	94	5.508	5.508	0.553	155284	19.76	ug/L	96
6) Chloroethane	64	5.627	5.627	0.565	121758	19.47	ug/L	99
7) Trichlorofluoromethane	101	6.042	6.042	0.606	269916	19.83	ug/L	100
8) Ethyl ether	59	6.327	6.327	0.635	93719	20.17	ug/L	96
9) Acetone	43	6.694	6.694	0.672	133329	97.44	ug/L	99
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	209953	19.84	ug/L	98
11) Iodomethane	142	6.955	6.955	0.698	1274203	98.78	ug/L	99
12) Acetonitrile	41	7.050	7.050	0.707	347862	501.18	ug/L	99
13) Methyl acetate	43	7.086	7.086	0.711	326202	102.14	ug/L	99
14) Carbon disulfide	76	7.086	7.086	0.711	2286992	102.31	ug/L	100
15) Methylene chloride	84	7.275	7.275	0.730	147780	19.63	ug/L	99
16) tert-Butyl methyl ether	73	7.572	7.584	0.760	336963	20.31	ug/L	99
17) trans-1,2-Dichloroethy...	61	7.607	7.619	0.763	199084	20.29	ug/L	100
18) Hexane	57	7.904	7.904	0.793	191436	19.22	ug/L	99
19) Vinyl acetate	43	8.058	8.058	0.808	1184017	102.21	ug/L	99
20) 1,1-Dichloroethane	63	8.093	8.093	0.812	234138	20.03	ug/L	99
21) 2-Butanone	43	8.675	8.675	0.870	212538	99.90	ug/L	100
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	222121	20.28	ug/L	99
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	220369	20.09	ug/L	93
24) Bromochloromethane	128	9.007	9.007	0.904	63924	20.31	ug/L	98
25) Chloroform	83	9.042	9.042	0.907	228384	20.12	ug/L	99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	233776	20.31	ug/L	99
27) Cyclohexane	56	9.410	9.410	0.944	273774	19.93	ug/L	99
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	176624	20.09	ug/L	99
29) Carbon tetrachloride	117	9.517	9.517	0.955	205125	20.66	ug/L	100
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	162940	19.44	ug/L	100
32) Benzene	78	9.706	9.706	0.974	516730	20.08	ug/L	99
33) Cyclohexene	67	9.825	9.825	0.986	279121	20.42	ug/L	98
34) n-Butyl alcohol	41	10.062	10.062	1.010	223893	2221.27	ug/L	97
35) Trichloroethylene	95	10.347	10.347	1.038	138076	20.32	ug/L	99
36) 2-Pentanone	43	10.430	10.430	1.046	379029	100.89	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	134949	20.40	ug/L	99
38) Methylcyclohexane	83	10.608	10.607	1.064	259302	20.14	ug/L	98
39) Dibromomethane	93	10.726	10.726	1.076	70687	20.74	ug/L	96
40) Bromodichloromethane	83	10.845	10.845	1.088	163731	20.80	ug/L	97
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	357785	107.86	ug/L	100
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	196217	21.18	ug/L	97

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I307.D
Acq On : 09 Sep 2020 22:14
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-06|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 10 19:10:18 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	190947	103.12	ug/L		98
46)	Toluene	91	11.687	11.687	0.890	565946	19.82	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	174045	21.21	ug/L		97
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	84553	20.22	ug/L		99
49)	2-Hexanone	43	12.244	12.232	0.932	364129	104.16	ug/L		98
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	170418	20.30	ug/L		99
51)	Tetrachloroethylene	164	12.280	12.280	0.935	128281	20.09	ug/L		97
52)	Dibromochloromethane	129	12.517	12.517	0.953	116245	18.50	ug/L		100
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	102159	20.84	ug/L		96
54)	Chlorobenzene	112	13.169	13.169	1.003	377160	19.94	ug/L		97
55)	1,1,1,2-Tetrachloroethane	131	13.216	13.228	1.006	147387	19.98	ug/L		99
56)	Ethylbenzene	91	13.228	13.228	1.007	670077	20.28	ug/L		100
57)	m,p-Xylenes	106	13.347	13.347	1.016	526904	40.95	ug/L		95
58)	o-Xylene	106	13.774	13.774	1.049	265589	19.87	ug/L		96
59)	Styrene	104	13.774	13.774	1.049	425192	20.46	ug/L		95
61)	Bromoform	173	14.035	14.035	0.903	73976	18.18	ug/L		98
62)	Isopropylbenzene	105	14.129	14.129	0.909	700155	20.08	ug/L		100
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	127677	20.56	ug/L		98
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	37061	20.85	ug/L	#	91
66)	Bromobenzene	156	14.533	14.533	0.935	175432	19.74	ug/L		99
67)	n-Propylbenzene	91	14.556	14.556	0.937	833901	20.12	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	621516	20.12	ug/L		98
69)	2-Chlorotoluene	126	14.711	14.711	0.947	176693	19.83	ug/L		100
70)	4-Chlorotoluene	91	14.805	14.805	0.953	490561	20.22	ug/L		100
71)	tert-Butylbenzene	134	15.078	15.078	0.970	129763	19.66	ug/L		97
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	623302	20.23	ug/L		98
73)	sec-Butylbenzene	105	15.303	15.303	0.985	826034	20.22	ug/L		98
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	709150	20.07	ug/L		98
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	342171	19.91	ug/L		99
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	346056	19.86	ug/L		98
77)	n-Butylbenzene	91	15.861	15.861	1.021	684051	20.21	ug/L		99
78)	1,2-Dichlorobenzene	146	15.979	15.979	1.028	326233	19.86	ug/L		99
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	25917	17.60	ug/L		98
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	284207	19.51	ug/L		99
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	181259	19.62	ug/L		98
82)	Naphthalene	128	18.221	18.221	1.172	562439	20.00	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	275391	19.72	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		7.584	7.524	0.761	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.042	9.054	0.907	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.706	9.730	0.974	0m	N.D.	d		
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I307.D
Acq On : 09 Sep 2020 22:14
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-06|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 10 19:10:18 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

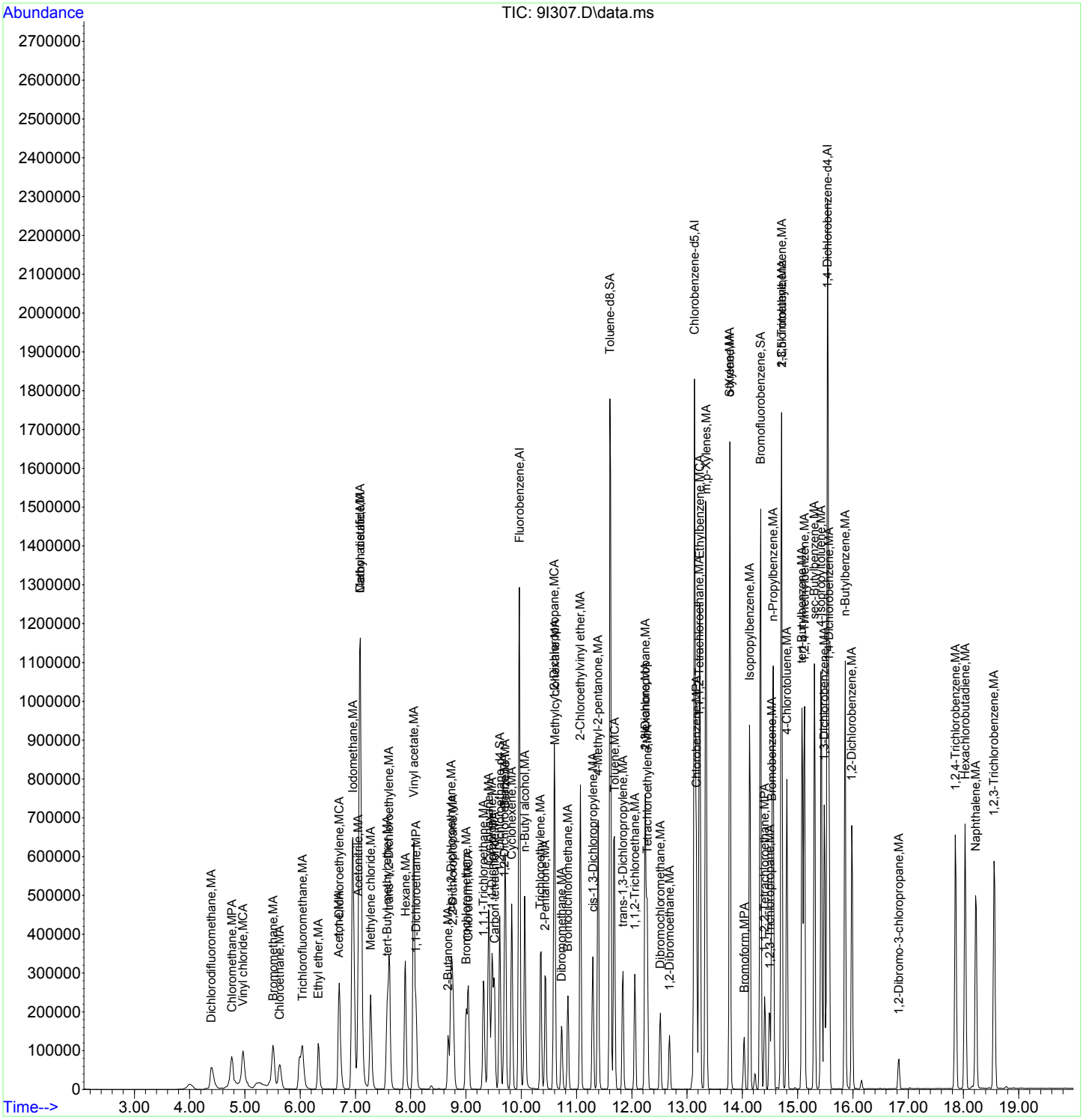
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.912	11.841	0.907	0m	N.D.	d
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.129	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.129	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.157	16.074	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I307.D
Acq On : 09 Sep 2020 22:14
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-06|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 10 19:10:18 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I308.D
Acq On : 09 Sep 2020 22:41
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-07|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

EH
09/16/2020

Quant Time: Sep 10 19:10:21 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1293197	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1106361	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	671538	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	341766	49.73	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1326319	49.46	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	539533	49.19	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	431096	50.35	ug/L	99
3) Chloromethane	50	4.761	4.761	0.478	531781	46.94	ug/L	100
4) Vinyl chloride	62	4.963	4.963	0.498	505210	48.81	ug/L	100
5) Bromomethane	94	5.508	5.508	0.553	393512	50.90	ug/L	98
6) Chloroethane	64	5.627	5.627	0.565	311714	50.66	ug/L	100
7) Trichlorofluoromethane	101	6.042	6.042	0.606	696982	52.05	ug/L	99
8) Ethyl ether	59	6.327	6.327	0.635	243928	53.38	ug/L	96
9) Acetone	43	6.694	6.694	0.672	334861	248.77	ug/L	100
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	541081	51.98	ug/L	99
11) Iodomethane	142	6.955	6.955	0.698	3442700	271.31	ug/L	98
12) Acetonitrile	41	7.050	7.050	0.707	874780	1281.17	ug/L	98
13) Methyl acetate	43	7.086	7.086	0.711	804233	255.98	ug/L	99
14) Carbon disulfide	76	7.086	7.086	0.711	5875686	267.21	ug/L	99
15) Methylene chloride	84	7.275	7.275	0.730	349065	50.74	ug/L	99
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	847791	51.94	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	492762	51.05	ug/L	99
18) Hexane	57	7.904	7.904	0.793	514940	52.54	ug/L	98
19) Vinyl acetate	43	8.058	8.058	0.808	3116694	273.50	ug/L	99
20) 1,1-Dichloroethane	63	8.093	8.093	0.812	587753	51.11	ug/L	100
21) 2-Butanone	43	8.675	8.675	0.870	534249	255.26	ug/L	99
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	562173	52.18	ug/L	99
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	556140	51.54	ug/L	92
24) Bromochloromethane	128	9.007	9.007	0.904	163422	52.78	ug/L	97
25) Chloroform	83	9.042	9.042	0.907	578153	51.78	ug/L	98
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	601883	53.16	ug/L	99
27) Cyclohexane	56	9.410	9.410	0.944	688811	50.97	ug/L	100
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	439568	50.83	ug/L	99
29) Carbon tetrachloride	117	9.517	9.517	0.955	529769	54.23	ug/L	99
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	400444	48.56	ug/L	100
32) Benzene	78	9.706	9.706	0.974	1293180	51.08	ug/L	99
33) Cyclohexene	67	9.825	9.825	0.986	685012	50.95	ug/L	98
34) n-Butyl alcohol	41	10.062	10.062	1.010	575664	5805.69	ug/L	98
35) Trichloroethylene	95	10.347	10.347	1.038	348572	52.15	ug/L	100
36) 2-Pentanone	43	10.430	10.430	1.046	961345	260.13	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	340561	52.32	ug/L	100
38) Methylcyclohexane	83	10.607	10.607	1.064	659840	52.09	ug/L	98
39) Dibromomethane	93	10.726	10.726	1.076	178168	53.14	ug/L	94
40) Bromodichloromethane	83	10.845	10.845	1.088	432337	55.84	ug/L	99
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	896462	274.72	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	502020	55.09	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I308.D
Acq On : 09 Sep 2020 22:41
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-07|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 10 19:10:21 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	478830	262.89	ug/L		96
46)	Toluene	91	11.687	11.687	0.890	1414162	50.33	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	439946	54.49	ug/L		98
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	209724	50.99	ug/L		98
49)	2-Hexanone	43	12.232	12.232	0.931	901554	262.16	ug/L		98
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	433079	52.45	ug/L		96
51)	Tetrachloroethylene	164	12.280	12.280	0.935	323644	51.52	ug/L		95
52)	Dibromochloromethane	129	12.517	12.517	0.953	313806	49.73	ug/L		100
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	259704	53.86	ug/L		97
54)	Chlorobenzene	112	13.169	13.169	1.003	958768	51.53	ug/L		100
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	394001	54.30	ug/L		98
56)	Ethylbenzene	91	13.228	13.228	1.007	1695875	52.19	ug/L		100
57)	m,p-Xylenes	106	13.347	13.347	1.016	1355898	107.12	ug/L		99
58)	o-Xylene	106	13.774	13.774	1.049	701936	53.39	ug/L		100
59)	Styrene	104	13.774	13.774	1.049	1135713	55.56	ug/L		98
61)	Bromoform	173	14.035	14.035	0.903	208793	49.48	ug/L		99
62)	Isopropylbenzene	105	14.129	14.129	0.909	1801337	51.22	ug/L		99
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	326532	52.13	ug/L		99
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	93560	52.17	ug/L	#	91
66)	Bromobenzene	156	14.533	14.533	0.935	472414	52.68	ug/L		96
67)	n-Propylbenzene	91	14.556	14.556	0.937	2124785	50.82	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1629597	52.28	ug/L		99
69)	2-Chlorotoluene	126	14.711	14.711	0.947	473230	52.65	ug/L		94
70)	4-Chlorotoluene	91	14.805	14.805	0.953	1261003	51.53	ug/L		99
71)	tert-Butylbenzene	134	15.078	15.078	0.970	348612	52.34	ug/L		93
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	1615344	51.96	ug/L		100
73)	sec-Butylbenzene	105	15.303	15.303	0.985	2140220	51.94	ug/L		98
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	1889289	52.99	ug/L		99
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	911527	52.59	ug/L		98
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	920584	52.38	ug/L		99
77)	n-Butylbenzene	91	15.861	15.861	1.021	1791508	52.47	ug/L		99
78)	1,2-Dichlorobenzene	146	15.979	15.979	1.028	871906	52.61	ug/L		99
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	75760	49.57	ug/L		95
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	784253	53.37	ug/L		100
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	499676	53.61	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	1489832	52.53	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	745030	52.88	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		7.572	7.524	0.760	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		8.200	8.200	0.823	0m	N.D.	d		
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		8.675	8.746	0.870	0m	N.D.	d		
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.718	9.730	0.975	0m	N.D.	d		
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d		
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d		
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I308.D
Acq On : 09 Sep 2020 22:41
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-07|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 10 19:10:21 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

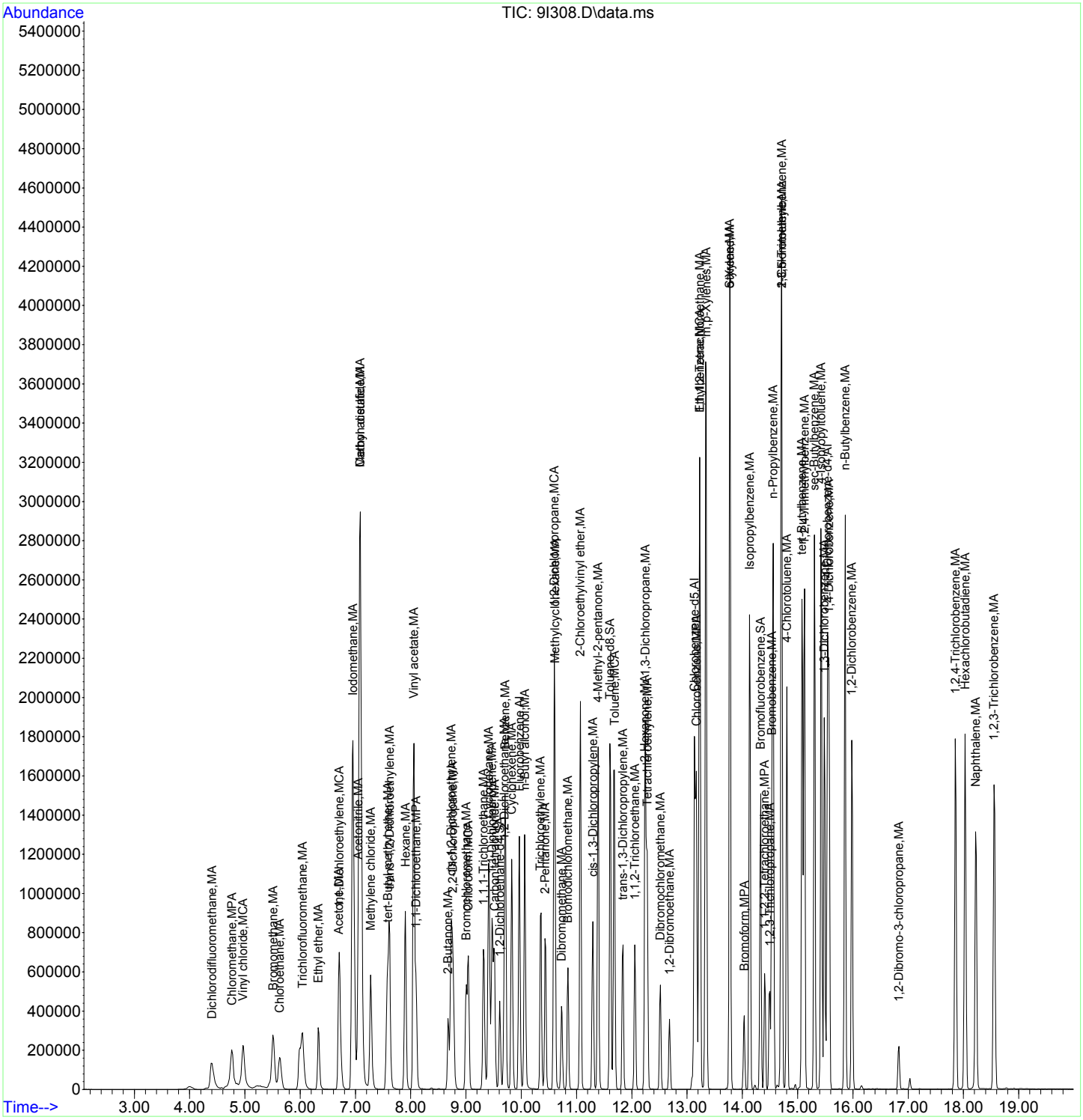
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.841	0.000	0	N.D.	
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.129	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.129	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.149	15.149	0.975	0m	N.D.	d
111) Benzyl chloride		15.754	15.683	1.014	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.157	16.074	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I308.D
Acq On : 09 Sep 2020 22:41
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-07|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 10 19:10:21 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I309.D
Acq On : 09 Sep 2020 23:07
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-08|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:24 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1309016	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1109929	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	667717	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	345448	49.65	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1348950	50.14	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	536160	49.16	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	509374	58.78	ug/L	99
3) Chloromethane	50	4.776	4.761	0.479	697018	60.79	ug/L	99
4) Vinyl chloride	62	4.975	4.963	0.499	652815	62.30	ug/L	100
5) Bromomethane	94	5.520	5.508	0.554	492875	62.98	ug/L	97
6) Chloroethane	64	5.639	5.627	0.566	402030	64.55	ug/L	99
7) Trichlorofluoromethane	101	6.042	6.042	0.606	861596	63.56	ug/L	100
8) Ethyl ether	59	6.339	6.327	0.636	321072	69.41	ug/L	97
9) Acetone	43	6.706	6.694	0.673	513976	377.22	ug/L	99
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	832261	78.99	ug/L	99
11) Iodomethane	142	6.955	6.955	0.698	5527247	430.32	ug/L	96
12) Acetonitrile	41	7.050	7.050	0.707	1314399	1901.76	ug/L	99
13) Methyl acetate	43	7.086	7.086	0.711	1220716	383.84	ug/L	100
14) Carbon disulfide	76	7.086	7.086	0.711	8893242	399.55	ug/L	99
15) Methylene chloride	84	7.275	7.275	0.730	529404	77.30	ug/L	99
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	1309092	79.23	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	763341	78.13	ug/L	99
18) Hexane	57	7.904	7.904	0.793	794501	80.09	ug/L	99
19) Vinyl acetate	43	8.058	8.058	0.808	4010265	347.67	ug/L	98
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	916069	78.70	ug/L	99
21) 2-Butanone	43	8.675	8.675	0.870	809727	382.21	ug/L	99
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	865683	79.38	ug/L	100
23) 2,2-Dichloropropane	77	8.770	8.758	0.880	860218	78.75	ug/L	91
24) Bromochloromethane	128	9.007	9.007	0.904	257018	82.01	ug/L	97
25) Chloroform	83	9.042	9.042	0.907	900861	79.70	ug/L	99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	939545	81.98	ug/L	99
27) Cyclohexane	56	9.410	9.410	0.944	1044391	76.34	ug/L	100
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	674017	77.00	ug/L	99
29) Carbon tetrachloride	117	9.517	9.517	0.955	823865	83.32	ug/L	99
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	613311	73.48	ug/L	99
32) Benzene	78	9.718	9.706	0.975	1980415	77.28	ug/L	99
33) Cyclohexene	67	9.825	9.825	0.986	1054535	77.49	ug/L	98
34) n-Butyl alcohol	41	10.062	10.062	1.010	850888	8477.68	ug/L	97
35) Trichloroethylene	95	10.359	10.347	1.039	538569	79.60	ug/L	99
36) 2-Pentanone	43	10.430	10.430	1.046	1463873	391.32	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	516536	78.40	ug/L	99
38) Methylcyclohexane	83	10.608	10.607	1.064	1021543	79.67	ug/L	98
39) Dibromomethane	93	10.726	10.726	1.076	277767	81.85	ug/L	93
40) Bromodichloromethane	83	10.845	10.845	1.088	671997	85.74	ug/L	99
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	1098062	332.43	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	773093	83.82	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I309.D
Acq On : 09 Sep 2020 23:07
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-08|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 10 19:10:24 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	739686	404.80	ug/L		94
46)	Toluene	91	11.687	11.687	0.890	2184141	77.49	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	678900	83.82	ug/L		99
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	321720	77.96	ug/L		98
49)	2-Hexanone	43	12.244	12.232	0.932	1331232	385.86	ug/L		97
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	650075	78.48	ug/L		96
51)	Tetrachloroethylene	164	12.280	12.280	0.935	508478	80.68	ug/L		95
52)	Dibromochloromethane	129	12.517	12.517	0.953	496353	78.07	ug/L		100
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	395782	81.82	ug/L		97
54)	Chlorobenzene	112	13.169	13.169	1.003	1483445	79.47	ug/L		99
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	631668	86.77	ug/L		98
56)	Ethylbenzene	91	13.228	13.228	1.007	2547200	78.13	ug/L		99
57)	m,p-Xylenes	106	13.347	13.347	1.016	2097292	165.16	ug/L		99
58)	o-Xylene	106	13.774	13.774	1.049	1108766	84.06	ug/L		98
59)	Styrene	104	13.774	13.774	1.049	1780872	86.85	ug/L		100
61)	Bromoform	173	14.035	14.035	0.903	327748	77.67	ug/L		99
62)	Isopropylbenzene	105	14.130	14.129	0.909	2801651	80.11	ug/L		99
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	490128	78.70	ug/L		98
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	140236	78.65	ug/L	#	89
66)	Bromobenzene	156	14.533	14.533	0.935	731625	82.06	ug/L		94
67)	n-Propylbenzene	91	14.556	14.556	0.937	3224694	77.58	ug/L		98
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	2525067	81.47	ug/L		99
69)	2-Chlorotoluene	126	14.711	14.711	0.947	744195	83.27	ug/L		89
70)	4-Chlorotoluene	91	14.806	14.805	0.953	1883310	77.40	ug/L		97
71)	tert-Butylbenzene	134	15.078	15.078	0.970	559576	84.50	ug/L		89
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	2501273	80.92	ug/L		99
73)	sec-Butylbenzene	105	15.304	15.303	0.985	3326608	81.19	ug/L		97
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	2919315	82.35	ug/L		98
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	1388046	80.54	ug/L		98
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	1416717	81.07	ug/L		98
77)	n-Butylbenzene	91	15.861	15.861	1.021	2685252	79.10	ug/L		98
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	1361424	82.61	ug/L		98
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	117506	76.90	ug/L		96
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	1234348	84.49	ug/L		100
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	799414	86.26	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	2336644	82.86	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.565	18.553	1.195	1178657	84.14	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89)	tert-Butyl Alcohol		7.287	7.275	0.731	0m	N.D.	d		
90)	Acrylonitrile		7.572	7.524	0.760	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		8.046	8.200	0.807	0m	N.D.	d		
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		8.687	8.746	0.872	0m	N.D.	d		
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.042	9.054	0.907	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.718	9.730	0.975	0m	N.D.	d		
100)	Methyl methacrylate		10.608	10.572	1.064	0m	N.D.	d		
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d		
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I309.D
Acq On : 09 Sep 2020 23:07
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-08|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 10 19:10:24 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

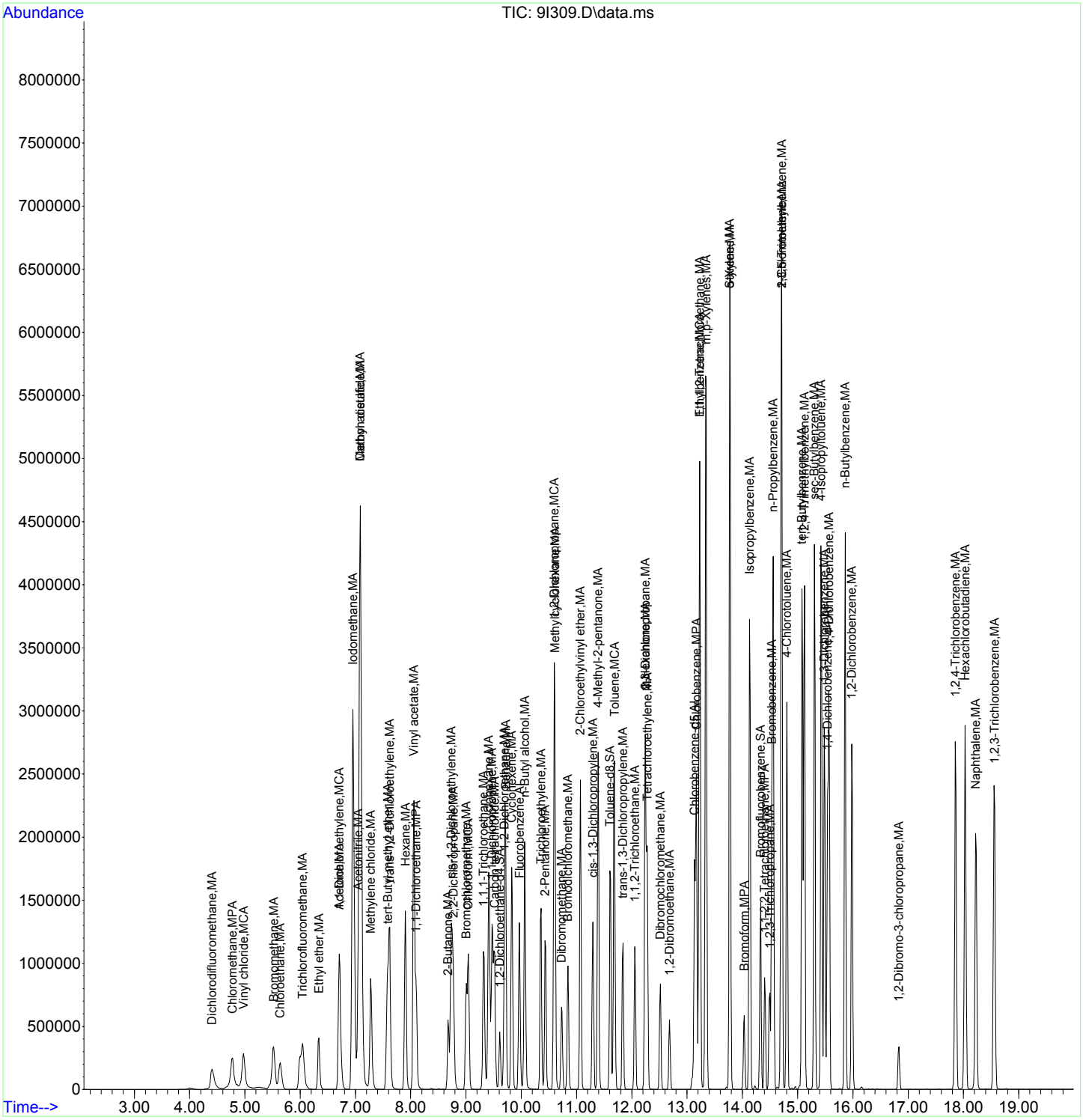
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.841	0.000	0	N.D.	
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.149	15.149	0.975	0m	N.D.	d
111) Benzyl chloride		15.671	15.683	1.008	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.157	16.074	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I309.D
Acq On : 09 Sep 2020 23:07
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-08|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 10 19:10:24 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I310.D
Acq On : 09 Sep 2020 23:34
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-09|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:27 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.967	9.967	1.000	1352922	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1153834	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	696852	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	357758	49.75	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1378973	49.31	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	550673	48.38	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	888288	99.18	ug/L	100
3) Chloromethane	50	4.776	4.761	0.479	1075844	90.78	ug/L	100
4) Vinyl chloride	62	4.975	4.963	0.499	990192	91.44	ug/L	100
5) Bromomethane	94	5.520	5.508	0.554	801688	99.12	ug/L	98
6) Chloroethane	64	5.639	5.627	0.566	645132	100.23	ug/L	100 A
7) Trichlorofluoromethane	101	6.042	6.042	0.606	1444591	103.11	ug/L	100 A
8) Ethyl ether	59	6.339	6.327	0.636	520452	108.86	ug/L	95 A
9) Acetone	43	6.706	6.694	0.673	715385	508.00	ug/L	98 A
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	1142161	104.88	ug/L	98 A
11) Iodomethane	142	6.955	6.955	0.698	7878462	593.47	ug/L	95 A
12) Acetonitrile	41	7.050	7.050	0.707	1824719	2554.45	ug/L	98 A
13) Methyl acetate	43	7.097	7.086	0.712	1667472	507.30	ug/L	99 A
14) Carbon disulfide	76	7.086	7.086	0.711	12065032	524.45	ug/L	99 A
15) Methylene chloride	84	7.275	7.275	0.730	725789	103.38	ug/L	99 A
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	1816151	106.35	ug/L	100 A
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	1026372	101.65	ug/L	98 A
18) Hexane	57	7.904	7.904	0.793	1027433	100.21	ug/L	98 A
19) Vinyl acetate	43	8.058	8.058	0.808	6372325	534.52	ug/L	98 A
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	1247160	103.66	ug/L	99 A
21) 2-Butanone	43	8.675	8.675	0.870	1123705	513.20	ug/L	99 A
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	1178953	104.60	ug/L	99 A
23) 2,2-Dichloropropane	77	8.770	8.758	0.880	1161613	102.89	ug/L	90 A
24) Bromochloromethane	128	9.007	9.007	0.904	355927	109.89	ug/L	96 A
25) Chloroform	83	9.042	9.042	0.907	1231743	105.44	ug/L	99 A
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	1279634	108.03	ug/L	99 A
27) Cyclohexane	56	9.410	9.410	0.944	1434877	101.48	ug/L	100 A
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	911179	100.71	ug/L	99 A
29) Carbon tetrachloride	117	9.517	9.517	0.955	1125700	110.15	ug/L	99 A
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	845943	98.06	ug/L	99
32) Benzene	78	9.718	9.706	0.975	2733517	103.20	ug/L	99 A
33) Cyclohexene	67	9.825	9.825	0.986	1429222	101.61	ug/L	98 A
34) n-Butyl alcohol	41	10.062	10.062	1.010	1193119	11501.66	ug/L	96 A
35) Trichloroethylene	95	10.359	10.347	1.039	731068	104.55	ug/L	99 A
36) 2-Pentanone	43	10.430	10.430	1.046	1899336	491.25	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	705555	103.61	ug/L	99 A
38) Methylcyclohexane	83	10.608	10.607	1.064	1384736	104.49	ug/L	99 A
39) Dibromomethane	93	10.726	10.726	1.076	380452	108.47	ug/L	92 A
40) Bromodichloromethane	83	10.845	10.845	1.088	921168	113.72	ug/L	99 A
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	1711420	501.30	ug/L	98 A
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	1061751	111.38	ug/L	99 A

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I310.D
Acq On : 09 Sep 2020 23:34
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-09|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 10 19:10:27 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units			
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	1009970	531.68	ug/L		94	A
46)	Toluene	91	11.687	11.687	0.890	2983684	101.83	ug/L		98	A
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	941575	111.83	ug/L		99	A
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	444350	103.58	ug/L		98	A
49)	2-Hexanone	43	12.232	12.232	0.931	1804435	503.11	ug/L		96	A
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	885277	102.80	ug/L		96	A
51)	Tetrachloroethylene	164	12.280	12.280	0.935	704734	107.57	ug/L		93	A
52)	Dibromochloromethane	129	12.517	12.517	0.953	697740	105.37	ug/L		100	A
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	547272	108.83	ug/L		97	A
54)	Chlorobenzene	112	13.169	13.169	1.003	2039621	105.10	ug/L		99	A
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	887380	117.26	ug/L		98	A
56)	Ethylbenzene	91	13.228	13.228	1.007	3431824	101.26	ug/L		98	A
57)	m,p-Xylenes	106	13.347	13.347	1.016	2871075	217.49	ug/L		96	A
58)	o-Xylene	106	13.774	13.774	1.049	1531046	111.65	ug/L		95	A
59)	Styrene	104	13.774	13.774	1.049	2436007	114.28	ug/L		98	A
61)	Bromoform	173	14.035	14.035	0.903	471473	106.76	ug/L		98	A
62)	Isopropylbenzene	105	14.130	14.129	0.909	3865025	105.90	ug/L		98	A
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	680659	104.72	ug/L		99	A
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	194306	104.42	ug/L	#	93	A
66)	Bromobenzene	156	14.533	14.533	0.935	1029874	110.68	ug/L		91	A
67)	n-Propylbenzene	91	14.556	14.556	0.937	4321055	99.60	ug/L		97	
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	3471559	107.33	ug/L		97	A
69)	2-Chlorotoluene	126	14.711	14.711	0.947	1035055	110.97	ug/L	#	85	A
70)	4-Chlorotoluene	91	14.806	14.805	0.953	2551096	100.46	ug/L		96	A
71)	tert-Butylbenzene	134	15.078	15.078	0.970	791197	114.48	ug/L	#	86	A
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	3389726	105.07	ug/L		98	A
73)	sec-Butylbenzene	105	15.304	15.303	0.985	4589122	107.32	ug/L		96	A
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	4089634	110.55	ug/L		98	A
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	1936168	107.64	ug/L		97	A
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	1942424	106.50	ug/L		97	A
77)	n-Butylbenzene	91	15.861	15.861	1.021	3646038	102.91	ug/L		97	A
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	1896569	110.28	ug/L		98	A
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	172562	107.90	ug/L		95	A
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	1795373	117.75	ug/L		100	A
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	1181332	122.14	ug/L		99	A
82)	Naphthalene	128	18.221	18.221	1.172	3348668	113.78	ug/L		100	A
83)	1,2,3-Trichlorobenzene	180	18.565	18.553	1.195	1698814	116.20	ug/L		99	A
85)	Acrolein		0.000	6.516	0.000	0	N.D.				
86)	Trichlorotrifluoroethane		6.706	6.694	0.673	0m	N.D.	d			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d			
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d			
89)	tert-Butyl Alcohol		7.275	7.275	0.730	0m	N.D.	d			
90)	Acrylonitrile		7.584	7.524	0.761	0m	N.D.	d			
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d			
92)	2-Chloro-1,3-butadiene		8.058	8.200	0.808	0m	N.D.	d			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.				
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d			
95)	Propionitrile		8.687	8.746	0.872	0m	N.D.	d			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d			
97)	Tetrahydrofuran		9.042	9.054	0.907	0m	N.D.	d			
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d			
99)	Methyl tert-amyl ether		9.718	9.730	0.975	0m	N.D.	d			
100)	Methyl methacrylate		10.608	10.572	1.064	0m	N.D.	d			
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d			

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I310.D
Acq On : 09 Sep 2020 23:34
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-09|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 10 19:10:27 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

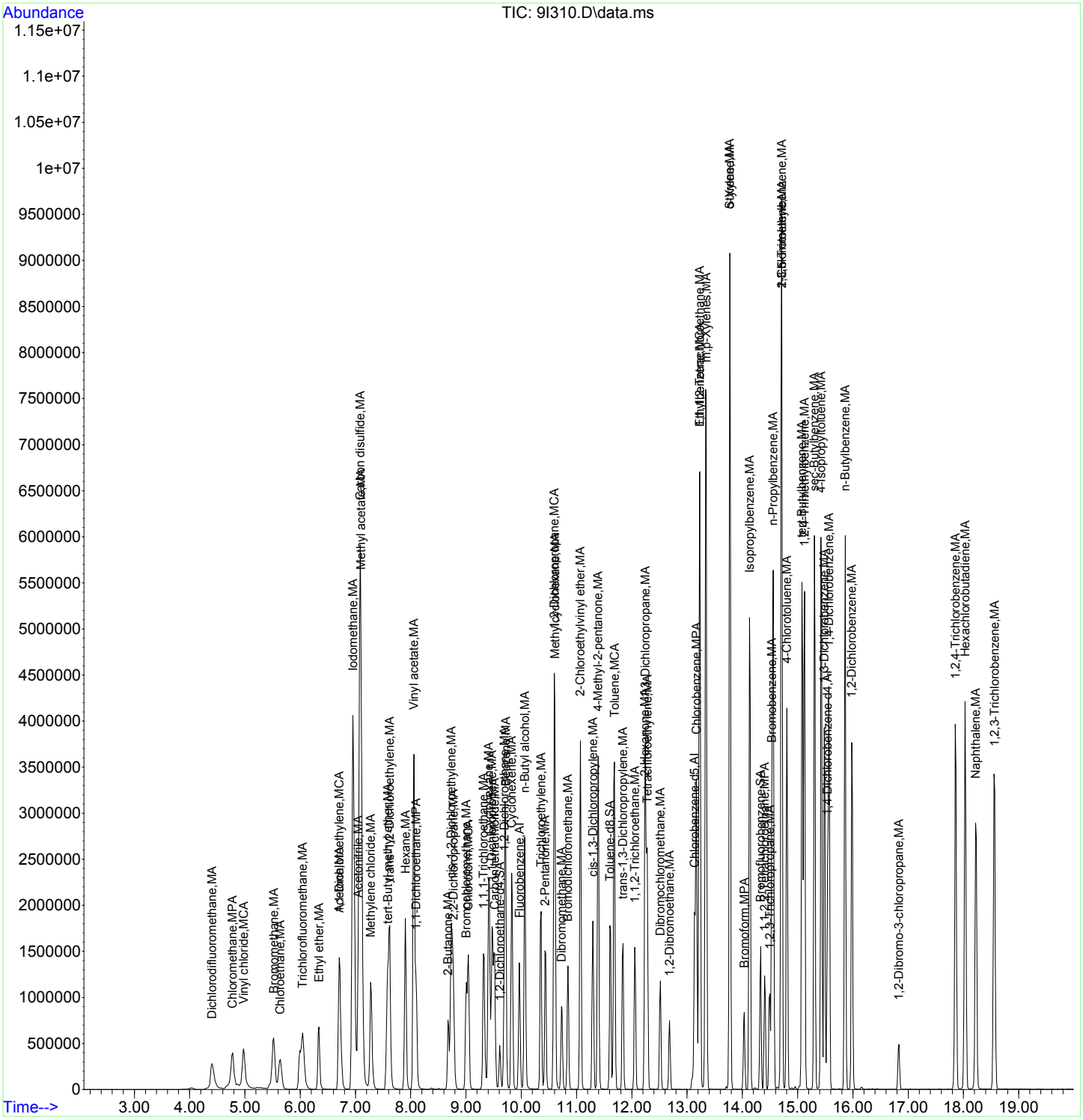
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.841	0.000	0	N.D.	
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.149	15.149	0.975	0m	N.D.	d
111) Benzyl chloride		15.659	15.683	1.008	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I310.D
Acq On : 09 Sep 2020 23:34
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-09|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 10 19:10:27 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Continuing Calibration Summary

Client SDG: 2021-129

Instrument ID: VOA9.I **Injection Date:** 10-SEP-20 00:27

Data File: 090920V9\9I312.D **Init. Cal. Date(s)** 09-SEP-20 20:00 - 09-SEP-20 23:34

Lab Sample ID W9VM200909-10 **Method:** 090920V9\VOA9-8260-090920.M

Quant Type ISTD **Method Update:** 10-SEP-20 19:05

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type	
S	1,2-Dichloroethane-d4	0.2657	0.26518		.01		-0.19571	60		Averaged	
S	Toluene-d8	1.2119	1.21387		.01		0.16255	60		Averaged	
S	Bromofluorobenzene	0.8167	0.79704		.01		-2.40725	60		Averaged	
	Chloromethane	0.438	0.45888		.1		4.76712	60		Averaged	SPCC
	Vinyl chloride	0.4002	0.43399		.01		8.44328	20		Averaged	CCC
	1,1-Dichloroethylene	0.4025	0.40659		.01		1.01615	20		Averaged	CCC
	Methylene chloride	50	49.21	50			-1.58	60		Linear	
	1,1-Dichloroethane	0.4446	0.47872		.1		7.67431	60		Averaged	SPCC
	Chloroform	0.4317	0.45867		.01		6.24739	20		Averaged	CCC
	1,1,1-Trichloroethane	0.4378	0.49585		.01		13.25948	60		Averaged	
	Carbon tetrachloride	0.3777	0.4414		.01		16.86524	60		Averaged	
	1,2-Dichloroethane	0.3188	0.29681		.01		-6.89774	60		Averaged	
	Benzene	0.9789	1.00596		.01		2.76433	60		Averaged	
	Trichloroethylene	0.2584	0.2693		.01		4.21827	60		Averaged	
	1,2-Dichloropropane	0.2517	0.25845		.01		2.68176	20		Averaged	CCC
	Dibromomethane	0.1296	0.13542		.01		4.49074	60		Averaged	
	Toluene	1.2697	1.32906		.01		4.67512	20		Averaged	CCC
	1,1,2-Trichloroethane	0.1859	0.18792		.01		1.08661	60		Averaged	
	Tetrachloroethylene	0.2839	0.31516		.01		11.01092	60		Averaged	
	Chlorobenzene	0.8409	0.87073		.3		3.54739	60		Averaged	SPCC
	Ethylbenzene	1.4686	1.54785		.01		5.3963	20		Averaged	CCC
	m,p-Xylenes	0.572	0.63172		.01		10.44056	60		Averaged	
	o-Xylene	0.5942	0.63792		.01		7.35779	60		Averaged	
	Bromoform	50	49.35	50			-1.3	60		Linear	SPCC
	1,1,2,2-Tetrachloroethane	0.4664	0.47768		.3		2.41852	60		Averaged	SPCC

JP
09/10/2020

KP
09/11/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I312.D
Acq On : 10 Sep 2020 00:27
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-10|ICV|1|VOA|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 10 19:10:33 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.967	9.967	1.000	1299584	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.134	13.133	1.000	1085307	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	647462	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	1299584	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.134	13.134	1.000	1085307	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	647462	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.612	9.611	0.964	344626	49.90	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1317418	50.08	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	516051	48.80	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	510546	59.34	ug/L	100
3) Chloromethane	50	4.761	4.761	0.478	596358	52.39	ug/L	100
4) Vinyl chloride	62	4.975	4.963	0.499	564003	54.22	ug/L	100
5) Bromomethane	94	5.508	5.508	0.553	448988	57.79	ug/L	98
6) Chloroethane	64	5.639	5.627	0.566	317461	51.34	ug/L	100
7) Trichlorofluoromethane	101	6.042	6.042	0.606	733116	54.48	ug/L	99
8) Ethyl ether	59	6.339	6.327	0.636	222120	48.36	ug/L	96
9) Acetone	43	6.706	6.694	0.673	342455	253.16	ug/L	99
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	528403	50.51	ug/L	98
11) Iodomethane	142	6.955	6.955	0.698	3678253	288.45	ug/L	97
12) Acetonitrile	41	7.050	7.050	0.707	868221	1265.32	ug/L	99
13) Methyl acetate	43	7.098	7.086	0.712	858995	272.06	ug/L	99
14) Carbon disulfide	76	7.086	7.086	0.711	6244624	282.59	ug/L	99
15) Methylene chloride	84	7.275	7.275	0.730	340758	49.21	ug/L	99
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	865184	52.74	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	487174	50.23	ug/L	98
18) Hexane	57	7.904	7.904	0.793	520799	52.88	ug/L	98
19) Vinyl acetate	43	8.058	8.058	0.808	2949881	257.59	ug/L	99
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	622141	53.84	ug/L	99
21) 2-Butanone	43	8.675	8.675	0.870	527218	250.67	ug/L	98
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	556907	51.44	ug/L	99
23) 2,2-Dichloropropane	77	8.770	8.758	0.880	614528	56.67	ug/L	91
24) Bromochloromethane	128	9.007	9.007	0.904	166103	53.39	ug/L	97
25) Chloroform	83	9.042	9.042	0.907	596081	53.12	ug/L	99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	644397	56.63	ug/L	99
27) Cyclohexane	56	9.410	9.410	0.944	633705	46.66	ug/L	99
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	455441	52.41	ug/L	99
29) Carbon tetrachloride	117	9.517	9.517	0.955	573634	58.43	ug/L	100
31) 1,2-Dichloroethane	62	9.695	9.694	0.973	385734	46.55	ug/L	100
32) Benzene	78	9.718	9.706	0.975	1307333	51.38	ug/L	99
33) Cyclohexene	67	9.825	9.825	0.986	740755	54.83	ug/L	98
34) n-Butyl alcohol	41	10.062	10.062	1.010	575154	5772.04	ug/L	97
35) Trichloroethylene	95	10.359	10.347	1.039	349975	52.10	ug/L	99
36) 2-Pentanone	43	10.430	10.430	1.046	896053	241.27	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	335875	51.35	ug/L	100
38) Methylcyclohexane	83	10.608	10.607	1.064	619222	48.64	ug/L	99
39) Dibromomethane	93	10.726	10.726	1.076	175987	52.24	ug/L	92
40) Bromodichloromethane	83	10.845	10.845	1.088	418325	53.76	ug/L	99
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	840746	256.38	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	504146	55.05	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I312.D
Acq On : 10 Sep 2020 00:27
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-10|ICV|1|VOA|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 10 19:10:33 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	472670	264.54	ug/L		96
46)	Toluene	91	11.687	11.687	0.890	1442440	52.34	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	433419	54.73	ug/L		99
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	203951	50.55	ug/L		99
49)	2-Hexanone	43	12.232	12.232	0.931	857064	254.06	ug/L		98
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	412322	50.90	ug/L		97
51)	Tetrachloroethylene	164	12.280	12.280	0.935	342049	55.50	ug/L		95
52)	Dibromochloromethane	129	12.517	12.517	0.953	315990	51.04	ug/L		100
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	252253	53.33	ug/L		97
54)	Chlorobenzene	112	13.169	13.169	1.003	945014	51.77	ug/L		100
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	386673	54.32	ug/L		98
56)	Ethylbenzene	91	13.228	13.228	1.007	1679892	52.70	ug/L		99
57)	m,p-Xylenes	106	13.347	13.347	1.016	1371213	110.43	ug/L		99
58)	o-Xylene	106	13.774	13.774	1.049	692335	53.68	ug/L		100
59)	Styrene	104	13.774	13.774	1.049	1105622	55.14	ug/L		98
61)	Bromoform	173	14.035	14.035	0.903	200769	49.35	ug/L		99
62)	Isopropylbenzene	105	14.130	14.129	0.909	1890112	55.74	ug/L		99
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	309278	51.21	ug/L		99
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	89447	51.74	ug/L	#	87
66)	Bromobenzene	156	14.533	14.533	0.935	457934	52.97	ug/L		96
67)	n-Propylbenzene	91	14.557	14.556	0.937	2086690	51.77	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1609331	53.55	ug/L		100
69)	2-Chlorotoluene	126	14.711	14.711	0.947	476500	54.98	ug/L		94
70)	4-Chlorotoluene	91	14.806	14.805	0.953	1210317	51.30	ug/L		99
71)	tert-Butylbenzene	134	15.078	15.078	0.970	354709	55.24	ug/L		93
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	1555880	51.91	ug/L		100
73)	sec-Butylbenzene	105	15.304	15.303	0.985	2185992	55.02	ug/L		97
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	1865594	54.28	ug/L		98
75)	1,3-Dichlorobenzene	146	15.482	15.481	0.996	896515	53.64	ug/L		98
76)	1,4-Dichlorobenzene	146	15.565	15.564	1.002	895109	52.82	ug/L		98
77)	n-Butylbenzene	91	15.861	15.861	1.021	1753118	53.26	ug/L		99
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	854371	53.47	ug/L		98
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	73995	50.20	ug/L		96
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	800493	56.50	ug/L		100
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	527435	58.69	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	1439100	52.63	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	750807	55.27	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		7.584	7.524	0.761	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		8.058	8.200	0.808	0m	N.D.	d		
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		8.675	8.746	0.870	0m	N.D.	d		
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.706	9.730	0.974	0m	N.D.	d		
100)	Methyl methacrylate		10.608	10.572	1.064	0m	N.D.	d		
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d		
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I312.D
Acq On : 10 Sep 2020 00:27
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-10|ICV|1|VOA|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 10 19:10:33 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

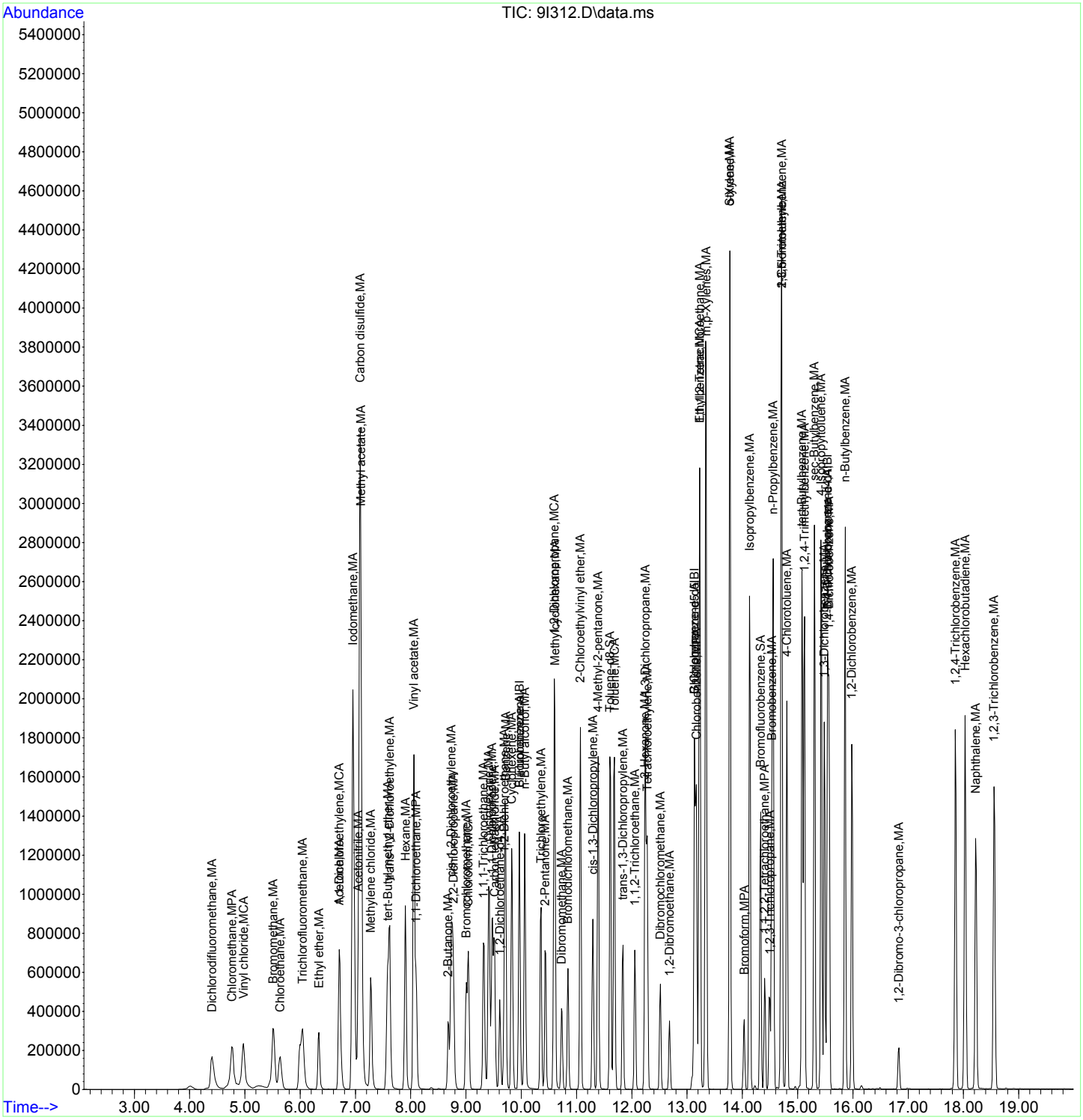
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.971	11.841	0.912	0m	N.D.	d
106) 1-Chlorohexane		13.134	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.557	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.149	15.149	0.975	0m	N.D.	d
111) Benzyl chloride		15.659	15.683	1.008	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I312.D
Acq On : 10 Sep 2020 00:27
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-10|ICV|1|VOA|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 10 19:10:33 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Continuing Calibration Summary

Client SDG: 2021-129

Instrument ID: VOA9.I **Injection Date:** 19-NOV-20 14:07

Data File: 111920V9\9S402.D **Init. Cal. Date(s)** 09-SEP-20 20:00 - 09-SEP-20 23:34

Lab Sample ID W9VM201119-01 **Method:** 090920V9\VOA9-8260-090920.M

Quant Type ISTD **Method Update:** 10-SEP-20 19:05

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type	
S	1,2-Dichloroethane-d4	0.2657	0.26337		.01		-0.87693	60		Averaged	
S	Toluene-d8	1.2119	1.18629		.01		-2.11321	60		Averaged	
S	Bromofluorobenzene	0.8167	0.70935		.01		-13.14436	60		Averaged	
	Chloromethane	0.438	0.39356		.1		-10.14612	60		Averaged	SPCC
	Vinyl chloride	0.4002	0.36701		.01		-8.29335	20		Averaged	CCC
	1,1-Dichloroethylene	0.4025	0.32701		.01		-18.75528	20		Averaged	CCC
	Methylene chloride	50	45.86	50			-8.28	60		Linear	
	1,1-Dichloroethane	0.4446	0.39599		.1		-10.93342	60		Averaged	SPCC
	Chloroform	0.4317	0.42128		.01		-2.41371	20		Averaged	CCC
	1,1,1-Trichloroethane	0.4378	0.40993		.01		-6.36592	60		Averaged	
	Carbon tetrachloride	0.3777	0.37274		.01		-1.31321	60		Averaged	
	1,2-Dichloroethane	0.3188	0.28357		.01		-11.05082	60		Averaged	
	Benzene	0.9789	0.90235		.01		-7.82	60		Averaged	
	Trichloroethylene	0.2584	0.24398		.01		-5.5805	60		Averaged	
	1,2-Dichloropropane	0.2517	0.22408		.01		-10.97338	20		Averaged	CCC
	Dibromomethane	0.1296	0.1364		.01		5.24691	60		Averaged	
	Toluene	1.2697	1.10774		.01		-12.75577	20		Averaged	CCC
	1,1,2-Trichloroethane	0.1859	0.17893		.01		-3.74933	60		Averaged	
	Tetrachloroethylene	0.2839	0.2858		.01		0.66925	60		Averaged	
	Chlorobenzene	0.8409	0.8036		.3		-4.43572	60		Averaged	SPCC
	Ethylbenzene	1.4686	1.29006		.01		-12.15716	20		Averaged	CCC
	m,p-Xylenes	0.572	0.54453		.01		-4.80245	60		Averaged	
	o-Xylene	0.5942	0.56681		.01		-4.60956	60		Averaged	
	Bromoform	50	50.8	50			1.6	60		Linear	SPCC
	1,1,2,2-Tetrachloroethane	0.4664	0.41771		.3		-10.43954	60		Averaged	SPCC

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S402.D
Acq On : 19 Nov 2020 14:07
Operator : WD1
InstName : VOA9
Sample : |W9VM201119-01|CCV|1|VOA|1|VOA8260|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

GEL 11/20/2020

Quant Time: Nov 19 14:29:46 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.955	9.967	1.000	1444383	50.00	ug/L		-0.01
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1275869	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	865998	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.955	9.967	1.000	1444383	50.00	ug/L		-0.01
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	1275869	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	865998	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.600	9.611	0.964	380400	49.55	ug/L		-0.01
45) Toluene-d8	98	11.604	11.604	0.884	1513546	48.94	ug/L		0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	614294	43.43	ug/L		-0.01
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	539549	56.43	ug/L		100
3) Chloromethane	50	4.761	4.761	0.478	568446	44.93	ug/L		99
4) Vinyl chloride	62	4.963	4.963	0.499	530098	45.85	ug/L		100
5) Bromomethane	94	5.508	5.508	0.553	461830	53.48	ug/L		98
6) Chloroethane	64	5.627	5.627	0.565	317844	46.25	ug/L		100
7) Trichlorofluoromethane	101	6.030	6.042	0.606	735111	49.15	ug/L		100
8) Ethyl ether	59	6.327	6.327	0.636	274259	53.73	ug/L		91
9) Acetone	43	6.694	6.694	0.672	353774	235.31	ug/L		97
10) 1,1-Dichloroethylene	61	6.706	6.706	0.674	472334	40.63	ug/L		93
11) Iodomethane	142	6.943	6.955	0.697	3790444	267.45	ug/L		95
12) Acetonitrile	41	7.050	7.050	0.708	893012	1170.98	ug/L		99
13) Methyl acetate	43	7.086	7.086	0.712	858624	244.68	ug/L		96
14) Carbon disulfide	76	7.074	7.086	0.711	5328112	216.94	ug/L		99
15) Methylene chloride	84	7.263	7.275	0.730	354228	45.86	ug/L		91
16) tert-Butyl methyl ether	73	7.572	7.584	0.761	907209	49.76	ug/L		97
17) trans-1,2-Dichloroethy...	61	7.607	7.619	0.764	460814	42.75	ug/L		89
18) Hexane	57	7.892	7.904	0.793	460118	42.03	ug/L		94
19) Vinyl acetate	43	8.046	8.058	0.808	3261781	256.28	ug/L		95
20) 1,1-Dichloroethane	63	8.094	8.093	0.813	571960	44.53	ug/L		99
21) 2-Butanone	43	8.663	8.675	0.870	544600	232.97	ug/L		94
22) cis-1,2-Dichloroethylene	61	8.722	8.734	0.876	540227	44.89	ug/L		91
23) 2,2-Dichloropropane	77	8.758	8.758	0.880	537402	44.59	ug/L		85
24) Bromochloromethane	128	8.995	9.007	0.904	202469	58.55	ug/L	#	80
25) Chloroform	83	9.030	9.042	0.907	608494	48.79	ug/L		99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.936	592100	46.82	ug/L		98
27) Cyclohexane	56	9.410	9.410	0.945	581621	38.53	ug/L		91
28) 1,1-Dichloropropene	75	9.469	9.469	0.951	417621	43.24	ug/L		93
29) Carbon tetrachloride	117	9.505	9.517	0.955	538381	49.34	ug/L		99
31) 1,2-Dichloroethane	62	9.683	9.694	0.973	409584	44.47	ug/L		99
32) Benzene	78	9.706	9.706	0.975	1303343	46.09	ug/L		99
33) Cyclohexene	67	9.825	9.825	0.987	626778	41.74	ug/L		99
34) n-Butyl alcohol	41	10.050	10.062	1.010	549243	4959.43	ug/L		92
35) Trichloroethylene	95	10.347	10.347	1.039	352397	47.21	ug/L		95
36) 2-Pentanone	43	10.430	10.430	1.048	928521	224.95	ug/L		93
37) 1,2-Dichloropropane	63	10.584	10.596	1.063	323655	44.52	ug/L		99
38) Methylcyclohexane	83	10.596	10.607	1.064	621649	43.94	ug/L		94
39) Dibromomethane	93	10.726	10.726	1.077	197017	52.62	ug/L	#	80
40) Bromodichloromethane	83	10.833	10.845	1.088	440710	50.96	ug/L		98
41) 2-Chloroethylvinyl ether	63	11.058	11.070	1.111	1019127	279.62	ug/L		96
42) cis-1,3-Dichloropropylene	75	11.284	11.295	1.133	502816	49.40	ug/L		94

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S402.D
Acq On : 19 Nov 2020 14:07
Operator : WD1
InstName : VOA9
Sample : |W9VM201119-01|CCV|1|VOA|1|VOA8260|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 14:29:46 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	498569	237.36	ug/L		87
46)	Toluene	91	11.675	11.687	0.889	1413329	43.62	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.829	11.841	0.901	452558	48.61	ug/L		95
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	228295	48.13	ug/L		94
49)	2-Hexanone	43	12.232	12.232	0.931	883291	222.72	ug/L		94
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	444436	46.67	ug/L		89
51)	Tetrachloroethylene	164	12.268	12.280	0.934	364649	50.33	ug/L		89
52)	Dibromochloromethane	129	12.505	12.517	0.952	368168	50.59	ug/L		100
53)	1,2-Dibromoethane	107	12.671	12.683	0.965	302052	54.32	ug/L		97
54)	Chlorobenzene	112	13.157	13.169	1.002	1025293	47.78	ug/L		95
55)	1,1,1,2-Tetrachloroethane	131	13.216	13.228	1.006	436231	52.13	ug/L		97
56)	Ethylbenzene	91	13.228	13.228	1.007	1645948	43.92	ug/L		97
57)	m,p-Xylenes	106	13.335	13.347	1.015	1389493	95.19	ug/L		96
58)	o-Xylene	106	13.774	13.774	1.049	723171	47.69	ug/L		96
59)	Styrene	104	13.774	13.774	1.049	1191252	50.54	ug/L		97
61)	Bromoform	173	14.023	14.035	0.902	276555	50.80	ug/L		99
62)	Isopropylbenzene	105	14.130	14.129	0.909	1827125	40.28	ug/L		97
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	361737	44.78	ug/L		98
65)	1,2,3-Trichloropropane	110	14.485	14.497	0.932	114515	49.52	ug/L	#	73
66)	Bromobenzene	156	14.533	14.533	0.935	568845	49.19	ug/L	#	82
67)	n-Propylbenzene	91	14.556	14.556	0.937	2050114	38.03	ug/L		96
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1628863	40.52	ug/L		97
69)	2-Chlorotoluene	126	14.699	14.711	0.946	515271	44.45	ug/L	#	80
70)	4-Chlorotoluene	91	14.806	14.805	0.953	1269559	40.23	ug/L		92
71)	tert-Butylbenzene	134	15.078	15.078	0.970	367519	42.79	ug/L	#	86
72)	1,2,4-Trimethylbenzene	105	15.114	15.126	0.973	1680235	41.91	ug/L		98
73)	sec-Butylbenzene	105	15.304	15.303	0.985	2187582	41.17	ug/L		94
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	1955272	42.53	ug/L		96
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	1084353	48.51	ug/L		96
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	1098282	48.46	ug/L		96
77)	n-Butylbenzene	91	15.849	15.861	1.020	1686343	38.30	ug/L		97
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	1037833	48.56	ug/L		96
79)	1,2-Dibromo-3-chloropr...	157	16.821	16.833	1.082	97581	49.51	ug/L		86
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	917212	48.41	ug/L		100
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	580345	48.28	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	1783170	48.75	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	916553	50.45	ug/L		98
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.706	6.777	0.674	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.708	0m	N.D.	d		
89)	tert-Butyl Alcohol		7.275	7.275	0.731	0m	N.D.	d		
90)	Acrylonitrile		7.572	7.524	0.761	0m	N.D.	d		
91)	Isopropyl ether		8.046	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		8.046	8.200	0.808	0m	N.D.	d		
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.663	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		8.663	8.746	0.870	0m	N.D.	d		
96)	Methacrylonitrile		8.758	8.924	0.880	0m	N.D.	d		
97)	Tetrahydrofuran		9.042	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.945	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.706	9.730	0.975	0m	N.D.	d		
100)	Methyl methacrylate		10.596	10.572	1.064	0m	N.D.	d		
101)	1,4-Dioxane		10.714	10.679	1.076	0m	N.D.	d		
102)	2-Nitropropane		11.058	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S402.D
Acq On : 19 Nov 2020 14:07
Operator : WD1
InstName : VOA9
Sample : |W9VM201119-01|CCV|1|VOA|1|VOA8260|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 14:29:46 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

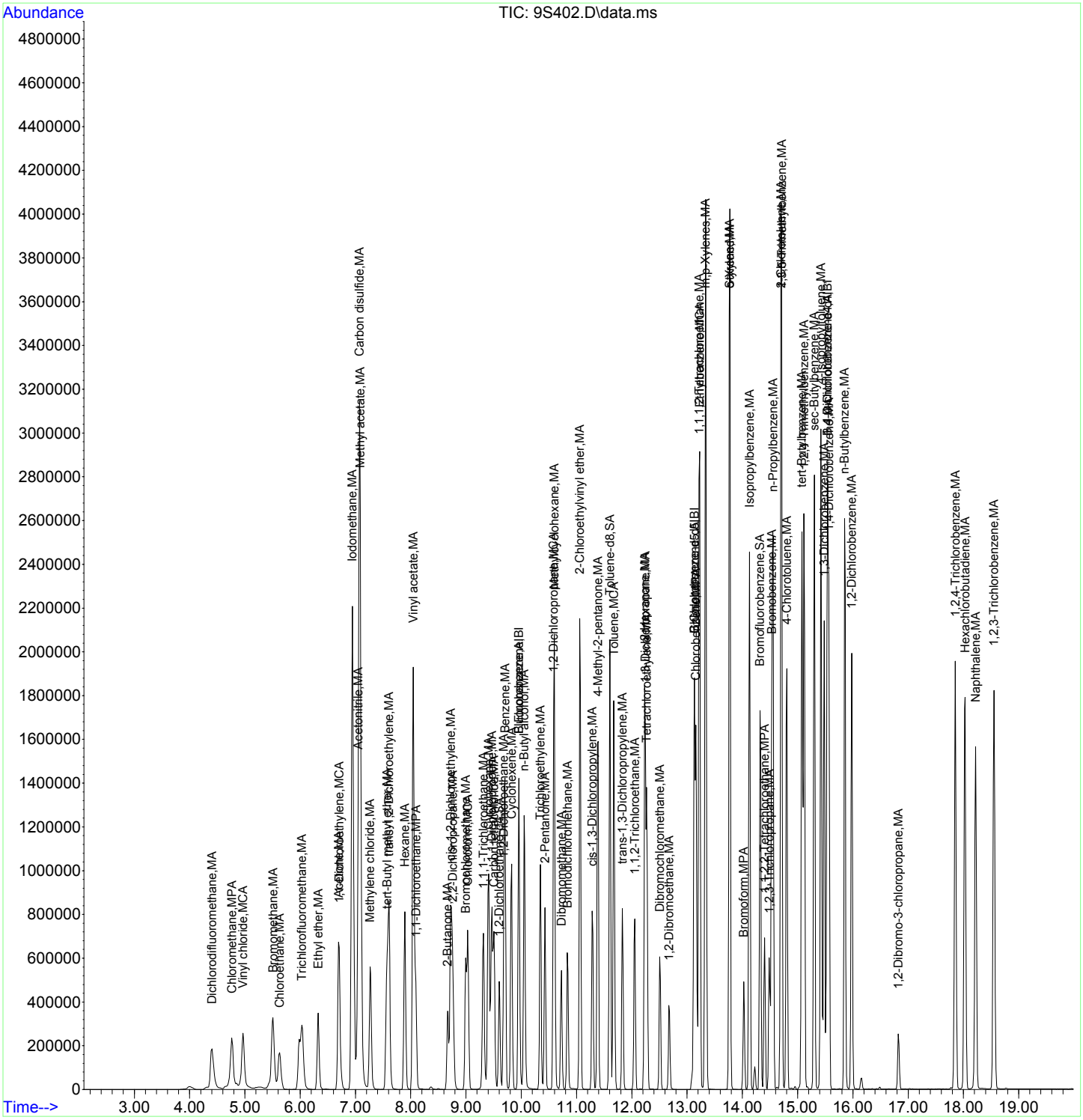
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.841	11.841	0.902	0m	N.D.	d
106) 1-Chlorohexane		13.122	13.039	0.844	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.138	15.149	0.974	0m	N.D.	d
111) Benzyl chloride		15.659	15.683	1.008	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S402.D
Acq On : 19 Nov 2020 14:07
Operator : WD1
InstName : VOA9
Sample : |W9VM201119-01|CCV|1|VOA|1|VOA8260|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 14:29:46 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Quality Control Data

MEL

Tune Report
GEL Laboratories, LLC

10/21/2020

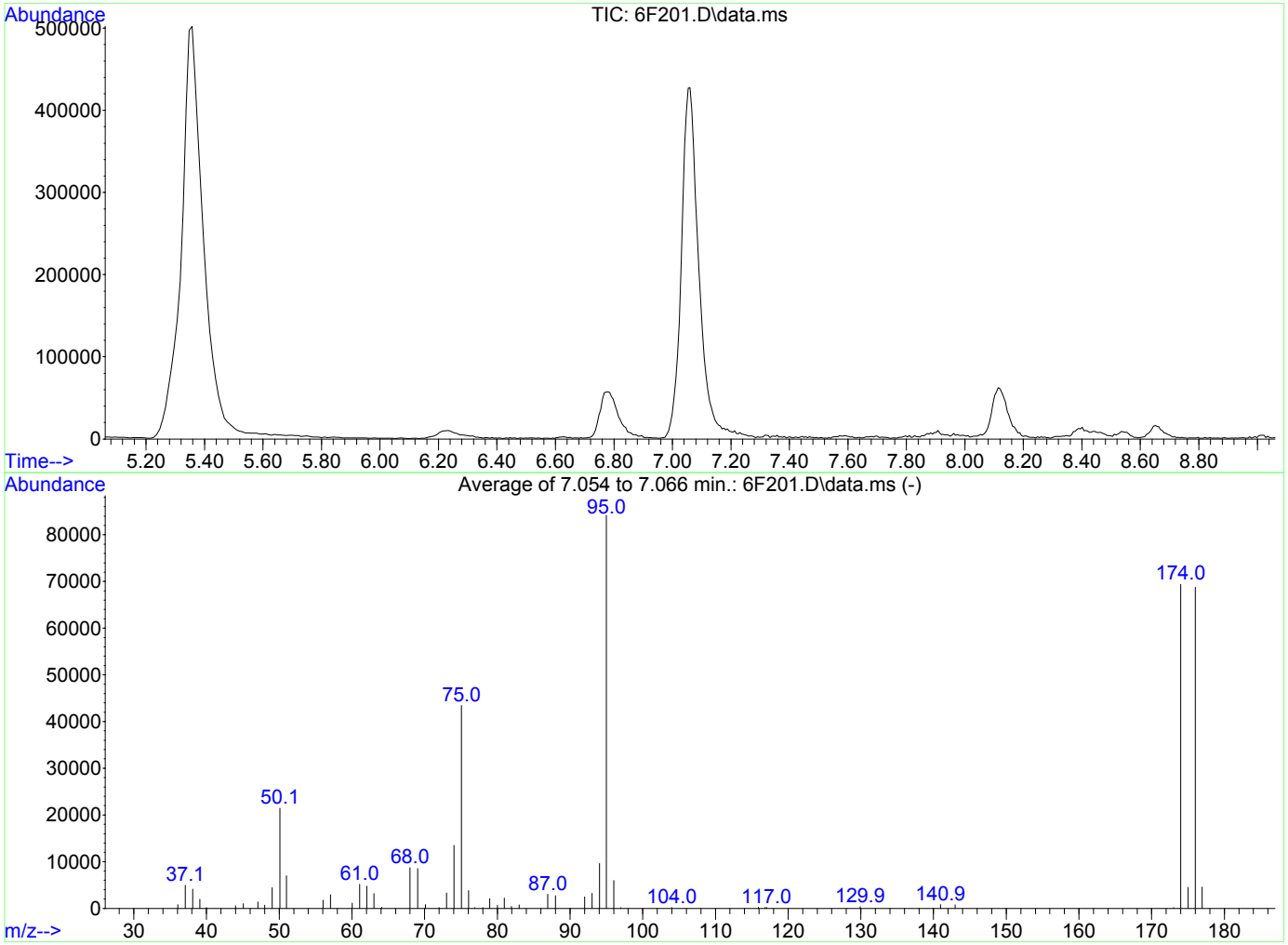
Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F201.D
Acq On : 20 Oct 2020 13:12
Operator : MXL2
Sample : |IVM201012-01|BFB|1|VOAF|1|VOA8260BL|
Misc : BFB 1UL/10ML N/A
ALS Vial : 1 Sample Multiplier: 1

KP

10/21/2020

Integration File:

Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Title : Volatile Organics SubList :
Last Update : Wed Oct 21 15:27:57 2020



Spectrum Information: Average of 7.054 to 7.066 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.5	21440	PASS
75	95	30	60	51.6	43443	PASS
95	95	100	100	100.0	84200	PASS
96	95	5	9	7.1	5967	PASS
173	174	0.00	2	0.3	180	PASS
174	95	50	100	82.4	69392	PASS
175	174	5	9	6.5	4488	PASS
176	174	95	101	99.1	68741	PASS
177	176	5	9	6.6	4538	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Tune Report
GEL Laboratories, LLC

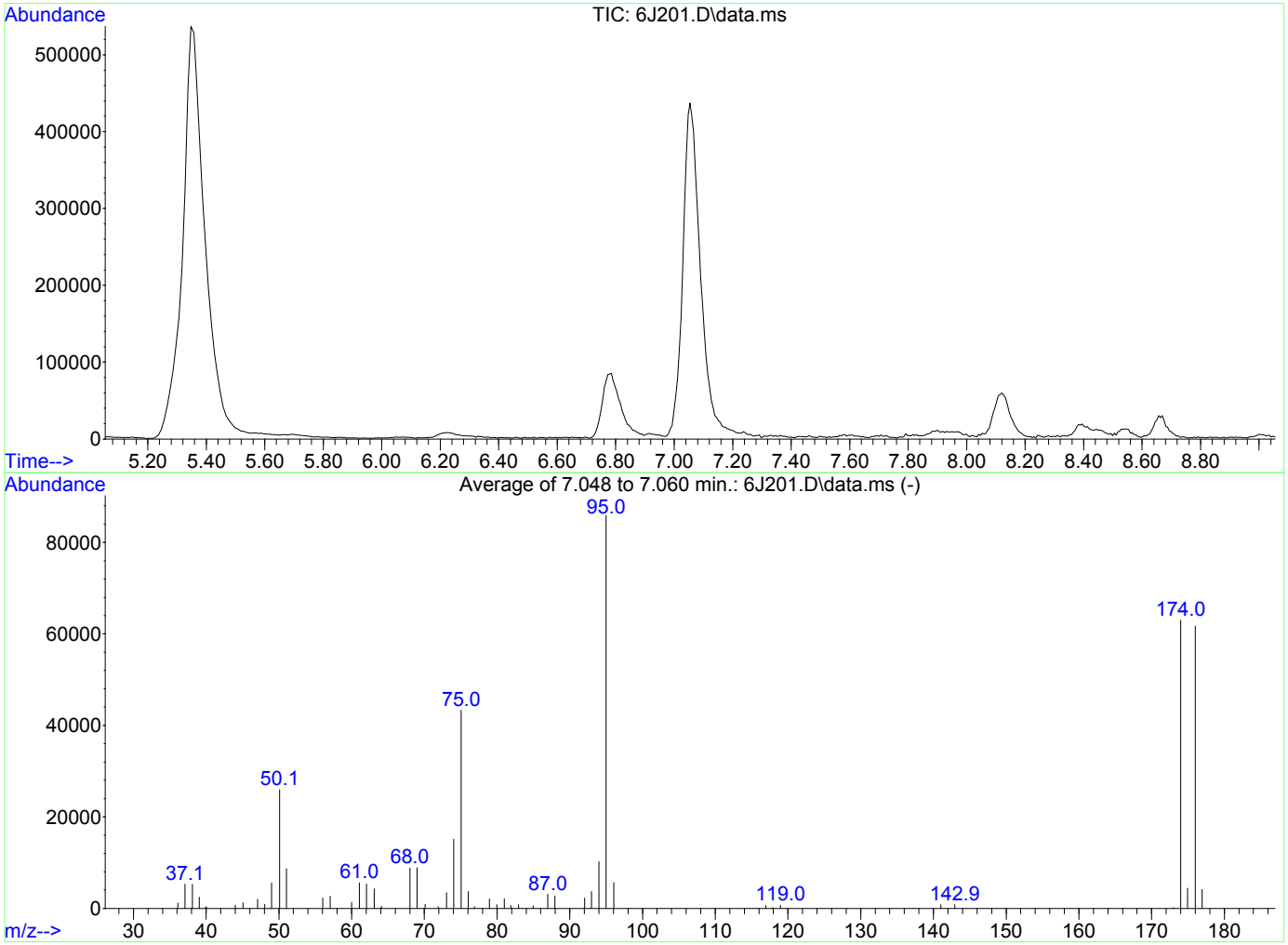
WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J201.D
Acq On : 17 Nov 2020 09:27
Operator : WD1
Sample : |IVM201112-01|BFB|1|VOAF|1|VOA8260BL|
Misc : BFB 1UL/10ML N/A
ALS Vial : 1 Sample Multiplier: 1

EH 11/20/2020

Integration File: default.P

Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Title : Volatile Organics SubList :
Last Update : Wed Oct 21 15:27:57 2020



AutoFind: Scans 360, 361, 362; Background Corrected with Scan 345

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	30.1	25912	PASS
75	95	30	60	50.4	43328	PASS
95	95	100	100	100.0	85955	PASS
96	95	5	9	6.6	5644	PASS
173	174	0.00	2	0.3	175	PASS
174	95	50	100	73.3	62976	PASS
175	174	5	9	7.0	4420	PASS
176	174	95	101	98.1	61752	PASS
177	176	5	9	6.7	4118	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

JP
09/10/2020

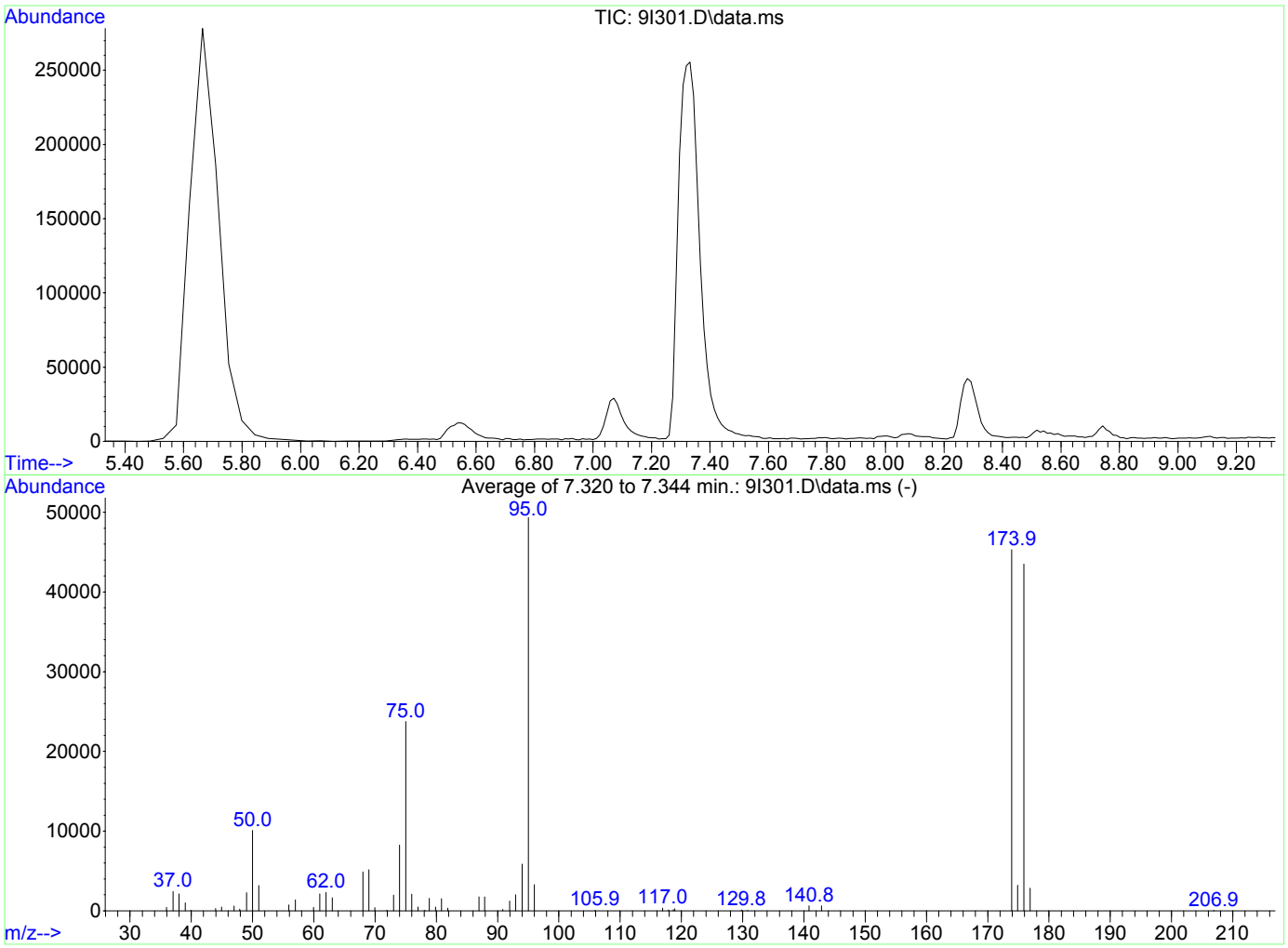
Tune Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I301.D
Acq On : 09 Sep 2020 19:34
Operator : JP1
Sample : |IVM200814-01|BFB|1|VOA|1|VOA8260BL|
Misc : GEL 5mL n/a
ALS Vial : 1 Sample Multiplier: 1

GH
09/21/2020

Integration File:

Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Title : Volatile Organics SubList :
Last Update : Thu Sep 10 19:05:57 2020



AutoFind: Scans 179, 180, 181; Background Corrected with Scan 171

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.4	10077	PASS
75	95	30	60	48.1	23739	PASS
95	95	100	100	100.0	49325	PASS
96	95	5	9	6.6	3274	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	91.8	45283	PASS
175	174	5	9	7.1	3231	PASS
176	174	95	101	96.0	43485	PASS
177	176	5	9	6.5	2833	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Tune Report
GEL Laboratories, LLC

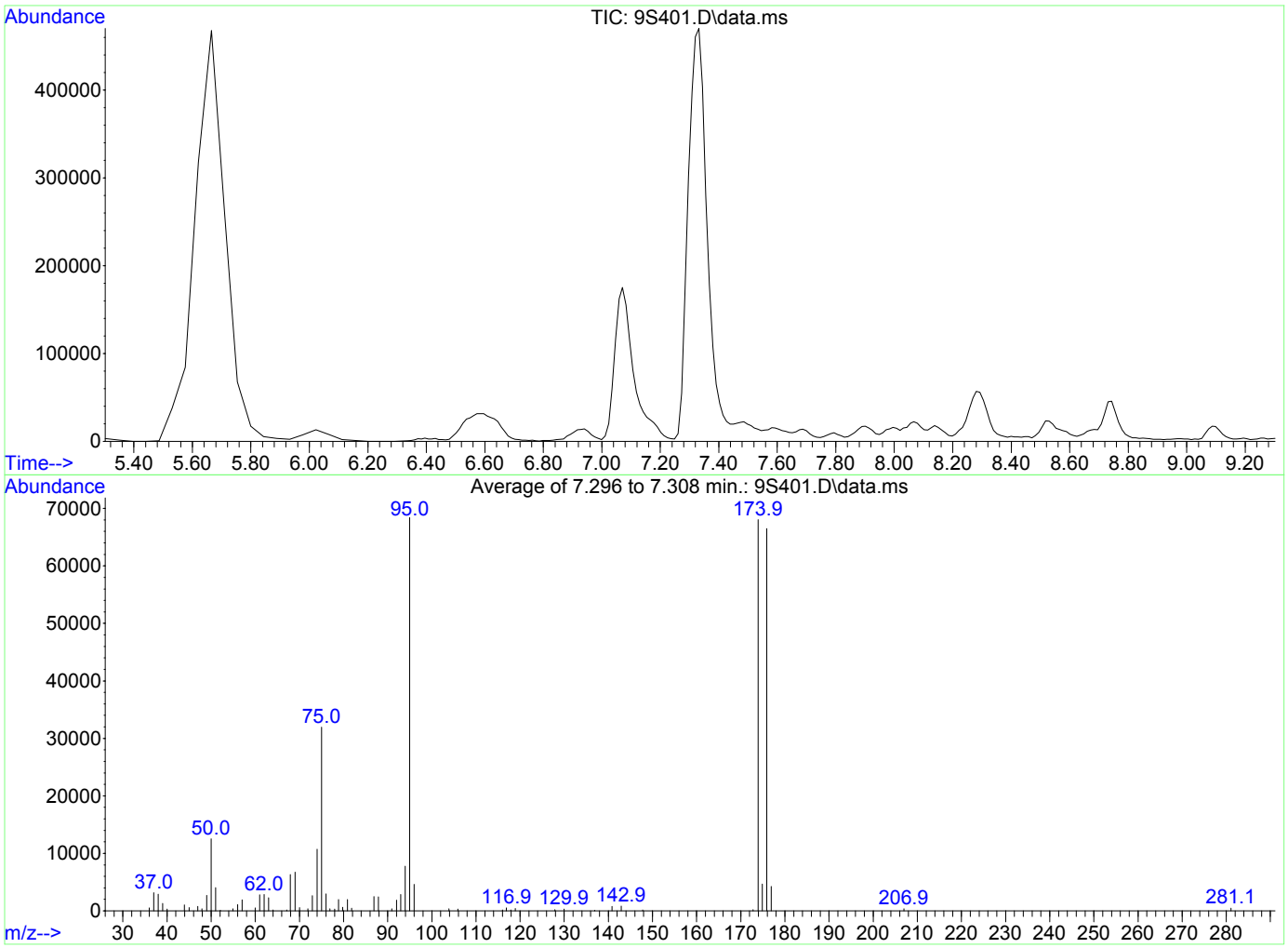
WMD 11/20/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S401.D
Acq On : 19 Nov 2020 13:43
Operator : WD1
Sample : |IVM201112-01|BFB|1|VOA|1|VOA8260BL|
Misc : GEL 1UL/10ML N/A
ALS Vial : 1 Sample Multiplier: 1

EH 11/20/2020

Integration File: ron.P

Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Title : Volatile Organics SubList :
Last Update : Thu Sep 10 19:05:57 2020



Spectrum Information: Average of 7.296 to 7.308 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	12511	PASS
75	95	30	60	46.7	31928	PASS
95	95	100	100	100.0	68404	PASS
96	95	5	9	6.7	4615	PASS
173	174	0.00	2	0.3	197	PASS
174	95	50	100	99.5	68052	PASS
175	174	5	9	6.9	4673	PASS
176	174	95	101	97.7	66476	PASS
177	176	5	9	6.4	4271	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**			**Matrix:**	**WATER**
Lab Sample ID:	**1204696631**				
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2063772**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 11:35**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 11:35**				
Data File:	**111720V6\6J206A.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	51.2	50.0	ug/L	102	(71%-134%)
Bromofluorobenzene	52.8	50.0	ug/L	106	(70%-131%)
Toluene-d8	51.0	50.0	ug/L	102	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
InstName : VOA6
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 20 09:32:50 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	2005499	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.641	12.635	1.000	1433569	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	768461	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	2005499	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.641	12.641	1.000	1434334	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	768945	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	724007	51.18	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1995760	50.98	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	777313	52.83	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	102%
45) Toluene-d8	50.000	74 - 124	102%
63) Bromofluorobenzene	50.000	70 - 131	106%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane	50	4.474	4.338	0.474	2399	N.D.		
4) Vinyl chloride		0.000	4.522	0.000	0	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.184	6.179	0.655	4789	N.D.		
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0	N.D.		
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.556	6.526	0.695	1863	N.D.		
13) Methyl acetate	43	6.569	6.563	0.696	610	N.D.		
14) Carbon disulfide	76	6.526	6.538	0.691	1463	N.D.		
15) Methylene chloride	84	6.739	6.739	0.714	3169	Below Cal	#	69
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.361	7.355	0.780	649	N.D.		
19) Vinyl acetate	43	7.581	7.532	0.803	996	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.190	8.160	0.868	5405	N.D.		
22) cis-1,2-Dichloroethylene	61	8.184	8.197	0.867	246	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform		0.000	8.514	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane	56	8.849	8.867	0.937	170	N.D.		
28) 1,1-Dichloropropene		0.000	8.940	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.159	9.172	0.970	670	N.D.		
32) Benzene	78	9.184	9.178	0.973	635	N.D.		
33) Cyclohexene		0.000	9.288	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene		0.000	9.830	0.000	0	N.D.		
36) 2-Pentanone	43	9.946	9.928	1.054	1877	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
InstName : VOA6
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 20 09:32:50 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
39) Dibromomethane		0.000	10.214	0.000	0	N.D.		
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.		
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.		
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	252	N.D.		
46) Toluene	91	11.171	11.172	0.884	989	N.D.		
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.		
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.		
49) 2-Hexanone	43	11.781	11.751	0.932	864	N.D.		
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.		
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.		
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.		
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.		
54) Chlorobenzene	112	12.653	12.671	1.001	247	N.D.		
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.		
56) Ethylbenzene	91	12.738	12.738	1.008	621	N.D.		
57) m,p-Xylenes		0.000	12.848	0.000	0	N.D.		
58) o-Xylene	91	13.299	13.287	1.052	364	N.D.		
59) Styrene		0.000	13.293	0.000	0m	N.D.	d	
61) Bromoform		0.000	13.543	0.000	0	N.D.		
62) Isopropylbenzene	105	13.646	13.647	0.906	390	N.D.		
64) 1,1,2,2-Tetrachloroethane	83	13.939	13.933	0.925	829	N.D.		
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.		
66) Bromobenzene		0.000	14.049	0.000	0	N.D.		
67) n-Propylbenzene	91	14.073	14.079	0.934	495	N.D.		
68) 1,3,5-Trimethylbenzene	105	14.244	14.238	0.945	452	N.D.		
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.		
70) 4-Chlorotoluene	91	14.335	14.323	0.951	1019	N.D.		
71) tert-Butylbenzene	134	14.610	14.604	0.970	116	N.D.		
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	929	N.D.		
73) sec-Butylbenzene	105	14.829	14.829	0.984	351	N.D.		
74) 4-Isopropyltoluene	119	14.963	14.957	0.993	925	N.D.		
75) 1,3-Dichlorobenzene	146	15.012	15.006	0.996	776	N.D.		
76) 1,4-Dichlorobenzene	146	15.067	15.091	1.000	718	N.D.		
77) n-Butylbenzene	91	15.390	15.384	1.021	1238	N.D.		
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1469	N.D.		
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.		
80) 1,2,4-Trichlorobenzene	180	17.304	17.292	1.148	5387	N.D.		
81) Hexachlorobutadiene	225	17.463	17.457	1.159	1700	N.D.		
82) Naphthalene	128	17.646	17.646	1.171	21991	0.58	ug/L	95
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	11202	0.67	ug/L	99
85) Acrolein	56	6.002	6.008	0.636	267	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol	45	6.270	6.270	0.664	2816	N.D.		
88) Allyl chloride	41	6.556	6.593	0.695	1863	N.D.		
89) tert-Butyl Alcohol	59	6.758	6.758	0.716	2952	N.D.		
90) Acrylonitrile	53	7.014	7.001	0.743	1243	N.D.		
91) Isopropyl ether		0.000	7.544	0.000	0	N.D.		
92) 2-Chloro-1,3-butadiene	53	7.672	7.666	0.813	187	N.D.		
93) Ethyl tert-butyl ether	59	7.855	7.952	0.832	655	N.D.		
94) Ethyl acetate	43	8.190	8.172	0.868	5405	N.D.		
95) Propionitrile	54	8.257	8.233	0.875	319	N.D.		
96) Methacrylonitrile	41	8.525	8.410	0.903	1597	N.D.		
97) Tetrahydrofuran	42	8.525	8.519	0.903	2593	N.D.		
98) Isobutyl alcohol	41	8.873	8.867	0.940	2128	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
InstName : VOA6
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 20 09:32:50 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

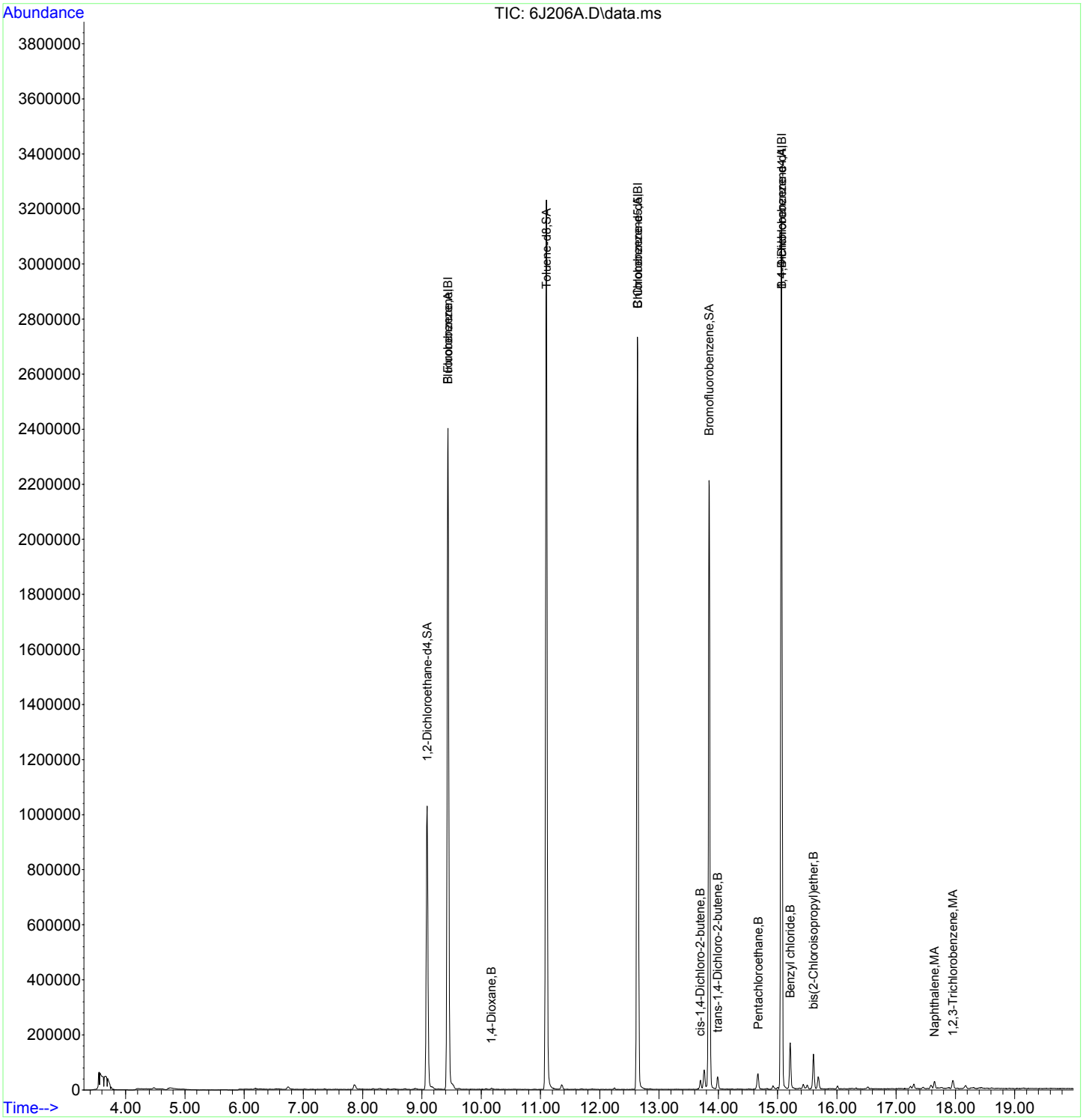
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.		
100)	Methyl methacrylate	69	10.068	10.068	1.067	672	N.D.		
101)	1,4-Dioxane	88	10.171	10.172	1.077	2563	25.19	ug/L	78
102)	2-Nitropropane		0.000	10.550	0.000	0m	N.D.	d	
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.		
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d	
107)	cis-1,4-Dichloro-2-butene	53	13.695	13.695	0.909	10975	6.20	ug/L	71
108)	Cyclohexanone	42	13.805	13.799	0.916	4065	N.D.		
109)	trans-1,4-Dichloro-2-b...	53	13.988	13.988	0.928	13828	6.80	ug/L #	72
110)	Pentachloroethane	167	14.671	14.671	0.974	8672	3.68	ug/L #	50
111)	Benzyl chloride	91	15.213	15.213	1.010	115909	7.65	ug/L	97
112)	bis(2-Chloroisopropyl)...	45	15.603	15.603	1.036	90277	14.06	ug/L	87

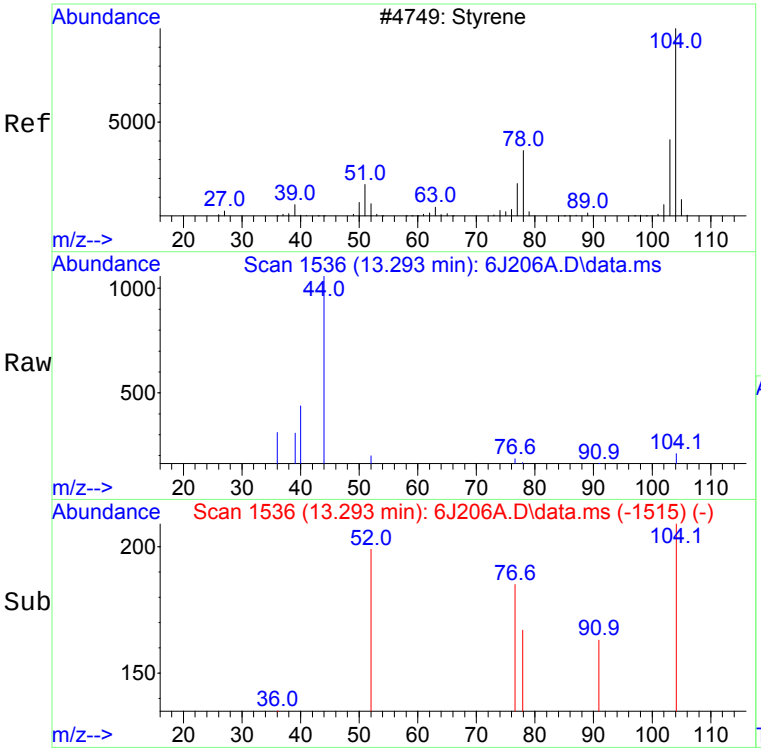
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
InstName : VOA6
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 20 09:32:50 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

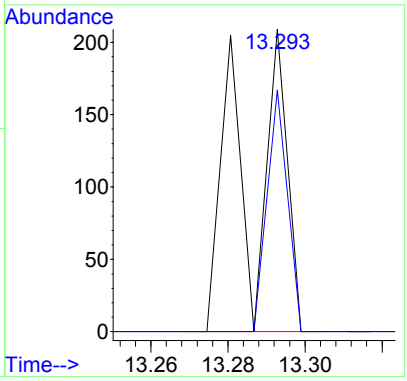


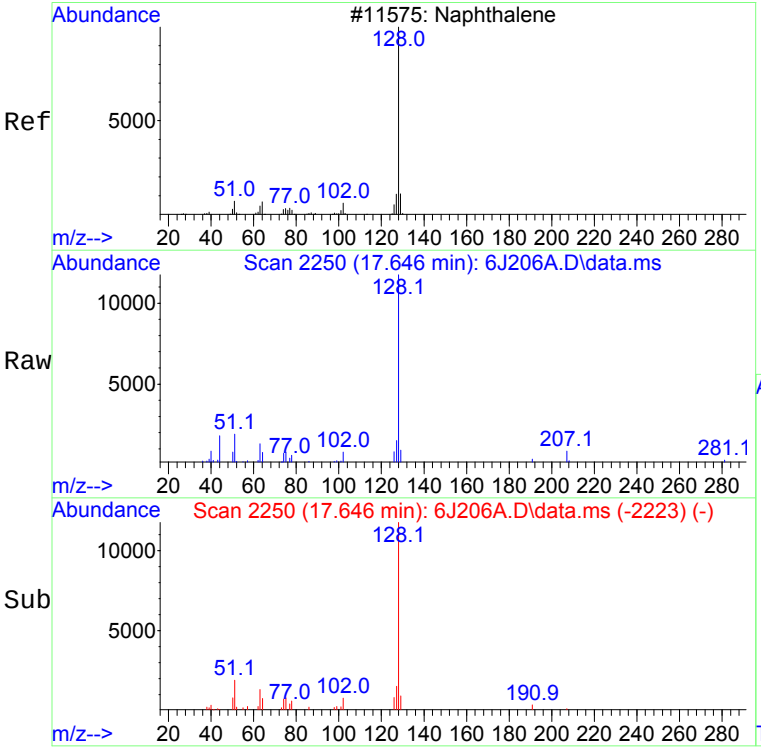


#59 BEFORE analyst DELETION
Styrene
Concen: 0.86 ug/L
RT: 13.293 min Scan# 1536
Delta R.T. -0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion:104 Resp: 151

Ion	Ratio	Lower	Upper
104	100		
78	0.0	22.7	82.7#

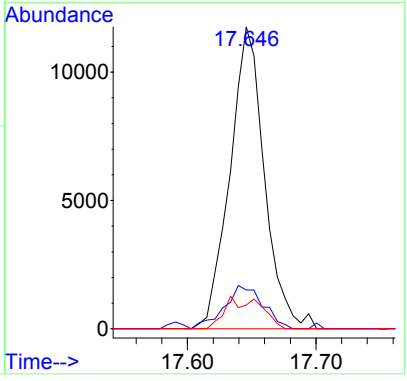


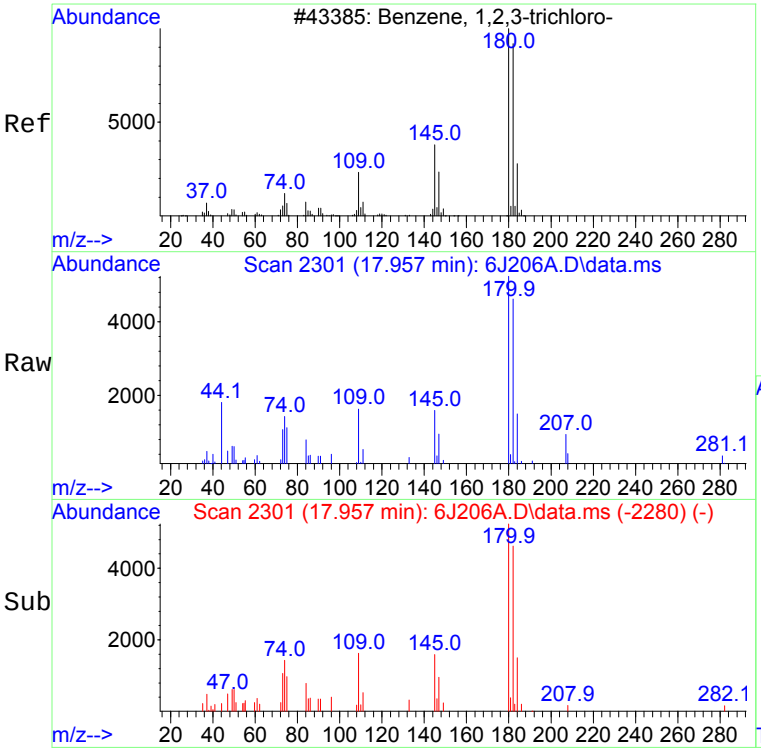


#82
Naphthalene
Concen: 0.58 ug/L
RT: 17.646 min Scan# 2250
Delta R.T. -0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion:128 Resp: 21991

Ion	Ratio	Lower	Upper
128	100		
127	16.1	0.0	42.4
129	11.0	0.0	40.9

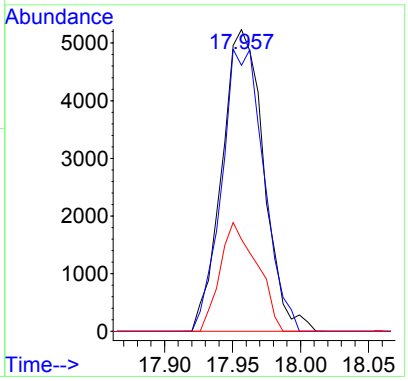


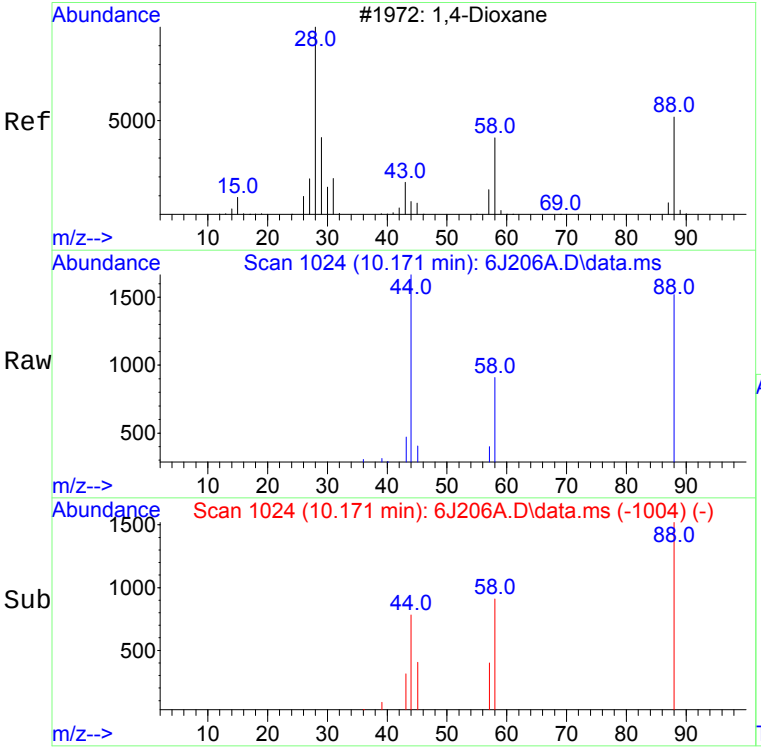


#83
1,2,3-Trichlorobenzene
Concen: 0.67 ug/L
RT: 17.957 min Scan# 2301
Delta R.T. -0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion:180 Resp: 11202

Ion	Ratio	Lower	Upper
180	100		
182	93.8	65.3	125.3
145	31.9	1.5	61.5

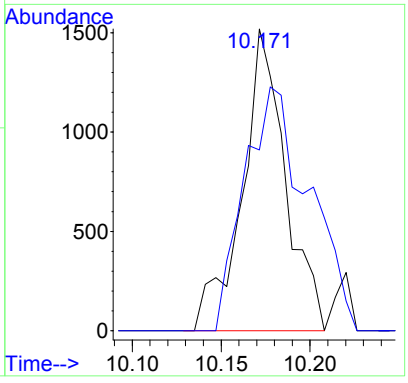


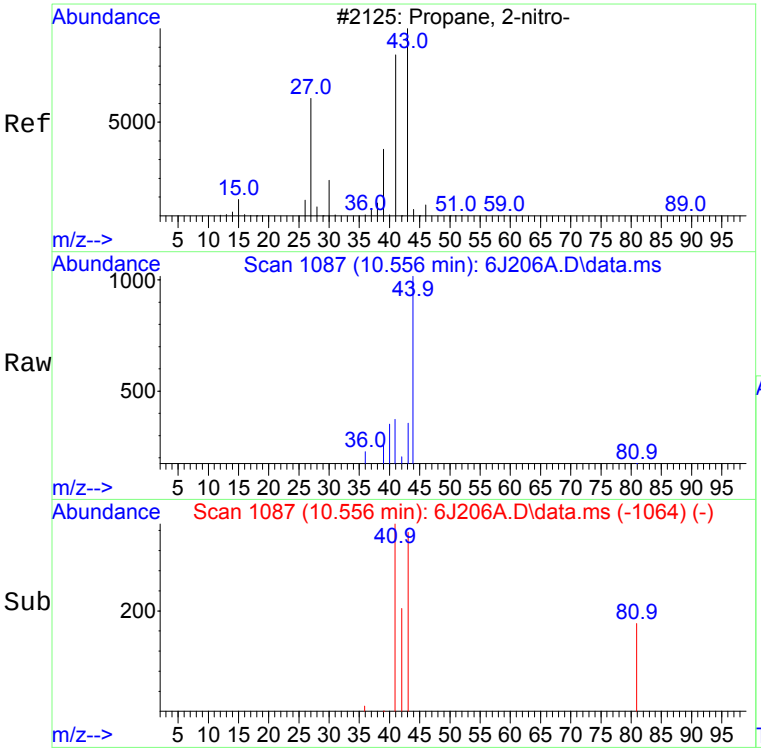


#101
1,4-Dioxane
Concen: 25.19 ug/L
RT: 10.171 min Scan# 1024
Delta R.T. -0.001 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 88 Resp: 2563

Ion	Ratio	Lower	Upper
88	100		
58	120.5	68.7	128.7

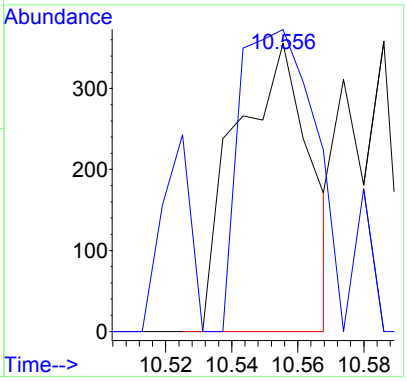


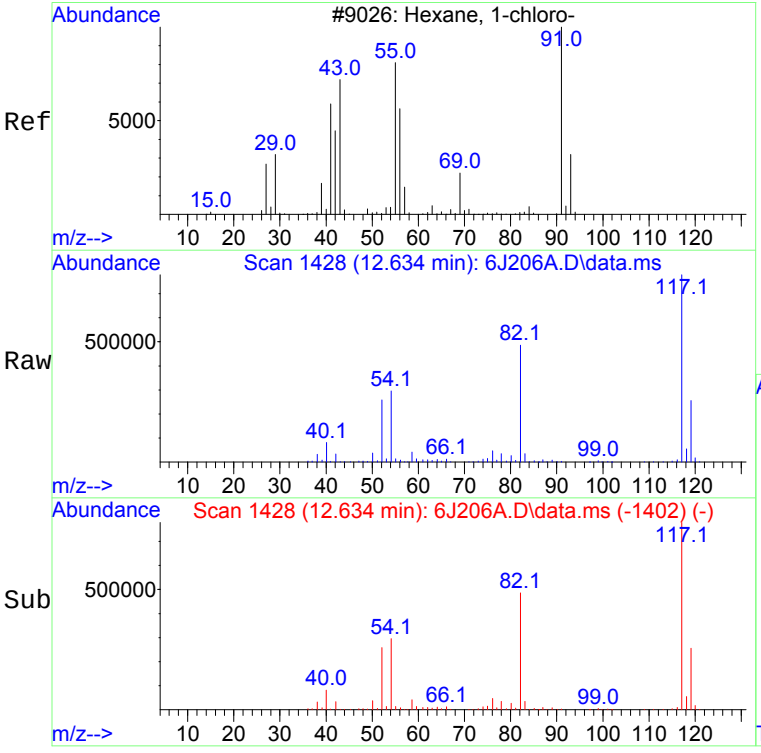


#102 BEFORE analyst DELETION
2-Nitropropane
Concen: 4.43 ug/L
RT: 10.556 min Scan# 1087
Delta R.T. 0.006 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 43 Resp: 560

Ion	Ratio	Lower	Upper
43	100		
41	117.0	52.3	112.3#

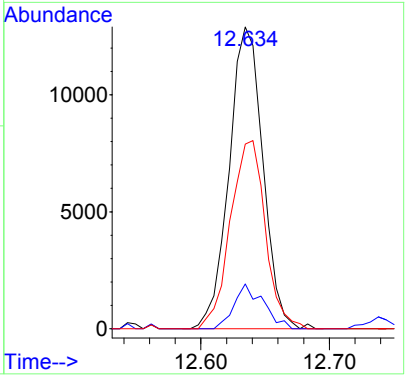


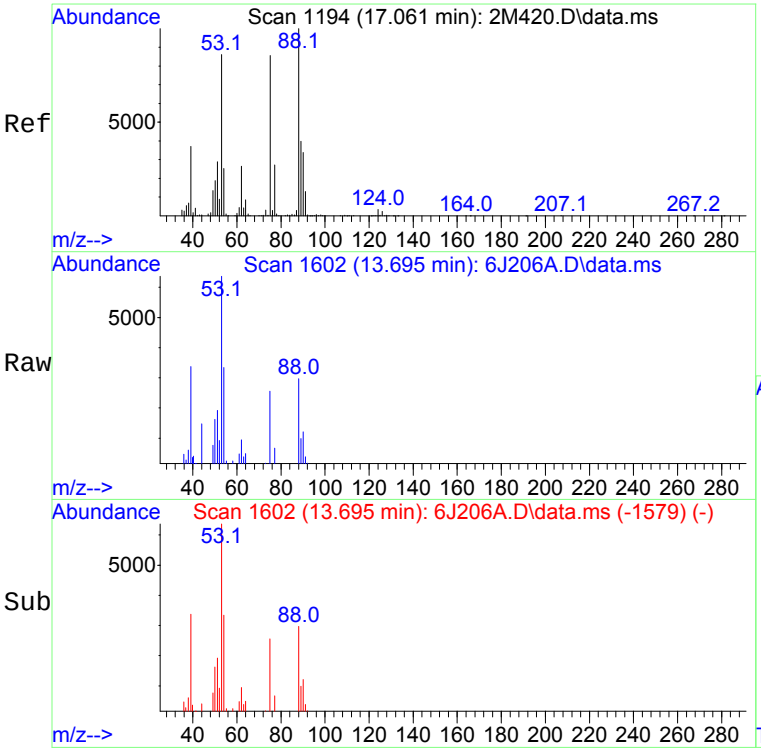


#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.78 ug/L
RT: 12.634 min Scan# 1428
Delta R.T. 0.085 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 55 Resp: 23643

Ion	Ratio	Lower	Upper
55	100		
91	12.8	65.1	125.1#
56	64.3	30.4	90.4

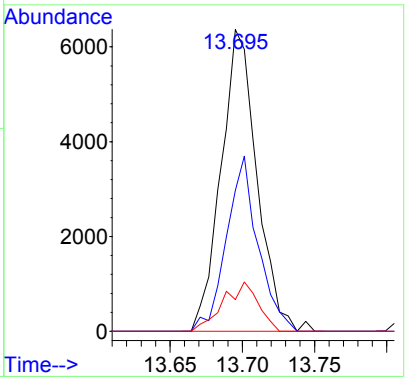


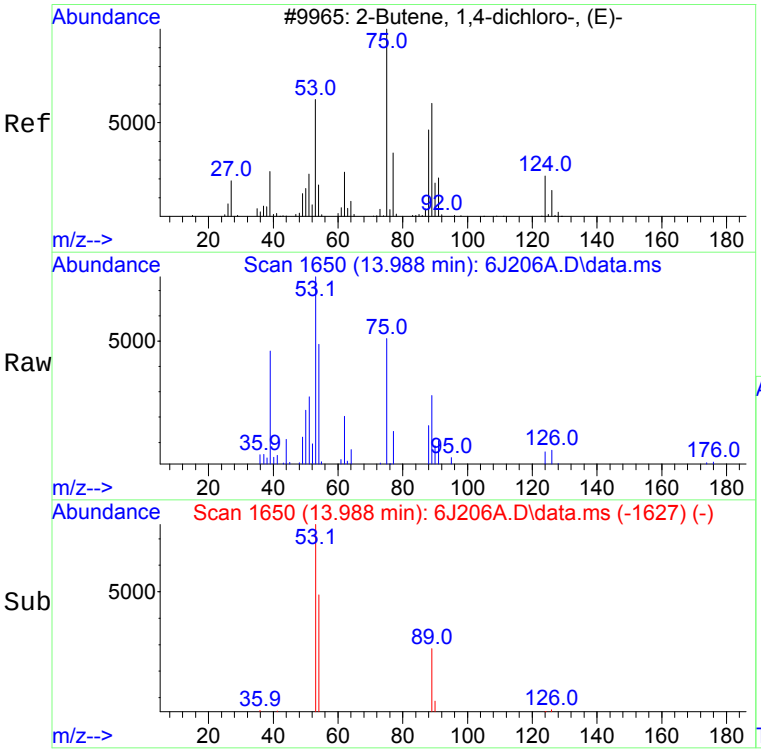


#107
cis-1,4-Dichloro-2-butene
Concen: 6.20 ug/L
RT: 13.695 min Scan# 1602
Delta R.T. 0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 53 Resp: 10975

Ion	Ratio	Lower	Upper
53	100		
88	50.9	50.1	110.1
77	16.0	0.0	54.4

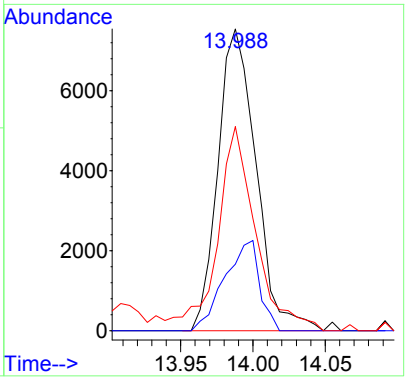


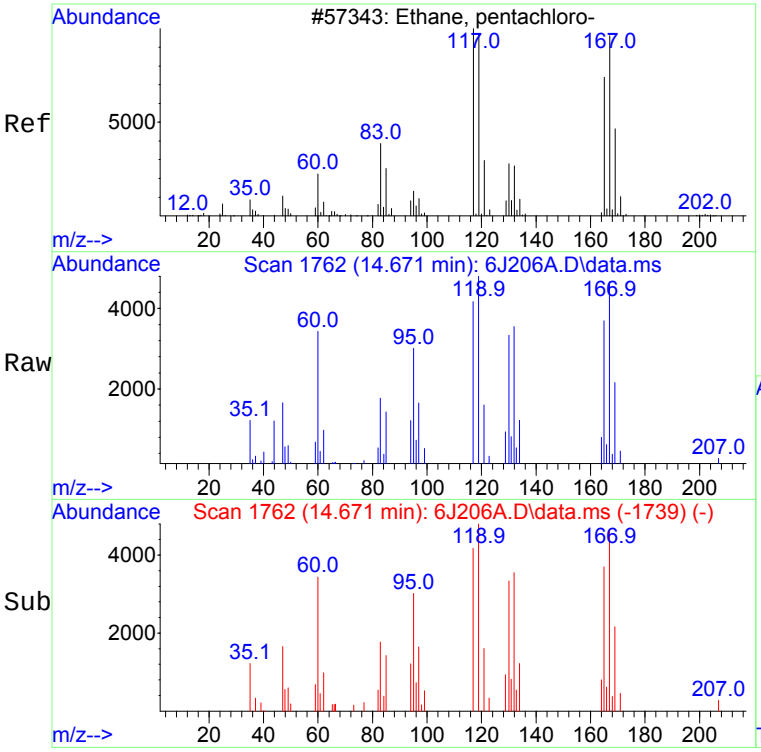


#109
trans-1,4-Dichloro-2-butene
Concen: 6.80 ug/L
RT: 13.988 min Scan# 1650
Delta R.T. -0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 53 Resp: 13828

Ion	Ratio	Lower	Upper
53	100		
88	27.4	7.9	67.9
75	64.1	65.4	125.4#

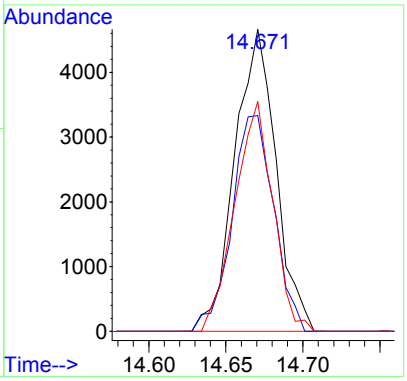


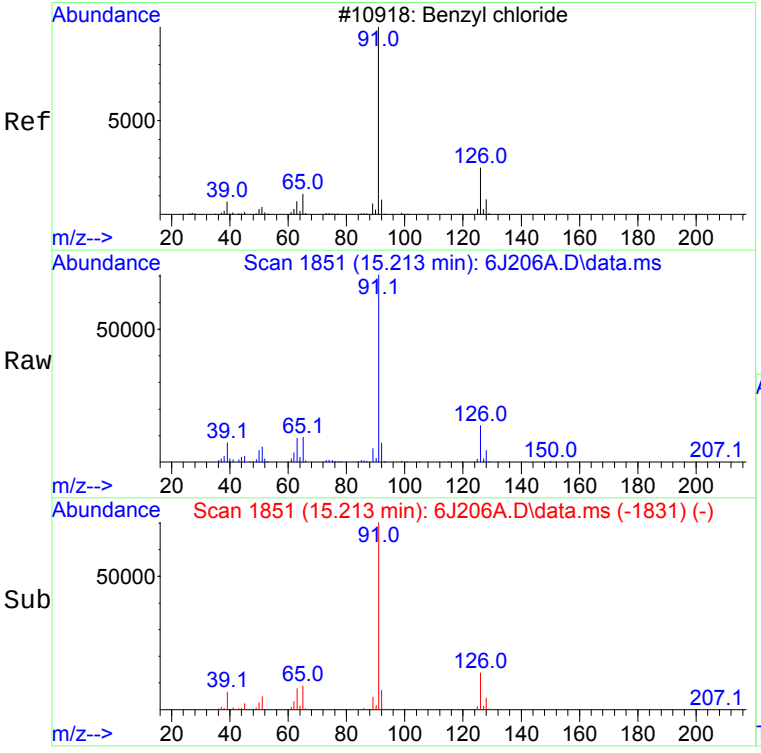


#110
Pentachloroethane
Concen: 3.68 ug/L
RT: 14.671 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion:167 Resp: 8672

Ion	Ratio	Lower	Upper
167	100		
130	72.7	11.0	71.0#
132	70.4	9.7	69.7#

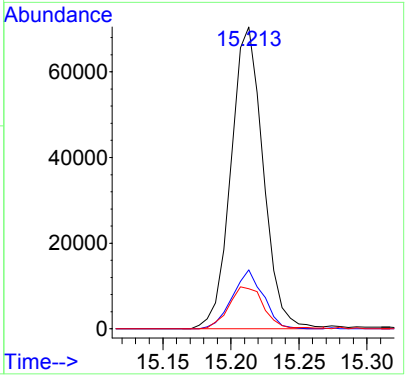


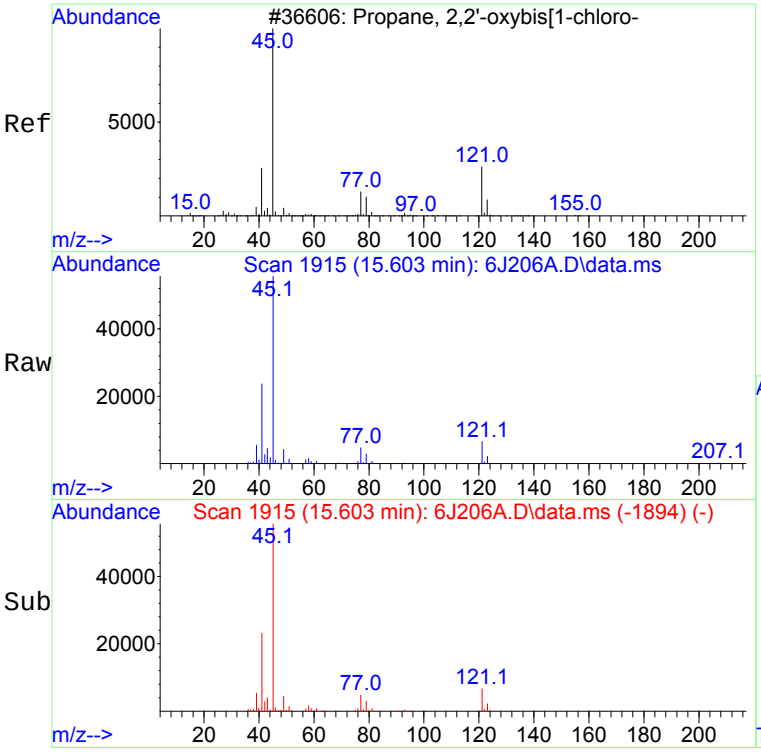


#111
Benzyl chloride
Concen: 7.65 ug/L
RT: 15.213 min Scan# 1851
Delta R.T. 0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 91 Resp: 115909

Ion	Ratio	Lower	Upper
91	100		
126	18.7	0.0	50.7
65	15.1	0.0	44.9

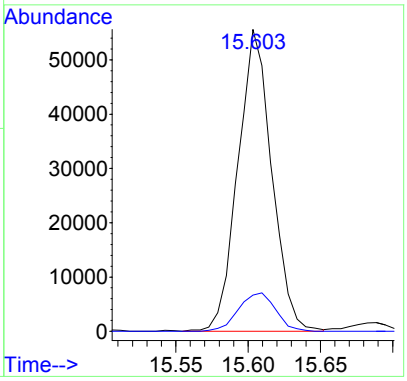




#112
bis(2-Chloroisopropyl)ether
Concen: 14.06 ug/L
RT: 15.603 min Scan# 1915
Delta R.T. 0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 45 Resp: 90277

Ion	Ratio	Lower	Upper
45	100		
121	13.9	0.0	49.7



Library Search Compound Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

GH 11/20/2020

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**			**Matrix:**	**WATER**
Lab Sample ID:	**1204699778**				
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2063772**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA9.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 15:50**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/19/2020 15:50**				
Data File:	**111920V9\9S406A.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	49.4	50.0	ug/L	99	(71%-134%)
Bromofluorobenzene	46.3	50.0	ug/L	93	(70%-131%)
Toluene-d8	48.2	50.0	ug/L	96	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
InstName : VOA9
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

GEL 11/20/2020

Quant Time: Nov 19 17:38:00 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1373130	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.134	13.133	1.000	1195212	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	747344	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	1373130	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.134	13.134	1.000	1195212	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	747344	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.612	9.611	0.964	360487	49.40	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1397287	48.23	ug/L	0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	565236	46.30	ug/L	-0.01

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	99%
45) Toluene-d8	50.000	74 - 124	96%
63) Bromofluorobenzene	50.000	70 - 131	93%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	4.405	0.000	0	N.D.		
3) Chloromethane		0.000	4.761	0.000	0	N.D.		
4) Vinyl chloride		0.000	4.963	0.000	0	N.D.		
5) Bromomethane	94	5.414	5.508	0.543	181	N.D.		
6) Chloroethane		0.000	5.627	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	6.042	0.000	0	N.D.		
8) Ethyl ether		0.000	6.327	0.000	0	N.D.		
9) Acetone		0.000	6.694	0.000	0m	N.D.	d	
10) 1,1-Dichloroethylene		0.000	6.706	0.000	0	N.D.		
11) Iodomethane		0.000	6.955	0.000	0	N.D.		
12) Acetonitrile	41	7.133	7.050	0.716	567	N.D.		
13) Methyl acetate		0.000	7.086	0.000	0	N.D.		
14) Carbon disulfide	76	7.074	7.086	0.710	2280	N.D.		
15) Methylene chloride	84	7.275	7.275	0.730	3042	Below Cal		93
16) tert-Butyl methyl ether		0.000	7.584	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.619	0.000	0	N.D.		
18) Hexane		0.000	7.904	0.000	0	N.D.		
19) Vinyl acetate	43	8.058	8.058	0.808	200	N.D.		
20) 1,1-Dichloroethane		0.000	8.093	0.000	0	N.D.		
21) 2-Butanone	43	8.698	8.675	0.873	2111	N.D.		
22) cis-1,2-Dichloroethylene		0.000	8.734	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.758	0.000	0	N.D.		
24) Bromochloromethane		0.000	9.007	0.000	0	N.D.		
25) Chloroform		0.000	9.042	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	9.315	0.000	0	N.D.		
27) Cyclohexane		0.000	9.410	0.000	0	N.D.		
28) 1,1-Dichloropropene		0.000	9.469	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	9.517	0.000	0	N.D.		
31) 1,2-Dichloroethane		0.000	9.694	0.000	0	N.D.		
32) Benzene	78	9.718	9.706	0.975	535	N.D.		
33) Cyclohexene		0.000	9.825	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	10.062	0.000	0	N.D.		
35) Trichloroethylene		0.000	10.347	0.000	0	N.D.		
36) 2-Pentanone	43	10.442	10.430	1.048	223	N.D.		
37) 1,2-Dichloropropane		0.000	10.596	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.607	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
InstName : VOA9
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 17:38:00 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
39) Dibromomethane		0.000	10.726	0.000	0	N.D.	
40) Bromodichloromethane		0.000	10.845	0.000	0	N.D.	
41) 2-Chloroethylvinyl ether		0.000	11.070	0.000	0	N.D.	
42) cis-1,3-Dichloropropylene		0.000	11.295	0.000	0	N.D.	
44) 4-Methyl-2-pentanone		0.000	11.390	0.000	0	N.D.	
46) Toluene	91	11.687	11.687	0.890	880	N.D.	
47) trans-1,3-Dichloroprop...		0.000	11.841	0.000	0	N.D.	
48) 1,1,2-Trichloroethane		0.000	12.054	0.000	0	N.D.	
49) 2-Hexanone	43	12.232	12.232	0.931	409	N.D.	
50) 1,3-Dichloropropane		0.000	12.244	0.000	0	N.D.	
51) Tetrachloroethylene		0.000	12.280	0.000	0	N.D.	
52) Dibromochloromethane		0.000	12.517	0.000	0	N.D.	
53) 1,2-Dibromoethane		0.000	12.683	0.000	0	N.D.	
54) Chlorobenzene	112	13.169	13.169	1.003	1321	N.D.	
55) 1,1,1,2-Tetrachloroethane		0.000	13.228	0.000	0	N.D.	
56) Ethylbenzene	91	13.228	13.228	1.007	1029	N.D.	
57) m,p-Xylenes	106	13.335	13.347	1.015	1065	N.D.	
58) o-Xylene		0.000	13.774	0.000	0	N.D.	
59) Styrene	104	13.774	13.774	1.049	800	N.D.	
61) Bromoform		0.000	14.035	0.000	0	N.D.	
62) Isopropylbenzene		0.000	14.129	0.000	0	N.D.	
64) 1,1,2,2-Tetrachloroethane		0.000	14.402	0.000	0	N.D.	
65) 1,2,3-Trichloropropane		0.000	14.497	0.000	0	N.D.	
66) Bromobenzene	156	14.533	14.533	0.935	835	N.D.	
67) n-Propylbenzene	91	14.557	14.556	0.937	1061	N.D.	
68) 1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	315	N.D.	
69) 2-Chlorotoluene		0.000	14.711	0.000	0	N.D.	
70) 4-Chlorotoluene	91	14.806	14.805	0.953	1788	N.D.	
71) tert-Butylbenzene		0.000	15.078	0.000	0	N.D.	
72) 1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	1118	N.D.	
73) sec-Butylbenzene		0.000	15.303	0.000	0	N.D.	
74) 4-Isopropyltoluene	119	15.422	15.422	0.992	287	N.D.	
75) 1,3-Dichlorobenzene	146	15.482	15.481	0.996	1889	N.D.	
76) 1,4-Dichlorobenzene	146	15.565	15.564	1.002	2875	N.D.	
77) n-Butylbenzene	91	15.861	15.861	1.021	960	N.D.	
78) 1,2-Dichlorobenzene	146	15.980	15.979	1.028	1471	N.D.	
79) 1,2-Dibromo-3-chloropr...		0.000	16.833	0.000	0	N.D.	
80) 1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	2435	N.D.	
81) Hexachlorobutadiene		0.000	18.031	0.000	0	N.D.	
82) Naphthalene	128	18.221	18.221	1.172	7348	N.D.	
83) 1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	1710	N.D.	
85) Acrolein		0.000	6.516	0.000	0	N.D.	
86) Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.	
87) Isopropyl Alcohol		0.000	6.777	0.000	0	N.D.	
88) Allyl chloride	41	7.133	7.133	0.716	567	N.D.	
89) tert-Butyl Alcohol	59	7.299	7.275	0.732	672	N.D.	
90) Acrylonitrile	53	7.548	7.524	0.757	731	N.D.	
91) Isopropyl ether		0.000	8.082	0.000	0	N.D.	
92) 2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.	
93) Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.	
94) Ethyl acetate	43	8.698	8.687	0.873	2111	N.D.	
95) Propionitrile		0.000	8.746	0.000	0	N.D.	
96) Methacrylonitrile	41	8.936	8.924	0.896	953	N.D.	
97) Tetrahydrofuran	42	9.054	9.054	0.908	944	N.D.	
98) Isobutyl alcohol		0.000	9.374	0.000	0	N.D.	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
InstName : VOA9
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 17:38:00 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

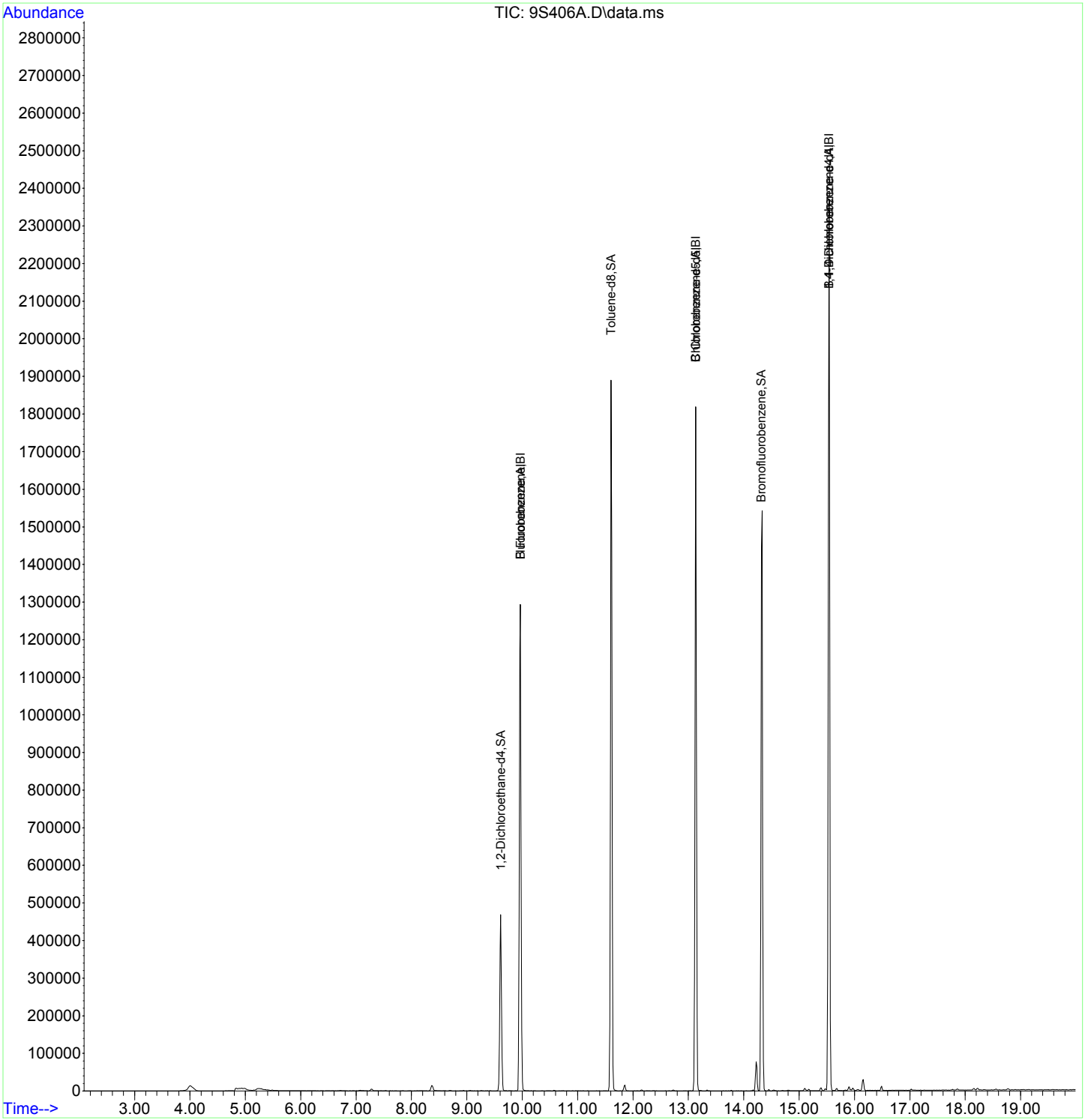
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		0.000	9.730	0.000	0	N.D.	
100)	Methyl methacrylate	69	10.572	10.572	1.061	938	N.D.	
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.	
102)	2-Nitropropane		0.000	11.046	0.000	0	N.D.	
104)	Ethyl methacrylate	69	11.841	11.841	0.902	1576	N.D.	
106)	1-Chlorohexane		0.000	13.039	0.000	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene	53	14.177	14.165	0.912	792	N.D.	
108)	Cyclohexanone	42	14.284	14.284	0.919	226	N.D.	
109)	trans-1,4-Dichloro-2-b...	53	14.450	14.450	0.930	827	N.D.	
110)	Pentachloroethane		0.000	15.149	0.000	0m	N.D.	d
111)	Benzyl chloride	91	15.683	15.683	1.009	6797	N.D.	
112)	bis(2-Chloroisopropyl)...	45	16.074	16.074	1.034	1454	N.D.	

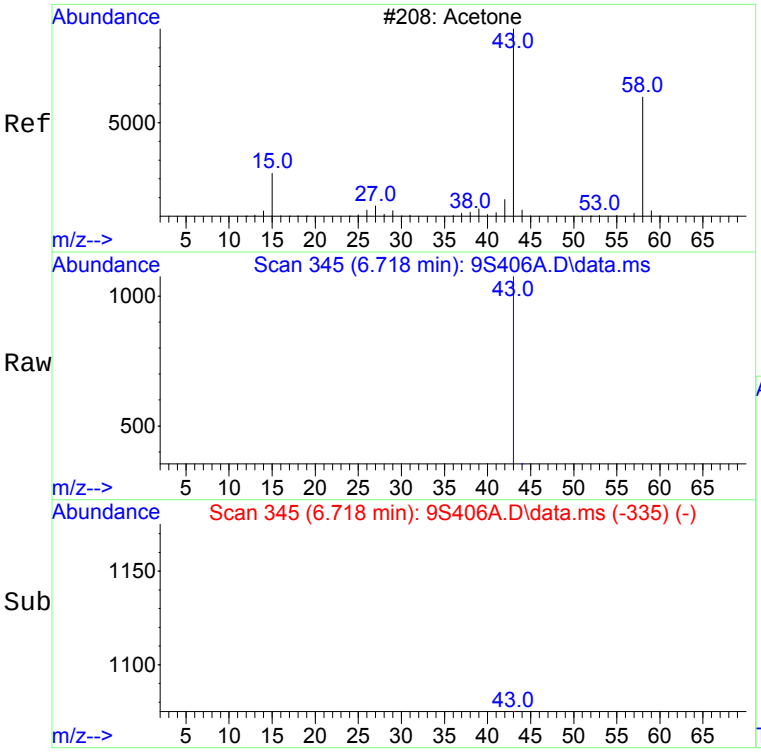
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
InstName : VOA9
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 17:38:00 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

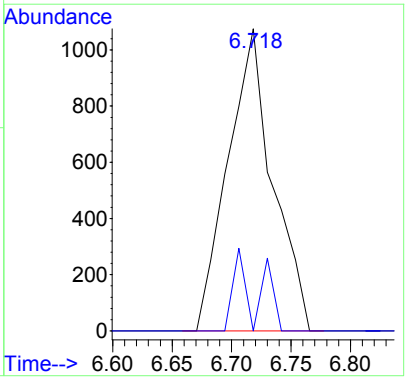


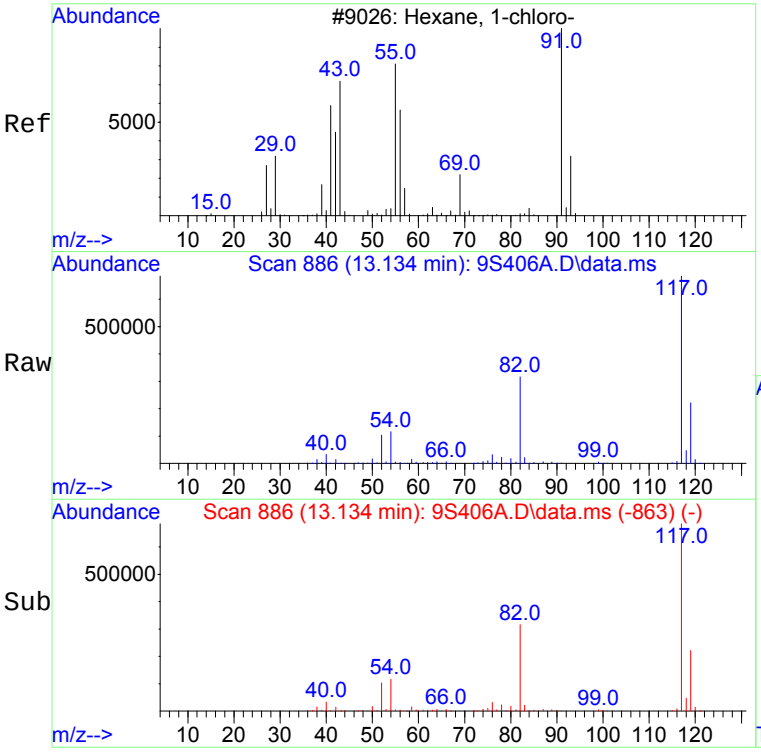


#9 BEFORE analyst DELETION
Acetone
Concen: 1.96 ug/L
RT: 6.718 min Scan# 345
Delta R.T. 0.024 min
Lab File: 9S406A.D
Acq: 19 Nov 2020 15:50

Tgt Ion: 43 Resp: 2798

Ion	Ratio	Lower	Upper
43	100		
58	14.0	0.0	58.4

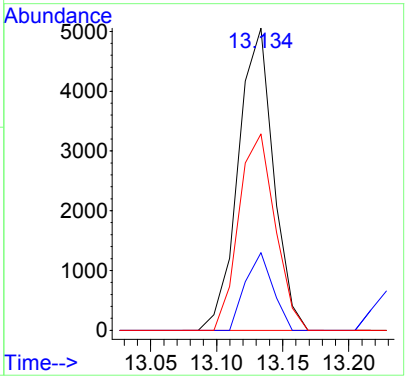


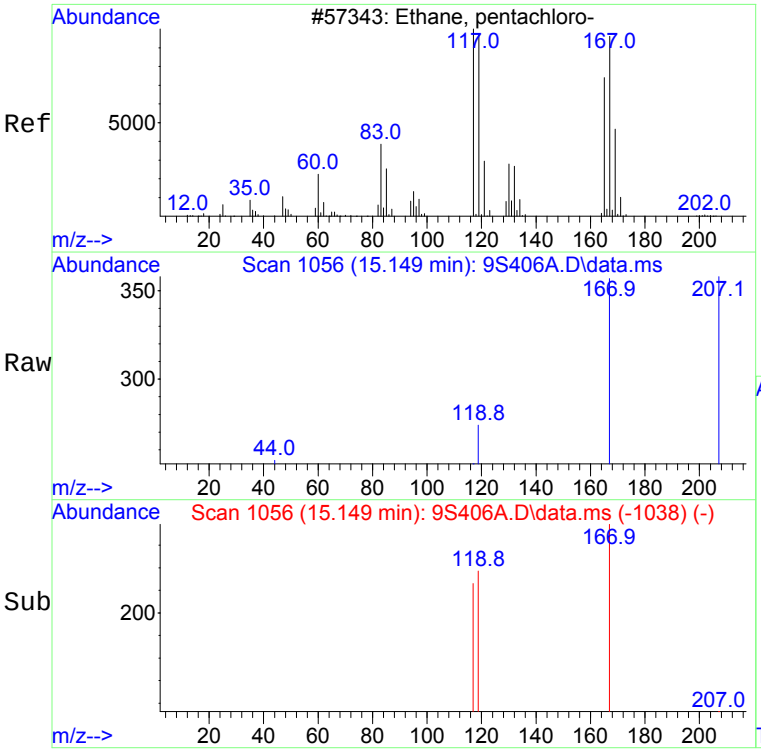


#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.18 ug/L
RT: 13.134 min Scan# 886
Delta R.T. 0.095 min
Lab File: 9S406A.D
Acq: 19 Nov 2020 15:50

Tgt Ion: 55 Resp: 9377

Ion	Ratio	Lower	Upper
55	100		
91	20.2	111.6	171.6#
56	66.9	29.9	89.9

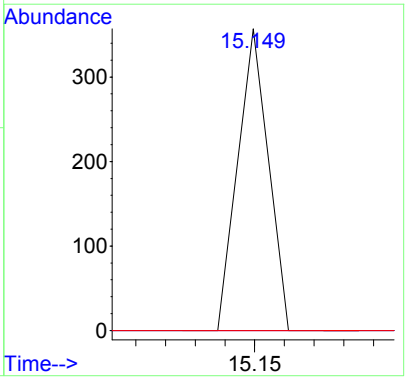




#110 BEFORE analyst DELETION
Pentachloroethane
Concen: 4.22 ug/L
RT: 15.149 min Scan# 1056
Delta R.T. -0.000 min
Lab File: 9S406A.D
Acq: 19 Nov 2020 15:50

Tgt Ion:167 Resp: 254

Ion	Ratio	Lower	Upper
167	100		
130	0.0	10.6	70.6#
132	0.0	9.5	69.5#



Library Search Compound Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**			**Matrix:**	**WATER**
Lab Sample ID:	**1204696632**				
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2063772**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 10:18**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 10:18**				
Data File:	**111720V6\6J203A.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride		41.7	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		51.1	ug/L	0.300	1.00
75-09-2	Methylene chloride		47.6	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane		52.1	ug/L	0.300	1.00
67-66-3	Chloroform		47.5	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		50.2	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride		50.9	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		46.8	ug/L	0.300	1.00
71-43-2	Benzene		47.1	ug/L	0.300	1.00
79-01-6	Trichloroethylene		47.3	ug/L	0.300	1.00
74-95-3	Dibromomethane		47.4	ug/L	0.300	1.00
108-88-3	Toluene		48.9	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		49.0	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		47.3	ug/L	0.300	1.00
100-41-4	Ethylbenzene		49.2	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		52.8	ug/L	0.300	1.00
1330-20-7	Xylenes (total)		146	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	51.1	50.0	ug/L	102	(71%-134%)
Bromofluorobenzene	51.3	50.0	ug/L	103	(70%-131%)
Toluene-d8	49.9	50.0	ug/L	100	(74%-124%)

Quantitation Report
GEL Laboratories, LLC

WMD 11/17/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203A.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |1204696632|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 17 16:27:30 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		Dev(Min)
Internal Standards									
1) Fluorobenzene	96	9.440	9.440	1.000	1849348	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1379680	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	765395	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1849348	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1379680	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	765468	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	665938	51.05	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1881620	49.94	ug/L		0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	751273	51.27	ug/L		0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	102%
45) Toluene-d8	50.000	74 - 124	100%
63) Bromofluorobenzene	50.000	70 - 131	103%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.977	3.969	0.421	535910	45.16	ug/L		100
3) Chloromethane	50	4.346	4.338	0.460	1313748	54.16	ug/L		97
4) Vinyl chloride	62	4.530	4.522	0.480	860422	41.67	ug/L		99
5) Bromomethane	94	5.036	5.020	0.533	437791	43.82	ug/L		100
6) Chloroethane	64	5.148	5.140	0.545	563449	45.68	ug/L		99
7) Trichlorofluoromethane	101	5.533	5.517	0.586	790390	43.57	ug/L		99
8) Ethyl ether	59	5.822	5.814	0.617	628121	52.48	ug/L		81
9) Acetone	43	6.179	6.179	0.654	928149	308.47	ug/L		94
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	980727	51.10	ug/L		97
11) Iodomethane	142	6.404	6.404	0.678	3647768	243.65	ug/L		100
12) Acetonitrile	41	6.532	6.526	0.692	2422466	1703.86	ug/L		100
13) Methyl acetate	43	6.563	6.563	0.695	2171001	306.60	ug/L		91
14) Carbon disulfide	76	6.532	6.538	0.692	8485602	285.01	ug/L		100
15) Methylene chloride	84	6.739	6.739	0.714	496316	47.62	ug/L	#	75
16) tert-Butyl methyl ether	73	7.038	7.032	0.746	1283137	49.37	ug/L		93
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	901524	49.27	ug/L		95
18) Hexane	57	7.361	7.355	0.780	1290960	61.95	ug/L		90
19) Vinyl acetate	43	7.532	7.532	0.798	7821390	345.08	ug/L		95
20) 1,1-Dichloroethane	63	7.562	7.556	0.801	1125832	52.11	ug/L		99
21) 2-Butanone	43	8.160	8.160	0.864	1504857	330.70	ug/L		89
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	1011958	48.92	ug/L		95
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	550325	50.87	ug/L		85
24) Bromochloromethane	128	8.477	8.471	0.898	208510	46.23	ug/L	#	66
25) Chloroform	83	8.513	8.514	0.902	801660	47.46	ug/L		100
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	694849	50.19	ug/L		97
27) Cyclohexane	56	8.867	8.867	0.939	1486996	55.85	ug/L		91
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	634122	48.74	ug/L		88
29) Carbon tetrachloride	117	8.971	8.965	0.950	550785	50.88	ug/L		100
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	764109	46.84	ug/L		99
32) Benzene	78	9.178	9.178	0.972	1811522	47.10	ug/L		95
33) Cyclohexene	67	9.288	9.288	0.984	1045674	51.26	ug/L		85
34) n-Butyl alcohol	56	9.568	9.568	1.014	2277610	7073.95	ug/L		88
35) Trichloroethylene	95	9.830	9.830	1.041	446436	47.29	ug/L		99
36) 2-Pentanone	43	9.928	9.928	1.052	2480306	344.34	ug/L		92
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	635113	51.07	ug/L		99
38) Methylcyclohexane	83	10.068	10.068	1.067	875960	48.26	ug/L		88

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203A.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |1204696632|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 16:27:30 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
39) Dibromomethane	93	10.214	10.214	1.082	244555	47.37	ug/L		96
40) Bromodichloromethane	83	10.330	10.330	1.094	576772	45.69	ug/L		99
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	1933624	273.30	ug/L		98
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	747369	47.56	ug/L		91
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	1209798	293.01	ug/L	#	75
46) Toluene	91	11.171	11.172	0.884	1899162	48.93	ug/L		100
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	664869	48.45	ug/L		91
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	306590	49.02	ug/L		99
49) 2-Hexanone	43	11.751	11.751	0.930	2100937	346.03	ug/L		89
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	665216	48.65	ug/L	#	76
51) Tetrachloroethylene	164	11.763	11.763	0.931	355960	47.31	ug/L		99
52) Dibromochloromethane	129	12.019	12.019	0.951	375194	48.26	ug/L		99
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	348203	51.32	ug/L		99
54) Chlorobenzene	112	12.671	12.671	1.003	1204245	47.25	ug/L		100
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	418698	51.00	ug/L		99
56) Ethylbenzene	91	12.738	12.738	1.008	2181518	49.16	ug/L		99
57) m,p-Xylenes	106	12.848	12.848	1.017	1676900	97.48	ug/L		99
58) o-Xylene	91	13.287	13.287	1.052	1816834	48.19	ug/L		99
59) Styrene	104	13.293	13.293	1.052	1365415	44.75	ug/L		99
61) Bromoform	173	13.543	13.543	0.899	211519	57.90	ug/L		98
62) Isopropylbenzene	105	13.647	13.647	0.906	2288349	51.36	ug/L		99
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	494110	52.83	ug/L		100
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	138908	48.40	ug/L		98
66) Bromobenzene	156	14.049	14.049	0.932	485609	47.30	ug/L		95
67) n-Propylbenzene	91	14.079	14.079	0.934	2728168	50.35	ug/L		99
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	2001939	49.64	ug/L		98
69) 2-Chlorotoluene	126	14.220	14.220	0.944	538345	49.51	ug/L		99
70) 4-Chlorotoluene	91	14.323	14.323	0.951	1640878	48.39	ug/L		100
71) tert-Butylbenzene	134	14.604	14.604	0.969	431757	50.85	ug/L	#	88
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	2059386	49.59	ug/L		99
73) sec-Butylbenzene	105	14.829	14.829	0.984	2739301	52.35	ug/L		99
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	2258664	50.96	ug/L		100
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	1040018	48.20	ug/L		99
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	1046078	47.42	ug/L		99
77) n-Butylbenzene	91	15.384	15.384	1.021	2400886	52.77	ug/L		99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1055330	49.92	ug/L		99
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	90191	57.33	ug/L		96
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	883325	50.18	ug/L		100
81) Hexachlorobutadiene	225	17.457	17.457	1.159	547963	48.72	ug/L		99
82) Naphthalene	128	17.646	17.646	1.171	1929909	51.45	ug/L		99
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	803312	48.01	ug/L		99
85) Acrolein		0.000	6.008	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87) Isopropyl Alcohol		6.203	6.270	0.657	0m	N.D.	d		
88) Allyl chloride		6.532	6.593	0.692	0m	N.D.	d		
89) tert-Butyl Alcohol		0.000	6.758	0.000	0	N.D.			
90) Acrylonitrile		7.038	7.001	0.746	0m	N.D.	d		
91) Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		7.672	7.666	0.813	0m	N.D.	d		
93) Ethyl tert-butyl ether		7.855	7.952	0.832	0m	N.D.	d		
94) Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d		
95) Propionitrile		8.154	8.233	0.864	0m	N.D.	d		
96) Methacrylonitrile		8.507	8.410	0.901	0m	N.D.	d		
97) Tetrahydrofuran		8.513	8.519	0.902	0m	N.D.	d		
98) Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203A.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |1204696632|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 16:27:30 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

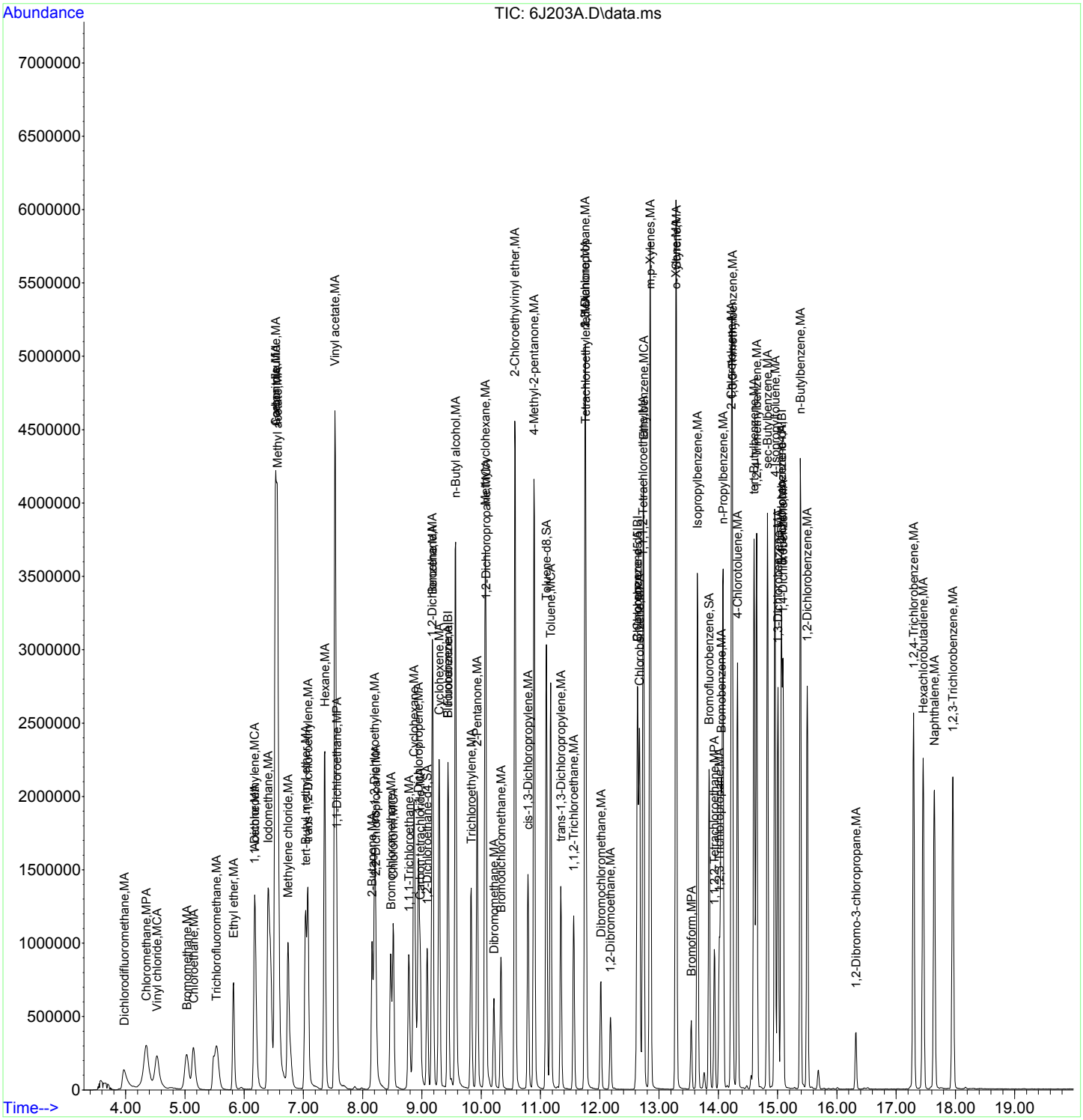
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d
100)	Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d
101)	1,4-Dioxane		10.184	10.172	1.079	0m	N.D.	d
102)	2-Nitropropane		10.476	10.550	1.110	0m	N.D.	d
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106)	1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108)	Cyclohexanone		13.805	13.799	0.916	0m	N.D.	d
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111)	Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112)	bis(2-Chloroisopropyl)...		15.604	15.603	1.036	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203A.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |1204696632|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 16:27:30 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**			**Matrix:**	**WATER**
Lab Sample ID:	**1204699780**				
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2063772**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA9.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 14:33**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/19/2020 14:33**				
Data File:	**111920V9\9S403A.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride		36.0	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		40.2	ug/L	0.300	1.00
75-09-2	Methylene chloride		47.0	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane		46.2	ug/L	0.300	1.00
67-66-3	Chloroform		49.0	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		48.5	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride		50.9	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		43.6	ug/L	0.300	1.00
71-43-2	Benzene		45.7	ug/L	0.300	1.00
79-01-6	Trichloroethylene		46.9	ug/L	0.300	1.00
74-95-3	Dibromomethane		53.6	ug/L	0.300	1.00
108-88-3	Toluene		44.7	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		48.8	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		52.2	ug/L	0.300	1.00
100-41-4	Ethylbenzene		44.9	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		45.1	ug/L	0.300	1.00
1330-20-7	Xylenes (total)		145	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.3	50.0	ug/L	97	(71%-134%)
Bromofluorobenzene	44.4	50.0	ug/L	89	(70%-131%)
Toluene-d8	49.7	50.0	ug/L	99	(74%-124%)

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
InstName : VOA9
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 19 14:53:40 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		Dev(Min)
Internal Standards									
1) Fluorobenzene	96	9.967	9.967	1.000	1457913	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1262810	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	847529	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	1457913	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	1262810	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	847529	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	374304	48.31	ug/L		0.00
45) Toluene-d8	98	11.604	11.604	0.884	1520194	49.67	ug/L		0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	614229	44.37	ug/L		-0.01

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	97%
45) Toluene-d8	50.000	74 - 124	99%
63) Bromofluorobenzene	50.000	70 - 131	89%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	449473	46.57	ug/L		100
3) Chloromethane	50	4.761	4.761	0.478	489676	38.34	ug/L		99
4) Vinyl chloride	62	4.975	4.963	0.499	420349	36.02	ug/L		100
5) Bromomethane	94	5.508	5.508	0.553	404591	46.42	ug/L		97
6) Chloroethane	64	5.627	5.627	0.565	261592	37.71	ug/L		100
7) Trichlorofluoromethane	101	6.042	6.042	0.606	626223	41.48	ug/L		99
8) Ethyl ether	59	6.327	6.327	0.635	245495	47.65	ug/L		91
9) Acetone	43	6.694	6.694	0.672	374576	246.84	ug/L		96
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	471744	40.20	ug/L		92
11) Iodomethane	142	6.955	6.955	0.698	4026648	281.48	ug/L		94
12) Acetonitrile	41	7.050	7.050	0.707	895260	1163.03	ug/L		98
13) Methyl acetate	43	7.086	7.086	0.711	787017	222.20	ug/L		95
14) Carbon disulfide	76	7.086	7.086	0.711	5823938	234.93	ug/L		99
15) Methylene chloride	84	7.275	7.275	0.730	365638	46.96	ug/L		91
16) tert-Butyl methyl ether	73	7.572	7.584	0.760	935571	50.84	ug/L		97
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	450833	41.43	ug/L		89
18) Hexane	57	7.904	7.904	0.793	452232	40.93	ug/L		93
19) Vinyl acetate	43	8.046	8.058	0.807	3057996	238.03	ug/L		95
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	598336	46.15	ug/L		99
21) 2-Butanone	43	8.675	8.675	0.870	558477	236.69	ug/L		93
22) cis-1,2-Dichloroethylene	61	8.722	8.734	0.875	534501	44.01	ug/L		91
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	559121	45.96	ug/L		84
24) Bromochloromethane	128	9.007	9.007	0.904	204083	58.47	ug/L	#	81
25) Chloroform	83	9.042	9.042	0.907	616192	48.95	ug/L		99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	618726	48.47	ug/L		98
27) Cyclohexane	56	9.410	9.410	0.944	586148	38.47	ug/L		92
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	414956	42.56	ug/L		95
29) Carbon tetrachloride	117	9.505	9.517	0.954	561026	50.94	ug/L		99
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	405046	43.57	ug/L		100
32) Benzene	78	9.706	9.706	0.974	1303921	45.68	ug/L		98
33) Cyclohexene	67	9.825	9.825	0.986	649443	42.85	ug/L		97
34) n-Butyl alcohol	41	10.062	10.062	1.010	597814	5347.91	ug/L		92
35) Trichloroethylene	95	10.347	10.347	1.038	353732	46.94	ug/L		94
36) 2-Pentanone	43	10.430	10.430	1.046	911382	218.75	ug/L		93
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	327973	44.69	ug/L		99
38) Methylcyclohexane	83	10.596	10.607	1.063	629777	44.10	ug/L		94

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
InstName : VOA9
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 14:53:40 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
39) Dibromomethane	93	10.726	10.726	1.076	202403	53.55	ug/L	#	83
40) Bromodichloromethane	83	10.845	10.845	1.088	434881	49.82	ug/L		97
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	960314	261.03	ug/L		96
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	510760	49.72	ug/L		94
44) 4-Methyl-2-pentanone	58	11.390	11.390	0.867	516908	248.64	ug/L		86
46) Toluene	91	11.675	11.687	0.889	1432211	44.66	ug/L		99
47) trans-1,3-Dichloroprop...	75	11.829	11.841	0.901	449346	48.76	ug/L		95
48) 1,1,2-Trichloroethane	83	12.054	12.054	0.918	229128	48.80	ug/L		97
49) 2-Hexanone	43	12.232	12.232	0.931	896108	228.29	ug/L		93
50) 1,3-Dichloropropane	76	12.244	12.244	0.932	449862	47.73	ug/L		89
51) Tetrachloroethylene	164	12.280	12.280	0.935	374513	52.23	ug/L		90
52) Dibromochloromethane	129	12.517	12.517	0.953	379777	52.70	ug/L		99
53) 1,2-Dibromoethane	107	12.683	12.683	0.966	302321	54.93	ug/L		96
54) Chlorobenzene	112	13.169	13.169	1.003	1022645	48.15	ug/L		96
55) 1,1,1,2-Tetrachloroethane	131	13.216	13.228	1.006	435640	52.60	ug/L		97
56) Ethylbenzene	91	13.228	13.228	1.007	1666243	44.92	ug/L		97
57) m,p-Xylenes	106	13.335	13.347	1.015	1408141	97.47	ug/L		96
58) o-Xylene	106	13.774	13.774	1.049	716181	47.72	ug/L		96
59) Styrene	104	13.774	13.774	1.049	1180541	50.60	ug/L		97
61) Bromoform	173	14.023	14.035	0.902	276072	51.80	ug/L		100
62) Isopropylbenzene	105	14.130	14.129	0.909	1884632	42.46	ug/L		97
64) 1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	356476	45.09	ug/L		98
65) 1,2,3-Trichloropropane	110	14.485	14.497	0.932	120231	53.13	ug/L	#	75
66) Bromobenzene	156	14.533	14.533	0.935	612059	54.08	ug/L	#	81
67) n-Propylbenzene	91	14.556	14.556	0.937	2109966	39.99	ug/L		95
68) 1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1656157	42.10	ug/L		97
69) 2-Chlorotoluene	126	14.699	14.711	0.946	535347	47.19	ug/L	#	81
70) 4-Chlorotoluene	91	14.806	14.805	0.953	1256853	40.70	ug/L		91
71) tert-Butylbenzene	134	15.078	15.078	0.970	389323	46.32	ug/L	#	82
72) 1,2,4-Trimethylbenzene	105	15.114	15.126	0.973	1654376	42.17	ug/L		98
73) sec-Butylbenzene	105	15.304	15.303	0.985	2221348	42.71	ug/L		94
74) 4-Isopropyltoluene	119	15.422	15.422	0.992	1953485	43.42	ug/L		97
75) 1,3-Dichlorobenzene	146	15.481	15.481	0.996	1085889	49.64	ug/L		95
76) 1,4-Dichlorobenzene	146	15.564	15.564	1.002	1070271	48.25	ug/L		96
77) n-Butylbenzene	91	15.861	15.861	1.021	1678921	38.96	ug/L		96
78) 1,2-Dichlorobenzene	146	15.980	15.979	1.028	1105595	52.86	ug/L		96
79) 1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	100209	51.91	ug/L		87
80) 1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	968263	52.21	ug/L		100
81) Hexachlorobutadiene	225	18.031	18.031	1.160	608627	51.74	ug/L		99
82) Naphthalene	128	18.221	18.221	1.172	1815524	50.72	ug/L		100
83) 1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	957173	53.83	ug/L		98
85) Acrolein		0.000	6.516	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87) Isopropyl Alcohol		6.718	6.777	0.674	0m	N.D.	d		
88) Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89) tert-Butyl Alcohol		7.335	7.275	0.736	0m	N.D.	d		
90) Acrylonitrile		7.572	7.524	0.760	0m	N.D.	d		
91) Isopropyl ether		8.046	8.082	0.807	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		8.058	8.200	0.808	0m	N.D.	d		
93) Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94) Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95) Propionitrile		8.675	8.746	0.870	0m	N.D.	d		
96) Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97) Tetrahydrofuran		9.042	9.054	0.907	0m	N.D.	d		
98) Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
InstName : VOA9
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 14:53:40 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

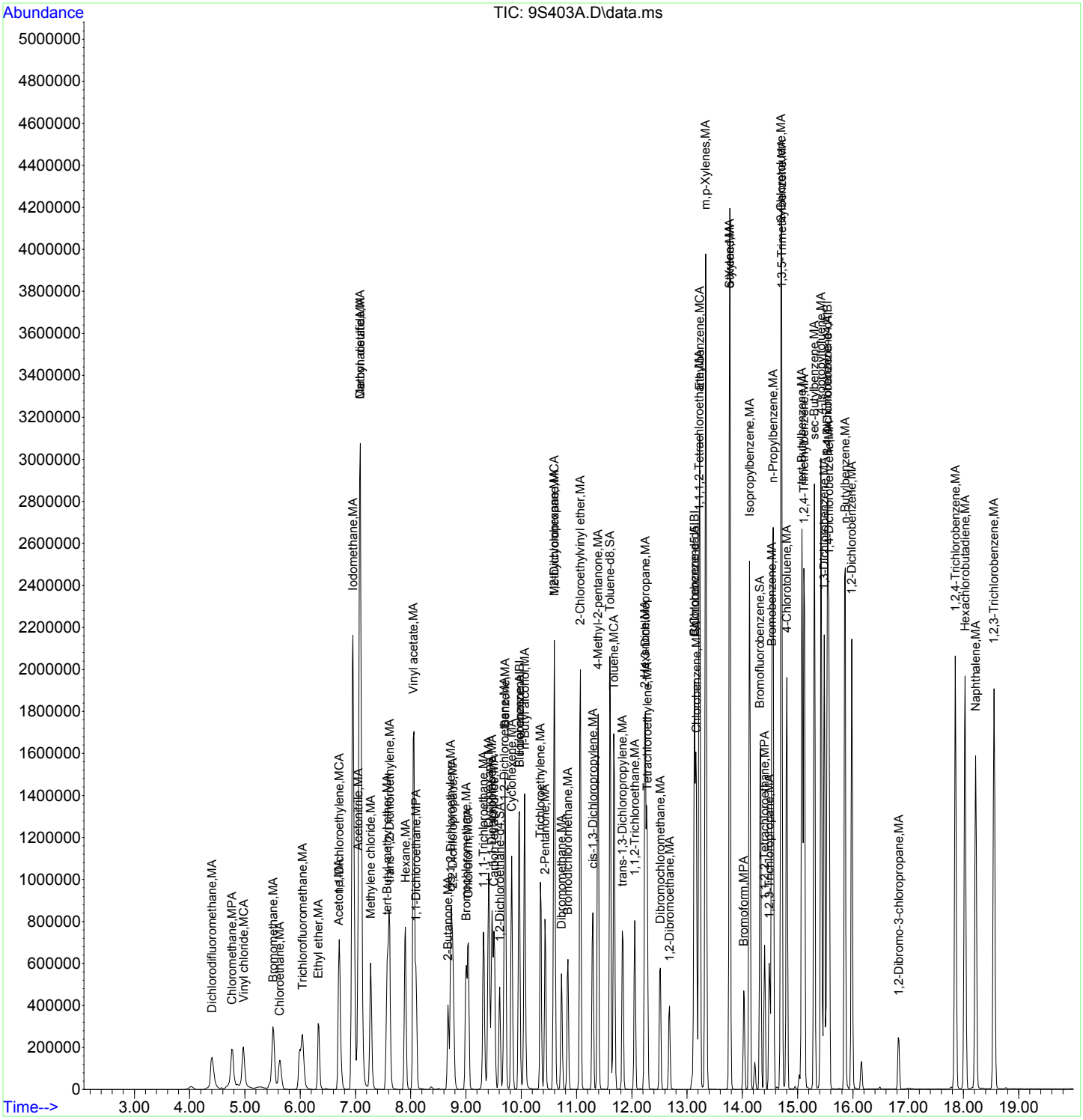
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
99)	Methyl tert-amyl ether		9.706	9.730	0.974	0m	N.D.		d
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.		d
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.		d
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.		d
104)	Ethyl methacrylate		11.841	11.841	0.902	0m	N.D.		d
106)	1-Chlorohexane		13.133	13.039	0.845	0m	N.D.		d
107)	cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.		d
108)	Cyclohexanone		14.130	14.284	0.909	0m	N.D.		d
109)	trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.		d
110)	Pentachloroethane		15.149	15.149	0.975	0m	N.D.		d
111)	Benzyl chloride		15.659	15.683	1.008	0m	N.D.		d
112)	bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.		d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
InstName : VOA9
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 14:53:40 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Library Search Compound Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**1204696633**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209991PS**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA9.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 17:08**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/19/2020 17:08**				
Data File:	**111920V9\9S409.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride		39.2	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		40.5	ug/L	0.300	1.00
75-09-2	Methylene chloride		47.6	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane		46.1	ug/L	0.300	1.00
67-66-3	Chloroform		48.3	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		48.6	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride		50.6	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		42.9	ug/L	0.300	1.00
71-43-2	Benzene		45.0	ug/L	0.300	1.00
79-01-6	Trichloroethylene		46.2	ug/L	0.300	1.00
74-95-3	Dibromomethane		53.3	ug/L	0.300	1.00
108-88-3	Toluene		44.3	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		48.3	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		52.0	ug/L	0.300	1.00
100-41-4	Ethylbenzene		45.1	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		45.6	ug/L	0.300	1.00
1330-20-7	Xylenes (total)		147	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.2	50.0	ug/L	96	(71%-134%)
Bromofluorobenzene	44.7	50.0	ug/L	89	(70%-131%)
Toluene-d8	49.4	50.0	ug/L	99	(74%-124%)

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S409.D
Acq On : 19 Nov 2020 17:08
Operator : WD1
InstName : VOA9
Sample : |1204696633|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PS
ALS Vial : 9 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 19 17:42:13 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		Dev(Min)
Internal Standards									
1) Fluorobenzene	96	9.967	9.967	1.000	1370868	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	13.134	13.133	1.000	1193147	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	786343	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	1370868	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	13.134	13.134	1.000	1193147	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	786343	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.612	9.611	0.964	351225	48.21	ug/L		0.00
45) Toluene-d8	98	11.604	11.604	0.884	1429820	49.44	ug/L		0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	573806	44.67	ug/L		-0.01

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	96%
45) Toluene-d8	50.000	74 - 124	99%
63) Bromofluorobenzene	50.000	70 - 131	89%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	439199	48.39	ug/L		99
3) Chloromethane	50	4.776	4.761	0.479	479363	39.92	ug/L		99
4) Vinyl chloride	62	4.975	4.963	0.499	430230	39.21	ug/L		99
5) Bromomethane	94	5.520	5.508	0.554	395797	48.29	ug/L		99
6) Chloroethane	64	5.639	5.627	0.566	250463	38.40	ug/L		100
7) Trichlorofluoromethane	101	6.042	6.042	0.606	595709	41.96	ug/L		100
8) Ethyl ether	59	6.339	6.327	0.636	233908	48.28	ug/L		91
9) Acetone	43	6.694	6.694	0.672	344913	241.72	ug/L		96
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	447312	40.54	ug/L		94
11) Iodomethane	142	6.955	6.955	0.698	3747918	278.63	ug/L		95
12) Acetonitrile	41	7.050	7.050	0.707	851095	1175.86	ug/L		98
13) Methyl acetate	43	7.086	7.086	0.711	733350	220.19	ug/L		95
14) Carbon disulfide	76	7.086	7.086	0.711	5516620	236.66	ug/L		99
15) Methylene chloride	84	7.276	7.275	0.730	348148	47.59	ug/L		91
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	882470	51.00	ug/L		96
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	425256	41.56	ug/L		90
18) Hexane	57	7.904	7.904	0.793	1070	N.D.			
19) Vinyl acetate	43	8.058	8.058	0.808	2946292	243.90	ug/L		95
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	562090	46.11	ug/L		98
21) 2-Butanone	43	8.675	8.675	0.870	513649	231.52	ug/L		94
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	505735	44.28	ug/L		93
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	539807	47.19	ug/L		85
24) Bromochloromethane	128	9.007	9.007	0.904	190192	57.95	ug/L	#	81
25) Chloroform	83	9.042	9.042	0.907	571527	48.28	ug/L		98
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	583415	48.61	ug/L		98
27) Cyclohexane	56	9.410	9.410	0.944	556740	38.86	ug/L		92
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	386374	42.15	ug/L		95
29) Carbon tetrachloride	117	9.505	9.517	0.954	524347	50.63	ug/L		99
31) 1,2-Dichloroethane	62	9.695	9.694	0.973	374563	42.85	ug/L		99
32) Benzene	78	9.707	9.706	0.974	1206398	44.95	ug/L		98
33) Cyclohexene	67	9.825	9.825	0.986	604006	42.38	ug/L		99
34) n-Butyl alcohol	41	10.062	10.062	1.010	552458	5255.97	ug/L		92
35) Trichloroethylene	95	10.347	10.347	1.038	327528	46.23	ug/L		95
36) 2-Pentanone	43	10.430	10.430	1.046	1947	N.D.			
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	306523	44.42	ug/L		99
38) Methylcyclohexane	83	10.596	10.607	1.063	599041	44.61	ug/L		94

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S409.D
Acq On : 19 Nov 2020 17:08
Operator : WD1
InstName : VOA9
Sample : |1204696633|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PS
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 17:42:13 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
39) Dibromomethane	93	10.726	10.726	1.076	189460	53.31	ug/L	#	83
40) Bromodichloromethane	83	10.845	10.845	1.088	401537	48.92	ug/L		98
41) 2-Chloroethylvinyl ether		0.000	11.070	0.000	0	N.D.			
42) cis-1,3-Dichloropropylene	75	11.296	11.295	1.133	477851	49.47	ug/L		94
44) 4-Methyl-2-pentanone	58	11.390	11.390	0.867	484924	246.87	ug/L		87
46) Toluene	91	11.675	11.687	0.889	1342752	44.32	ug/L		99
47) trans-1,3-Dichloroprop...	75	11.829	11.841	0.901	429144	49.29	ug/L		94
48) 1,1,2-Trichloroethane	83	12.054	12.054	0.918	214260	48.30	ug/L		96
49) 2-Hexanone	43	12.232	12.232	0.931	855365	230.63	ug/L		94
50) 1,3-Dichloropropane	76	12.244	12.244	0.932	423600	47.57	ug/L		89
51) Tetrachloroethylene	164	12.280	12.280	0.935	352068	51.97	ug/L		89
52) Dibromochloromethane	129	12.517	12.517	0.953	349227	51.30	ug/L		100
53) 1,2-Dibromoethane	107	12.683	12.683	0.966	291137	55.99	ug/L		98
54) Chlorobenzene	112	13.169	13.169	1.003	973315	48.50	ug/L		96
55) 1,1,1,2-Tetrachloroethane	131	13.217	13.228	1.006	404215	51.65	ug/L		98
56) Ethylbenzene	91	13.228	13.228	1.007	1581811	45.14	ug/L		97
57) m,p-Xylenes	106	13.335	13.347	1.015	1348264	98.77	ug/L		96
58) o-Xylene	106	13.774	13.774	1.049	680561	48.00	ug/L		96
59) Styrene	104	13.774	13.774	1.049	1125511	51.06	ug/L		97
61) Bromoform	173	14.023	14.035	0.902	253639	51.30	ug/L		98
62) Isopropylbenzene	105	14.130	14.129	0.909	1760768	42.75	ug/L		97
64) 1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	334661	45.63	ug/L		98
65) 1,2,3-Trichloropropane	110	14.485	14.497	0.932	106234	50.59	ug/L	#	81
66) Bromobenzene	156	14.533	14.533	0.935	539780	51.41	ug/L	#	83
67) n-Propylbenzene	91	14.557	14.556	0.937	1936250	39.55	ug/L		96
68) 1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1527804	41.86	ug/L		98
69) 2-Chlorotoluene	126	14.699	14.711	0.946	496788	47.20	ug/L	#	81
70) 4-Chlorotoluene	91	14.806	14.805	0.953	1182926	41.28	ug/L		93
71) tert-Butylbenzene	134	15.078	15.078	0.970	347647	44.58	ug/L	#	85
72) 1,2,4-Trimethylbenzene	105	15.114	15.126	0.973	1531676	42.08	ug/L		99
73) sec-Butylbenzene	105	15.304	15.303	0.985	2024265	41.95	ug/L		94
74) 4-Isopropyltoluene	119	15.422	15.422	0.992	1803517	43.20	ug/L		97
75) 1,3-Dichlorobenzene	146	15.482	15.481	0.996	1006504	49.59	ug/L		96
76) 1,4-Dichlorobenzene	146	15.565	15.564	1.002	1010417	49.10	ug/L		96
77) n-Butylbenzene	91	15.849	15.861	1.020	1586366	39.68	ug/L		97
78) 1,2-Dichlorobenzene	146	15.980	15.979	1.028	991778	51.10	ug/L		97
79) 1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	94415	52.70	ug/L		89
80) 1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	951384	55.29	ug/L		100
81) Hexachlorobutadiene	225	18.031	18.031	1.160	591598	54.20	ug/L		98
82) Naphthalene	128	18.221	18.221	1.172	1736650	52.29	ug/L		100
83) 1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	963084	58.38	ug/L		98
85) Acrolein		0.000	6.516	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87) Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88) Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89) tert-Butyl Alcohol		7.276	7.275	0.730	0m	N.D.	d		
90) Acrylonitrile		7.572	7.524	0.760	0m	N.D.	d		
91) Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		8.046	8.200	0.807	0m	N.D.	d		
93) Ethyl tert-butyl ether		8.366	8.485	0.839	0m	N.D.	d		
94) Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95) Propionitrile		8.675	8.746	0.870	0m	N.D.	d		
96) Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97) Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98) Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S409.D
Acq On : 19 Nov 2020 17:08
Operator : WD1
InstName : VOA9
Sample : |1204696633|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PS
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 17:42:13 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

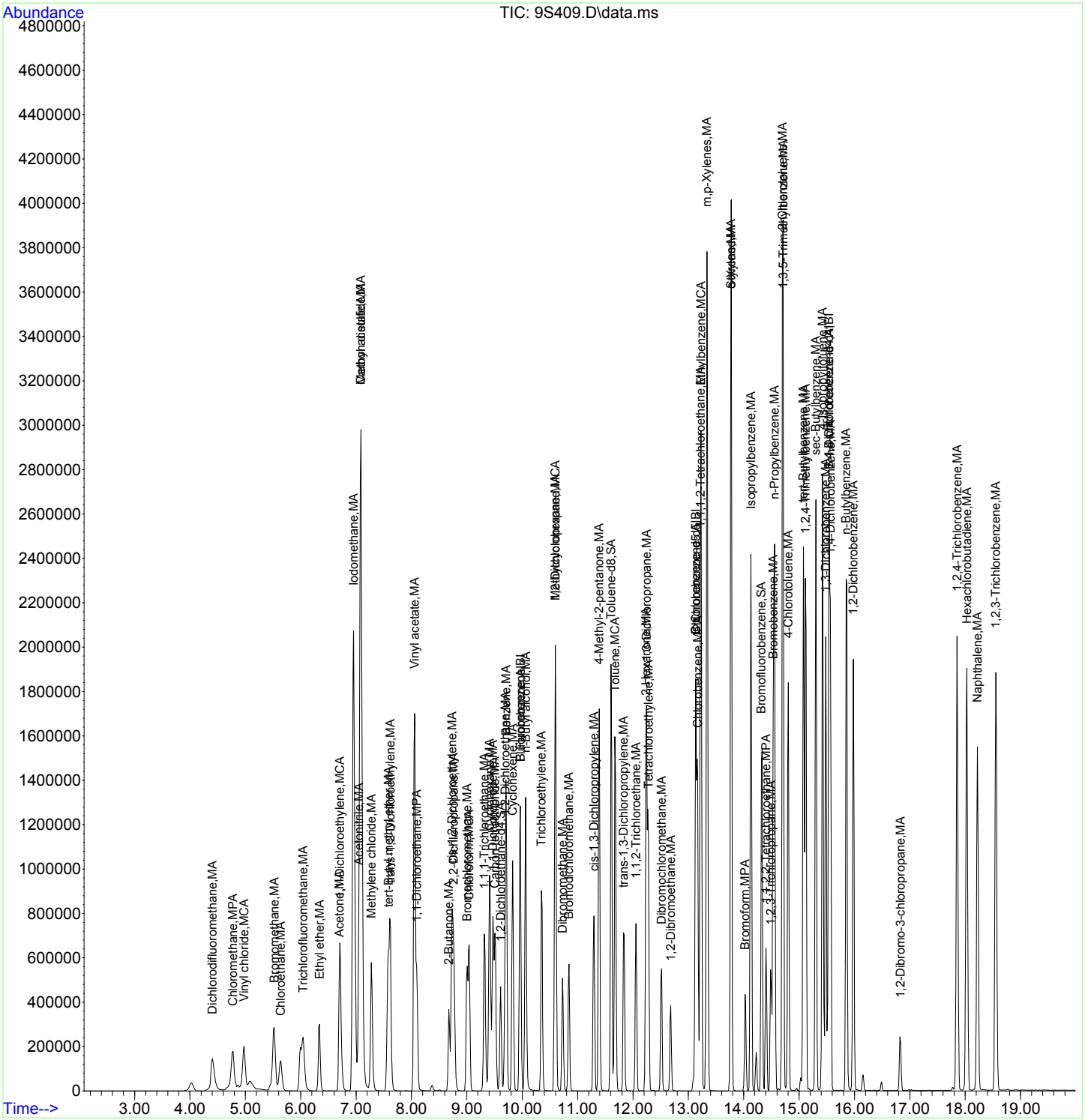
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99) Methyl tert-amyl ether		9.707	9.730	0.974	0m	N.D.	d
100) Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d
101) 1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d
102) 2-Nitropropane		0.000	11.046	0.000	0	N.D.	
104) Ethyl methacrylate		11.841	11.841	0.902	0m	N.D.	d
106) 1-Chlorohexane		13.134	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.557	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.138	15.149	0.974	0m	N.D.	d
111) Benzyl chloride		15.671	15.683	1.008	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S409.D
Acq On : 19 Nov 2020 17:08
Operator : WD1
InstName : VOA9
Sample : |1204696633|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PS
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 17:42:13 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**1204696634**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209991PSD**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA9.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 17:33**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/19/2020 17:33**				
Data File:	**111920V9\9S410.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride		37.7	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		38.4	ug/L	0.300	1.00
75-09-2	Methylene chloride		45.4	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane		44.2	ug/L	0.300	1.00
67-66-3	Chloroform		46.6	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		46.2	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride		48.2	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		41.3	ug/L	0.300	1.00
71-43-2	Benzene		43.1	ug/L	0.300	1.00
79-01-6	Trichloroethylene		44.8	ug/L	0.300	1.00
74-95-3	Dibromomethane		51.0	ug/L	0.300	1.00
108-88-3	Toluene		42.2	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		45.7	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		48.3	ug/L	0.300	1.00
100-41-4	Ethylbenzene		42.6	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		44.3	ug/L	0.300	1.00
1330-20-7	Xylenes (total)		138	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.9	50.0	ug/L	98	(71%-134%)
Bromofluorobenzene	45.3	50.0	ug/L	91	(70%-131%)
Toluene-d8	49.0	50.0	ug/L	98	(74%-124%)

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S410.D
Acq On : 19 Nov 2020 17:33
Operator : WD1
InstName : VOA9
Sample : |1204696634|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PSD
ALS Vial : 10 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 19 19:37:55 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		Dev(Min)
Internal Standards									
1) Fluorobenzene	96	9.967	9.967	1.000	1423623	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1258951	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	836989	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	1423623	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	1258951	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	836989	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	369929	48.89	ug/L		0.00
45) Toluene-d8	98	11.604	11.604	0.884	1494152	48.97	ug/L		0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	619892	45.34	ug/L		-0.01

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	98%
45) Toluene-d8	50.000	74 - 124	98%
63) Bromofluorobenzene	50.000	70 - 131	91%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	429397	45.56	ug/L		100
3) Chloromethane	50	4.761	4.761	0.478	471926	37.84	ug/L		99
4) Vinyl chloride	62	4.975	4.963	0.499	429278	37.67	ug/L		99
5) Bromomethane	94	5.508	5.508	0.553	386895	45.46	ug/L		97
6) Chloroethane	64	5.627	5.627	0.565	252222	37.24	ug/L		100
7) Trichlorofluoromethane	101	6.042	6.042	0.606	589791	40.01	ug/L		100
8) Ethyl ether	59	6.327	6.327	0.635	233414	46.40	ug/L		90
9) Acetone	43	6.694	6.694	0.672	342790	231.33	ug/L		97
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	440457	38.44	ug/L		93
11) Iodomethane	142	6.955	6.955	0.698	3712642	265.78	ug/L		95
12) Acetonitrile	41	7.050	7.050	0.707	847028	1126.88	ug/L		99
13) Methyl acetate	43	7.086	7.086	0.711	725961	209.89	ug/L		96
14) Carbon disulfide	76	7.086	7.086	0.711	5431828	224.39	ug/L		99
15) Methylene chloride	84	7.275	7.275	0.730	346009	45.43	ug/L		91
16) tert-Butyl methyl ether	73	7.572	7.584	0.760	879838	48.96	ug/L		96
17) trans-1,2-Dichloroethy...	61	7.607	7.619	0.763	423082	39.82	ug/L		90
18) Hexane	57	7.892	7.904	0.792	1032	N.D.			
19) Vinyl acetate	43	8.046	8.058	0.807	2909012	231.89	ug/L		95
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	559976	44.23	ug/L		99
21) 2-Butanone	43	8.675	8.675	0.870	524072	227.46	ug/L		94
22) cis-1,2-Dichloroethylene	61	8.722	8.734	0.875	497686	41.96	ug/L		92
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	535838	45.11	ug/L		84
24) Bromochloromethane	128	9.007	9.007	0.904	190093	55.77	ug/L	#	81
25) Chloroform	83	9.042	9.042	0.907	572721	46.59	ug/L		99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	575666	46.19	ug/L		98
27) Cyclohexane	56	9.410	9.410	0.944	550979	37.03	ug/L		93
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	383590	40.29	ug/L		94
29) Carbon tetrachloride	117	9.505	9.517	0.954	518316	48.20	ug/L		99
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	374601	41.27	ug/L		100
32) Benzene	78	9.706	9.706	0.974	1200472	43.07	ug/L		98
33) Cyclohexene	67	9.825	9.825	0.986	595243	40.22	ug/L		98
34) n-Butyl alcohol	41	10.062	10.062	1.010	548253	5022.68	ug/L		92
35) Trichloroethylene	95	10.347	10.347	1.038	329363	44.76	ug/L		95
36) 2-Pentanone	43	10.430	10.430	1.046	2389	N.D.			
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	306828	42.82	ug/L		100
38) Methylcyclohexane	83	10.596	10.607	1.063	580314	41.61	ug/L		94

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S410.D
Acq On : 19 Nov 2020 17:33
Operator : WD1
InstName : VOA9
Sample : |1204696634|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PSD
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 19 19:37:55 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
39) Dibromomethane	93	10.726	10.726	1.076	188365	51.04	ug/L	#	83
40) Bromodichloromethane	83	10.845	10.845	1.088	402234	47.19	ug/L		98
41) 2-Chloroethylvinyl ether		0.000	11.070	0.000	0	N.D.			
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	478531	47.70	ug/L		94
44) 4-Methyl-2-pentanone	58	11.390	11.390	0.867	491280	237.03	ug/L		87
46) Toluene	91	11.675	11.687	0.889	1347524	42.15	ug/L		100
47) trans-1,3-Dichloroprop...	75	11.829	11.841	0.901	428716	46.67	ug/L		94
48) 1,1,2-Trichloroethane	83	12.054	12.054	0.918	213681	45.65	ug/L		96
49) 2-Hexanone	43	12.232	12.232	0.931	862507	220.40	ug/L		93
50) 1,3-Dichloropropane	76	12.244	12.244	0.932	424480	45.18	ug/L		90
51) Tetrachloroethylene	164	12.280	12.280	0.935	345330	48.31	ug/L		90
52) Dibromochloromethane	129	12.517	12.517	0.953	348848	48.60	ug/L		100
53) 1,2-Dibromoethane	107	12.683	12.683	0.966	290782	53.00	ug/L		98
54) Chlorobenzene	112	13.169	13.169	1.003	972769	45.94	ug/L		96
55) 1,1,1,2-Tetrachloroethane	131	13.216	13.228	1.006	403019	48.81	ug/L		97
56) Ethylbenzene	91	13.228	13.228	1.007	1573230	42.55	ug/L		97
57) m,p-Xylenes	106	13.335	13.347	1.015	1331205	92.42	ug/L		96
58) o-Xylene	106	13.774	13.774	1.049	676449	45.21	ug/L		95
59) Styrene	104	13.774	13.774	1.049	1115446	47.96	ug/L		97
61) Bromoform	173	14.023	14.035	0.902	256041	48.69	ug/L		100
62) Isopropylbenzene	105	14.129	14.129	0.909	1734539	39.57	ug/L		98
64) 1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	345764	44.29	ug/L		98
65) 1,2,3-Trichloropropane	110	14.485	14.497	0.932	109830	49.14	ug/L	#	78
66) Bromobenzene	156	14.533	14.533	0.935	546044	48.86	ug/L	#	84
67) n-Propylbenzene	91	14.556	14.556	0.937	1972242	37.85	ug/L		95
68) 1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1558719	40.12	ug/L		98
69) 2-Chlorotoluene	126	14.699	14.711	0.946	511069	45.62	ug/L	#	80
70) 4-Chlorotoluene	91	14.805	14.805	0.953	1208135	39.61	ug/L		93
71) tert-Butylbenzene	134	15.078	15.078	0.970	355816	42.87	ug/L	#	83
72) 1,2,4-Trimethylbenzene	105	15.114	15.126	0.973	1546490	39.91	ug/L		99
73) sec-Butylbenzene	105	15.303	15.303	0.985	2025310	39.43	ug/L		95
74) 4-Isopropyltoluene	119	15.422	15.422	0.992	1800768	40.53	ug/L		97
75) 1,3-Dichlorobenzene	146	15.481	15.481	0.996	1038456	48.07	ug/L		95
76) 1,4-Dichlorobenzene	146	15.564	15.564	1.002	1016185	46.39	ug/L		97
77) n-Butylbenzene	91	15.861	15.861	1.021	1644302	38.64	ug/L		97
78) 1,2-Dichlorobenzene	146	15.979	15.979	1.028	1067380	51.67	ug/L		96
79) 1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	107301	56.22	ug/L		85
80) 1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	915475	49.99	ug/L		99
81) Hexachlorobutadiene	225	18.031	18.031	1.160	569162	48.99	ug/L		99
82) Naphthalene	128	18.221	18.221	1.172	1725226	48.80	ug/L		100
83) 1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	890563	50.72	ug/L		98
85) Acrolein		0.000	6.516	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87) Isopropyl Alcohol		6.718	6.777	0.674	0m	N.D.	d		
88) Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89) tert-Butyl Alcohol		7.287	7.275	0.731	0m	N.D.	d		
90) Acrylonitrile		7.584	7.524	0.761	0m	N.D.	d		
91) Isopropyl ether		8.046	8.082	0.807	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		8.046	8.200	0.807	0m	N.D.	d		
93) Ethyl tert-butyl ether		8.366	8.485	0.839	0m	N.D.	d		
94) Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95) Propionitrile		8.675	8.746	0.870	0m	N.D.	d		
96) Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97) Tetrahydrofuran		9.042	9.054	0.907	0m	N.D.	d		
98) Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S410.D
Acq On : 19 Nov 2020 17:33
Operator : WD1
InstName : VOA9
Sample : |1204696634|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PSD
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 19 19:37:55 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

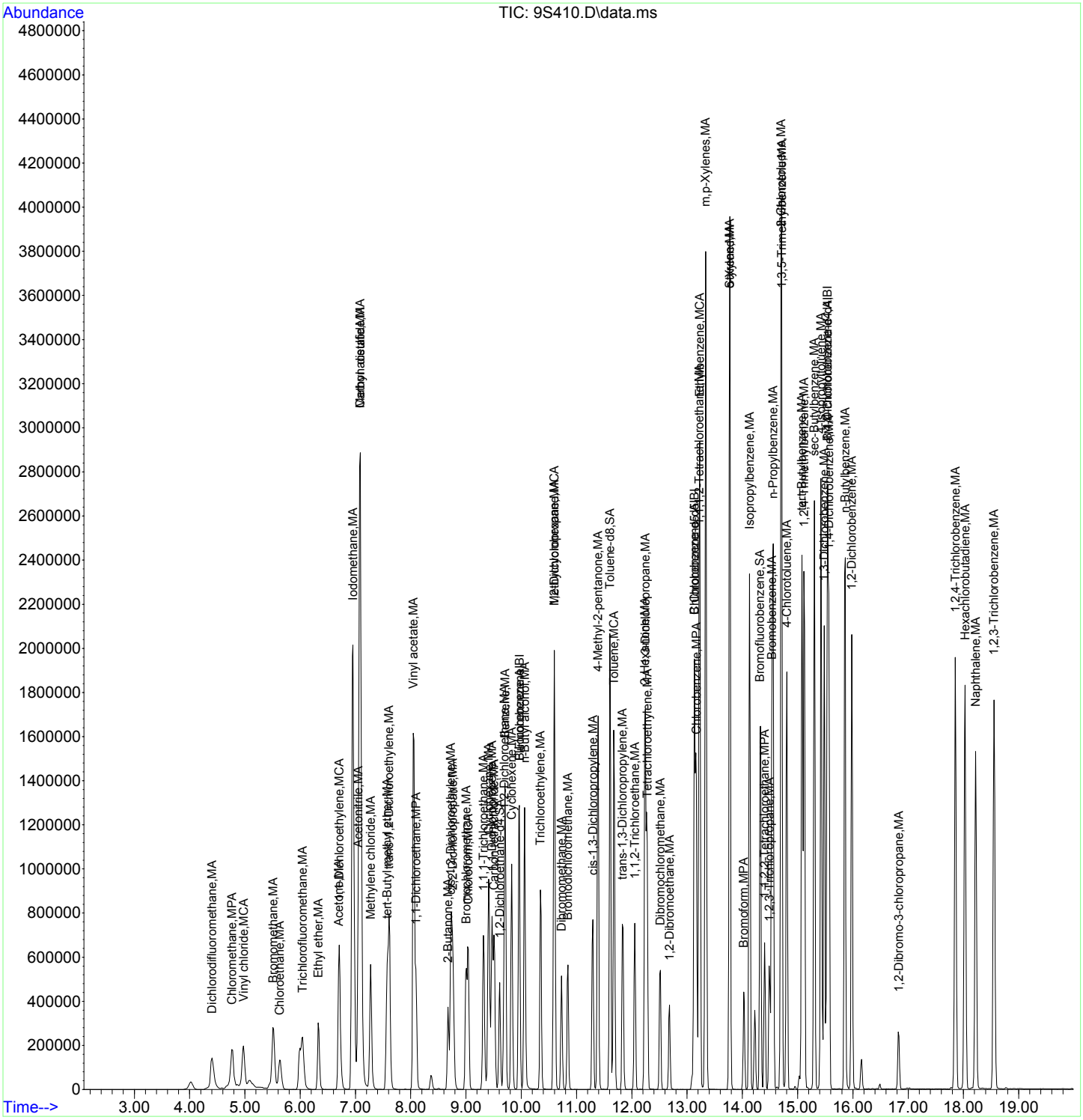
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99) Methyl tert-amyl ether		9.706	9.730	0.974	0m	N.D.	d
100) Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d
101) 1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d
102) 2-Nitropropane		0.000	11.046	0.000	0	N.D.	
104) Ethyl methacrylate		11.841	11.841	0.902	0m	N.D.	d
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.129	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.129	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.137	15.149	0.974	0m	N.D.	d
111) Benzyl chloride		15.671	15.683	1.008	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.145	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S410.D
Acq On : 19 Nov 2020 17:33
Operator : WD1
InstName : VOA9
Sample : |1204696634|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PSD
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 19 19:37:55 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Miscellaneous

GEL Laboratories, LLC
Revision:11/22/04

ORGANIC RUN LOG - INSTRUMENT ID#VOA6

MEL
10/22/2020

KP
10/21/2020

Date: 10/20/2020 Method 8260/624 Operator: MXL2

REVIEWED BY: _____
DATE: _____

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY No# 1

Daily Instrument Readings:
Multiplier Voltage: 1871

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 10/20/2020

Daily Standard Volume Added for Purge (ul)

(See pg. 60 for ICAL Std. Ids)	Solution ID#	Blk/ Smpl	CCV	MS/ LCS	BFB
CCV	N/A		5+5		
IS	UVM200820-01	1	1	1	
SS	UVM200806-10	1	1	1	
ICV	W6VM201020-10			5+5	
BFB	IVM201012-01				1
SHORT CCV	N/A		5	5	
SHORT LCS	W6VM201020-19				

Cl test lot # 85161C

Sequence Number: 102020V6

Purge Amount

5ML	Water Purge Vol:
5G	Soil Purge Wt.
	Mid level ext. MeOH Vol:
	ul
	Methanol Lot #
X	Heated Purge

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	Cl test (Y/N)	Acceptable(O/X)	Comments
10/20/2020	13:12	6F201.D	IVM201012-01	GEL	BFB	10ML	1	N/A	1	W	MXL2	N/A	O	
10/20/2020	13:37	6F202.D	W6VM201020-01	VSTD0005	ICAL	5UL/5ML	1	N/A	2	W	MXL2	N/A	O	MIX[A] UVM200921-01/ UVM200625-11D
10/20/2020	14:03	6F203.D	W6VM201020-02	VSTD001	ICAL	5UL/5ML	1	N/A	3	W	MXL2	N/A	O	MIX[A] UVM200921-02/ UVM200625-12D
10/20/2020	14:28	6F204.D	W6VM201020-03	VSTD002	ICAL	5UL/5ML	1	N/A	4	W	MXL2	N/A	O	MIX[A] UVM200921-03/ UVM200625-13D/ UVM200618-03C
10/20/2020	14:54	6F205.D	W6VM201020-04	VSTD005	ICAL	5UL/5ML	1	N/A	5	W	MXL2	N/A	O	MIX[A] UVM200921-04/ UVM200625-14D/ UVM200618-04C
10/20/2020	15:20	6F206.D	W6VM201020-05	VSTD010	ICAL	5UL/5ML	1	N/A	6	W	MXL2	N/A	O	MIX[A] UVM200921-05/ UVM200625-15D/ UVM200618-05C
10/20/2020	15:46	6F207.D	W6VM201020-06	VSTD020	ICAL	5UL/5ML	1	N/A	7	W	MXL2	N/A	O	MIX[A] UVM200921-06/ UVM200625-16D/ UVM200618-06C
10/20/2020	16:11	6F208.D	W6VM201020-07	VSTD050	ICAL	5UL/5ML	1	N/A	8	W	MXL2	N/A	O	MIX[A] UVM200921-07/ UVM200625-17D/ UVM200618-07C
10/20/2020	16:37	6F209.D	W6VM201020-08	VSTD080	ICAL	4UL/5ML	1	N/A	9	W	MXL2	N/A	O	MIX[A] UVM200921-08/ UVM200625-18D/ UVM200618-08C
10/20/2020	17:02	6F210.D	W6VM201020-09	VSTD100	ICAL	5UL/5ML	1	N/A	10	W	MXL2	N/A	O	MIX[A] UVM200921-08/ UVM200625-18D/ UVM200618-08C
10/20/2020	17:28	6F211.D	120446	BLANK	BLANK	5ML	1	N/A	11	W	MXL2	N/A	O	
10/20/2020	17:53	6F212.D	W6VM201020-10	ICV050	ICV	5UL/5ML	1	N/A	12	W	MXL2	N/A	O	MIX[A] UVM200625-20H/ UVM200723-10B/ UVM201007-01B
10/20/2020	18:19	6F213.D	W6VM201020-11	VSTD005	ICAL	5UL/5ML	1	N/A	13	W	MXL2	N/A	O	MIX[B] UVM200904-01B/ UVM200925-01A
10/20/2020	18:44	6F214.D	W6VM201020-12	VSTD010	ICAL	5UL/5ML	1	N/A	14	W	MXL2	N/A	O	MIX[B] UVM200904-02B/ UVM200925-02A
10/20/2020	19:10	6F215.D	W6VM201020-13	VSTD025	ICAL	5UL/5ML	1	N/A	15	W	MXL2	N/A	O	MIX[B] UVM200904-03B/ UVM200925-03A
10/20/2020	19:36	6F216.D	W6VM201020-14	VSTD050	ICAL	5UL/5ML	1	N/A	16	W	MXL2	N/A	O	MIX[B] UVM200904-04B/ UVM200925-04A
10/20/2020	20:02	6F217.D	W6VM201020-15	VSTD100	ICAL	5UL/5ML	1	N/A	17	W	MXL2	N/A	O	MIX[B] UVM200904-05B/ UVM200925-05A
10/20/2020	20:27	6F218.D	W6VM201020-16	VSTD250	ICAL	5UL/5ML	1	N/A	18	W	MXL2	N/A	O	MIX[B] UVM200904-06B/ UVM200925-06A
10/20/2020	20:53	6F219.D	W6VM201020-17	VSTD300	ICAL	3UL/5ML	1	N/A	19	W	MXL2	N/A	O	MIX[B] UVM200904-07B/ UVM200925-07A
10/20/2020	21:19	6F220.D	W6VM201020-18	VSTD500	ICAL	5UL/5ML	1	N/A	20	W	MXL2	N/A	O	MIX[B] UVM200904-07B/ UVM200925-07A
10/20/2020	21:44	6F221.D	120446	BLANK	BLANK	5ML	1	N/A	21	W	MXL2	N/A	O	
10/20/2020	22:10	6F222.D	W6VM201020-19	ICV250	ICAL	5UL/5ML	1	N/A	22	W	MXL2	N/A	O	MIX[B] UVM200904-08E/ UVM200925-08G

GEL Laboratories, LLC
Revision:11/22/04

ORGANIC RUN LOG - INSTRUMENT ID#VOA6

WMD
11/20/2020

Date: 11/17/2020 Method 8260/624 Operator: WD1

REVIEWED BY:
DATE:

11/20/2020

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY No# 1

Daily Instrument Readings:
Multiplier Voltage: 2094

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 10/20/2020

(See pg. 60 for ICAL Std. Ids)

Cl test lot # 85161C

Sequence Number: 11/17/20V6

Daily Standard Volume Added for Purge (ul)

Solution ID#		Blk/ Smpl	CCV	MS/ LCS	BFB
CCV	W6VM201117-01		5+5		
IS	UVM200820-01	1	1	1	
SS	UVM200806-10	1	1	1	
LCS/MS	W6VM201117-02			5+5	
BFB	IVM201112-01				1
SHORT CCV	W6VM201117-03		5	5	
SHORT LCS	W6VM201117-04				

Purge Amount

5ML	Water Purge Vol:
5G	Soil Purge Wt.
	Mid level ext. MeOH Vol:
	ul
	Methanol Lot #
X	Heated Purge

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	Cl test (Y/N)	Acceptable(O/X)	Comments
11/17/2020	9:27	6J201.D	IVM201112-01	GEL	BFB	10ML	1	N/A	1	W	WD1	N/A	O	
11/17/2020	9:52	6J202.D	W6VM201117-01	GEL	CCV	5UL/5ML	1	N/A	2	W	WD1	N/A	O	MIX[A] UVM200820-09F/UVM200625-17G/UVM201007-01D
11/17/2020	10:18	6J203.D	W6VM201117-02	GEL	CCV	5UL/5ML	1	N/A	3	W	WD1	N/A	O	MIX[A] UVM200723-10E/UVM200821-10B/UVM201007-01D
11/17/2020	10:44	6J204.D	W6VM201117-03	GEL	CCV	5ML	1	N/A	4	W	WD1	N/A	O	MIX[B] UVM201029-06C/UVM201029-12C
11/17/2020	11:09	6J205.D	W6VM201117-04	GEL	LCS	5ML	1	N/A	5	W	WD1	N/A	O	MIX[B] UVM201029-08B/UVM201029-16A
11/17/2020	11:35	6J206.D	120468	BLANK	BLANK	5ML	1	N/A	6	w	WD1	N/A	O	
11/17/2020	12:01	6J207.D	1204694152	TVAC	2062767	5ML	1	PH<2	7	w	WD1	N/A	O	MIX[A] 526338001PS
11/17/2020	12:26	6J208.D	1204694153	TVAC	2062767	5ML	1	PH<2	8	w	WD1	N/A	O	MIX[A] 526338001PSD
11/17/2020	12:52	6J209.D	1204692046	FRNP	2061829	5ML	1	PH<2	9	w	WD1	N/A	O	MIX[A] 526265005PS
11/17/2020	13:18	6J210.D	1204692047	FRNP	2061829	5ML	1	PH<2	10	w	WD1	N/A	O	MIX[A] 526265005PSD
11/17/2020	13:44	6J211.D	526587001	FRNP	2063756	5ML	1	PH<2	11	w	WD1	N/A	O	
11/17/2020	14:09	6J212.D	526587002	FRNP	2063756	5ML	1	PH<2	12	w	WD1	N/A	O	
11/17/2020	14:35	6J213.D	526587003	FRNP	2063756	5ML	1	PH<2	13	w	WD1	N/A	O	
11/17/2020	15:01	6J214.D	526587004	FRNP	2063756	5ML	1	PH<2	14	w	WD1	N/A	O	
11/17/2020	15:26	6J215.D	526587005	FRNP	2063756	5ML	1	PH<2	15	w	WD1	N/A	O	
11/17/2020	15:52	6J216.D	526596001	FRNP	2063756	5ML	1	PH<2	16	w	WD1	N/A	O	
11/17/2020	16:18	6J217.D	526596002	FRNP	2063756	5ML	1	PH<2	17	w	WD1	N/A	O	
11/17/2020	16:43	6J218.D	526596003	FRNP	2063756	5ML	1	PH<2	18	w	WD1	N/A	O	
11/17/2020	17:09	6J219.D	526596004	FRNP	2063756	5ML	1	PH<2	19	w	WD1	N/A	O	
11/17/2020	17:35	6J220.D	526596005	FRNP	2063756	5ML	1	PH<2	20	w	WD1	N/A	O	
11/17/2020	18:00	6J221.D	527509003	ARSL	2063772	5ML	1	PH<2	21	w	WD1	N/A	O	
11/17/2020	18:26	6J222.D	527509005	ARSL	2063772	5ML	1	PH<2	22	w	WD1	N/A	O	
11/17/2020	18:52	6J223.D	527509008	ARSL	2063772	5ML	1	PH<2	23	w	WD1	N/A	O	
11/17/2020	19:17	6J224.D	527509012	ARSL	2063772	5ML	1	PH7	24	w	WD1	N/A	O	
11/17/2020	19:43	6J225.D	527509014	ARSL	2063772	5ML	1	PH<2	25	w	WD1	N/A	O	
11/17/2020	20:08	6J226.D	527510003	ARSL	2063772	5ML	1	PH7	26	w	WD1	N/A	O	
11/17/2020	20:34	6J227.D	527510005	ARSL	2063772	5ML	1	PH<2	27	w	WD1	N/A	O	
11/17/2020	20:59	6J228.D	1204696604	FRNP	2063756	5ML	1	PH<2	28	w	WD1	N/A	O	MIX[A] 526587001PS
11/17/2020	21:25	6J229.D	1204696604	FRNP	2063756	5ML	1	PH<2	29	w	WD1	N/A	O	MIX[A] 526587001PSD

GEL Laboratories, LLC.
Revision:03/22/07

ORGANIC RUN LOG - INSTRUMENT ID#VOA9

JP 09/10/2020

09/21/2020

Date: 9/9/2020 Method: 8260/6200/624.1 Operator: JP1

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY: Log VO-M-021 PAG Daily Instrument Readings:

Multiplier Voltage: 1329

CALIBRATION & CC INFORMATION:

Initial Calibration Date 9/9/2020

NaHSO4 lot # N/A

Cl test lot # 9130B

Sequence Number: 090920V9

Daily Standard		Volume Added for Purge (ul)			
Solution ID#		BIN Smpl	MS/ CCV	LCS	BFB
CCV		5 uL ea.			
IS	UVM200729-01	1	1	1	
SS	UVM200625-22	1	1	1	
LCS/MS			5 uL ea.		
BFB	IVM200814-01				1
SHORT		5 uL ea.			
SHORT			5 uL ea.		

Purge Amount	
5ml	Water Purge Vol:
N/A	Soil Purge Wt.
N/A	Mid level ext. MeOH Vol:
N/A	ul
N/A	Methanol Lot #
X	Heated Purge

Analysis Date Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	Cl test (Y/N)	Acceptable(O/X)	Comments
9 Sep 2020 19:34	9I301.D	IVM200814-01	GEL	BFB	5UL/5ML	1	N/A	1	W	JP1	N/A	O	
9 Sep 2020 20:00	9I302.D	W9VM200909-01	VSTD0005	ICAL	5UL/5ML	1	N/A	2	W	JP1	N/A	O	MIX[A] UVM200820-03/UVM200529-01C/UVM200618-01B
9 Sep 2020 20:26	9I303.D	W9VM200909-02	VSTD001	ICAL	5UL/5ML	1	N/A	3	W	JP1	N/A	O	MIX[A] UVM200820-04/UVM200529-02C/UVM200618-02B
9 Sep 2020 20:53	9I304.D	W9VM200909-03	VSTD002	ICAL	5UL/5ML	1	N/A	4	W	JP1	N/A	O	MIX[A] UVM200820-05/UVM200529-03C/UVM200618-03B
9 Sep 2020 21:20	9I305.D	W9VM200909-04	VSTD005	ICAL	5UL/5ML	1	N/A	5	W	JP1	N/A	O	MIX[A] UVM200820-06/UVM200529-04C/UVM200618-04B
9 Sep 2020 21:47	9I306.D	W9VM200909-05	VSTD010	ICAL	5UL/5ML	1	N/A	6	W	JP1	N/A	O	MIX[A] UVM200820-07/UVM200529-05C/UVM200618-05B
9 Sep 2020 22:14	9I307.D	W9VM200909-06	VSTD020	ICAL	5UL/5ML	1	N/A	7	W	JP1	N/A	O	MIX[A] UVM200820-08/UVM200529-06C/UVM200618-06B
9 Sep 2020 22:41	9I308.D	W9VM200909-07	VSTD050	ICAL	5UL/5ML	1	N/A	8	W	JP1	N/A	O	MIX[A] UVM200820-09(417575)/UVM200529-07C(411580)/UVM200618-07B(384915)
9 Sep 2020 23:07	9I309.D	W9VM200909-08	VSTD080	ICAL	4UL/5ML	1	N/A	9	W	JP1	N/A	O	MIX[A] UVM200820-10/UVM200529-08C/UVM200618-08B
9 Sep 2020 23:34	9I310.D	W9VM200909-09	VSTD100	ICAL	5UL/5ML	1	N/A	10	W	JP1	N	O	MIX[A] UVM200820-10/UVM200529-08C/UVM200618-08B
9/10/2020 0:01	9I311.D	1204------	BLANK	BLANK	5ML	1	N/A	11	W	JP1	N	X	
9/10/2020 0:27	9I312.D	W9VM200909-10	ICV050	ICV	5UL/5ML	1	N/A	12	W	JP1	N	O	MIX[A] UVM200422-10Y/UVM200529-10F/UVM200618-09G
9/10/2020 0:54	9I313.D	W9VM200909-11	VSTD005	ICAL	5UL/5ML	1	N/A	13	W	JP1	N	O	MIX[B] UVM200904-01A/UVM200827-01A
9/10/2020 1:20	9I314.D	W9VM200909-12	VSTD010	ICAL	5UL/5ML	1	N/A	14	W	JP1	N	O	MIX[B] UVM200904-02A/UVM200827-02A
9/10/2020 1:47	9I315.D	W9VM200909-13	VSTD025	ICAL	5UL/5ML	1	N/A	15	W	JP1	N	O	MIX[B] UVM200904-03A/UVM200827-03A
9/10/2020 2:13	9I316.D	W9VM200909-14	VSTD050	ICAL	5UL/5ML	1	N/A	16	W	JP1	N	O	MIX[B] UVM200904-04A/UVM200827-04A
9/10/2020 2:40	9I317.D	W9VM200909-15	VSTD100	ICAL	5UL/5ML	1	N/A	17	W	JP1	N	O	MIX[B] UVM200904-05A/UVM200827-05A
9/10/2020 3:06	9I318.D	W9VM200909-16	VSTD250	ICAL	5UL/5ML	1	N/A	18	W	JP1	N	O	MIX[B] UVM200904-06A(420713)/UVM200827-06A(421118)
9/10/2020 3:33	9I319.D	W9VM200909-17	VSTD300	ICAL	3UL/5ML	1	N/A	19	W	JP1	N	O	MIX[B] UVM200904-07A/UVM200827-07A
9/10/2020 4:00	9I320.D	W9VM200909-18	VSTD500	ICAL	5UL/5ML	1	N/A	20	W	JP1	N	O	MIX[B] UVM200904-07A/UVM200827-07A
9/10/2020 4:27	9I321.D	1204------	BLANK	BLANK	5ML	1	N/A	21	W	JP1	N	X	
9/10/2020 4:54	9I322.D	W9VM200909-19	ICV250	ICV	5UL/5ML	1	N/A	22	W	JP1	N	O	MIX[B] UVM200904-08A/UVM200827-08F

GEL Laboratories, LLC.
Revision:03/22/07

ORGANIC RUN LOG - INSTRUMENT ID#VOA9

WMD

11/19/2020

11/20/2020

Date: 11/19/2020 Method 8260/6200/624.1 Operator: WD1

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY: Log VO-M-021 PAGE # Daily Instrument Readings:

Multiplier Voltage: 1447

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 9/9/2020

NaHSO4 lot # N/A

Cl test lot # 9130B

Sequence Number: 11/19/20V9

Daily Standard Volume Added for Purge (ul)

Solution ID#		BIN/ Smpl	CCV	MS/ LCS	BFB
CCV	W9VM201119-01	5 uL ea.			
IS	UVM201008-01	1	1	1	
SS	UVM200820-02	1	1	1	
LCS/MS	W9VM201119-02		5 uL ea.		
BFB	IVM201112-01				1
SHORT	W9VM201119-03	5 uL ea.			
SHORT	W9VM201119-04		5 uL ea.		

Purge Amount

5ml	Water Purge Vol:
N/A	Soil Purge Wt.
N/A	Mid level ext. MeOH Vol:
N/A	ul
N/A	Methanol Lot #
X	Heated Purge

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	Cl test (Y/N)	Acceptable(O/X)	Comments
11/19/2020	13:43	9S401.D	IVM201112-01	GEL	BFB	5UL/5ML	1	N/A	1	W	WD1	N/A	O	
11/19/2020	14:07	9S402.D	W9VM201119-01	GEL	CCV	5UL/5ML	1	N/A	2	W	WD1	N/A	O	MIX[A] UVM200820-09G/UVM200821-07E/UVM201007-01D
11/19/2020	14:33	9S403.D	W9VM201119-02	GEL	LCS	5UL/5ML	1	N/A	3	W	WD1	N/A	O	MIX[A] UVM200820-12C/UVM200821-10C/UVM201007-01D
11/19/2020	14:59	9S404.D	W9VM201119-03	GEL	CCV	5UL/5ML	1	N/A	4	W	WD1	N/A	O	MIX[B] UVM201029-06D/UVM201029-12D
11/19/2020	15:25	9S405.D	W9VM201119-04	GEL	LCS	5UL/5ML	1	N/A	5	W	WD1	N/A	O	MIX[B] UVM201029-08B/UVM201029-16B
11/19/2020	15:50	9S406.D	1204------	BLANK	BLANK	5ML	1	N/A	6	w	WD1	N/A	O	
11/19/2020	15:50	9S407.D	1204------	BLANK	BLANK	5ML	1	N/A	6	w	WD1	N/A	O	
11/19/2020	16:42	9S408.D	527510011	ARSL	2063772	5ML	1	PH<2	8	w	WD1	N	O	
11/19/2020	17:08	9S409.D	1204696633	ARSL	2063772	5ML	1	PH<2	9	w	WD1	N	O	MIX[A] 527510011PS
11/19/2020	17:33	9S410.D	1204696634	ARSL	2063772	5ML	1	PH<2	10	w	WD1	N	O	MIX[A] 527510011PSD

Semi-Volatile Analysis

Case Narrative

GC/MS Semivolatile
Technical Case Narrative
ARS International, LLC
SDG #: 2021-129
Work Order #: 527509

Product: **Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry**
Analytical Method: SW846 3510C/8270D
Analytical Procedure: GL-OA-E-009 REV# 45
Analytical Batch: 2063409

Preparation Method: SW846 3510C
Preparation Procedure: GL-OA-E-013 REV# 34
Preparation Batch: 2063408

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509003	SMEB01-20-209972
527509005	SMEB01-20-209986
527509009	SMEB01-20-209993
527509012	SMEB02-20-209976
1204695847	Method Blank (MB)
1204695848	Laboratory Control Sample (LCS)
1204695853	527509003(SMEB01-20-209972) Matrix Spike (MS)
1204695854	527509003(SMEB01-20-209972) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Surrogate Recoveries
Samples (See Below) did not meet surrogate recovery acceptance criteria. Since the parent sample and associated MS/MSD pair displayed similar recoveries, the failures were attributed to matrix interference and the data results are reported.

Sample	Analyte	Value
1204695853 (SMEB01-20-209972MS)	p-Terphenyl-d14	31* (35%-134%)
1204695854 (SMEB01-20-209972MSD)	p-Terphenyl-d14	34* (35%-134%)
527509003 (SMEB01-20-209972)	p-Terphenyl-d14	25* (35%-134%)

Sample (See Below) did not meet surrogate recovery acceptance criteria. The sample was re-extracted out of holding and met acceptance criteria for all surrogates. Both sets of data results have been reported.

Sample	Analyte	Value
527509012 (SMEB02-20-209976)	2, 4, 6-Tribromophenol	0* (32%-122%)
	2-Fluorobiphenyl	0* (31%-107%)
	2-Fluorophenol	0* (15%-88%)
	Nitrobenzene-d5	0* (35%-113%)
	Phenol-d5	0* (15%-91%)
	p-Terphenyl-d14	0* (35%-134%)

Technical Information

Sample Re-extraction/Re-analysis
Sample 527509012 (SMEB02-20-209976) was scheduled for re-extraction due to surrogate failure and/or batch QC failure.

Miscellaneous Information

Manual Integrations
Samples (See Below) required manual integration in order to properly identify one or more peaks and/or to correctly position the baseline as set in the calibration standard injections.

Sample	Analyte	Value
1204695847 (MB)	2-Fluorobiphenyl	Result 47.5ug/L
527509005 (SMEB01-20-209986)	2-Fluorobiphenyl	Result 42.1ug/L
527509009 (SMEB01-20-209993)	2-Fluorobiphenyl	Result 44.1ug/L

TIC Comment
Tentatively identified compounds (TIC) were requested for samples 527509003 (SMEB01-20-209972), 527509005 (SMEB01-20-209986), 527509009 (SMEB01-20-209993) and 527509012 (SMEB02-20-209976) in this SDG in this batch.

Product: **Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry**
Analytical Method: SW846 3510C/8270D
Analytical Procedure: GL-OA-E-009 REV# 45
Analytical Batch: 2064469

Preparation Method: SW846 3510C
Preparation Procedure: GL-OA-E-013 REV# 34
Preparation Batch: 2064468

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509012	SMEB02-20-209976
1204698146	Method Blank (MB)
1204698147	Laboratory Control Sample (LCS)
1204698148	527734001(CAMO-21-210460) Matrix Spike (MS)
1204698149	527734001(CAMO-21-210460) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Holding Time Specifications
Sample (See Below) was re-extracted out of holding due to QC failure. The failure did not confirm, so both sets of results are reported and have been qualified accordingly.

Sample	Value
527509012 (SMEB02-20-209976)	Received 14-NOV-20, within holding, prepped 19-NOV-20, out of holding 17-NOV-20

Miscellaneous Information

TIC Comment
Tentatively identified compounds (TIC) were requested for sample 527509012 (SMEB02-20-209976) in this SDG in this batch.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-129 GEL Work Order: 527509

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
h Preparation or preservation holding time was exceeded

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Barbara Bailey **Name: Barbara Bailey**

Date: 20 NOV 2020 **Title: Data Validator**

Sample Data Summary

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**527509003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209972**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 11:04**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1806.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.00	ug/L	3.00	10.0
91-57-6	2-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
91-20-3	Naphthalene	U	0.300	ug/L	0.300	1.00
90-12-0	1-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
86-73-7	Fluorene	U	0.300	ug/L	0.300	1.00
85-01-8	Phenanthrene	U	0.300	ug/L	0.300	1.00
120-12-7	Anthracene	U	0.300	ug/L	0.300	1.00
206-44-0	Fluoranthene	U	0.300	ug/L	0.300	1.00
129-00-0	Pyrene	U	0.300	ug/L	0.300	1.00
205-99-2	Benzo(b)fluoranthene	U	0.300	ug/L	0.300	1.00
207-08-9	Benzo(k)fluoranthene	U	0.300	ug/L	0.300	1.00
50-32-8	Benzo(a)pyrene	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	81.9	100	ug/L	82		(32%-122%)
2-Fluorobiphenyl	34.3	50.0	ug/L	69		(31%-107%)
2-Fluorophenol	44.8	100	ug/L	45		(15%-88%)
Nitrobenzene-d5	35.6	50.0	ug/L	71		(35%-113%)
Phenol-d5	34.3	100	ug/L	34		(15%-91%)
p-Terphenyl-d14	12.7	50.0	ug/L	25	*	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.9	19.6	ug/L	0	J
000067-71-0	Dimethyl sulfone	4.152	4.75	ug/L	94	NJ
	unknown	5.591	6	ug/L	0	J
000112-36-7	Ethane, 1,1'-oxybis[2-ethoxy-]	6.008	21.3	ug/L	90	NJ
	unknown	8.116	8.5	ug/L	0	J
	unknown	8.859	15	ug/L	0	J
000143-24-8	2,5,8,11,14-Pentaoxapentadecane	9.469	11.8	ug/L	90	NJ
000050-84-0	Benzoic acid, 2,4-dichloro-	9.629	24.1	ug/L	99	NJ
029878-31-7	1H-Benzotriazole, 4-methyl-	9.763	6.21	ug/L	98	NJ
000136-85-6	1H-Benzotriazole, 5-methyl-	10.041	4.5	ug/L	97	NJ
	unknown	10.218	12.6	ug/L	0	J
	unknown	10.597	12.7	ug/L	0	J
	unknown	11.116	16.4	ug/L	0	J
020870-78-4	5-Bromoindalin-2-on	11.56	5.8	ug/L	90	NJ

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**527509003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209972**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 11:04**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1806.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
1000131-10-0	E,Z-2,13-Octadecadien-1-ol	11.694	6.46	ug/L	94	NJ
000057-10-3	n-Hexadecanoic acid	12.116	7.16	ug/L	93	NJ
	unknown	16.369	4.27	ug/L	0	J
	unknown	22.535	8.15	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:40**	**Matrix:**	**W**
Lab Sample ID:	**527509005**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209986**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 21:01**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**882.87 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1717.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.40	ug/L	3.40	11.3
91-57-6	2-Methylnaphthalene	U	0.340	ug/L	0.340	1.13
91-20-3	Naphthalene	U	0.340	ug/L	0.340	1.13
90-12-0	1-Methylnaphthalene	U	0.340	ug/L	0.340	1.13
86-73-7	Fluorene	U	0.340	ug/L	0.340	1.13
85-01-8	Phenanthrene	U	0.340	ug/L	0.340	1.13
120-12-7	Anthracene	U	0.340	ug/L	0.340	1.13
206-44-0	Fluoranthene	U	0.340	ug/L	0.340	1.13
129-00-0	Pyrene	U	0.340	ug/L	0.340	1.13
205-99-2	Benzo(b)fluoranthene	U	0.340	ug/L	0.340	1.13
207-08-9	Benzo(k)fluoranthene	U	0.340	ug/L	0.340	1.13
50-32-8	Benzo(a)pyrene	U	0.340	ug/L	0.340	1.13

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	100	113	ug/L	88	(32%-122%)
2-Fluorobiphenyl	42.1	56.6	ug/L	74	(31%-107%)
2-Fluorophenol	41.1	113	ug/L	36	(15%-88%)
Nitrobenzene-d5	38.4	56.6	ug/L	68	(35%-113%)
Phenol-d5	29.5	113	ug/L	26	(15%-91%)
p-Terphenyl-d14	31.7	56.6	ug/L	56	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.906	24.1	ug/L	0	J
000050-84-0	Benzoic acid, 2,4-dichloro-	9.661	105	ug/L	99	NJ

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 14:10**	**Matrix:**	**W**
Lab Sample ID:	**527509009**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209993**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 21:30**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**951.56 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1718.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.15	ug/L	3.15	10.5
91-57-6	2-Methylnaphthalene	U	0.315	ug/L	0.315	1.05
91-20-3	Naphthalene	U	0.315	ug/L	0.315	1.05
90-12-0	1-Methylnaphthalene	U	0.315	ug/L	0.315	1.05
86-73-7	Fluorene	U	0.315	ug/L	0.315	1.05
85-01-8	Phenanthrene	U	0.315	ug/L	0.315	1.05
120-12-7	Anthracene	U	0.315	ug/L	0.315	1.05
206-44-0	Fluoranthene	U	0.315	ug/L	0.315	1.05
129-00-0	Pyrene	U	0.315	ug/L	0.315	1.05
205-99-2	Benzo(b)fluoranthene	U	0.315	ug/L	0.315	1.05
207-08-9	Benzo(k)fluoranthene	U	0.315	ug/L	0.315	1.05
50-32-8	Benzo(a)pyrene	U	0.315	ug/L	0.315	1.05

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	103	105	ug/L	98	(32%-122%)
2-Fluorobiphenyl	44.1	52.5	ug/L	84	(31%-107%)
2-Fluorophenol	40.7	105	ug/L	39	(15%-88%)
Nitrobenzene-d5	40.0	52.5	ug/L	76	(35%-113%)
Phenol-d5	29.0	105	ug/L	28	(15%-91%)
p-Terphenyl-d14	33.4	52.5	ug/L	63	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.906	27.8	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509012**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976RE**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2064469**	**Inst:**	**MSD3.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 00:52**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/19/2020 05:12**	**Aliquot:**	**945.87 mL**	**Final Volume:**	**1 mL**
Data File:	**s111920.s\s3k1927.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	Uh		ug/L		
108-95-2	Phenol	Uh	3.17	ug/L	3.17	10.6
91-57-6	2-Methylnaphthalene	Uh	0.317	ug/L	0.317	1.06
91-20-3	Naphthalene	Uh	0.317	ug/L	0.317	1.06
90-12-0	1-Methylnaphthalene	Uh	0.317	ug/L	0.317	1.06
86-73-7	Fluorene	Uh	0.317	ug/L	0.317	1.06
85-01-8	Phenanthrene	Uh	0.317	ug/L	0.317	1.06
120-12-7	Anthracene	Uh	0.317	ug/L	0.317	1.06
206-44-0	Fluoranthene	Uh	0.317	ug/L	0.317	1.06
129-00-0	Pyrene	Uh	0.317	ug/L	0.317	1.06
205-99-2	Benzo(b)fluoranthene	Uh	0.317	ug/L	0.317	1.06
207-08-9	Benzo(k)fluoranthene	Uh	0.317	ug/L	0.317	1.06
50-32-8	Benzo(a)pyrene	Uh	0.317	ug/L	0.317	1.06

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	103	106	ug/L	97	(32%-122%)
2-Fluorobiphenyl	39.1	52.9	ug/L	74	(31%-107%)
2-Fluorophenol	45.4	106	ug/L	43	(15%-88%)
Nitrobenzene-d5	38.9	52.9	ug/L	74	(35%-113%)
Phenol-d5	38.7	106	ug/L	37	(15%-91%)
p-Terphenyl-d14	28.7	52.9	ug/L	54	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
000110-82-7	Cyclohexane	2.136	24.8	ug/L	95	NJ
	unknown	2.221	30.2	ug/L	0	J
001569-50-2	3-Penten-2-ol	2.27	4.45	ug/L	86	NJ
	unknown	3.708	6.23	ug/L	0	J
	unknown	3.826	4.29	ug/L	0	J
000067-71-0	Dimethyl sulfone	4.591	5.55	ug/L	91	NJ
	unknown	6.019	7.13	ug/L	0	J
	unknown	6.409	8.07	ug/L	0	J
	unknown	9.207	4.77	ug/L	0	J
	unknown	9.405	9.12	ug/L	0	J
000143-24-8	2,5,8,11,14-Pentaoxapentadecane	9.816	8.32	ug/L	86	NJ
000050-84-0	Benzoic acid, 2,4-dichloro-	9.977	12.4	ug/L	98	NJ
	unknown	10.571	7.76	ug/L	0	J
	unknown	11.475	9.38	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509012**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976RE**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2064469**	**Inst:**	**MSD3.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 00:52**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/19/2020 05:12**	**Aliquot:**	**945.87 mL**	**Final Volume:**	**1 mL**
Data File:	**s111920.s\s3k1927.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
000057-87-4	Ergosterol	22.338	5.98	ug/L	97	NJ
000481-19-6	Stigmasta-5,7,22-trien-3-ol, (3.be	23.161	11	ug/L	94	NJ

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509012**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 12:32**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**946.73 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1809.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.17	ug/L	3.17	10.6
91-57-6	2-Methylnaphthalene	U	0.317	ug/L	0.317	1.06
91-20-3	Naphthalene	U	0.317	ug/L	0.317	1.06
90-12-0	1-Methylnaphthalene	U	0.317	ug/L	0.317	1.06
86-73-7	Fluorene	U	0.317	ug/L	0.317	1.06
85-01-8	Phenanthrene	U	0.317	ug/L	0.317	1.06
120-12-7	Anthracene	U	0.317	ug/L	0.317	1.06
206-44-0	Fluoranthene	U	0.317	ug/L	0.317	1.06
129-00-0	Pyrene	U	0.317	ug/L	0.317	1.06
205-99-2	Benzo(b)fluoranthene	U	0.317	ug/L	0.317	1.06
207-08-9	Benzo(k)fluoranthene	U	0.317	ug/L	0.317	1.06
50-32-8	Benzo(a)pyrene	U	0.317	ug/L	0.317	1.06

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	0.000	106	ug/L	0	*	(32%-122%)
2-Fluorobiphenyl	0.0423	52.8	ug/L	0	*	(31%-107%)
2-Fluorophenol	0.000	106	ug/L	0	*	(15%-88%)
Nitrobenzene-d5	0.106	52.8	ug/L	0	*	(35%-113%)
Phenol-d5	0.0211	106	ug/L	0	*	(15%-91%)
p-Terphenyl-d14	0.0423	52.8	ug/L	0	*	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.895	13.4	ug/L	0	J
	unknown	2.729	5.44	ug/L	0	J
	unknown	3.366	15.4	ug/L	0	J
	unknown	3.478	6.31	ug/L	0	J
000067-71-0	Dimethyl sulfone	4.158	5.7	ug/L	94	NJ
	unknown	5.591	7.84	ug/L	0	J
	unknown	5.778	6.13	ug/L	0	J
	unknown	6.008	17.1	ug/L	0	J
	unknown	7.768	4.87	ug/L	0	J
	unknown	8.126	6.34	ug/L	0	J
	unknown	8.859	9.81	ug/L	0	J
	unknown	9.062	21.5	ug/L	0	J
000095-14-7	1H-Benzotriazole	9.34	5.68	ug/L	98	NJ
000143-24-8	2,5,8,11,14-Pentaoxapentadecane	9.474	15.1	ug/L	90	NJ

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509012**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 12:32**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**946.73 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1809.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
000050-84-0	Benzoic acid, 2,4-dichloro-	9.64	52.2	ug/L	99	NJ
000136-85-6	1H-Benzotriazole, 5-methyl-	9.779	8.57	ug/L	97	NJ
015356-74-8	2(4H)-Benzofuranone, 5,6,7,7a-tetr	9.859	5.93	ug/L	95	NJ
	unknown	9.95	7.18	ug/L	0	J
000136-85-6	1H-Benzotriazole, 5-methyl-	10.052	7.05	ug/L	95	NJ
	unknown	10.234	19.9	ug/L	0	J
	unknown	10.33	6.69	ug/L	0	J
001025-15-6	1,3,5-Triazine-2,4,6(1H,3H,5H)-tri	10.506	4.78	ug/L	89	NJ
	unknown	10.597	29.1	ug/L	0	J
	unknown	11.127	17.3	ug/L	0	J
	unknown	11.571	9.39	ug/L	0	J
000143-28-2	Oleyl Alcohol	11.699	5.06	ug/L	91	NJ
000057-10-3	n-Hexadecanoic acid	12.122	6.43	ug/L	93	NJ
010191-41-0	Vitamin E	20.46	8.84	ug/L	97	NJ
000057-87-4	Ergosterol	21.605	12.9	ug/L	93	NJ
	unknown	22.477	36	ug/L	0	J

Quality Control Summary

Surrogate Recovery Report

SDG Number: 2021-129

Matrix Type: LIQUID

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1204695847	MB for batch 2063408	47	34	88	95	107	64
1204695848	LCS for batch 2063408	36	26	73	83	101	64
527509005	SMEB01-20-209986	36	26	68	74	88	56
527509009	SMEB01-20-209993	39	28	76	84	98	63
527509003	SMEB01-20-209972	45	34	71	69	82	25 *
1204695853	SMEB01-20-209972MS	50	45	69	63	78	31 *
1204695854	SMEB01-20-209972MSD	43	46	60	61	91	34 *
527509012	SMEB02-20-209976	0 *	0 *	0 *	0 *	0 *	0 *
1204698146	MB for batch 2064468	42	31	78	85	104	85
1204698147	LCS for batch 2064468	41	31	78	85	100	82
1204698148	CAMO-21-210460MS	54	48	79	84	100	71
1204698149	CAMO-21-210460MSD	40	37	62	70	85	61
527509012	SMEB02-20-209976RE	43	37	74	74	97	54

Surrogate		Parmname	Acceptance Limits
2FP	=	2-Fluorophenol	(15%-88%)
PHL	=	Phenol-d5	(15%-91%)
NBZ	=	Nitrobenzene-d5	(35%-113%)
FBP	=	2-Fluorobiphenyl	(31%-107%)
TBP	=	2,4,6-Tribromophenol	(32%-122%)
TPH	=	p-Terphenyl-d14	(35%-134%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129
Sample Type: Laboratory Control Sample
Client ID: LCS for batch 2063408
Matrix: WATER
Lab Sample ID 1204695848
Instrument: MSD4.I
Analysis Date: 11/17/2020 16:37
Dilution: 1
Analyst: LOF
Prep Batch ID: 2063408
Inj. Vol: 1 uL
Batch ID: 2063409

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
108-95-2	LCS	Phenol	50.0	0.0	13.1	26	12-90
91-57-6	LCS	2-Methylnaphthalene	50.0	0.0	34.1	68	43-97
91-20-3	LCS	Naphthalene	50.0	0.0	35.7	71	44-98
90-12-0	LCS	1-Methylnaphthalene	50.0	0.0	36.9	74	45-100
86-73-7	LCS	Fluorene	50.0	0.0	42.0	84	54-101
85-01-8	LCS	Phenanthrene	50.0	0.0	41.7	83	55-102
120-12-7	LCS	Anthracene	50.0	0.0	38.2	76	54-107
206-44-0	LCS	Fluoranthene	50.0	0.0	47.0	94	52-112
129-00-0	LCS	Pyrene	50.0	0.0	33.9	68	45-126
205-99-2	LCS	Benzo(b)fluoranthene	50.0	0.0	40.6	81	52-106
207-08-9	LCS	Benzo(k)fluoranthene	50.0	0.0	42.8	86	48-115
50-32-8	LCS	Benzo(a)pyrene	50.0	0.0	35.7	71	47-110

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129
Sample Type: Matrix Spike
Client ID: SMEB01-20-209972MS
Matrix: W
Lab Sample ID 1204695853
Instrument: MSD4.I
Analysis Date: 11/18/2020 11:34
Dilution: 1
Analyst: JMB3
Prep Batch ID: 2063408
Inj. Vol: 1 uL
Batch ID: 2063409

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits
108-95-2	MS	Phenol	116	0.000	U	52.0	45	19-78
91-57-6	MS	2-Methylnaphthalene	116	0.000	U	71.9	62	30-101
91-20-3	MS	Naphthalene	116	0.000	U	78.9	68	32-98
90-12-0	MS	1-Methylnaphthalene	116	0.000	U	77.4	67	31-99
86-73-7	MS	Fluorene	116	0.000	U	78.3	67	39-108
85-01-8	MS	Phenanthrene	116	0.000	U	71.1	61	41-108
120-12-7	MS	Anthracene	116	0.000	U	66.3	57	39-112
206-44-0	MS	Fluoranthene	116	0.000	U	71.4	61	42-113
129-00-0	MS	Pyrene	116	0.000	U	57.1	49	33-121
205-99-2	MS	Benzo(b)fluoranthene	116	0.000	U	60.6	52	41-109
207-08-9	MS	Benzo(k)fluoranthene	116	0.000	U	60.9	52	41-113
50-32-8	MS	Benzo(a)pyrene	116	0.000	U	54.8	47	41-109

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129
Sample Type: Matrix Spike Duplicate
Client ID: SMEB01-20-209972MSD
Matrix: W
Lab Sample ID 1204695854
Instrument: MSD4.I
Analysis Date: 11/18/2020 12:03
Dilution: 1
Analyst: JMB3
Prep Batch ID: 2063408
Inj. Vol: 1 uL
Batch ID: 2063409

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
108-95-2	MSD	Phenol	116	0.000	U	53.2	46	19-78	2	0-30
91-57-6	MSD	2-Methylnaphthalene	116	0.000	U	63.5	55	30-101	12	0-30
91-20-3	MSD	Naphthalene	116	0.000	U	67.7	58	32-98	15	0-30
90-12-0	MSD	1-Methylnaphthalene	116	0.000	U	69.6	60	31-99	11	0-30
86-73-7	MSD	Fluorene	116	0.000	U	78.8	68	39-108	1	0-30
85-01-8	MSD	Phenanthrene	116	0.000	U	78.1	67	41-108	9	0-30
120-12-7	MSD	Anthracene	116	0.000	U	72.4	62	39-112	9	0-30
206-44-0	MSD	Fluoranthene	116	0.000	U	79.8	69	42-113	11	0-30
129-00-0	MSD	Pyrene	116	0.000	U	64.0	55	33-121	11	0-30
205-99-2	MSD	Benzo(b)fluoranthene	116	0.000	U	67.2	58	41-109	10	0-30
207-08-9	MSD	Benzo(k)fluoranthene	116	0.000	U	70.0	60	41-113	14	0-30
50-32-8	MSD	Benzo(a)pyrene	116	0.000	U	64.1	55	41-109	16	0-30

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129
Sample Type: Laboratory Control Sample
Client ID: LCS for batch 2064468
Matrix: WATER
Lab Sample ID 1204698147
Instrument: MSD3.I
Analysis Date: 11/19/2020 16:00
Dilution: 1
Analyst: JMB3
Prep Batch ID: 2064468
Inj. Vol: 1 uL
Batch ID: 2064469

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
108-95-2	LCS	Phenol	50.0	0.0	14.7	29	12-90
91-57-6	LCS	2-Methylnaphthalene	50.0	0.0	34.7	69	43-97
91-20-3	LCS	Naphthalene	50.0	0.0	34.6	69	44-98
90-12-0	LCS	1-Methylnaphthalene	50.0	0.0	37.4	75	45-100
86-73-7	LCS	Fluorene	50.0	0.0	38.1	76	54-101
85-01-8	LCS	Phenanthrene	50.0	0.0	38.1	76	55-102
120-12-7	LCS	Anthracene	50.0	0.0	36.3	73	54-107
206-44-0	LCS	Fluoranthene	50.0	0.0	37.1	74	52-112
129-00-0	LCS	Pyrene	50.0	0.0	40.4	81	45-126
205-99-2	LCS	Benzo(b)fluoranthene	50.0	0.0	37.5	75	52-106
207-08-9	LCS	Benzo(k)fluoranthene	50.0	0.0	37.1	74	48-115
50-32-8	LCS	Benzo(a)pyrene	50.0	0.0	37.2	74	47-110

Quality Control Summary
Spike Recovery Report

SDG Number: **2021-129**
Sample Type: **Matrix Spike**
Client ID: **CAMO-21-210460MS**
Matrix: **W**
Lab Sample ID **1204698148**
Instrument: **MSD3.I**
Analysis Date: **11/19/2020 17:50**
Dilution: **1**
Analyst: **JMB3**
Prep Batch ID: **2064468**
Inj. Vol: **1 uL**
Batch ID: **2064469**

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits
108-95-2	MS	Phenol	100	0.000	U	48.3	48	19-78
91-57-6	MS	2-Methylnaphthalene	100	0.000	U	73.3	73	30-101
91-20-3	MS	Naphthalene	100	0.000	U	73.7	74	32-98
90-12-0	MS	1-Methylnaphthalene	100	0.000	U	78.0	78	31-99
86-73-7	MS	Fluorene	100	0.000	U	81.9	82	39-108
85-01-8	MS	Phenanthrene	100	0.000	U	81.8	82	41-108
120-12-7	MS	Anthracene	100	0.000	U	78.6	79	39-112
206-44-0	MS	Fluoranthene	100	0.000	U	81.5	81	42-113
129-00-0	MS	Pyrene	100	0.000	U	85.0	85	33-121
205-99-2	MS	Benzo(b)fluoranthene	100	0.000	U	79.7	80	41-109
207-08-9	MS	Benzo(k)fluoranthene	100	0.000	U	80.9	81	41-113
50-32-8	MS	Benzo(a)pyrene	100	0.000	U	78.9	79	41-109

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129
Sample Type: Matrix Spike Duplicate
Client ID: CAMO-21-210460MSD
Matrix: W
Lab Sample ID 1204698149
Instrument: MSD3.I
Analysis Date: 11/19/2020 18:19
Dilution: 1
Analyst: JMB3
Prep Batch ID: 2064468
Inj. Vol: 1 uL
Batch ID: 2064469

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
108-95-2	MSD	Phenol	100	0.000	U	36.4	36	19-78	28	0-30
91-57-6	MSD	2-Methylnaphthalene	100	0.000	U	58.9	59	30-101	22	0-30
91-20-3	MSD	Naphthalene	100	0.000	U	58.3	58	32-98	23	0-30
90-12-0	MSD	1-Methylnaphthalene	100	0.000	U	63.5	63	31-99	21	0-30
86-73-7	MSD	Fluorene	100	0.000	U	67.4	67	39-108	19	0-30
85-01-8	MSD	Phenanthrene	100	0.000	U	70.1	70	41-108	15	0-30
120-12-7	MSD	Anthracene	100	0.000	U	66.8	67	39-112	16	0-30
206-44-0	MSD	Fluoranthene	100	0.000	U	70.7	71	42-113	14	0-30
129-00-0	MSD	Pyrene	100	0.000	U	73.1	73	33-121	15	0-30
205-99-2	MSD	Benzo(b)fluoranthene	100	0.000	U	72.0	72	41-109	10	0-30
207-08-9	MSD	Benzo(k)fluoranthene	100	0.000	U	73.4	73	41-113	10	0-30
50-32-8	MSD	Benzo(a)pyrene	100	0.000	U	72.7	73	41-109	8	0-30

Method Blank Summary

SDG Number:	**2021-129**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2063408**	**Instrument ID:**	**MSD4.I**	**Data File:**	**s111720.B\s4k1707.D**
Lab Sample ID:	**1204695847**	**Prep Date:**	**11/17/2020 09:45**	**Analyzed:**	**11/17/20 16:08**
Column:	**DB-5ms**				

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 2063408	1204695848	s111720.B\s4k1708.D	11/17/20	1637
02	SMEB01-20-209986	527509005	s111720.B\s4k1717.D	11/17/20	2101
03	SMEB01-20-209993	527509009	s111720.B\s4k1718.D	11/17/20	2130
04	SMEB01-20-209972	527509003	s111820.B\s4k1806.D	11/18/20	1104
05	SMEB01-20-209972MS	1204695853	s111820.B\s4k1807.D	11/18/20	1134
06	SMEB01-20-209972MSD	1204695854	s111820.B\s4k1808.D	11/18/20	1203
07	SMEB02-20-209976	527509012	s111820.B\s4k1809.D	11/18/20	1232

Method Blank Summary

SDG Number:	**2021-129**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2064468**	**Instrument ID:**	**MSD3.I**	**Data File:**	**s111920.s\s3k1907.D**
Lab Sample ID:	**1204698146**	**Prep Date:**	**11/19/2020 05:12**	**Analyzed:**	**11/19/20 15:31**
Column:	**DB-5ms**				

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 2064468	1204698147	s111920.s\s3k1908.D	11/19/20	1600
02	CAMO-21-210460MS	1204698148	s111920.s\s3k1912.D	11/19/20	1750
03	CAMO-21-210460MSD	1204698149	s111920.s\s3k1913.D	11/19/20	1819
04	SMEB02-20-209976RE	527509012	s111920.s\s3k1927.D	11/20/20	0052

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 2021-129

Instrument ID: MSD3.I **Injection Date/Time:** 13-OCT-20 15:42

Column Description: DB-5ms **Lab File ID** s101320.s\s3j1301.D

m/e	Ion Abundance Criteria	% Relative Abundance
51	10 - 80% of mass 198	42.4
68	Less than 2% of mass 69	1.6
69	Mass 69 Relative Abundance	58.7
70	Less than 2% of mass 69	0.5
127	10 - 80% of mass 198	51.4
197	Less than 2% of mass 198	0.8
198	Base Peak, 100% Relative Abundance	100
199	5 - 9% of mass 198	6.7
275	10 - 60% of mass 198	23.6
365	Greater than 1% of mass 198	3
441	Less than 24% of mass 442	16
442	Greater than 50% of mass 198	81.6
443	15 - 24% of mass 442	19.5

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
ICALMIX[A]	WBN201013-04	s101320.s\s3j1302.D	13-OCT-20 16:14
ICALMIX[A]	WBN201013-03	s101320.s\s3j1303.D	13-OCT-20 16:47
ICALMIX[A]	WBN201013-01	s101320.s\s3j1304.D	13-OCT-20 17:53
ICALMIX[A]	WBN201013-05	s101320.s\s3j1306.D	13-OCT-20 18:55
ICALMIX[A]	WBN201013-06	s101320.s\s3j1307.D	13-OCT-20 19:29
ICALMIX[A]	WBN201013-02	s101320.s\s3j1308.D	13-OCT-20 20:02
ICALMIX[A]	WBN201013-07	s101320.s\s3j1309.D	13-OCT-20 20:35
ICALMIX[A]	WBN201013-08	s101320.s\s3j1310.D	13-OCT-20 21:08
ICVMIX[A]01	WBN201012-09	s101320.s\s3j1311.D	13-OCT-20 21:41

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 2021-129

Instrument ID: MSD3.I **Injection Date/Time:** 19-NOV-20 13:04

Column Description: DB-5ms **Lab File ID** s111920.s\s3k1901.D

m/e	Ion Abundance Criteria	% Relative Abundance
51	10 - 80% of mass 198	32.2
68	Less than 2% of mass 69	1.5
69	Mass 69 Relative Abundance	42.3
70	Less than 2% of mass 69	0.5
127	10 - 80% of mass 198	40.9
197	Less than 2% of mass 198	0.2
198	Base Peak, 100% Relative Abundance	100
199	5 - 9% of mass 198	6.6
275	10 - 60% of mass 198	25.9
365	Greater than 1% of mass 198	2.6
441	Less than 24% of mass 442	15.5
442	Greater than 50% of mass 198	71.6
443	15 - 24% of mass 442	19.6

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
CCVMIX[A]01	WBN201013-04.2	s111920.s\s3k1902.D	19-NOV-20 13:20
BLK02	1204698146	s111920.s\s3k1907.D	19-NOV-20 15:31
BLK02LCS	1204698147	s111920.s\s3k1908.D	19-NOV-20 16:00
CAMO-21-210460MS	1204698148	s111920.s\s3k1912.D	19-NOV-20 17:50
CAMO-21-210460MSD	1204698149	s111920.s\s3k1913.D	19-NOV-20 18:19
SMEB02-20-209976RE	527509012	s111920.s\s3k1927.D	20-NOV-20 00:52

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 2021-129

Instrument ID: MSD4.I **Injection Date/Time:** 19-OCT-20 13:03

Column Description: DB-5ms **Lab File ID** s101920.B\s4j1906.D

m/e	Ion Abundance Criteria	% Relative Abundance
51	10 - 80% of mass 198	50.3
68	Less than 2% of mass 69	1.5
69	Mass 69 Relative Abundance	42.8
70	Less than 2% of mass 69	0.6
127	10 - 80% of mass 198	49.8
197	Less than 2% of mass 198	0.7
198	Base Peak, 100% Relative Abundance	100
199	5 - 9% of mass 198	6.4
275	10 - 60% of mass 198	23.7
365	Greater than 1% of mass 198	3.2
441	Less than 24% of mass 442	15.7
442	Greater than 50% of mass 198	77.3
443	15 - 24% of mass 442	19.3

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
ICALMIX[A]	WBN201013-01	s101920.B\s4j1907.D	19-OCT-20 13:22
ICALMIX[A]	WBN201013-02	s101920.B\s4j1908.D	19-OCT-20 13:54
ICALMIX[A]	WBN201013-03	s101920.B\s4j1909.D	19-OCT-20 14:26
ICALMIX[A]	WBN201013-04	s101920.B\s4j1910.D	19-OCT-20 14:57
ICALMIX[A]	WBN201013-05	s101920.B\s4j1911.D	19-OCT-20 15:29
ICALMIX[A]	WBN201013-06	s101920.B\s4j1912.D	19-OCT-20 16:00
ICALMIX[A]	WBN201013-07	s101920.B\s4j1913.D	19-OCT-20 16:32
ICALMIX[A]	WBN201013-08	s101920.B\s4j1914.D	19-OCT-20 17:04
ICVMIX[A]01	WBN201012-09	s101920.B\s4j1915.D	19-OCT-20 17:35

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 2021-129

Instrument ID: MSD4.I **Injection Date/Time:** 17-NOV-20 13:25

Column Description: DB-5ms **Lab File ID** s111720.B\s4k1701.D

m/e	Ion Abundance Criteria	% Relative Abundance
51	10 - 80% of mass 198	45.4
68	Less than 2% of mass 69	1.5
69	Mass 69 Relative Abundance	41.2
70	Less than 2% of mass 69	0.6
127	10 - 80% of mass 198	50.2
197	Less than 2% of mass 198	0
198	Base Peak, 100% Relative Abundance	100
199	5 - 9% of mass 198	6.3
275	10 - 60% of mass 198	22.7
365	Greater than 1% of mass 198	3.2
441	Less than 24% of mass 442	15.3
442	Greater than 50% of mass 198	70
443	15 - 24% of mass 442	19.4

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
CCVMIX[A]01	WBN201013-04.2	s111720.B\s4k1702.D	17-NOV-20 13:42
BLK01	1204695847	s111720.B\s4k1707.D	17-NOV-20 16:08
BLK01LCS	1204695848	s111720.B\s4k1708.D	17-NOV-20 16:37
SMEB01-20-209986	527509005	s111720.B\s4k1717.D	17-NOV-20 21:01
SMEB01-20-209993	527509009	s111720.B\s4k1718.D	17-NOV-20 21:30

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 2021-129

Instrument ID: MSD4.I **Injection Date/Time:** 18-NOV-20 08:50

Column Description: DB-5ms **Lab File ID** s111820.B\s4k1801.D

m/e	Ion Abundance Criteria	% Relative Abundance
51	10 - 80% of mass 198	43.1
68	Less than 2% of mass 69	1.5
69	Mass 69 Relative Abundance	40.2
70	Less than 2% of mass 69	0.6
127	10 - 80% of mass 198	48.9
197	Less than 2% of mass 198	0
198	Base Peak, 100% Relative Abundance	100
199	5 - 9% of mass 198	6.5
275	10 - 60% of mass 198	22.5
365	Greater than 1% of mass 198	3
441	Less than 24% of mass 442	14.6
442	Greater than 50% of mass 198	74.6
443	15 - 24% of mass 442	18.4

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
CCVMIX[A]02	WBN201013-04.2	s111820.B\s4k1805.D	18-NOV-20 10:31
SMEB01-20-209972	527509003	s111820.B\s4k1806.D	18-NOV-20 11:04
SMEB01-20-209972MS	1204695853	s111820.B\s4k1807.D	18-NOV-20 11:34
SMEB01-20-209972MSD	1204695854	s111820.B\s4k1808.D	18-NOV-20 12:03
SMEB02-20-209976	527509012	s111820.B\s4k1809.D	18-NOV-20 12:32

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 2021-129

Instrument: MSD3.I

STD Analysis Time: 19-NOV-20 13:20

GC Column: DB-5ms

Data File: s111920.s\s3k1902.D

	1,4-Dichlorobenzene-d4		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10		Chrysene-d12		Perylene-d12	
	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #
12 Hour STD	785822	5.86	2588142	7.61	1562036	9.92	2612637	11.8	1581347	15.4	1364577	18.9
Upper Limit	1571644	6.36	5176284	8.11	3124072	10.4	5225274	12.3	3162694	15.9	2729154	19.4
Lower Limit	392911	5.36	1294071	7.11	781018	9.42	1306319	11.3	790674	14.9	682289	18.4
Sample ID												
BLK02	805666	5.85	2703993	7.61	1561558	9.91	2918920	11.8	1452904	15.4	1057650	18.9
BLK02LCS	818043	5.86	2618988	7.61	1446996	9.92	2474595	11.8	1313281	15.4	1086091	18.9
CAMO-21-210460MS	761302	5.86	2395522	7.61	1290882	9.92	2211189	11.8	1231422	15.4	968940	18.9
CAMO-21-210460MSD	761094	5.86	2449606	7.61	1329435	9.92	2241248	11.8	1273302	15.4	1060044	18.9
SMEB02-20-209976RE	741214	5.85	2473221	7.61	1385695	9.91	2372327	11.8	1228513	15.4	838347	18.9

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT
RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Value outside of QC Limits

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 2021-129

Instrument: MSD4.I

STD Analysis Time: 17-NOV-20 13:42

GC Column: DB-5ms

Data File: s111720.B\s4k1702.D

	1,4-Dichlorobenzene-d4		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10		Chrysene-d12		Perylene-d12	
	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #
12 Hour STD	992303	5.42	3707027	7.21	1935447	9.54	2880955	11.4	1828068	14.9	1267281	18.1
Upper Limit	1984606	5.92	7414054	7.71	3870894	10.0	5761910	11.9	3656136	15.4	2534562	18.6
Lower Limit	496152	4.92	1853514	6.71	967724	9.04	1440478	10.9	914034	14.4	633641	17.6
Sample ID												
BLK01	806145	5.41	2988728	7.21	1528368	9.54	2550024	11.4	1609501	14.9	1176909	18.1
BLK01LCS	916732	5.41	3442167	7.21	1764051	9.54	2905022	11.4	1868518	14.9	1196313	18.1
SMEB01-20-209986	936031	5.41	3574287	7.2	1827404	9.53	3231956	11.4	2255446	14.9	1482609	18.1
SMEB01-20-209993	975876	5.41	3672479	7.2	1860664	9.53	3318179	11.4	2320519	14.9	1551870	18.1

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT
RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Value outside of QC Limits

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 2021-129

Instrument: MSD4.I

STD Analysis Time: 18-NOV-20 10:31

GC Column: DB-5ms

Data File: s111820.B\s4k1805.D

	1,4-Dichlorobenzene-d4		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10		Chrysene-d12		Perylene-d12	
	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #
12 Hour STD	1032624	5.41	3972400	7.21	2178002	9.54	3544897	11.4	2081807	14.9	1156727	18.1
Upper Limit	2065248	5.91	7944800	7.71	4356004	10.0	7089794	11.9	4163614	15.4	2313454	18.6
Lower Limit	516312	4.91	1986200	6.71	1089001	9.04	1772449	10.9	1040904	14.4	578364	17.6
Sample ID												
SMEB01-20-209972	849686	5.4	3237364	7.2	1661602	9.53	2840862	11.4	1489681	14.9	842974	18.1
SMEB01-20-209972MS	881036	5.4	3368738	7.21	1761070	9.53	2973963	11.4	1689378	14.9	935841	18.1
SMEB01-20-209972MSD	837228	5.4	3270074	7.2	1679345	9.53	2816536	11.4	1634723	14.9	1018834	18.1
SMEB02-20-209976	814036	5.4	3229115	7.2	1691445	9.53	2999947	11.4	1635613	14.9	933698	18.1

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT
RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Value outside of QC Limits

Sample Data

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509012**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976RE**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2064469**	**Inst:**	**MSD3.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 00:52**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/19/2020 05:12**	**Aliquot:**	**945.87 mL**	**Final Volume:**	**1 mL**
Data File:	**s111920.s\s3k1927.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	Uh		ug/L		
108-95-2	Phenol	Uh	3.17	ug/L	3.17	10.6
91-57-6	2-Methylnaphthalene	Uh	0.317	ug/L	0.317	1.06
91-20-3	Naphthalene	Uh	0.317	ug/L	0.317	1.06
90-12-0	1-Methylnaphthalene	Uh	0.317	ug/L	0.317	1.06
86-73-7	Fluorene	Uh	0.317	ug/L	0.317	1.06
85-01-8	Phenanthrene	Uh	0.317	ug/L	0.317	1.06
120-12-7	Anthracene	Uh	0.317	ug/L	0.317	1.06
206-44-0	Fluoranthene	Uh	0.317	ug/L	0.317	1.06
129-00-0	Pyrene	Uh	0.317	ug/L	0.317	1.06
205-99-2	Benzo(b)fluoranthene	Uh	0.317	ug/L	0.317	1.06
207-08-9	Benzo(k)fluoranthene	Uh	0.317	ug/L	0.317	1.06
50-32-8	Benzo(a)pyrene	Uh	0.317	ug/L	0.317	1.06

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	103	106	ug/L	97	(32%-122%)
2-Fluorobiphenyl	39.1	52.9	ug/L	74	(31%-107%)
2-Fluorophenol	45.4	106	ug/L	43	(15%-88%)
Nitrobenzene-d5	38.9	52.9	ug/L	74	(35%-113%)
Phenol-d5	38.7	106	ug/L	37	(15%-91%)
p-Terphenyl-d14	28.7	52.9	ug/L	54	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
000110-82-7	Cyclohexane	2.136	24.8	ug/L	95	NJ
	unknown	2.221	30.2	ug/L	0	J
001569-50-2	3-Penten-2-ol	2.27	4.45	ug/L	86	NJ
	unknown	3.708	6.23	ug/L	0	J
	unknown	3.826	4.29	ug/L	0	J
000067-71-0	Dimethyl sulfone	4.591	5.55	ug/L	91	NJ
	unknown	6.019	7.13	ug/L	0	J
	unknown	6.409	8.07	ug/L	0	J
	unknown	9.207	4.77	ug/L	0	J
	unknown	9.405	9.12	ug/L	0	J
000143-24-8	2,5,8,11,14-Pentaoxapentadecane	9.816	8.32	ug/L	86	NJ
000050-84-0	Benzoic acid, 2,4-dichloro-	9.977	12.4	ug/L	98	NJ
	unknown	10.571	7.76	ug/L	0	J
	unknown	11.475	9.38	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509012**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976RE**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2064469**	**Inst:**	**MSD3.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 00:52**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/19/2020 05:12**	**Aliquot:**	**945.87 mL**	**Final Volume:**	**1 mL**
Data File:	**s111920.s\s3k1927.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
000057-87-4	Ergosterol	22.338	5.98	ug/L	97	NJ
000481-19-6	Stigmasta-5,7,22-trien-3-ol, (3.be	23.161	11	ug/L	94	NJ

Quantitation Report

11/20/2020

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1927.D
Acq On : 20 Nov 2020 00:52
Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 20 01:19:33 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.853	5.859	1.000	741214	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	2473221	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.913	9.918	1.000	1385695	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.790	11.790	1.000	2372327	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.390	15.401	1.000	1228513	40.00	ng/uL	-0.01
88) A Perylene-d12	264	18.920	18.925	1.000	838347	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.853	5.859	1.000	741214	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.613	1.000	2473221	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.913	9.918	1.000	1385695	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.790	11.790	1.000	2372327	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.390	15.401	1.000	1228513	40.00	ng/uL	-0.01
148) B Perylene-d12	264	18.920	18.925	1.000	838347	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.613	1.000	2473221	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.790	11.790	1.000	2372327	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.390	15.401	1.000	1228513	40.00	ng/uL	-0.01
159) D Naphthalene-d8	136	7.613	7.613	1.000	2473221	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.913	9.918	1.000	1385695	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.790	11.790	1.000	2372327	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.390	15.401	1.000	1228513	40.00	ng/uL	-0.01
173) E Naphthalene-d8	136	7.613	7.613	1.000	2473221	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.920	18.925	1.000	838347	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.136	4.131	0.707	1104509	42.98	ng/uL	0.00
8) Phenol-d5	99	5.302	5.302	0.906	1146505	36.60	ng/uL	0.00
23) Nitrobenzene-d5	82	6.618	6.624	0.869	1040871	36.84	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	1808365	36.98	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.913	10.913	1.101	596782	97.37	ng/uL	0.00
80) p-Terphenyl-d14	244	13.764	13.764	0.894	1124070	27.14	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	43%
8) Phenol-d5	100.000	15 - 91	37%
23) Nitrobenzene-d5	50.000	35 - 113	74%
44) 2-Fluorobiphenyl	50.000	31 - 107	74%
63) 2,4,6-Tribromophenol	100.000	32 - 122	97%
80) p-Terphenyl-d14	50.000	35 - 134	54%

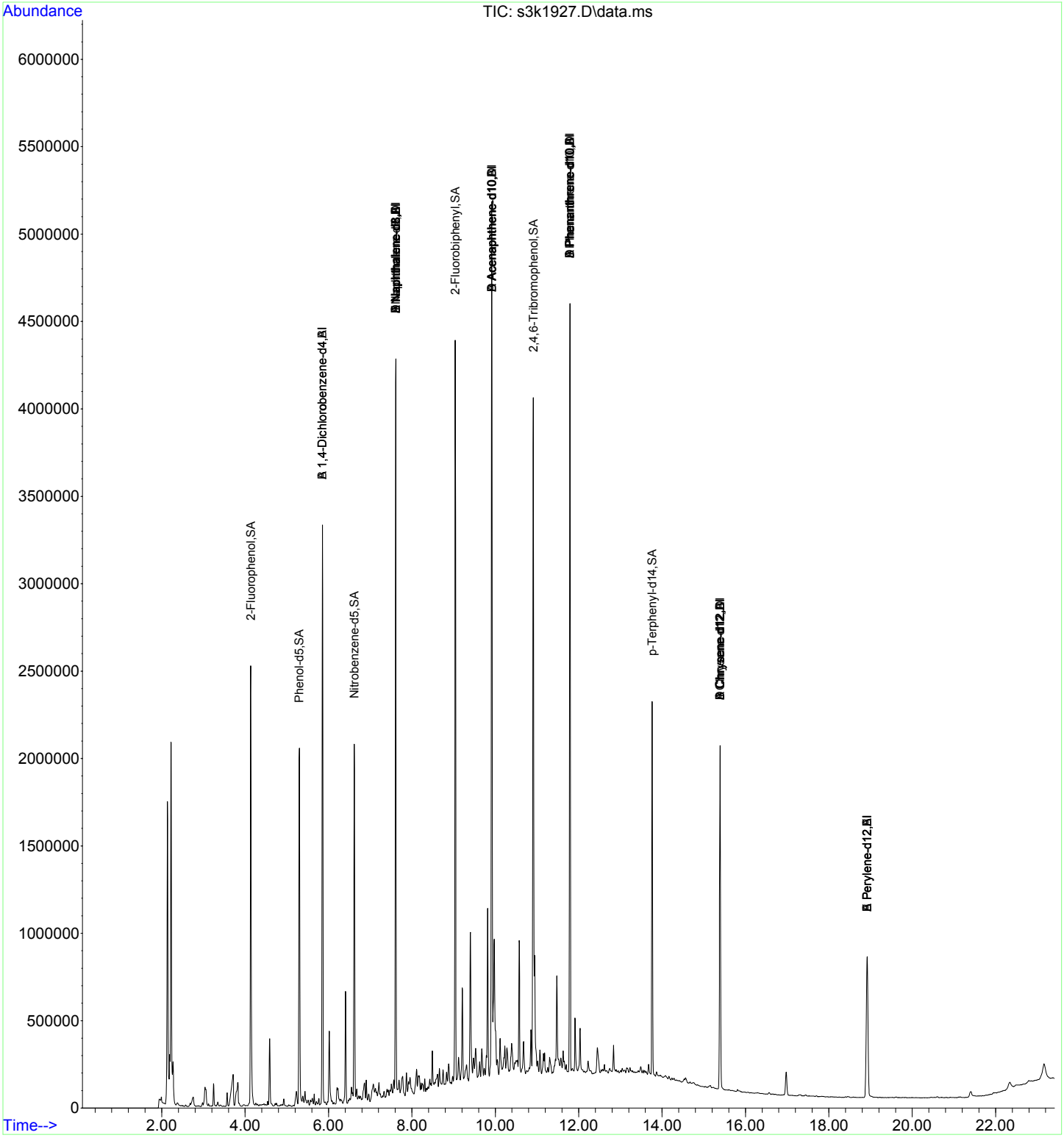
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

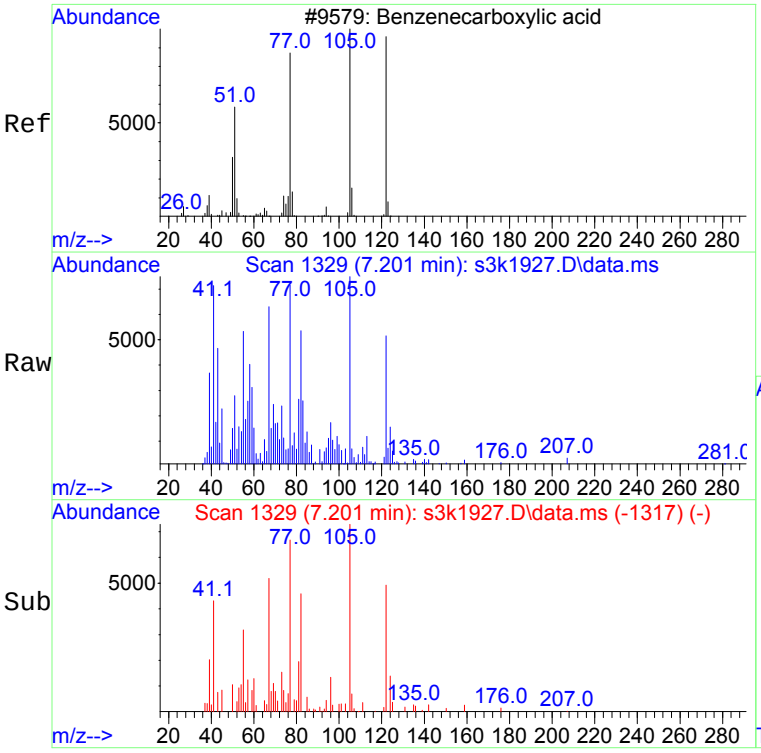
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1927.D
Acq On : 20 Nov 2020 00:52
Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 20 01:19:33 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

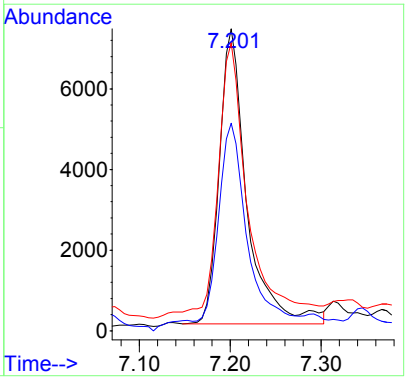


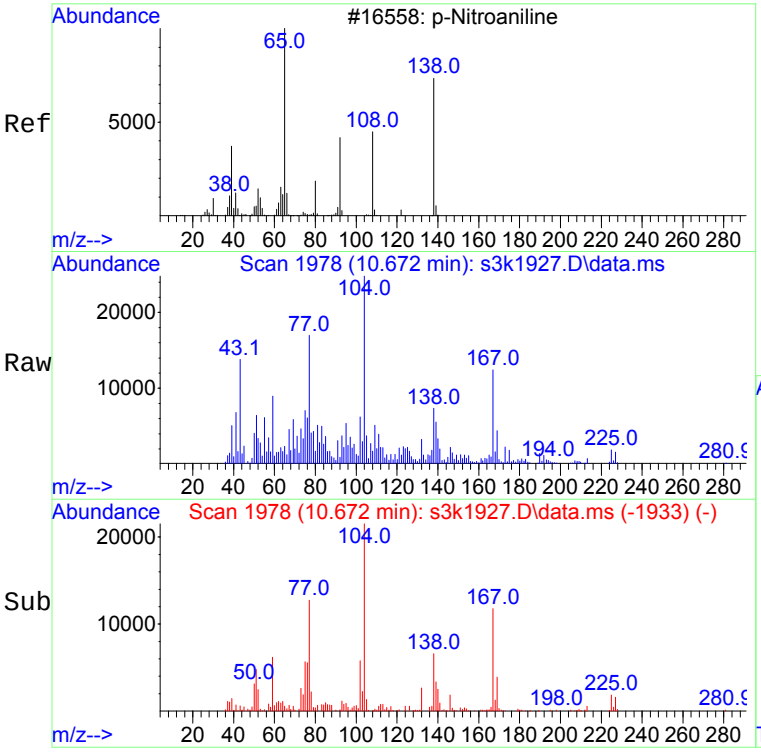


#30 BEFORE analyst DELETION
Benzoic acid
Concen: 10.11 ng/uL
RT: 7.201 min Scan# 1329
Delta R.T. -0.086 min
Lab File: s3k1927.D
Acq: 20 Nov 2020 00:52

Tgt Ion:105 Resp: 15385

Ion	Ratio	Lower	Upper
105	100		
122	68.6	49.7	109.7
77	100.5	54.7	114.7

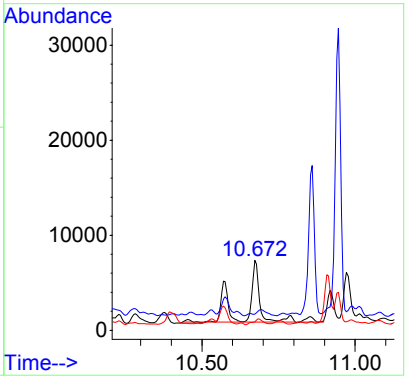


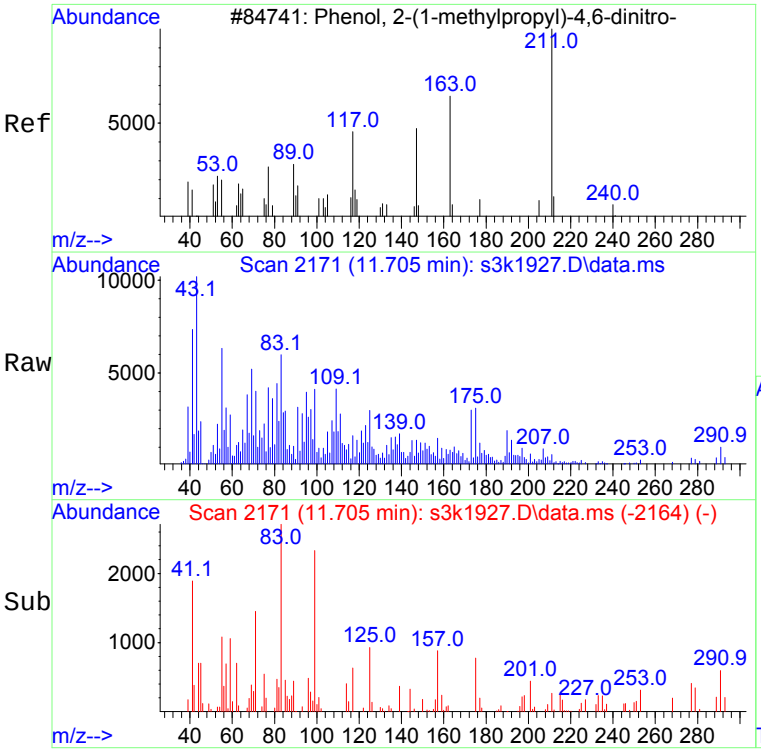


#62 BEFORE analyst DELETION
p-Nitroaniline
Concen: 3.53 ng/uL
RT: 10.672 min Scan# 1978
Delta R.T. 0.043 min
Lab File: s3k1927.D
Acq: 20 Nov 2020 00:52

Tgt Ion:138 Resp: 19685

Ion	Ratio	Lower	Upper
138	100		
108	7.3	37.0	97.0#
92	6.2	20.6	80.6#

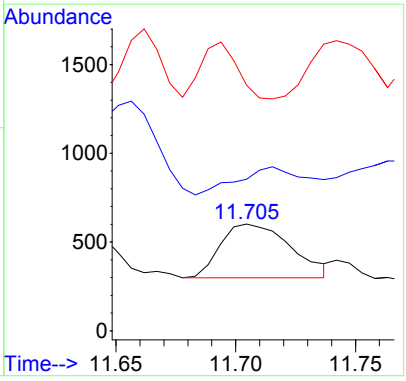


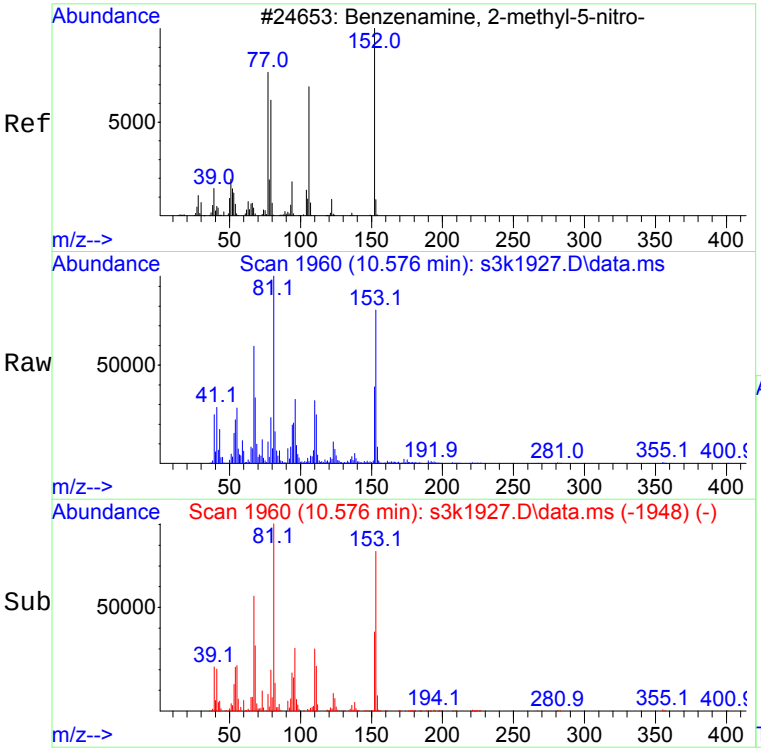


#72 BEFORE analyst DELETION
Dinoseb
Concen: 4.18 ng/uL
RT: 11.705 min Scan# 2171
Delta R.T. -0.064 min
Lab File: s3k1927.D
Acq: 20 Nov 2020 00:52

Tgt Ion:211 Resp: 616

Ion	Ratio	Lower	Upper
211	100		
163	0.0	8.0	68.0#
147	90.7	0.0	55.5#

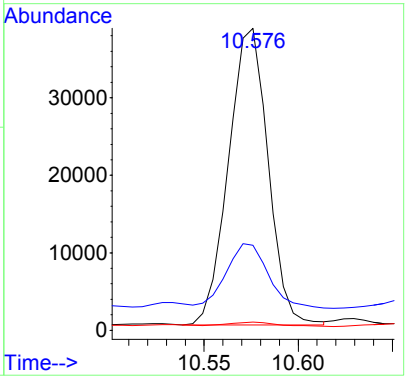


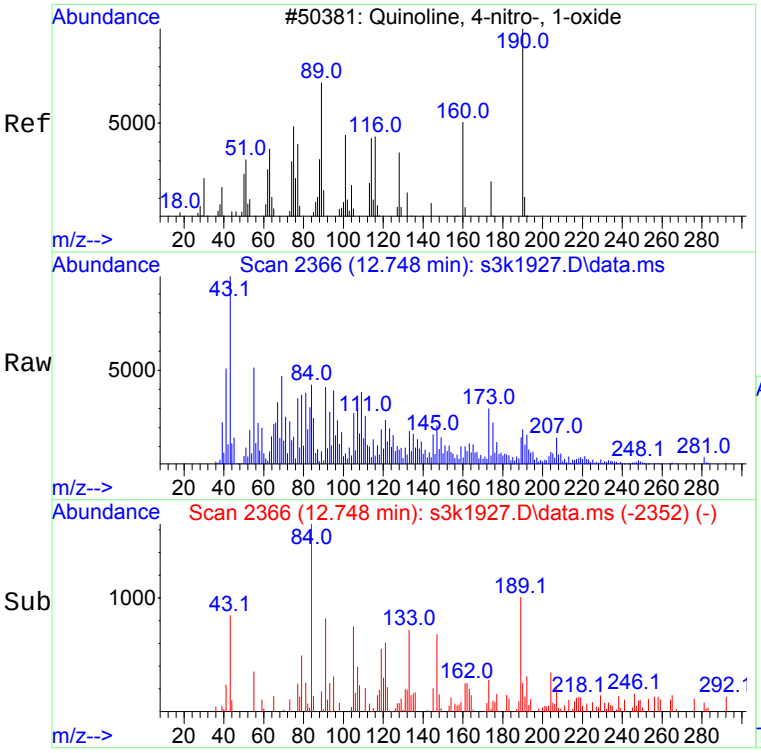


#128 BEFORE analyst DELETION
5-Nitro-o-toluidine
Concen: 6.36 ng/uL
RT: 10.576 min Scan# 1960
Delta R.T. -0.037 min
Lab File: s3k1927.D
Acq: 20 Nov 2020 00:52

Tgt Ion:152 Resp: 56204

Ion	Ratio	Lower	Upper
152	100		
77	23.1	81.3	141.3#
106	1.9	49.5	109.5#

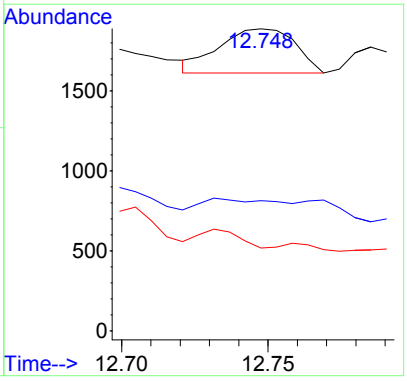


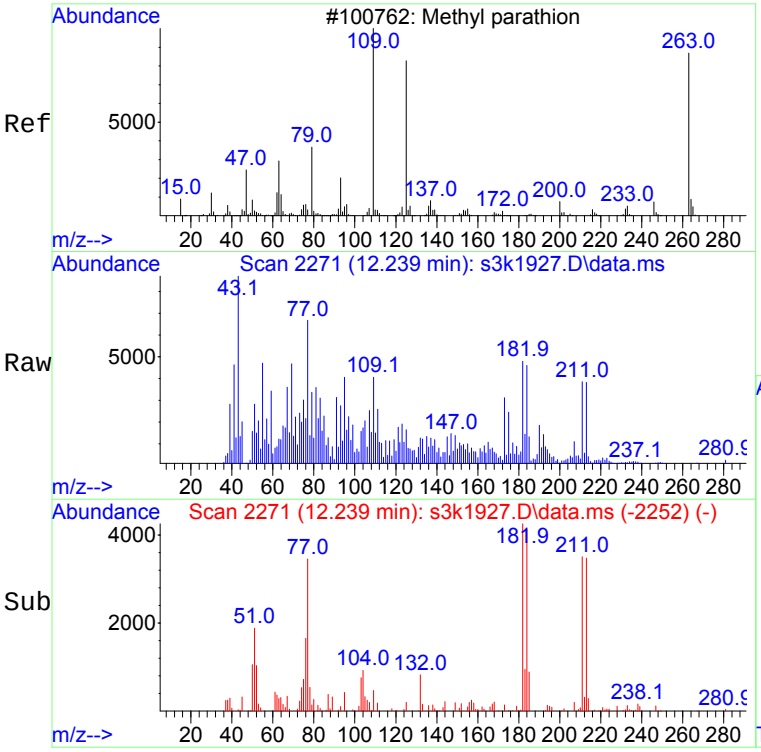


#139 BEFORE analyst DELETION
4-Nitroquinoline-1-oxide
Concen: 6.15 ng/uL
RT: 12.748 min Scan# 2366
Delta R.T. -0.027 min
Lab File: s3k1927.D
Acq: 20 Nov 2020 00:52

Tgt Ion:190 Resp: 500

Ion	Ratio	Lower	Upper
190	100		
128	0.0	35.1	57.1#
174	0.0	1.2	61.2#

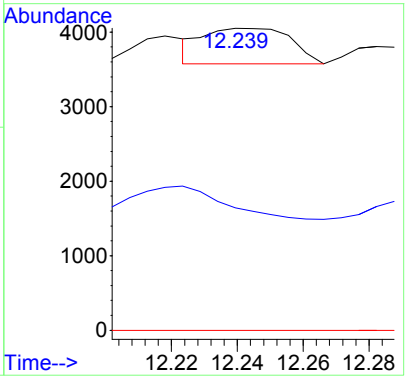




#169 BEFORE analyst DELETION
Methyl parathion
Concen: 4.26 ng/uL
RT: 12.239 min Scan# 2271
Delta R.T. -0.000 min
Lab File: s3k1927.D
Acq: 20 Nov 2020 00:52

Tgt Ion:109 Resp: 879

Ion	Ratio	Lower	Upper
109	100		
125	101.0	45.5	105.5
263	0.0	31.2	91.2#



Library Search Compound Report

11/20/2020

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1927.D
Acq On : 20 Nov 2020 00:52
Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

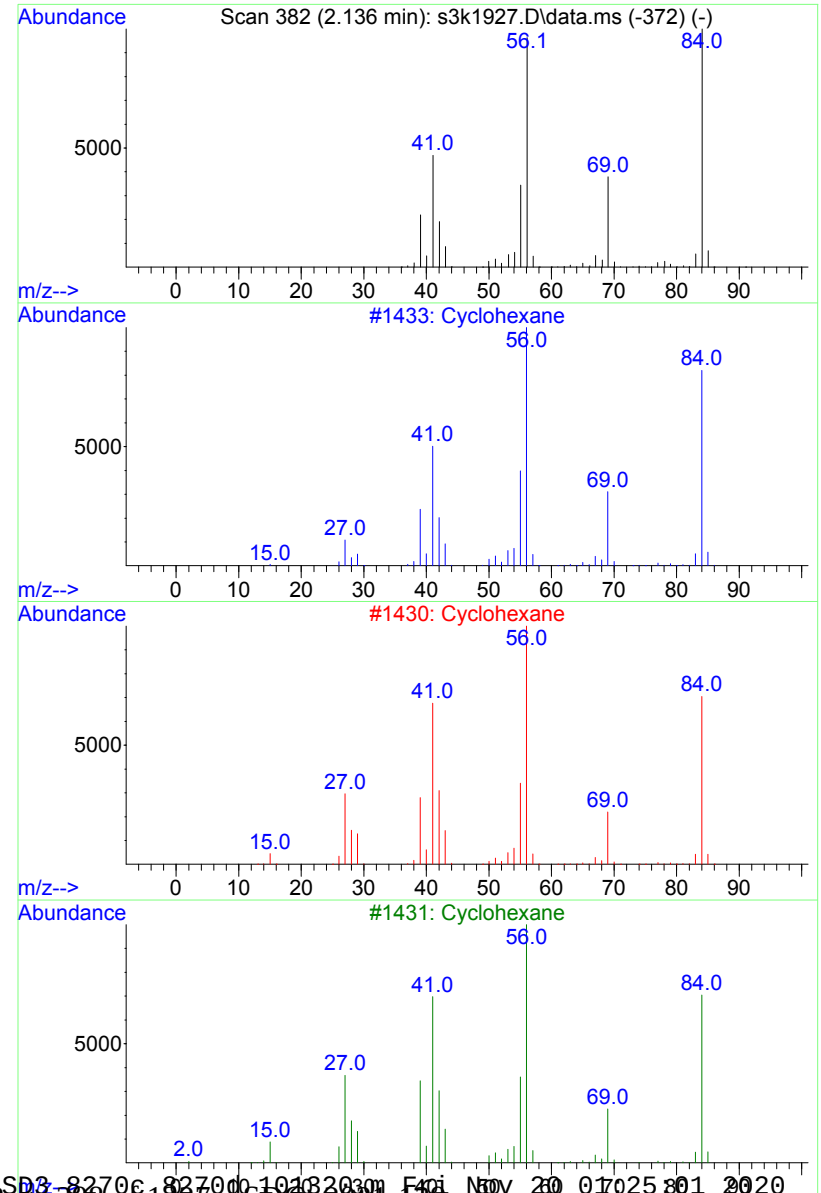
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

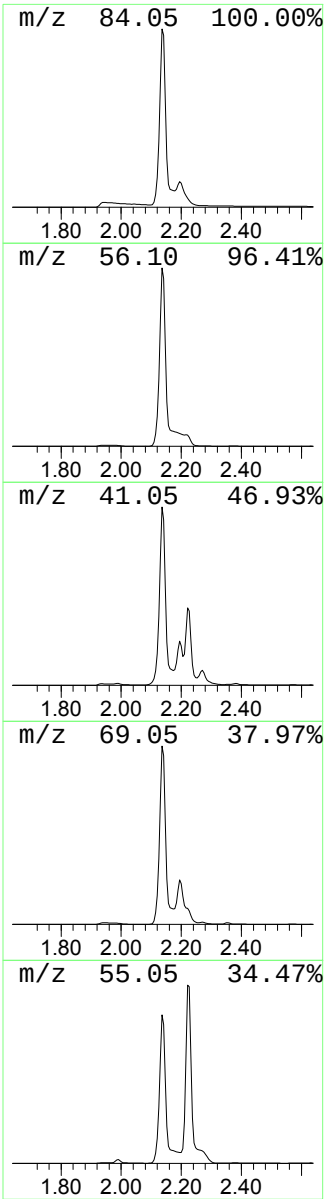
****

Peak Number 1 Cyclohexane Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.136	23.46 ng/uL	2621570	A 1,4-Dichlorobenzene-d4	5.853

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane	84	C6H12	000110-82-7	95
2	Cyclohexane	84	C6H12	000110-82-7	91
3	Cyclohexane	84	C6H12	000110-82-7	91
4	Cyclohexane	84	C6H12	000110-82-7	78
5	Pyridine-D5-	84	C5D5N	007291-22-7	72





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1927.D
Acq On : 20 Nov 2020 00:52
Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

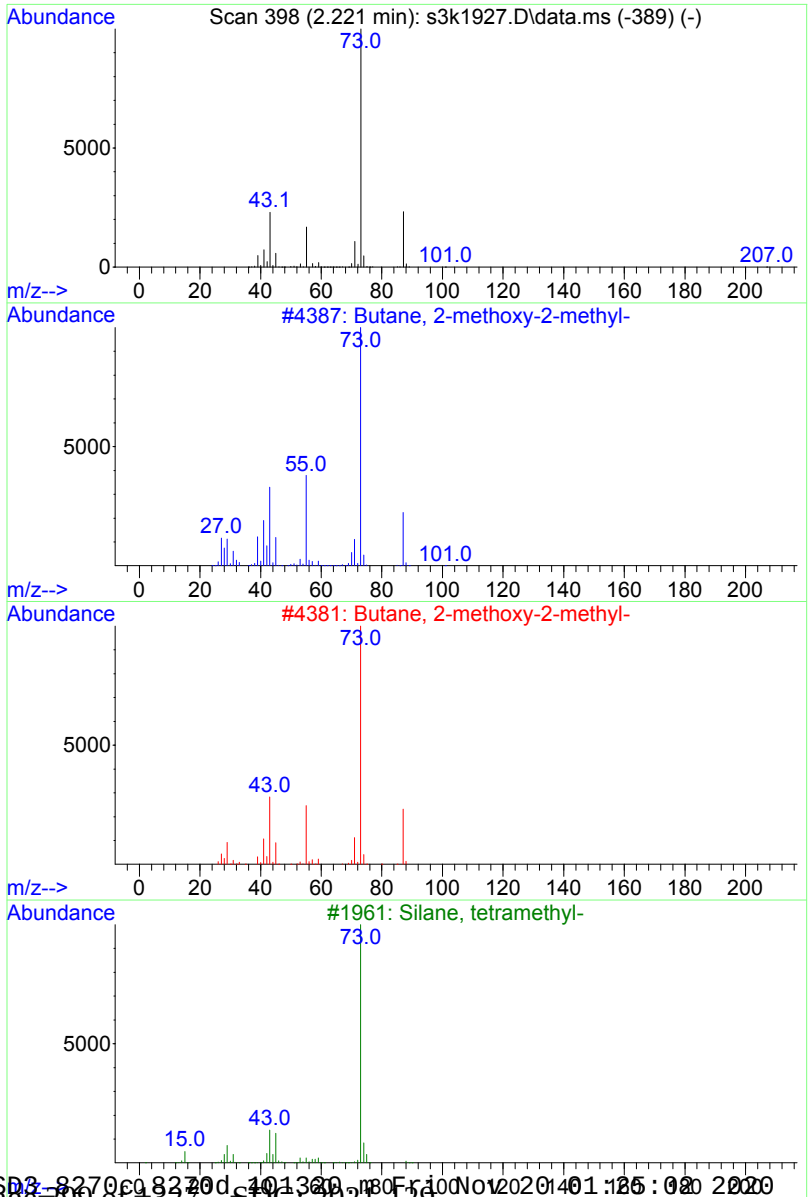
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

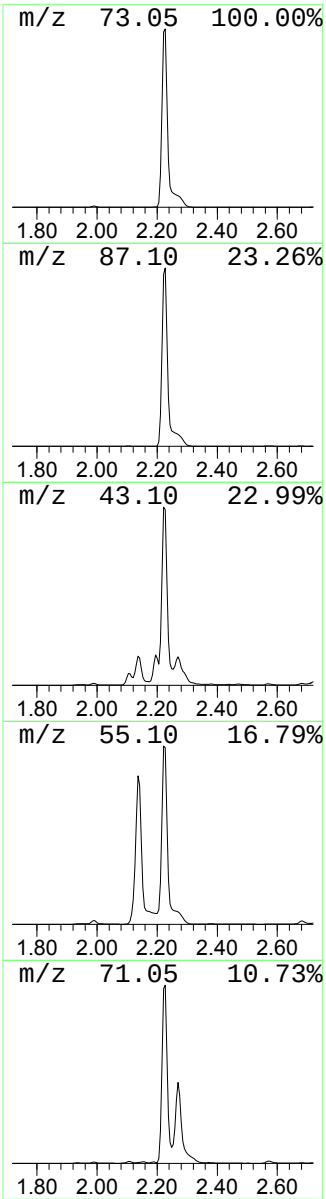
****

Peak Number 2 unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.221	28.53 ng/uL	3187700	A 1,4-Dichlorobenzene-d4	5.853

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	50
3	Silane, tetramethyl-	88	C4H12Si	000075-76-3	9
4	N-Ethylformamide	73	C3H7NO	000627-45-2	9
5	3-Pentanol, 2,4-dimethyl-	116	C7H16O	000600-36-2	9





Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1927.D
Acq On : 20 Nov 2020 00:52
Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

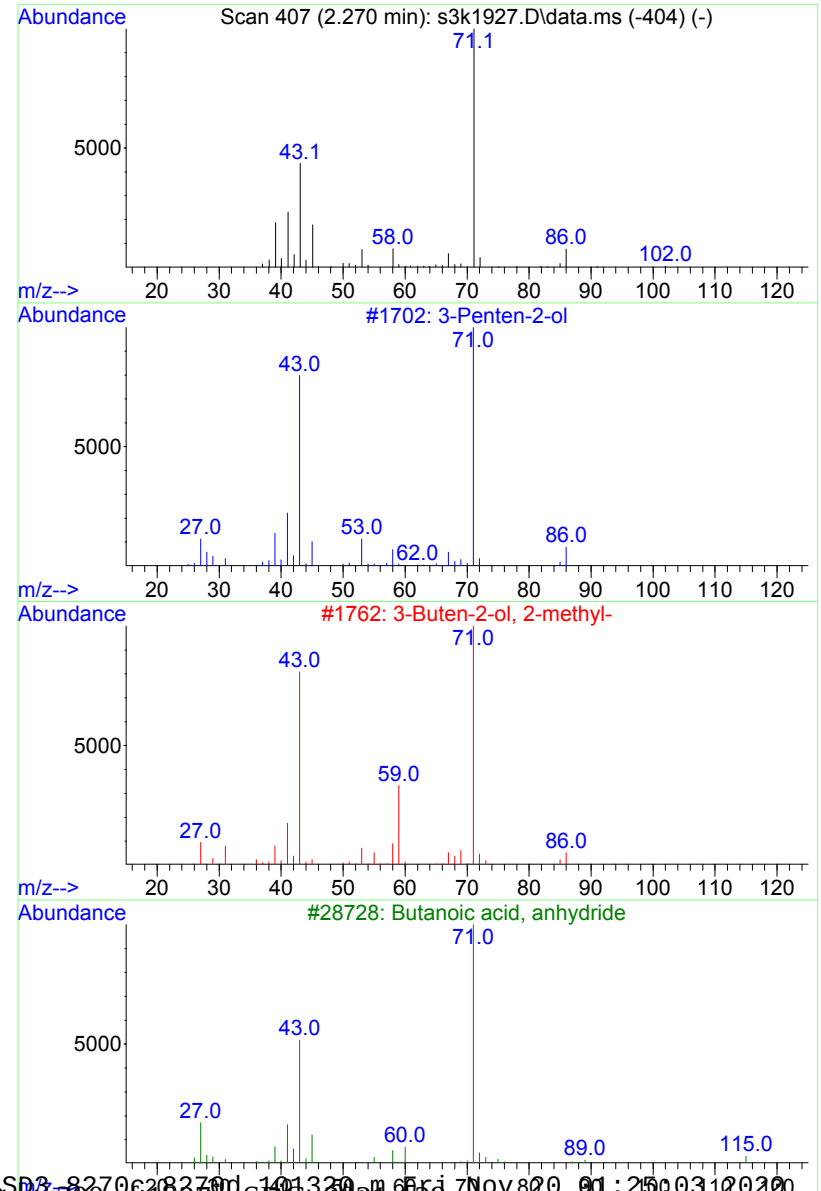
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

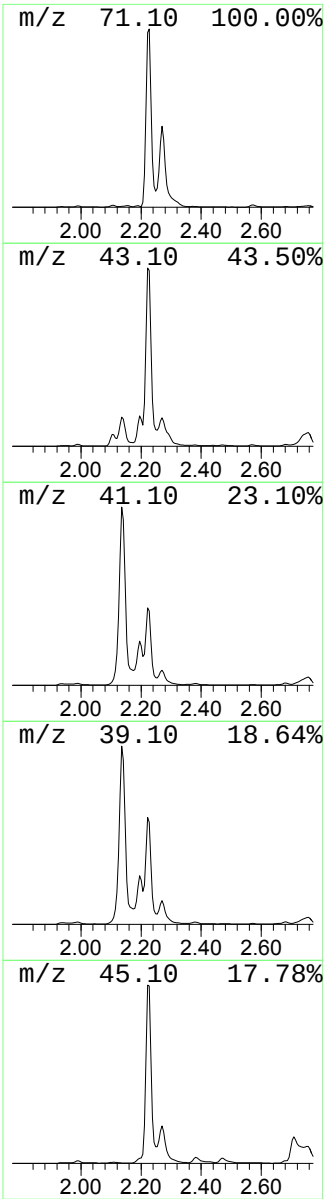
****

Peak Number 3 3-Penten-2-ol Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.270	4.21 ng/uL	470388	A 1,4-Dichlorobenzene-d4	5.853

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Penten-2-ol	86	C5H10O	001569-50-2	86
2	3-Buten-2-ol, 2-methyl-	86	C5H10O	000115-18-4	56
3	Butanoic acid, anhydride	158	C8H14O3	000106-31-0	50
4	Propanoic acid, 2-methyl-, anhyd...	158	C8H14O3	000097-72-3	42
5	trans-3-Penten-2-ol	86	C5H10O	003899-34-1	39





Library Search Compound Report

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Acq On : 20 Nov 2020 00:52
Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

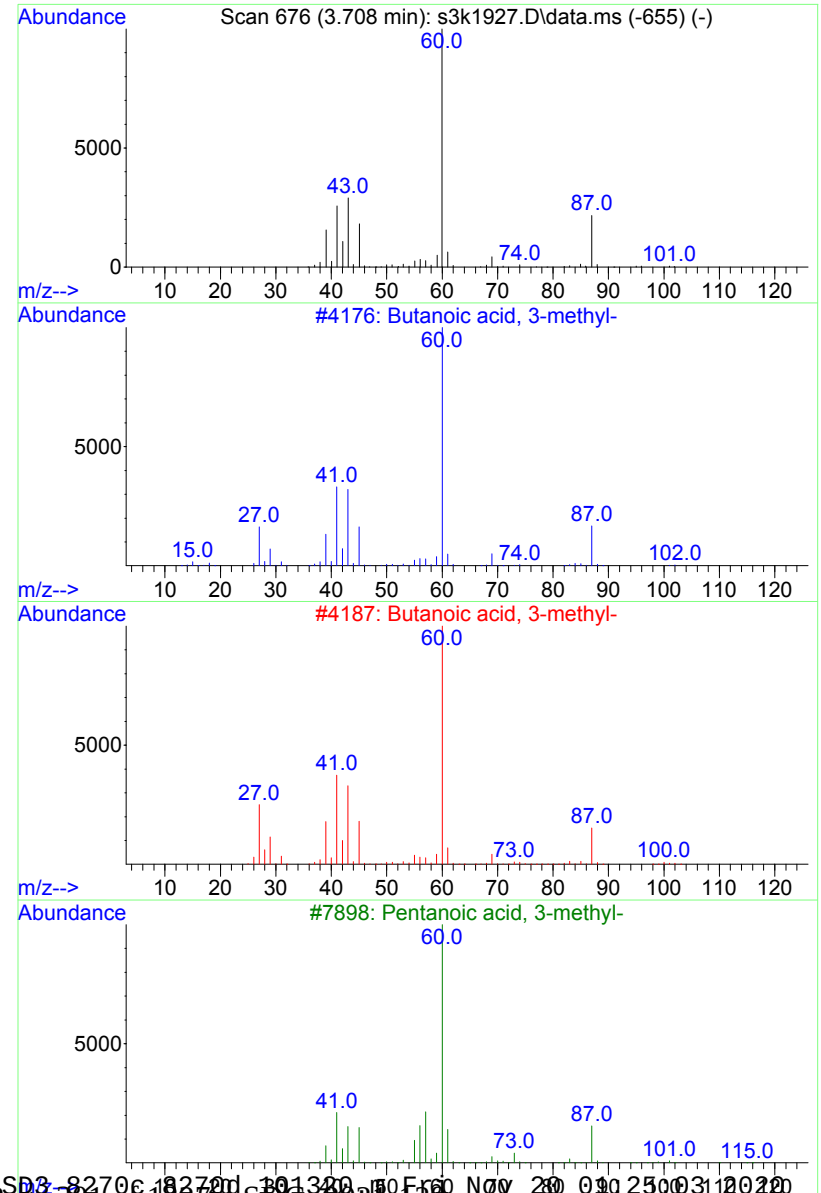
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

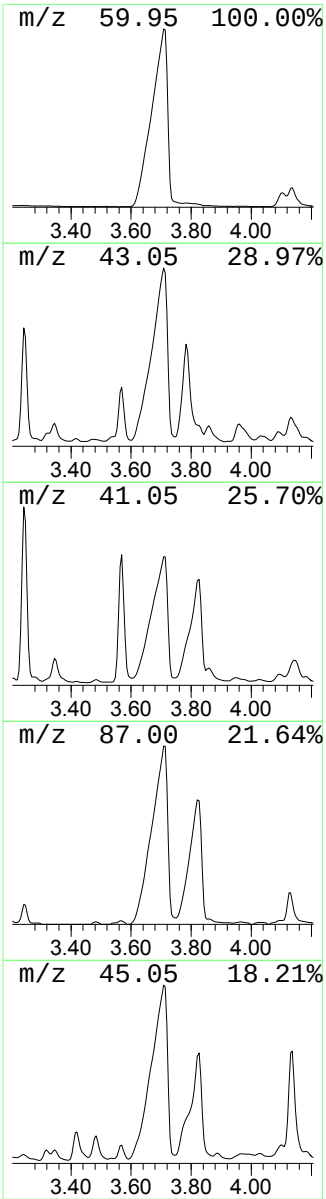
****

Peak Number 4 unknown Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.708	5.89 ng/uL	658557	A 1,4-Dichlorobenzene-d4	5.853

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butanoic acid, 3-methyl-	102	C5H10O2	000503-74-2	78
2	Butanoic acid, 3-methyl-	102	C5H10O2	000503-74-2	78
3	Pentanoic acid, 3-methyl-	116	C6H12O2	000105-43-1	64
4	Heptanoic acid	130	C7H14O2	000111-14-8	43
5	Heptanoic acid	130	C7H14O2	000111-14-8	40





Library Search Compound Report

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ALS Vial  : 27   Sample Multiplier: 1

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Quant Title  : BNA01

TIC Library    : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

*********************************************************************
Peak Number  5  unknown                          Concentration Rank 16

  R.T.     EstConc          Area       Relative to ISTD         R.T.
---------------------------------------------------------------------
  3.826    4.06 ng/uL      453764   A 1,4-Dichlorobenzene-d4    5.853

 Hit# of  5    Tentative ID              MW  MolForm       CAS#       Qual
---------------------------------------------------------------------
 1 Butanoic acid, 2-methyl-             102 C5H10O2        000116-53-0 83
 2 Hexanoic acid, 2-methyl-             130 C7H14O2        004536-23-6 78
 3 Hexanoic acid, 2-methyl-             130 C7H14O2        004536-23-6 64
 4 Butanoic acid, 2-methyl-             102 C5H10O2        000116-53-0 50
 5 Pentanoic acid, methyl ester         116 C6H12O2        000624-24-8 50
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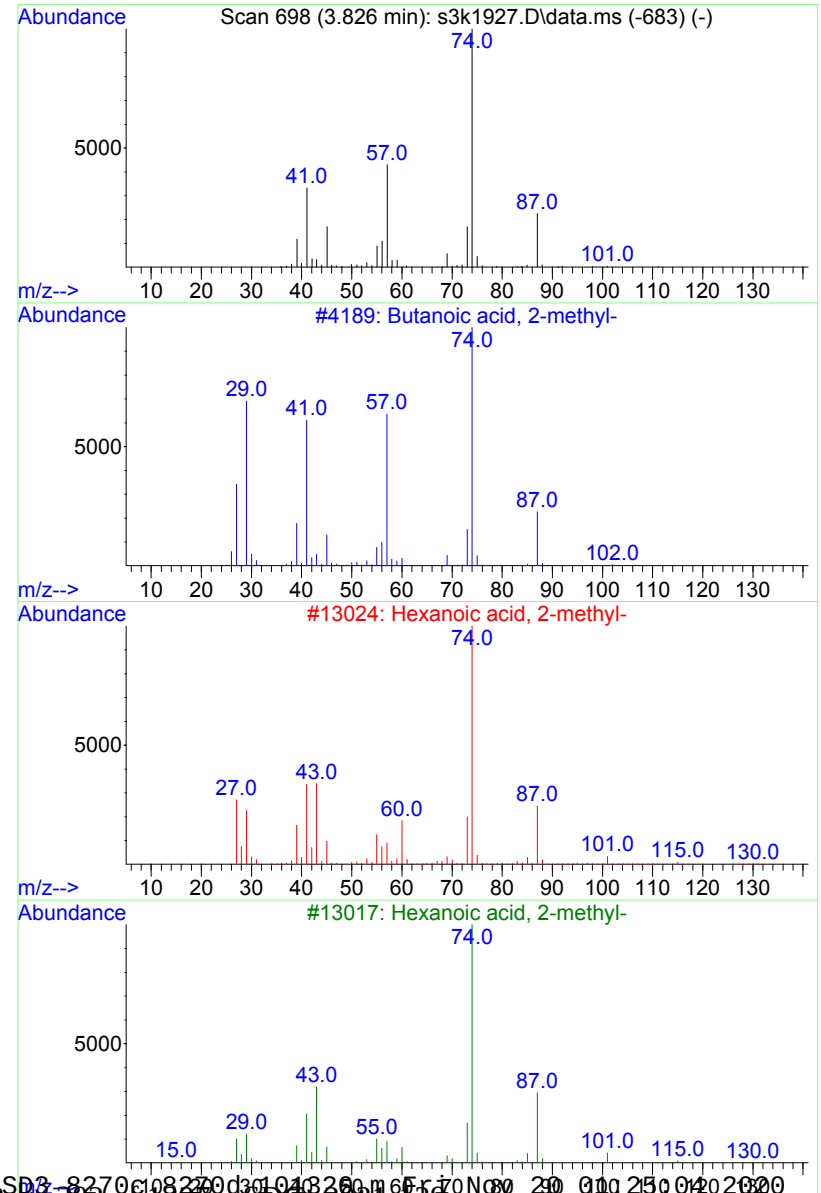

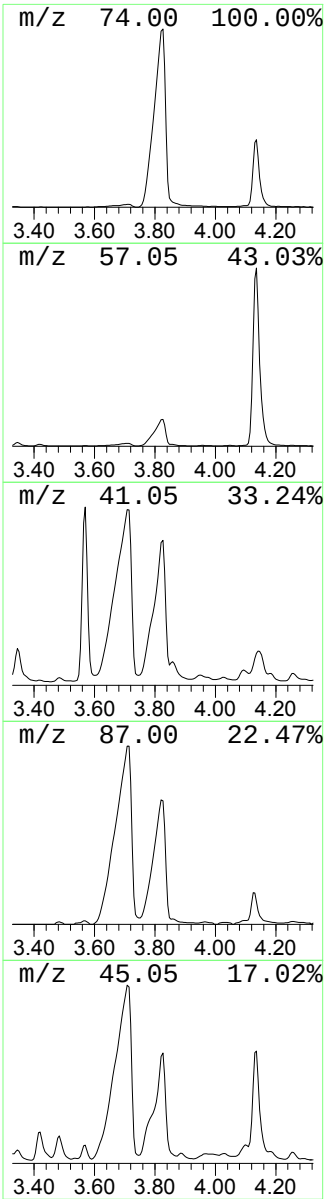

Library Search Compound Report

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ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

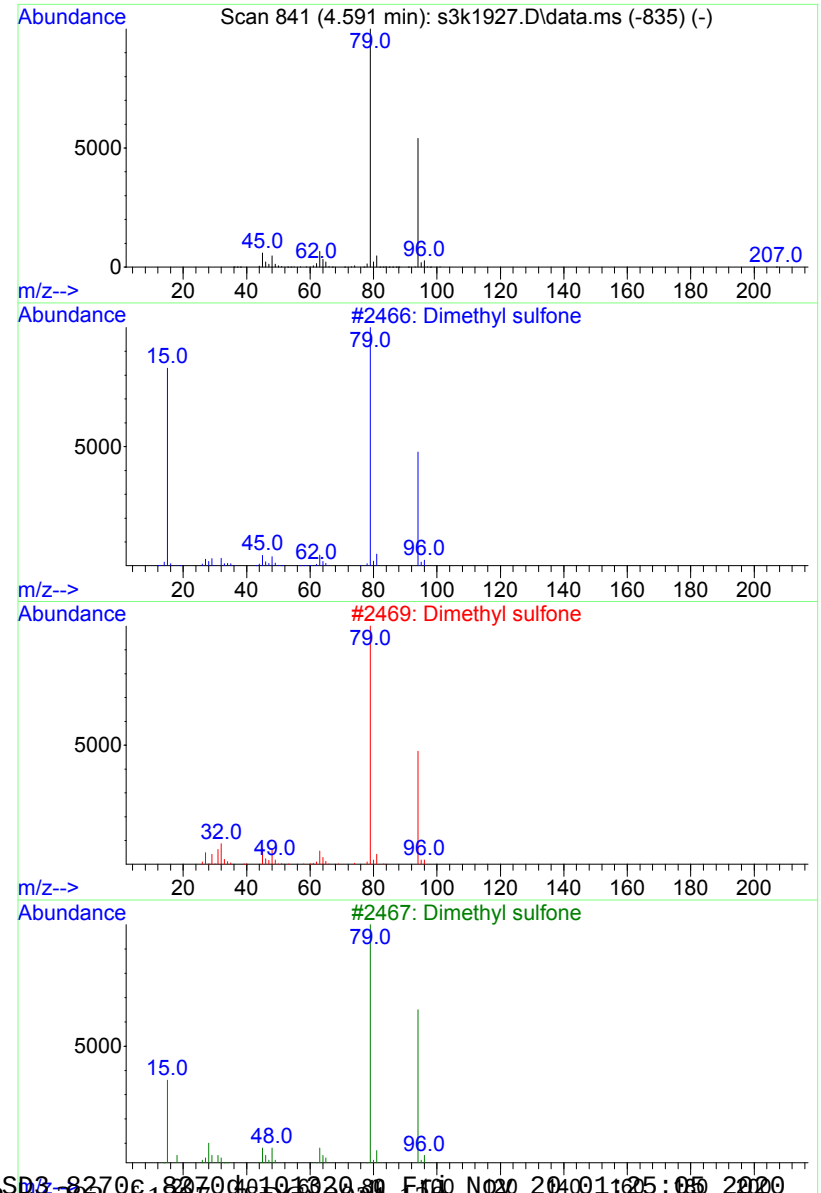
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

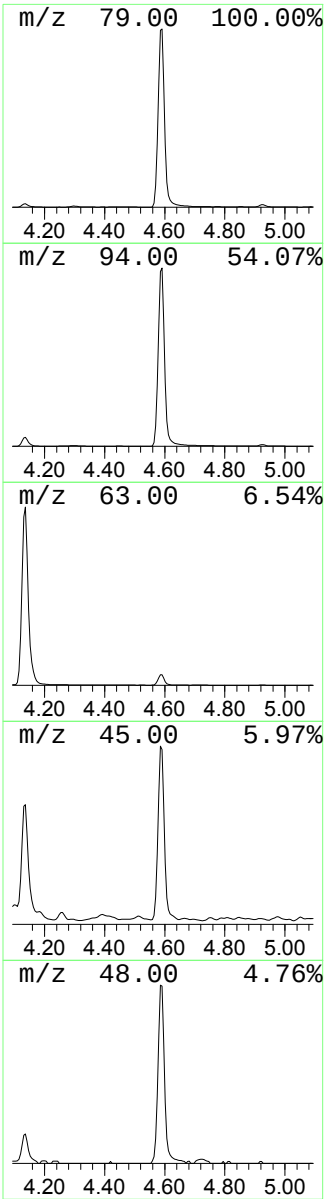
****

Peak Number 6 Dimethyl sulfone Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.591	5.25 ng/uL	586103	A 1,4-Dichlorobenzene-d4	5.853

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl sulfone	94	C2H6O2S	000067-71-0	91
2	Dimethyl sulfone	94	C2H6O2S	000067-71-0	91
3	Dimethyl sulfone	94	C2H6O2S	000067-71-0	43
4	Dimethyl sulfone	94	C2H6O2S	000067-71-0	38
5	Methanesulfonyl chloride	114	CH3ClO2S	000124-63-0	28





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Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

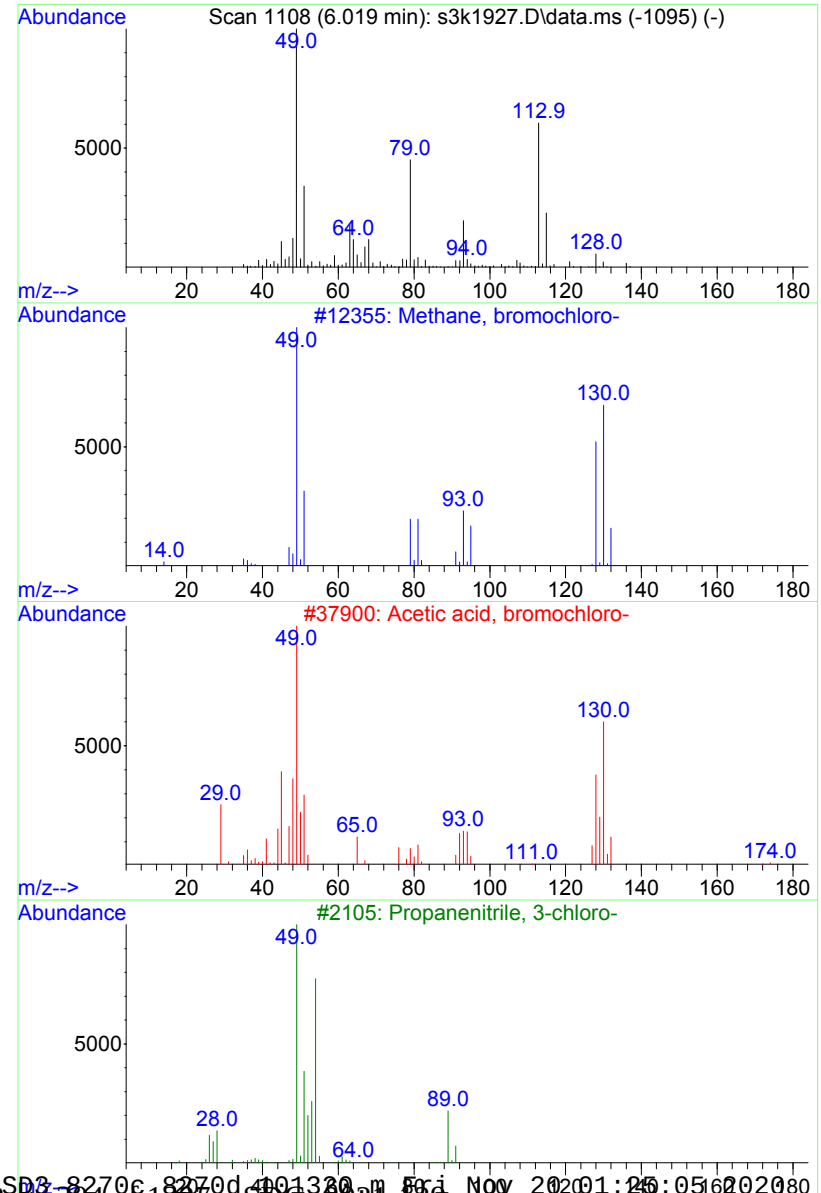
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

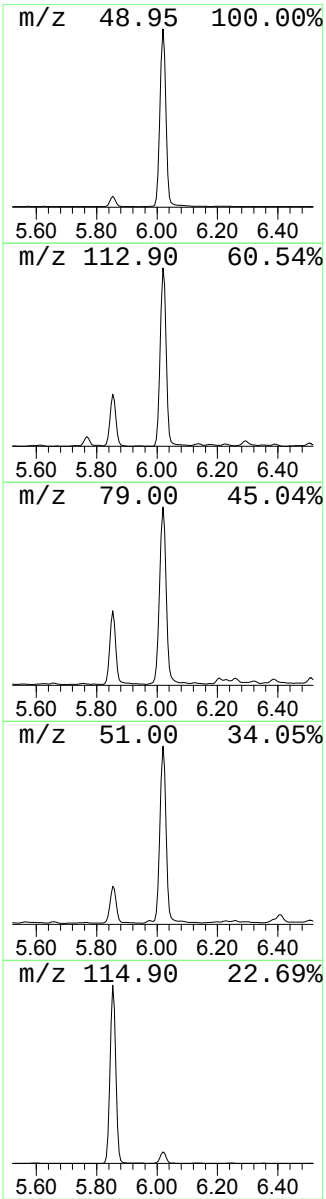
****

Peak Number 7 unknown Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.019	6.74 ng/uL	753483	B 1,4-Dichlorobenzene-d4	5.853

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Methane, bromochloro-	128	CH2BrCl	000074-97-5	45
2	Acetic acid, bromochloro-	172	C2H2BrClO2	005589-96-8	9
3	Propanenitrile, 3-chloro-	89	C3H4ClN	000542-76-7	9
4	Propanenitrile, 2,2,3-trichloro-	157	C3H2Cl3N	000813-74-1	4
5	Chloromethanesulfonyl chloride	148	CH2Cl2O2S	003518-65-8	4





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ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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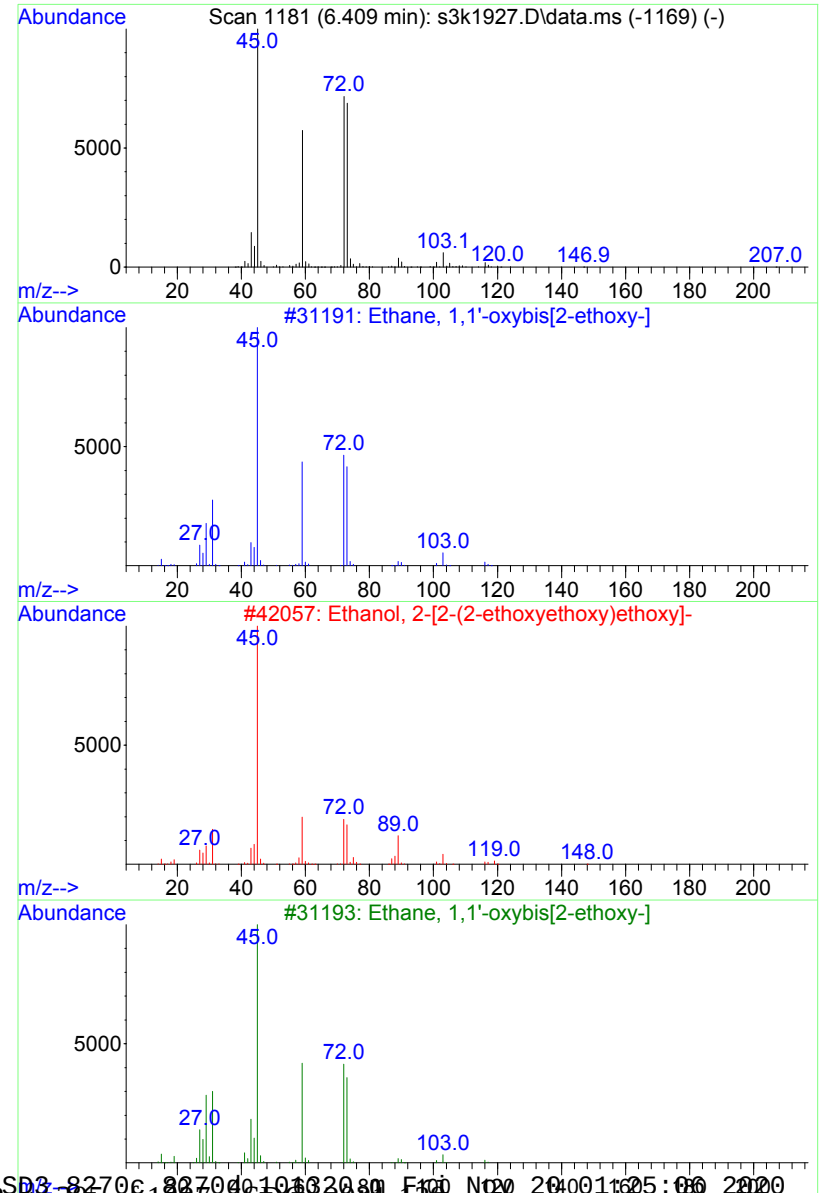
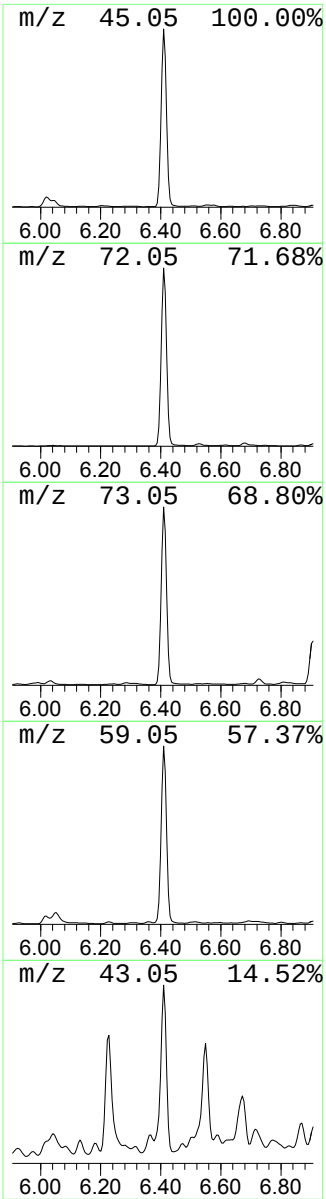
Peak Number 8 unknown Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.409	7.63 ng/uL	852424	B 1,4-Dichlorobenzene-d4	5.853

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	83
2	Ethanol, 2-[2-(2-ethoxyethoxy)et...	178	C8H18O4	000112-50-5	83
3	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	64
4	Tetraethylene glycol diethyl ether	250	C12H26O5	004353-28-0	56
5	Isoxazolidine	73	C3H7NO	000504-72-3	40





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Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

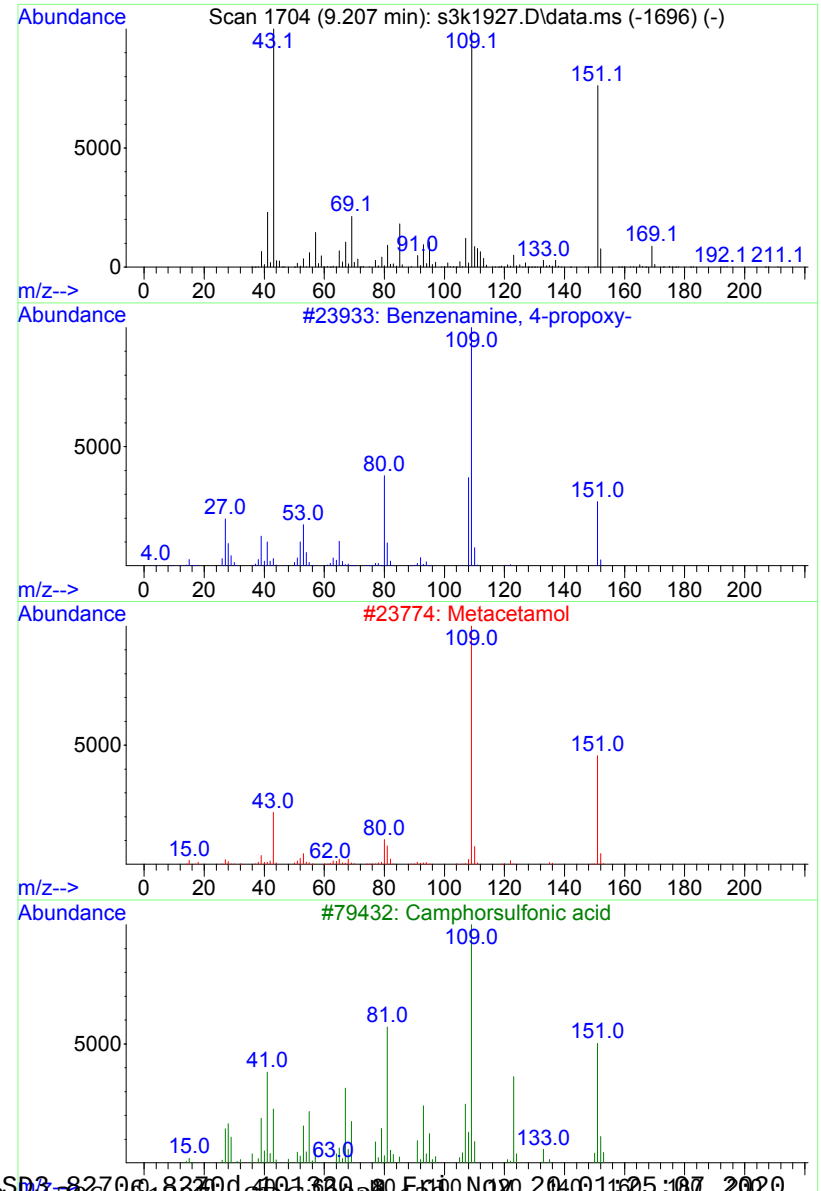
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

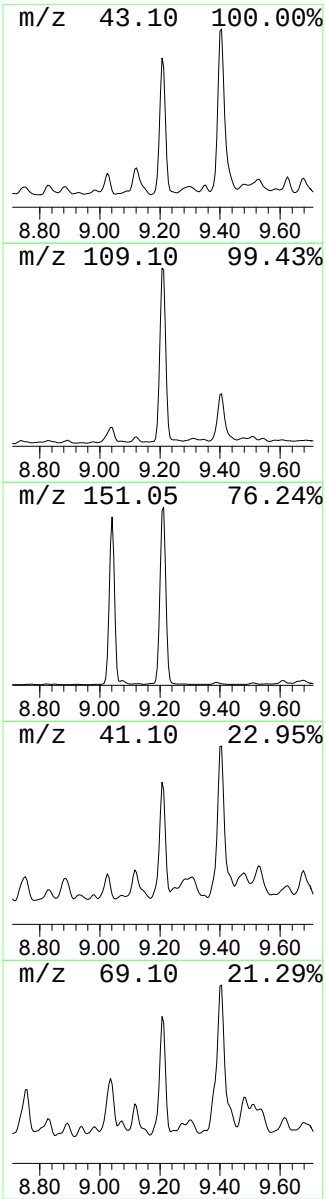
****

Peak Number 9 unknown Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.207	4.51 ng/uL	771087	A Acenaphthene-d10	9.913

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzenamine, 4-propoxy-	151	C9H13NO	004469-80-1	64
2	Metacetamol	151	C8H9NO2	000621-42-1	59
3	Camphorsulfonic acid	232	C10H16O4S	003144-16-9	39
4	N-Cyclopropyl-p-fluorobenzylamine	165	C10H12FN	1000250-88-9	38
5	2-Adamantanol, 2-(bromomethyl)-	244	C11H17BrO	1000142-34-3	37





Library Search Compound Report

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Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

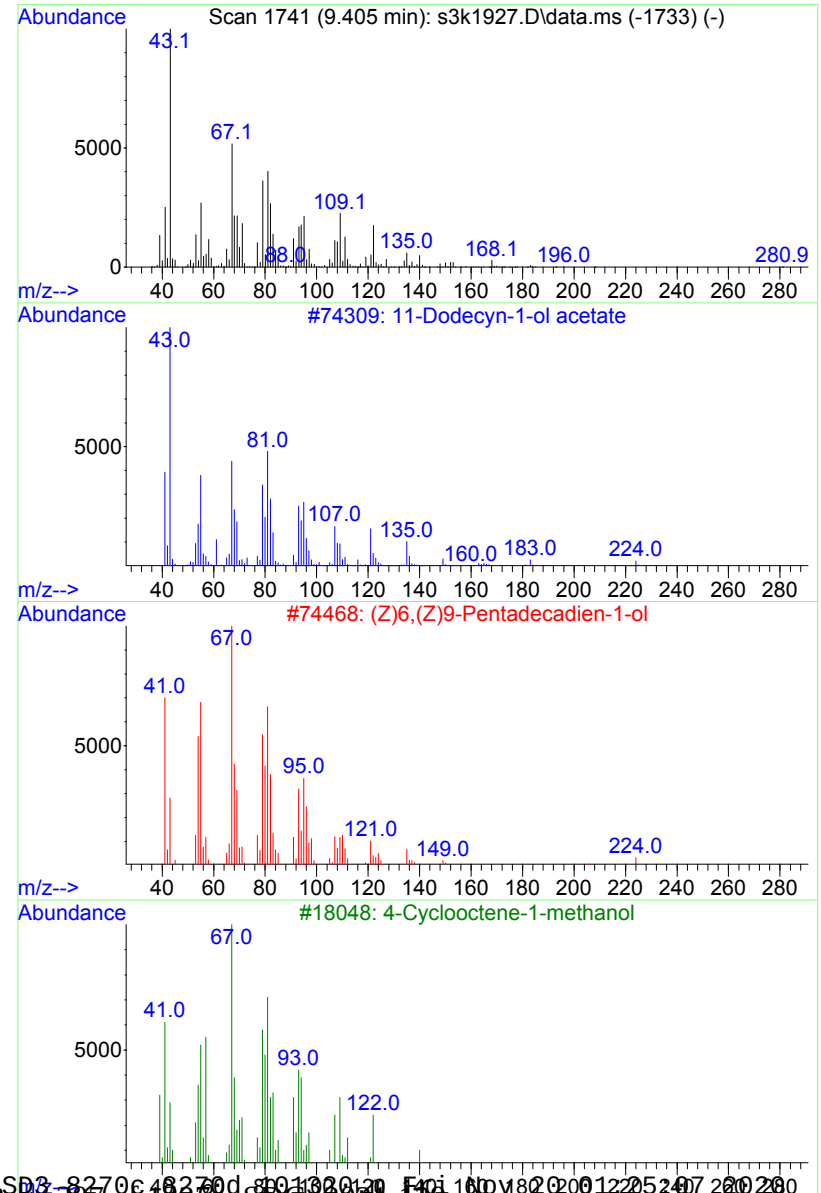
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

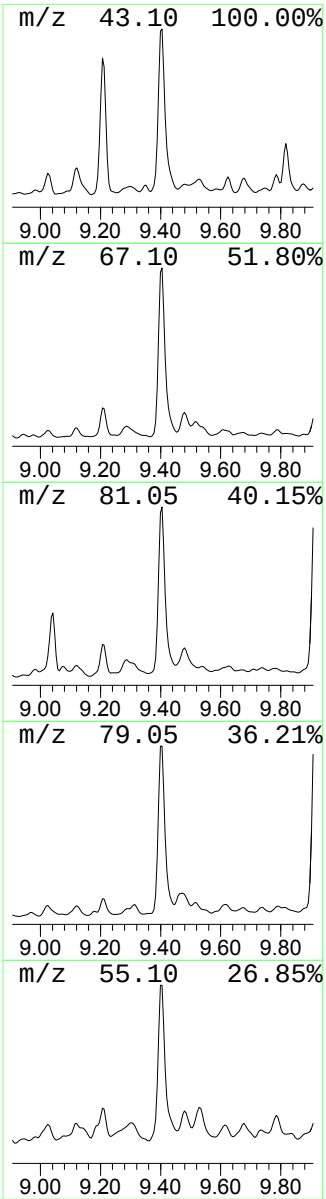
****

Peak Number 10 unknown Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.405	8.63 ng/uL	1477040	A Acenaphthene-d10	9.913

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	11-Dodecyn-1-ol acetate	224	C14H24O2	053596-78-4	64
2	(Z)6,(Z)9-Pentadecadien-1-ol	224	C15H28O	077899-11-7	53
3	4-Cyclooctene-1-methanol	140	C9H16O	013366-81-9	49
4	Limonene oxide, cis-	152	C10H16O	004680-24-4	46
5	7-Oxabicyclo[4.1.0]heptane, 1-me...	168	C10H16O2	000096-08-2	38





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ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

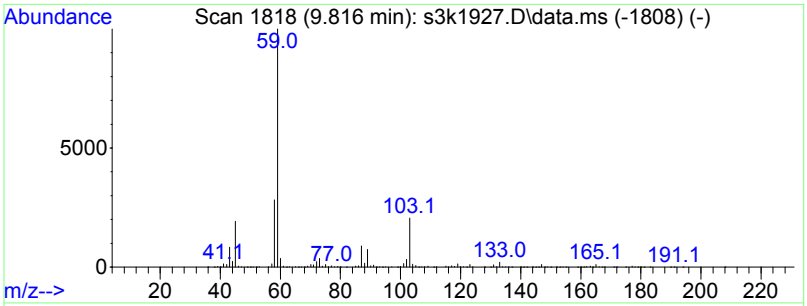
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

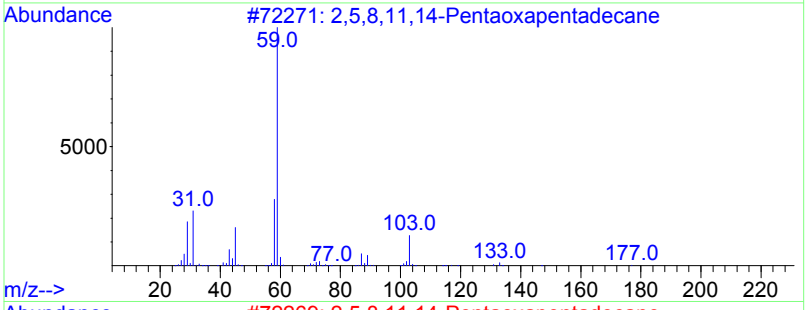
****

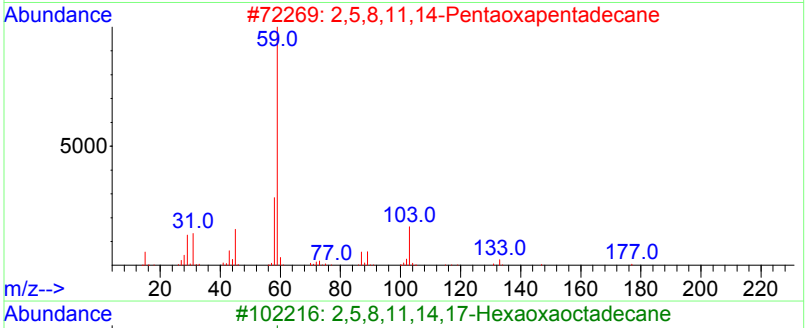
Peak Number 11 2,5,8,11,14-Pentaoxapentade... Concentration Rank 7

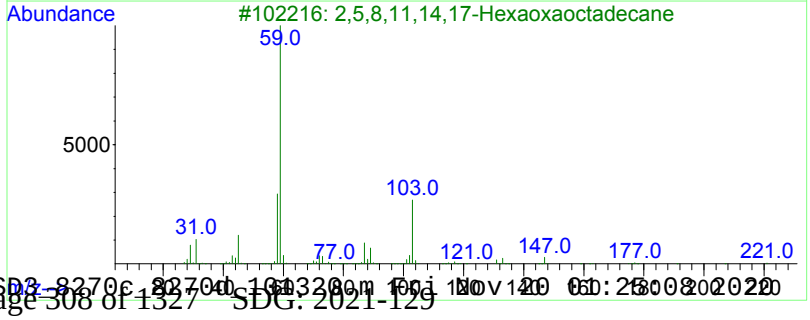
R.T.	EstConc	Area	Relative to ISTD	R.T.
9.816	7.87 ng/uL	1346700	A Acenaphthene-d10	9.913

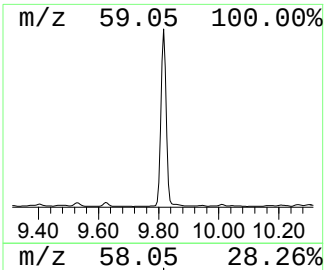
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	86
2	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	83
3	2,5,8,11,14,17-Hexaoxaoctadecane	266	C12H26O6	001191-87-3	80
4	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	78
5	2,5,8,11-Tetraoxadodecane	178	C8H18O4	000112-49-2	78

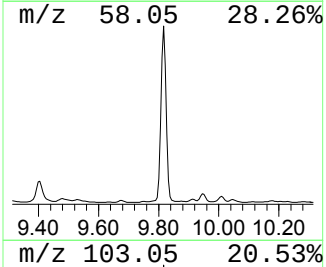


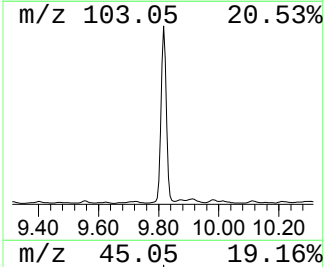


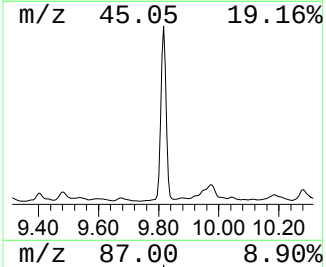


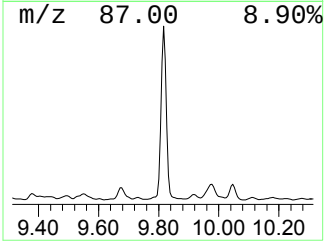












Library Search Compound Report

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Acq On : 20 Nov 2020 00:52
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Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

****

Peak Number 12 Benzoic acid, 2,4-dichloro- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.977	11.72 ng/uL	2004930	D Acenaphthene-d10	9.913

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	98
2	Benzoic acid, 3,4-dichloro-	190	C7H4Cl2O2	000051-44-5	95
3	Benzoic acid, 3,4-dichloro-	190	C7H4Cl2O2	000051-44-5	95
4	Benzoic acid, 2,5-dichloro-	190	C7H4Cl2O2	000050-79-3	94
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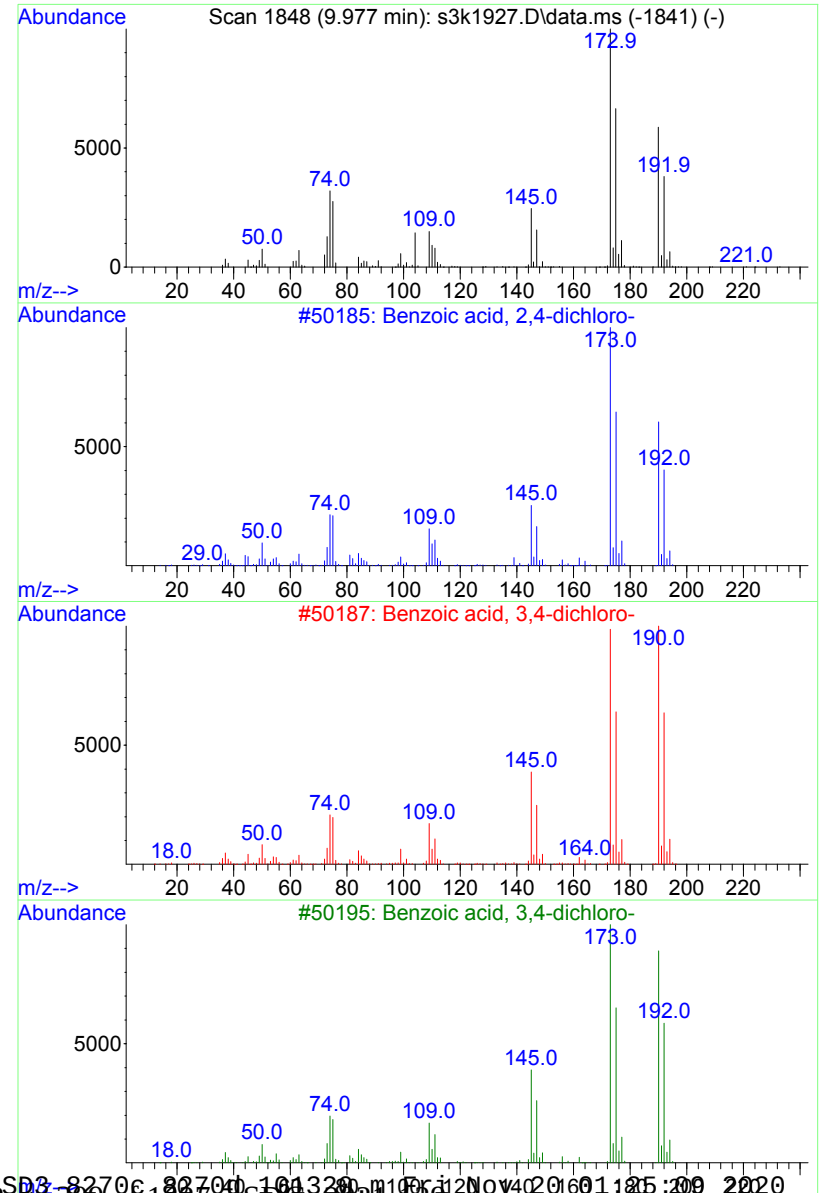

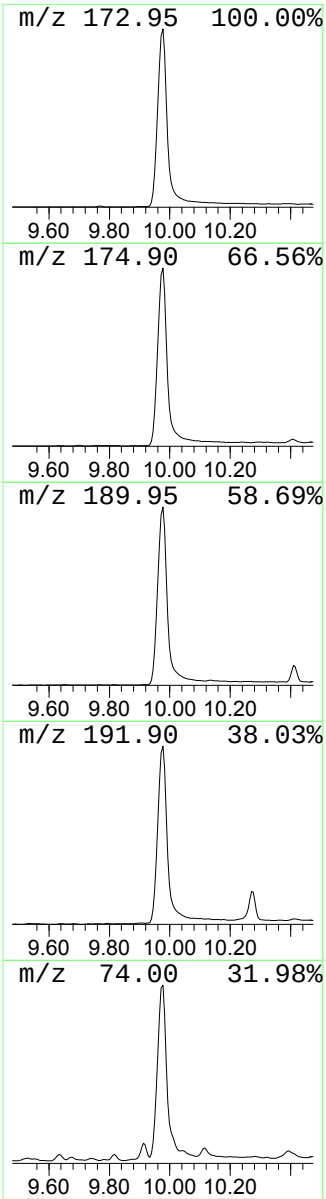

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ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

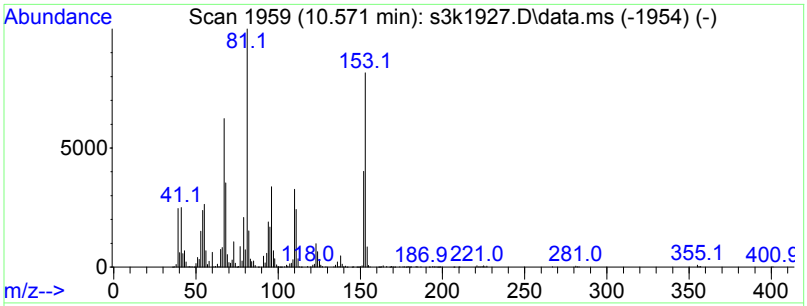
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

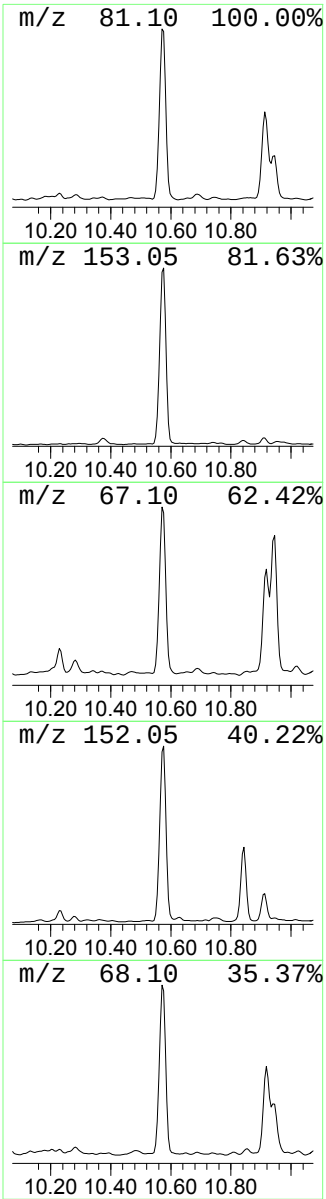
****

Peak Number 13 unknown Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.571	7.34 ng/uL	1256180	D Acenaphthene-d10	9.913

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,4-Decadienal	152	C10H16O	002363-88-4	43
2	1-Hexadecyne	222	C16H30	000629-74-3	41
3	Cyclohexane, ethylidene-	110	C8H14	001003-64-1	38
4	Cyclohexene, 3-methyl-	96	C7H12	000591-48-0	38
5	Spiro[3.5]nonan-1-one	138	C9H14O	029800-45-1	38





Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1927.D
Acq On : 20 Nov 2020 00:52
Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

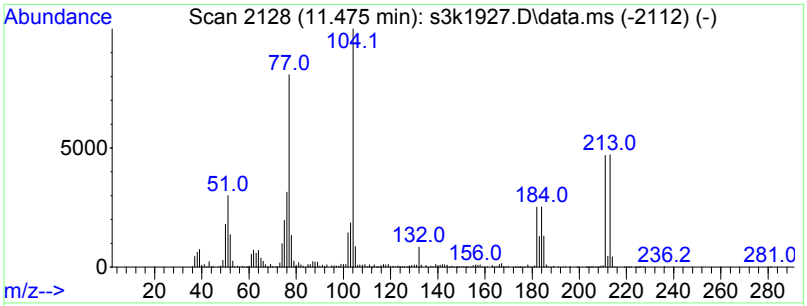
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

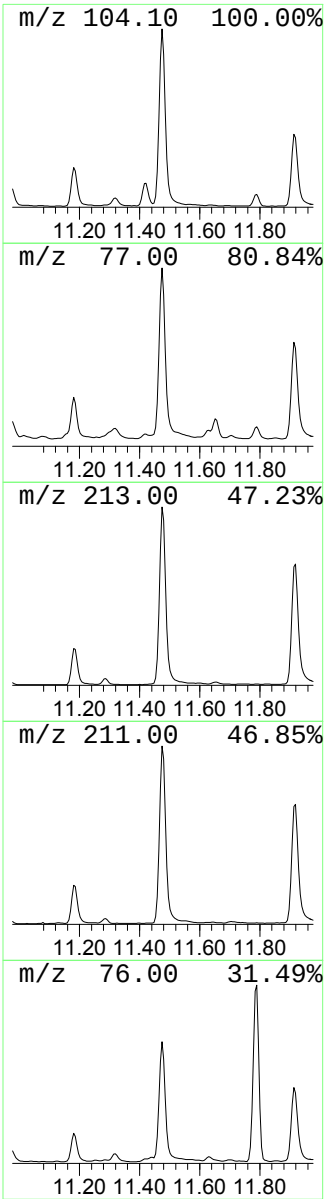
****

Peak Number 14 unknown Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.475	8.87 ng/uL	1246540	A Phenanthrene-d10	11.790

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pyridinecarbonitrile	104	C6H4N2	000100-70-9	49
2	3-Pyridinecarbonitrile	104	C6H4N2	000100-54-9	43
3	4-Pyridinecarbonitrile	104	C6H4N2	000100-48-1	43
4	4-Pyridinecarbonitrile	104	C6H4N2	000100-48-1	43
5	3-Pyridinecarbonitrile	104	C6H4N2	000100-54-9	43





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1927.D
Acq On : 20 Nov 2020 00:52
Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

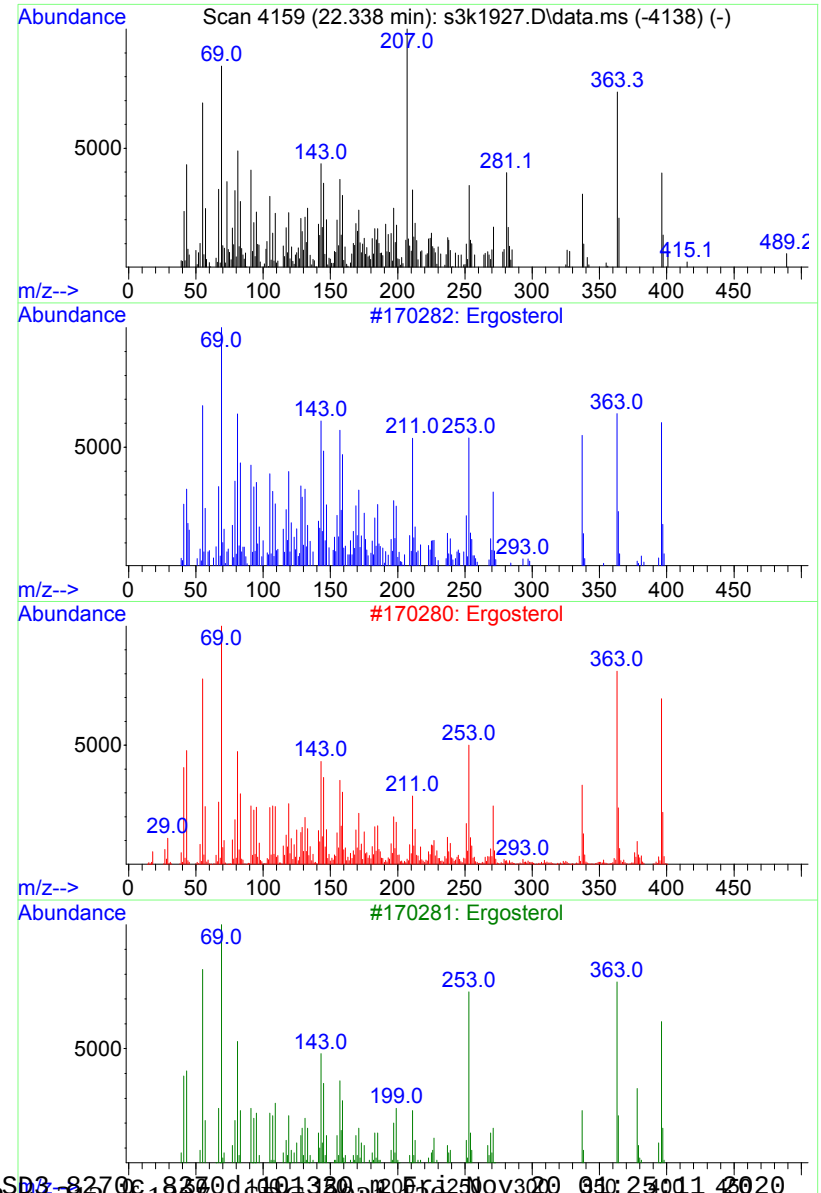
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

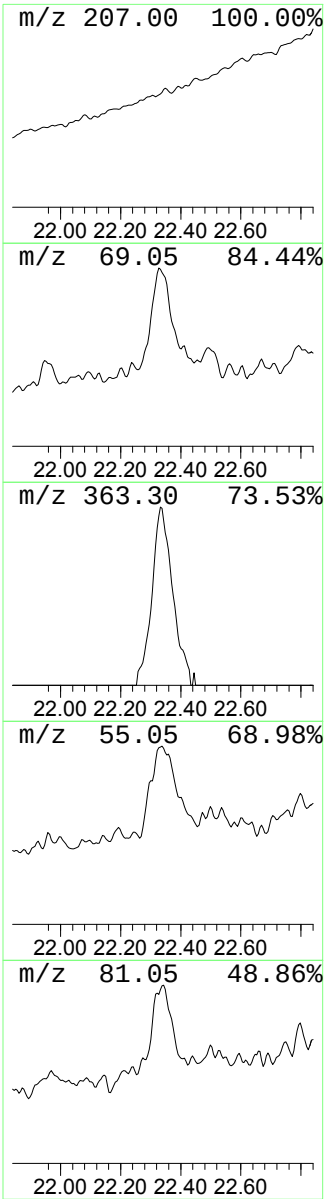
****

Peak Number 15 Ergosterol Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.338	5.66 ng/uL	313624	E Perylene-d12	18.920

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ergosterol	396	C28H44O	000057-87-4	97
2	Ergosterol	396	C28H44O	000057-87-4	83
3	Ergosterol	396	C28H44O	000057-87-4	83
4	Ergosta-5,8,22-trien-3-ol, (3.be...	396	C28H44O	050657-31-3	42
5	2-Ethylacridine	207	C15H13N	055751-83-2	15





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1927.D
Acq On : 20 Nov 2020 00:52
Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

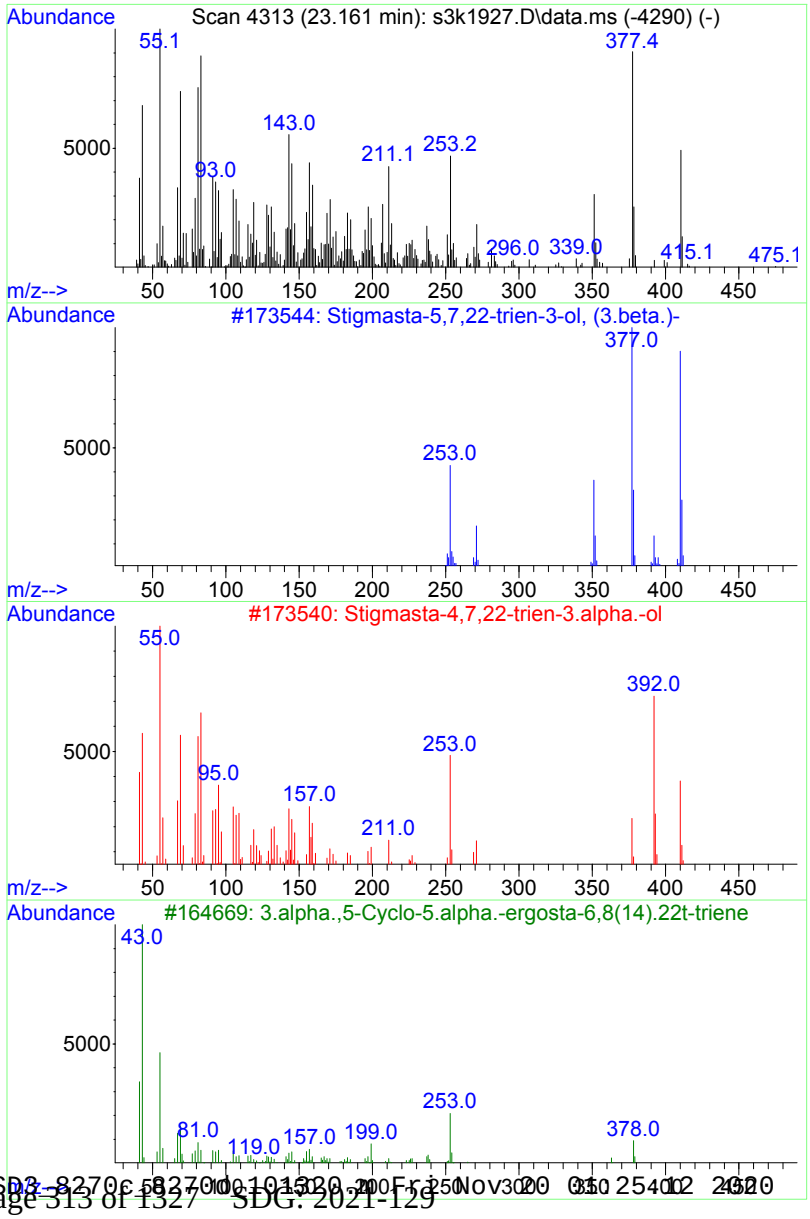
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

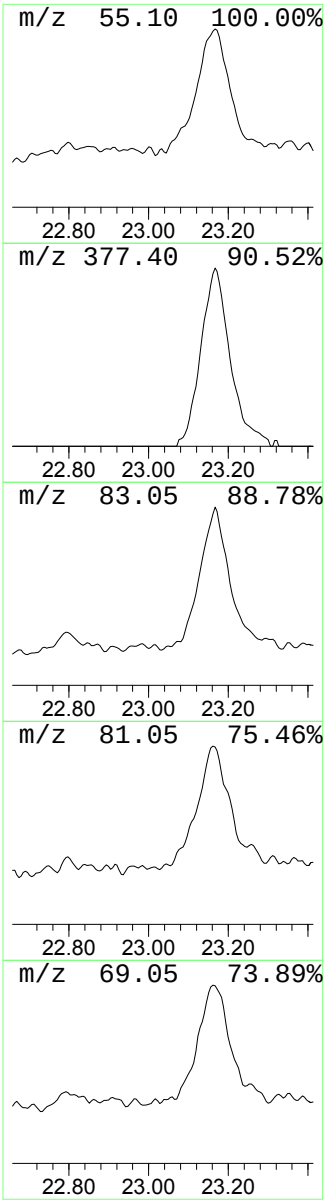
****

Peak Number 16 Stigmasta-5,7,22-trien-3-ol... Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
23.161	10.45 ng/uL	579438	E Perylene-d12	18.920

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Stigmasta-5,7,22-trien-3-ol, (3....	410	C29H46O	000481-19-6	94
2	Stigmasta-4,7,22-trien-3.alpha.-ol	410	C29H46O	1000103-93-2	38
3	3.alpha.,5-Cyclo-5.alpha.-ergost...	378	C28H42	024352-51-0	11
4	3-({1-[5-Benzyl-1-(4-fluoropheny...	468	C26H21FN6O2	1000210-47-9	10
5	5-[3-Trifluoromethylanilino]-6-m...	377	C18H14F3N3O3	1000212-28-3	10





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1927.D
Acq On : 20 Nov 2020 00:52
Operator : JMB3
Sample : |527509012|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard			
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
Cyclohexane	000110-82-7	2.136	23.5	2621570	1	5.853	4469650	40.0
unknown		2.221	28.5	3187700	1	5.853	4469650	40.0
3-Penten-2-ol	001569-50-2	2.270	4.2	470388	1	5.853	4469650	40.0
unknown		3.708	5.9	658557	1	5.853	4469650	40.0
unknown		3.826	4.1	453764	1	5.853	4469650	40.0
Dimethyl sulfone	000067-71-0	4.591	5.3	586103	1	5.853	4469650	40.0
unknown		6.019	6.7	753483	2	5.853	4469650	40.0
unknown		6.409	7.6	852424	2	5.853	4469650	40.0
unknown		9.207	4.5	771087	8	9.913	6843520	40.0
unknown		9.405	8.6	1477040	8	9.913	6843520	40.0
2,5,8,11,14-Pentaoxapentade...	000143-24-8	9.816	7.9	1346700	8	9.913	6843520	40.0
Benzoic acid, 2,4-dichloro-	000050-84-0	9.977	11.7	2004930	10	9.913	6843520	40.0
unknown		10.571	7.3	1256180	10	9.913	6843520	40.0
unknown		11.475	8.9	1246540	11	11.790	5620340	40.0
Ergosterol	000057-87-4	22.338	5.7	313624	21	18.920	2217980	40.0
Stigmasta-5,7,22-trien-3-ol...	000481-19-6	23.161	10.4	579438	21	18.920	2217980	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:40**	**Matrix:**	**W**
Lab Sample ID:	**527509005**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209986**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 21:01**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**882.87 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1717.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.40	ug/L	3.40	11.3
91-57-6	2-Methylnaphthalene	U	0.340	ug/L	0.340	1.13
91-20-3	Naphthalene	U	0.340	ug/L	0.340	1.13
90-12-0	1-Methylnaphthalene	U	0.340	ug/L	0.340	1.13
86-73-7	Fluorene	U	0.340	ug/L	0.340	1.13
85-01-8	Phenanthrene	U	0.340	ug/L	0.340	1.13
120-12-7	Anthracene	U	0.340	ug/L	0.340	1.13
206-44-0	Fluoranthene	U	0.340	ug/L	0.340	1.13
129-00-0	Pyrene	U	0.340	ug/L	0.340	1.13
205-99-2	Benzo(b)fluoranthene	U	0.340	ug/L	0.340	1.13
207-08-9	Benzo(k)fluoranthene	U	0.340	ug/L	0.340	1.13
50-32-8	Benzo(a)pyrene	U	0.340	ug/L	0.340	1.13

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	100	113	ug/L	88	(32%-122%)
2-Fluorobiphenyl	42.1	56.6	ug/L	74	(31%-107%)
2-Fluorophenol	41.1	113	ug/L	36	(15%-88%)
Nitrobenzene-d5	38.4	56.6	ug/L	68	(35%-113%)
Phenol-d5	29.5	113	ug/L	26	(15%-91%)
p-Terphenyl-d14	31.7	56.6	ug/L	56	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.906	24.1	ug/L	0	J
000050-84-0	Benzoic acid, 2,4-dichloro-	9.661	105	ug/L	99	NJ

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1717.D
Acq On : 17 Nov 2020 21:01
Operator : LOF
Sample : |527509005|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209986|MIX[A,B,D,E,J]||
ALS Vial : 17 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 18 09:10:18 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	936031	40.00	ng/uL	-0.02
22) A Naphthalene-d8	136	7.201	7.228	1.000	3574287	40.00	ng/uL	-0.03
39) A Acenaphthene-d10	164	9.533	9.555	1.000	1827404	40.00	ng/uL	-0.02
64) A Phenanthrene-d10	188	11.416	11.432	1.000	3231956	40.00	ng/uL	-0.02
78) A Chrysene-d12	240	14.887	14.914	1.000	2255446	40.00	ng/uL	-0.03
88) A Perylene-d12	264	18.091	18.139	1.000	1482609	40.00	ng/uL	-0.05
96) B 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	936031	40.00	ng/uL	-0.02
112) B Naphthalene-d8	136	7.201	7.228	1.000	3574287	40.00	ng/uL	-0.03
120) B Acenaphthene-d10	164	9.533	9.555	1.000	1827404	40.00	ng/uL	-0.02
129) B Phenanthrene-d10	188	11.416	11.432	1.000	3231956	40.00	ng/uL	-0.02
142) B Chrysene-d12	240	14.887	14.914	1.000	2255446	40.00	ng/uL	-0.03
148) B Perylene-d12	264	18.091	18.139	1.000	1482212	40.00	ng/uL	-0.05
151) J Naphthalene-d8	136	7.201	7.228	1.000	3574287	40.00	ng/uL	-0.03
153) J Phenanthrene-d10	188	11.416	11.432	1.000	3231956	40.00	ng/uL	-0.02
156) J Chrysene-d12	240	14.887	14.914	1.000	2255446	40.00	ng/uL	-0.03
159) D Naphthalene-d8	136	7.201	7.228	1.000	3574287	40.00	ng/uL	-0.03
161) D Acenaphthene-d10	164	9.533	9.555	1.000	1827404	40.00	ng/uL	-0.02
164) D Phenanthrene-d10	188	11.416	11.432	1.000	3231956	40.00	ng/uL	-0.02
171) D Chrysene-d12	240	14.887	14.914	1.000	2255446	40.00	ng/uL	-0.03
173) E Naphthalene-d8	136	7.201	7.228	1.000	3574287	40.00	ng/uL	-0.03
175) E Perylene-d12	264	18.091	18.139	1.000	1482609	40.00	ng/uL	-0.05
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.719	3.735	0.688	1021661	36.28	ng/uL	-0.02
8) Phenol-d5	99	4.874	4.906	0.901	891392	26.03	ng/uL	-0.03
23) Nitrobenzene-d5	82	6.195	6.222	0.860	1028956	33.93	ng/uL	-0.03
44) 2-Fluorobiphenyl	172	8.666	8.736	0.909	2109994m	37.13	ng/uL	-0.07
63) 2,4,6-Tribromophenol	330	10.533	10.555	1.105	570761	88.32	ng/uL	-0.02
80) p-Terphenyl-d14	244	13.405	13.422	0.900	2098859	28.02	ng/uL	-0.02

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	36%
8) Phenol-d5	100.000	15 - 91	26%
23) Nitrobenzene-d5	50.000	35 - 113	68%
44) 2-Fluorobiphenyl	50.000	31 - 107	74%
63) 2,4,6-Tribromophenol	100.000	32 - 122	88%
80) p-Terphenyl-d14	50.000	35 - 134	56%

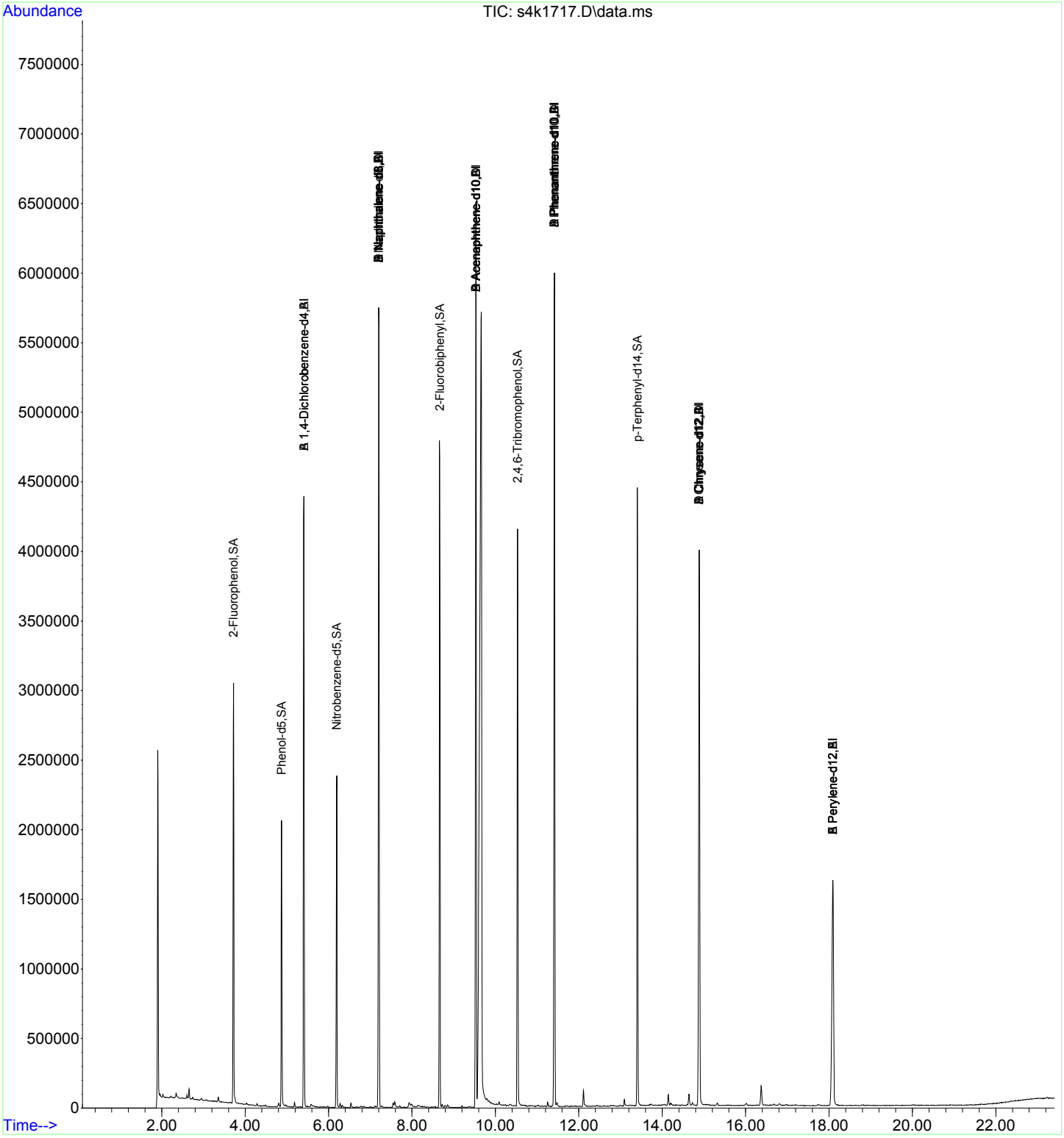
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

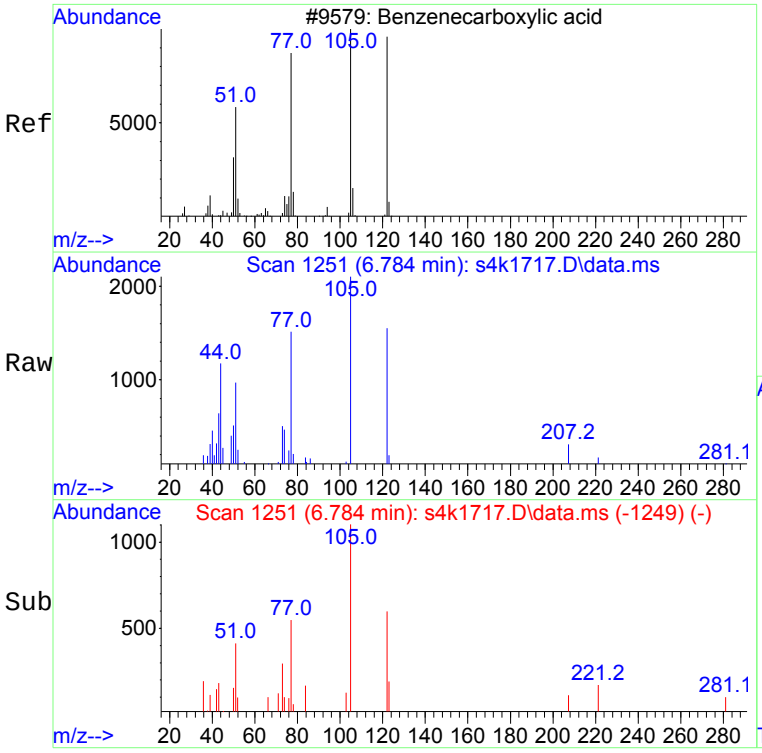
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1717.D
Acq On : 17 Nov 2020 21:01
Operator : LOF
Sample : |527509005|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209986|MIX[A,B,D,E,J]||
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 18 09:10:18 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

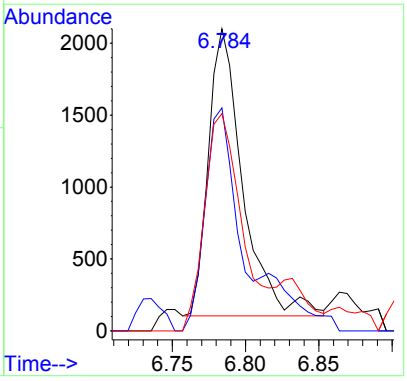


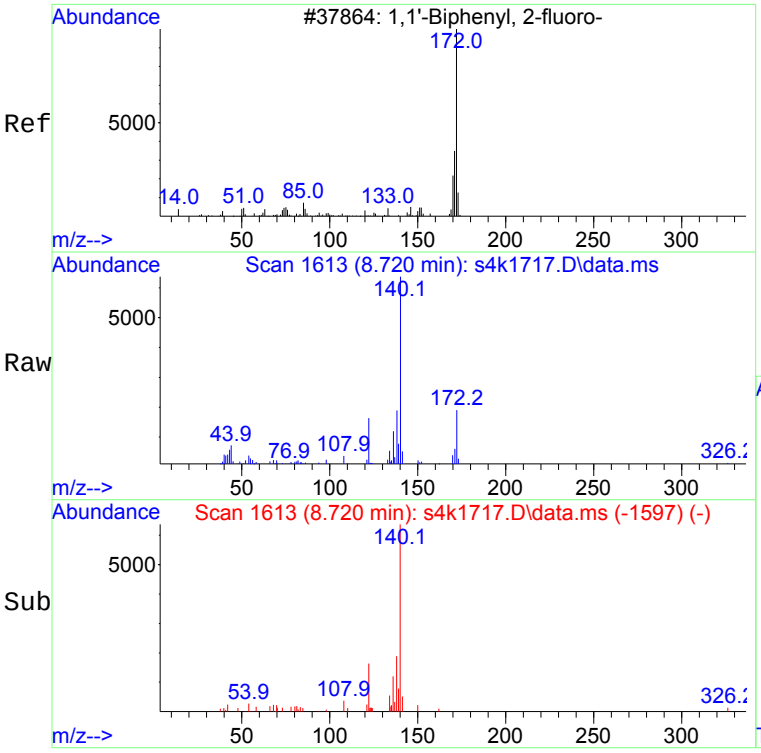


#30 BEFORE analyst DELETION
Benzoic acid
Concen: 11.75 ng/uL
RT: 6.784 min Scan# 1251
Delta R.T. -0.139 min
Lab File: s4k1717.D
Acq: 17 Nov 2020 21:01

Tgt Ion:105 Resp: 3262

Ion	Ratio	Lower	Upper
105	100		
122	91.9	51.3	111.3
77	106.9	45.6	105.6#

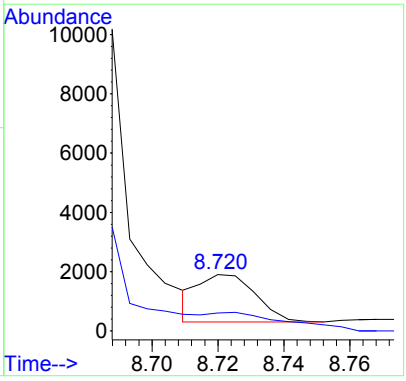


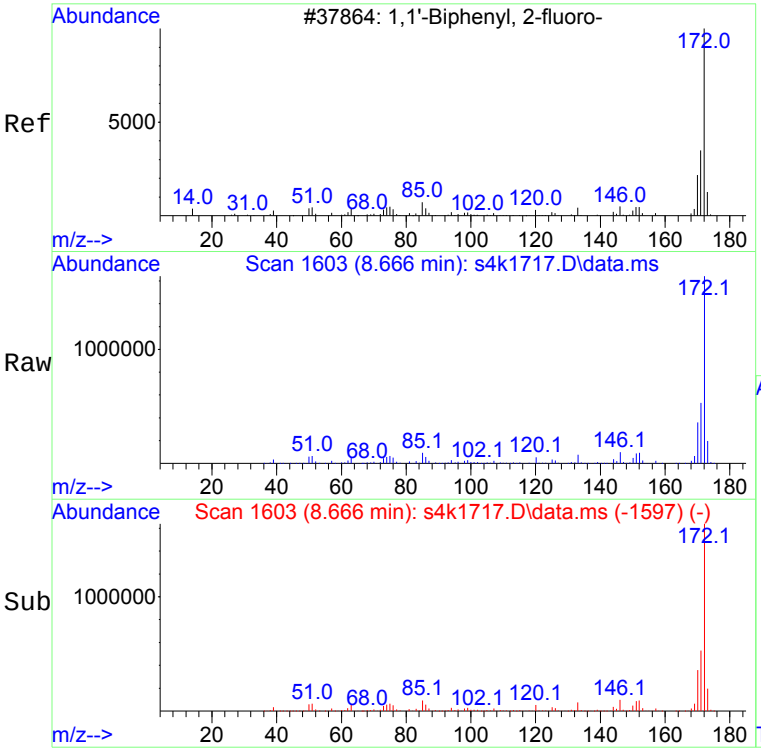


#44 BEFORE analyst integration
2-Fluorobiphenyl
Concen: 0.03 ng/uL
RT: 8.720 min Scan# 1613
Delta R.T. -0.016 min
Lab File: s4k1717.D
Acq: 17 Nov 2020 21:01

Tgt Ion:172 Resp: 1915

Ion	Ratio	Lower	Upper
172	100		
171	50.9	2.5	62.5

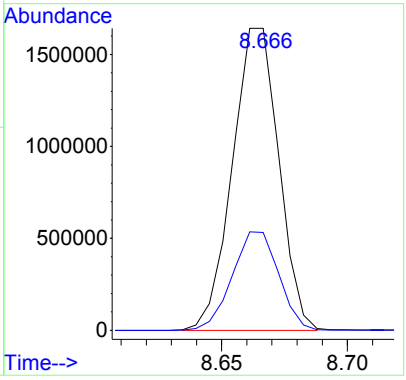


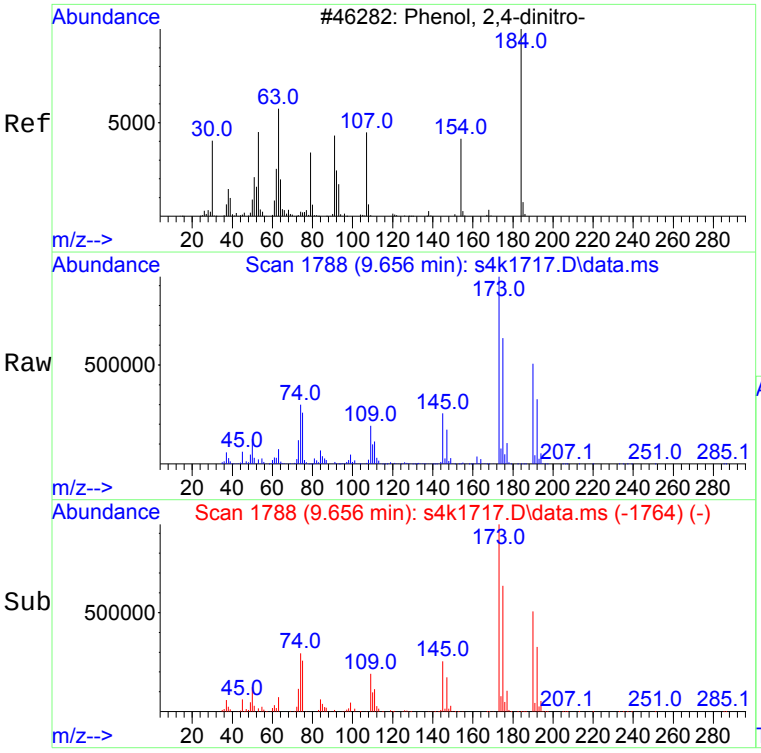


#44 AFTER analyst integration
2-Fluorobiphenyl AP
Concen: 37.13 ng/uL MANUALLY INTEGRATED
RT: 8.666 min Scan# 1603
Delta R.T. -0.070 min
Lab File: s4k1717.D
Acq: 17 Nov 2020 21:01

Tgt Ion:172 Resp: 2109994

Ion	Ratio	Lower	Upper
172	100		
171	32.7	2.5	62.5

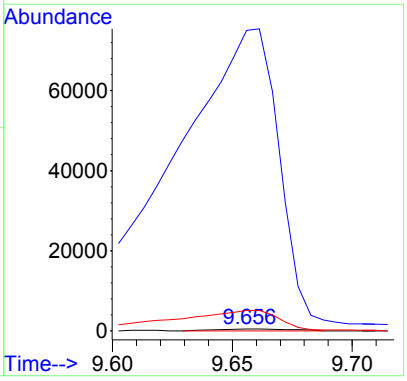


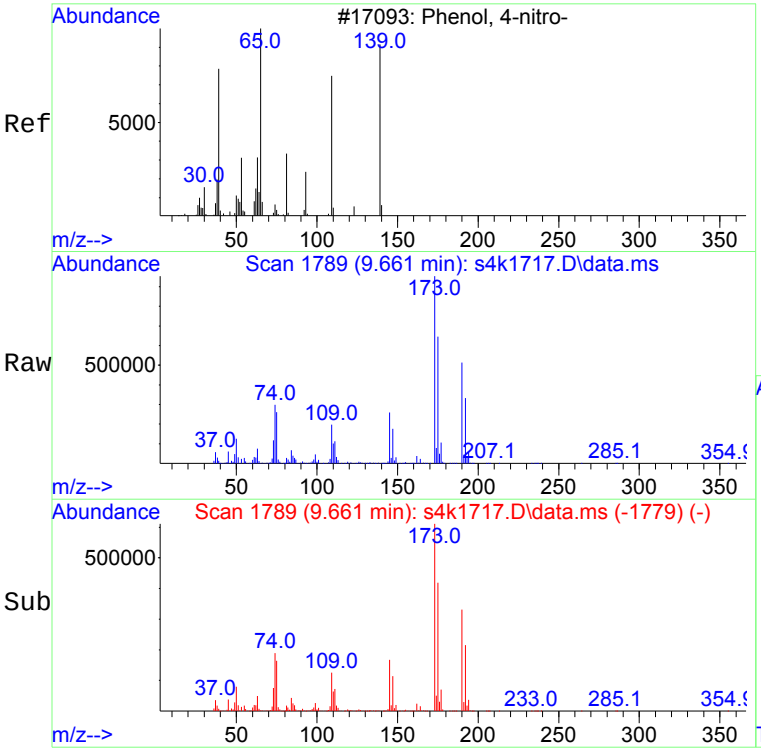


#55 BEFORE analyst DELETION
2,4-Dinitrophenol
Concen: 11.75 ng/uL
RT: 9.656 min Scan# 1788
Delta R.T. 0.027 min
Lab File: s4k1717.D
Acq: 17 Nov 2020 21:01

Tgt Ion:184 Resp: 1023

Ion	Ratio	Lower	Upper
184	100		
63	23667.7	175.8	235.8#
107	1541.5	10.9	70.9#

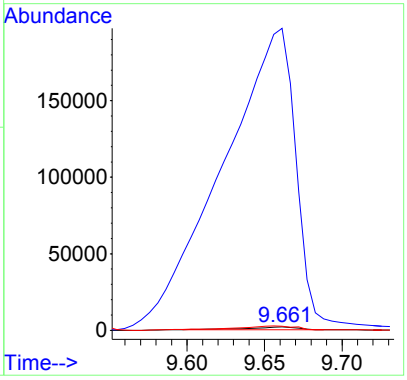




#59 BEFORE analyst DELETION
4-Nitrophenol
Concen: 3.83 ng/uL
RT: 9.661 min Scan# 1789
Delta R.T. -0.048 min
Lab File: s4k1717.D
Acq: 17 Nov 2020 21:01

Tgt Ion:139 Resp: 3919

Ion	Ratio	Lower	Upper
139	100		
109	15067.7	34.9	94.9#
65	162.5	64.7	124.7#



Library Search Compound Report

JMB 11/18/2020

BAB 11/19/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1717.D
Acq On : 17 Nov 2020 21:01
Operator : LOF
Sample : |527509005|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209986|MIX[A,B,D,E,J]||
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

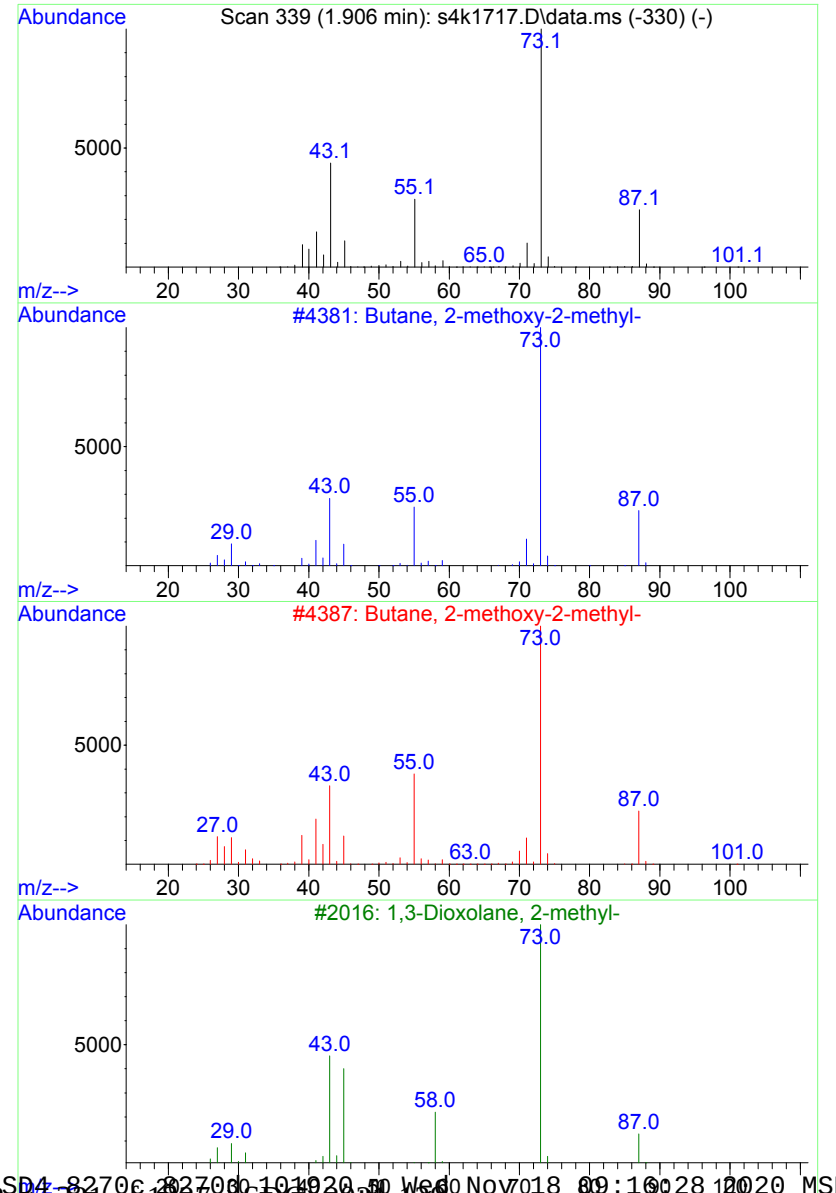
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

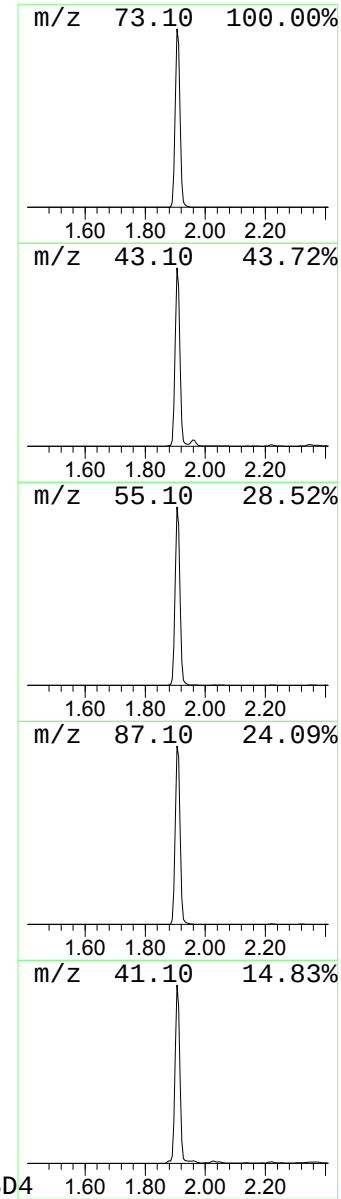
****

Peak Number 1 unknown Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.906	21.24 ng/uL	3126830	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	83
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
3	1,3-Dioxolane, 2-methyl-	88	C4H8O2	000497-26-7	32
4	Silane, tetramethyl-	88	C4H12Si	000075-76-3	17
5	Pentane, 3-methoxy-	102	C6H14O	036839-67-5	12





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1717.D
Acq On : 17 Nov 2020 21:01
Operator : LOF
Sample : |527509005|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209986|MIX[A,B,D,E,J]||
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

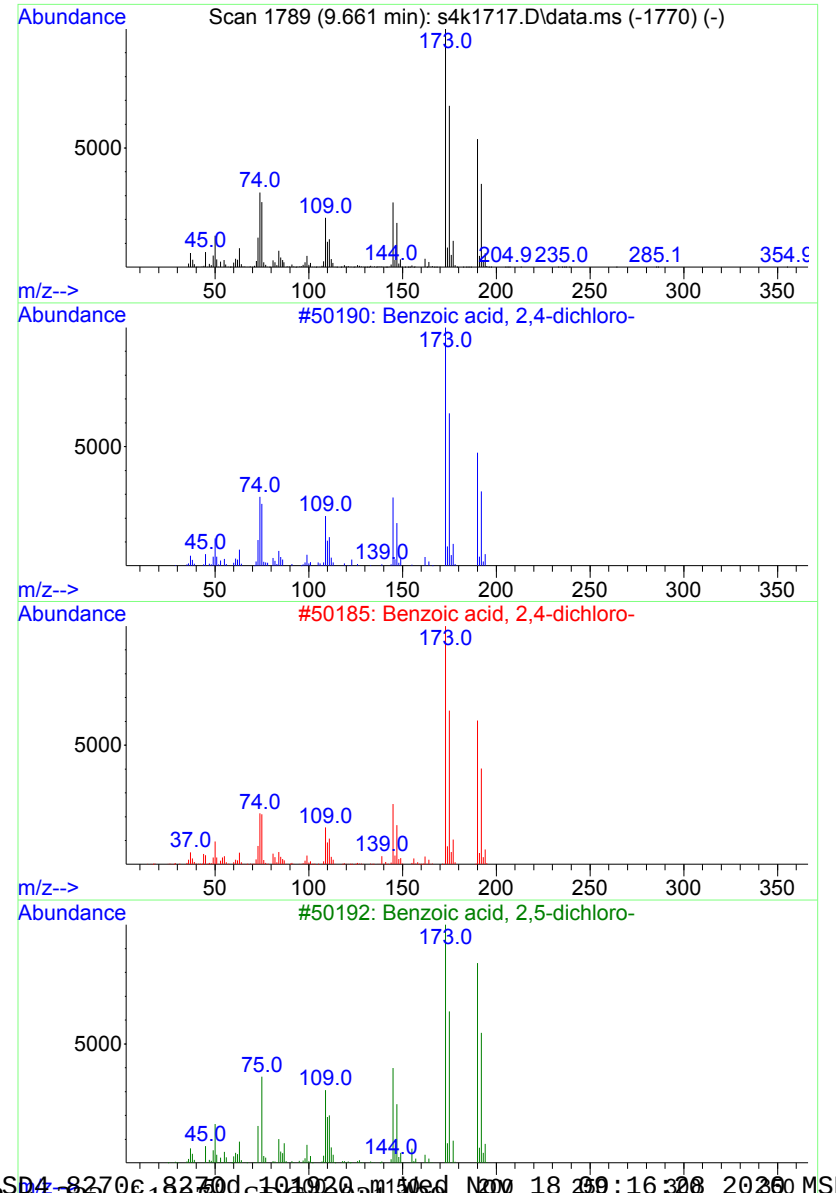
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

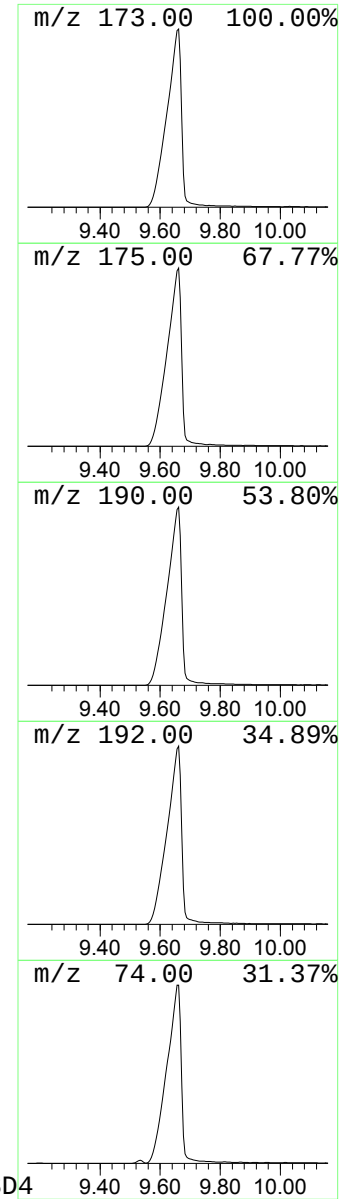
****

Peak Number 2 Benzoic acid, 2,4-dichloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.661	92.65 ng/uL	19431500	D Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	99
2	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	98
3	Benzoic acid, 2,5-dichloro-	190	C7H4Cl2O2	000050-79-3	98
4	Benzoic acid, 2,6-dichloro-	190	C7H4Cl2O2	000050-30-6	96
5	Benzoic acid, 2,6-dichloro-	190	C7H4Cl2O2	000050-30-6	96





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1717.D
Acq On : 17 Nov 2020 21:01
Operator : LOF
Sample : |527509005|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209986|MIX[A,B,D,E,J]||
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
unknown		1.906	21.2	3126830	1	5.409	5889520	40.0
Benzoic acid, 2,4-dichloro-	000050-84-0	9.661	92.7	19431500	10	9.533	8389240	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 14:10**	**Matrix:**	**W**
Lab Sample ID:	**527509009**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209993**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 21:30**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**951.56 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1718.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.15	ug/L	3.15	10.5
91-57-6	2-Methylnaphthalene	U	0.315	ug/L	0.315	1.05
91-20-3	Naphthalene	U	0.315	ug/L	0.315	1.05
90-12-0	1-Methylnaphthalene	U	0.315	ug/L	0.315	1.05
86-73-7	Fluorene	U	0.315	ug/L	0.315	1.05
85-01-8	Phenanthrene	U	0.315	ug/L	0.315	1.05
120-12-7	Anthracene	U	0.315	ug/L	0.315	1.05
206-44-0	Fluoranthene	U	0.315	ug/L	0.315	1.05
129-00-0	Pyrene	U	0.315	ug/L	0.315	1.05
205-99-2	Benzo(b)fluoranthene	U	0.315	ug/L	0.315	1.05
207-08-9	Benzo(k)fluoranthene	U	0.315	ug/L	0.315	1.05
50-32-8	Benzo(a)pyrene	U	0.315	ug/L	0.315	1.05

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	103	105	ug/L	98	(32%-122%)
2-Fluorobiphenyl	44.1	52.5	ug/L	84	(31%-107%)
2-Fluorophenol	40.7	105	ug/L	39	(15%-88%)
Nitrobenzene-d5	40.0	52.5	ug/L	76	(35%-113%)
Phenol-d5	29.0	105	ug/L	28	(15%-91%)
p-Terphenyl-d14	33.4	52.5	ug/L	63	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.906	27.8	ug/L	0	J

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1718.D
Acq On : 17 Nov 2020 21:30
Operator : LOF
Sample : |527509009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209993|MIX[A,B,D,E,J]||
ALS Vial : 18 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 18 09:10:20 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	975876	40.00	ng/uL	-0.02
22) A Naphthalene-d8	136	7.201	7.228	1.000	3672479	40.00	ng/uL	-0.03
39) A Acenaphthene-d10	164	9.533	9.555	1.000	1860664	40.00	ng/uL	-0.02
64) A Phenanthrene-d10	188	11.416	11.432	1.000	3318179	40.00	ng/uL	-0.02
78) A Chrysene-d12	240	14.887	14.914	1.000	2320519	40.00	ng/uL	-0.03
88) A Perylene-d12	264	18.096	18.139	1.000	1551870	40.00	ng/uL	-0.04
96) B 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	975876	40.00	ng/uL	-0.02
112) B Naphthalene-d8	136	7.201	7.228	1.000	3672479	40.00	ng/uL	-0.03
120) B Acenaphthene-d10	164	9.533	9.555	1.000	1860664	40.00	ng/uL	-0.02
129) B Phenanthrene-d10	188	11.416	11.432	1.000	3318179	40.00	ng/uL	-0.02
142) B Chrysene-d12	240	14.887	14.914	1.000	2320519	40.00	ng/uL	-0.03
148) B Perylene-d12	264	18.096	18.139	1.000	1556351	40.00	ng/uL	-0.04
151) J Naphthalene-d8	136	7.201	7.228	1.000	3672479	40.00	ng/uL	-0.03
153) J Phenanthrene-d10	188	11.416	11.432	1.000	3318179	40.00	ng/uL	-0.02
156) J Chrysene-d12	240	14.887	14.914	1.000	2320519	40.00	ng/uL	-0.03
159) D Naphthalene-d8	136	7.201	7.228	1.000	3672479	40.00	ng/uL	-0.03
161) D Acenaphthene-d10	164	9.533	9.555	1.000	1860664	40.00	ng/uL	-0.02
164) D Phenanthrene-d10	188	11.416	11.432	1.000	3318179	40.00	ng/uL	-0.02
171) D Chrysene-d12	240	14.887	14.914	1.000	2320519	40.00	ng/uL	-0.03
173) E Naphthalene-d8	136	7.201	7.228	1.000	3672479	40.00	ng/uL	-0.03
175) E Perylene-d12	264	18.096	18.139	1.000	1550930	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.719	3.735	0.688	1138488	38.77	ng/uL	-0.02
8) Phenol-d5	99	4.874	4.906	0.901	984660	27.58	ng/uL	-0.03
23) Nitrobenzene-d5	82	6.195	6.222	0.860	1184881	38.02	ng/uL	-0.03
44) 2-Fluorobiphenyl	172	8.666	8.736	0.909	2427383m	41.96	ng/uL	-0.07
63) 2,4,6-Tribromophenol	330	10.538	10.555	1.105	644660	97.97	ng/uL	-0.02
80) p-Terphenyl-d14	244	13.405	13.422	0.900	2446446	31.74	ng/uL	-0.02

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	39%
8) Phenol-d5	100.000	15 - 91	28%
23) Nitrobenzene-d5	50.000	35 - 113	76%
44) 2-Fluorobiphenyl	50.000	31 - 107	84%
63) 2,4,6-Tribromophenol	100.000	32 - 122	98%
80) p-Terphenyl-d14	50.000	35 - 134	63%

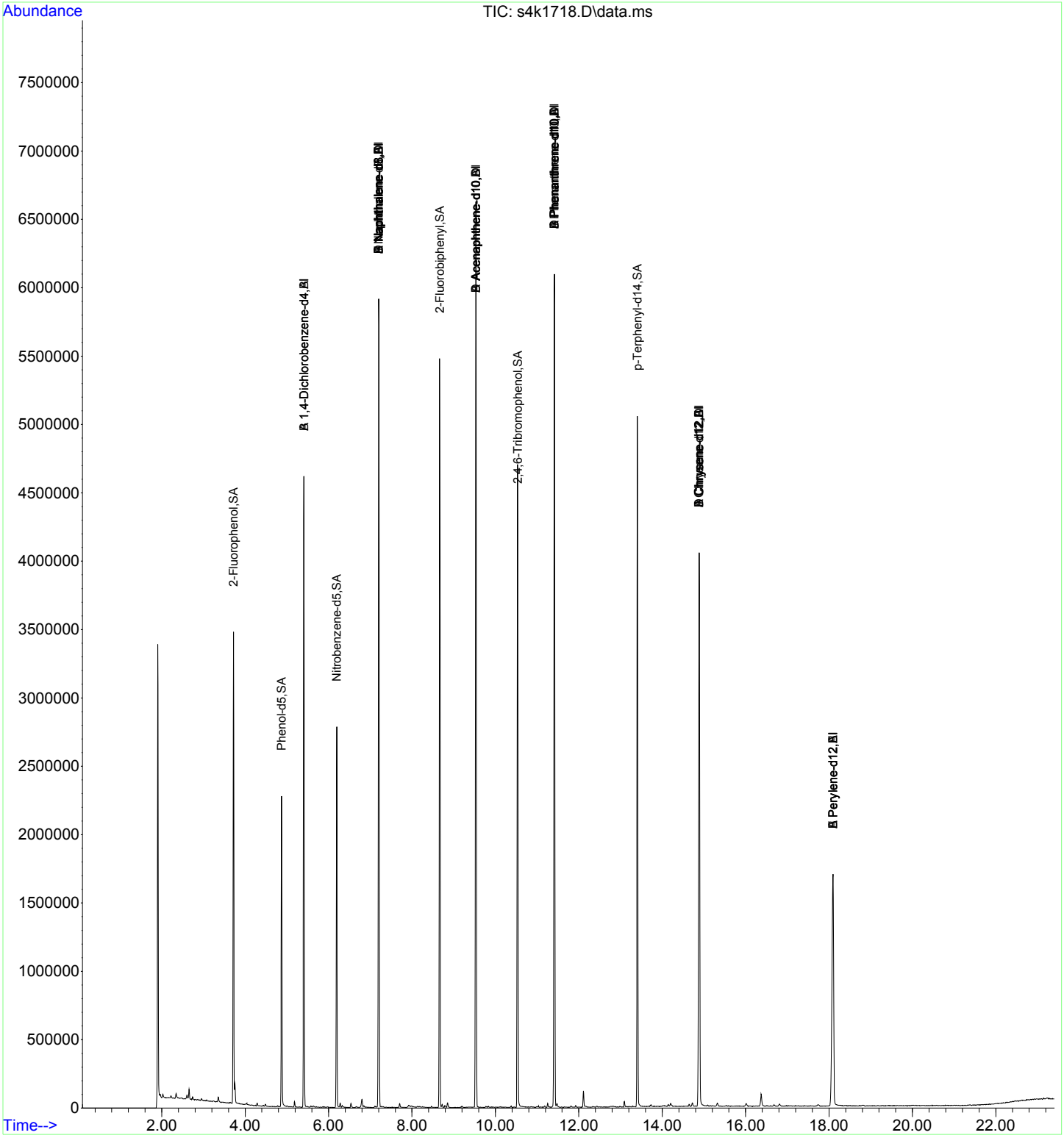
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

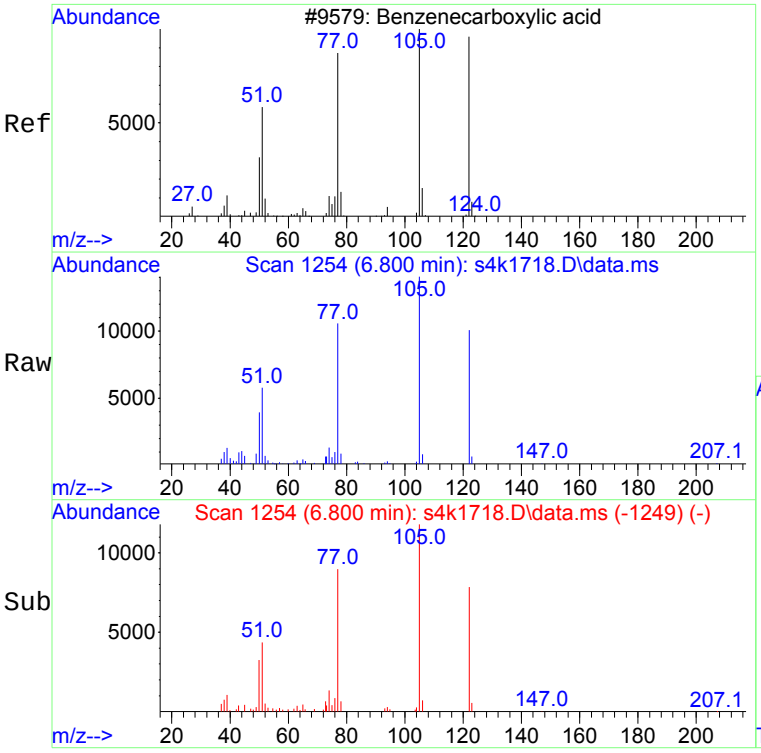
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1718.D
Acq On : 17 Nov 2020 21:30
Operator : LOF
Sample : |527509009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209993|MIX[A,B,D,E,J]||
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 18 09:10:20 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

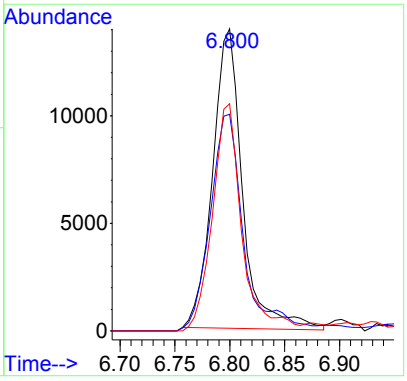


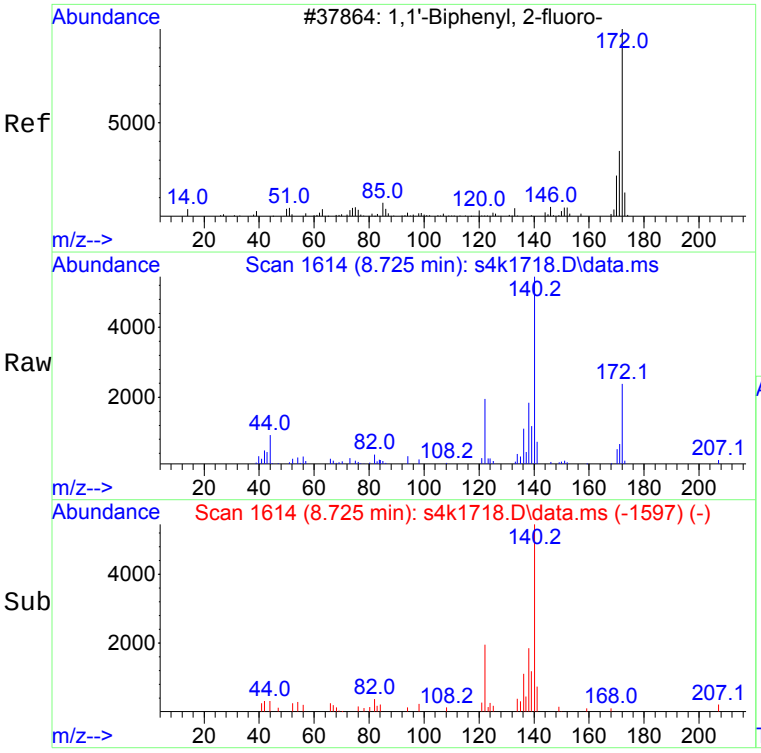


#30 BEFORE analyst DELETION
Benzoic acid
Concen: 13.13 ng/uL
RT: 6.800 min Scan# 1254
Delta R.T. -0.123 min
Lab File: s4k1718.D
Acq: 17 Nov 2020 21:30

Tgt Ion:105 Resp: 26440

Ion	Ratio	Lower	Upper
105	100		
122	78.9	51.3	111.3
77	81.9	45.6	105.6

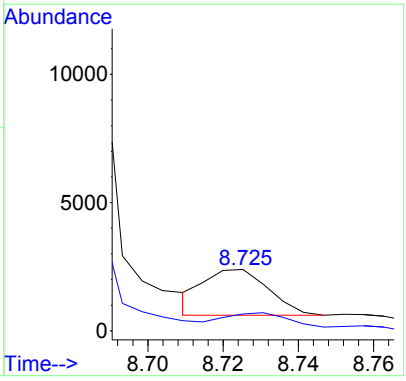


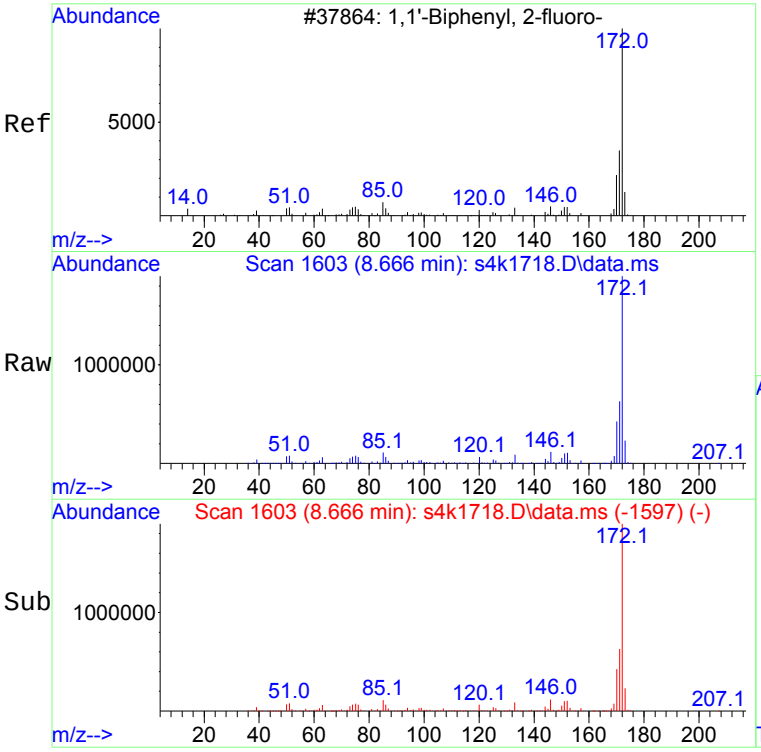


#44 BEFORE analyst integration
2-Fluorobiphenyl
Concen: 0.04 ng/uL
RT: 8.725 min Scan# 1614
Delta R.T. -0.011 min
Lab File: s4k1718.D
Acq: 17 Nov 2020 21:30

Tgt Ion:172 Resp: 2137

Ion	Ratio	Lower	Upper
172	100		
171	29.3	2.5	62.5

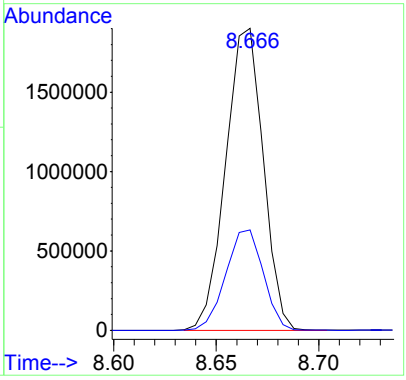




#44 AFTER analyst integration
2-Fluorobiphenyl AP
Concen: 41.96 ng/uL MANUALLY INTEGRATED
RT: 8.666 min Scan# 1603
Delta R.T. -0.070 min
Lab File: s4k1718.D
Acq: 17 Nov 2020 21:30

Tgt Ion:172 Resp: 2427383

Ion	Ratio	Lower	Upper
172	100		
171	33.3	2.5	62.5



Library Search Compound Report

JMB 11/18/2020

RAB 11/19/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1718.D
Acq On : 17 Nov 2020 21:30
Operator : LOF
Sample : |527509009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209993|MIX[A,B,D,E,J]||
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

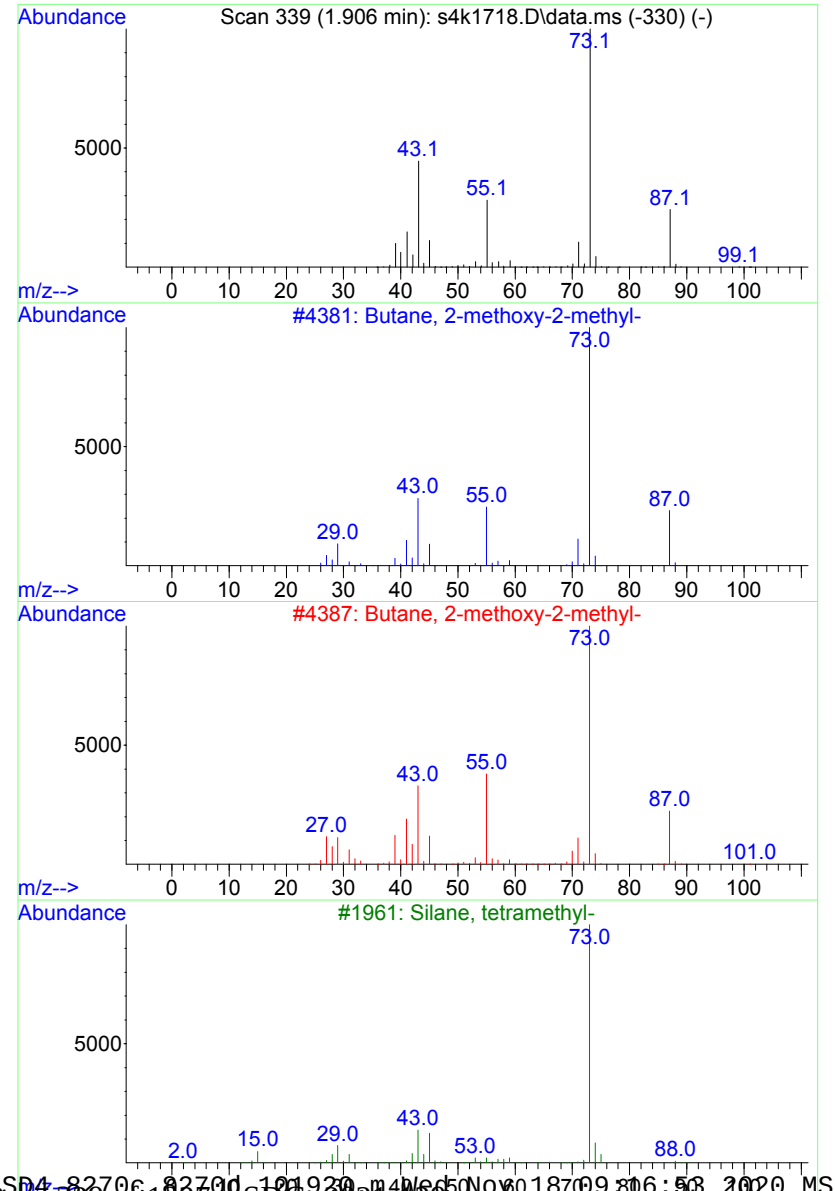
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

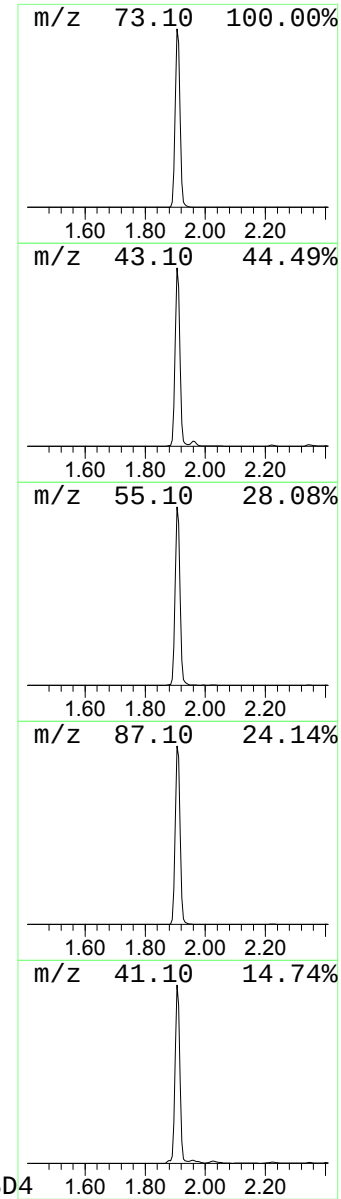
****

Peak Number 1 unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.906	26.48 ng/uL	4051410	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	83
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
3	Silane, tetramethyl-	88	C4H12Si	000075-76-3	38
4	1,3-Dioxolane, 2-methyl-	88	C4H8O2	000497-26-7	32
5	Silane, tetramethyl-	88	C4H12Si	000075-76-3	10





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1718.D
Acq On : 17 Nov 2020 21:30
Operator : LOF
Sample : |527509009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209993|MIX[A,B,D,E,J]||
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
unknown		1.906	26.5	4051410	1	5.409	6120880	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**527509003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209972**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 11:04**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1806.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.00	ug/L	3.00	10.0
91-57-6	2-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
91-20-3	Naphthalene	U	0.300	ug/L	0.300	1.00
90-12-0	1-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
86-73-7	Fluorene	U	0.300	ug/L	0.300	1.00
85-01-8	Phenanthrene	U	0.300	ug/L	0.300	1.00
120-12-7	Anthracene	U	0.300	ug/L	0.300	1.00
206-44-0	Fluoranthene	U	0.300	ug/L	0.300	1.00
129-00-0	Pyrene	U	0.300	ug/L	0.300	1.00
205-99-2	Benzo(b)fluoranthene	U	0.300	ug/L	0.300	1.00
207-08-9	Benzo(k)fluoranthene	U	0.300	ug/L	0.300	1.00
50-32-8	Benzo(a)pyrene	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	81.9	100	ug/L	82		(32%-122%)
2-Fluorobiphenyl	34.3	50.0	ug/L	69		(31%-107%)
2-Fluorophenol	44.8	100	ug/L	45		(15%-88%)
Nitrobenzene-d5	35.6	50.0	ug/L	71		(35%-113%)
Phenol-d5	34.3	100	ug/L	34		(15%-91%)
p-Terphenyl-d14	12.7	50.0	ug/L	25	*	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.9	19.6	ug/L	0	J
000067-71-0	Dimethyl sulfone	4.152	4.75	ug/L	94	NJ
	unknown	5.591	6	ug/L	0	J
000112-36-7	Ethane, 1,1'-oxybis[2-ethoxy-]	6.008	21.3	ug/L	90	NJ
	unknown	8.116	8.5	ug/L	0	J
	unknown	8.859	15	ug/L	0	J
000143-24-8	2,5,8,11,14-Pentaoxapentadecane	9.469	11.8	ug/L	90	NJ
000050-84-0	Benzoic acid, 2,4-dichloro-	9.629	24.1	ug/L	99	NJ
029878-31-7	1H-Benzotriazole, 4-methyl-	9.763	6.21	ug/L	98	NJ
000136-85-6	1H-Benzotriazole, 5-methyl-	10.041	4.5	ug/L	97	NJ
	unknown	10.218	12.6	ug/L	0	J
	unknown	10.597	12.7	ug/L	0	J
	unknown	11.116	16.4	ug/L	0	J
020870-78-4	5-Bromoindalin-2-on	11.56	5.8	ug/L	90	NJ

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**527509003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209972**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 11:04**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1806.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
1000131-10-0	E,Z-2,13-Octadecadien-1-ol	11.694	6.46	ug/L	94	NJ
000057-10-3	n-Hexadecanoic acid	12.116	7.16	ug/L	93	NJ
	unknown	16.369	4.27	ug/L	0	J
	unknown	22.535	8.15	ug/L	0	J

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

JMB 11/19/2020

Quant Time: Nov 18 11:44:30 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	849686	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.201	7.206	1.000	3237364	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.528	9.538	1.000	1661602	40.00	ng/uL	-0.01
64) A Phenanthrene-d10	188	11.410	11.416	1.000	2840862	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.882	14.898	1.000	1489681	40.00	ng/uL	-0.02
88) A Perylene-d12	264	18.075	18.096	1.000	842974	40.00	ng/uL	-0.02
96) B 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	849686	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.201	7.206	1.000	3237364	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.528	9.538	1.000	1661602	40.00	ng/uL	-0.01
129) B Phenanthrene-d10	188	11.410	11.416	1.000	2840862	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.882	14.898	1.000	1489681	40.00	ng/uL	-0.02
148) B Perylene-d12	264	18.075	18.096	1.000	845414	40.00	ng/uL	-0.02
151) J Naphthalene-d8	136	7.201	7.206	1.000	3237364	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.410	11.416	1.000	2840862	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.882	14.898	1.000	1489681	40.00	ng/uL	-0.02
159) D Naphthalene-d8	136	7.201	7.206	1.000	3237364	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.528	9.538	1.000	1661602	40.00	ng/uL	-0.01
164) D Phenanthrene-d10	188	11.410	11.416	1.000	2840862	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.882	14.898	1.000	1489681	40.00	ng/uL	-0.02
173) E Naphthalene-d8	136	7.201	7.206	1.000	3237364	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.075	18.096	1.000	842974	40.00	ng/uL	-0.02
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.719	3.714	0.688	1146042	44.83	ng/uL	0.00
8) Phenol-d5	99	4.874	4.885	0.902	1064842	34.26	ng/uL	-0.01
23) Nitrobenzene-d5	82	6.190	6.195	0.860	978326	35.61	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.661	8.666	0.909	1772552	34.31	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.533	10.539	1.106	481303	81.91	ng/uL	0.00
80) p-Terphenyl-d14	244	13.400	13.405	0.900	629016	12.71	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	45%
8) Phenol-d5	100.000	15 - 91	34%
23) Nitrobenzene-d5	50.000	35 - 113	71%
44) 2-Fluorobiphenyl	50.000	31 - 107	69%
63) 2,4,6-Tribromophenol	100.000	32 - 122	82%
80) p-Terphenyl-d14	50.000	35 - 134	25%#

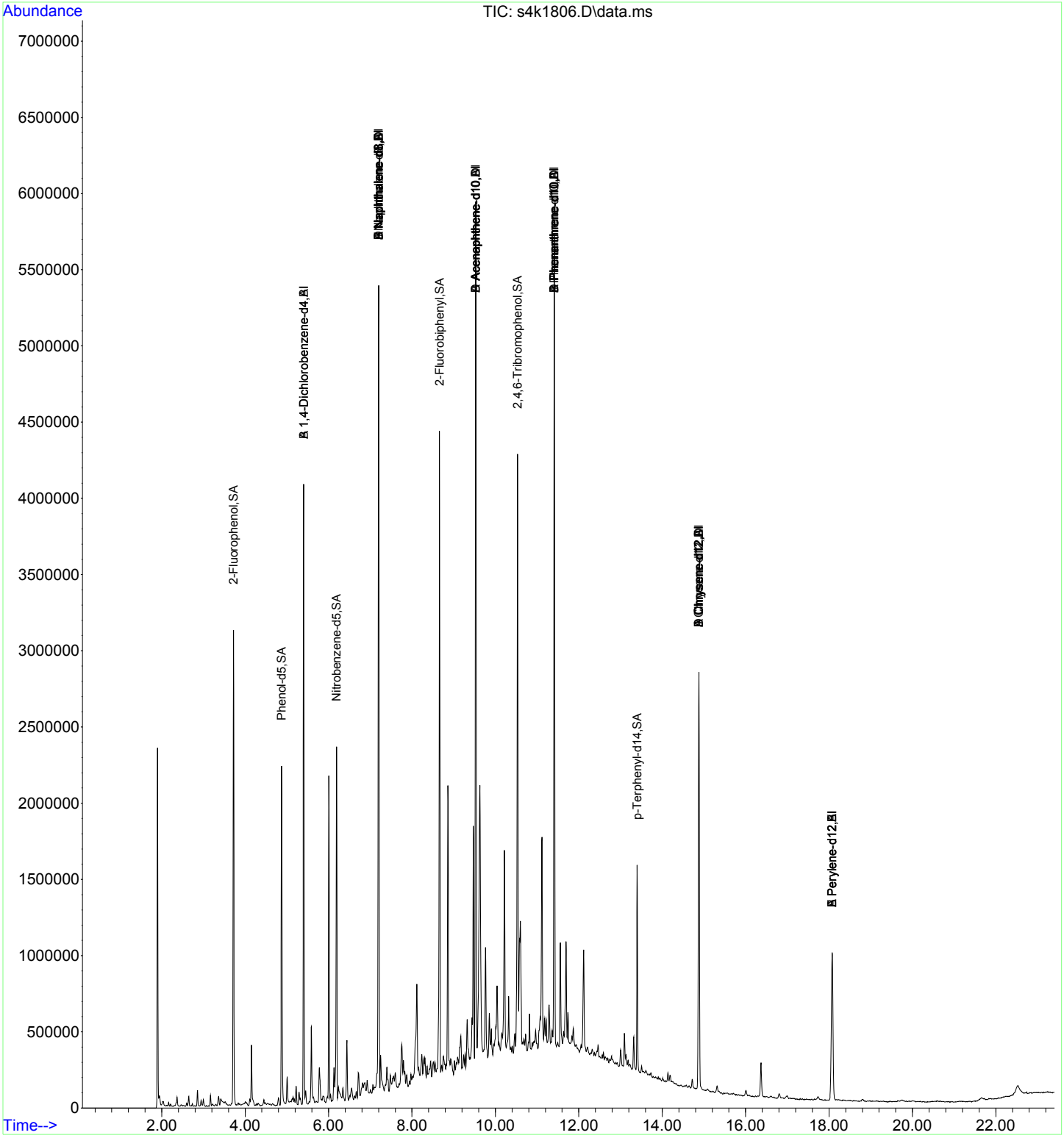
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

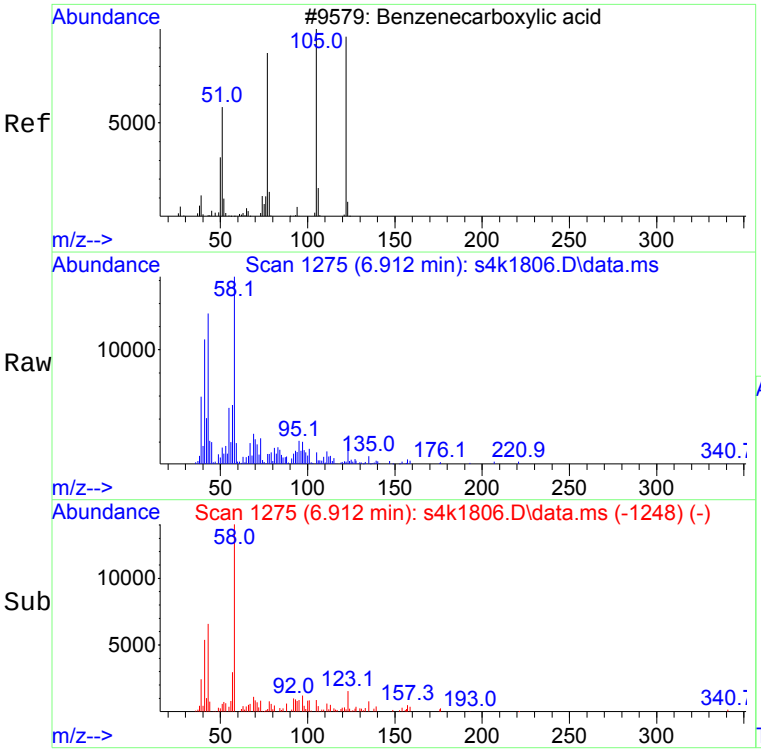
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 18 11:44:30 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

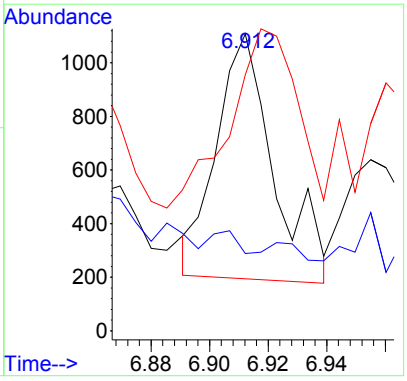


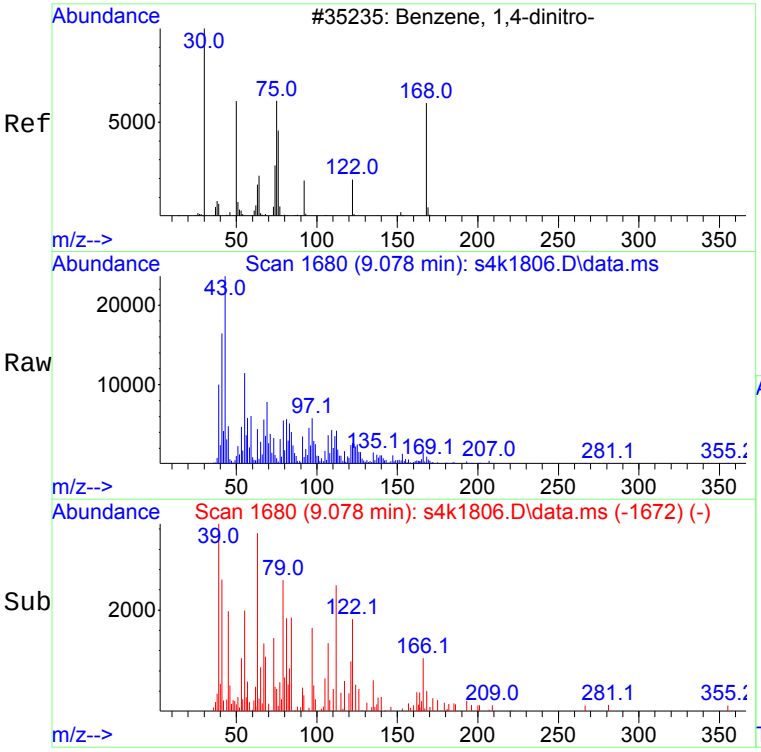


#30 BEFORE analyst DELETION
Benzoic acid
Concen: 11.64 ng/uL
RT: 6.912 min Scan# 1275
Delta R.T. -0.005 min
Lab File: s4k1806.D
Acq: 18 Nov 2020 11:04

Tgt Ion:105 Resp: 1247

Ion	Ratio	Lower	Upper
105	100		
122	0.0	51.3	111.3#
77	94.1	45.6	105.6

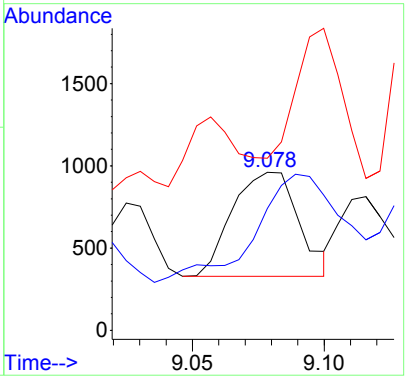


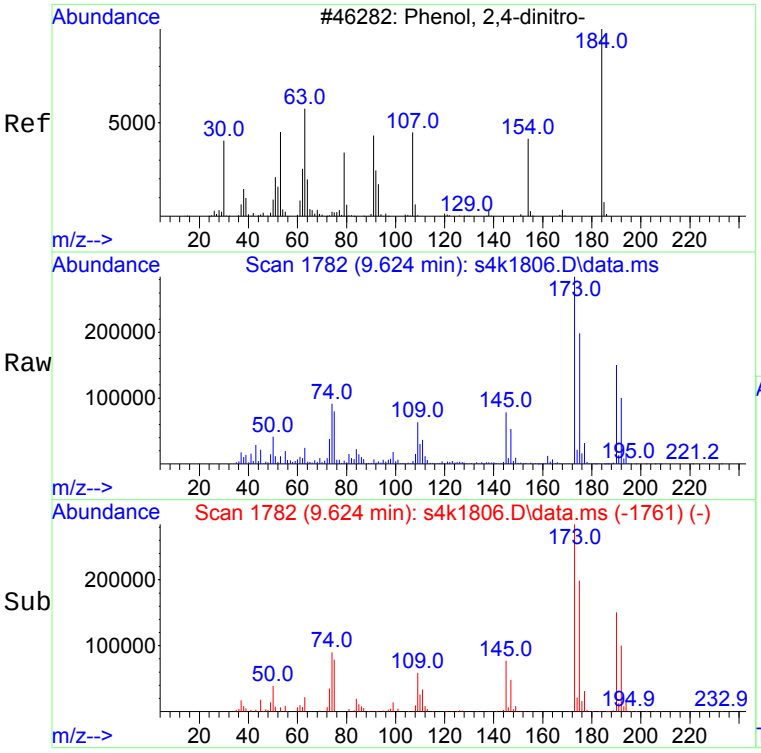


#47 BEFORE analyst DELETION
1,4-Dinitrobenzene
Concen: 4.17 ng/uL
RT: 9.078 min Scan# 1680
Delta R.T. -0.059 min
Lab File: s4k1806.D
Acq: 18 Nov 2020 11:04

Tgt Ion:168 Resp: 1101

Ion	Ratio	Lower	Upper
168	100		
75	95.5	89.3	149.3
50	100.7	83.7	143.7

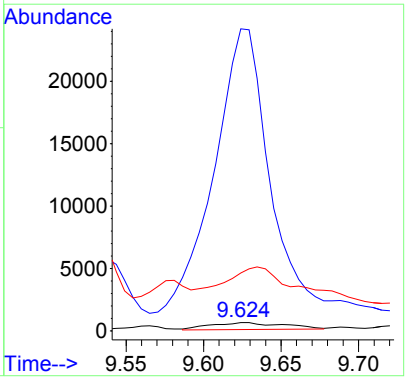


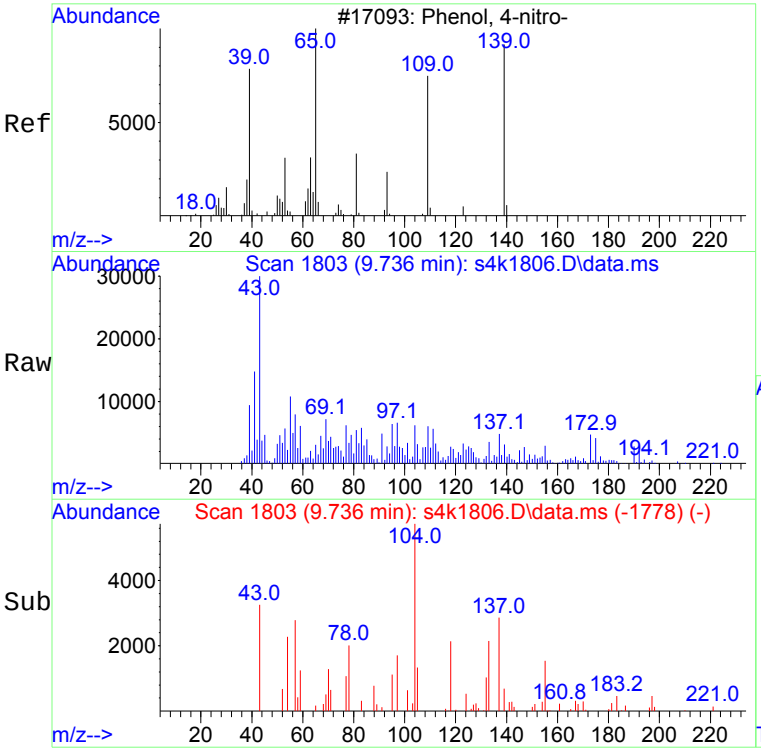


#55 BEFORE analyst DELETION
2,4-Dinitrophenol
Concen: 11.93 ng/uL
RT: 9.624 min Scan# 1782
Delta R.T. 0.011 min
Lab File: s4k1806.D
Acq: 18 Nov 2020 11:04

Tgt Ion:184 Resp: 1817

Ion	Ratio	Lower	Upper
184	100		
63	3102.7	175.8	235.8#
107	486.4	10.9	70.9#

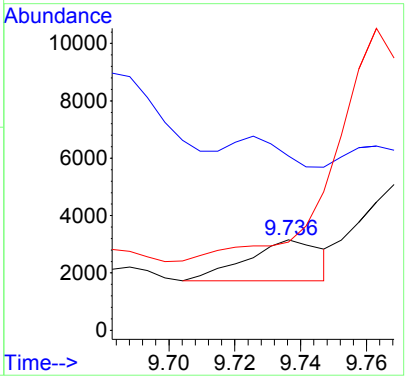


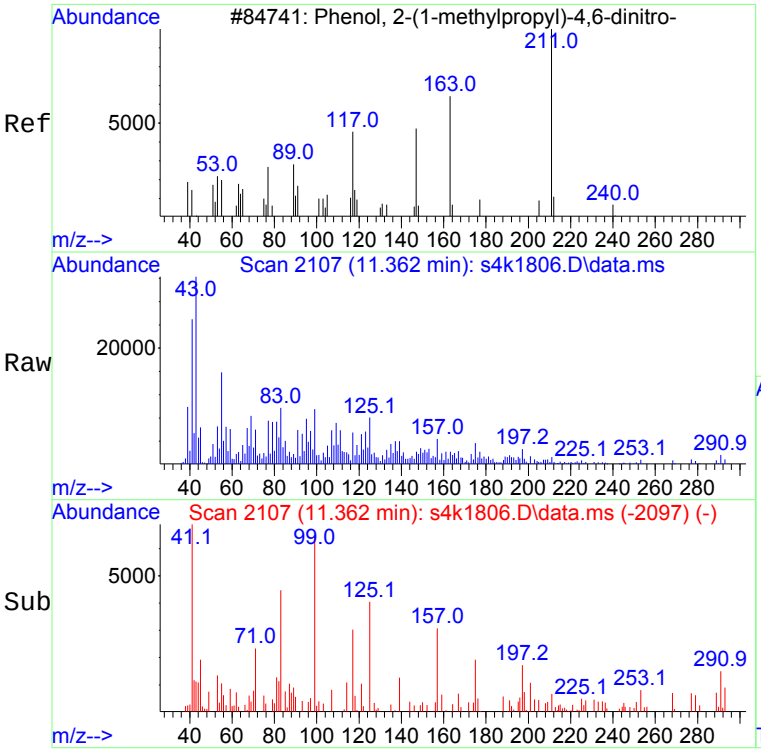


#59 BEFORE analyst DELETION
4-Nitrophenol
Concen: 3.68 ng/uL
RT: 9.736 min Scan# 1803
Delta R.T. 0.032 min
Lab File: s4k1806.D
Acq: 18 Nov 2020 11:04

Tgt Ion:139 Resp: 2237

Ion	Ratio	Lower	Upper
139	100		
109	45.5	34.9	94.9
65	0.0	64.7	124.7#

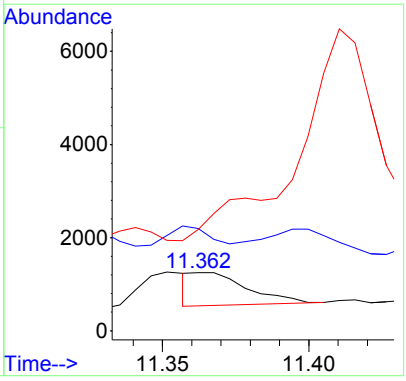


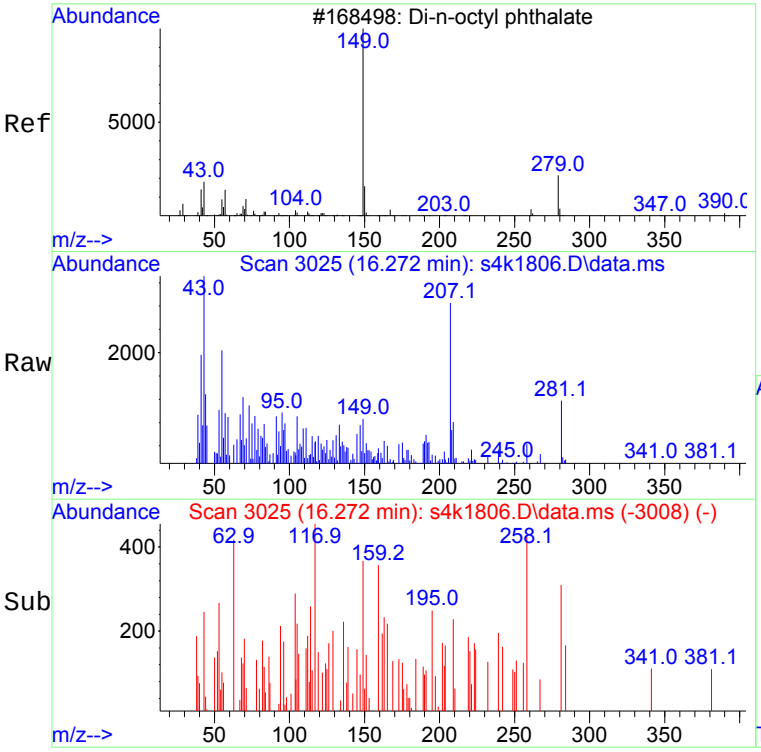


#72 BEFORE analyst DELETION
Dinoseb
Concen: 8.50 ng/uL
RT: 11.362 min Scan# 2107
Delta R.T. -0.048 min
Lab File: s4k1806.D
Acq: 18 Nov 2020 11:04

Tgt Ion:211 Resp: 927

Ion	Ratio	Lower	Upper
211	100		
163	107.0	16.9	76.9#
147	121.0	3.8	63.8#

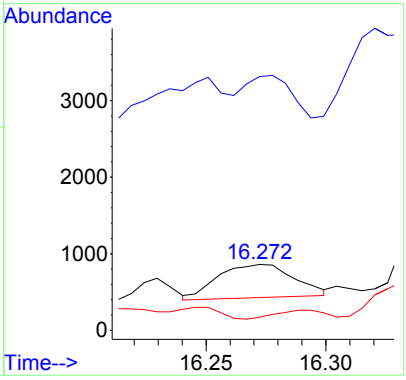


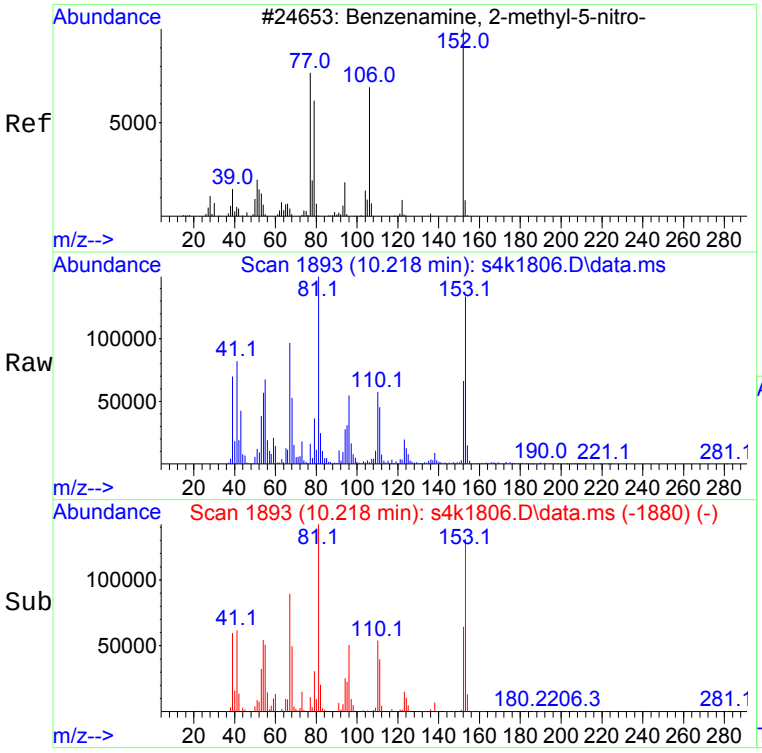


#87 BEFORE analyst DELETION
Di-n-octylphthalate
Concen: 0.40 ng/uL
RT: 16.272 min Scan# 3025
Delta R.T. -0.011 min
Lab File: s4k1806.D
Acq: 18 Nov 2020 11:04

Tgt Ion:149 Resp: 965

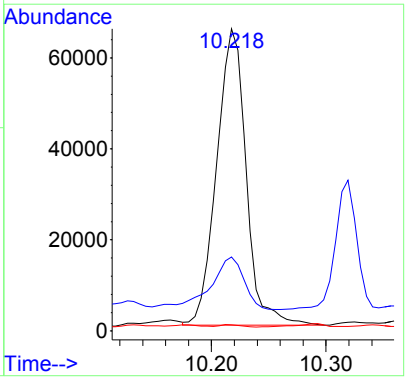
Ion	Ratio	Lower	Upper
149	100		
43	73.0	0.0	42.3#
167	0.0	0.0	31.5






```
#128 BEFORE analyst DELETION
5-Nitro-o-toluidine
Concen:    8.66 ng/uL
RT:  10.218 min  Scan# 1893
Delta R.T.  -0.032 min
Lab File:   s4k1806.D
Acq: 18 Nov 2020  11:04

Tgt Ion:152 Resp:  116524
Ion  Ratio  Lower  Upper
152  100
 77   19.5   56.3  116.3#
106    0.5   42.8  102.8#
```



Library Search Compound Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

JMB 11/19/2020

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

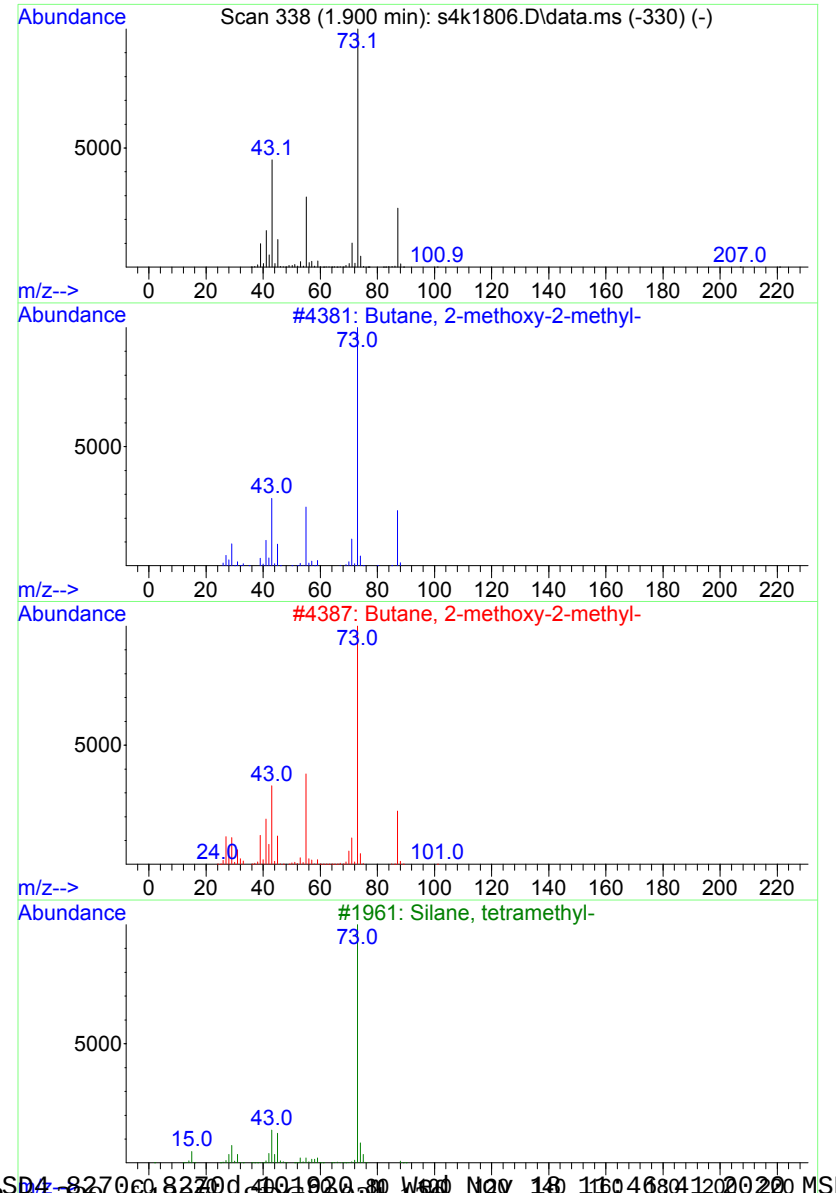
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

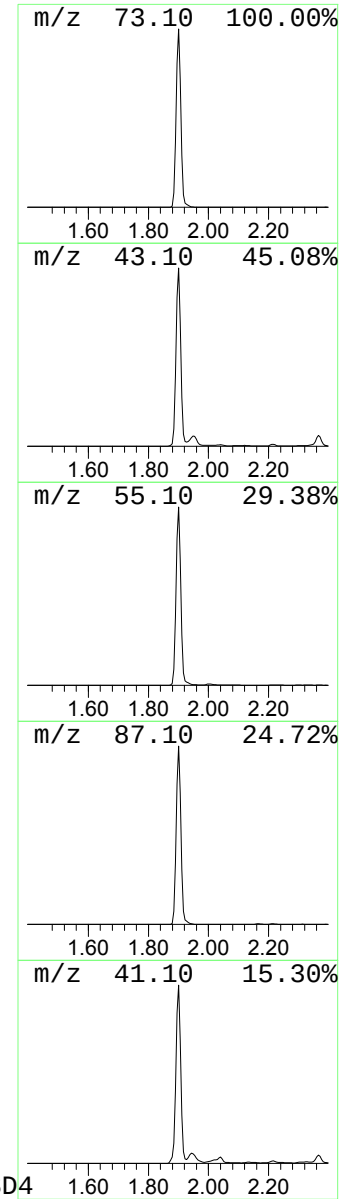
****

Peak Number 1 unknown Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.900	19.55 ng/uL	2631060	A 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	83
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
3	Silane, tetramethyl-	88	C4H12Si	000075-76-3	38
4	3-Pentanol, 2,4-dimethyl-	116	C7H16O	000600-36-2	37
5	1,3-Dioxolane, 2-methyl-	88	C4H8O2	000497-26-7	23





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

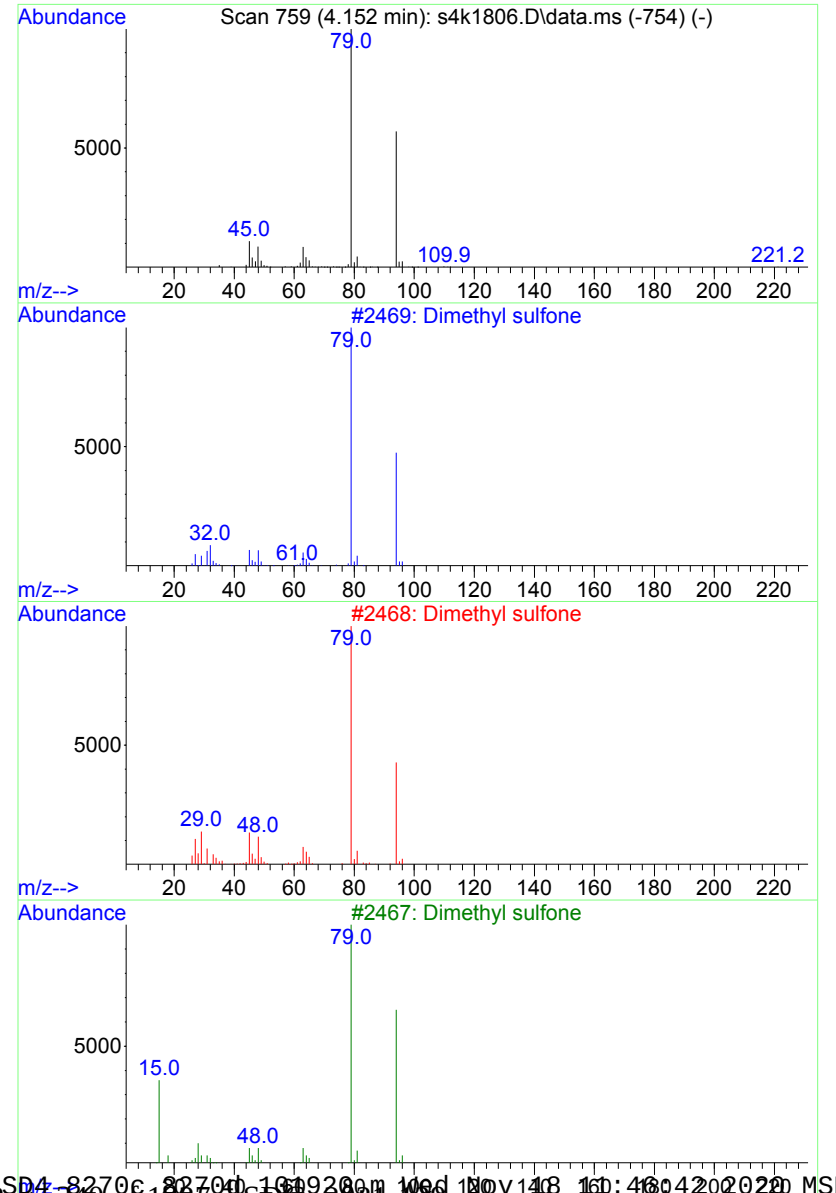
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

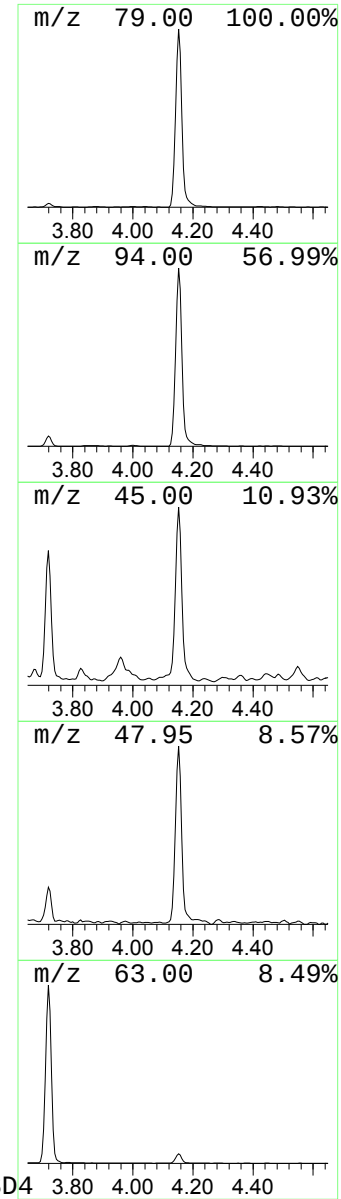
****

Peak Number 2 Dimethyl sulfone Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.152	4.75 ng/uL	639803	A 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl sulfone	94	C2H6O2S	000067-71-0	94
2	Dimethyl sulfone	94	C2H6O2S	000067-71-0	91
3	Dimethyl sulfone	94	C2H6O2S	000067-71-0	87
4	Dimethyl sulfone	94	C2H6O2S	000067-71-0	80
5	Methanesulfonyl chloride	114	CH3ClO2S	000124-63-0	47





Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

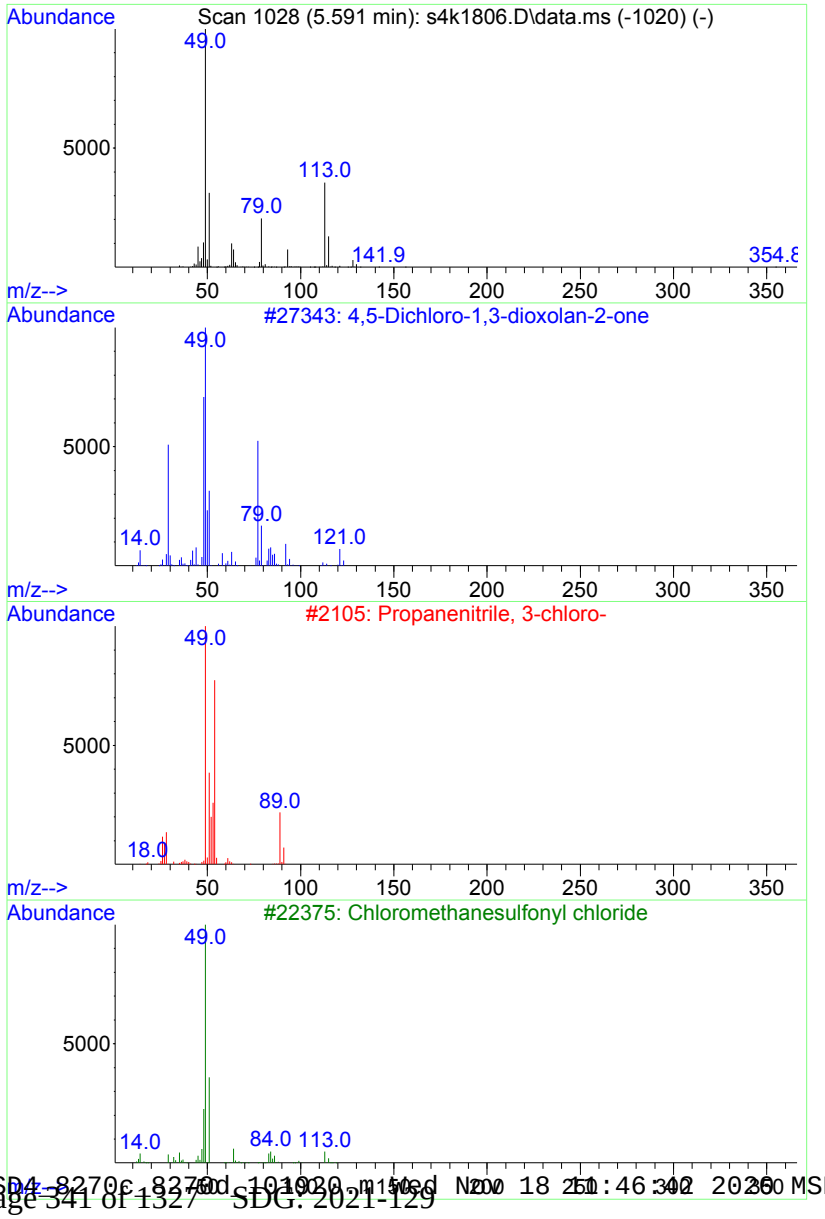
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

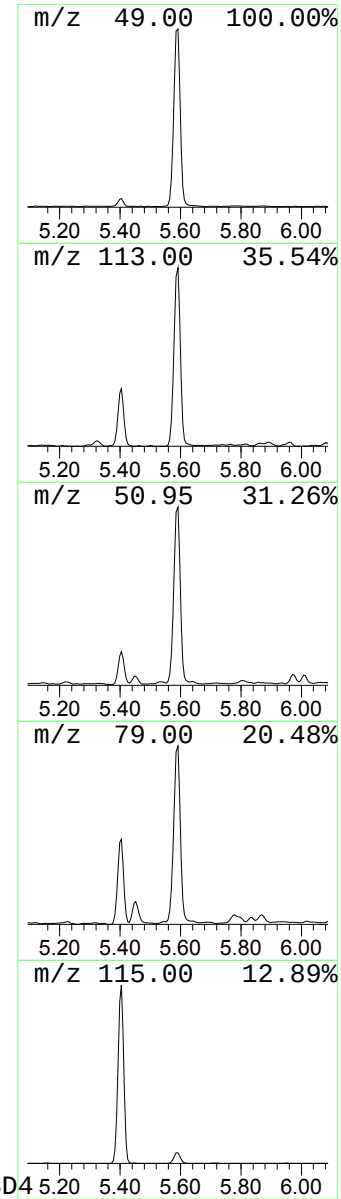
****

Peak Number 3 unknown Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.591	6.00 ng/uL	807664	B 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	4,5-Dichloro-1,3-dioxolan-2-one	156	C3H2Cl2O3	003967-55-3	40
2	Propanenitrile, 3-chloro-	89	C3H4ClN	000542-76-7	9
3	Chloromethanesulfonyl chloride	148	CH2Cl2O2S	003518-65-8	9
4	Propanenitrile, 2,2,3-trichloro-	157	C3H2Cl3N	000813-74-1	4
5	4,5-Dichloro-1,3-dioxolan-2-one	156	C3H2Cl2O3	003967-55-3	3





Library Search Compound Report

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Acq On : 18 Nov 2020 11:04
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ALS Vial : 6 Sample Multiplier: 1

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Quant Title : BNA01

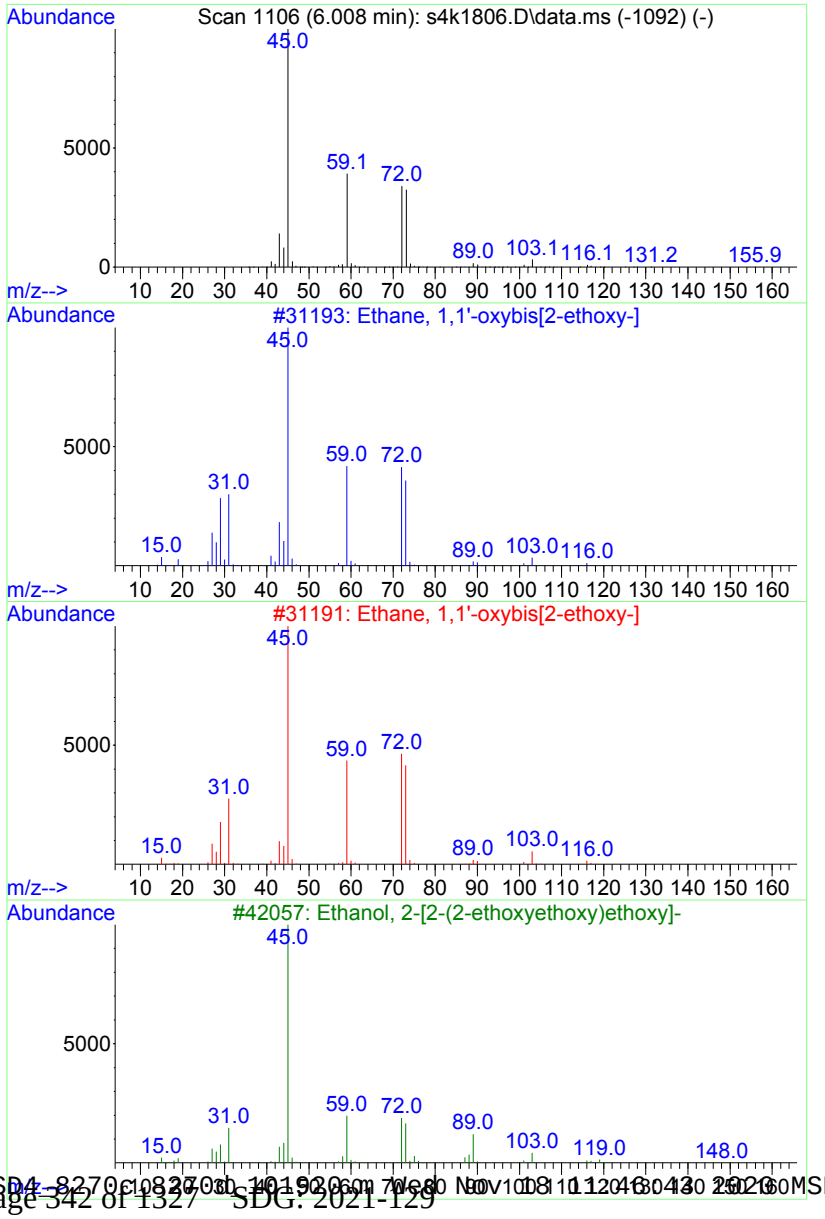
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

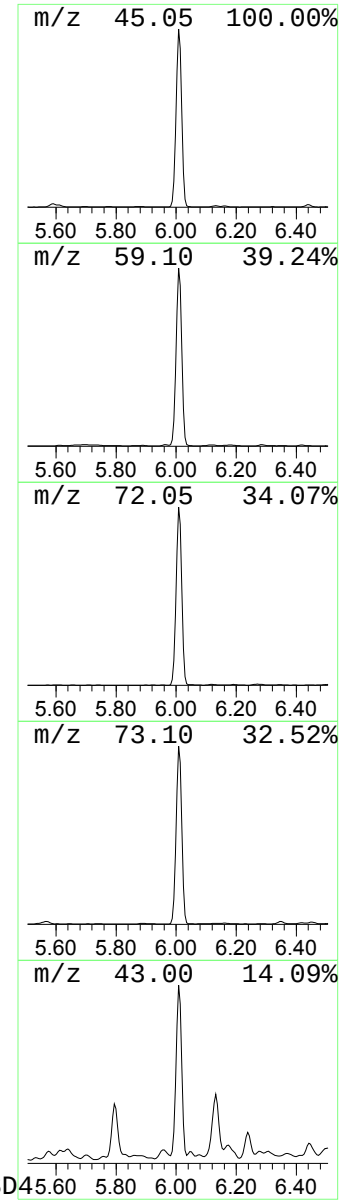
****

Peak Number 4 Ethane, 1,1'-oxybis[2-ethoxy-] Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.008	21.34 ng/uL	2872560	B 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	90
2	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	83
3	Ethanol, 2-[2-(2-ethoxyethoxy)et...	178	C8H18O4	000112-50-5	74
4	Ethanol, 2-(2-ethoxyethoxy)-	134	C6H14O3	000111-90-0	72
5	2-Propanol, 1-(1-methylethoxy)-	118	C6H14O2	003944-36-3	45





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ALS Vial : 6 Sample Multiplier: 1

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Quant Title : BNA01

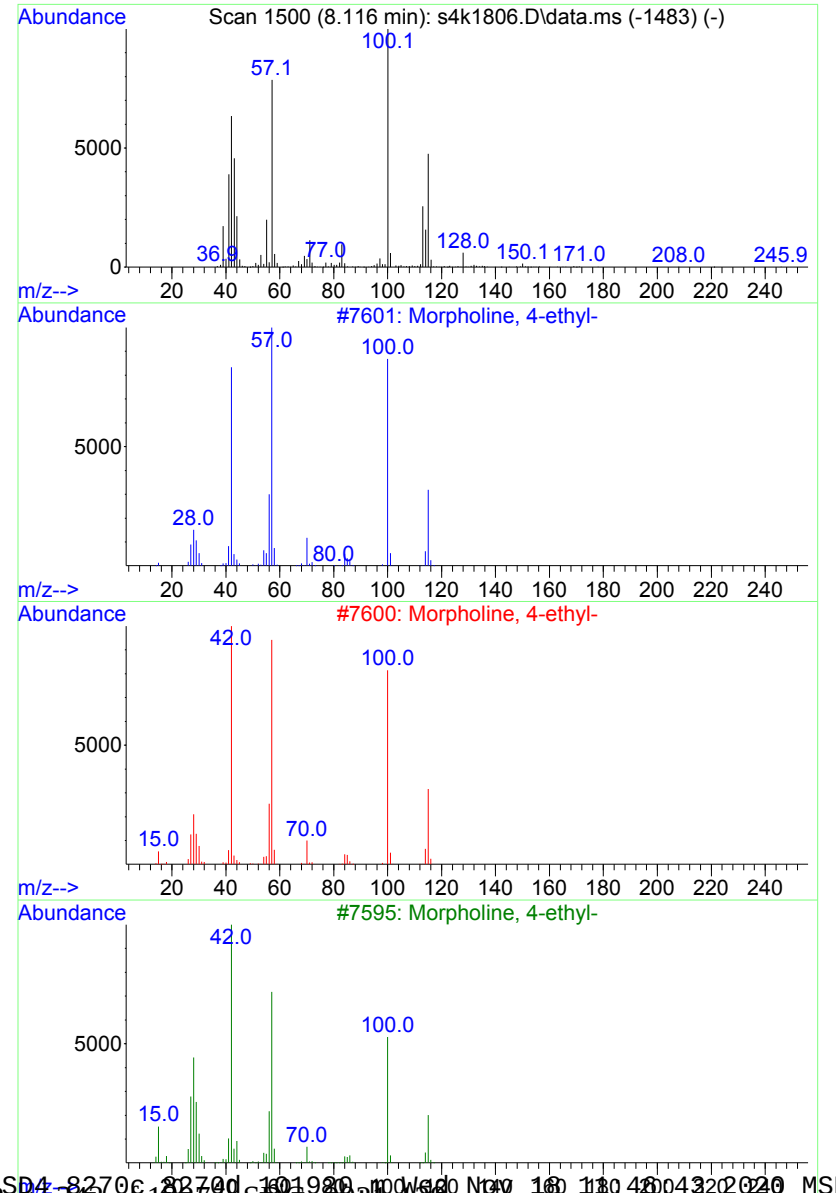
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

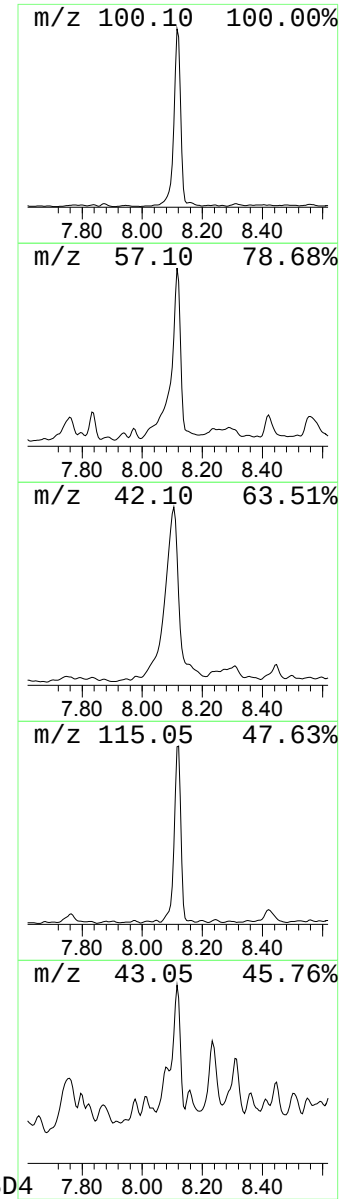
****

Peak Number 5 unknown Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.116	8.50 ng/uL	1499780	E Naphthalene-d8	7.201

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Morpholine, 4-ethyl-	115	C6H13NO	000100-74-3	72
2	Morpholine, 4-ethyl-	115	C6H13NO	000100-74-3	64
3	Morpholine, 4-ethyl-	115	C6H13NO	000100-74-3	50
4	2-Piperazinone	100	C4H8N2O	005625-67-2	47
5	Sydnone, 3-methyl-	100	C3H4N2O2	006939-12-4	47





Library Search Compound Report

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Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

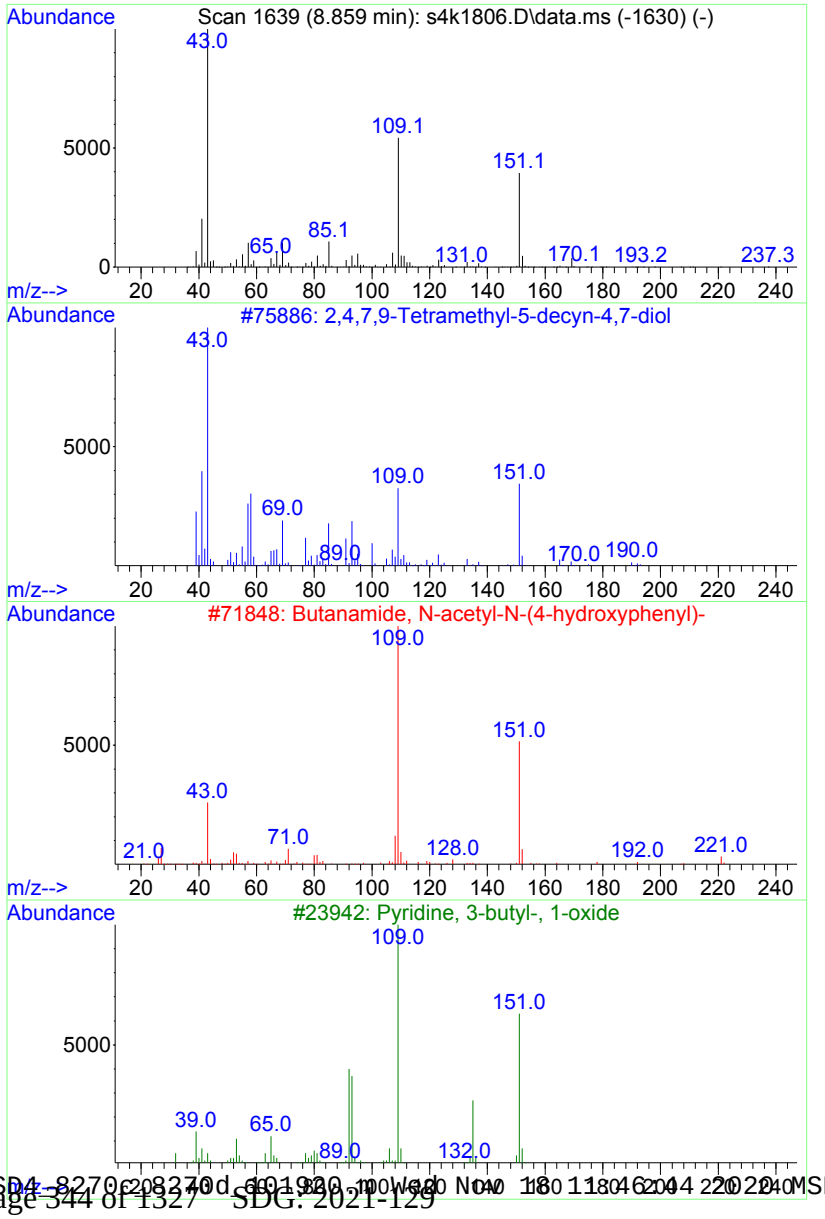
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

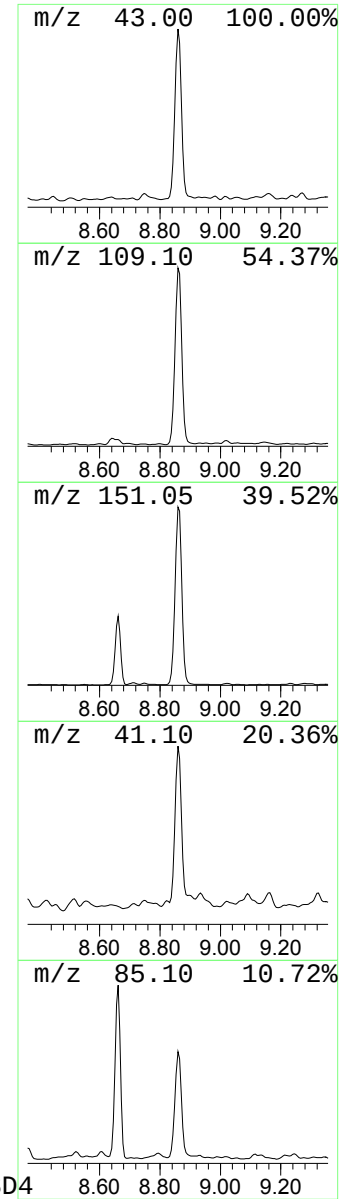
****

Peak Number 6 unknown Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.859	15.01 ng/uL	2919870	A Acenaphthene-d10	9.528

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,4,7,9-Tetramethyl-5-decyn-4,7-...	226	C14H26O2	000126-86-3	38
2	Butanamide, N-acetyl-N-(4-hydrox...	221	C12H15NO3	1000107-08-7	36
3	Pyridine, 3-butyl-, 1-oxide	151	C9H13NO	031396-33-5	36
4	2,3-Dehydro-1,8-cineole	152	C10H16O	092760-25-3	25
5	3-Hexyne-2,5-diol, 2,5-dimethyl-	142	C8H14O2	000142-30-3	25





Library Search Compound Report

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Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

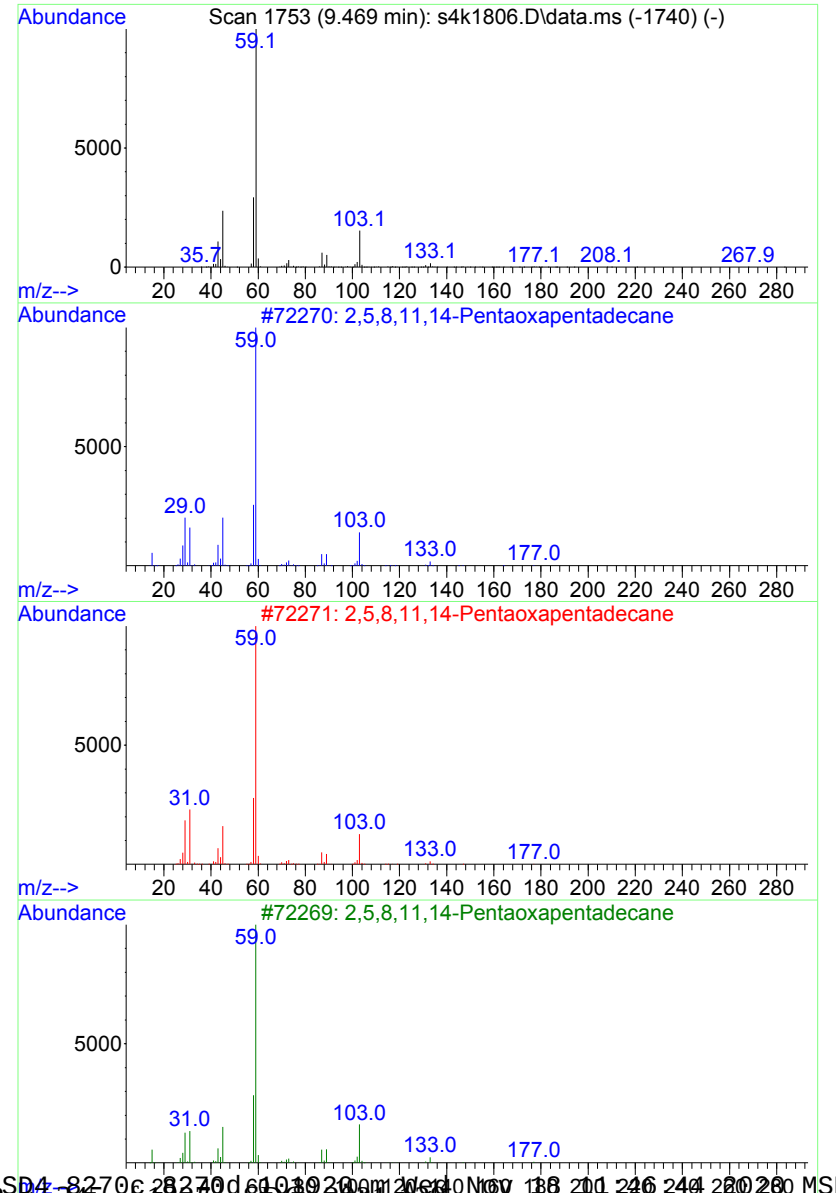
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

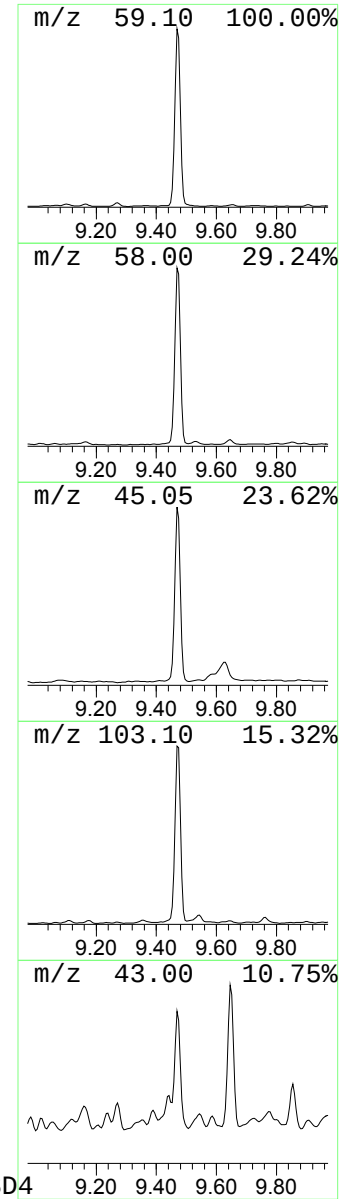
****

Peak Number 7 2,5,8,11,14-Pentaoxapentade... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.469	11.77 ng/uL	2290850	A Acenaphthene-d10	9.528

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	90
2	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	90
3	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	78
4	2,5,8,11-Tetraoxadodecane	178	C8H18O4	000112-49-2	72
5	2,5,8,11-Tetraoxadodecane	178	C8H18O4	000112-49-2	64





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ALS Vial : 6 Sample Multiplier: 1

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Quant Title : BNA01

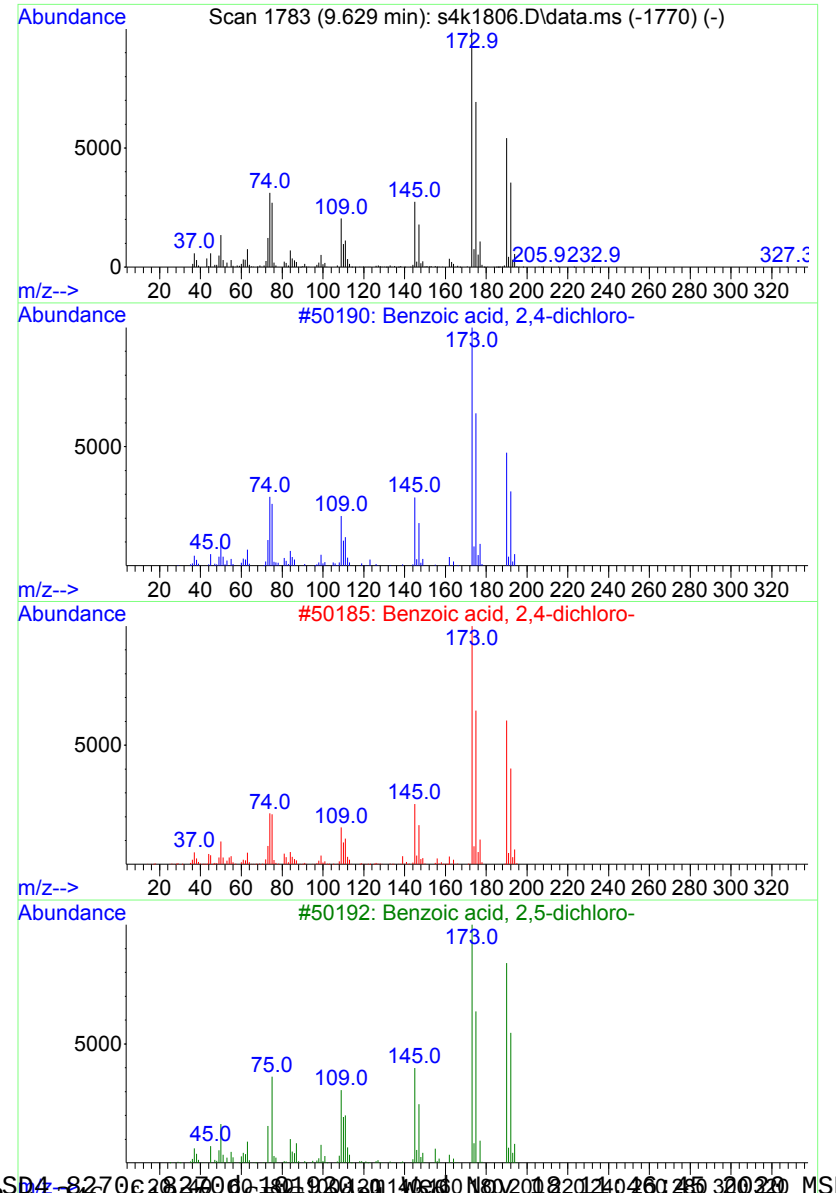
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

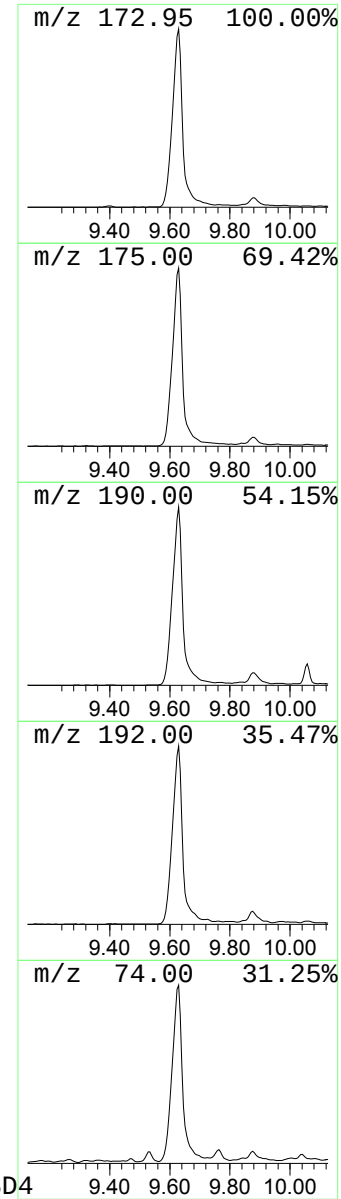
****

Peak Number 8 Benzoic acid, 2,4-dichloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.629	24.11 ng/uL	4690560	D Acenaphthene-d10	9.528

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	99
2	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	98
3	Benzoic acid, 2,5-dichloro-	190	C7H4Cl2O2	000050-79-3	96
4	Benzoic acid, 2,6-dichloro-	190	C7H4Cl2O2	000050-30-6	96
5	Benzoic acid, 3,4-dichloro-	190	C7H4Cl2O2	000051-44-5	95





Library Search Compound Report

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ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

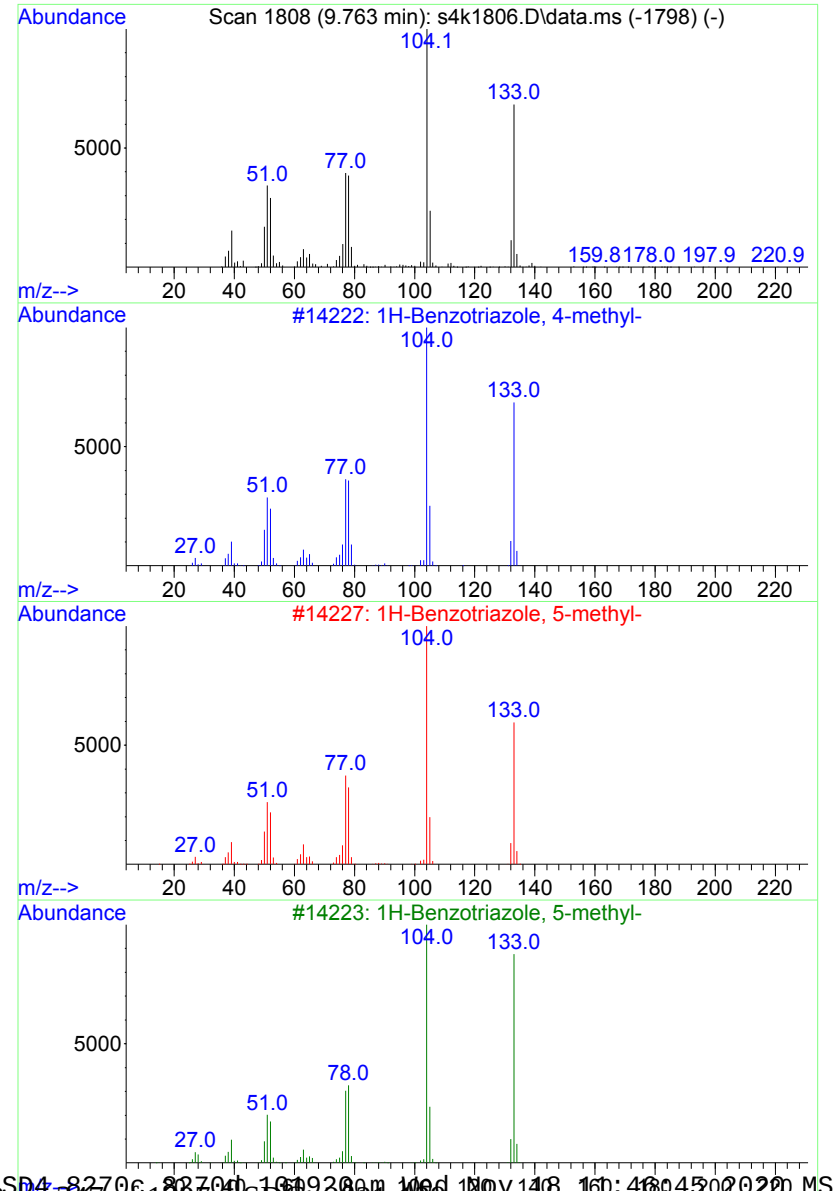
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

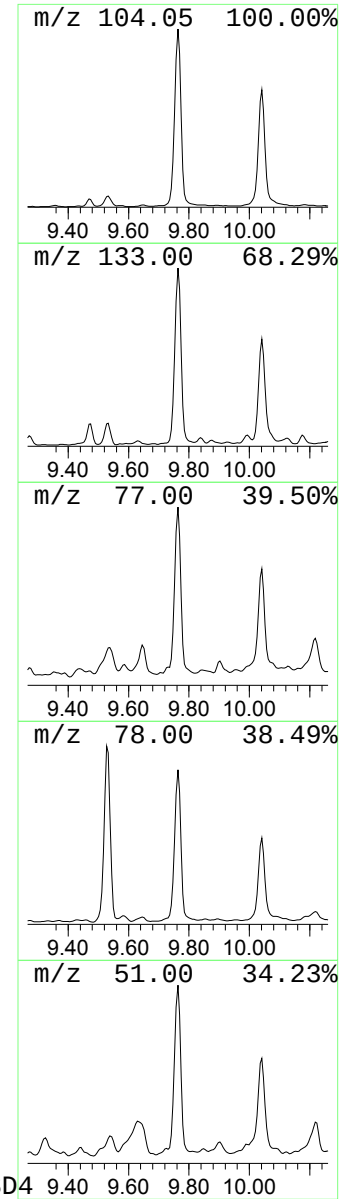
****

Peak Number 9 1H-Benzotriazole, 4-methyl- Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.763	6.21 ng/uL	1207850	D Acenaphthene-d10	9.528

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Benzotriazole, 4-methyl-	133	C7H7N3	029878-31-7	98
2	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	97
3	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	97
4	1H-Benzotriazole, 4-methyl-	133	C7H7N3	029878-31-7	95
5	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	94





Library Search Compound Report

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Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

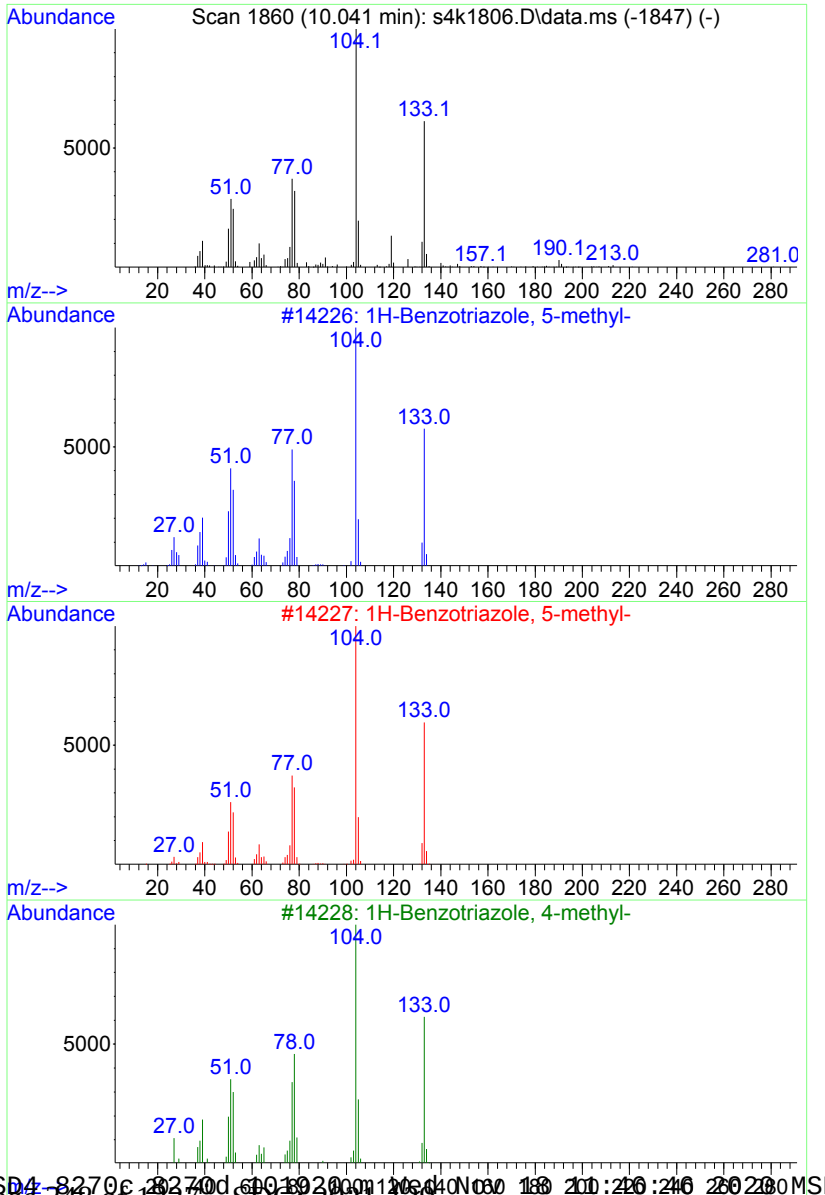
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

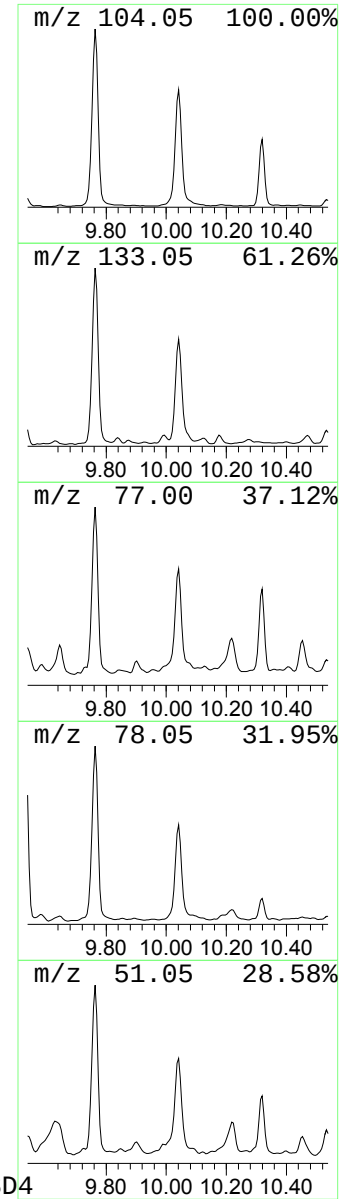
****

Peak Number 10 1H-Benzotriazole, 5-methyl- Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.041	4.50 ng/uL	875831	D Acenaphthene-d10	9.528

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	97
2	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	96
3	1H-Benzotriazole, 4-methyl-	133	C7H7N3	029878-31-7	94
4	1H-Benzotriazole, 4-methyl-	133	C7H7N3	029878-31-7	93
5	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	90





Library Search Compound Report

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Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

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Quant Title : BNA01

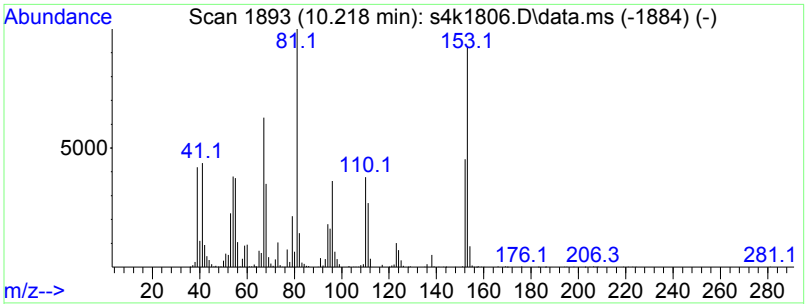
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

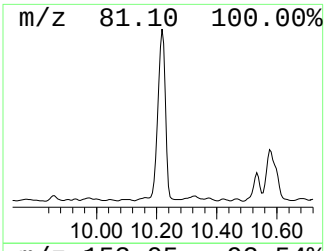
****

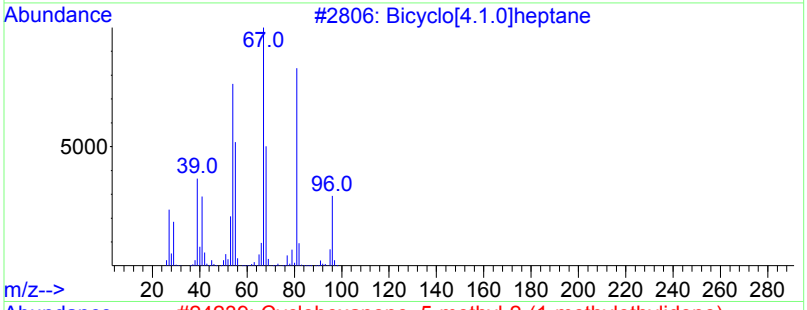
Peak Number 11 unknown Concentration Rank 7

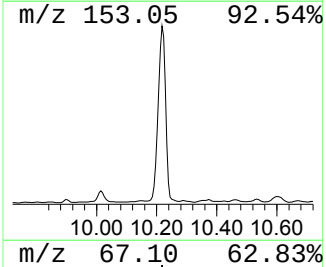
R.T.	EstConc	Area	Relative to ISTD	R.T.
10.218	12.59 ng/uL	2450580	D Acenaphthene-d10	9.528

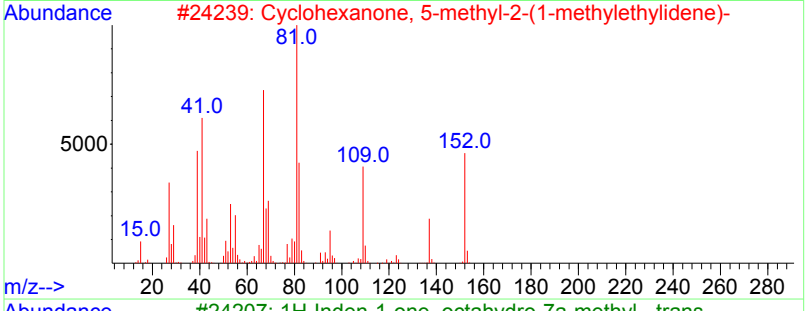
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Bicyclo[4.1.0]heptane	96	C7H12	000286-08-8	46
2	Cyclohexanone, 5-methyl-2-(1-met...	152	C10H16O	015932-80-6	46
3	1H-Inden-1-one, octahydro-7a-met...	152	C10H16O	017428-83-0	43
4	Cyclohexane, ethylidene-	110	C8H14	001003-64-1	41
5	Cyclohexane, ethylidene-	110	C8H14	001003-64-1	38

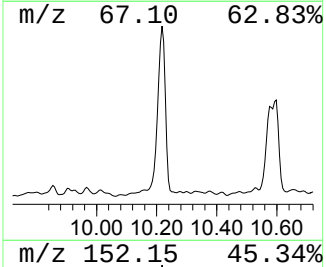


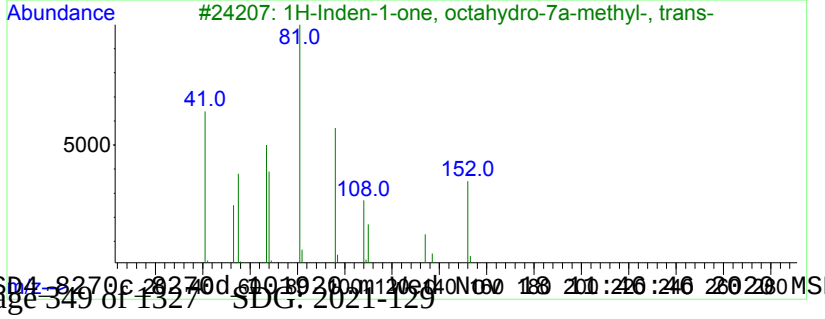


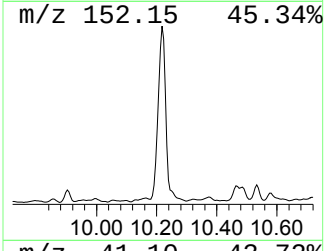


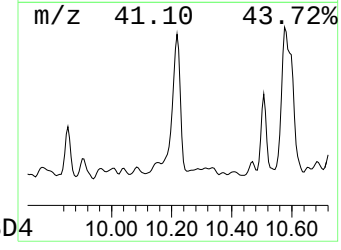












Library Search Compound Report

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Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

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Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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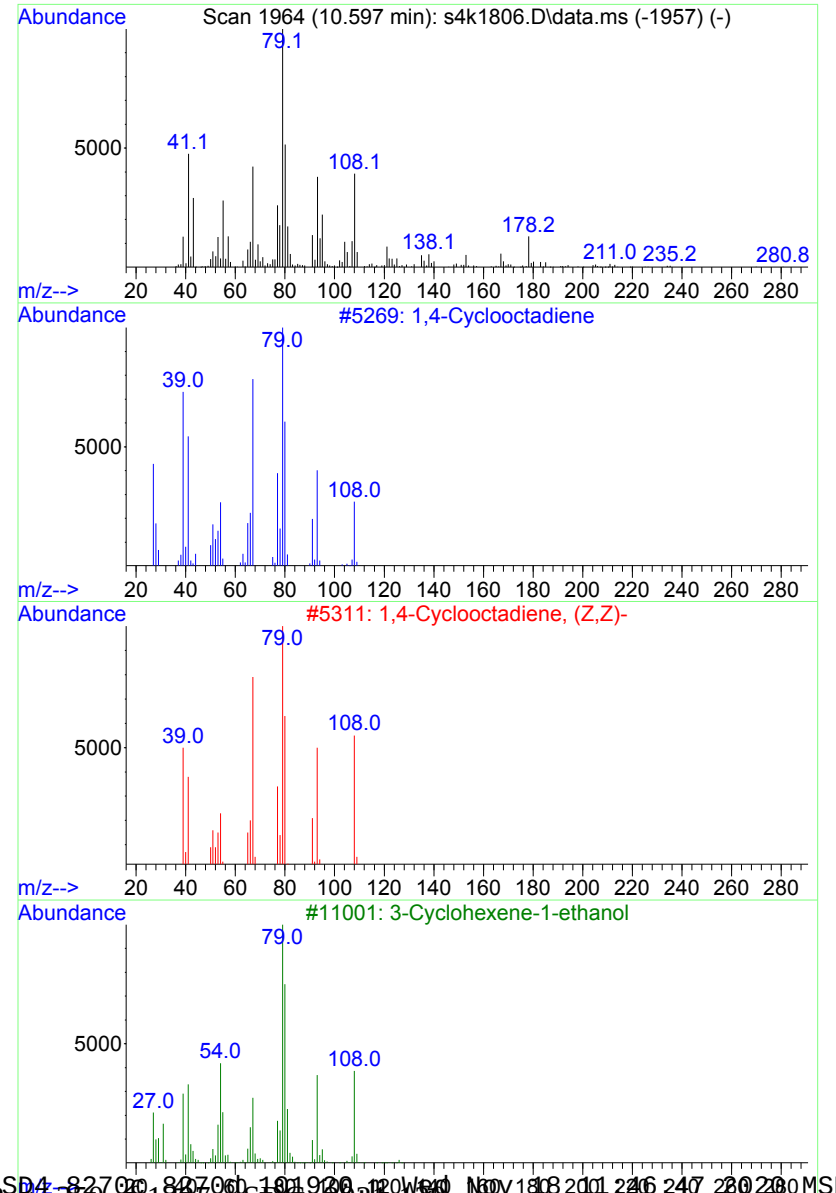
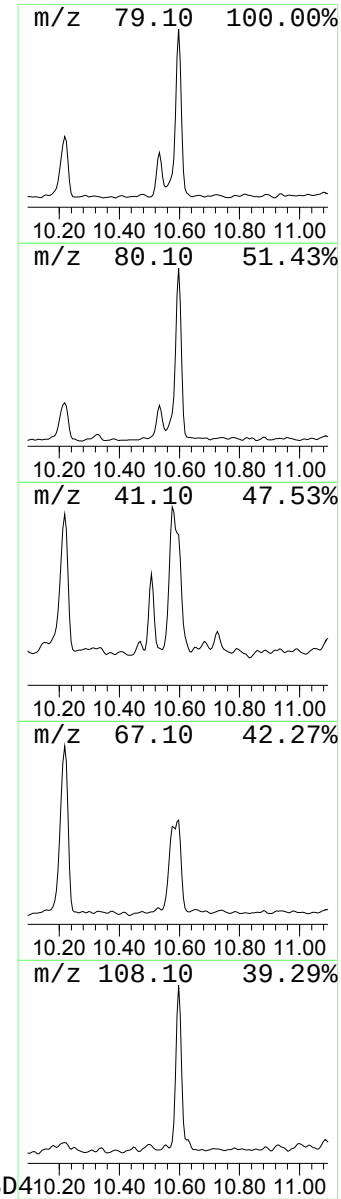
Peak Number 12 unknown Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.597	12.70 ng/uL	2218080	A Phenanthrene-d10	11.410

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,4-Cyclooctadiene	108	C8H12	001073-07-0	58
2	1,4-Cyclooctadiene, (Z,Z)-	108	C8H12	016327-22-3	58
3	3-Cyclohexene-1-ethanol	126	C8H14O	018240-10-3	53
4	Cyclopropane, 1-ethenyl-2-hexeny...	150	C11H18	022822-99-7	47
5	2-Methylenebicyclo[2.2.1]-heptane	108	C8H12	000497-35-8	47





Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

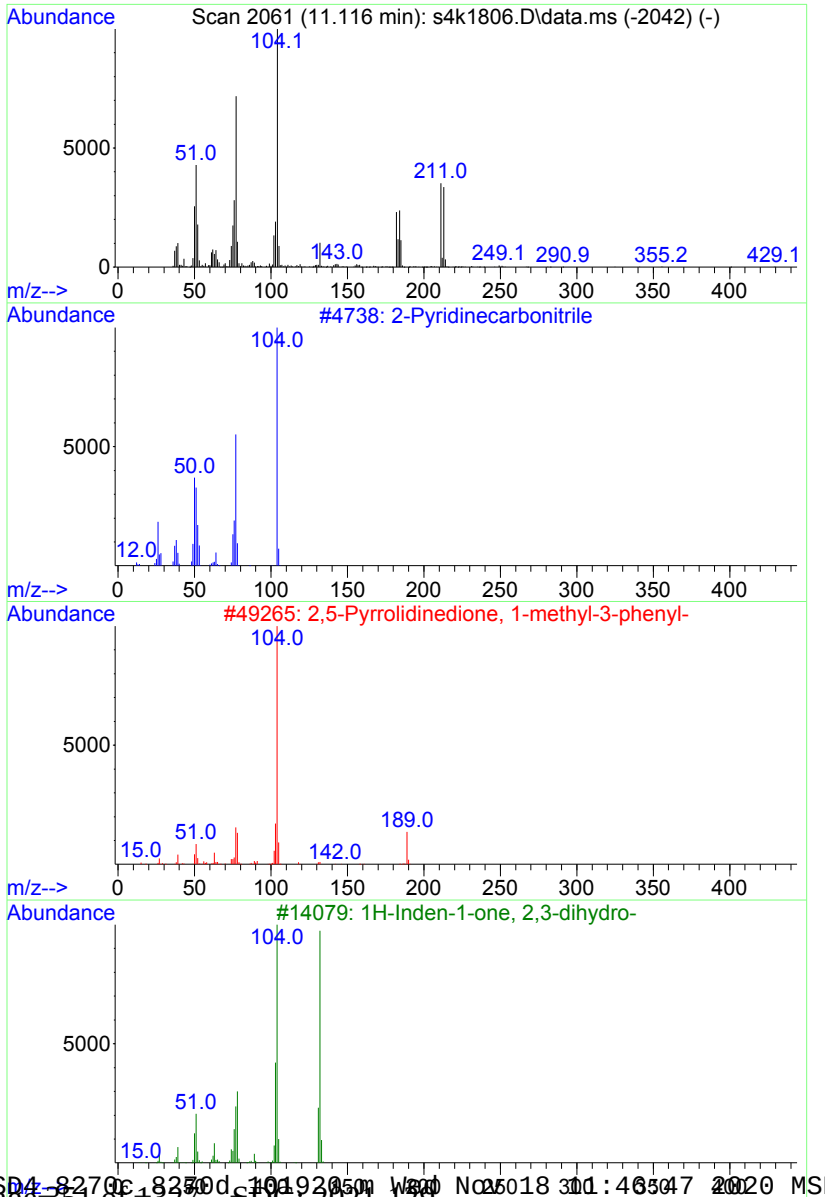
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

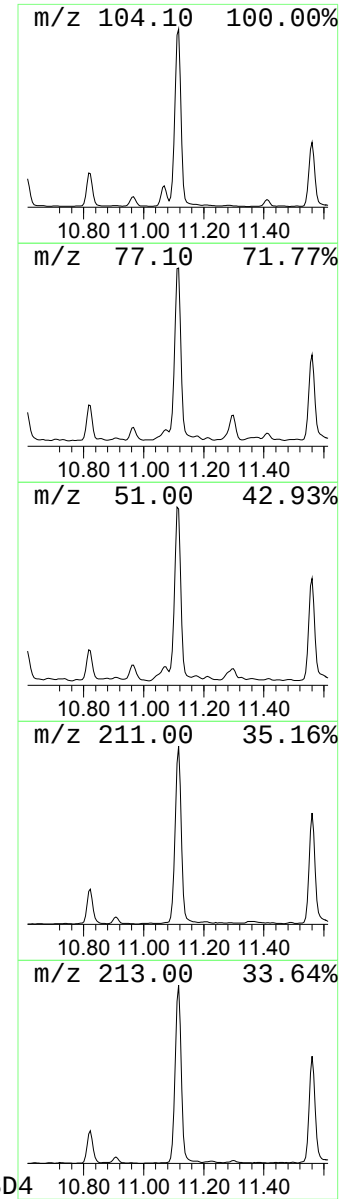
****

Peak Number 13 unknown Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.116	16.35 ng/uL	2856120	A Phenanthrene-d10	11.410

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pyridinecarbonitrile	104	C6H4N2	000100-70-9	53
2	2,5-Pyrrolidinedione, 1-methyl-3...	189	C11H11NO2	000086-34-0	50
3	1H-Inden-1-one, 2,3-dihydro-	132	C9H8O	000083-33-0	49
4	4-Pyridinecarbonitrile	104	C6H4N2	000100-48-1	46
5	3-Pyridinecarbonitrile	104	C6H4N2	000100-54-9	46





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

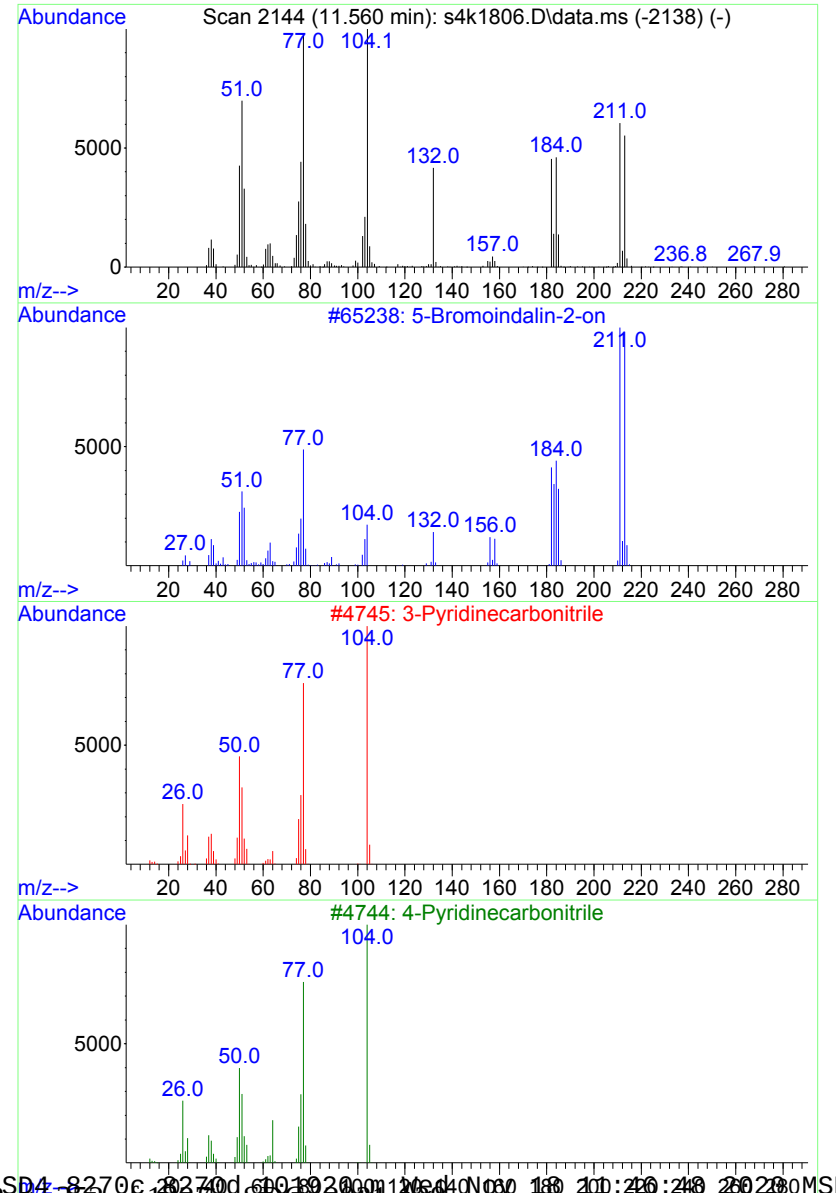
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

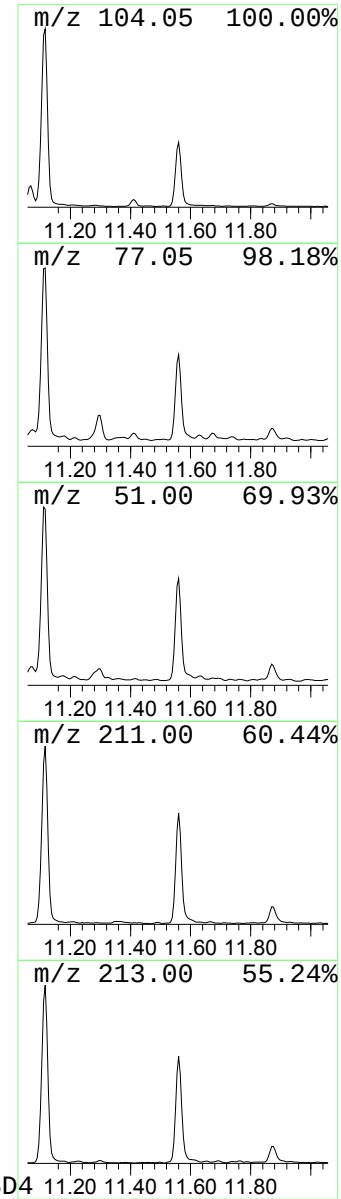
****

Peak Number 14 5-Bromoindalin-2-on Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.560	5.80 ng/uL	1014080	D Phenanthrene-d10	11.410

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	5-Bromoindalin-2-on	211	C8H6BrNO	020870-78-4	90
2	3-Pyridinecarbonitrile	104	C6H4N2	000100-54-9	49
3	4-Pyridinecarbonitrile	104	C6H4N2	000100-48-1	49
4	2H-Inden-2-one, 1,3-dihydro-	132	C9H8O	000615-13-4	49
5	Phosphonic acid, (2-phenylethenyl)-	184	C8H9O3P	001707-08-0	46





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

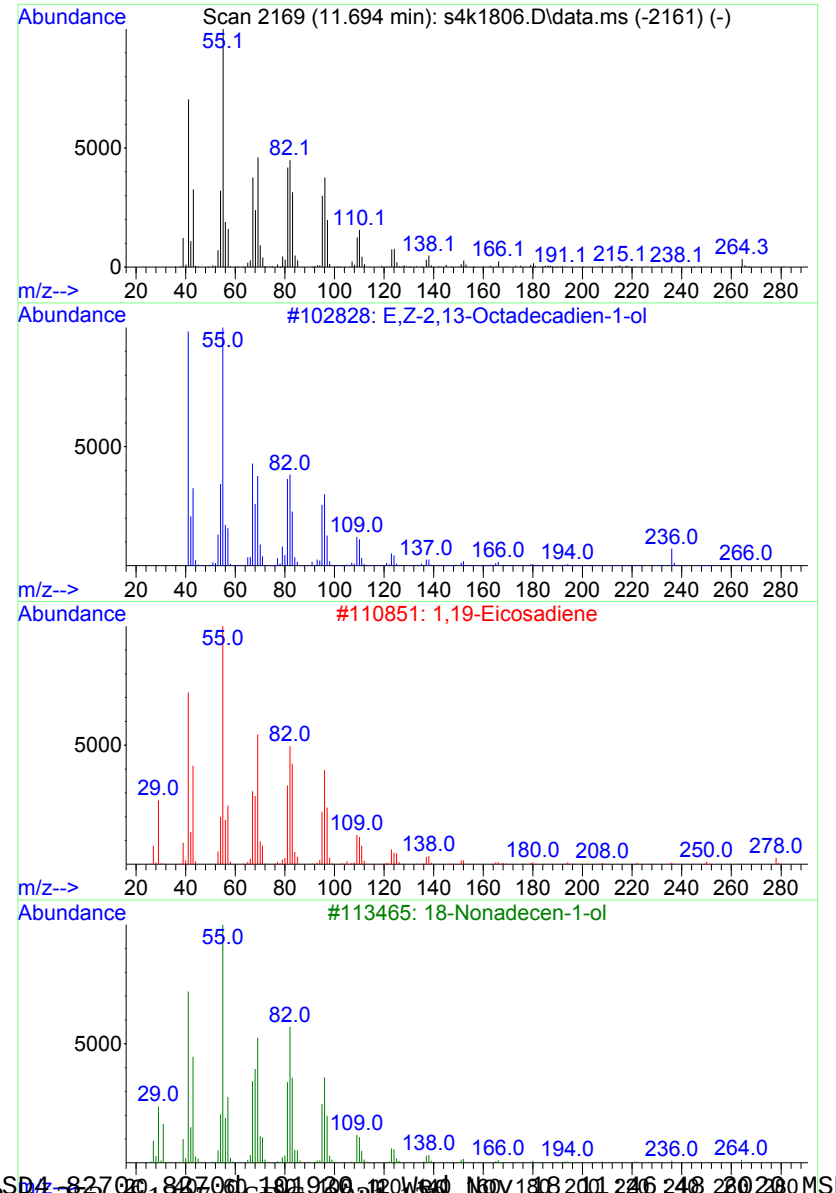
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

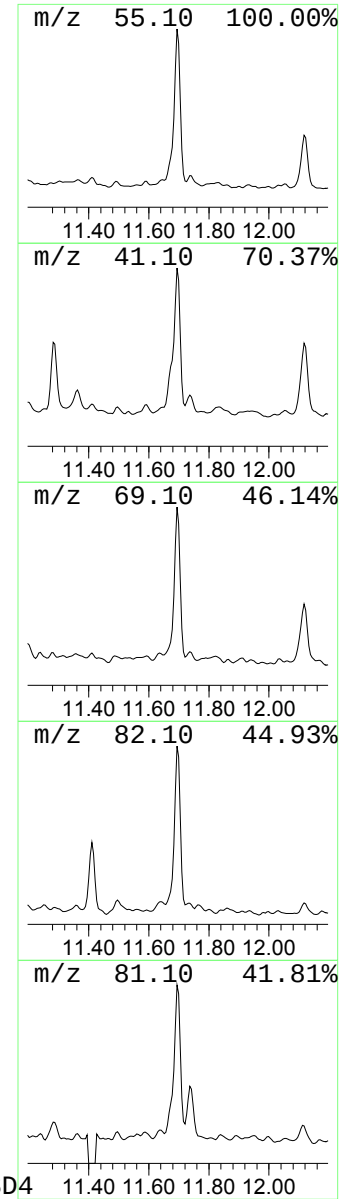
****

Peak Number 15 E,Z-2,13-Octadecadien-1-ol Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.694	6.46 ng/uL	1127760	D Phenanthrene-d10	11.410

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	E,Z-2,13-Octadecadien-1-ol	266	C18H34O	1000131-10-0	94
2	1,19-Eicosadiene	278	C20H38	014811-95-1	91
3	18-Nonadecen-1-ol	282	C19H38O	1000142-89-2	87
4	1,15-Hexadecadiene	222	C16H30	021964-51-2	87
5	Oleyl Alcohol	268	C18H36O	000143-28-2	86





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

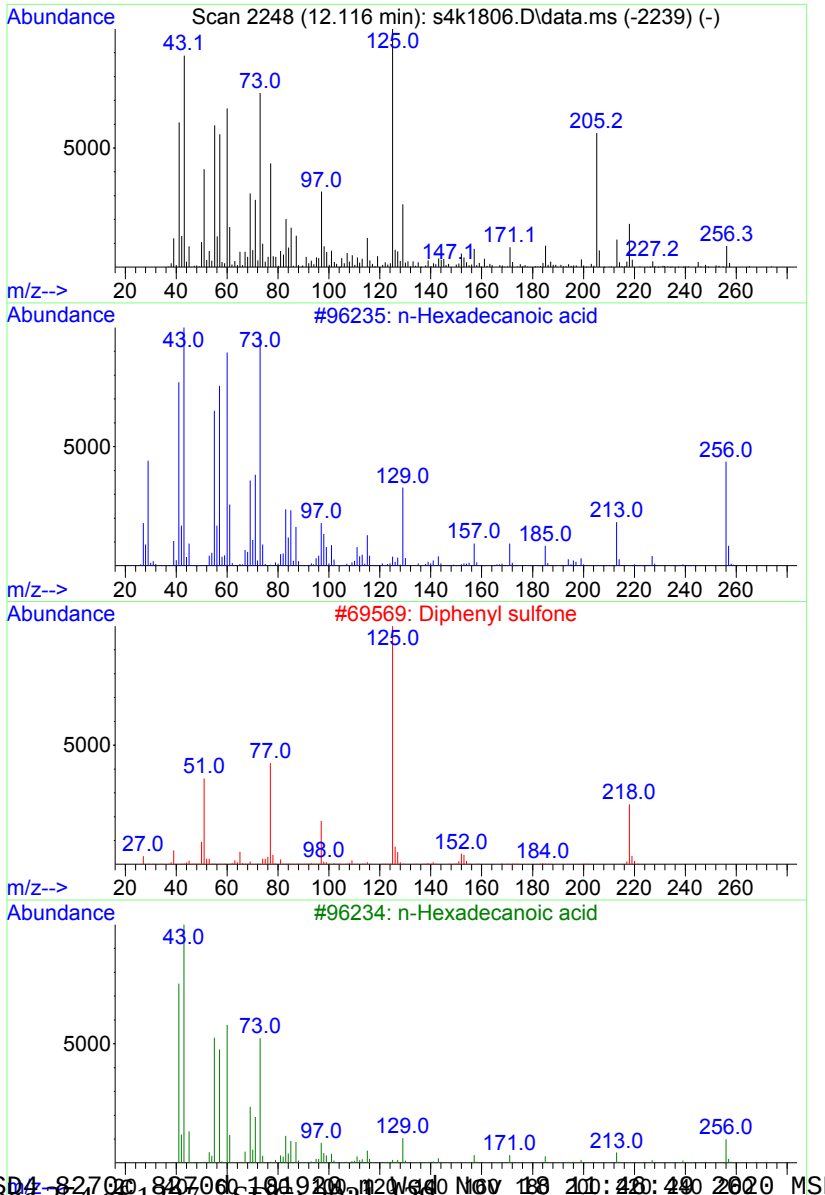
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

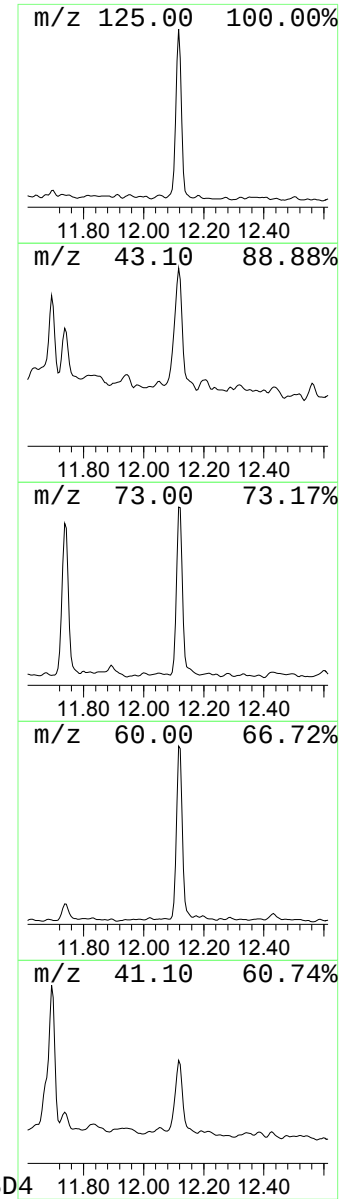
****

Peak Number 16 n-Hexadecanoic acid Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.116	7.16 ng/uL	1251240	D Phenanthrene-d10	11.410

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	93
2	Diphenyl sulfone	218	C12H10O2S	000127-63-9	87
3	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	59
4	Tridecanoic acid	214	C13H26O2	000638-53-9	56
5	Diphenyl sulfone	218	C12H10O2S	000127-63-9	55





Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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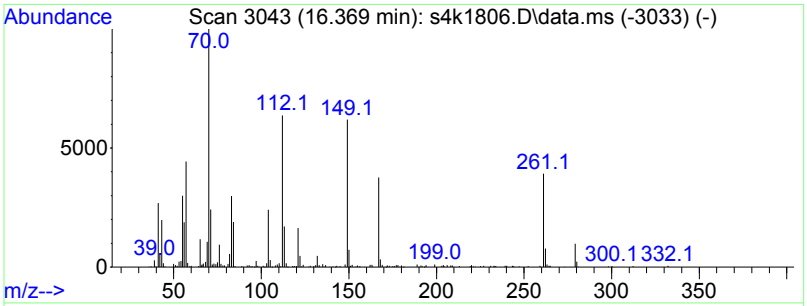
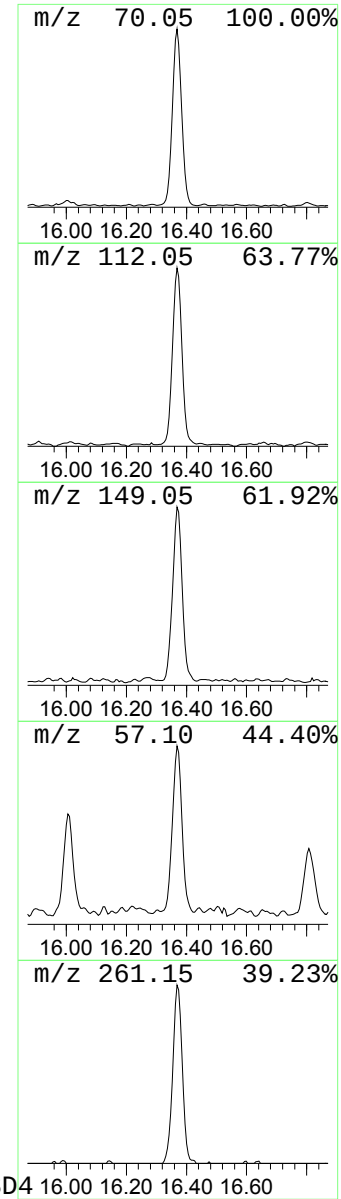
Peak Number 17 unknown Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.369	4.27 ng/uL	478461	D Chrysene-d12	14.882

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,3-Benzenedicarboxylic acid, bi...	390	C24H38O4	000137-89-3	25
2	Phthalic acid, 3-methylphenyl oc...	368	C23H28O4	1000314-86-2	18
3	Phthalic acid, 2-methylphenyl oc...	368	C23H28O4	1000314-95-6	14
4	Cyclohexylamine, N-methyl-4,4-di...	141	C9H19N	045815-91-6	14
5	Cyclohexanamine, N-methyl-	113	C7H15N	000100-60-7	14





Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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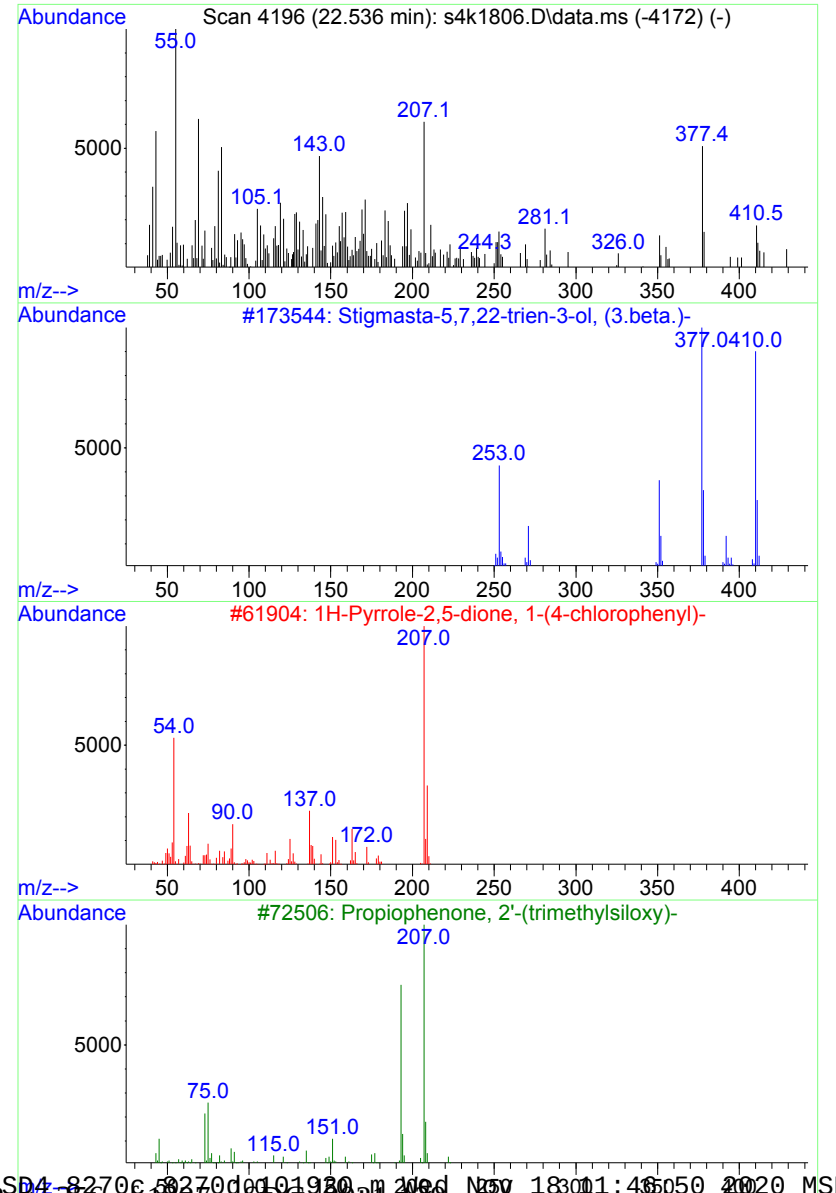
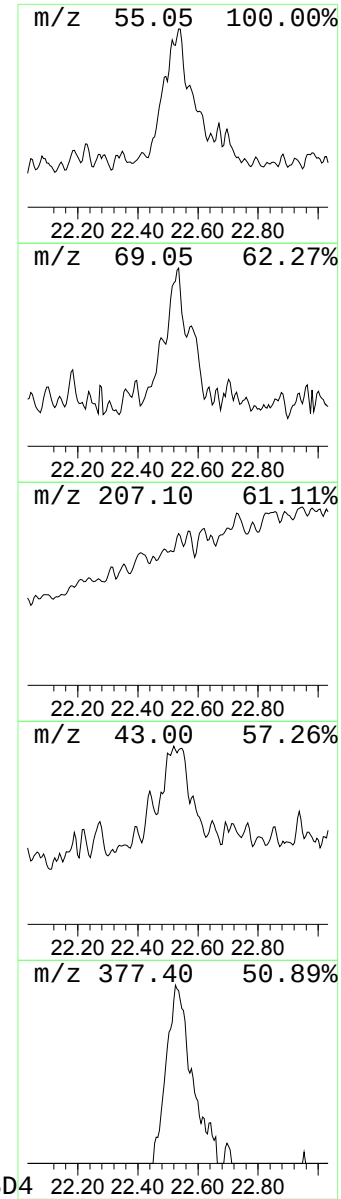
Peak Number 18 unknown Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.535	8.15 ng/uL	517379	E Perylene-d12	18.075

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Stigmasta-5,7,22-trien-3-ol, (3....	410	C29H46O	000481-19-6	38
2	1H-Pyrrole-2,5-dione, 1-(4-chlor...	207	C10H6ClNO2	001631-29-4	15
3	Propiophenone, 2'-(trimethylsilo...	222	C12H18O2Si	033342-87-9	11
4	9H-Fluorene-2-carboxylic acid, 9...	281	C17H15NO3	1000316-02-1	10
5	5-Benzofuranol, 2-ethoxy-2,3-dih...	286	C13H18O5S	026225-79-6	10





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1806.D
Acq On : 18 Nov 2020 11:04
Operator : JMB3
Sample : |527509003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB01-20-209972|MIX[A,B,D,E,J]||
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
unknown		1.900	19.6	2631060	1	5.404	5383980	40.0
Dimethyl sulfone	000067-71-0	4.152	4.8	639803	1	5.404	5383980	40.0
unknown		5.591	6.0	807664	2	5.404	5383980	40.0
Ethane, 1,1'-oxybis[2-ethoxy-]	000112-36-7	6.008	21.3	2872560	2	5.404	5383980	40.0
unknown		8.116	8.5	1499780	7	7.201	7055420	40.0
unknown		8.859	15.0	2919870	8	9.528	7783220	40.0
2,5,8,11,14-Pentaoxapentade...	000143-24-8	9.469	11.8	2290850	8	9.528	7783220	40.0
Benzoic acid, 2,4-dichloro-	000050-84-0	9.629	24.1	4690560	10	9.528	7783220	40.0
1H-Benzotriazole, 4-methyl-	029878-31-7	9.763	6.2	1207850	10	9.528	7783220	40.0
1H-Benzotriazole, 5-methyl-	000136-85-6	10.041	4.5	875831	10	9.528	7783220	40.0
unknown		10.218	12.6	2450580	10	9.528	7783220	40.0
unknown		10.597	12.7	2218080	11	11.410	6987840	40.0
unknown		11.116	16.4	2856120	11	11.410	6987840	40.0
5-Bromoindalin-2-on	020870-78-4	11.560	5.8	1014080	14	11.410	6987840	40.0
E,Z-2,13-Octadecadien-1-ol	1000131-10-0	11.694	6.5	1127760	14	11.410	6987840	40.0
n-Hexadecanoic acid	000057-10-3	12.116	7.2	1251240	14	11.410	6987840	40.0
unknown		16.369	4.3	478461	18	14.882	4484720	40.0
unknown		22.535	8.2	517379	21	18.075	2540150	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509012**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 12:32**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**946.73 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1809.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.17	ug/L	3.17	10.6
91-57-6	2-Methylnaphthalene	U	0.317	ug/L	0.317	1.06
91-20-3	Naphthalene	U	0.317	ug/L	0.317	1.06
90-12-0	1-Methylnaphthalene	U	0.317	ug/L	0.317	1.06
86-73-7	Fluorene	U	0.317	ug/L	0.317	1.06
85-01-8	Phenanthrene	U	0.317	ug/L	0.317	1.06
120-12-7	Anthracene	U	0.317	ug/L	0.317	1.06
206-44-0	Fluoranthene	U	0.317	ug/L	0.317	1.06
129-00-0	Pyrene	U	0.317	ug/L	0.317	1.06
205-99-2	Benzo(b)fluoranthene	U	0.317	ug/L	0.317	1.06
207-08-9	Benzo(k)fluoranthene	U	0.317	ug/L	0.317	1.06
50-32-8	Benzo(a)pyrene	U	0.317	ug/L	0.317	1.06

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	0.000	106	ug/L	0	*	(32%-122%)
2-Fluorobiphenyl	0.0423	52.8	ug/L	0	*	(31%-107%)
2-Fluorophenol	0.000	106	ug/L	0	*	(15%-88%)
Nitrobenzene-d5	0.106	52.8	ug/L	0	*	(35%-113%)
Phenol-d5	0.0211	106	ug/L	0	*	(15%-91%)
p-Terphenyl-d14	0.0423	52.8	ug/L	0	*	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT		Units	Fit	Qual
	unknown	1.895	13.4	ug/L	0	J
	unknown	2.729	5.44	ug/L	0	J
	unknown	3.366	15.4	ug/L	0	J
	unknown	3.478	6.31	ug/L	0	J
000067-71-0	Dimethyl sulfone	4.158	5.7	ug/L	94	NJ
	unknown	5.591	7.84	ug/L	0	J
	unknown	5.778	6.13	ug/L	0	J
	unknown	6.008	17.1	ug/L	0	J
	unknown	7.768	4.87	ug/L	0	J
	unknown	8.126	6.34	ug/L	0	J
	unknown	8.859	9.81	ug/L	0	J
	unknown	9.062	21.5	ug/L	0	J
000095-14-7	1H-Benzotriazole	9.34	5.68	ug/L	98	NJ
000143-24-8	2,5,8,11,14-Pentaoxapentadecane	9.474	15.1	ug/L	90	NJ

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509012**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 12:32**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**946.73 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1809.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
000050-84-0	Benzoic acid, 2,4-dichloro-	9.64	52.2	ug/L	99	NJ
000136-85-6	1H-Benzotriazole, 5-methyl-	9.779	8.57	ug/L	97	NJ
015356-74-8	2(4H)-Benzofuranone, 5,6,7,7a-tetr	9.859	5.93	ug/L	95	NJ
	unknown	9.95	7.18	ug/L	0	J
000136-85-6	1H-Benzotriazole, 5-methyl-	10.052	7.05	ug/L	95	NJ
	unknown	10.234	19.9	ug/L	0	J
	unknown	10.33	6.69	ug/L	0	J
001025-15-6	1,3,5-Triazine-2,4,6(1H,3H,5H)-tri	10.506	4.78	ug/L	89	NJ
	unknown	10.597	29.1	ug/L	0	J
	unknown	11.127	17.3	ug/L	0	J
	unknown	11.571	9.39	ug/L	0	J
000143-28-2	Oleyl Alcohol	11.699	5.06	ug/L	91	NJ
000057-10-3	n-Hexadecanoic acid	12.122	6.43	ug/L	93	NJ
010191-41-0	Vitamin E	20.46	8.84	ug/L	97	NJ
000057-87-4	Ergosterol	21.605	12.9	ug/L	93	NJ
	unknown	22.477	36	ug/L	0	J

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 18 13:16:05 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	814036	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.201	7.206	1.000	3229115	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.533	9.538	1.000	1691445	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.416	11.416	1.000	2999947	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.882	14.898	1.000	1635613	40.00	ng/uL	-0.02
88) A Perylene-d12	264	18.080	18.096	1.000	933698	40.00	ng/uL	-0.02
96) B 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	813981	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.201	7.206	1.000	3229115	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.533	9.538	1.000	1691445	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.416	11.416	1.000	2999687	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.882	14.898	1.000	1635613	40.00	ng/uL	-0.02
148) B Perylene-d12	264	18.080	18.096	1.000	933698	40.00	ng/uL	-0.02
151) J Naphthalene-d8	136	7.201	7.206	1.000	3229115	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.416	11.416	1.000	2999947	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.882	14.898	1.000	1635613	40.00	ng/uL	-0.02
159) D Naphthalene-d8	136	7.201	7.206	1.000	3229115	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.533	9.538	1.000	1691445	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.416	11.416	1.000	2999687	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.882	14.898	1.000	1635613	40.00	ng/uL	-0.02
173) E Naphthalene-d8	136	7.201	7.206	1.000	3229115	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.080	18.096	1.000	933698	40.00	ng/uL	-0.02
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	0.000	3.714	0.000	0	0.00	ng/uL	
8) Phenol-d5	99	4.922	4.885	0.911	512	0.02	ng/uL	0.04
23) Nitrobenzene-d5	82	6.233	6.195	0.866	2669	0.10	ng/uL	0.04
44) 2-Fluorobiphenyl	172	8.592	8.666	0.901	1996	0.04	ng/uL	-0.07
63) 2,4,6-Tribromophenol	330	0.000	10.539	0.000	0	0.00	ng/uL	
80) p-Terphenyl-d14	244	13.405	13.405	0.901	1997	0.04	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	0%#
8) Phenol-d5	100.000	15 - 91	0%#
23) Nitrobenzene-d5	50.000	35 - 113	0%#
44) 2-Fluorobiphenyl	50.000	31 - 107	0%#
63) 2,4,6-Tribromophenol	100.000	32 - 122	0%#
80) p-Terphenyl-d14	50.000	35 - 134	0%#

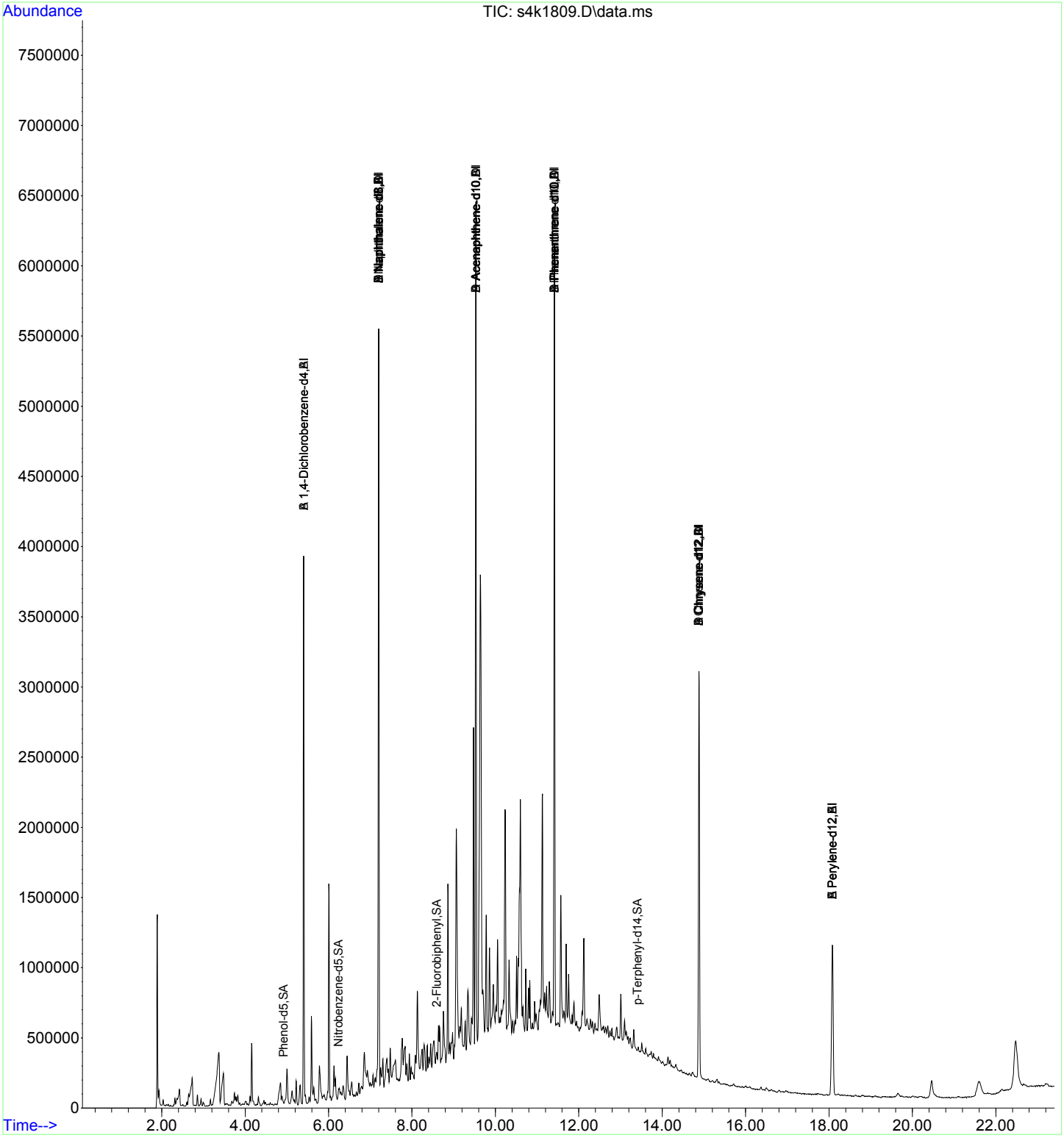
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

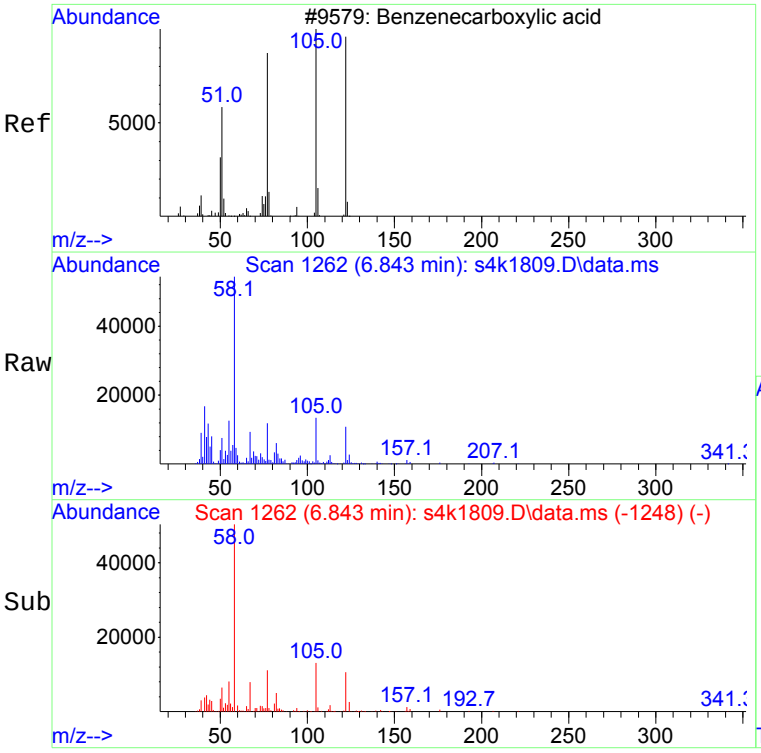
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 18 13:16:05 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

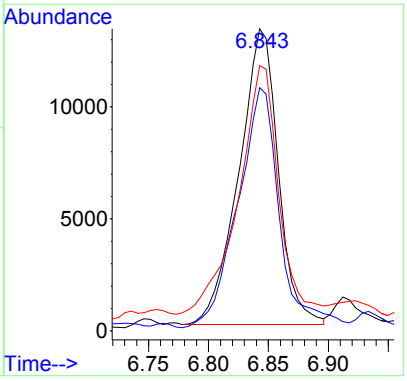


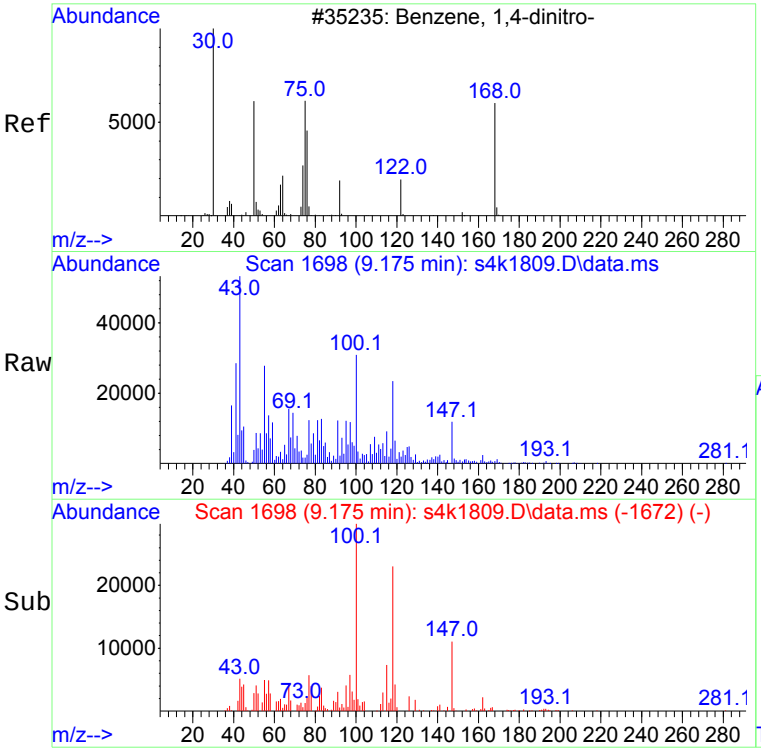


#30 BEFORE analyst DELETION
Benzoic acid
Concen: 13.59 ng/uL
RT: 6.843 min Scan# 1262
Delta R.T. -0.075 min
Lab File: s4k1809.D
Acq: 18 Nov 2020 12:32

Tgt Ion:105 Resp: 30120

Ion	Ratio	Lower	Upper
105	100		
122	86.1	51.3	111.3
77	90.9	45.6	105.6

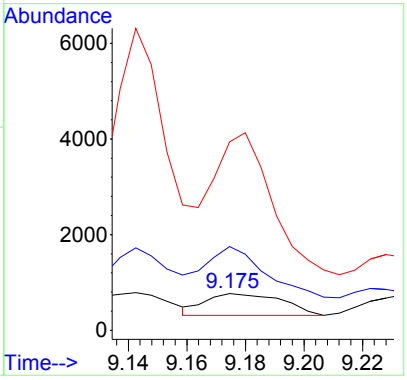


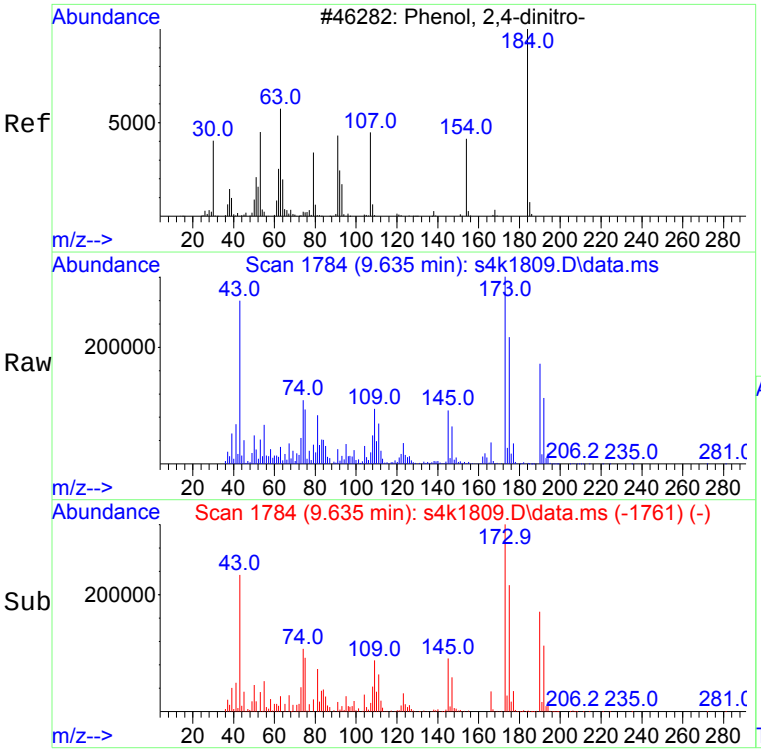


#47 BEFORE analyst DELETION
1,4-Dinitrobenzene
Concen: 4.13 ng/uL
RT: 9.175 min Scan# 1698
Delta R.T. 0.037 min
Lab File: s4k1809.D
Acq: 18 Nov 2020 12:32

Tgt Ion:168 Resp: 832

Ion	Ratio	Lower	Upper
168	100		
75	181.9	89.3	149.3#
50	472.6	83.7	143.7#

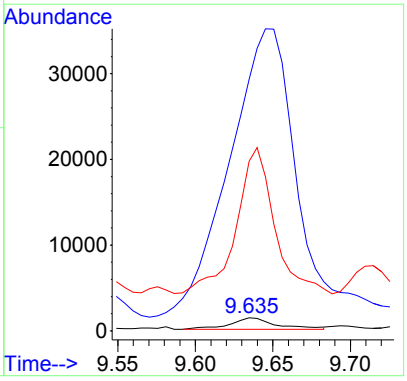


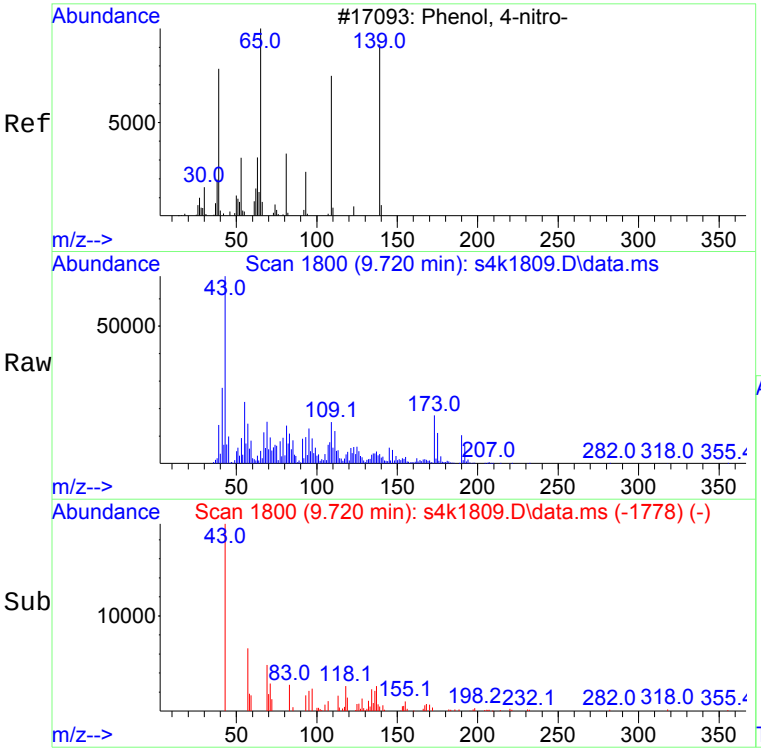


#55 BEFORE analyst DELETION
2,4-Dinitrophenol
Concen: 12.13 ng/uL
RT: 9.635 min Scan# 1784
Delta R.T. 0.021 min
Lab File: s4k1809.D
Acq: 18 Nov 2020 12:32

Tgt Ion:184 Resp: 2825

Ion	Ratio	Lower	Upper
184	100		
63	3489.6	175.8	235.8#
107	1039.9	10.9	70.9#

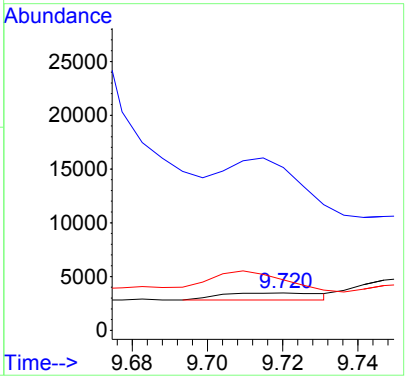


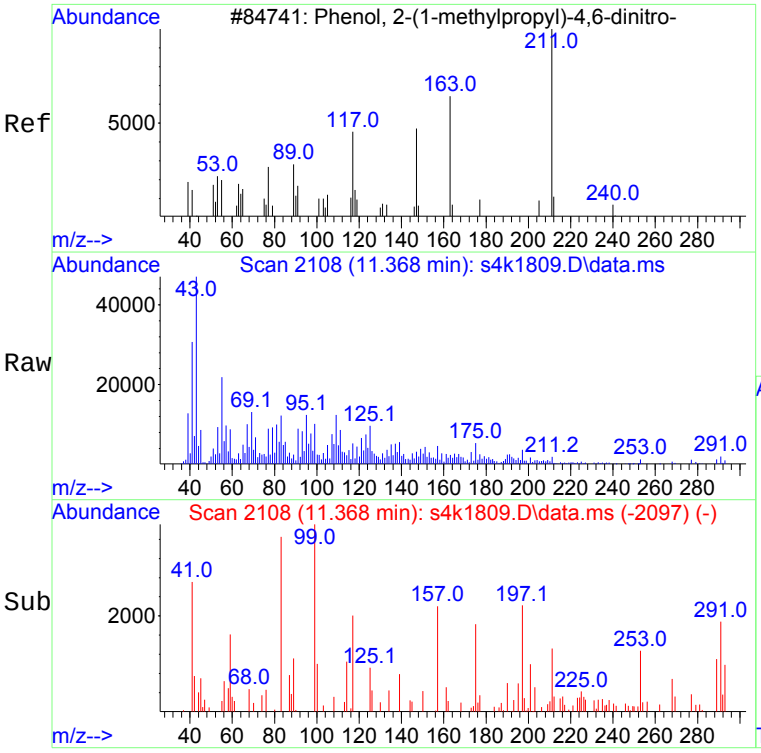


#59 BEFORE analyst DELETION
4-Nitrophenol
Concen: 3.56 ng/uL
RT: 9.720 min Scan# 1800
Delta R.T. 0.016 min
Lab File: s4k1809.D
Acq: 18 Nov 2020 12:32

Tgt Ion:139 Resp: 1250

Ion	Ratio	Lower	Upper
139	100		
109	616.2	34.9	94.9#
65	219.8	64.7	124.7#

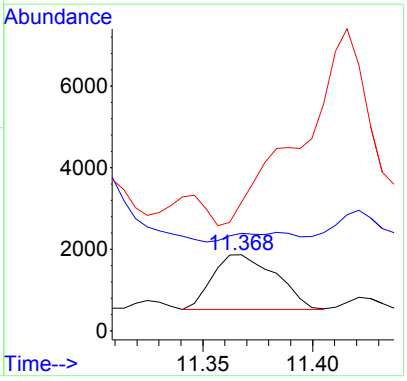


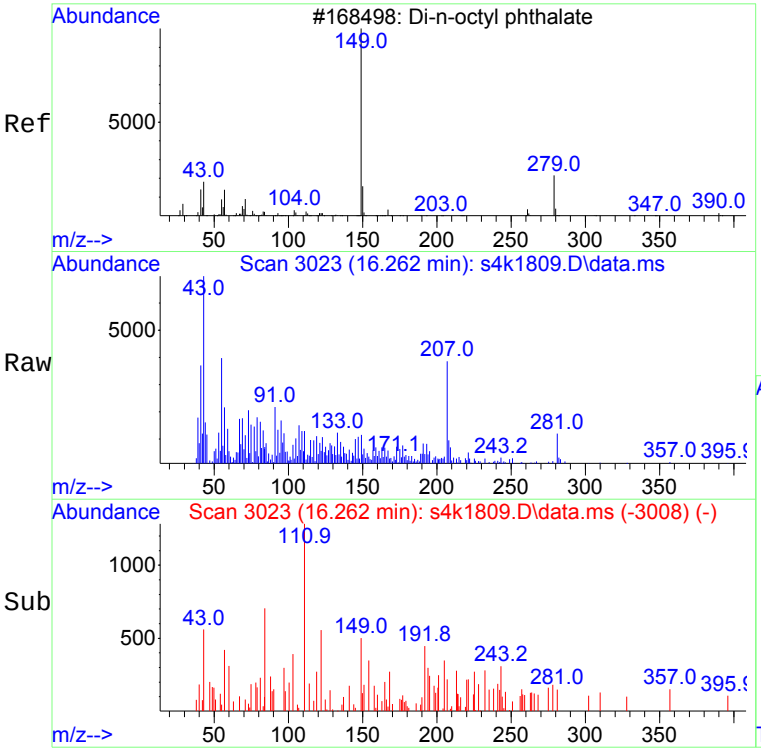


#72 BEFORE analyst DELETION
Dinoseb
Concen: 8.65 ng/uL
RT: 11.368 min Scan# 2108
Delta R.T. -0.043 min
Lab File: s4k1809.D
Acq: 18 Nov 2020 12:32

Tgt Ion:211 Resp: 2691

Ion	Ratio	Lower	Upper
211	100		
163	0.0	16.9	76.9#
147	106.4	3.8	63.8#

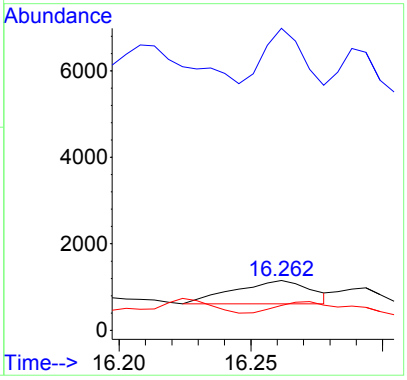


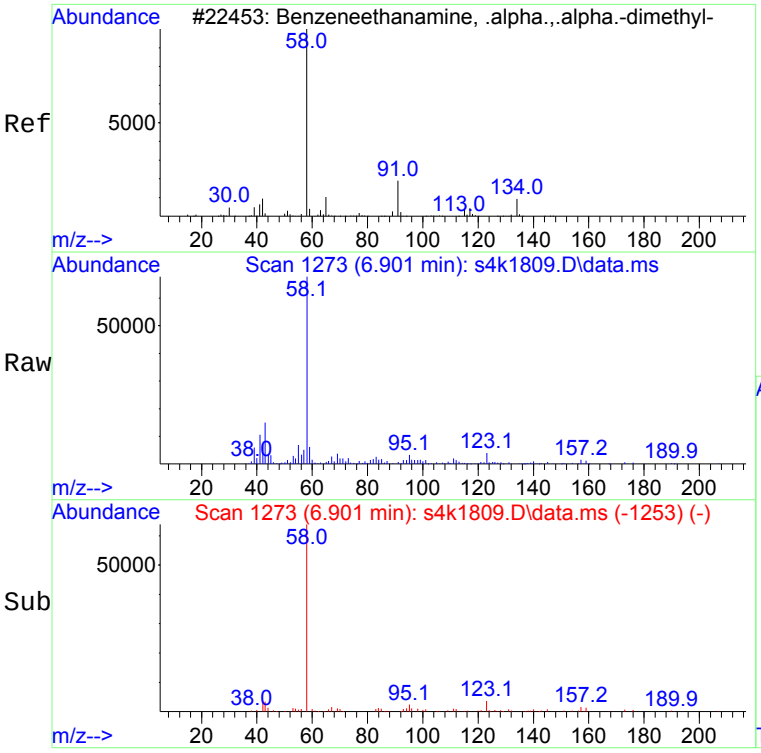


#87 BEFORE analyst DELETION
Di-n-octylphthalate
Concen: 0.40 ng/uL
RT: 16.262 min Scan# 3023
Delta R.T. -0.021 min
Lab File: s4k1809.D
Acq: 18 Nov 2020 12:32

Tgt Ion:149 Resp: 1094

Ion	Ratio	Lower	Upper
149	100		
43	120.1	0.0	42.3#
167	0.0	0.0	31.5

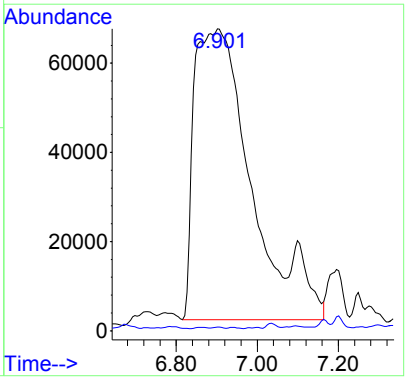


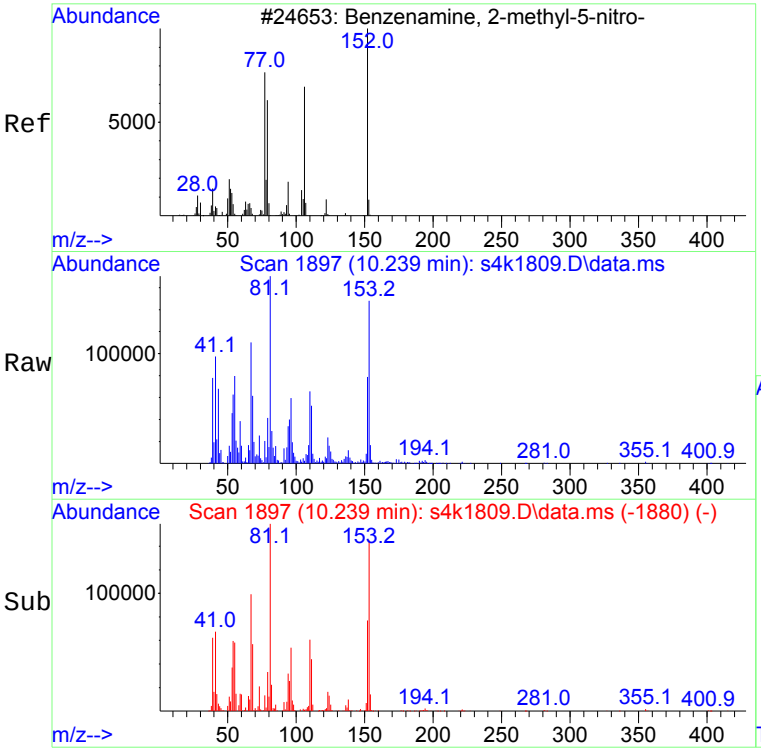


#114 BEFORE analyst DELETION
a,a-Dimethylphenethylamine
Concen: 7.05 ng/uL
RT: 6.901 min Scan# 1273
Delta R.T. -0.091 min
Lab File: s4k1809.D
Acq: 18 Nov 2020 12:32

Tgt Ion: 58 Resp: 642744

Ion	Ratio	Lower	Upper
58	100		
91	0.2	0.0	39.3

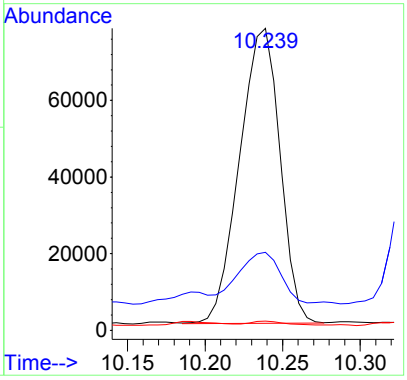




#128 BEFORE analyst DELETION
5-Nitro-o-toluidine
Concen: 10.22 ng/uL
RT: 10.239 min Scan# 1897
Delta R.T. -0.011 min
Lab File: s4k1809.D
Acq: 18 Nov 2020 12:32

Tgt Ion:152 Resp: 140005

Ion	Ratio	Lower	Upper
152	100		
77	18.1	56.3	116.3#
106	1.2	42.8	102.8#



Library Search Compound Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

JMB 11/19/2020

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

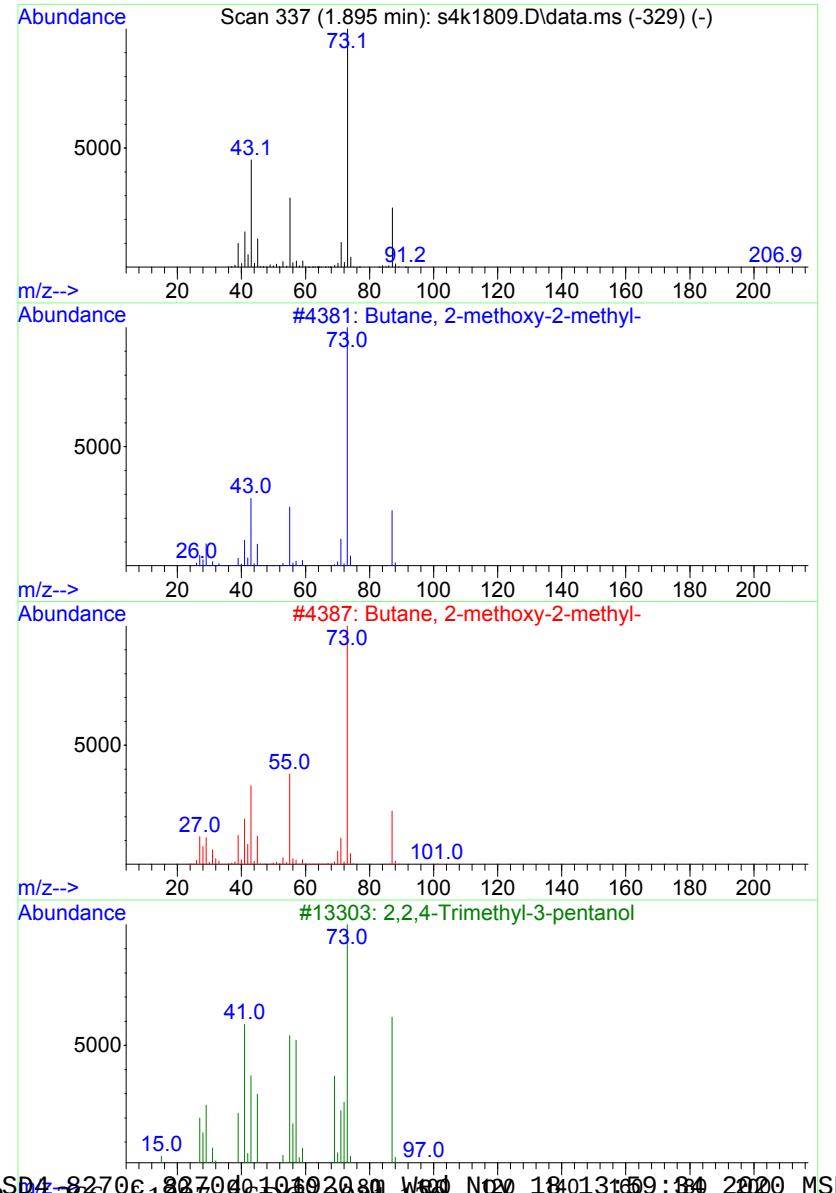
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

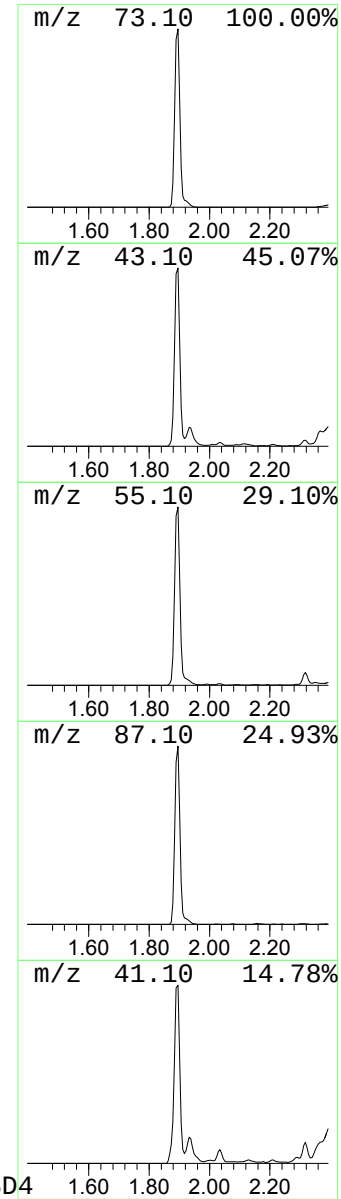
****

Peak Number 1 unknown Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.895	12.72 ng/uL	1649930	A 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	78
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
3	2,2,4-Trimethyl-3-pentanol	130	C8H18O	005162-48-1	40
4	Silane, tetramethyl-	88	C4H12Si	000075-76-3	38
5	1,3-Dioxolane, 2-methyl-	88	C4H8O2	000497-26-7	32





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

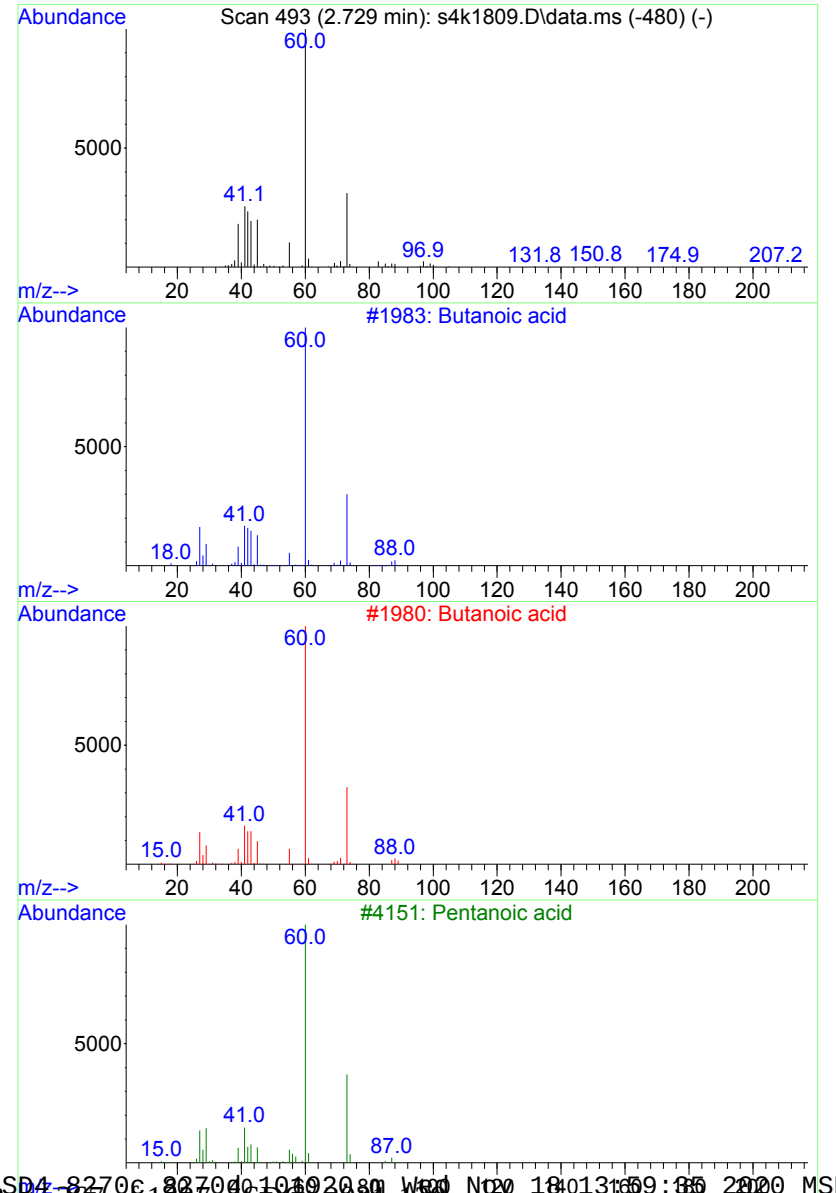
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

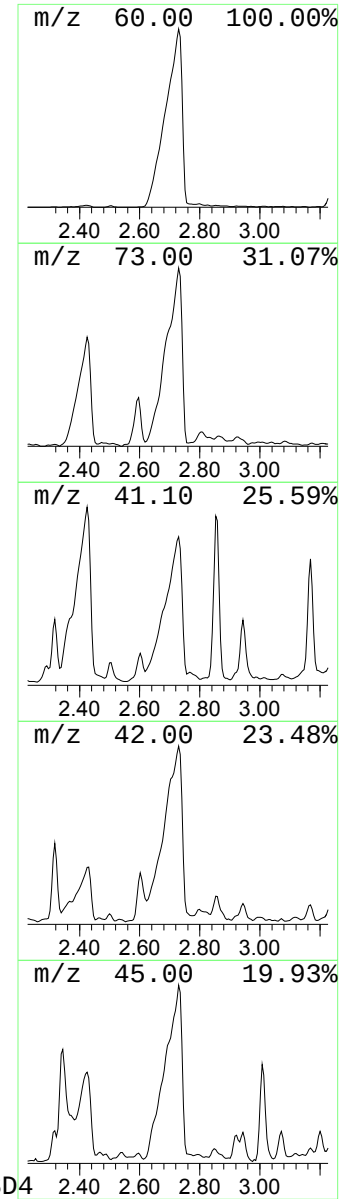
****

Peak Number 2 unknown Concentration Rank 27

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.729	5.15 ng/uL	667924	A 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butanoic acid	88	C4H8O2	000107-92-6	64
2	Butanoic acid	88	C4H8O2	000107-92-6	64
3	Pentanoic acid	102	C5H10O2	000109-52-4	36
4	1,6-Anhydro-.beta.-D-glucopyrano...	162	C6H10O5	000498-07-7	36
5	Butanoic acid, 4-chloro-	122	C4H7ClO2	000627-00-9	9





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

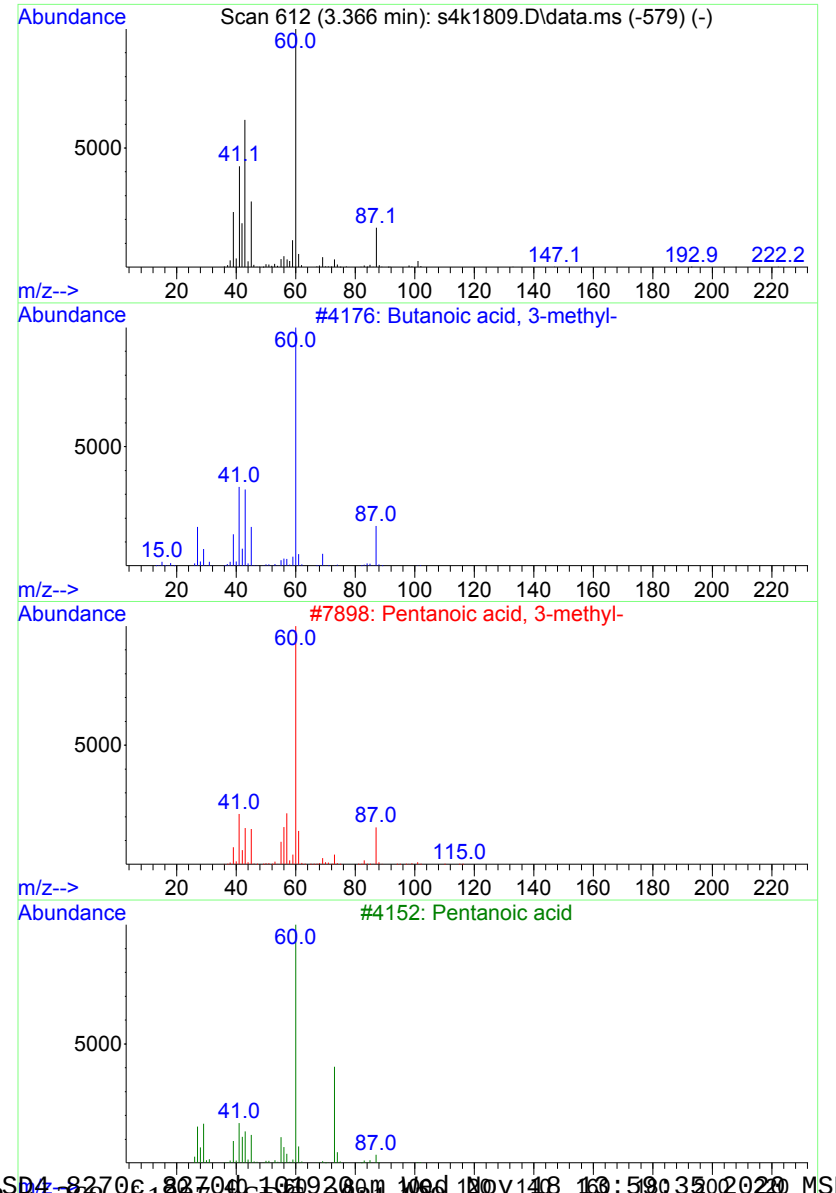
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

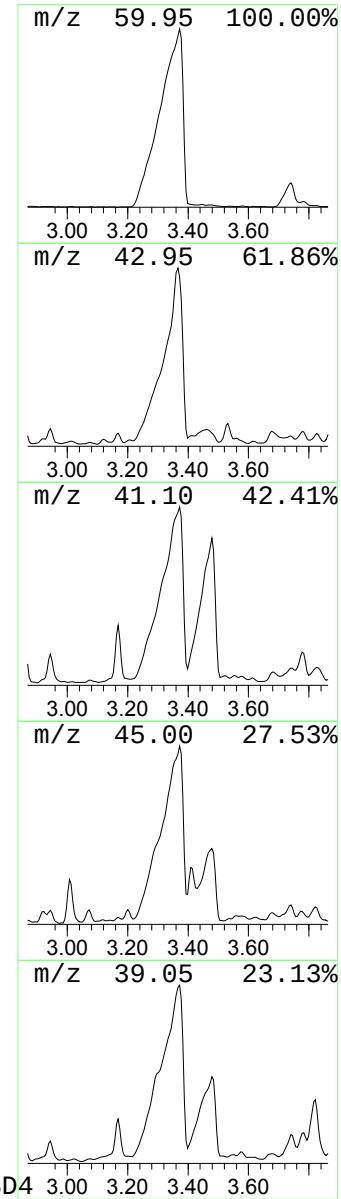
****

Peak Number 3 unknown Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.366	14.55 ng/uL	1886850	A 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butanoic acid, 3-methyl-	102	C5H10O2	000503-74-2	72
2	Pentanoic acid, 3-methyl-	116	C6H12O2	000105-43-1	72
3	Pentanoic acid	102	C5H10O2	000109-52-4	53
4	1,2-Hydrazinedicarboxaldehyde	88	C2H4N2O2	000628-36-4	39
5	Butanoic acid, 3-methyl-	102	C5H10O2	000503-74-2	38





Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

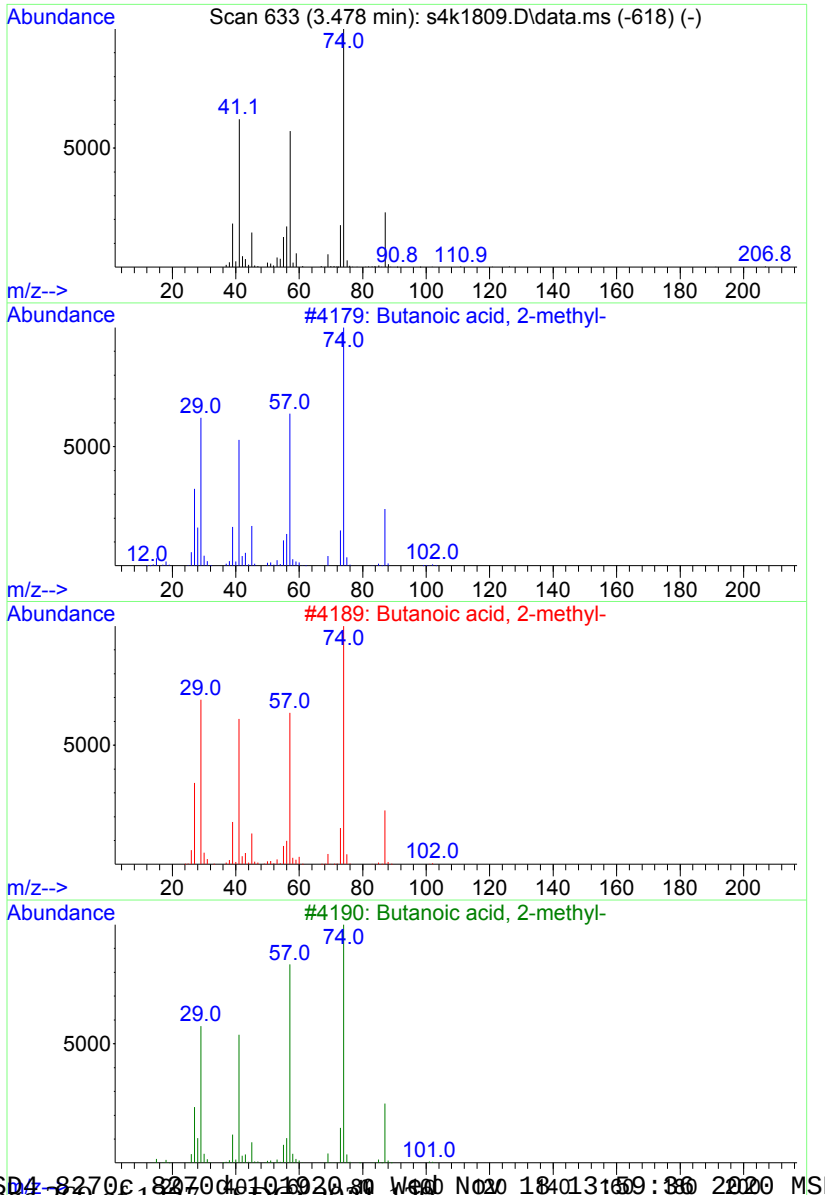
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

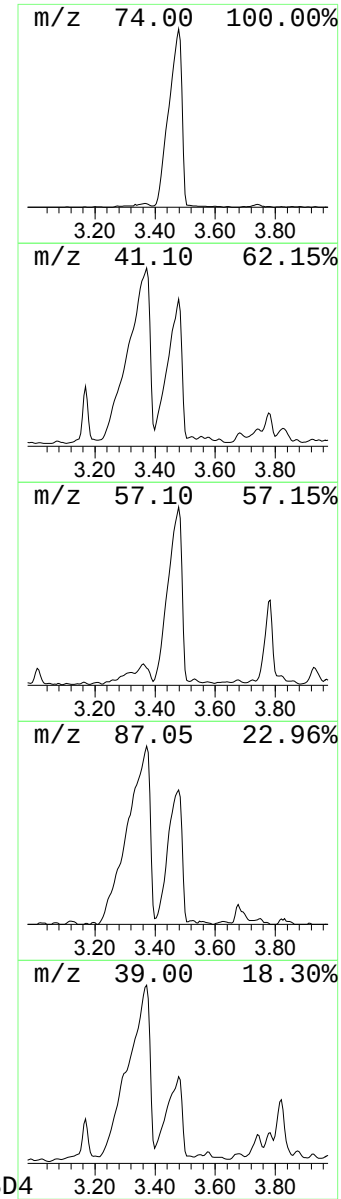
****

Peak Number 4 unknown Concentration Rank 22

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.478	5.97 ng/uL	773855	A 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butanoic acid, 2-methyl-	102	C5H10O2	000116-53-0	78
2	Butanoic acid, 2-methyl-	102	C5H10O2	000116-53-0	78
3	Butanoic acid, 2-methyl-	102	C5H10O2	000116-53-0	40
4	Methanamine, 1,1-bis(2,2-dimethy...	231	C13H29NO2	004909-78-8	38
5	Pentanoic acid, 2-methyl-	116	C6H12O2	000097-61-0	38





Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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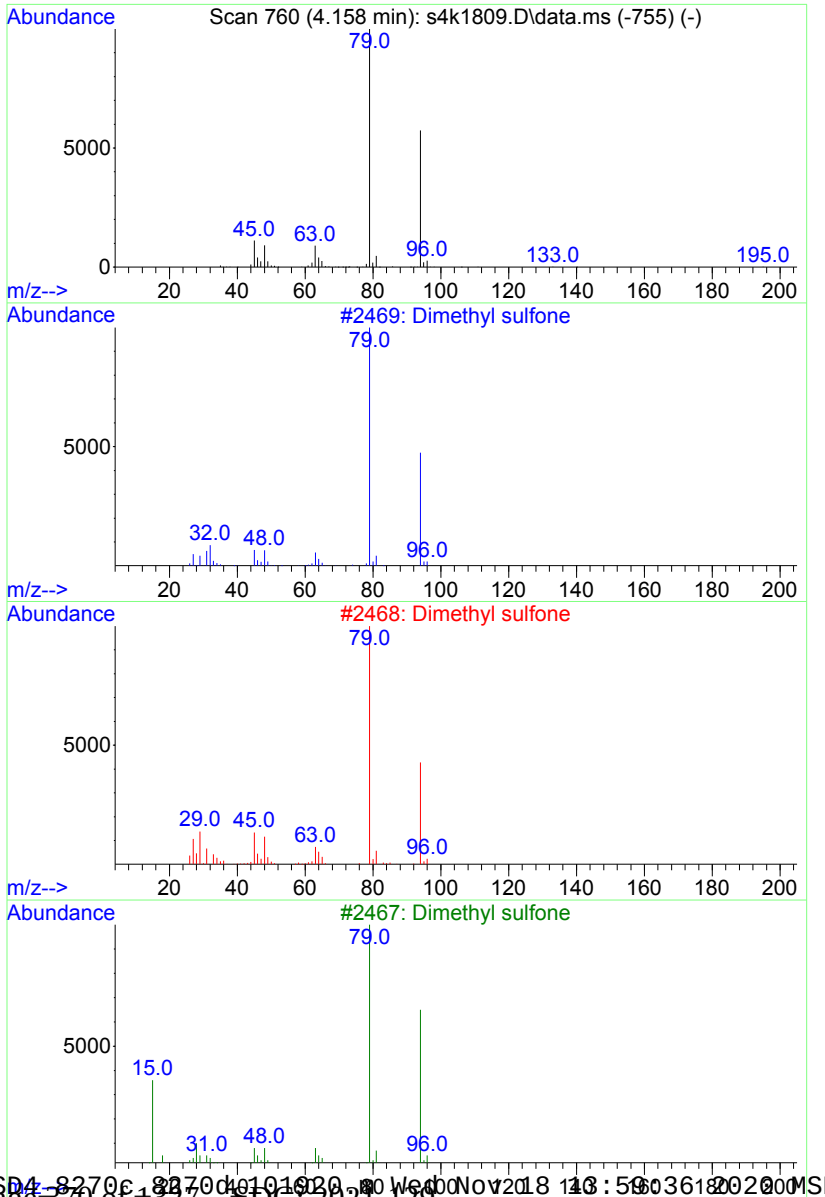
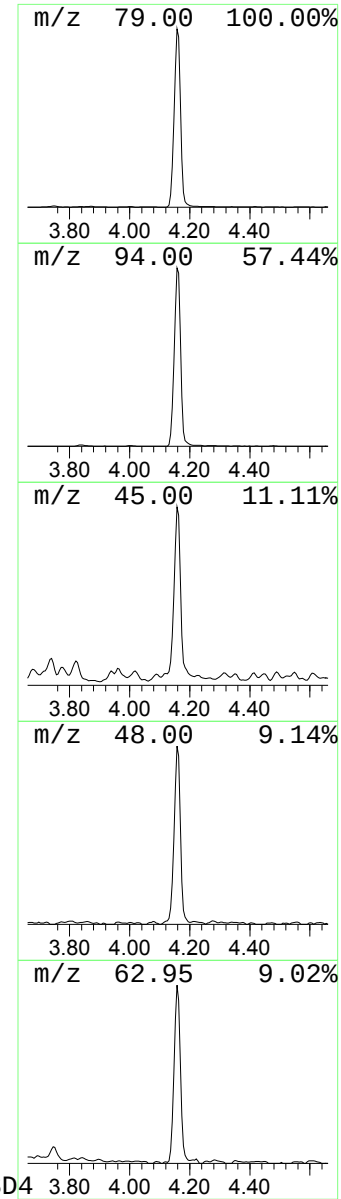
Peak Number 5 Dimethyl sulfone Concentration Rank 25

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.158	5.40 ng/uL	700551	A 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl sulfone	94	C2H6O2S	000067-71-0	94
2	Dimethyl sulfone	94	C2H6O2S	000067-71-0	91
3	Dimethyl sulfone	94	C2H6O2S	000067-71-0	43
4	Methanesulfonyl chloride	114	CH3ClO2S	000124-63-0	38
5	Dimethyl sulfone	94	C2H6O2S	000067-71-0	38





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ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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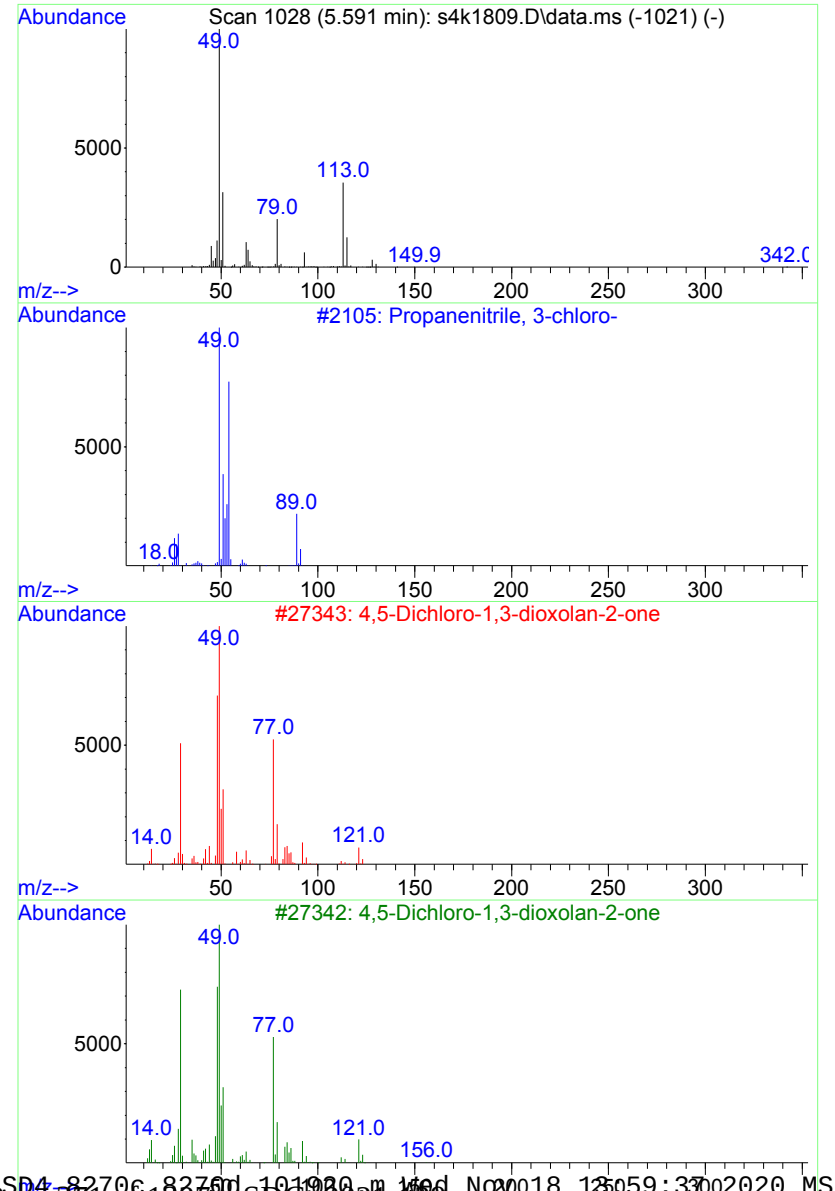
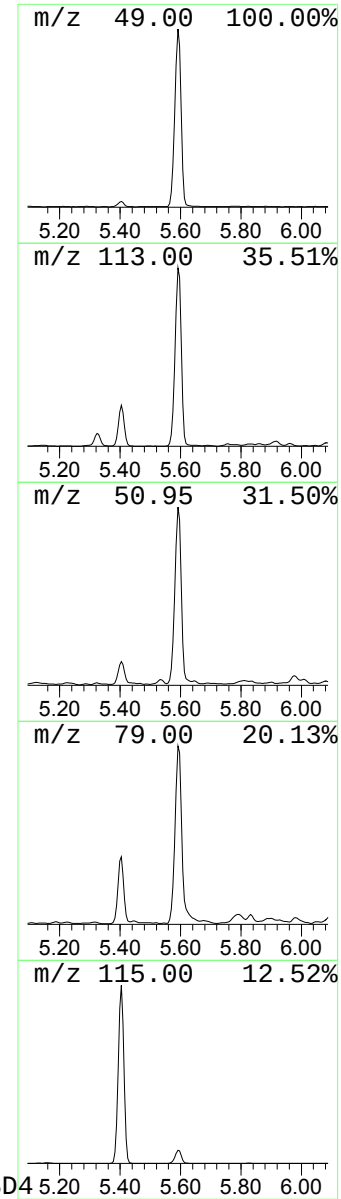
Peak Number 6 unknown Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.591	7.42 ng/uL	962011	B 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Propanenitrile, 3-chloro-	89	C3H4ClN	000542-76-7	9
2	4,5-Dichloro-1,3-dioxolan-2-one	156	C3H2Cl2O3	003967-55-3	9
3	4,5-Dichloro-1,3-dioxolan-2-one	156	C3H2Cl2O3	003967-55-3	4
4	Propanenitrile, 2,2,3-trichloro-	157	C3H2Cl3N	000813-74-1	4
5	Chloromethanesulfonyl chloride	148	CH2Cl2O2S	003518-65-8	4





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ALS Vial : 9 Sample Multiplier: 1

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Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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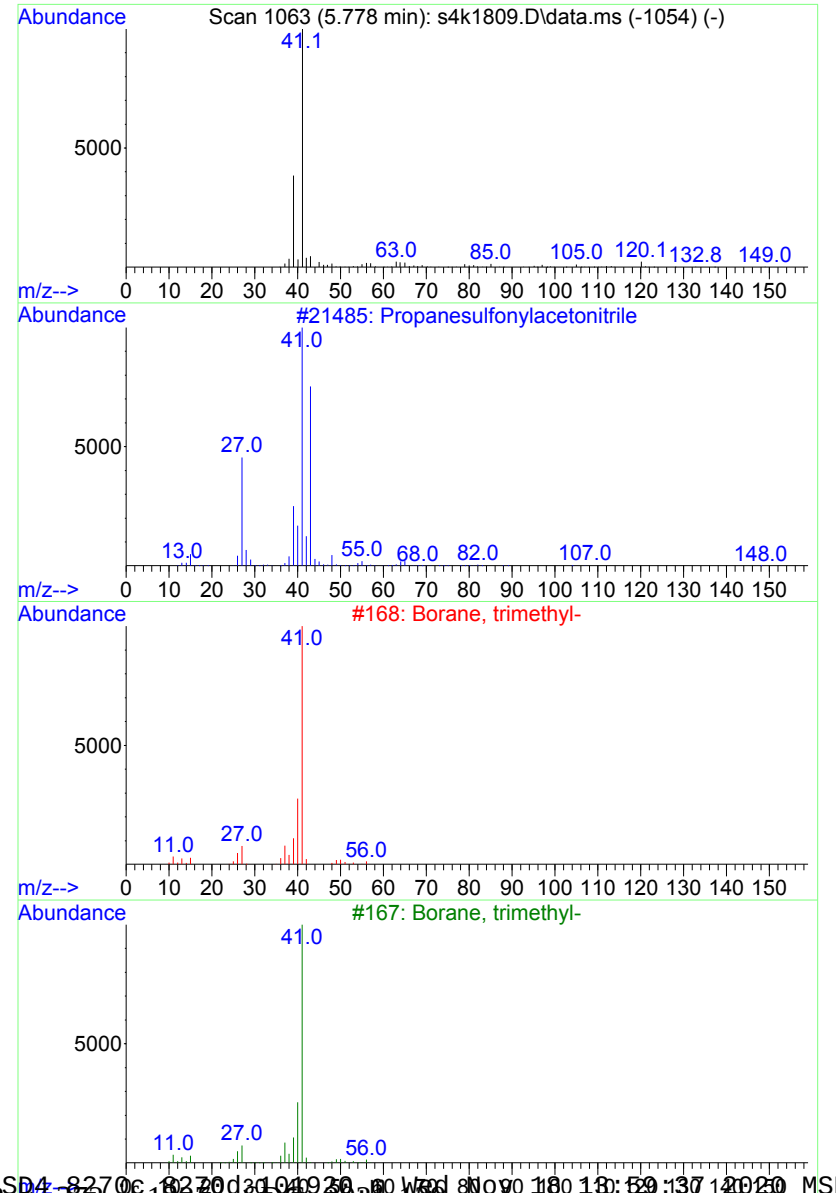
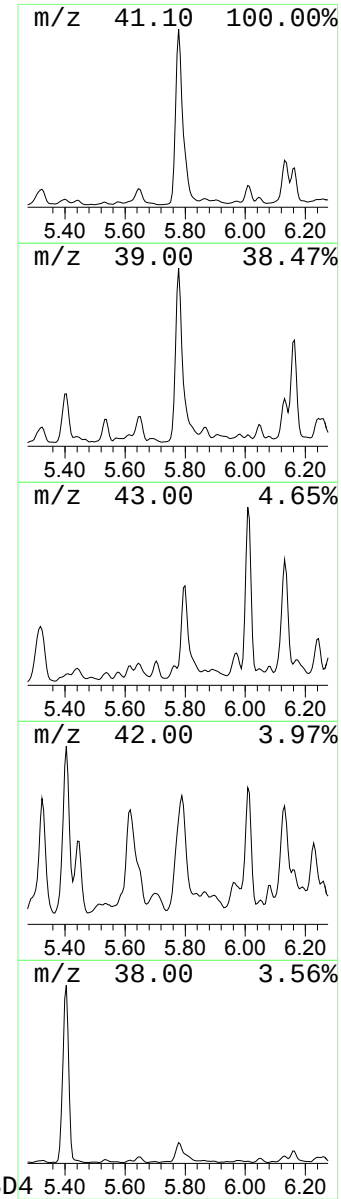
Peak Number 7 unknown Concentration Rank 23

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.778	5.80 ng/uL	752687	B 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Propanesulfonylacetonitrile	147	C5H9NO2S	175137-61-8	9
2	Borane, trimethyl-	56	C3H9B	000593-90-8	5
3	Borane, trimethyl-	56	C3H9B	000593-90-8	5
4	Oxalic acid, diallyl ester	170	C8H10O4	1000309-22-9	4
5	tert-Butyl methyl sulfoxide	120	C5H12OS	014094-11-2	3





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ALS Vial : 9 Sample Multiplier: 1

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Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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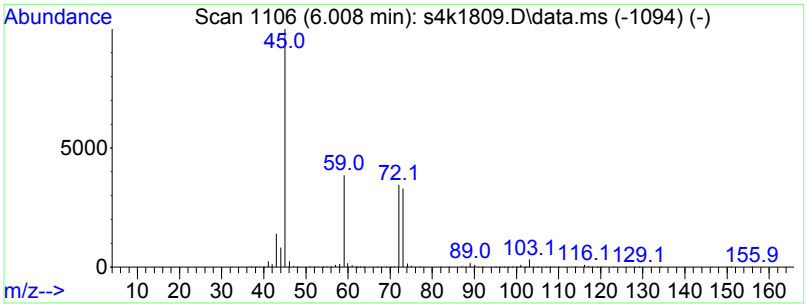
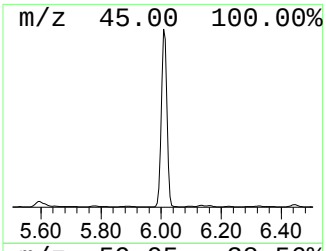
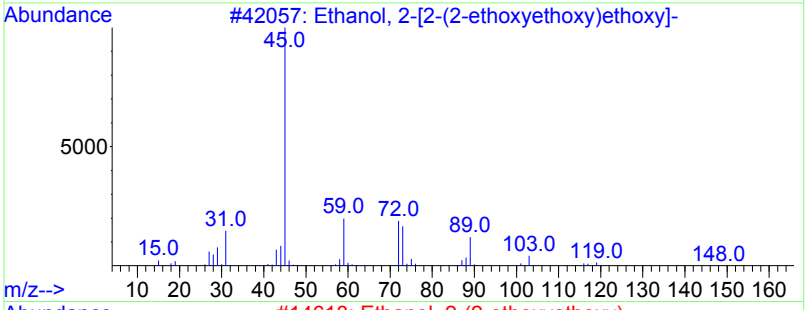
Peak Number 8 unknown Concentration Rank 7

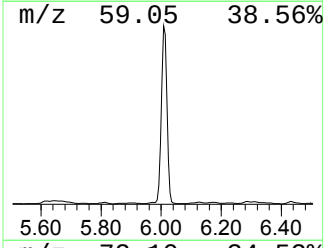
R.T.	EstConc	Area	Relative to ISTD	R.T.
6.008	16.16 ng/uL	2095330	B 1,4-Dichlorobenzene-d4	5.404

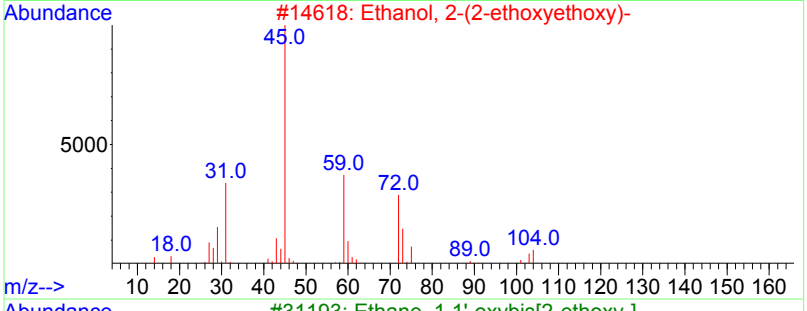
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethanol, 2-[2-(2-ethoxyethoxy)et...	178	C8H18O4	000112-50-5	72
2	Ethanol, 2-(2-ethoxyethoxy)-	134	C6H14O3	000111-90-0	72
3	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	64
4	Tetraethylene glycol diethyl ether	250	C12H26O5	004353-28-0	56
5	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	50

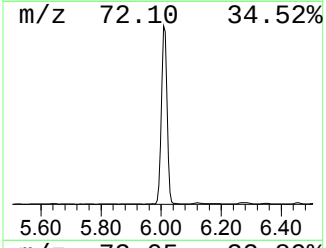


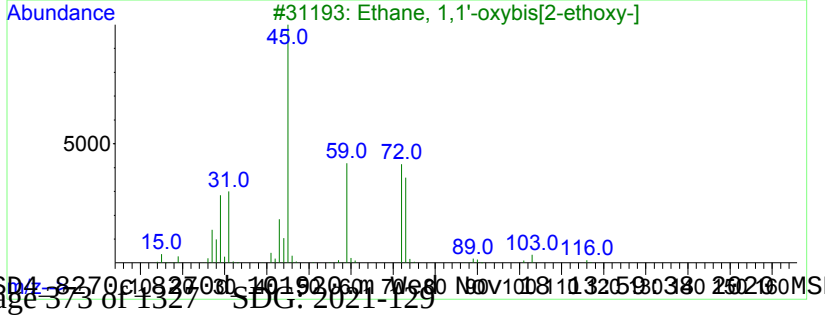


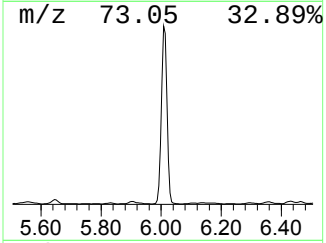


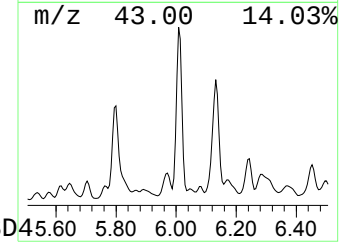












Library Search Compound Report

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Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

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Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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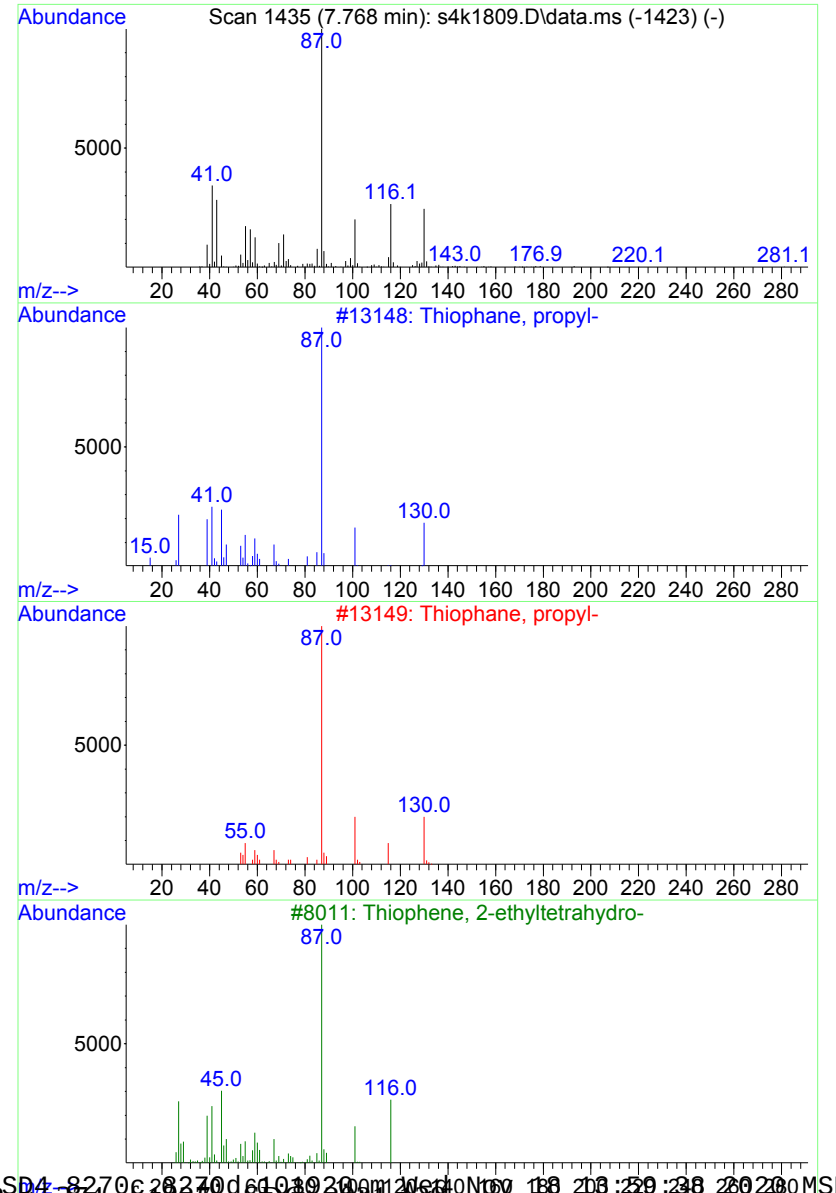
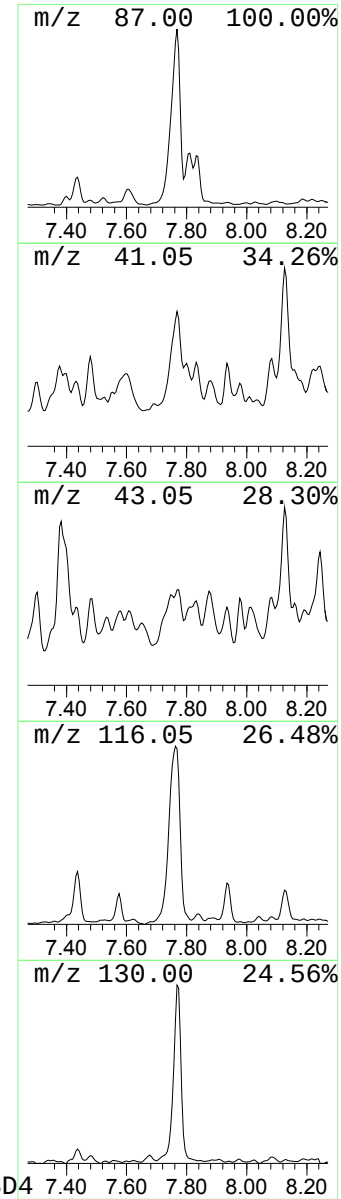
Peak Number 9 unknown Concentration Rank 29

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.768	4.61 ng/uL	810582	E Naphthalene-d8	7.201

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Thiophane, propyl-	130	C7H14S	001551-34-4	72
2	Thiophane, propyl-	130	C7H14S	001551-34-4	72
3	Thiophene, 2-ethyltetrahydro-	116	C6H12S	001551-32-2	59
4	Hydrazine, 1-ethyl-1-(1-methylpr...	116	C6H16N2	020325-97-7	50
5	Heptanoic acid, 2-propyl-, methy...	186	C11H22O2	056247-53-1	50





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ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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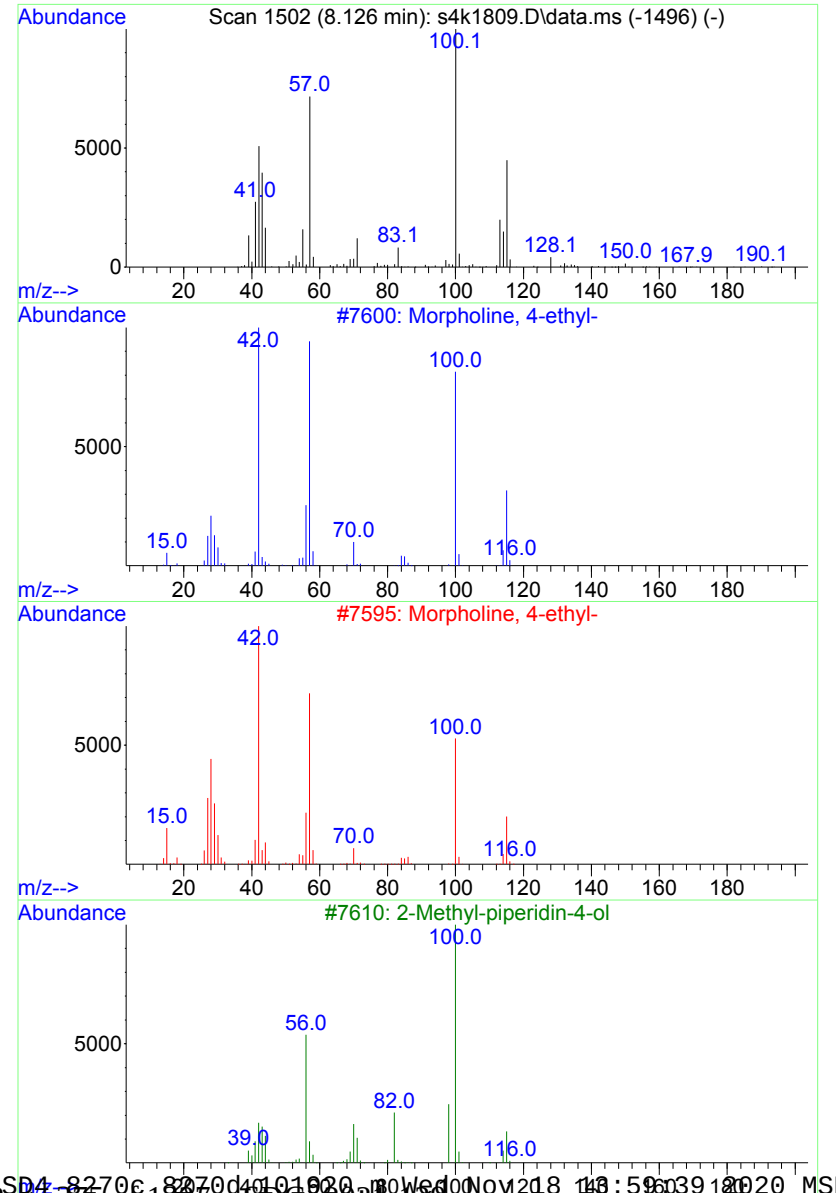
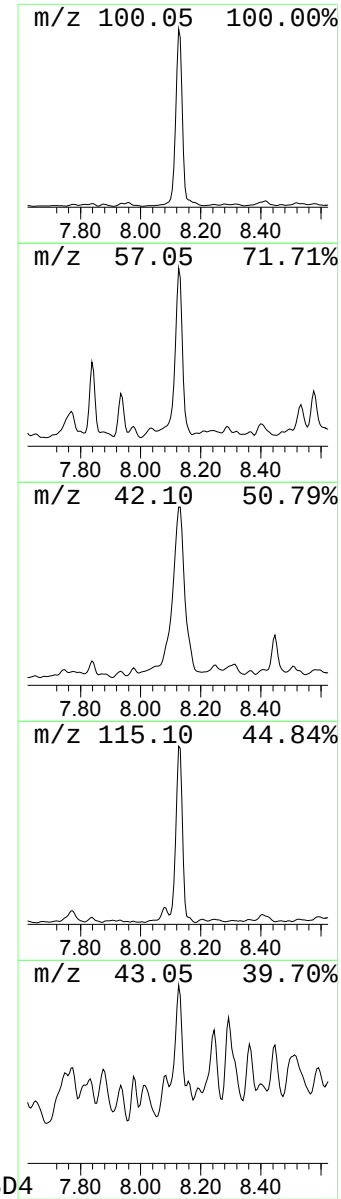
Peak Number 10 unknown Concentration Rank 21

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.126	6.00 ng/uL	1055190	E Naphthalene-d8	7.201

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Morpholine, 4-ethyl-	115	C6H13NO	000100-74-3	64
2	Morpholine, 4-ethyl-	115	C6H13NO	000100-74-3	64
3	2-Methyl-piperidin-4-ol	115	C6H13NO	1000300-70-1	53
4	2-Piperazinone	100	C4H8N2O	005625-67-2	47
5	3,4-Dimethylperhydro-1,3-oxazine	115	C6H13NO	076888-60-3	36





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ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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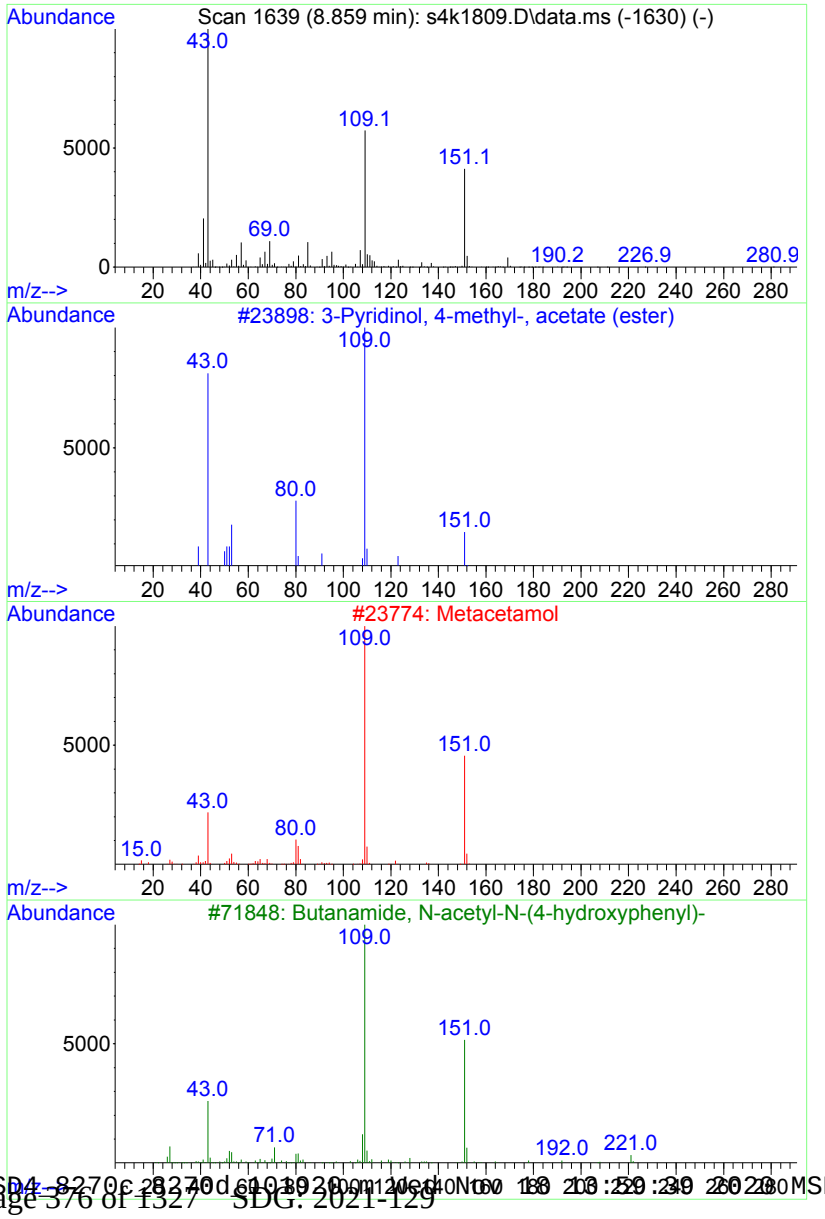
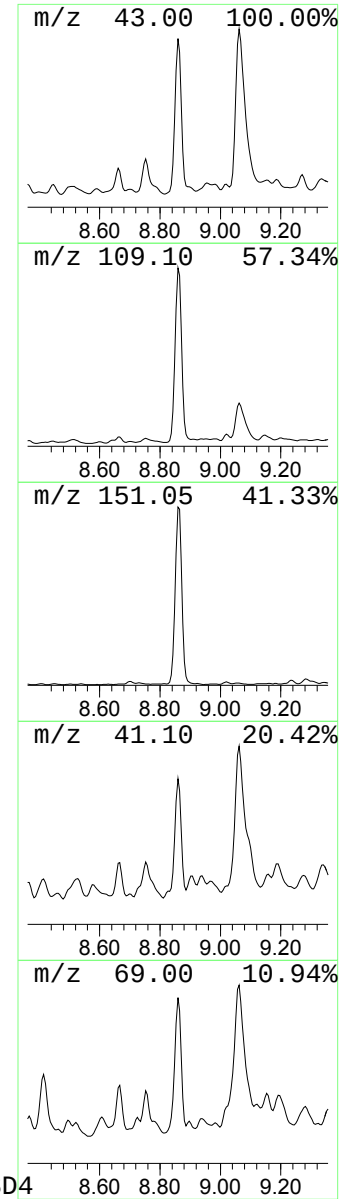
Peak Number 11 unknown Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.859	9.29 ng/uL	1867510	A Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Pyridinol, 4-methyl-, acetate ...	151	C8H9NO2	001006-96-8	53
2	Metacetamol	151	C8H9NO2	000621-42-1	53
3	Butanamide, N-acetyl-N-(4-hydrox...	221	C12H15NO3	1000107-08-7	42
4	Pyridine, 3-butyl-, 1-oxide	151	C9H13NO	031396-33-5	36
5	3-Hexyne-2,5-diol, 2,5-dimethyl-	142	C8H14O2	000142-30-3	25





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ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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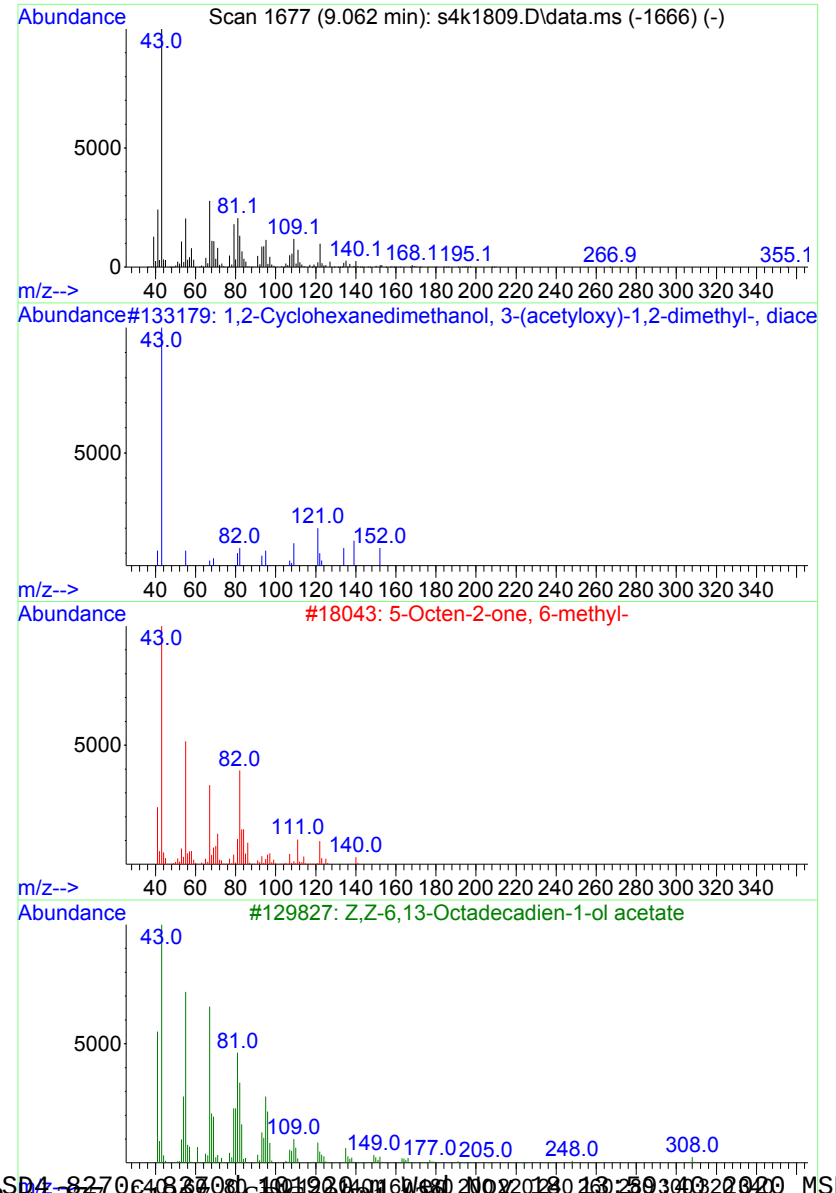
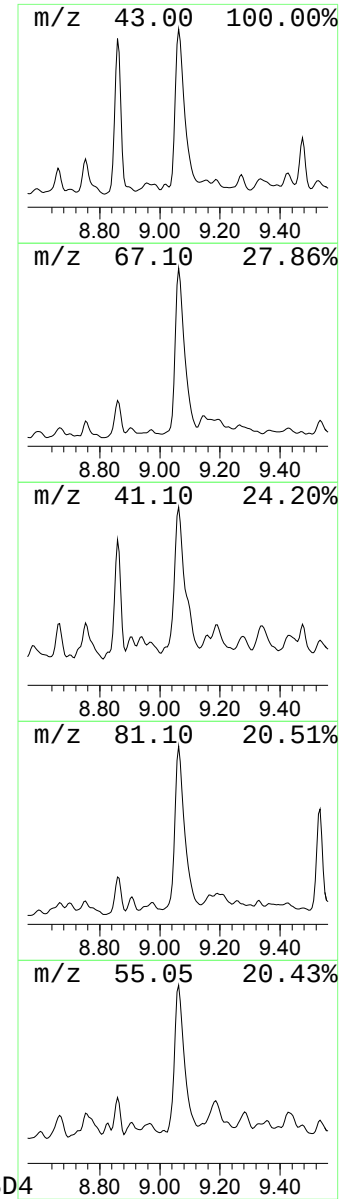
Peak Number 12 unknown Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.062	20.37 ng/uL	4094690	A Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,2-Cyclohexanedimethanol, 3-(ac...	314	C16H26O6	055905-48-1	47
2	5-Octen-2-one, 6-methyl-	140	C9H16O	1000132-45-4	43
3	Z,Z-6,13-Octadecadien-1-ol acetate	308	C20H36O2	1000131-07-0	40
4	3-Decen-1-ol, acetate, (Z)-	198	C12H22O2	081634-99-3	38
5	Limonene oxide, cis-	152	C10H16O	004680-24-4	38





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ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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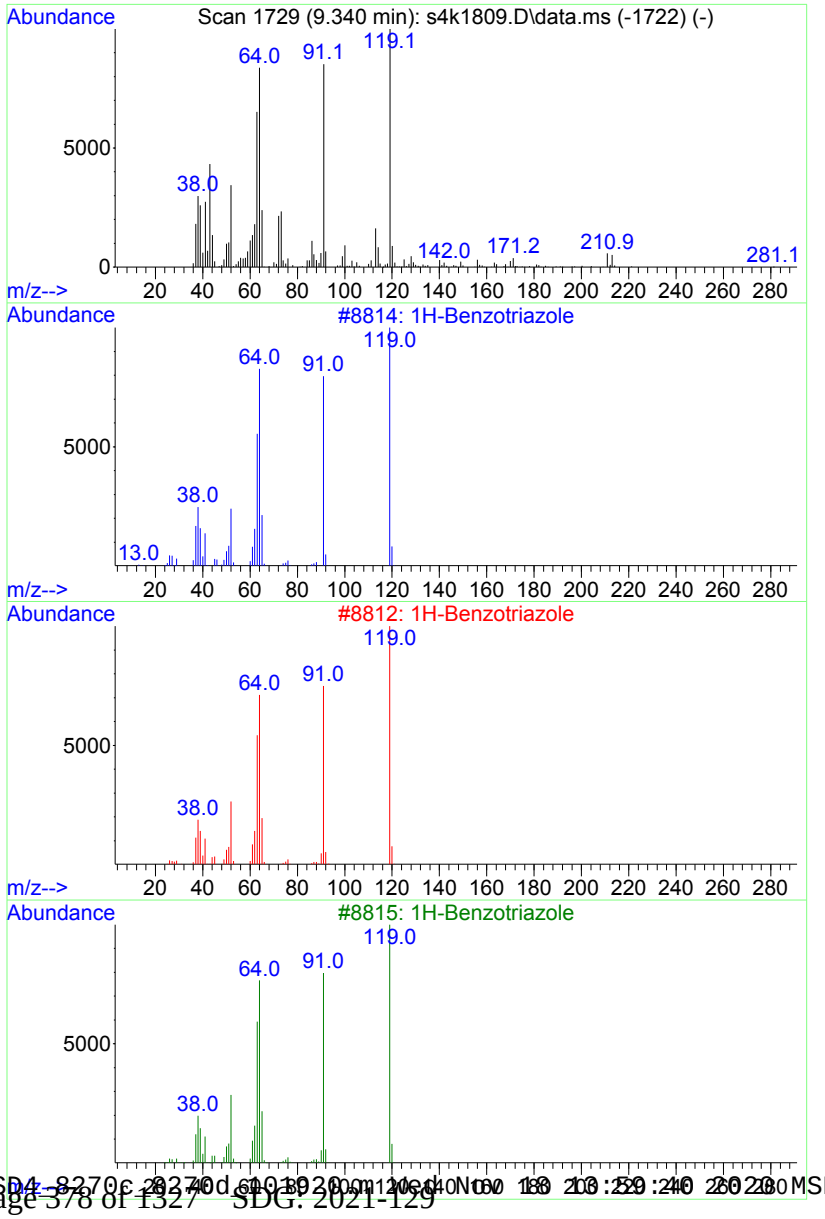
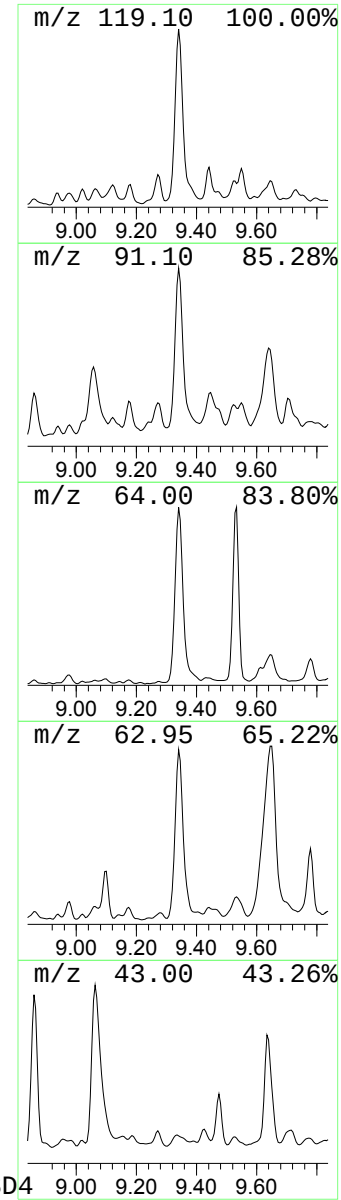
Peak Number 13 1H-Benzotriazole Concentration Rank 26

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.340	5.38 ng/uL	1081880	A Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Benzotriazole	119	C6H5N3	000095-14-7	98
2	1H-Benzotriazole	119	C6H5N3	027556-51-0	97
3	1H-Benzotriazole	119	C6H5N3	000095-14-7	97
4	1H-Benzotriazole	119	C6H5N3	000095-14-7	96
5	1,2-Benzisoxazole	119	C7H5NO	000271-95-4	91





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ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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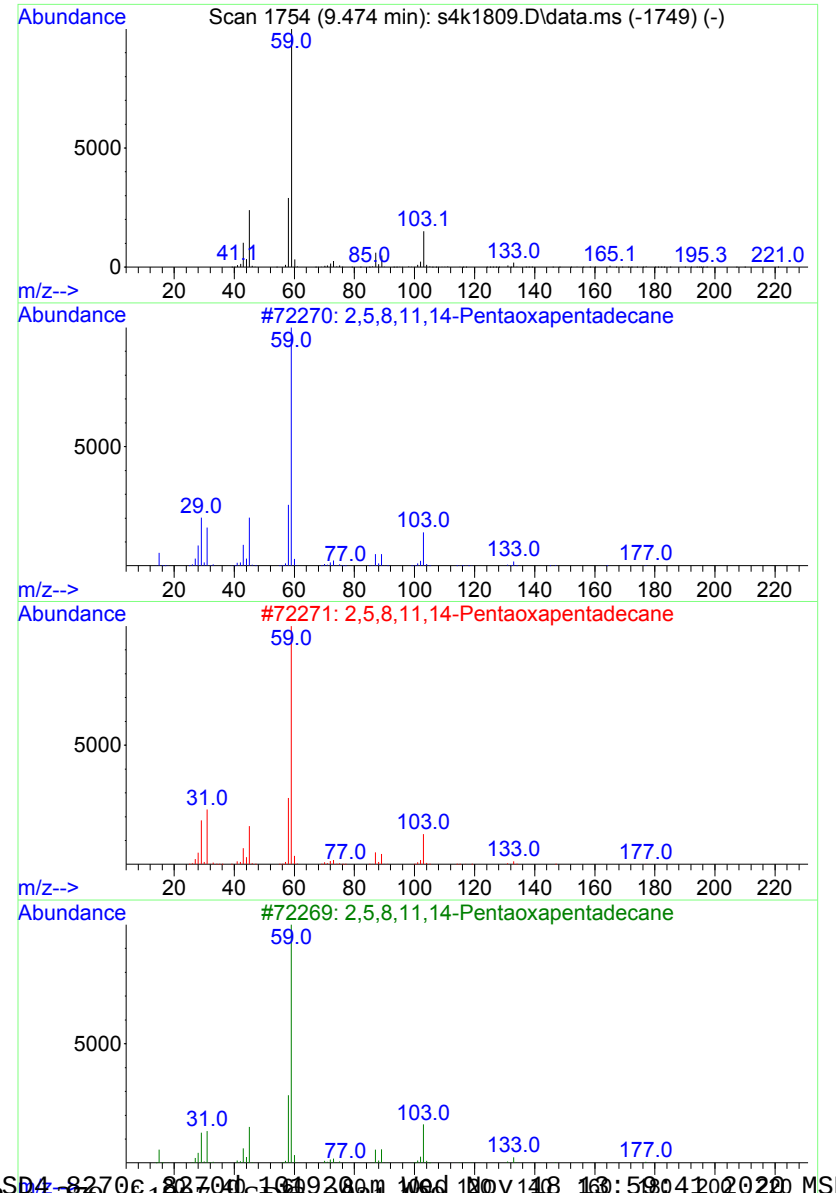
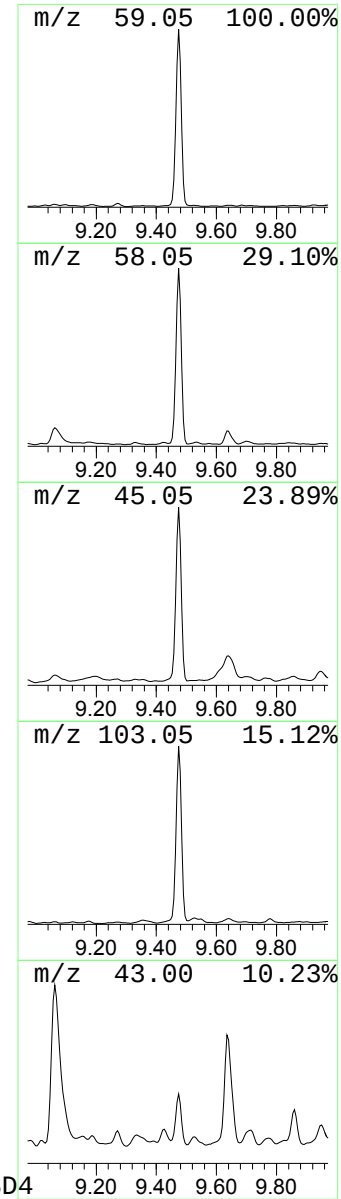
Peak Number 14 2,5,8,11,14-Pentaoxapentade... Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.474	14.31 ng/uL	2876610	A Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	90
2	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	86
3	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	86
4	2-Butanol, 1-methoxy-	104	C5H12O2	053778-73-7	64
5	2,5,8,11-Tetraoxadodecane	178	C8H18O4	000112-49-2	56





Library Search Compound Report

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Quant Title : BNA01

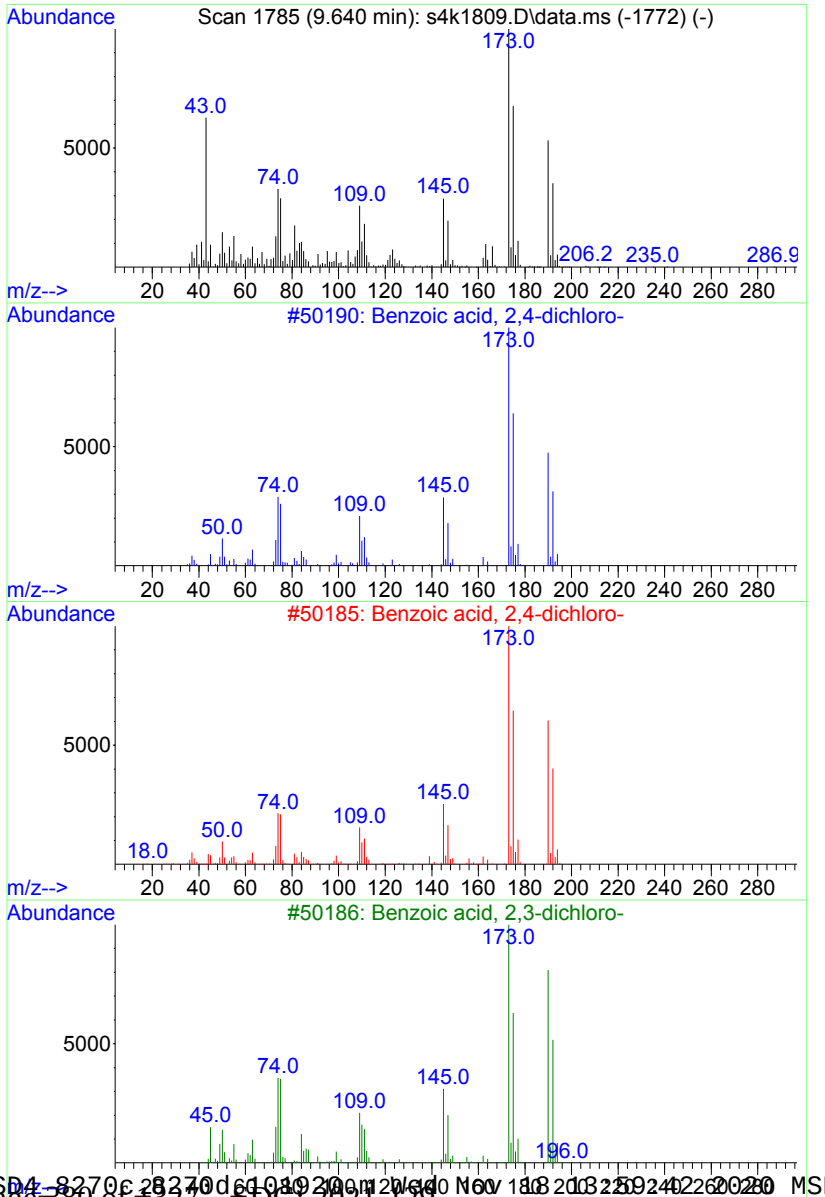
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

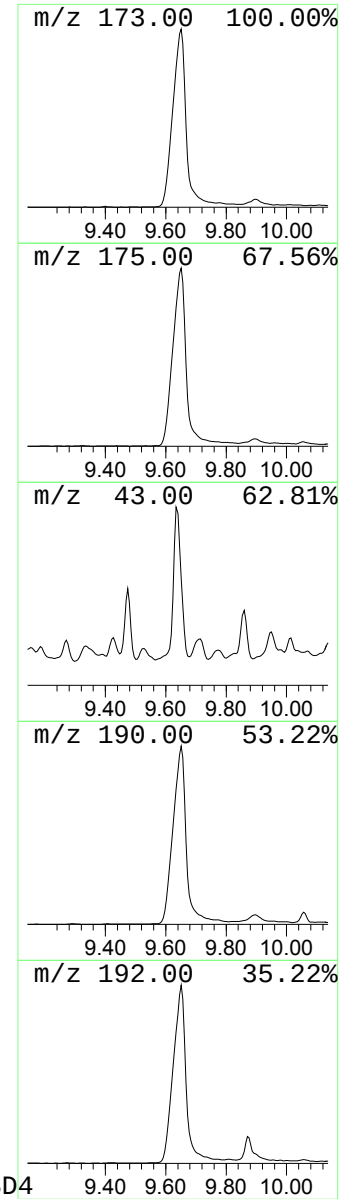
****

Peak Number 15 Benzoic acid, 2,4-dichloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.640	49.39 ng/uL	9929660	D Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	99
2	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	98
3	Benzoic acid, 2,3-dichloro-	190	C7H4Cl2O2	000050-45-3	96
4	Benzoic acid, 2,5-dichloro-	190	C7H4Cl2O2	000050-79-3	96
5	Benzoic acid, 2,6-dichloro-	190	C7H4Cl2O2	000050-30-6	95





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ALS Vial : 9 Sample Multiplier: 1

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Quant Title : BNA01

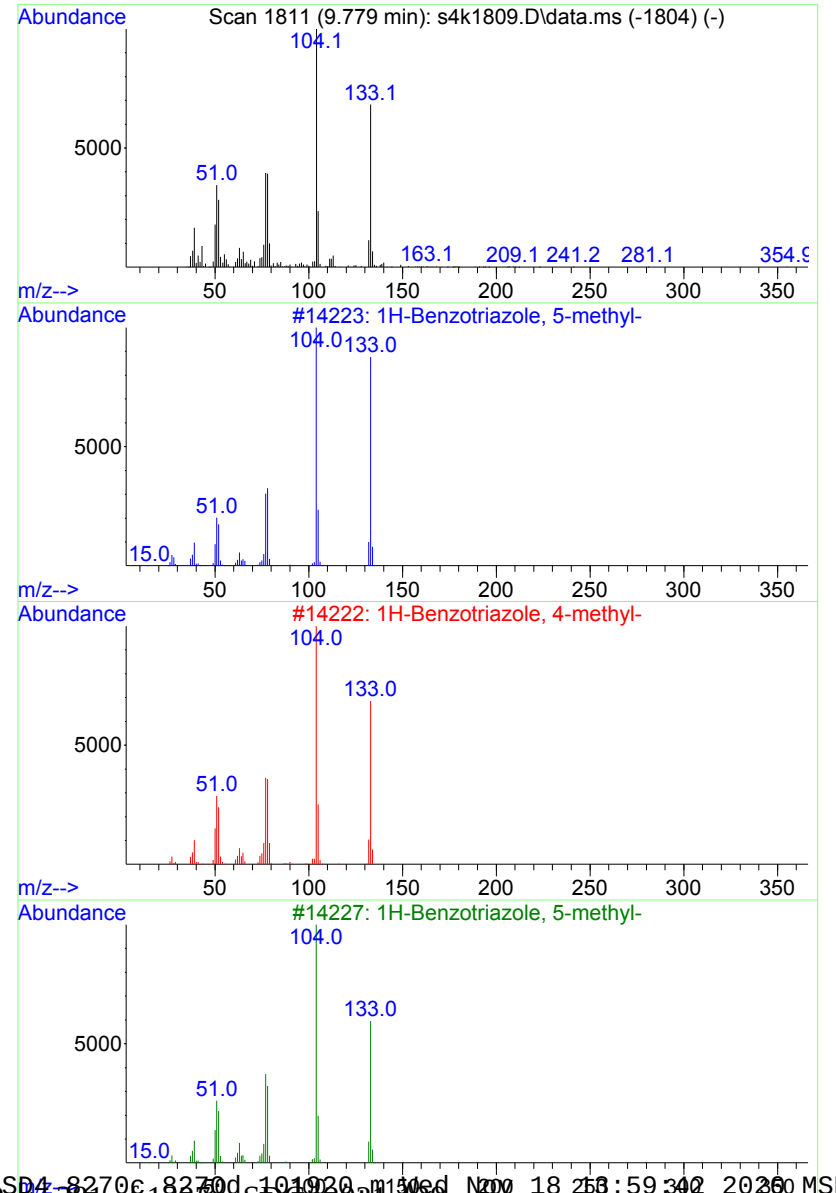
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

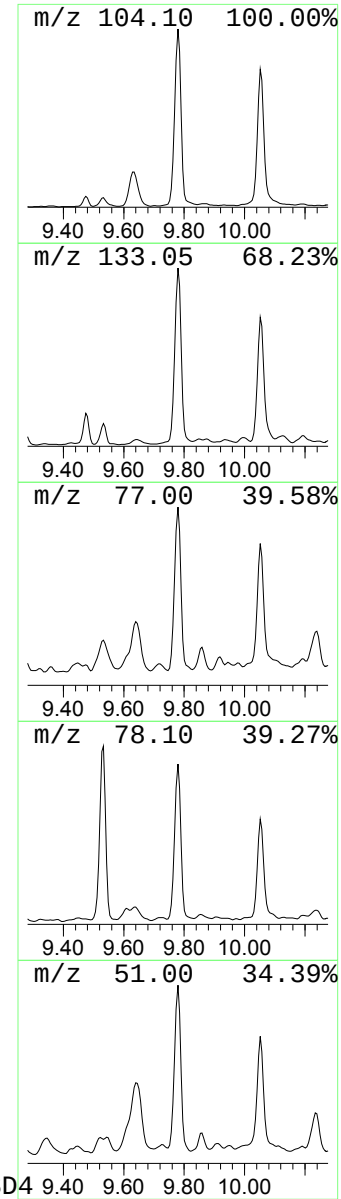
****

Peak Number 16 1H-Benzotriazole, 5-methyl- Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.779	8.11 ng/uL	1631310	D Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	97
2	1H-Benzotriazole, 4-methyl-	133	C7H7N3	029878-31-7	96
3	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	96
4	1H-Benzotriazole, 4-methyl-	133	C7H7N3	029878-31-7	95
5	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	94





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ALS Vial : 9 Sample Multiplier: 1

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Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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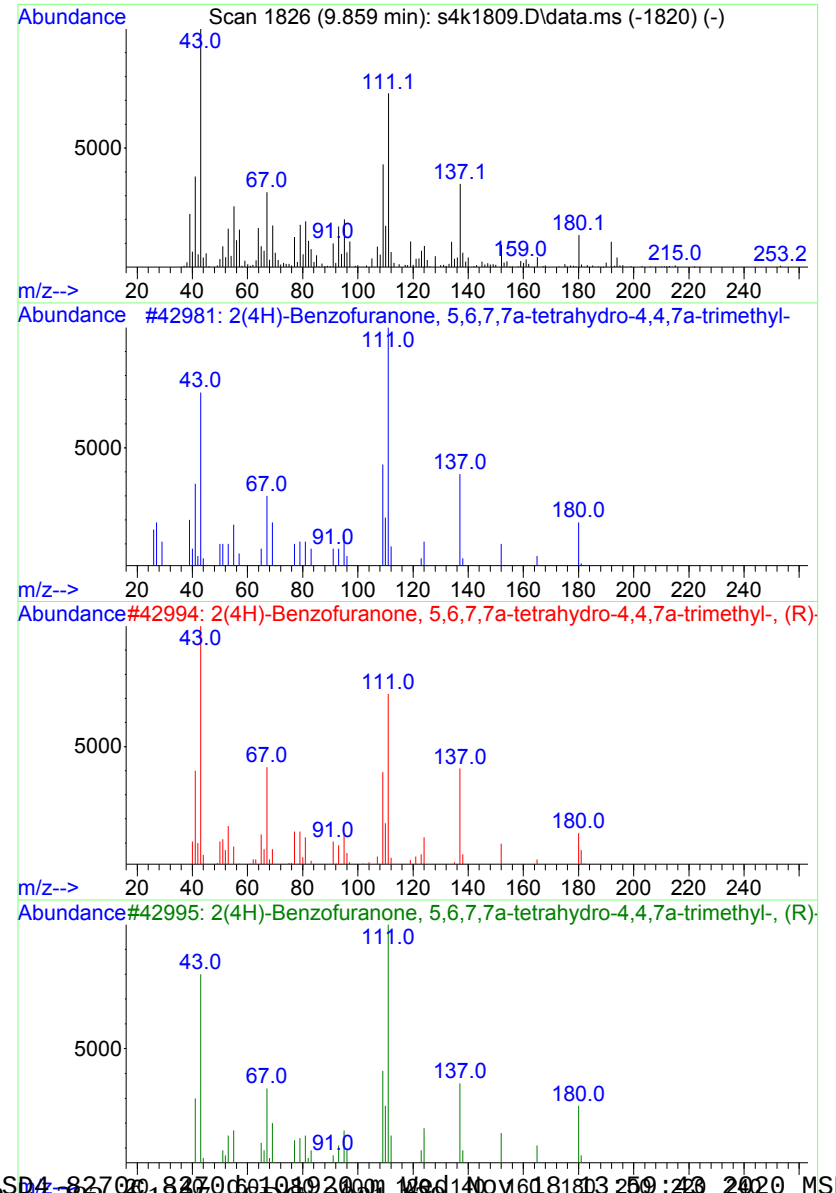
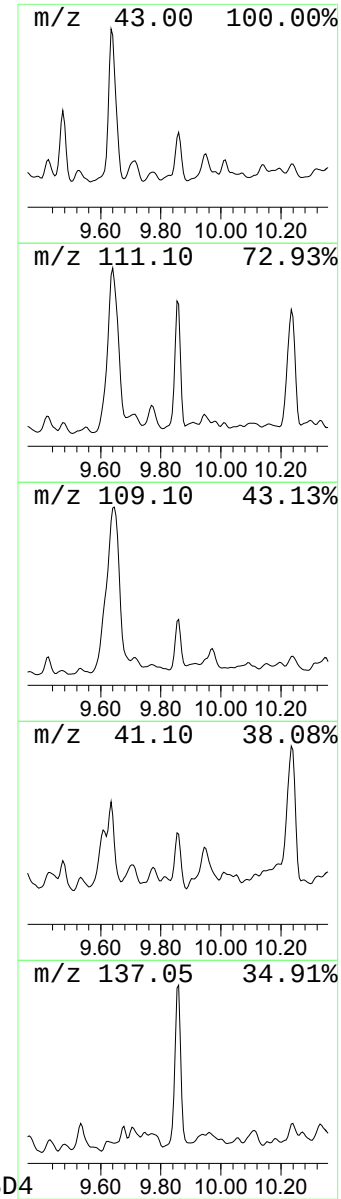
Peak Number 17 2(4H)-Benzofuranone, 5,6,7,... Concentration Rank 24

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.859	5.61 ng/uL	1128220	D Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2(4H)-Benzofuranone, 5,6,7,7a-te...	180	C11H16O2	015356-74-8	95
2	2(4H)-Benzofuranone, 5,6,7,7a-te...	180	C11H16O2	017092-92-1	78
3	2(4H)-Benzofuranone, 5,6,7,7a-te...	180	C11H16O2	017092-92-1	49
4	Epoxy-.alpha.-terpenyl acetate	212	C12H20O3	1000293-00-8	37
5	2,6-Dimethyl-3,5,7-octatriene-2-...	152	C10H16O	1000141-11-9	25





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Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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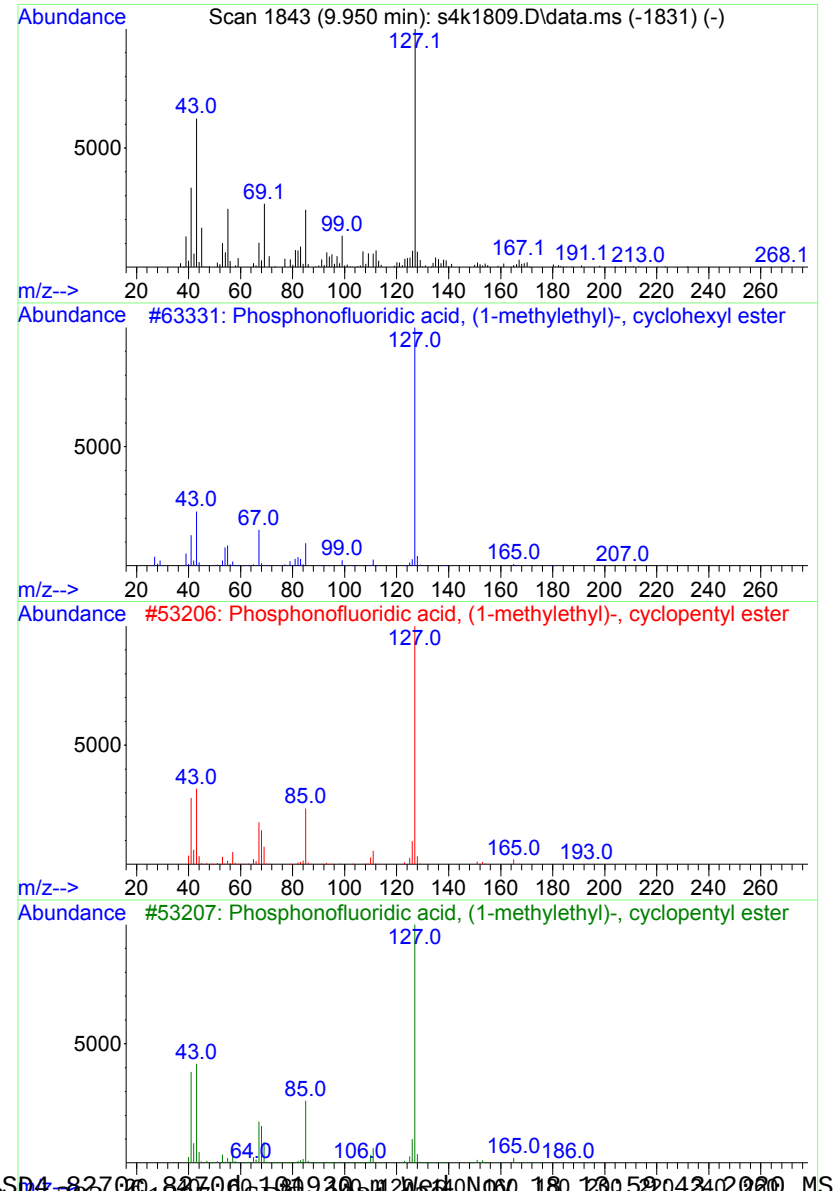
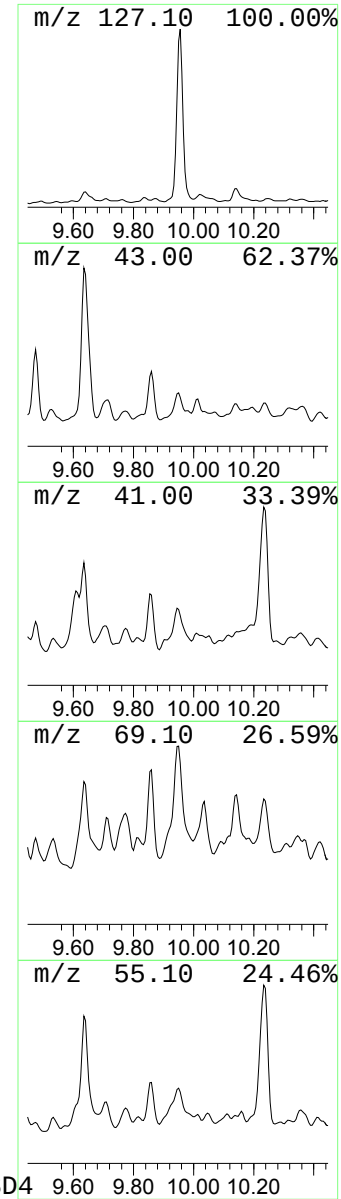
Peak Number 18 unknown Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.950	6.80 ng/uL	1366940	D Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phosphonofluoridic acid, (1-meth...	208	C9H18FO2P	333416-55-0	64
2	Phosphonofluoridic acid, (1-meth...	194	C8H16FO2P	345239-07-8	59
3	Phosphonofluoridic acid, (1-meth...	194	C8H16FO2P	345239-07-8	53
4	Phosphonofluoridic acid, (1-meth...	224	C10H22FO2P	333416-33-4	53
5	Phosphonofluoridic acid, (1-meth...	208	C9H18FO2P	333416-55-0	53





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ALS Vial : 9 Sample Multiplier: 1

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Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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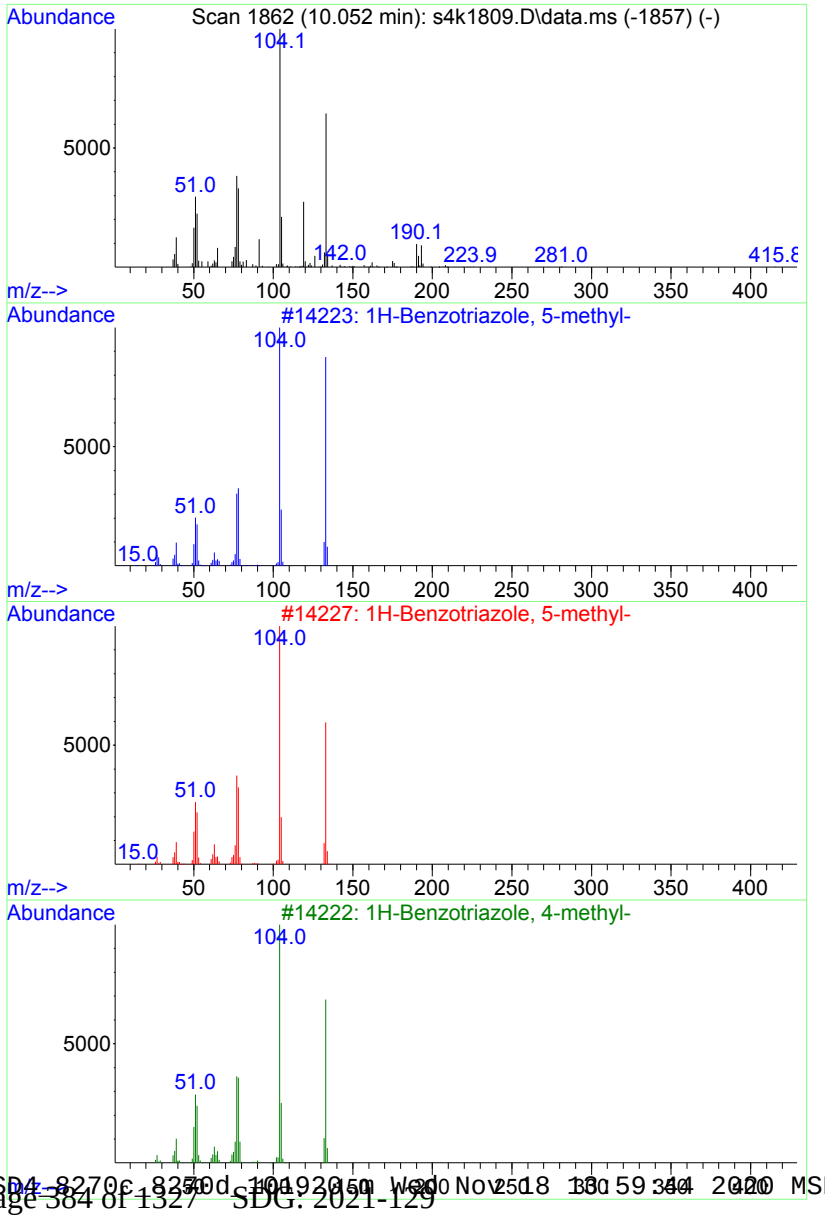
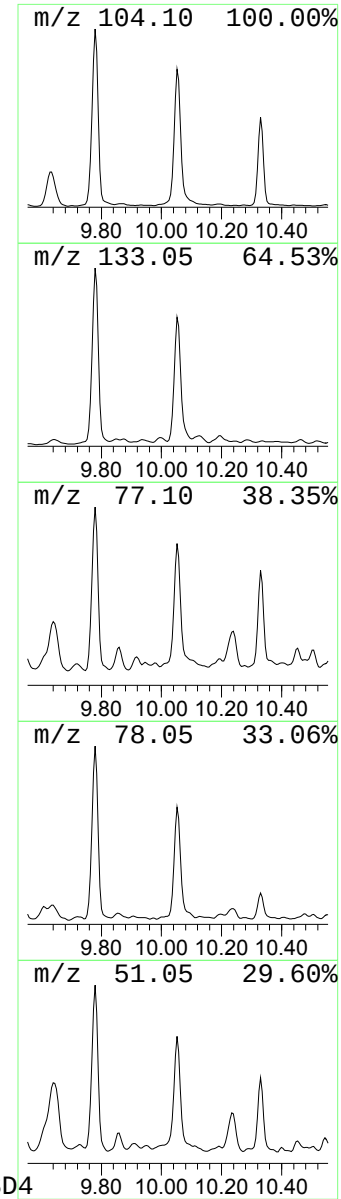
Peak Number 19 1H-Benzotriazole, 5-methyl- Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.052	6.67 ng/uL	1340340	D Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	95
2	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	91
3	1H-Benzotriazole, 4-methyl-	133	C7H7N3	029878-31-7	91
4	1H-Benzotriazole, 4-methyl-	133	C7H7N3	029878-31-7	90
5	1H-Benzotriazole, 5-methyl-	133	C7H7N3	000136-85-6	83





Library Search Compound Report

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Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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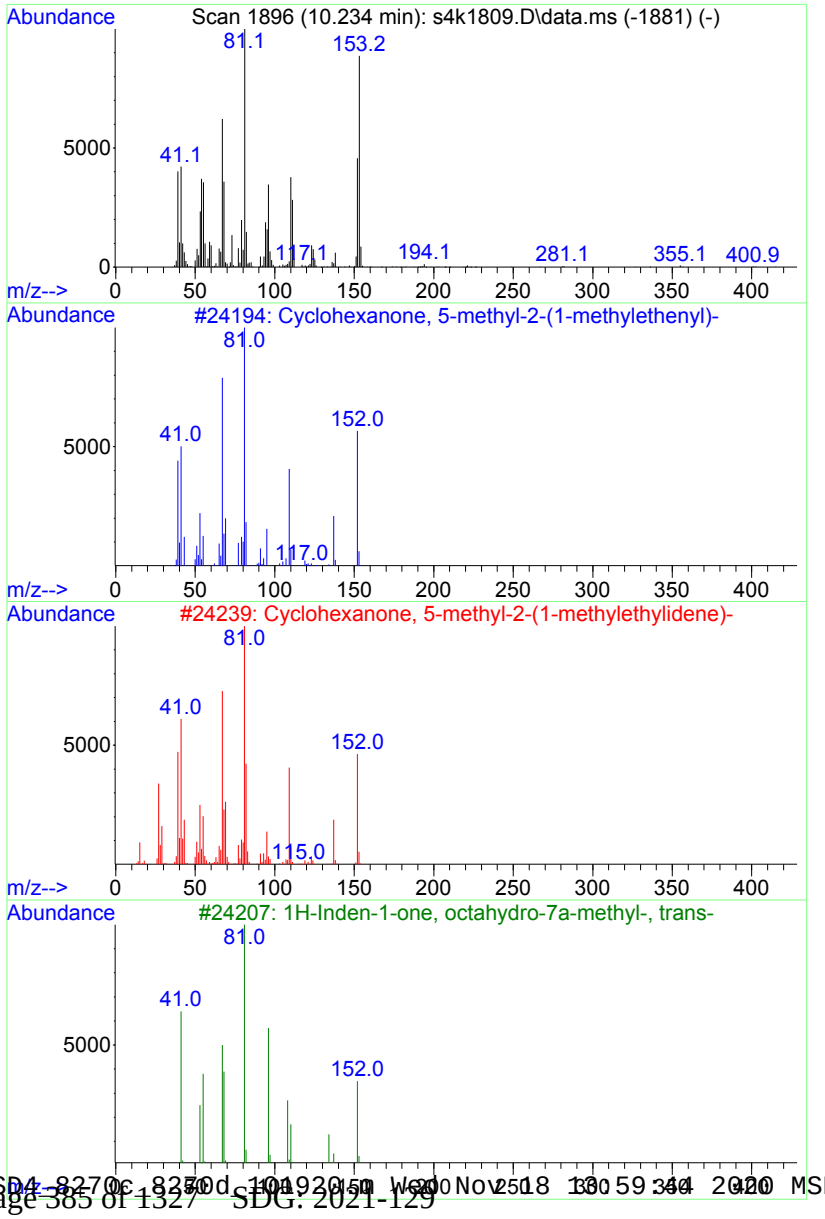
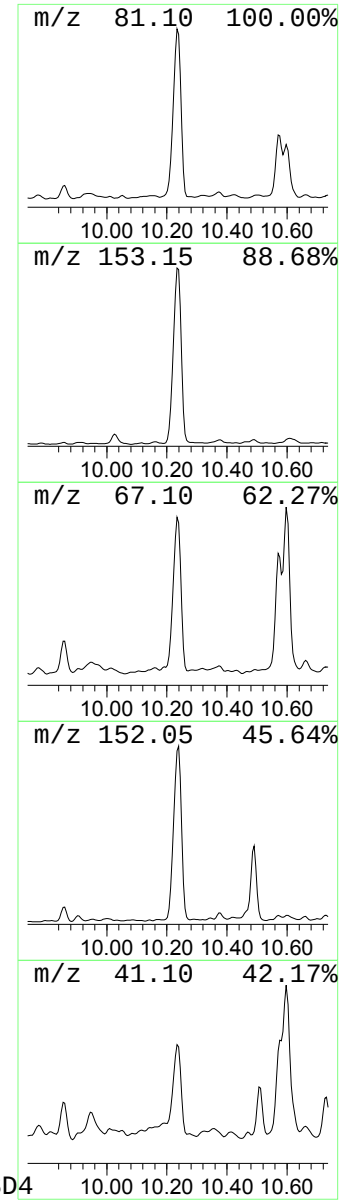
Peak Number 20 unknown Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.234	18.81 ng/uL	3781740	D Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexanone, 5-methyl-2-(1-met...	152	C10H16O	000529-00-0	55
2	Cyclohexanone, 5-methyl-2-(1-met...	152	C10H16O	015932-80-6	46
3	1H-Inden-1-one, octahydro-7a-met...	152	C10H16O	017428-83-0	43
4	Cyclohexane, ethylidene-	110	C8H14	001003-64-1	41
5	Cyclohexane, ethylidene-	110	C8H14	001003-64-1	38





Library Search Compound Report

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Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

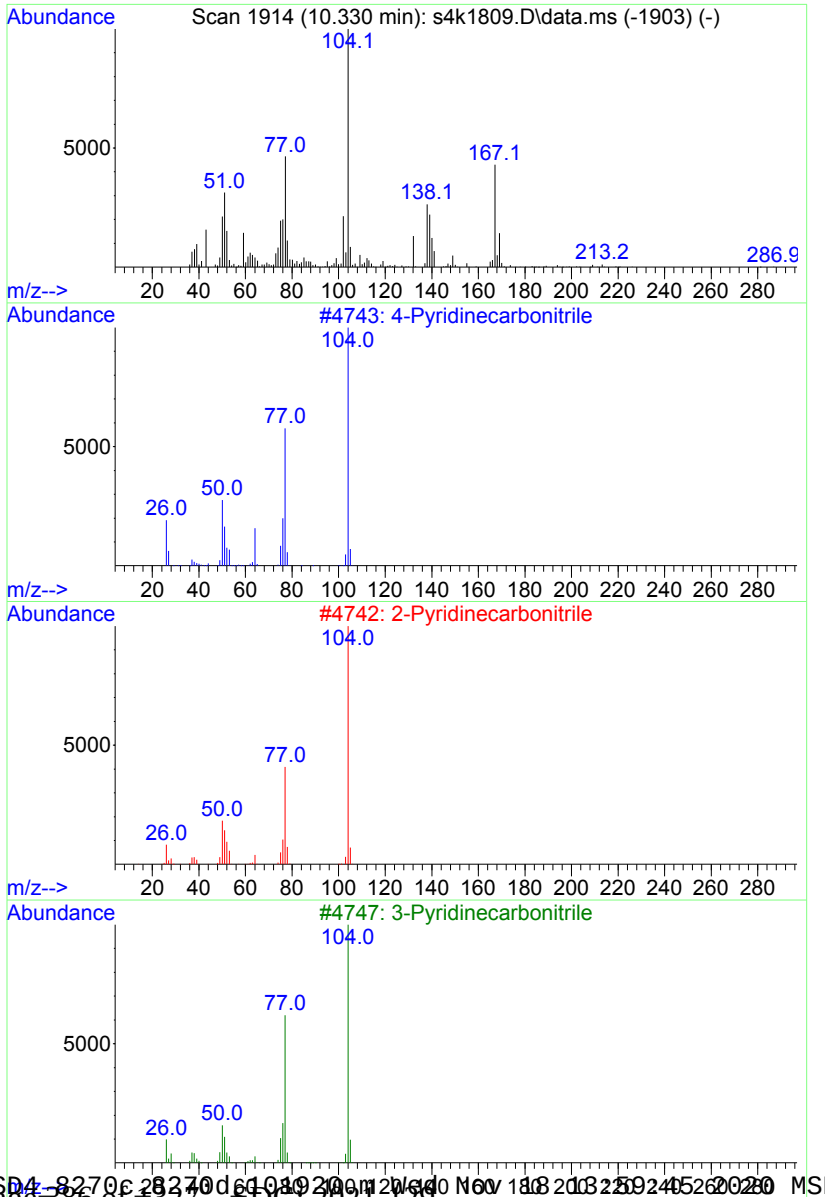
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

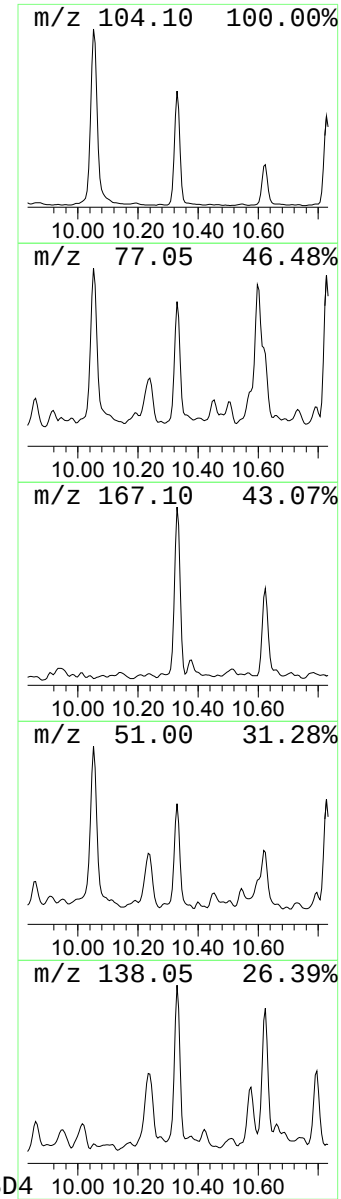
****

Peak Number 21 unknown Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.330	6.33 ng/uL	1272530	D Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	4-Pyridinecarbonitrile	104	C6H4N2	000100-48-1	43
2	2-Pyridinecarbonitrile	104	C6H4N2	000100-70-9	38
3	3-Pyridinecarbonitrile	104	C6H4N2	000100-54-9	38
4	3-Pyridinecarbonitrile	104	C6H4N2	000100-54-9	38
5	Benzonitrile, 4-(hydroxymethyl)-	133	C8H7NO	000874-89-5	38





Library Search Compound Report

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Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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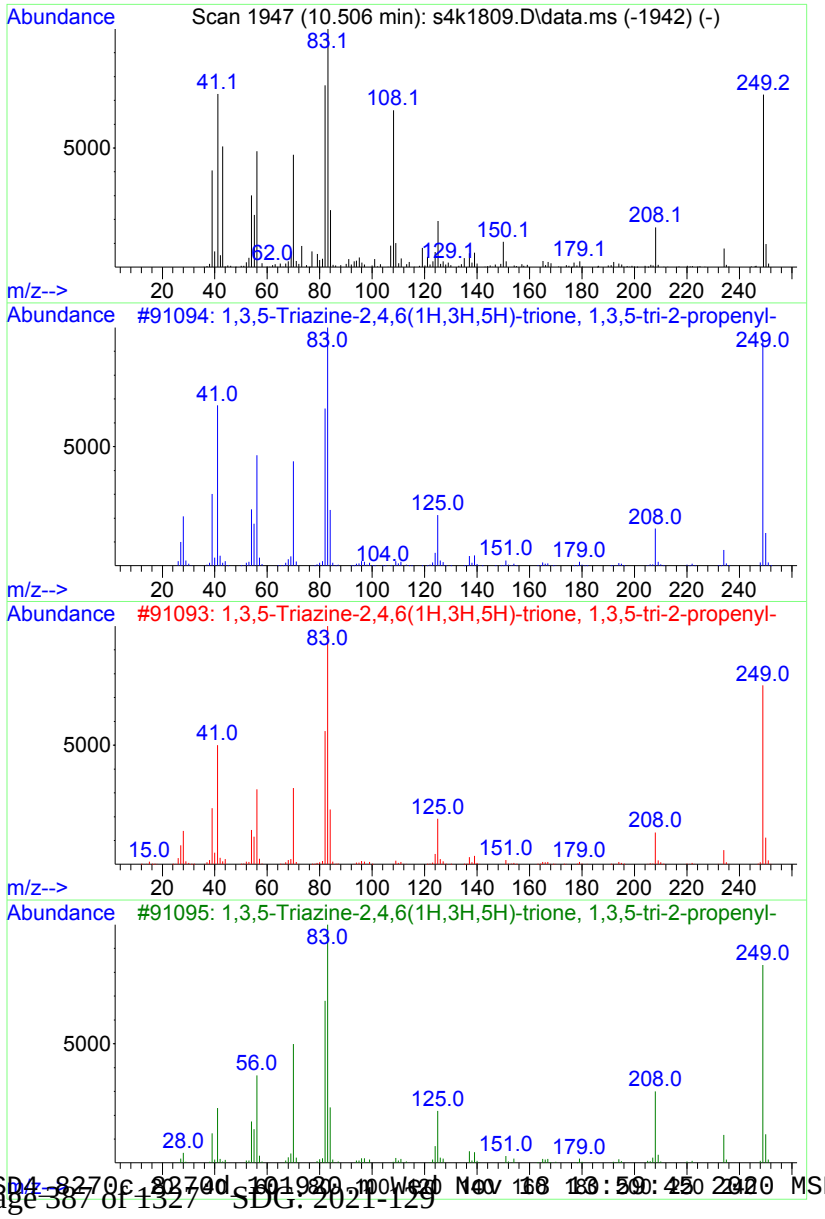
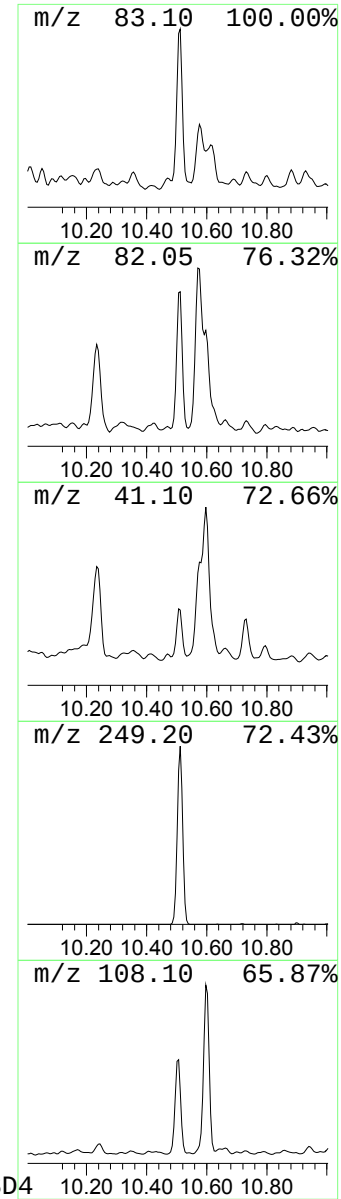
Peak Number 22 1,3,5-Triazine-2,4,6(1H,3H,... Concentration Rank 30

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.506	4.53 ng/uL	823615	A Phenanthrene-d10	11.416

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,3,5-Triazine-2,4,6(1H,3H,5H)-t...	249	C12H15N3O3	001025-15-6	89
2	1,3,5-Triazine-2,4,6(1H,3H,5H)-t...	249	C12H15N3O3	001025-15-6	83
3	1,3,5-Triazine-2,4,6(1H,3H,5H)-t...	249	C12H15N3O3	001025-15-6	81
4	Hexane, 1,6-dicyclohexyl-	250	C18H34	001610-23-7	35
5	Imidazole, 2-acetamido-	125	C5H7N3O	052737-49-2	27





Library Search Compound Report

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ALS Vial : 9 Sample Multiplier: 1

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Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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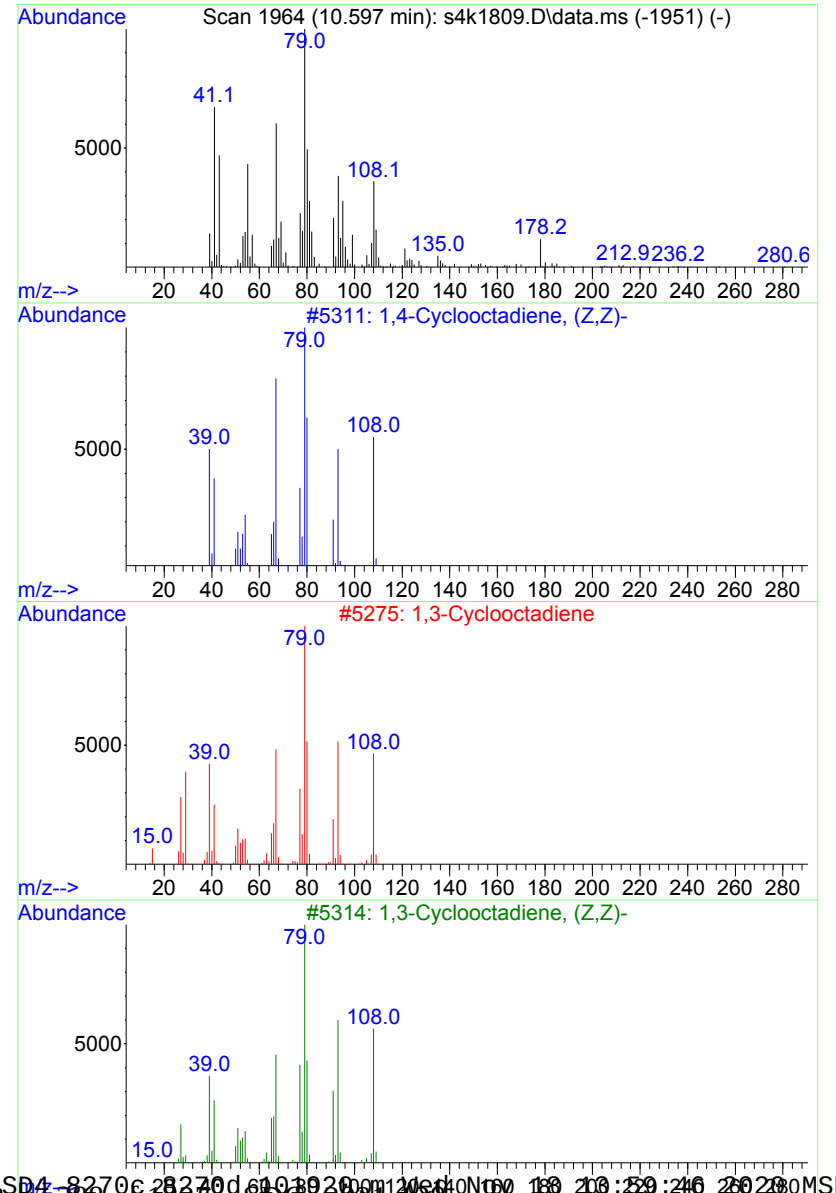
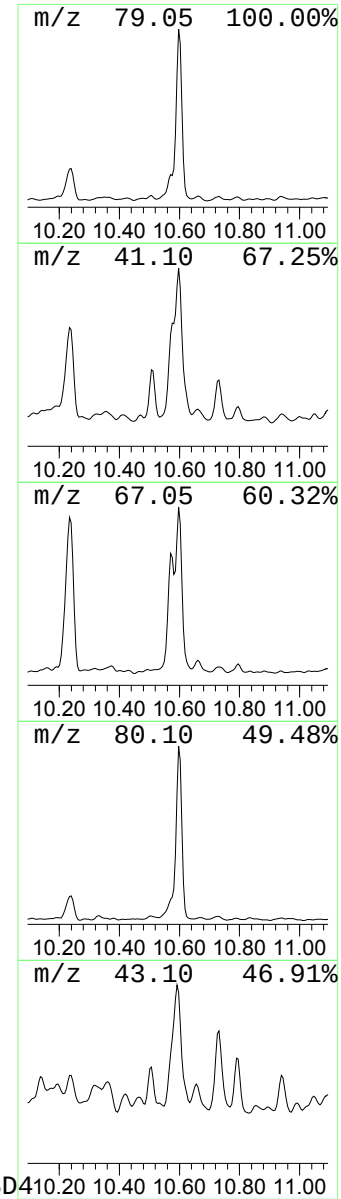
Peak Number 23 unknown Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.597	27.53 ng/uL	5000750	A Phenanthrene-d10	11.416

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,4-Cyclooctadiene, (Z,Z)-	108	C8H12	016327-22-3	83
2	1,3-Cyclooctadiene	108	C8H12	001700-10-3	70
3	1,3-Cyclooctadiene, (Z,Z)-	108	C8H12	003806-59-5	50
4	Bicyclobutylidene	108	C8H12	006708-14-1	47
5	6-Tridecen-4-yne, (Z)-	178	C13H22	074744-45-9	46





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ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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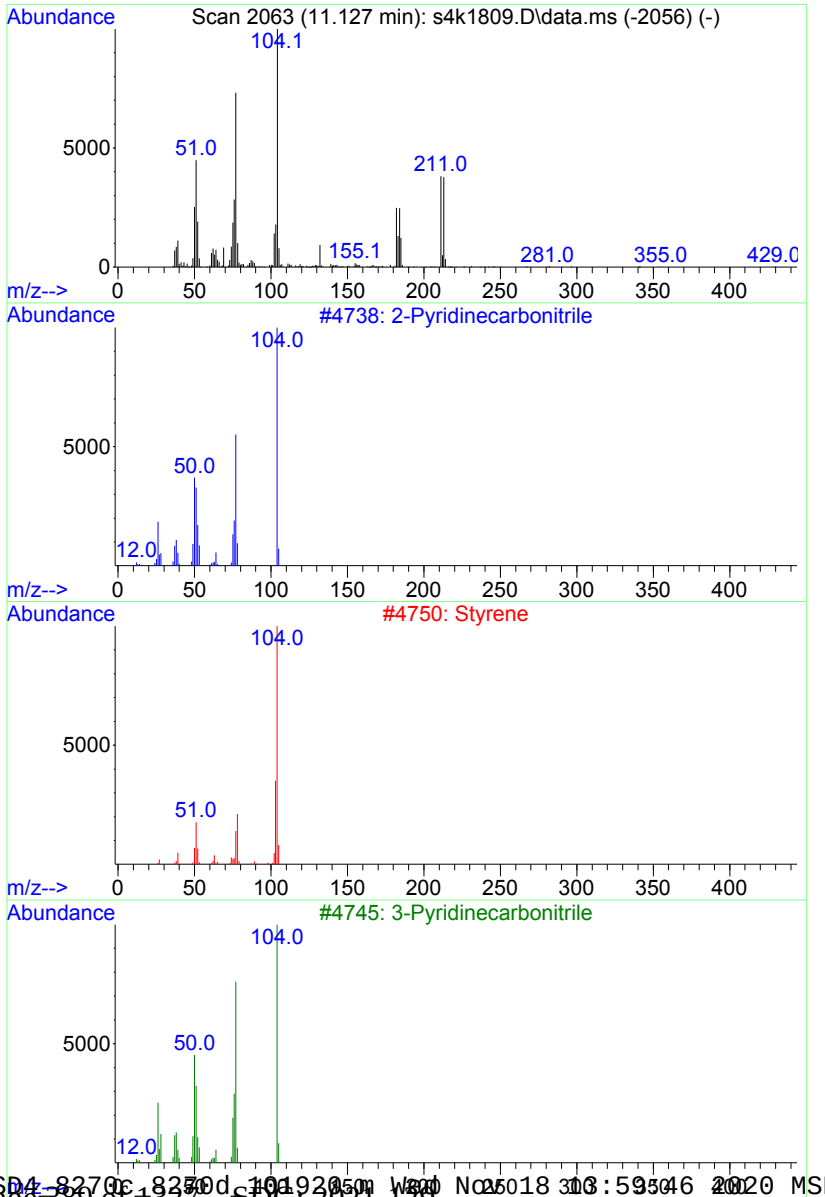
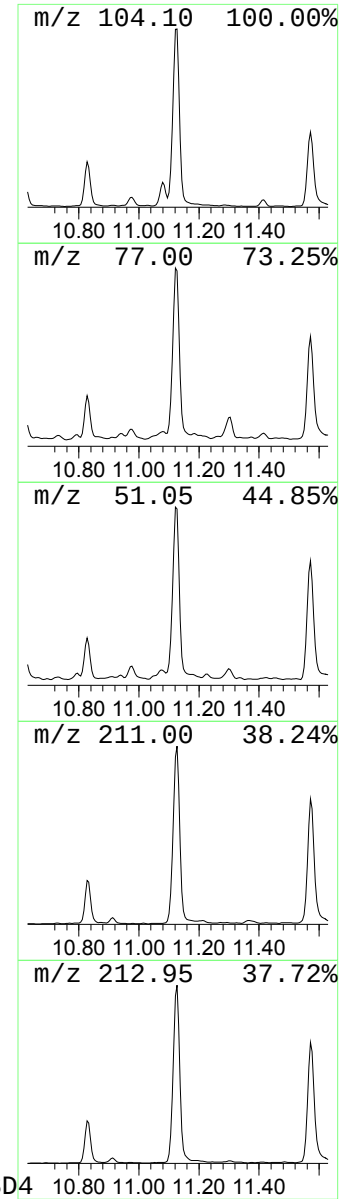
Peak Number 24 unknown Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.127	16.39 ng/uL	2977980	A Phenanthrene-d10	11.416

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pyridinecarbonitrile	104	C6H4N2	000100-70-9	76
2	Styrene	104	C8H8	000100-42-5	43
3	3-Pyridinecarbonitrile	104	C6H4N2	000100-54-9	41
4	Benzoic acid, 2-(1H-tetrazol-5-yl)-	190	C8H6N4O2	013947-58-5	38
5	Benzenemethanimine	105	C7H7N	016118-22-2	38





Library Search Compound Report

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ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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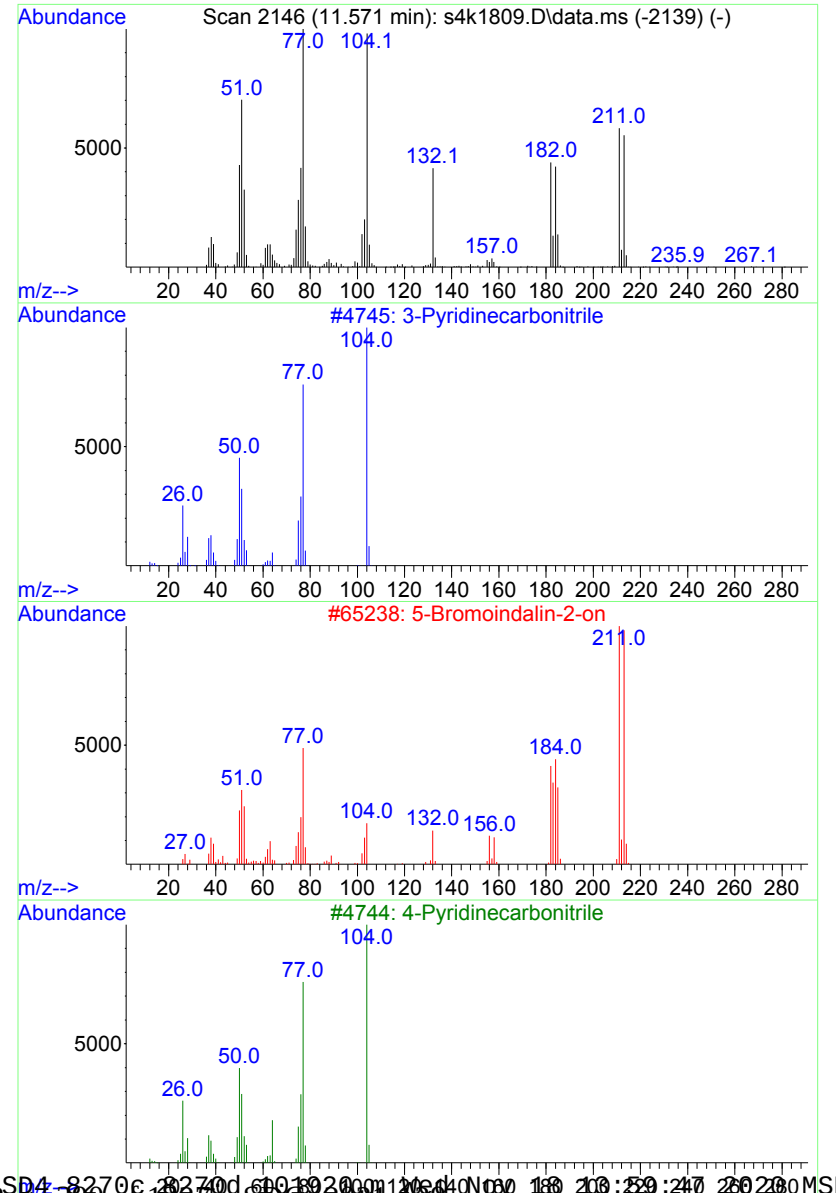
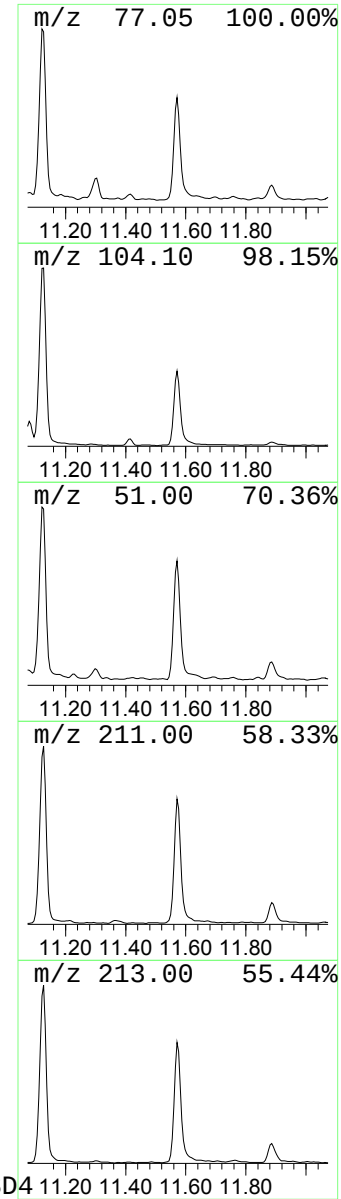
Peak Number 25 unknown Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.571	8.89 ng/uL	1614190	D Phenanthrene-d10	11.416

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Pyridinecarbonitrile	104	C6H4N2	000100-54-9	53
2	5-Bromoindalin-2-on	211	C8H6BrNO	020870-78-4	50
3	4-Pyridinecarbonitrile	104	C6H4N2	000100-48-1	49
4	1,3,5,7-Cyclooctatetraene	104	C8H8	000629-20-9	38
5	Sydnone, 3-phenyl-	162	C8H6N2O2	000120-06-9	37





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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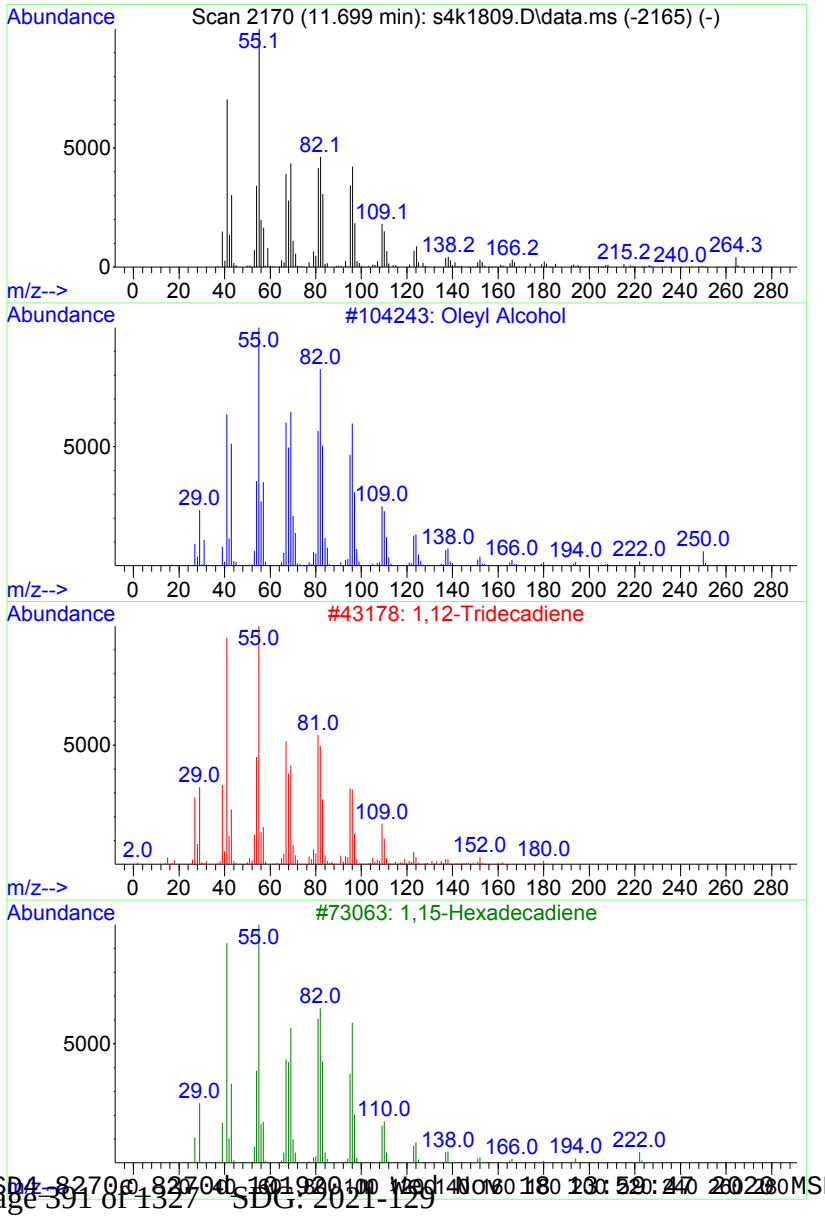
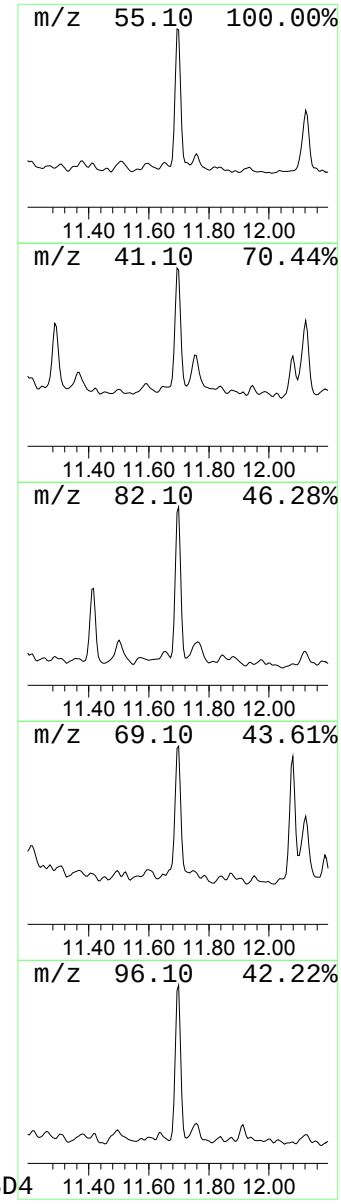
Peak Number 26 Oleyl Alcohol Concentration Rank 28

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.699	4.79 ng/uL	869856	D Phenanthrene-d10	11.416

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Oleyl Alcohol	268	C18H36O	000143-28-2	91
2	1,12-Tridecadiene	180	C13H24	021964-48-7	91
3	1,15-Hexadecadiene	222	C16H30	021964-51-2	91
4	1,13-Tetradecadiene	194	C14H26	021964-49-8	91
5	9-Tetradecen-1-ol, acetate, (E)-	254	C16H30O2	023192-82-7	90





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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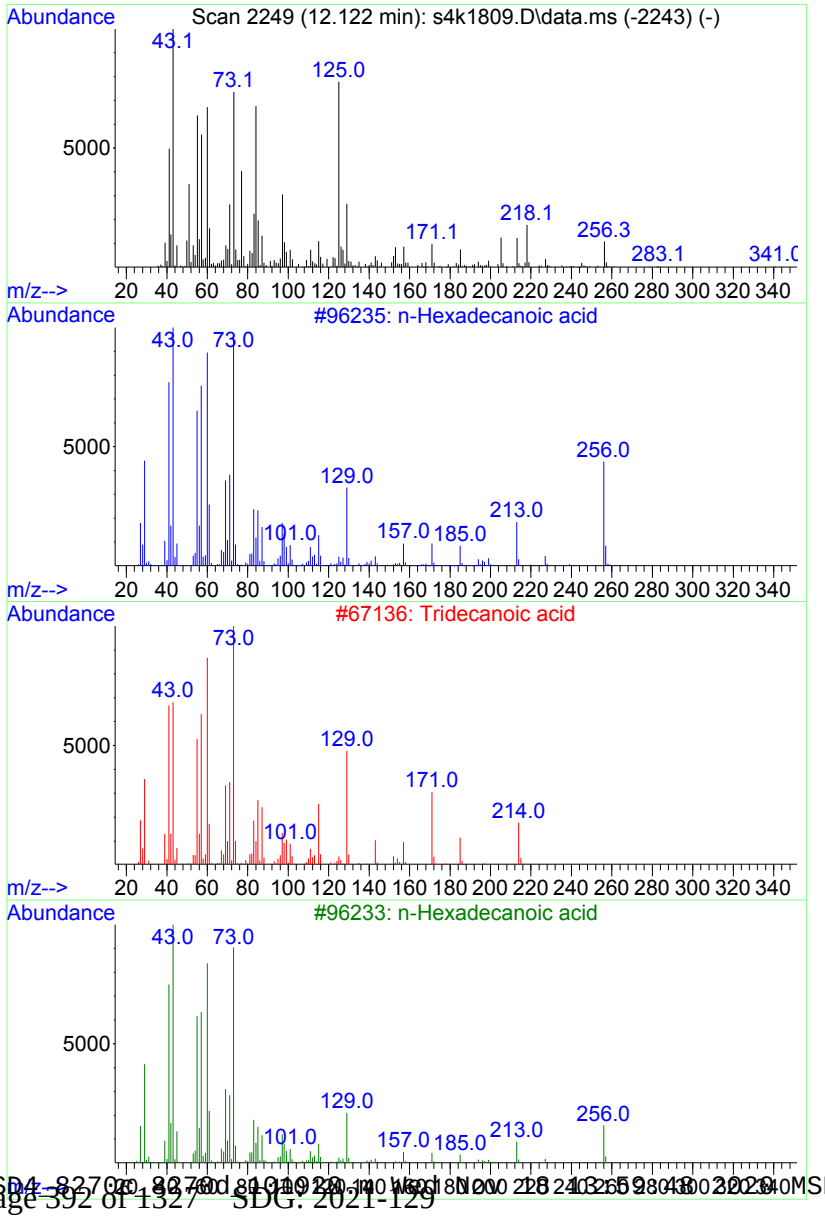
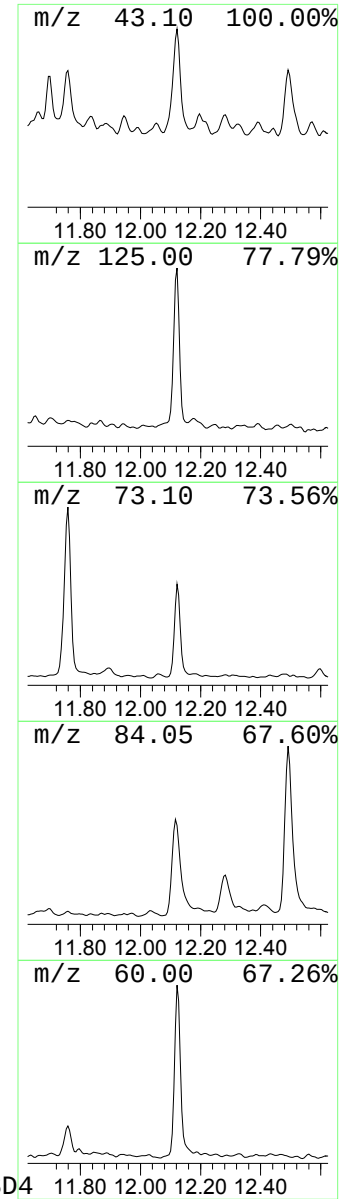
Peak Number 27 n-Hexadecanoic acid Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.122	6.09 ng/uL	1105800	D Phenanthrene-d10	11.416

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	93
2	Tridecanoic acid	214	C13H26O2	000638-53-9	74
3	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	68
4	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	47
5	Diphenyl sulfone	218	C12H10O2S	000127-63-9	46





Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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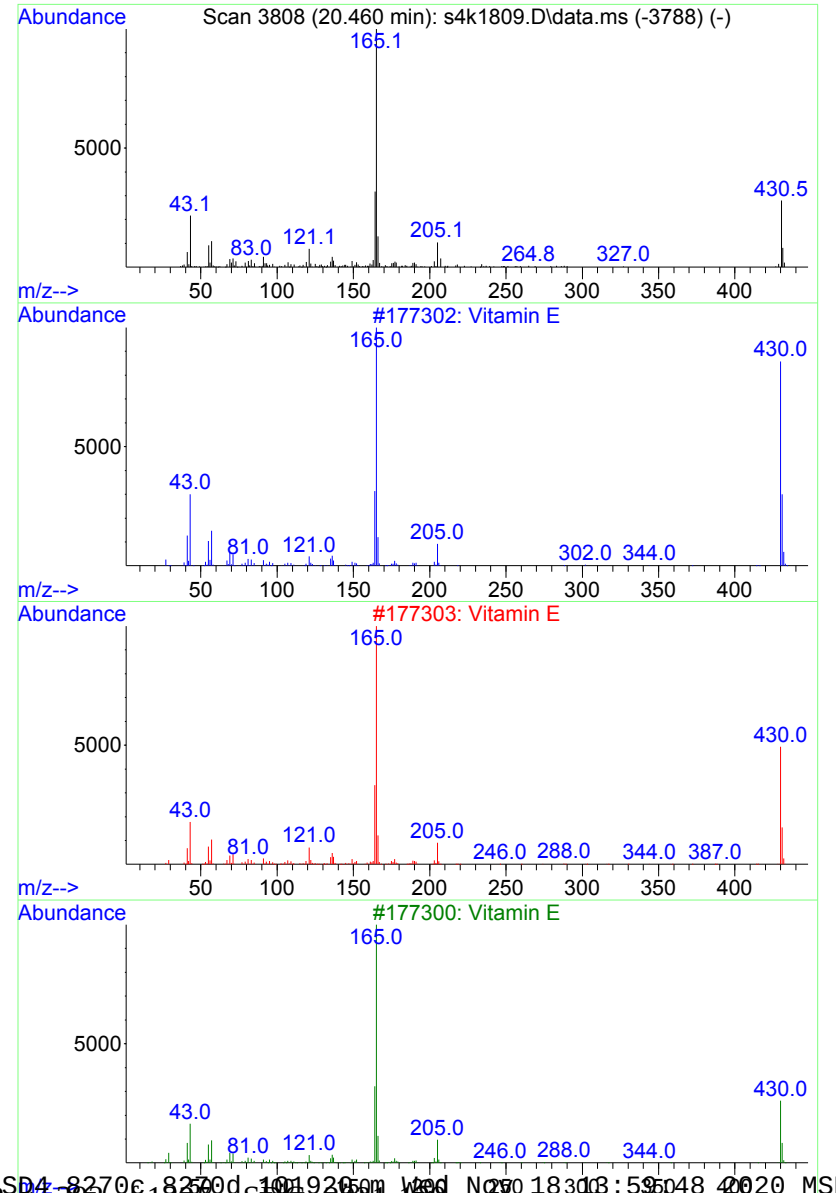
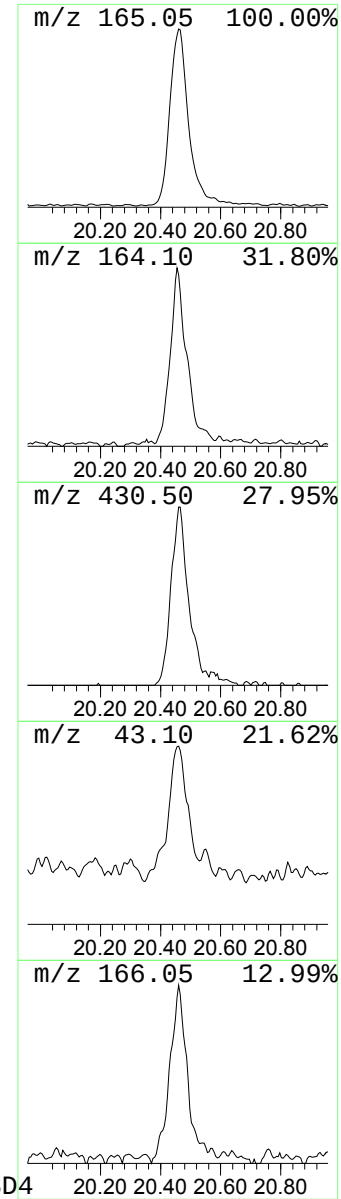
Peak Number 28 Vitamin E Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.460	8.37 ng/uL	576042	E Perylene-d12	18.080

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Vitamin E	430	C29H50O2	010191-41-0	97
2	Vitamin E	430	C29H50O2	000059-02-9	96
3	Vitamin E	430	C29H50O2	010191-41-0	95
4	Vitamin E	430	C29H50O2	000059-02-9	94
5	Vitamin E	430	C29H50O2	000059-02-9	93





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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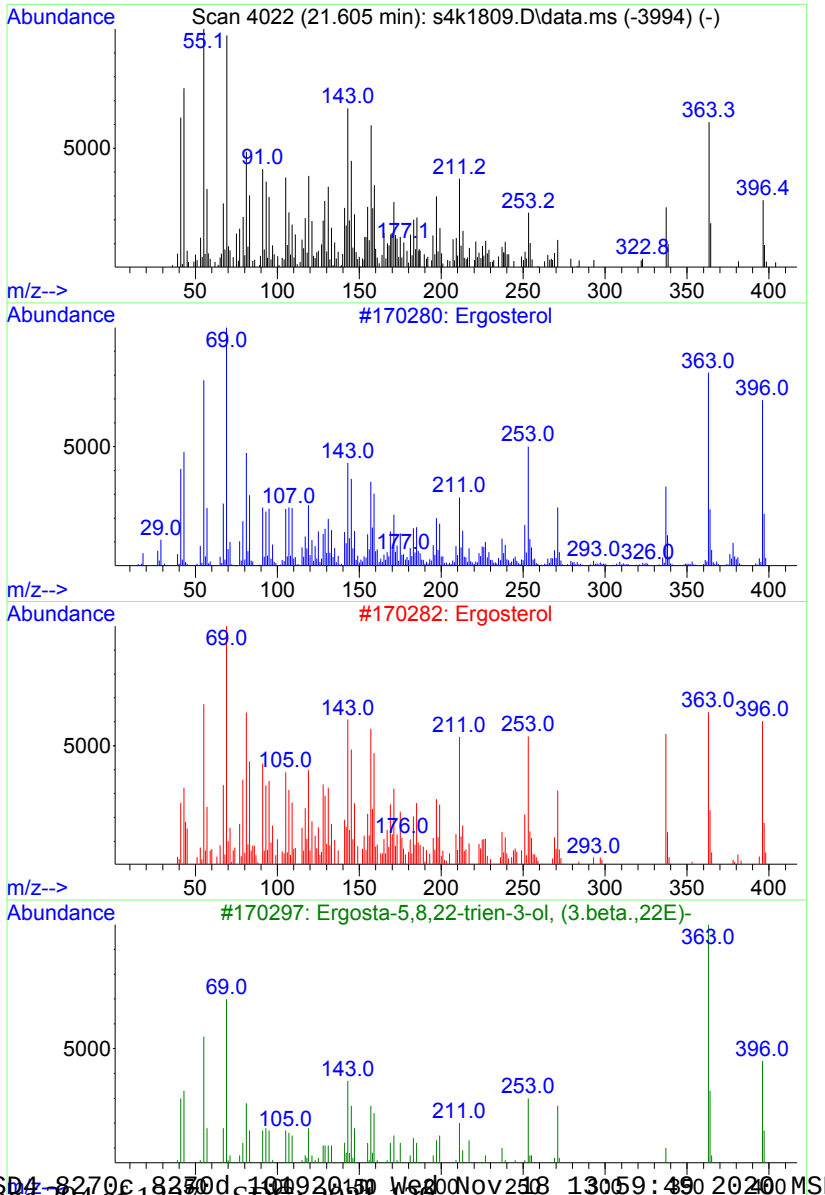
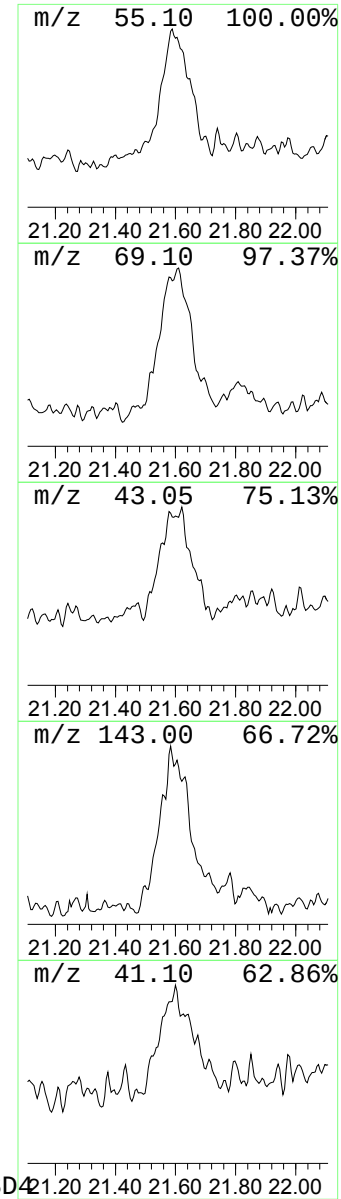
Peak Number 29 Ergosterol Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.605	12.26 ng/uL	843850	E Perylene-d12	18.080

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ergosterol	396	C28H44O	000057-87-4	93
2	Ergosterol	396	C28H44O	000057-87-4	91
3	Ergosta-5,8,22-trien-3-ol, (3.be...	396	C28H44O	050657-31-3	90
4	Rishitin	222	C14H22O2	018178-54-6	25
5	3-Chloro-6-methyl-6,7-dihydro-9H...	211	C10H10ClNO2	134076-61-2	22





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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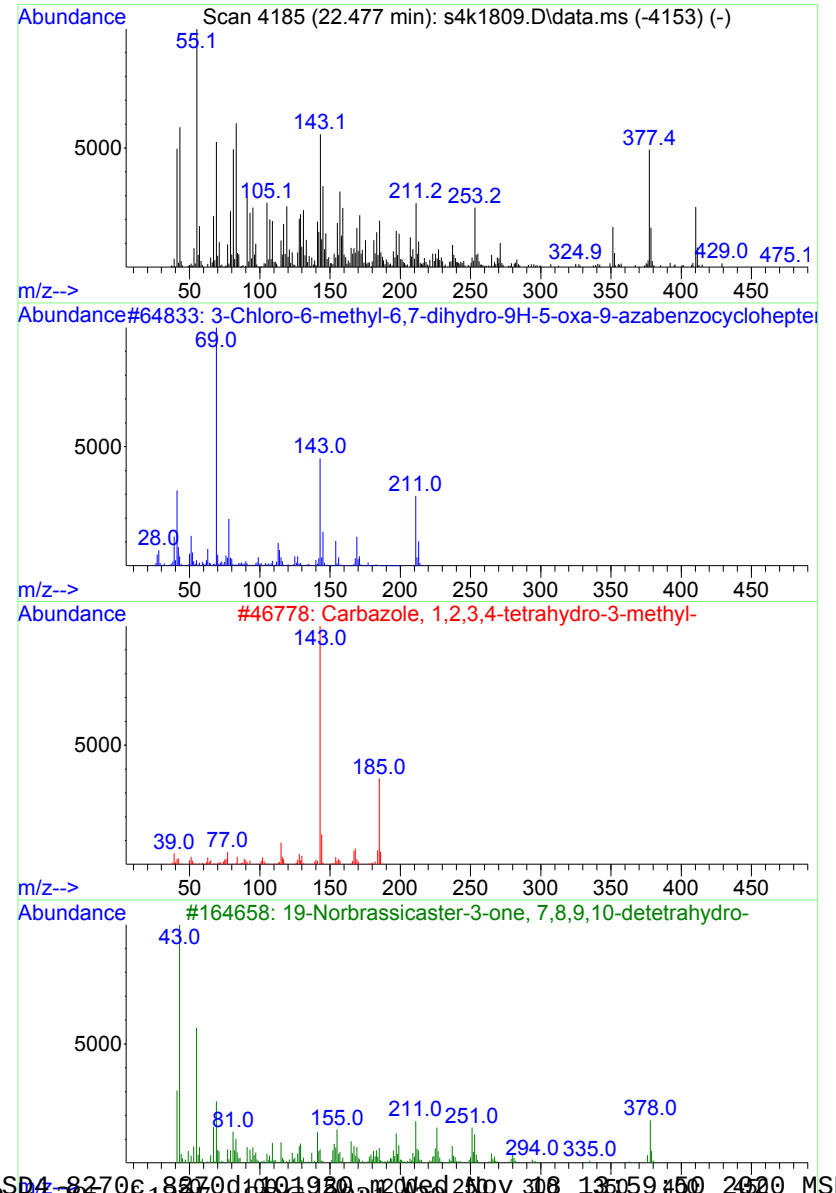
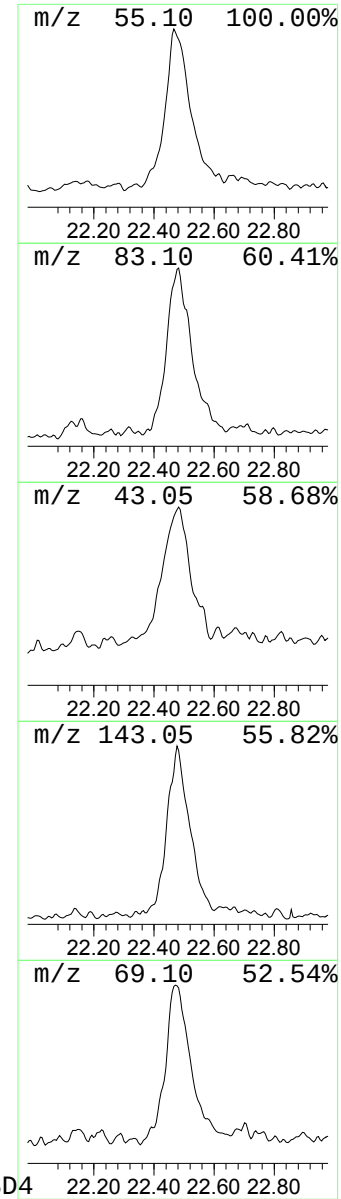
Peak Number 30 unknown Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.477	34.12 ng/uL	2349330	E Perylene-d12	18.080

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Chloro-6-methyl-6,7-dihydro-9H...	211	C10H10ClNO2	134076-61-2	35
2	Carbazole, 1,2,3,4-tetrahydro-3-...	185	C13H15N	006933-54-6	18
3	19-Norbrassicaster-3-one, 7,8,9,...	378	C27H38O	032277-76-2	15
4	Cyclohexanecarboxamide, N-(1-nap...	253	C17H19NO	1000306-95-3	14
5	Quinoline, 2-butyl-	185	C13H15N	007661-39-4	14





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1809.D
Acq On : 18 Nov 2020 12:32
Operator : JMB3
Sample : |527509012|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB02-20-209976|MIX[A,B,D,E,J]||
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
unknown		1.895	12.7	1649930	1	5.404	5187460	40.0
unknown		2.729	5.2	667924	1	5.404	5187460	40.0
unknown		3.366	14.6	1886850	1	5.404	5187460	40.0
unknown		3.478	6.0	773855	1	5.404	5187460	40.0
Dimethyl sulfone	000067-71-0	4.158	5.4	700551	1	5.404	5187460	40.0
unknown		5.591	7.4	962011	2	5.404	5187460	40.0
unknown		5.778	5.8	752687	2	5.404	5187460	40.0
unknown		6.008	16.2	2095330	2	5.404	5187460	40.0
unknown		7.768	4.6	810582	7	7.201	7039310	40.0
unknown		8.126	6.0	1055190	7	7.201	7039310	40.0
unknown		8.859	9.3	1867510	8	9.533	8041530	40.0
unknown		9.062	20.4	4094690	8	9.533	8041530	40.0
1H-Benzotriazole	000095-14-7	9.340	5.4	1081880	8	9.533	8041530	40.0
2,5,8,11,14-Pentaoxapentade...	000143-24-8	9.474	14.3	2876610	8	9.533	8041530	40.0
Benzoic acid, 2,4-dichloro-	000050-84-0	9.640	49.4	9929660	10	9.533	8041530	40.0
1H-Benzotriazole, 5-methyl-	000136-85-6	9.779	8.1	1631310	10	9.533	8041530	40.0
2(4H)-Benzofuranone, 5,6,7,...	015356-74-8	9.859	5.6	1128220	10	9.533	8041530	40.0
unknown		9.950	6.8	1366940	10	9.533	8041530	40.0
1H-Benzotriazole, 5-methyl-	000136-85-6	10.052	6.7	1340340	10	9.533	8041530	40.0
unknown		10.234	18.8	3781740	10	9.533	8041530	40.0
unknown		10.330	6.3	1272530	10	9.533	8041530	40.0
1,3,5-Triazine-2,4,6(1H,3H,...	001025-15-6	10.506	4.5	823615	11	11.416	7265650	40.0
unknown		10.597	27.5	5000750	11	11.416	7265650	40.0
unknown		11.127	16.4	2977980	11	11.416	7265650	40.0
unknown		11.571	8.9	1614190	14	11.416	7265650	40.0
Oleyl Alcohol	000143-28-2	11.699	4.8	869856	14	11.416	7265650	40.0
n-Hexadecanoic acid	000057-10-3	12.122	6.1	1105800	14	11.416	7265650	40.0
Vitamin E	010191-41-0	20.460	8.4	576042	21	18.080	2753890	40.0
Ergosterol	000057-87-4	21.605	12.3	843850	21	18.080	2753890	40.0
unknown		22.477	34.1	2349330	21	18.080	2753890	40.0

Standards

SW846 8270/EPA 625

Calibration Standard Concentration Levels*

MEGA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
1,4-Dichlorobenzene-d4 (INTERNAL STANDARD)										
Naphthalene-d8 (INTERNAL STANDARD)										
Acenaphthene-d10 (INTERNAL STANDARD)										
Phenanthrene-d10 (INTERNAL STANDARD)										
Chrysene-d12 (INTERNAL STANDARD)										
Perylene-d12 (INTERNAL STANDARD)										
2-Fluorophenol (SURROGATE)		10	20	40	50	80	100	120	30	60
Phenol-d5 (SURROGATE)		10	20	40	50	80	100	120	30	60
2-Chlorophenol-d4 (CLP SURROGATE)		10	20	40	50	80	100	120	30	60
1,2-Dichlorobenzene-d4 (CLP SURROGATE)		10	20	40	50	80	100	120	30	60
Nitrobenzene-d5 (SURROGATE)		10	20	40	50	80	100	120	30	60
2-Fluorobiphenyl (SURROGATE)		10	20	40	50	80	100	120	30	60
2,4,6-Tribromophenol (SURROGATE)		10	20	40	50	80	100	120	30	60
p-Terphenyl-d14 (SURROGATE)		10	20	40	50	80	100	120	30	60
N-Nitrosodimethylamine	1**	10	20	40	50	80	100	120	30	60
Pyridine		10	20	40	50	80	100	120	30	60
Aniline		10	20	40	50	80	100	120	30	60
Phenol		10	20	40	50	80	100	120	30	60
bis(2-Chloroethyl)ether		10	20	40	50	80	100	120	30	60
2-Chlorophenol		10	20	40	50	80	100	120	30	60
n-Decane		10	20	40	50	80	100	120	30	60
1,3-Dichlorobenzene		10	20	40	50	80	100	120	30	60
1,4-Dichlorobenzene		10	20	40	50	80	100	120	30	60
Benzyl Alcohol		10	20	40	50	80	100	120	30	60
1,2-Dichlorobenzene		10	20	40	50	80	100	120	30	60
bis(2-Chloro-1-methylethyl)ether		10	20	40	50	80	100	120	30	60
o-Cresol (2-Methylphenol)		10	20	40	50	80	100	120	30	60
N-Nitrosodipropylamine		10	20	40	50	80	100	120	30	60
m,p-Cresols (3-Methylphenol & 4-Methylphenol)		10	20	40	50	80	100	120	30	60
Hexachloroethane		10	20	40	50	80	100	120	30	60
Nitrobenzene		10	20	40	50	80	100	120	30	60
Isophorone		10	20	40	50	80	100	120	30	60
2-Nitrophenol		10	20	40	50	80	100	120	30	60
2,4-Dimethylphenol		10	20	40	50	80	100	120	30	60
bis(2-Chloroethoxy)methane		10	20	40	50	80	100	120	30	60
2,4-Dichlorophenol		10	20	40	50	80	100	120	30	60
Benzoic Acid			20	40	50	80	100	120	30	60
1,2,4-Trichlorobenzene		10	20	40	50	80	100	120	30	60
Naphthalene	1	10	20	40	50	80	100	120	30	60
alpha-Terpineol		10	20	40	50	80	100	120	30	60
4-Chloroaniline		10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
MEGA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Hexachlorobutadiene		10	20	40	50	80	100	120	30	60
4-Chloro-3-methylphenol		10	20	40	50	80	100	120	30	60
2-Methylnaphthalene	1	10	20	40	50	80	100	120	30	60
1-Methylnaphthalene	1	10	20	40	50	80	100	120	30	60
Hexachlorocyclopentadiene		10	20	40	50	80	100	120	30	60
2,3-Dichloroaniline		10	20	40	50	80	100	120	30	60
2,4,6-Trichlorophenol		10	20	40	50	80	100	120	30	60
2,4,5-Trichlorophenol		10	20	40	50	80	100	120	30	60
2-Chloronaphthalene	1	10	20	40	50	80	100	120	30	60
o-Nitroaniline		10	20	40	50	80	100	120	30	60
m-Nitroaniline		10	20	40	50	80	100	120	30	60
Dimethylphthalate	1**	10	20	40	50	80	100	120	30	60
2,6-Dinitrotoluene		10	20	40	50	80	100	120	30	60
Acenaphthylene	1	10	20	40	50	80	100	120	30	60
Acenaphthene	1	10	20	40	50	80	100	120	30	60
2,4-Dinitrophenol			20	40	50	80	100	120	30	60
Dibenzofuran		10	20	40	50	80	100	120	30	60
2,4-Dinitrotoluene		10	20	40	50	80	100	120	30	60
Diethylphthalate	1**	10	20	40	50	80	100	120	30	60
4-Nitrophenol		10	20	40	50	80	100	120	30	60
Fluorene	1	10	20	40	50	80	100	120	30	60
4-Chlorophenyl phenyl ether		10	20	40	50	80	100	120	30	60
2-Methyl-4,6-dinitrophenol		10	20	40	50	80	100	120	30	60
p-Nitroaniline		10	20	40	50	80	100	120	30	60
Diphenylamine		10	20	40	50	80	100	120	30	60
1,2-Diphenylhydrazine		10	20	40	50	80	100	120	30	60
4-Bromophenyl phenyether		10	20	40	50	80	100	120	30	60
Hexachlorobenzene		10	20	40	50	80	100	120	30	60
Pentachlorophenol		10	20	40	50	80	100	120	30	60
n-Octadecane		10	20	40	50	80	100	120	30	60
Phenanthrene	1	10	20	40	50	80	100	120	30	60
Anthracene	1	10	20	40	50	80	100	120	30	60
Di-n-butylphthalate	1**	10	20	40	50	80	100	120	30	60
Fluoranthene	1	10	20	40	50	80	100	120	30	60
Pyrene	1	10	20	40	50	80	100	120	30	60
Butylbenzylphthalate	1**	10	20	40	50	80	100	120	30	60
Benzo(a)anthracene	1	10	20	40	50	80	100	120	30	60
Chrysene	1	10	20	40	50	80	100	120	30	60
bis (2-Ethylhexyl) phthalate	1	10	20	40	50	80	100	120	30	60
Di-n-octylphthalate	1**	10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
MEGA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Benzo(b)fluoranthene	1	10	20	40	50	80	100	120	30	60
Benzo(k)fluoranthene	1	10	20	40	50	80	100	120	30	60
Benzo(a)pyrene	1	10	20	40	50	80	100	120	30	60
Indeno-(1,2,3-cd)pyrene	1	10	20	40	50	80	100	120	30	60
Dibenzo(a,h)anthracene	1	10	20	40	50	80	100	120	30	60
Benzo(ghi)perylene	1	10	20	40	50	80	100	120	30	60
m-Dinitrobenzene		10	20	40	50	80	100	120	30	60
2,3,4,6-Tetrachlorophenol		10	20	40	50	80	100	120	30	60
Dinoseb		10	20	40	50	80	100	120	30	60
Carbazole	1	10	20	40	50	80	100	120	30	60
p-Benzoquinone		10	20	40	50	80	100	120	30	60
Methoxychlor		10	20	40	50	80	100	120	30	60
p-Toluidine		10	20	40	50	80	100	120	30	60
m-Toluidine		10	20	40	50	80	10	120	30	60
1,4-Dinitrobenzene		10	20	40	50	80	100	120	30	60
2-Ethoxyethanol		10	20	40	50	80	100	120	30	60
Phthalic anhydride		10	20	40	50	80	100	120	30	60
Methylenebis(2-chloroaniline)		10	20	40	50	80	100	120	30	60
Dibenzo(a,e)pyrene		10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
AP MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Benzaldehyde		10	20	40	50	80	100	120	30	60
Acetophenone		10	20	40	50	80	100	120	30	60
Caprolactam		10	20	40	50	80	100	120	30	60
1,1'-Biphenyl		10	20	40	50	80	100	120	30	60
Atrazine		10	20	40	50	80	100	120	30	60
Benzidine		10	20	40	50	80	100	120	30	60
3,3'-Dichlorobenzidene		10	20	40	50	80	100	120	30	60
1,4-Dioxane		10	20	40	50	80	100	120	30	60
Methyl methacrylate		10	20	40	50	80	100	120	30	60
Ethyl methacrylate		10	20	40	50	80	100	120	30	60
2-Picoline		10	20	40	50	80	100	120	30	60
N-Nitrosomethylethylamine		10	20	40	50	80	100	120	30	60
2-Butoxyethanol		10	20	40	50	80	100	120	30	60
Methyl methanesulfonate		10	20	40	50	80	100	120	30	60
N-Nitrosodiethylamine		10	20	40	50	80	100	120	30	60
Ethyl methanesulfonate		10	20	40	50	80	100	120	30	60
Pentachloroethane		10	20	40	50	80	100	120	30	60
N-Nitrosopyrrolidine		10	20	40	50	80	100	120	30	60
N-Nitrosomorpholine		10	20	40	50	80	100	120	30	60
o-Toluidine		10	20	40	50	80	100	120	30	60
N-Nitrosopiperidine		10	20	40	50	80	100	120	30	60
a,a-Dimethylphenethylamine		10	20	40	50	80	100	120	30	60
2,6-Dichlorophenol		10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
AP MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Hexachloropropene		10	20	40	50	80	100	120	30	60
N-Nitrosodi-n-butylamine		10	20	40	50	80	100	120	30	60
Safrole		10	20	40	50	80	100	120	30	60
1,2,4,5-Tetrachlorobenzene		10	20	40	50	80	100	120	30	60
Isosafrole		10	20	40	50	80	100	120	30	60
1,4-Naphthoquinone		10	20	40	50	80	100	120	30	60
Pentachlorobenzene		10	20	40	50	80	100	120	30	60
1-Naphthylamine		10	20	40	50	80	100	120	30	60
2-Naphthylamine		10	20	40	50	80	100	120	30	60
5-Nitro-o-toluidine		10	20	40	50	80	100	120	30	60
1,3,5-Trinitrobenzene		10	20	40	50	80	100	120	30	60
Phenacetin		10	20	40	50	80	100	120	30	60
Diallate		10	20	40	50	80	100	120	30	60
cis-Diallate		1.5	3	6	7.5	12	15	18	4.5	9
trans-Diallate		8.5	17	34	42	68	85	102	25.5	51
4-Aminobiphenyl		10	20	40	50	80	100	120	30	60
Pentachloronitrobenzene		10	20	40	50	80	100	120	30	60
Pronamide		10	20	40	50	80	100	120	30	60
4-Nitroquinoline-1-oxide		10	20	40	50	80	100	120	30	60
Methapyrilene		10	20	40	50	80	100	120	30	60
Isodrin		10	20	40	50	80	100	120	30	60
Aramite		10	20	40	50	80	100	120	30	60
Kepone		10	20	40	50	80	100	120	30	60
p-(Dimethylamino)azobenzene		10	20	40	50	80	100	120	30	60
Chlorobenzilate		10	20	40	50	80	100	120	30	60
3,3'-Dimethylbenzidine		10	20	40	50	80	100	120	30	60
2-Acetylaminofluorene		10	20	40	50	80	100	120	30	60
7,12-Dimethylbenz(a)anthracene		10	20	40	50	80	100	120	30	60
3-Methylcholanthrene		10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Hexachlorophene		500	1000	1250	1500	1750	2000			
p-Phenylenediamine		500	1000	1250	1500	1750	2000			

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
PEST MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
bis(Chloromethyl)ether		10	20	40	50	80	100	120	30	60
Tributylphosphate		10	20	40	50	80	100	120	30	60
Triethylphosphorothioate		10	20	40	50	80	100	120	30	60
Thionazin		10	20	40	50	80	100	120	30	60
Sulfotepp		10	20	40	50	80	100	120	30	60
Phorate		10	20	40	50	80	100	120	30	60
Dimethoate		10	20	40	50	80	100	120	30	60
Disulfoton		10	20	40	50	80	100	120	30	60
Methyl parathion		10	20	40	50	80	100	120	30	60
Famphur		10	20	40	50	80	100	120	30	60
Parathion		10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
NEVADA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
bis(Chloromethyl)ether		10	20	40	50	80	100	120	30	60
4-Chlorothiophenol		10	20	40	50	80	100	120	30	60
4-Chlorothioanisole		10	20	40	50	80	100	120	30	60
Phthalic acid		10	20	40	50	80	100	120	30	60
Hydroxymethyl phthalimide		10	20	40	50	80	100	120	30	60
Diphenyl sulfide		10	20	40	50	80	100	120	30	60
Diphenyl disulfide		10	20	40	50	80	100	120	30	60
Phenyl sulfone		10	20	40	50	80	100	120	30	60
Octachlorostyrene		10	20	40	50	80	100	120	30	60
Thiophenol		10	20	40	50	80	100	120	30	60
2,2'-Dichlorobenzil		10	20	40	50	80	100	120	30	60
bis(p-Chlorophenyl)disulfide		10	20	40	50	80	100	120	30	60
bis(p-Chlorophenyl)sulfone		10	20	40	50	80	100	120	30	60

All values are mg/L without the prep factor.
# Indicates the calibration verification concentration level used
* Usual calibration levels using SCAN methodology
** This analyte included in this level at special client request.

EPA 522								
Calibration Standard Concentration Levels#								
	Level 1	Level 2	Level 3	Level 4	Level 5	ICV	CCV	
Tetrahydrofuran-d8 (INTERNAL STANDARD)								
1,4-Dioxane-d8 (SURROGATE)	50	100	200	400	500	200	See Method	
1,4-Dioxane	50	100	200	400	500	200	See Method	

All values are ug/L without the prep factor.
Usual calibration levels using SIM methodology

SW846 8270SIM										
Calibration Standard Concentration Levels*										
MEGASIM analytes (A)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6#	Level 7	Level 8	Level 9	Level 10
1,4-Dichlorobenzene-d4 (INTERNAL STANDARD)										
Naphthalene-d8 (INTERNAL STANDARD)										
Acenaphthene-d10 (INTERNAL STANDARD)										
Phenanthrene-d10 (INTERNAL STANDARD)										
Chrysene-d12 (INTERNAL STANDARD)										
Perylene-d12 (INTERNAL STANDARD)										
5-alpha-Androstane (SURROGATE)	$0.1	0.2	0.5	1	2	5	10	20		
$N-Methyl-N-nitrosomethylamine		0.2	0.5	1	2	5	10	20		
$bis(2-Chloroethyl)ether	0.1	0.2	0.5	1	2	5	10	20		
$N-Nitrosodipropylamine	0.1	0.2	0.5	1	2	5	10	20		
Naphthalene	$0.1	0.2	0.5	1	2	5	10	20		
2-Methylnaphthalene	$0.1	0.2	0.5	1	2	5	10	20		
1-Methylnaphthalene	$0.1	0.2	0.5	1	2	5	10	20		
2-Chloronaphthalene	$0.1	0.2	0.5	1	2	5	10	20		
Acenaphthylene	$0.1	0.2	0.5	1	2	5	10	20		
Acenaphthene	$0.1	0.2	0.5	1	2	5	10	20		
Fluorene	$0.1	0.2	0.5	1	2	5	10	20		
Phenanthrene	$0.1	0.2	0.5	1	2	5	10	20		
Anthracene	$0.1	0.2	0.5	1	2	5	10	20		
Fluoranthene	$0.1	0.2	0.5	1	2	5	10	20		
Pyrene	$0.1	0.2	0.5	1	2	5	10	20		
Benzo(a)anthracene	$0.1	0.2	0.5	1	2	5	10	20		
Chrysene	$0.1	0.2	0.5	1	2	5	10	20		
Benzo(b)fluoranthene	$0.1	0.2	0.5	1	2	5	10	20		
Benzo(k)fluoranthene	$0.1	0.2	0.5	1	2	5	10	20		
Benzo(a)pyrene	$0.1	0.2	0.5	1	2	5	10	20		
Indeno-(1,2,3-cd)pyrene	$0.1	0.2	0.5	1	2	5	10	20		
Dibenzo(a,h)anthracene	$0.1	0.2	0.5	1	2	5	10	20		
Benzo(ghi)perylene	$0.1	0.2	0.5	1	2	5	10	20		

$ By special request - Not for regulatory purposes

SW846 8270SIM										
Calibration Standard Concentration Levels*										
APSIM analytes (A)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6#	Level 7	Level 8	Level 9	Level 10
$N-Nitrosodimethylamine	0.1	0.2	0.5	1	2	5	10	20		
$N-Nitrosopyrrolidine	0.1	0.2	0.5	1	2	5	10	20		
$N-Nitrosodi-n-butylamine	0.1	0.2	0.5	1	2	5	10	20		
$Benzidine			2.5	5	10	25	50	100		
$3,3'-Dichlorobenzidine	0.1	0.2	0.5	1	2	5	10	20		

$ By special request - Not for regulatory purposes

All values are mg/L without prep factor.

# indicates the calibraton verification concentration level used.

* Usual calibration levels using SIM methodology

(10/16/Full list)

Calibration History Report MSD3
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Last Update : Wed Oct 14 18:37:15 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

Cal Lvl:1 Amt:1.00 Last Updated with: C:\msdchem\1\data\s101320.s\s3j1304.D

Injection Date	Mix	Calibration File
13 Oct 2020 17:53	A	C:\msdchem\1\data\s101320.s\s3j1304.D

Cal Lvl:2 Amt:10.00 Last Updated with: C:\msdchem\1\data\s101320.s\s3j1340.D

Injection Date	Mix	Calibration File
13 Oct 2020 20:02	A	C:\msdchem\1\data\s101320.s\s3j1308.D
13 Oct 2020 22:59	B	C:\msdchem\1\data\s101320.s\s3j1314.D
14 Oct 2020 03:14	J	C:\msdchem\1\data\s101320.s\s3j1323.D
14 Oct 2020 07:17	D	C:\msdchem\1\data\s101320.s\s3j1332.D
14 Oct 2020 11:04	E	C:\msdchem\1\data\s101320.s\s3j1340.D

Cal Lvl:3 Amt:20.00 Last Updated with: C:\msdchem\1\data\s101320.s\s3j1341.D

Injection Date	Mix	Calibration File
13 Oct 2020 16:47	A	C:\msdchem\1\data\s101320.s\s3j1303.D
13 Oct 2020 23:27	B	C:\msdchem\1\data\s101320.s\s3j1315.D
14 Oct 2020 03:43	J	C:\msdchem\1\data\s101320.s\s3j1324.D
14 Oct 2020 07:45	D	C:\msdchem\1\data\s101320.s\s3j1333.D
14 Oct 2020 11:32	E	C:\msdchem\1\data\s101320.s\s3j1341.D

Cal Lvl:4 Amt:40.00 Last Updated with: C:\msdchem\1\data\s101320.s\s3j1342.D

Injection Date	Mix	Calibration File
13 Oct 2020 16:14	A	C:\msdchem\1\data\s101320.s\s3j1302.D
13 Oct 2020 22:30	B	C:\msdchem\1\data\s101320.s\s3j1313.D
14 Oct 2020 04:11	J	C:\msdchem\1\data\s101320.s\s3j1325.D
14 Oct 2020 08:14	D	C:\msdchem\1\data\s101320.s\s3j1334.D
14 Oct 2020 12:01	E	C:\msdchem\1\data\s101320.s\s3j1342.D

Cal Lvl:5 Amt:50.00 Last Updated with: C:\msdchem\1\data\s101320.s\s3j1343.D

Injection Date	Mix	Calibration File
13 Oct 2020 18:55	A	C:\msdchem\1\data\s101320.s\s3j1306.D
14 Oct 2020 00:24	B	C:\msdchem\1\data\s101320.s\s3j1317.D
14 Oct 2020 04:40	J	C:\msdchem\1\data\s101320.s\s3j1326.D
14 Oct 2020 08:42	D	C:\msdchem\1\data\s101320.s\s3j1335.D
14 Oct 2020 12:29	E	C:\msdchem\1\data\s101320.s\s3j1343.D

Cal Lvl:6 Amt:80.00 Last Updated with: C:\msdchem\1\data\s101320.s\s3j1344.D

Injection Date	Mix	Calibration File
13 Oct 2020 19:29	A	C:\msdchem\1\data\s101320.s\s3j1307.D
14 Oct 2020 01:21	B	C:\msdchem\1\data\s101320.s\s3j1319.D
14 Oct 2020 05:08	J	C:\msdchem\1\data\s101320.s\s3j1327.D
14 Oct 2020 09:10	D	C:\msdchem\1\data\s101320.s\s3j1336.D
14 Oct 2020 12:58	E	C:\msdchem\1\data\s101320.s\s3j1344.D

Cal Lvl:7 Amt:100.00 Last Updated with: C:\msdchem\1\data\s101320.s\s3j1345.D

Injection Date	Mix	Calibration File
13 Oct 2020 20:35	A	C:\msdchem\1\data\s101320.s\s3j1309.D
14 Oct 2020 01:49	B	C:\msdchem\1\data\s101320.s\s3j1320.D

Calibration History Report MSD3
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Last Update : Wed Oct 14 18:37:15 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

14 Oct 2020 05:36	J	C:\msdchem\1\data\s101320.s\s3j1328.D
14 Oct 2020 09:39	D	C:\msdchem\1\data\s101320.s\s3j1337.D
14 Oct 2020 13:26	E	C:\msdchem\1\data\s101320.s\s3j1345.D

Cal Lvl:8 Amt:120.00 Last Updated with: C:\msdchem\1\data\s101320.s\s3j1338.D

Injection Date	Mix	Calibration File
13 Oct 2020 21:08	A	C:\msdchem\1\data\s101320.s\s3j1310.D
14 Oct 2020 02:18	B	C:\msdchem\1\data\s101320.s\s3j1321.D
14 Oct 2020 06:05	J	C:\msdchem\1\data\s101320.s\s3j1329.D
14 Oct 2020 10:07	D	C:\msdchem\1\data\s101320.s\s3j1338.D

Cal Lvl:9 Amt:30.00 Last Updated with: C:\msdchem\1\data\s101320.s\s3j1316.D

Injection Date	Mix	Calibration File
13 Oct 2020 23:56	B	C:\msdchem\1\data\s101320.s\s3j1316.D

Cal Lvl:10 Amt:60.00 Last Updated with: C:\msdchem\1\data\s101320.s\s3j1318.D

Injection Date	Mix	Calibration File
14 Oct 2020 00:52	B	C:\msdchem\1\data\s101320.s\s3j1318.D

MSD3_8270c_8270d_101320.m Thu Nov 19 14:10:34 2020

Response Factor Report MSD3
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Last Update : Wed Oct 14 18:37:15 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

11/20/2020

11/20/2020

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound b m1 m2	1 7	2 8	3 9	4 10	5	6	Avg	Curve	Exp	%RSD/r2
2)A 2-Ethoxyethanol	0.7361922	0.7453526 0.7464780	0.6689774	0.7192416	0.7091671	0.7205491	0.7209	AVRG		3.7235
3)AM N-Methyl-N-nitrosomethyl	1.0873301	1.2124459 1.0859127	1.1281935	0.9974706	1.0658755	1.0405291 1.0601471	1.0847	AVRG		5.9067
4)AM Pyridine	1.7343263	1.7477321 1.7206371	1.5551200	1.6829777	1.6656742	1.7015481	1.6869	AVRG		3.8369
5)SA 2-Fluorophenol	1.4233629	1.4536377 1.4216284	1.2852302	1.3676829	1.3679473	1.3874686	1.3867	AVRG		3.9558
6)A p-Benzoquinone	0.6908608	0.5945707 0.6825511	0.5753272	0.6499866	0.6517602	0.6661489	0.6445	AVRG		6.7715
7)AM Aniline	2.4300610	2.5272607 2.3592294	2.2628137	2.3458482	2.3843527	2.3996496	2.3870	AVRG		3.4026
8)SA Phenol-d5	1.7641149	1.7165484 1.7529216	1.5668169	1.6538924	1.6793217	1.6984481	1.6903	AVRG		3.9554
9)AMC Phenol	1.9389845	1.9226041 1.8993940	1.7327783	1.8299982	1.8673947	1.8920176	1.8690	AVRG		3.7392
10)AM bis(2-Chloroethyl) ether	1.7367161	1.7997779 1.6935200	1.5865224	1.6423342	1.6810111	1.6993308	1.6913	AVRG		3.9942
11)AM 2-Chlorophenol	1.3356440	1.3640570 1.3212932	1.2156830	1.2645652	1.2833955	1.3078061	1.2989	AVRG		3.7873
12)AM n-Decane	1.0630186	1.2682867 1.0276288	1.1045679	1.0940988	1.1067100	1.0877587	1.1074	AVRG		6.8758
13)AM 1,3-Dichlorobenzene	1.5946226	1.6155757 1.5954037	1.4264835	1.4650481	1.5057492	1.5426067	1.5351	AVRG		4.7035
14)AMC 1,4-Dichlorobenzene	1.6118456	1.6572691 1.6086655	1.4381199	1.4710140	1.5209943	1.5576631	1.5522	AVRG		5.1535
15)AM 1,2-Dichlorobenzene	1.5129072	1.5534921 1.4981519	1.3553197	1.3866477	1.4391860	1.4671135	1.4590	AVRG		4.8313
16)AM bis(2-Chloro-1-methyleth	1.2821258	1.5356572 1.2315634	1.3191818	1.2751451	1.3164233	1.2911080	1.3216	AVRG		7.4782

SDG: 2021-129

Response Factor Report MSD3
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Last Update : Wed Oct 14 18:37:15 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	7	8	9	10						
17)AM Benzyl alcohol		0.9236797	0.8499255	0.8715834	0.9124086	0.9294554				
	0.9633623	0.9274026					0.9111	AVRG		4.2028
18)AM o-Cresol		1.2157954	1.0821337	1.0976268	1.1424726	1.1566926				
	1.1736574	1.1411963					1.1442	AVRG		3.9381
19)AM m,p-Cresols		1.3946205	1.2436496	1.2692305	1.3201668	1.3278923				
	1.3687047	1.3188099					1.3204	AVRG		3.9606
20)AMP N-Nitrosodipropylamine		1.3333493	1.1840157	1.2034764	1.2461590	1.2599382				
	1.2806600	1.2416870					1.2499	AVRG		3.9450
21)AM Hexachloroethane		0.7115305	0.6287486	0.6450325	0.6669343	0.6800069				
	0.6929791	0.6816639					0.6724	AVRG		4.1988
23)SA Nitrobenzene-d5		0.4777457	0.4349919	0.4539009	0.4517718	0.4531956				
	0.4633552	0.4633030					0.4569	AVRG		2.8901
24)AM Nitrobenzene		0.5014744	0.4596675	0.4650765	0.4699561	0.4701705				
	0.4801456	0.4771024					0.4748	AVRG		2.8696
25)AM Isophorone		0.9597612	0.8783724	0.9025985	0.9177020	0.9176087				
	0.9243036	0.8987029					0.9141	AVRG		2.7747
26)AMC 2-Nitrophenol		0.1822221	0.1722140	0.1809296	0.1819096	0.1895610				
	0.1961579	0.2001663					0.1862	AVRG		5.2039
27)AM 2,4-Dimethylphenol		0.3302334	0.3037469	0.3039847	0.3036833	0.3070566				
	0.3081252	0.3033342					0.3086	AVRG		3.1511
28)AM bis(2-Chloroethoxy)metha		0.5553666	0.5041926	0.5217123	0.5310043	0.5432696				
	0.5497825	0.5422921					0.5354	AVRG		3.3200
29)AMC 2,4-Dichlorophenol		0.2687276	0.2492794	0.2613289	0.2826963	0.2958118				
	0.3130507	0.3121128					0.2833	AVRG		8.7951
30)AM Benzoic acid			212203	611538	807128	1364910		1/x^2		
-0.0519 | 0.2300 | 0.00	1769023	2191997						LINR	#	0.9980
31)AM 1,2,4-Trichlorobenzene		0.3867513	0.3501272	0.3686649	0.3803336	0.3924007				
	0.4077289	0.4062351					0.3846	AVRG		5.3381
32)AM alpha-Terpineol		0.2997324	0.2799279	0.2933353	0.3031345	0.3029540				
	0.3024584	0.2894421					0.2959	AVRG		2.9697

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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
33)AM Naphthalene	1.1789526	1.1155967	1.0100537	1.0421862	1.0750940	1.0925657				
	1.0932800	1.0590385					1.0833	AVRG		4.6924
34)AM 4-Chloroaniline		0.4141420	0.3839174	0.3928559	0.4062103	0.4083054				
	0.4269834	0.4103519					0.4061	AVRG		3.4696
35)AMC Hexachlorobutadiene		0.2515019	0.2306757	0.2433158	0.2563829	0.2690871				
	0.2783601	0.2787012					0.2583	AVRG		7.0198
36)AMC 4-Chloro-3-methylphenol		0.2760540	0.2656675	0.2840555	0.2979734	0.3110340				
	0.3286590	0.3181804					0.2974	AVRG		7.8093
37)AM 2-Methylnaphthalene	0.8309392	0.7304886	0.6720950	0.7037838	0.7449544	0.7631746				
	0.7915889	0.7655150					0.7503	AVRG		6.6267
38)AM 1-Methylnaphthalene	0.7279003	0.6712697	0.6234657	0.6486278	0.6842294	0.6955057				
	0.7238323	0.6899435					0.6831	AVRG		5.1766
40)AMP Hexachlorocyclopentadien		0.4009842	0.4079946	0.4891036	0.4964332	0.5257924				
	0.4819907	0.5189479					0.4745	AVRG		10.6028
41)AM 2,3-Dichloroaniline		0.6191173	0.5764657	0.6312497	0.6580333	0.6936768				
	0.7013897	0.7096140					0.6556	AVRG		7.5381
42)AMC 2,4,6-Trichlorophenol		0.3787435	0.3820640	0.4338597	0.4670141	0.4900854				
	0.4995928	0.4978110					0.4499	AVRG		11.6900
43)AM 2,4,5-Trichlorophenol		0.3569896	0.3407482	0.3816904	0.3853657	0.4177158				
	0.4391589	0.4536347					0.3965	AVRG		10.5748
44)SA 2-Fluorobiphenyl		1.3888778	1.2781479	1.3683252	1.3909439	1.4650668				
	1.4813654	1.5096646					1.4118	AVRG		5.6346
45)AM 2-Chloronaphthalene	1.3102691	1.1115838	1.0298881	1.0992235	1.1259271	1.1781058				
	1.1963009	1.2288360					1.1600	AVRG		7.5077
46)AM o-Nitroaniline		0.2974558	0.2934859	0.3166889	0.3211106	0.3282549				
	0.3444457	0.3437792					0.3207	AVRG		6.3010
47)A 1,4-Dinitrobenzene		0.1374160	0.1389982	0.1542833	0.1572061	0.1631719				
	0.1768957	0.1791042					0.1582	AVRG		10.4161
48)AM m-Nitroaniline		0.2143047	0.2081412	0.2139320	0.2217330	0.2243889				
	0.2439985	0.2421234					0.2241	AVRG		6.2595

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Compound b | m1 | m2	1 7	2 8	3 9	4 10	5	6	Avg	Curve	Exp	%RSD/r2
49)AM Dimethylphthalate	1.5425956 1.3811357	1.3233848 1.3548563	1.2182616	1.2579468	1.3052946	1.3397820	1.3404	AVRG		7.2436
50)A m-Dinitrobenzene	0.1959723	0.1711700 0.1945220	0.1656518	0.1785315	0.1811034	0.1845395	0.1816	AVRG		6.1755
51)AM 2,6-Dinitrotoluene	0.2909099	0.2792451 0.2908729	0.2599217	0.2708343	0.2756584	0.2797465	0.2782	AVRG		3.9392
52)AM 2,4-Dinitrotoluene	0.3556038	0.3093242 0.3527341	0.3007102	0.3148575	0.3262565	0.3289132	0.3269	AVRG		6.4111
53)AM Acenaphthylene	2.1096249 1.8728701	1.7961024 1.8739298	1.6602217	1.7377079	1.7837485	1.8253921	1.8324	AVRG		7.2210
54)AMC Acenaphthene	1.3632898 1.2432868	1.1203201 1.2374479	1.0367819	1.1222884	1.1712766	1.2108254	1.1882	AVRG		8.3434
55)AMP 2,4-Dinitrophenol	0.1272878	0.1249433	0.0825874	0.1088185	0.1045269	0.1183010	0.1111	AVRG		14.8854
56)AM Dibenzofuran	1.6030469	1.5178688 1.5954936	1.3916719	1.4610326	1.5065384	1.5372496	1.5161	AVRG		4.8856
57)A 2,3,4,6-Tetrachloropheno	0.3782600	0.2873848 0.3752819	0.2838780	0.3066304	0.3209199	0.3400316	0.3275	AVRG		11.8315
58)AM Diethylphthalate	1.3934083 1.2482419	1.1895458 1.2060648	1.0989012	1.1269267	1.1819610	1.1890848	1.2043	AVRG		7.4099
59)AMP 4-Nitrophenol	0.1318809	0.1158417 0.1428223	0.1231260	0.1359162	0.1409312	0.1426020	0.1333	AVRG		7.8236
60)AM Fluorene	1.6373188 1.4220526	1.2555556 1.3767792	1.2012129	1.3080462	1.3756723	1.4085669	1.3732	AVRG		9.5779
61)AM 4-Chlorophenylphenylethe	0.8108947	0.6885525 0.7960429	0.6621380	0.7232258	0.7757408	0.7934304	0.7500	AVRG		7.8106
62)AM p-Nitroaniline	0.1714803	0.1801038 0.1649466	0.1697037	0.1508424	0.1455245	0.1430281	0.1608	AVRG		8.9093
63)SA 2,4,6-Tribromophenol	0.1984450	0.1516845 0.1937688	0.1554330	0.1681720	0.1800001	0.1909201	0.1769	AVRG		10.6442

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Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	7	8	9	10						
65)AM 2-Methyl-4,6-dinitrophen		0.0771422	0.0857237	0.1007571	0.0994090	0.1092995				
	0.1091789	0.1051148					0.0981	AVRG		12.4760
66)AMC Diphenylamine		0.6163075	0.5874265	0.6202909	0.6524006	0.6888679				
	0.6842018	0.6936631					0.6490	AVRG		6.4515
67)AM 1,2-Diphenylhydrazine		0.9898810	0.9223081	0.9454416	0.9457959	0.9582414				
	0.9126926	0.9166066					0.9416	AVRG		2.8998
68)AM 4-Bromophenylphenylether		0.2252139	0.2151883	0.2338100	0.2448387	0.2656838				
	0.2761200	0.2846144					0.2494	AVRG		10.6589
69)AM Hexachlorobenzene		0.2592662	0.2412962	0.2580586	0.2703682	0.2895811				
	0.3003577	0.3009177					0.2743	AVRG		8.4408
70)AMC Pentachlorophenol		0.0975050	0.1064381	0.1237421	0.1259980	0.1369201				
	0.1193598	0.1228426					0.1190	AVRG		10.9984
71)AM n-Octadecane		0.4550772	0.4327673	0.4459995	0.4639771	0.4791106				
	0.4634285	0.4673823					0.4582	AVRG		3.3187
72)A Dinoseb		89654	219128	494643	720020	1092870		1/x^2		
-0.0193 | 0.1874 | 0.00	1459792	1656201						LINR	#	0.9968
73)AM Phenanthrene	1.1170319	1.0163273	0.9510301	0.9842950	1.0336959	1.0730617				
	1.0774743	1.0642749					1.0396	AVRG		5.2228
74)AM Anthracene	1.1577700	0.9934415	0.9498985	0.9924231	1.0310838	1.0661952				
	1.0886453	1.0696817					1.0436	AVRG		6.3068
75)AM Carbazole	0.7721543	0.7134952	0.6812805	0.6960075	0.7251972	0.7268982				
	0.7769859	0.7693333					0.7327	AVRG		4.9773
76)AM Di-n-butylphthalate	1.1750888	1.0774528	1.0454633	1.0801676	1.1452194	1.1633080				
	1.1714790	1.1323360					1.1238	AVRG		4.4089
77)AMC Fluoranthene	1.1923476	0.9256094	0.9012830	0.9427350	1.0095311	1.0230020				
	1.1099967	1.0799706					1.0231	AVRG		9.8036
79)AM Pyrene	1.7787928	1.7784429	1.6255916	1.7693423	1.7544059	1.8075397				
	1.7177560	1.6843242					1.7395	AVRG		3.4557
80)SA p-Terphenyl-d14		1.3010438	1.2172482	1.3545948	1.3762283	1.4239906				
	1.3983996	1.3680849					1.3485	AVRG		5.1428

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Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
81)AM Butylbenzylphthalate	0.5226826	0.5768663	0.5640686	0.6248180	0.6199156	0.6333664				
	0.6214566	0.6026624					0.5957	AVRG		6.4239
82)AM bis(2-Ethylhexyl)phthala	0.8225080	0.9174405	0.8899818	0.9397642	0.9666115	0.9837119				
	0.9512820	0.9177800					0.9236	AVRG		5.4768
83)AM Benzo(a)anthracene	1.3167132	1.3056385	1.2046231	1.2363488	1.2392257	1.2423516				
	1.2291256	1.2301079					1.2505	AVRG		3.1404
84)AM Chrysene	1.4478425	1.2986605	1.1899439	1.2276077	1.2237181	1.2234740				
	1.1870572	1.1888255					1.2484	AVRG		7.0807
85)A Methoxychlor		0.8833420	0.8715218	0.9568073	0.9907663	1.0314560				
	1.0253488	1.0076972					0.9667	AVRG		6.8093
86)A Methylenebis(2-chloroani		0.1799386	0.1799286	0.1850803	0.1937111	0.1949512				
	0.1996425	0.2066945					0.1914	AVRG		5.3220
87)AMC Di-n-octylphthalate	0.7667832	0.8943097	0.9850438	1.0625183	1.1318798	1.1602516				
	1.1597105	1.1647239					1.0407	AVRG		14.1688
89)AM Benzo(b)fluoranthene	1.3129559	1.2745609	1.2023345	1.2755080	1.3040267	1.3444225				
	1.3950992	1.4061841					1.3144	AVRG		5.1123
90)AM Benzo(k)fluoranthene	1.4913533	1.2421342	1.1929153	1.2573602	1.2521667	1.2941871				
	1.3712993	1.3651258					1.3083	AVRG		7.3281
91)AMC Benzo(a)pyrene	1.0370561	0.9590689	0.9337943	0.9910787	1.0236170	1.0570781				
	1.0858021	1.0995559					1.0234	AVRG		5.7486
92)AM Indeno(1,2,3-cd)pyrene	0.7200181	0.6617603	0.6294710	0.7030222	0.7086676	0.7608200				
	0.7196163	0.7480389					0.7064	AVRG		6.0963
93)AM Dibenzo(a,h)anthracene	0.7379509	0.6518698	0.6110623	0.6784914	0.7003886	0.7476654				
	0.7183112	0.7698238					0.7019	AVRG		7.5348
94)AM Benzo(ghi)perylene	0.7643707	0.7888417	0.7159879	0.7749269	0.7750534	0.8246895				
	0.7493587	0.7597471					0.7691	AVRG		4.0731
95)A Dibenzo(a,e)pyrene		0.3108098	0.2789190	0.3165732	0.3246850	0.3805629				
	0.3354537	0.3117467					0.3227	AVRG		9.5774
97)BM 1,4-Dioxane		0.6580068	0.6476225	0.6702800	0.6707933	0.6985915				
	0.7108724	0.7275325	0.6470439	0.6810771			0.6791	AVRG		4.1484

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Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
98)B Methyl methacrylate		0.3244687	0.3210166	0.3333281	0.3349172	0.3486422				
	0.3584516	0.3633494	0.3199037	0.3413550			0.3384	AVRG		4.6894
99)B Ethyl methacrylate		1.5237360	1.5064177	1.5245054	1.5323679	1.5721007				
	1.5870399	1.6128109	1.5075550	1.5528801			1.5466	AVRG		2.4043
100)B 2-Picoline		1.7386874	1.7204861	1.7607787	1.7803290	1.8399024				
	1.8845934	1.9139877	1.7401943	1.8104667			1.7988	AVRG		3.8022
101)B N-Nitrosomethylethylamin		0.7289604	0.7008116	0.7266072	0.7272801	0.7377595				
	0.7432228	0.7497025	0.7102667	0.7343460			0.7288	AVRG		2.1090
102)B Methyl methanesulfonate		0.9358895	0.9046653	0.8970048	0.8928791	0.8643895				
	0.8585786	0.8382306	0.8967351	0.8807957			0.8855	AVRG		3.2552
103)B N-Nitrosodiethylamine		0.6897050	0.6808082	0.7114610	0.7148110	0.7375090				
	0.7520330	0.7641067	0.6961397	0.7233649			0.7189	AVRG		3.9348
104)B 2-Butoxyethanol		1.2318213	1.2174429	1.2398202	1.2324568	1.2541497				
	1.2634709	1.2669891	1.2334198	1.2283386			1.2409	AVRG		1.3618
105)B Ethyl methanesulfonate		1.1996034	1.1786380	1.2047441	1.2292043	1.2285420				
	1.2381037	1.2370408	1.1937023	1.2316873			1.2157	AVRG		1.7920
106)BM Benzaldehyde		1.2824516	1.1976275	1.0247864	0.9247674					
			1.1249153				1.1109	AVRG		12.6671
107)B Pentachloroethane		0.5487630	0.5517128	0.5574780	0.5684032	0.5858765				
	0.6015666	0.6144087	0.5475462	0.5765791			0.5725	AVRG		4.2147
108)BM N-Nitrosopyrrolidine		0.6689129	0.6714314	0.7034562	0.7214968	0.7579819				
	0.7771872	0.7981183	0.6958446	0.7381950			0.7258	AVRG		6.2884
109)BM Acetophenone		1.8826929	1.8811393	1.9550633	2.0022146	2.0804406				
	2.1092130	2.1286136	1.9215385	2.0261052			1.9986	AVRG		4.7360
110)B N-Nitrosomorpholine		0.6415716	0.6186942	0.6329180	0.6481402	0.6700073				
	0.6726841	0.6751980	0.6341185	0.6557413			0.6499	AVRG		3.0684
111)B o-Toluidine		2.1553590	2.1252158	2.1911542	2.2374483	2.3084673				
	2.2773584	2.2965080	2.1841618	2.2619088			2.2264	AVRG		2.9256
113)B N-Nitrosopiperidine		0.1848658	0.1821649	0.1837461	0.1864955	0.1909635				
	0.1924573	0.1934475	0.1840332	0.1892578			0.1875	AVRG		2.2116

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Compound b | m1 | m2	1 / 7	2 / 8	3 / 9	4 / 10	5	6	Avg	Curve	Exp	%RSD/r2
114)B a,a-Dimethylphenethylami		0.8164679	0.8267396	0.8446851	0.8581991	0.8591049				
	0.7993642	0.7783367	0.8480365	0.8703225			0.8335	AVRG		3.6741
115)BM 2,6-Dichlorophenol		0.2613217	0.2628648	0.2736011	0.2737664	0.2925767				
	0.2898065	0.2954969	0.2695993	0.2778420			0.2774	AVRG		4.5419
116)B Hexachloropropene		0.2191691	0.2223970	0.2136845	0.2064657	0.1933313				
	0.1407114	0.1556875	0.2207244	0.1999045			0.1969	AVRG		14.9848
117)BM Caprolactam		0.0963930	0.0990635	0.1074204	0.1137896	0.1198412				
	0.1204991	0.1188616	0.1038066	0.1184851			0.1109	AVRG		8.5202
118)B N-Nitrosodi-n-butylamine		0.1811283	0.1936156	0.1986936	0.2029268	0.2044365				
	0.2031285	0.1984873	0.1972473	0.2066290			0.1985	AVRG		3.8601
119)B Safrole		0.2739628	0.2742105	0.2871555	0.2963472	0.3171251				
	0.3219403	0.3244381	0.2807630	0.3025342			0.2976	AVRG		6.7394
121)B 1,2,4,5-Tetrachlorobenze		0.6424217	0.6416819	0.6898365	0.7080802	0.7479955				
	0.7634001	0.7790131	0.6658815	0.7117335			0.7056	AVRG		7.1701
122)BM 1,1-Biphenyl		1.3920402	1.3821329	1.4844326	1.5123779	1.5496604				
	1.5490884	1.5255349	1.4375870	1.5343382			1.4852	AVRG		4.4270
123)B Isosafrole		0.4437866	0.4524244	0.4751964	0.4858780	0.5103873				
	0.5252642	0.5387802	0.4674069	0.4960828			0.4884	AVRG		6.6137
124)B 1,4-Naphthoquinone		0.3735164	0.3804670	0.3940263	0.3831274	0.3394721				
	0.3415510	0.3079317	0.3921464	0.3662215			0.3643	AVRG		7.9296
125)B Pentachlorobenzene		0.5347136	0.5328604	0.5782194	0.6004564	0.6386102				
	0.6556009	0.6664559	0.5583005	0.6094490			0.5972	AVRG		8.3726
126)B 1-Naphthylamine		0.9296049	0.8996275	0.9227799	0.9413073	0.9353331				
	0.8413622	0.8562481	0.9171125	0.9304763			0.9082	AVRG		3.9544
127)B 2-Naphthylamine		0.9044596	0.8763245	0.9069738	0.9409739	0.9342697				
	0.7933961	0.7895449	0.9038725	0.9408525			0.8879	AVRG		6.5919
128)B 5-Nitro-o-toluidine		0.2177366	0.2163186	0.2499501	0.2597741	0.2829023				
	0.2839675	0.2829319	0.2365531	0.2649798			0.2550	AVRG		10.5320
130)B 1,3,5-Trinitrobenzene		0.1061195	0.1161520	0.1427669	0.1446857	0.1569766				
	0.1635085	0.1616252	0.1279377	0.1457503			0.1406	AVRG		14.2897

SDG: 2021-129

Response Factor Report MSD3
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Last Update : Wed Oct 14 18:37:15 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
131)B Phenacetin		0.2516456	0.2592729	0.2922932	0.2967099	0.3101367				
	0.3202083	0.3095428	0.2790185	0.2992805			0.2909	AVRG		8.0296
132)B Diallate		0.3026127	0.3098764	0.3173358	0.3175966	0.3159177				
	0.3279200	0.3270092	0.3154828	0.3226513			0.3174	AVRG		2.5201
133)B Cis Diallate		0.3560149	0.3645605	0.3733363	0.3736431	0.3716679				
	0.3857882	0.3847168	0.3711562	0.3795898			0.3734	AVRG		2.5201
134)B Trans Diallate		0.6914017	0.6982678	0.7034694	0.7015232	0.6709109				
	0.6874628	0.6889775	0.7063249	0.7147480			0.6959	AVRG		1.8474
135)BM Atrazine		0.2074685	0.2146680	0.2234343	0.2243110	0.2261311				
	0.1990573	0.1895226	0.2216435	0.2240988			0.2145	AVRG		6.0932
136)B 4-Aminobiphenyl		0.5328952	0.4852188	0.5076081	0.5437158	0.6607018				
	0.6312064	0.6098567	0.4784748	0.5634556			0.5570	AVRG		11.6368
137)B Pentachloronitrobenzene		0.0897285	0.0939290	0.1047412	0.1063055	0.1175855				
	0.1208085	0.1222308	0.0992568	0.1110661			0.1073	AVRG		10.8548
138)B Pronamide		0.3177289	0.3231112	0.3466833	0.3538395	0.3664716				
	0.3690701	0.3658236	0.3383058	0.3597395			0.3490	AVRG		5.4536
139)B 4-Nitroquinoline-1-oxide		22904	61582	170585	230120			1/x^2		
-0.0095 0.0632 0.00			113048	279275				LINR	#	0.9933
140)B Methapyrilene		0.3148316	0.3259919	0.3231549	0.3221016	0.3059427				
	0.2932961	0.2736460	0.3257383	0.3048940			0.3100	AVRG		5.6912
141)B Isodrin		0.1316942	0.1347373	0.1423403	0.1490664	0.1591204				
	0.1636433	0.1651677	0.1405193	0.1548748			0.1490	AVRG		8.3274
143)B Aramite		0.0730960	0.0803669	0.0871327	0.0934971	0.1012886				
	0.1007808	0.1056436	0.0891335	0.0976183			0.0921	AVRG		11.5716
144)B Kepone		0.1561983	0.1640709	0.1569621	0.1638747	0.1623516				
	0.1339204	0.1375681	0.1668897	0.1664070			0.1565	AVRG		7.8941
145)B p-(Dimethylamino)azobenz		0.3198378	0.3350592	0.3551002	0.3801221	0.4245246				
	0.4329620	0.4450006	0.3630552	0.3974336			0.3837	AVRG		11.5613
146)B Chlorobenzilate		0.4811830	0.5241760	0.5796206	0.6145389	0.7197167				
	0.6883513	0.6543752	0.5848344	0.6625496			0.6121	AVRG		12.7066

SDG: 2021-129

Response Factor Report MSD3
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Last Update : Wed Oct 14 18:37:15 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound b | m1 | m2	1 7	2 8	3 9	4 10	5	6	Avg	Curve	Exp	%RSD/r2
147)B 2-Acetylaminofluorene	0.3801524	0.2456991 0.3888002	0.2807851 0.3027000	0.3430599 0.3532277	0.3428482	0.3659390	0.3337	AVRG		14.3295
149)B 7,12-Dimethylbenz(a)anth	0.8277951	0.6313696 0.8545116	0.6604148 0.7042114	0.7158769 0.7648140	0.7380224	0.8165141	0.7459	AVRG		10.2724
150)B 3-Methylcholanthrene	0.1498333	0.1158880 0.1541487	0.1204483 0.1272781	0.1340353 0.1400559	0.1375223	0.1459731	0.1361	AVRG		9.5957
152)J Sulfolane	0.1096038	0.1093425 0.1078818	0.1038642	0.1076099	0.1059919	0.1079532	0.1075	AVRG		1.8482
154)J Prometon	0.1896866	0.1421900 0.1861262	0.1511738	0.1700411	0.1735484	0.1823118	0.1707	AVRG		10.5213
155)JM Benzidine	0.4409705	0.3390959 0.4071530	0.2969843	0.4077404	0.4034328	0.4220478	0.3882	AVRG		13.1496
157)J 3,3'-Dimethylbenzidine	0.9322679	0.7434896 0.9320228	0.7518375	0.8725244	0.8733589	0.8765362	0.8546	AVRG		9.0750
158)JM 3,3'-Dichlorobenzidine	0.4214628	0.3690355 0.4352757	0.3432083	0.3971494	0.4007753	0.4114995	0.3969	AVRG		7.9429
160)D Triethylphosphorothioate	0.2689192	0.2022556 0.2714236	0.2052757	0.2295236	0.2374796	0.2533052	0.2383	AVRG		11.7785
162)D Thionazine	0.2513254	0.1822474 0.2538098	0.1990510	0.2239490	0.2345308	0.2439056	0.2270	AVRG		11.9935
163)DM Tributylphosphate	1.7993208	1.3347713 1.7084107	1.4531914	1.6469680	1.7638642	1.8045733	1.6444	AVRG		11.1153
165)D Sulfotepp	0.1856407	0.1403896 0.1851797	0.1413046	0.1680043	0.1750185	0.1755134	0.1673	AVRG		11.4032
166)D Phorate	0.5140589	0.5187461 0.4925983	0.5093543	0.5565801	0.5497756	0.5163268	0.5225	AVRG		4.3474
167)D Dimethoate	0.2770660	0.2351306 0.2753141	0.2483463	0.2748832	0.2802611	0.2753734	0.2666	AVRG		6.5701
168)D Disulfoton	0.4325834	0.4828832 0.4113844	0.4529981	0.4783524	0.4808856	0.4407604	0.4543	AVRG		6.0958

SDG: 2021-129

Response Factor Report MSD3
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Last Update : Wed Oct 14 18:37:15 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
169)D Methyl parathion		119714	272619	679245	855967	1629288		1/x^2		
-0.0217 0.2072 0.00	2026727	2675268						LINR	#	0.9978
170)D Parathion		50575	116549	296053	376301	736158		1/x^2		
-0.0114 0.0947 0.00	922148	1279524						LINR	#	0.9946
172)D Famphur		235448	509841	1124801	1438326	2808021		1/x^2		
-0.0690 0.7174 0.00	3310991	4492596						LINR	#	0.9954
174)E p-Phenylenediamine		0.4462649	0.4811985	0.4641006	0.4991891	0.4739086				
	0.5128283						0.4796	AVRG		4.9994
176)E Hexachlorophene		1457889	2337089	2336998	4282188	4889171		1/x^2		
-2.4401 0.2933 0.00	5452755							LINR	#	0.9950

(#) = Out of Range ($) = Individual RF Out of Range
AVRG = Average, LINR = Linear Regression, 1/x = the inverse of concentration, 1/x^2 = the inverse square of concentration

Quantitation Report

10/14/2020

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1302.D
Acq On : 13 Oct 2020 16:14
Operator : AGS1
Sample : |WBN201013-04|ICAL|1|SVM|1|M4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

10/19/2020

Quant Time: Oct 14 16:27:26 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 12:41:01 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.854	5.854	1.000	955772	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	3305153	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.913	9.913	1.000	1900679	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.785	11.785	1.000	2957530	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.385	15.385	1.000	1578066	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.899	18.899	1.000	1061726	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.854	5.854	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.913	9.908	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.385	15.374	1.000	0m	40.00	ng/uL	0.01
148) B Perylene-d12	264	18.899	18.894	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.385	15.374	1.000	0m	40.00	ng/uL	0.01
159) D Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.913	9.908	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.385	15.374	1.000	0m	40.00	ng/uL	0.01
173) E Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.899	18.904	1.000	0m	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.121	4.121	0.704	1307193	39.45	ng/uL	0.00
8) Phenol-d5	99	5.292	5.292	0.904	1580744	39.14	ng/uL	0.00
23) Nitrobenzene-d5	82	6.618	6.618	0.869	1500212	39.74	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	2600747	38.77	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.903	10.903	1.100	319641	38.02	ng/uL	0.00
80) p-Terphenyl-d14	244	13.754	13.754	0.894	2137640	40.18	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.441	2.441	0.417	687431	39.91	ng/uL	100
3) N-Methyl-N-nitrosometh...	74	2.719	2.719	0.465	1018734	39.30	ng/uL	100
4) Pyridine	79	2.762	2.762	0.472	1608543	39.91	ng/uL	100
6) p-Benzoquinone	54	4.746	4.746	0.811	621239	40.34	ng/uL	100
7) Aniline	93	5.388	5.388	0.921	2242096	39.31	ng/uL	100
9) Phenol	94	5.313	5.313	0.908	1749061	39.16	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.468	5.468	0.934	1569697	38.84	ng/uL	100
11) 2-Chlorophenol	128	5.554	5.554	0.949	1208636	38.94	ng/uL	100
12) n-Decane	43	5.618	5.618	0.960	1045709	39.52	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.779	5.779	0.987	1400252	38.18	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.880	5.880	1.005	1405954	37.91	ng/uL	100
15) 1,2-Dichlorobenzene	146	6.089	6.089	1.040	1325319	38.02	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	6.223	6.223	1.063	1218748	38.59	ng/uL	100
17) Benzyl alcohol	108	6.025	6.025	1.029	833035	38.26	ng/uL	100
18) o-Cresol	107	6.164	6.164	1.053	1049081	38.37	ng/uL	100
19) m,p-Cresols	108	6.388	6.388	1.091	1213095	38.45	ng/uL	100
20) N-Nitrosodipropylamine	70	6.415	6.415	1.096	1150249	38.51	ng/uL	100
21) Hexachloroethane	117	6.565	6.565	1.122	616504	38.37	ng/uL	100
24) Nitrobenzene	77	6.651	6.651	0.874	1537149	39.18	ng/uL	100
25) Isophorone	82	6.977	6.977	0.916	2983226	39.49	ng/uL	100
26) 2-Nitrophenol	139	7.084	7.084	0.930	598000	38.87	ng/uL	100
27) 2,4-Dimethylphenol	122	7.127	7.127	0.936	1004716	39.40	ng/uL	100
28) bis(2-Chloroethoxy)met...	93	7.271	7.271	0.955	1724339	38.98	ng/uL	100
29) 2,4-Dichlorophenol	162	7.410	7.410	0.973	863732	36.90	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1302.D
Acq On : 13 Oct 2020 16:14
Operator : AGS1
Sample : |WBN201013-04|ICAL|1|SVM|1|M4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 14 16:27:26 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 12:41:01 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	7.260	7.260	0.954	611538	41.21	ng/uL	100
31) 1,2,4-Trichlorobenzene	180	7.533	7.533	0.989	1218494	38.34	ng/uL	100
32) alpha-Terpineol	59	7.651	7.651	1.005	969518	39.66	ng/uL	100
33) Naphthalene	128	7.640	7.640	1.004	3444585	38.48	ng/uL	100
34) 4-Chloroaniline	127	7.704	7.704	1.012	1298449	38.69	ng/uL	100
35) Hexachlorobutadiene	225	7.806	7.806	1.025	804196	37.68	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.335	8.335	1.095	938847	38.21	ng/uL	100
37) 2-Methylnaphthalene	142	8.565	8.565	1.125	2326113	37.52	ng/uL	100
38) 1-Methylnaphthalene	142	8.694	8.694	1.142	2143814	37.98	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.769	8.769	0.885	929629	41.23	ng/uL	100
41) 2,3-Dichloroaniline	161	8.924	8.924	0.900	1199803	38.51	ng/uL	100
42) 2,4,6-Trichlorophenol	196	8.924	8.924	0.900	824628	38.58	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.961	8.961	0.904	725471	38.51	ng/uL	100
45) 2-Chloronaphthalene	162	9.196	9.196	0.928	2089271	37.90	ng/uL	100
46) o-Nitroaniline	65	9.319	9.319	0.940	601924	39.49	ng/uL	100
47) 1,4-Dinitrobenzene	168	9.496	9.496	0.958	293243	39.02	ng/uL	100
48) m-Nitroaniline	138	9.844	9.844	0.993	406616	38.19	ng/uL	100
49) Dimethylphthalate	163	9.566	9.566	0.965	2390953	37.54	ng/uL	100
50) m-Dinitrobenzene	168	9.592	9.592	0.968	339331	39.32	ng/uL	100
51) 2,6-Dinitrotoluene	165	9.635	9.635	0.972	514769	38.95	ng/uL	100
52) 2,4-Dinitrotoluene	165	10.143	10.143	1.023	598443	38.52	ng/uL	100
53) Acenaphthylene	152	9.731	9.731	0.982	3302825	37.93	ng/uL	100
54) Acenaphthene	154	9.956	9.956	1.004	2133110	37.78	ng/uL	100
55) 2,4-Dinitrophenol	184	9.972	9.972	1.006	206829	39.19	ng/uL	100
56) Dibenzofuran	168	10.175	10.175	1.026	2776954	38.55	ng/uL	100
57) 2,3,4,6-Tetrachlorophenol	232	10.320	10.320	1.041	582806	37.45	ng/uL	100
58) Diethylphthalate	149	10.453	10.453	1.054	2141926	37.43	ng/uL	100
59) 4-Nitrophenol	139	10.031	10.031	1.012	258333	40.78	ng/uL	100
60) Fluorene	166	10.608	10.608	1.070	2486176	38.10	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.603	10.603	1.070	1374620	38.57	ng/uL	100
62) p-Nitroaniline	138	10.614	10.614	1.071	286703	37.52	ng/uL	100
65) 2-Methyl-4,6-dinitroph...	198	10.657	10.657	0.904	297992	41.09	ng/uL	100
66) Diphenylamine	169	10.748	10.748	0.912	1834529	38.23	ng/uL	100
67) 1,2-Diphenylhydrazine	77	10.801	10.801	0.916	2796172	40.16	ng/uL	100
68) 4-Bromophenylphenylether	248	11.218	11.218	0.952	691500	37.51	ng/uL	100
69) Hexachlorobenzene	284	11.298	11.298	0.959	763216	37.64	ng/uL	100
70) Pentachlorophenol	266	11.534	11.534	0.979	365971	41.60	ng/uL	100
71) n-Octadecane	57	11.630	11.630	0.987	1319057	38.93	ng/uL	100
72) Dinoseb	211	11.758	11.758	0.998	494643	39.83	ng/uL	100
73) Phenanthrene	178	11.812	11.812	1.002	2911082	37.87	ng/uL	100
74) Anthracene	178	11.876	11.876	1.008	2935121	38.04	ng/uL	100
75) Carbazole	167	12.069	12.069	1.024	2058463	38.00	ng/uL	100
76) Di-n-butylphthalate	149	12.491	12.491	1.060	3194628	38.45	ng/uL	100
77) Fluoranthene	202	13.294	13.294	1.128	2788167	36.86	ng/uL	100
79) Pyrene	202	13.577	13.577	0.882	2792139	40.69	ng/uL	100
81) Butylbenzylphthalate	149	14.417	14.417	0.937	986004	41.95	ng/uL	100
82) bis(2-Ethylhexyl)phtha...	149	15.401	15.401	1.001	1483010	40.70	ng/uL	100
83) Benzo(a)anthracene	228	15.363	15.363	0.999	1951040	39.55	ng/uL	100
84) Chrysene	228	15.433	15.433	1.003	1937246	39.33	ng/uL	100
85) Methoxychlor	227	15.230	15.230	0.990	1509905	39.59	ng/uL	100
86) Methylenebis(2-chloroa...	231	15.310	15.310	0.995	292069	38.68	ng/uL	100
87) Di-n-octylphthalate	149	16.866	16.866	1.096	1676724	40.84	ng/uL	100
89) Benzo(b)fluoranthene	252	17.808	17.808	0.942	1354240	38.82	ng/uL	100
90) Benzo(k)fluoranthene	252	17.883	17.883	0.946	1334972	38.44	ng/uL	100
91) Benzo(a)pyrene	252	18.728	18.728	0.991	1052254	38.74	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	22.258	22.258	1.178	746417	39.81	ng/uL	100
93) Dibenzo(a,h)anthracene	278	22.333	22.333	1.182	720372	38.66	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1302.D
Acq On : 13 Oct 2020 16:14
Operator : AGS1
Sample : |WBN201013-04|ICAL|1|SVM|1|M4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 14 16:27:26 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 12:41:01 2020
Response via : Initial Calibration

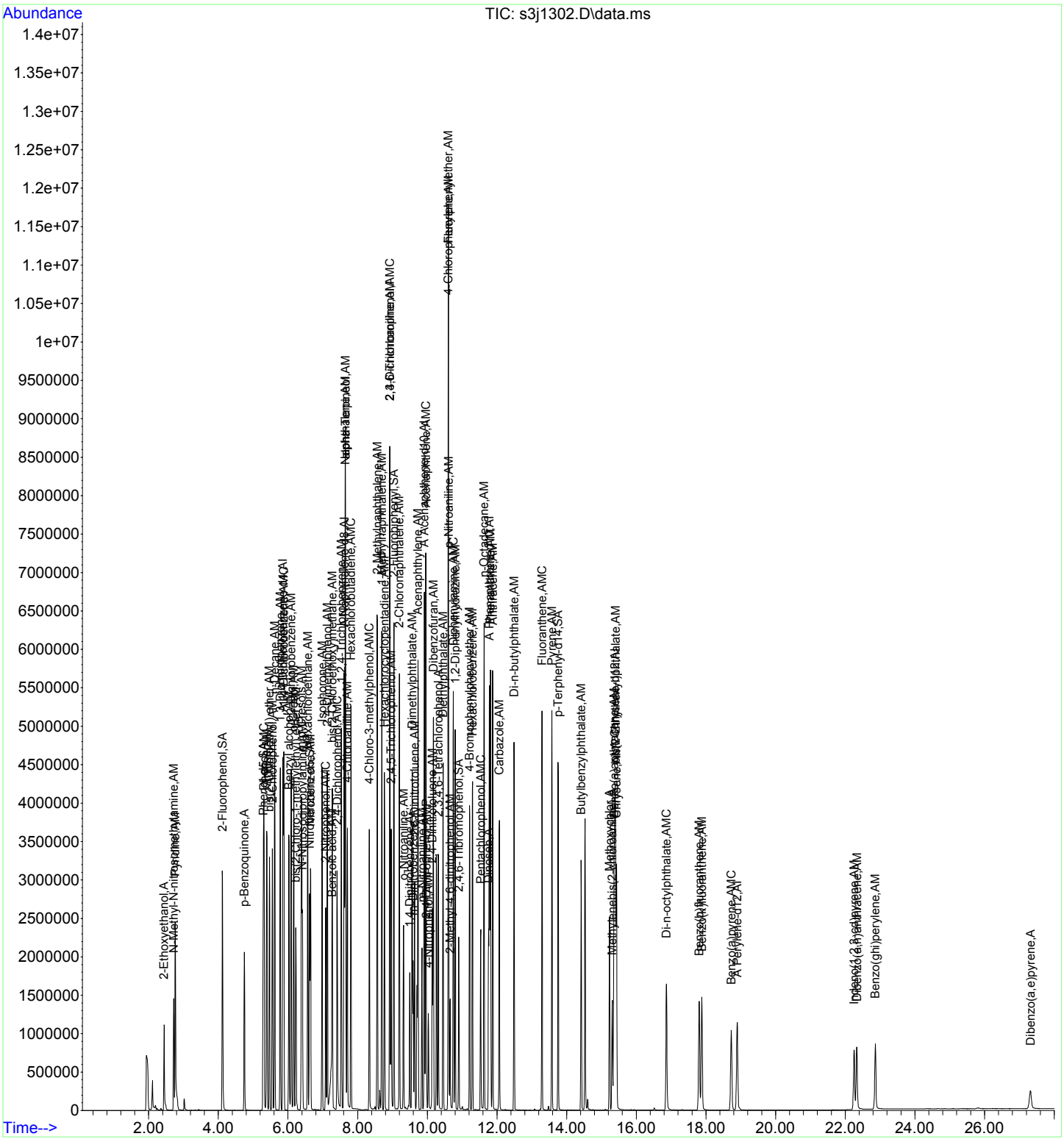
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.862	22.862	1.210	822760	40.30	ng/uL	100
95) Dibenzo(a,e)pyrene	302	27.318	27.318	1.445	336114	39.24	ng/uL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1302.D
Acq On : 13 Oct 2020 16:14
Operator : AGS1
Sample : |WBN201013-04|ICAL|1|SVM|1|M4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 14 16:27:26 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 12:41:01 2020
Response via : Initial Calibration



Quantitation Report

10/14/2020

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1303.D
Acq On : 13 Oct 2020 16:47
Operator : AGS1
Sample : |WBN201013-03|ICAL|1|SVM|1|M3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

10/19/2020

Quant Time: Oct 14 16:28:06 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:27:47 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.854	5.854	1.000	958717	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.608	7.613	1.000	3396960	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.913	9.913	1.000	2033120	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.780	11.785	1.000	3179727	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.380	15.385	1.000	1794367	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.894	18.899	1.000	1256795	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.854	5.854	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.608	7.608	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.913	9.908	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.780	11.780	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.380	15.374	1.000	0m	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.894	18.894	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.608	7.608	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.780	11.780	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.380	15.374	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.608	7.608	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.913	9.908	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.780	11.780	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.380	15.374	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.608	7.608	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.894	18.904	1.000	0m	40.00	ng/uL	-0.01
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.115	4.121	0.703	616086	18.54	ng/uL	0.00
8) Phenol-d5	99	5.287	5.292	0.903	751067	18.54	ng/uL	0.00
23) Nitrobenzene-d5	82	6.613	6.618	0.869	738825	19.04	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.036	9.041	0.912	1299314	18.11	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.897	10.903	1.099	158007	17.57	ng/uL	0.00
80) p-Terphenyl-d14	244	13.754	13.754	0.894	1092095	18.05	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.441	2.441	0.417	320680	18.56	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.719	2.719	0.465	478146	18.39	ng/uL	100
4) Pyridine	79	2.762	2.762	0.472	745460	18.44	ng/uL	98
6) p-Benzoquinone	54	4.746	4.746	0.811	275788	17.85	ng/uL	99
7) Aniline	93	5.388	5.388	0.921	1084699	18.96	ng/uL	99
9) Phenol	94	5.303	5.313	0.906	830622	18.54	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.463	5.468	0.933	760513	18.76	ng/uL	99
11) 2-Chlorophenol	128	5.549	5.554	0.948	582748	18.72	ng/uL	100
12) n-Decane	43	5.618	5.618	0.960	529484	19.95	ng/uL	96
13) 1,3-Dichlorobenzene	146	5.773	5.779	0.986	683797	18.59	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.875	5.880	1.004	689375	18.53	ng/uL	99
15) 1,2-Dichlorobenzene	146	6.089	6.089	1.040	649684	18.58	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	6.223	6.223	1.063	632361	19.96	ng/uL	99
17) Benzyl alcohol	108	6.019	6.025	1.028	407419	18.66	ng/uL	99
18) o-Cresol	107	6.158	6.164	1.052	518730	18.91	ng/uL	100
19) m,p-Cresols	108	6.378	6.388	1.090	596154	18.84	ng/uL	100
20) N-Nitrosodipropylamine	70	6.404	6.415	1.094	567568	18.95	ng/uL	97
21) Hexachloroethane	117	6.565	6.565	1.122	301396	18.70	ng/uL	99
24) Nitrobenzene	77	6.640	6.651	0.873	780736	19.36	ng/uL	99
25) Isophorone	82	6.971	6.977	0.916	1491898	19.22	ng/uL	100
26) 2-Nitrophenol	139	7.078	7.084	0.930	292502	18.50	ng/uL	99
27) 2,4-Dimethylphenol	122	7.127	7.127	0.937	515908	19.69	ng/uL	100
28) bis(2-Chloroethoxy)met...	93	7.266	7.271	0.955	856361	18.84	ng/uL	98
29) 2,4-Dichlorophenol	162	7.405	7.410	0.973	423396	17.60	ng/uL	100

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1303.D
Acq On : 13 Oct 2020 16:47
Operator : AGS1
Sample : |WBN201013-03|ICAL|1|SVM|1|M3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 14 16:28:06 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:27:47 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	7.212	7.260	0.948	212203	19.89	ng/uL	95
31) 1,2,4-Trichlorobenzene	180	7.528	7.533	0.989	594684	18.21	ng/uL	99
32) alpha-Terpineol	59	7.645	7.651	1.005	475452	18.92	ng/uL	98
33) Naphthalene	128	7.640	7.640	1.004	1715556	18.65	ng/uL	99
34) 4-Chloroaniline	127	7.699	7.704	1.012	652076	18.91	ng/uL	100
35) Hexachlorobutadiene	225	7.806	7.806	1.026	391798	17.86	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.330	8.335	1.095	451231	17.87	ng/uL	100
37) 2-Methylnaphthalene	142	8.560	8.565	1.125	1141540	17.91	ng/uL	99
38) 1-Methylnaphthalene	142	8.688	8.694	1.142	1058944	18.25	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.769	8.769	0.885	414751	17.20	ng/uL	99
41) 2,3-Dichloroaniline	161	8.918	8.924	0.900	586012	17.58	ng/uL	100
42) 2,4,6-Trichlorophenol	196	8.918	8.924	0.900	388391	16.99	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.956	8.961	0.903	346391	17.19	ng/uL	99
45) 2-Chloronaphthalene	162	9.191	9.196	0.927	1046943	17.76	ng/uL	100
46) o-Nitroaniline	65	9.314	9.319	0.940	298346	18.30	ng/uL	99
47) 1,4-Dinitrobenzene	168	9.491	9.496	0.957	141300	17.58	ng/uL	99
48) m-Nitroaniline	138	9.838	9.844	0.992	211588	18.58	ng/uL	100
49) Dimethylphthalate	163	9.555	9.566	0.964	1238436	18.18	ng/uL	100
50) m-Dinitrobenzene	168	9.587	9.592	0.967	168395	18.24	ng/uL	96
51) 2,6-Dinitrotoluene	165	9.630	9.635	0.971	264226	18.69	ng/uL	99
52) 2,4-Dinitrotoluene	165	10.138	10.143	1.023	305690	18.40	ng/uL	98
53) Acenaphthylene	152	9.726	9.731	0.981	1687715	18.12	ng/uL	100
54) Acenaphthene	154	9.951	9.956	1.004	1053951	17.45	ng/uL	99
55) 2,4-Dinitrophenol	184	9.967	9.972	1.005	83955	14.87	ng/uL	83
56) Dibenzofuran	168	10.170	10.175	1.026	1414718	18.36	ng/uL	99
57) 2,3,4,6-Tetrachlorophenol	232	10.314	10.320	1.040	288579	17.34	ng/uL	100
58) Diethylphthalate	149	10.448	10.453	1.054	1117099	18.25	ng/uL	100
59) 4-Nitrophenol	139	10.026	10.031	1.011	125165	18.47	ng/uL	99
60) Fluorene	166	10.603	10.608	1.070	1221105	17.50	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.598	10.603	1.069	673103	17.66	ng/uL	99
62) p-Nitroaniline	138	10.603	10.614	1.070	172514	21.11	ng/uL	93
65) 2-Methyl-4,6-dinitroph...	198	10.646	10.657	0.904	136289	17.48	ng/uL	100
66) Diphenylamine	169	10.742	10.748	0.912	933928	18.10	ng/uL	100
67) 1,2-Diphenylhydrazine	77	10.796	10.801	0.916	1466344	19.59	ng/uL	99
68) 4-Bromophenylphenylether	248	11.213	11.218	0.952	342120	17.26	ng/uL	98
69) Hexachlorobenzene	284	11.293	11.298	0.959	383628	17.60	ng/uL	99
70) Pentachlorophenol	266	11.528	11.534	0.979	169222	17.89	ng/uL	100
71) n-Octadecane	57	11.625	11.630	0.987	688041	18.89	ng/uL	97
72) Dinoseb	211	11.753	11.758	0.998	219128	18.84	ng/uL	99
73) Phenanthrene	178	11.812	11.812	1.003	1512008	18.30	ng/uL	100
74) Anthracene	178	11.871	11.876	1.008	1510209	18.20	ng/uL	99
75) Carbazole	167	12.063	12.069	1.024	1083143	18.60	ng/uL	100
76) Di-n-butylphthalate	149	12.486	12.491	1.060	1662144	18.61	ng/uL	100
77) Fluoranthene	202	13.288	13.294	1.128	1432917	17.62	ng/uL	100
79) Pyrene	202	13.572	13.577	0.882	1458454	18.69	ng/uL	100
81) Butylbenzylphthalate	149	14.417	14.417	0.937	506073	18.94	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.396	15.401	1.001	798477	19.27	ng/uL	98
83) Benzo(a)anthracene	228	15.358	15.363	0.999	1080768	19.27	ng/uL	99
84) Chrysene	228	15.428	15.433	1.003	1067598	19.06	ng/uL	100
85) Methoxychlor	227	15.224	15.230	0.990	781915	18.03	ng/uL	100
86) Methylenebis(2-chloroa...	231	15.305	15.310	0.995	161429	18.80	ng/uL	99
87) Di-n-octylphthalate	149	16.861	16.866	1.096	883765	18.93	ng/uL	99
89) Benzo(b)fluoranthene	252	17.797	17.808	0.942	755544	18.29	ng/uL	99
90) Benzo(k)fluoranthene	252	17.872	17.883	0.946	749625	18.24	ng/uL	99
91) Benzo(a)pyrene	252	18.717	18.728	0.991	586794	18.25	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	22.247	22.258	1.177	395558	17.82	ng/uL	99
93) Dibenzo(a,h)anthracene	278	22.322	22.333	1.181	383990	17.41	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1303.D
Acq On : 13 Oct 2020 16:47
Operator : AGS1
Sample : |WBN201013-03|ICAL|1|SVM|1|M3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 14 16:28:06 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:27:47 2020
Response via : Initial Calibration

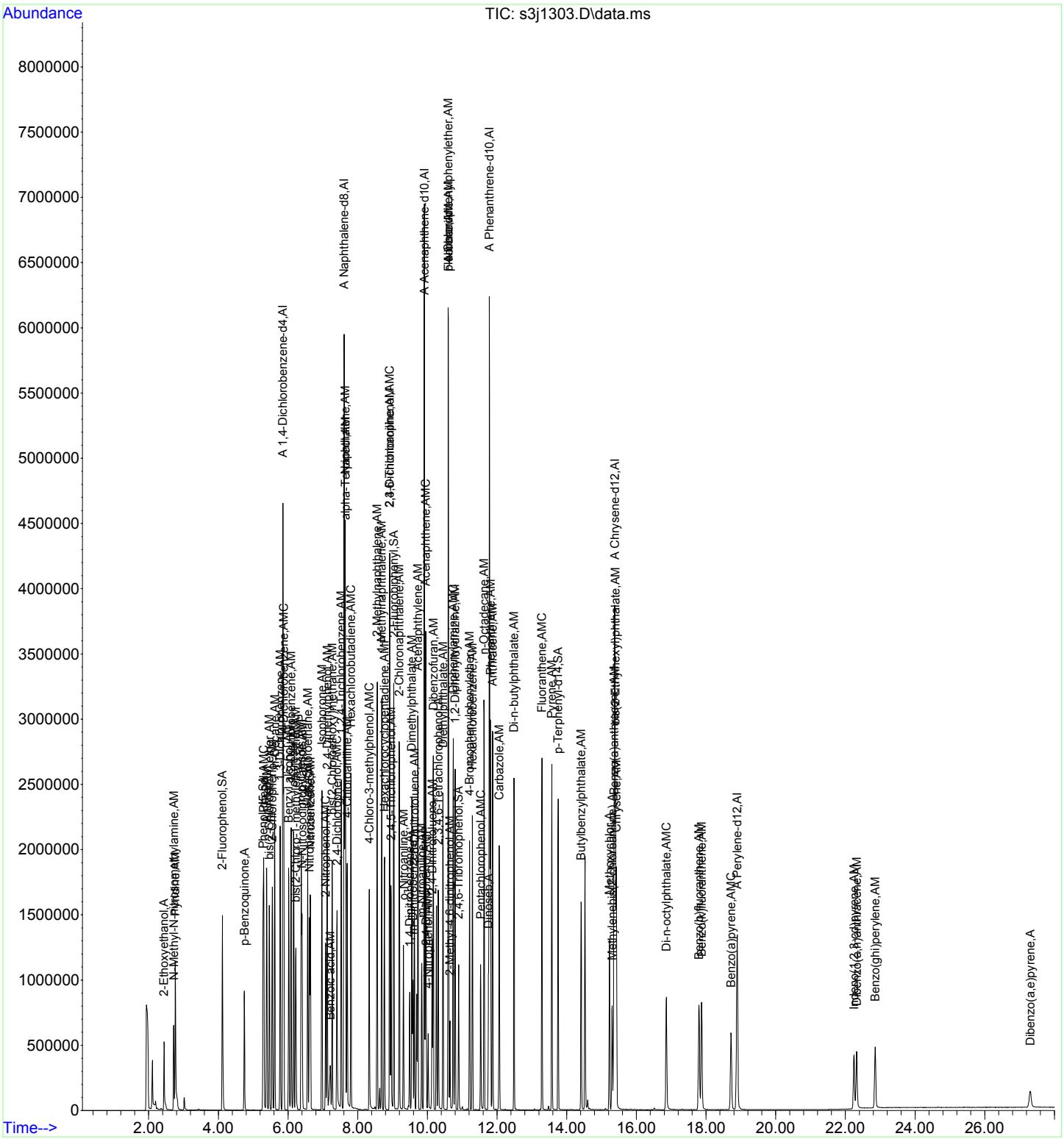
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.857	22.862	1.210	449925	18.62	ng/uL	99
95) Dibenzo(a,e)pyrene	302	27.307	27.318	1.445	175272	17.29	ng/uL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1303.D
Acq On : 13 Oct 2020 16:47
Operator : AGS1
Sample : |WBN201013-03|ICAL|1|SVM|1|M3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 14 16:28:06 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:27:47 2020
Response via : Initial Calibration



Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1304.D
Acq On : 13 Oct 2020 17:53
Operator : AGS1
Sample : |WBN201013-01|ICAL|1|SVM|1|M1
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

10/14/2020

10/19/2020

Quant Time: Oct 14 16:31:45 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:30:19 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.853	5.853	1.000	978056	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.608	7.608	1.000	3542738	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.908	9.913	1.000	2106346	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.780	11.780	1.000	3337416	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.374	15.379	1.000	1918717	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.899	18.893	1.000	1418631	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.853	5.853	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.608	7.613	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.908	9.913	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.780	11.780	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.374	15.379	1.000	0m	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.899	18.893	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.608	7.613	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.780	11.780	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.374	15.379	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.608	7.613	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.908	9.913	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.780	11.780	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.374	15.379	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.608	7.613	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.899	18.893	1.000	0m	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	0.000	4.115	0.000	0d	0.00	ng/uL	
8) Phenol-d5	99	0.000	5.286	0.000	0d	0.00	ng/uL	
23) Nitrobenzene-d5	82	0.000	6.613	0.000	0d	0.00	ng/uL	
44) 2-Fluorobiphenyl	172	0.000	9.036	0.000	0d	0.00	ng/uL	
63) 2,4,6-Tribromophenol	330	0.000	10.902	0.000	0d	0.00	ng/uL	
80) p-Terphenyl-d14	244	0.000	13.753	0.000	0d	0.00	ng/uL	
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.714	2.719	0.464	29646	1.12	ng/uL	99
33) Naphthalene	128	7.634	7.640	1.004	104418	1.09	ng/uL	99
37) 2-Methylnaphthalene	142	8.554	8.560	1.124	73595	1.11	ng/uL	99
38) 1-Methylnaphthalene	142	8.688	8.688	1.142	64469	1.07	ng/uL	98
45) 2-Chloronaphthalene	162	9.191	9.191	0.928	68997	1.13	ng/uL	98
49) Dimethylphthalate	163	9.549	9.555	0.964	81231	1.15	ng/uL	99
53) Acenaphthylene	152	9.726	9.731	0.982	111090	1.15	ng/uL	100
54) Acenaphthene	154	9.945	9.950	1.004	71789	1.15	ng/uL	93
58) Diethylphthalate	149	10.442	10.448	1.054	73375	1.16	ng/uL	98
60) Fluorene	166	10.598	10.603	1.070	86219	1.19	ng/uL	99
73) Phenanthrene	178	11.806	11.812	1.002	93200	1.07	ng/uL	98
74) Anthracene	178	11.871	11.871	1.008	96599	1.11	ng/uL	99
75) Carbazole	167	12.058	12.063	1.024	64425	1.05	ng/uL	100
76) Di-n-butylphthalate	149	12.486	12.486	1.060	98044	1.05	ng/uL	99
77) Fluoranthene	202	13.288	13.288	1.128	99484	1.17	ng/uL	99
79) Pyrene	202	13.571	13.571	0.883	85325	1.02	ng/uL	99
81) Butylbenzylphthalate	149	14.411	14.417	0.937	25072	0.88	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.395	15.395	1.001	39454	0.89	ng/uL	97
83) Benzo(a)anthracene	228	15.358	15.358	0.999	63160	1.05	ng/uL	99
84) Chrysene	228	15.422	15.422	1.003	69450	1.16	ng/uL	99
87) Di-n-octylphthalate	149	16.855	16.861	1.096	36781	0.74	ng/uL	92
89) Benzo(b)fluoranthene	252	17.792	17.797	0.941	46565	1.00	ng/uL	100
90) Benzo(k)fluoranthene	252	17.866	17.872	0.945	52892	1.14	ng/uL	97
91) Benzo(a)pyrene	252	18.711	18.717	0.990	36780	1.01	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1304.D
Acq On : 13 Oct 2020 17:53
Operator : AGS1
Sample : |WBN201013-01|ICAL|1|SVM|1|M1
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 14 16:31:45 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:30:19 2020
Response via : Initial Calibration

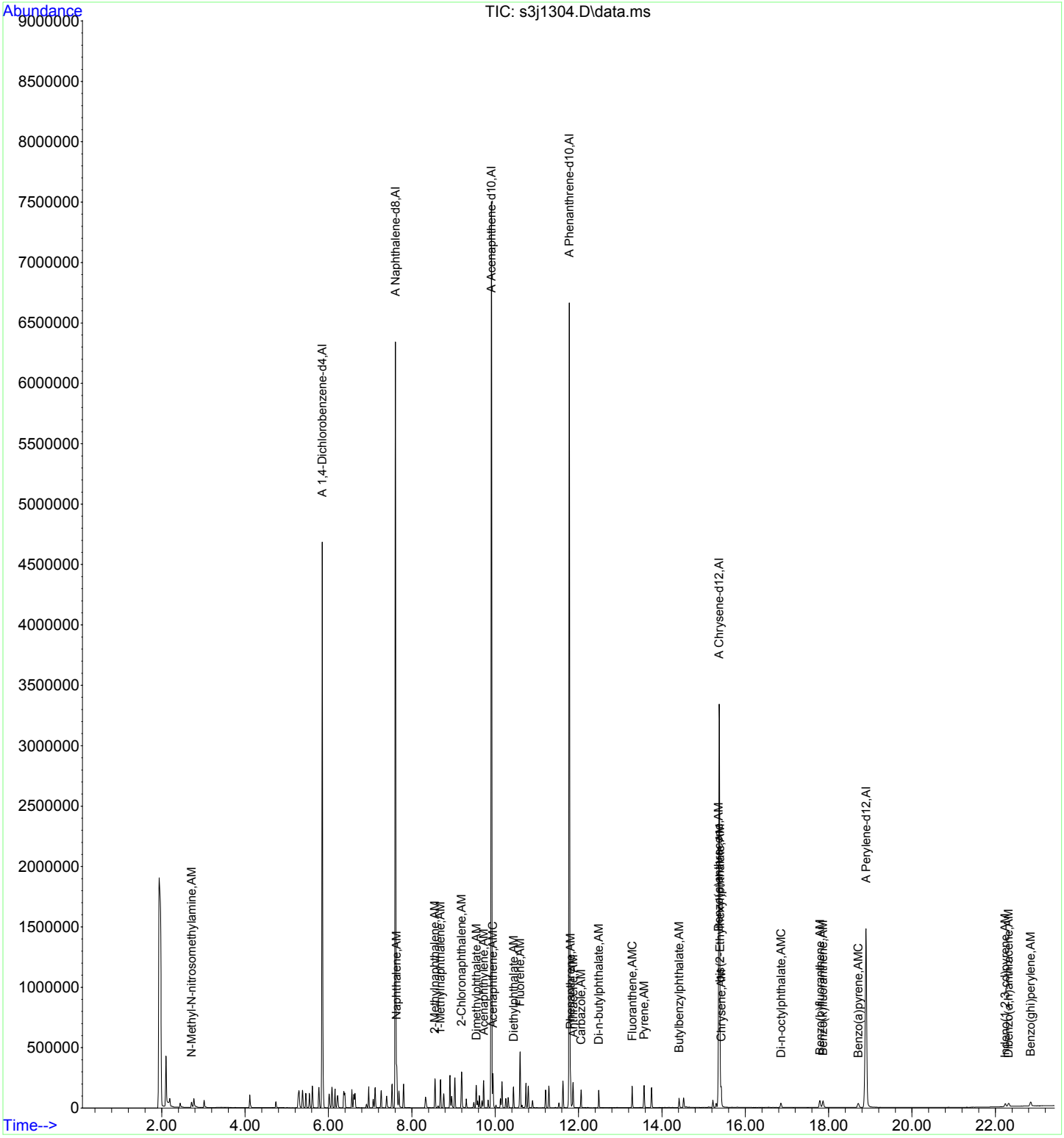
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
92) Indeno(1,2,3-cd)pyrene	276	22.236	22.247	1.177	25536	1.02	ng/uL	99
93) Dibenzo(a,h)anthracene	278	22.316	22.322	1.181	26172	1.05	ng/uL	99
94) Benzo(ghi)perylene	276	22.846	22.851	1.209	27109	0.99	ng/uL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1304.D
Acq On : 13 Oct 2020 17:53
Operator : AGS1
Sample : |WBN201013-01|ICAL|1|SVM|1|M1
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 14 16:31:45 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:30:19 2020
Response via : Initial Calibration



Quantitation Report

10/14/2020

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1306.D
Acq On : 13 Oct 2020 18:55
Operator : AGS1
Sample : |WBN201013-05|ICAL|1|SVM|1|M5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

10/19/2020

Quant Time: Oct 14 16:29:17 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:29:05 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.854	5.854	1.000	1002500	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	3579216	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.913	9.913	1.000	2110737	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.785	11.785	1.000	3357081	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.385	15.385	1.000	1945061	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.899	18.899	1.000	1348384	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.854	5.854	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.913	9.908	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.385	15.374	1.000	0m	40.00	ng/uL	0.01
148) B Perylene-d12	264	18.899	18.894	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.385	15.374	1.000	0m	40.00	ng/uL	0.01
159) D Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.913	9.908	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.385	15.374	1.000	0m	40.00	ng/uL	0.01
173) E Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.899	18.904	1.000	0m	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.121	4.121	0.704	1714209	49.32	ng/uL	0.00
8) Phenol-d5	99	5.297	5.292	0.905	2104400	49.68	ng/uL	0.00
23) Nitrobenzene-d5	82	6.624	6.618	0.870	2021236	49.44	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	3669896	49.26	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.903	10.903	1.100	474916	50.87	ng/uL	0.00
80) p-Terphenyl-d14	244	13.753	13.754	0.894	3346060	51.03	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.446	2.441	0.418	888675	49.19	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.725	2.719	0.465	1303913	47.96	ng/uL	99
4) Pyridine	79	2.767	2.762	0.473	2087298	49.37	ng/uL	99
6) p-Benzoquinone	54	4.752	4.746	0.812	816737	50.57	ng/uL	99
7) Aniline	93	5.394	5.388	0.921	2987892	49.94	ng/uL	100
9) Phenol	94	5.319	5.313	0.909	2340079	49.96	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.474	5.468	0.935	2106517	49.70	ng/uL	100
11) 2-Chlorophenol	128	5.554	5.554	0.949	1608255	49.40	ng/uL	100
12) n-Decane	43	5.618	5.618	0.960	1386846	49.97	ng/uL	98
13) 1,3-Dichlorobenzene	146	5.779	5.779	0.987	1886892	49.04	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.880	5.880	1.005	1905996	48.99	ng/uL	100
15) 1,2-Dichlorobenzene	146	6.094	6.089	1.041	1803480	49.32	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	6.228	6.223	1.064	1649643	49.80	ng/uL	100
17) Benzyl alcohol	108	6.030	6.025	1.030	1143362	50.07	ng/uL	100
18) o-Cresol	107	6.169	6.164	1.054	1431661	49.92	ng/uL	100
19) m,p-Cresols	108	6.394	6.388	1.092	1654334	49.99	ng/uL	99
20) N-Nitrosodipropylamine	70	6.420	6.415	1.097	1561593	49.85	ng/uL	100
21) Hexachloroethane	117	6.565	6.565	1.122	835752	49.59	ng/uL	100
24) Nitrobenzene	77	6.651	6.651	0.874	2102593	49.49	ng/uL	100
25) Isophorone	82	6.982	6.977	0.917	4105817	50.19	ng/uL	100
26) 2-Nitrophenol	139	7.084	7.084	0.930	813867	48.86	ng/uL	100
27) 2,4-Dimethylphenol	122	7.132	7.127	0.937	1358685	49.20	ng/uL	97
28) bis(2-Chloroethoxy)met...	93	7.276	7.271	0.956	2375724	49.59	ng/uL	100
29) 2,4-Dichlorophenol	162	7.410	7.410	0.973	1264789	49.90	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1306.D
Acq On : 13 Oct 2020 18:55
Operator : AGS1
Sample : |WBN201013-05|ICAL|1|SVM|1|M5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 14 16:29:17 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:29:05 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	7.276	7.260	0.956	807128	48.25	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.533	7.533	0.989	1701620	49.44	ng/uL	99
32) alpha-Terpineol	59	7.656	7.651	1.006	1356230	51.23	ng/uL	99
33) Naphthalene	128	7.645	7.640	1.004	4809992	49.62	ng/uL	100
34) 4-Chloroaniline	127	7.704	7.704	1.012	1817393	50.01	ng/uL	100
35) Hexachlorobutadiene	225	7.806	7.806	1.025	1147062	49.63	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.335	8.335	1.095	1333139	50.10	ng/uL	99
37) 2-Methylnaphthalene	142	8.565	8.565	1.125	3332941	49.64	ng/uL	100
38) 1-Methylnaphthalene	142	8.694	8.694	1.142	3061256	50.08	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.769	8.769	0.885	1309800	52.32	ng/uL	99
41) 2,3-Dichloroaniline	161	8.924	8.924	0.900	1736169	50.18	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.924	8.924	0.900	1232180	51.90	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.961	8.961	0.904	1016757	48.60	ng/uL	100
45) 2-Chloronaphthalene	162	9.196	9.196	0.928	2970670	48.53	ng/uL	99
46) o-Nitroaniline	65	9.319	9.319	0.940	847225	50.06	ng/uL	99
47) 1,4-Dinitrobenzene	168	9.496	9.496	0.958	414776	49.70	ng/uL	99
48) m-Nitroaniline	138	9.849	9.844	0.994	585025	49.47	ng/uL	99
49) Dimethylphthalate	163	9.566	9.566	0.965	3443917	48.69	ng/uL	100
50) m-Dinitrobenzene	168	9.598	9.592	0.968	477827	49.85	ng/uL	91
51) 2,6-Dinitrotoluene	165	9.635	9.635	0.972	727303	49.55	ng/uL	99
52) 2,4-Dinitrotoluene	165	10.143	10.143	1.023	860802	49.90	ng/uL	99
53) Acenaphthylene	152	9.737	9.731	0.982	4706280	48.67	ng/uL	100
54) Acenaphthene	154	9.956	9.956	1.004	3090321	49.29	ng/uL	100
55) 2,4-Dinitrophenol	184	9.977	9.972	1.006	275786	47.05	ng/uL	97
56) Dibenzofuran	168	10.175	10.175	1.026	3974883	49.68	ng/uL	100
57) 2,3,4,6-Tetrachlorophenol	232	10.320	10.320	1.041	846722	49.00	ng/uL	100
58) Diethylphthalate	149	10.453	10.453	1.054	3118511	49.07	ng/uL	100
59) 4-Nitrophenol	139	10.036	10.031	1.012	371836	52.86	ng/uL	100
60) Fluorene	166	10.608	10.608	1.070	3629603	50.09	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.603	10.603	1.070	2046731	51.72	ng/uL	99
62) p-Nitroaniline	138	10.614	10.614	1.071	383955	45.25	ng/uL	98
65) 2-Methyl-4,6-dinitroph...	198	10.657	10.657	0.904	417155	50.67	ng/uL	99
66) Diphenylamine	169	10.748	10.748	0.912	2737702	50.26	ng/uL	99
67) 1,2-Diphenylhydrazine	77	10.801	10.801	0.916	3968892	50.22	ng/uL	99
68) 4-Bromophenylphenylether	248	11.218	11.218	0.952	1027429	49.09	ng/uL	99
69) Hexachlorobenzene	284	11.298	11.298	0.959	1134560	49.29	ng/uL	99
70) Pentachlorophenol	266	11.534	11.534	0.979	528732	52.95	ng/uL	99
71) n-Octadecane	57	11.630	11.630	0.987	1947011	50.63	ng/uL	98
72) Dinoseb	211	11.758	11.758	0.998	720020	49.91	ng/uL	99
73) Phenanthrene	178	11.812	11.812	1.002	4337751	49.71	ng/uL	100
74) Anthracene	178	11.881	11.876	1.008	4326790	49.40	ng/uL	100
75) Carbazole	167	12.069	12.069	1.024	3043182	49.49	ng/uL	99
76) Di-n-butylphthalate	149	12.491	12.491	1.060	4805743	50.95	ng/uL	100
77) Fluoranthene	202	13.294	13.294	1.128	4236347	49.34	ng/uL	100
79) Pyrene	202	13.577	13.577	0.882	4265533	50.43	ng/uL	100
81) Butylbenzylphthalate	149	14.417	14.417	0.937	1507217	52.03	ng/uL	100
82) bis(2-Ethylhexyl)phtha...	149	15.401	15.401	1.001	2350148	52.33	ng/uL	100
83) Benzo(a)anthracene	228	15.363	15.363	0.999	3012962	49.55	ng/uL	100
84) Chrysene	228	15.433	15.433	1.003	2975258	49.01	ng/uL	100
85) Methoxychlor	227	15.230	15.230	0.990	2408876	51.24	ng/uL	99
86) Methylenebis(2-chloroa...	231	15.310	15.310	0.995	470975	50.60	ng/uL	98
87) Di-n-octylphthalate	149	16.861	16.866	1.096	2751969	54.38	ng/uL	100
89) Benzo(b)fluoranthene	252	17.808	17.808	0.942	2197911	49.61	ng/uL	99
90) Benzo(k)fluoranthene	252	17.883	17.883	0.946	2110502	47.85	ng/uL	100
91) Benzo(a)pyrene	252	18.728	18.728	0.991	1725286	50.01	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	22.258	22.258	1.178	1194445	50.16	ng/uL	100
93) Dibenzo(a,h)anthracene	278	22.333	22.333	1.182	1180491	49.89	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1306.D
Acq On : 13 Oct 2020 18:55
Operator : AGS1
Sample : |WBN201013-05|ICAL|1|SVM|1|M5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 14 16:29:17 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:29:05 2020
Response via : Initial Calibration

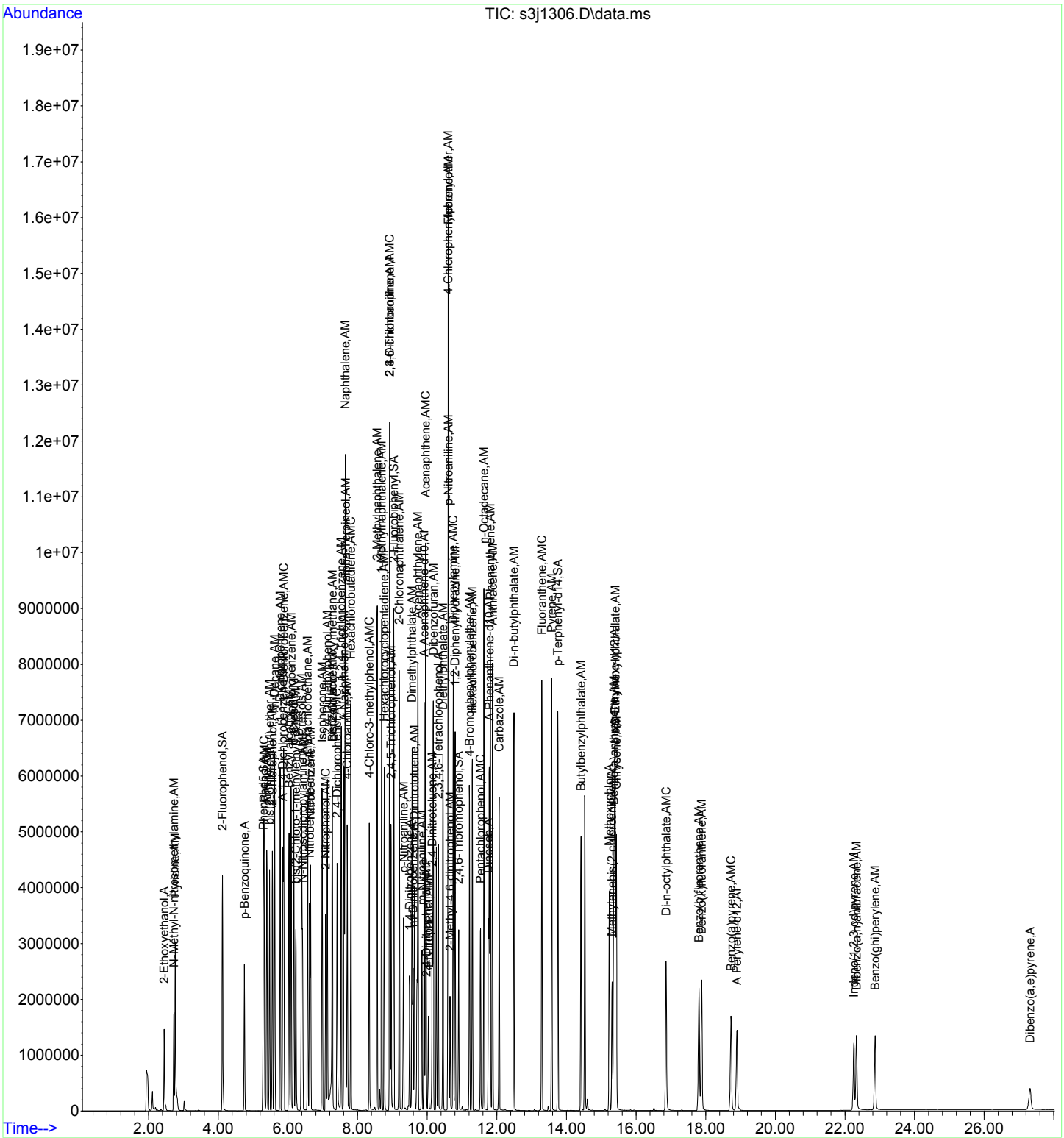
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.868	22.862	1.210	1306337	50.39	ng/uL	100
95) Dibenzo(a,e)pyrene	302	27.318	27.318	1.445	547250	50.31	ng/uL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1306.D
Acq On : 13 Oct 2020 18:55
Operator : AGS1
Sample : |WBN201013-05|ICAL|1|SVM|1|M5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 14 16:29:17 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:29:05 2020
Response via : Initial Calibration



Quantitation Report

10/14/2020

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1307.D
Acq On : 13 Oct 2020 19:29
Operator : AGS1
Sample : |WBN201013-06|ICAL|1|SVM|1|M6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

10/19/2020

Quant Time: Oct 14 16:29:54 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:29:45 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.859	5.854	1.000	905796	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	3218320	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.913	9.913	1.000	1854985	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.785	11.785	1.000	2846039	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.385	15.385	1.000	1617656	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.893	18.899	1.000	1093651	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.859	5.854	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.913	9.908	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.385	15.374	1.000	0m	40.00	ng/uL	0.01
148) B Perylene-d12	264	18.893	18.894	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.385	15.374	1.000	0m	40.00	ng/uL	0.01
159) D Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.913	9.908	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.385	15.374	1.000	0m	40.00	ng/uL	0.01
173) E Naphthalene-d8	136	7.613	7.608	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.893	18.904	1.000	0m	40.00	ng/uL	-0.01
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.120	4.121	0.703	2513527	80.04	ng/uL	0.00
8) Phenol-d5	99	5.302	5.292	0.905	3076895	80.39	ng/uL	0.01
23) Nitrobenzene-d5	82	6.629	6.618	0.871	2917057	79.35	ng/uL	0.01
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	5435354	83.02	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.908	10.903	1.100	708308	86.33	ng/uL	0.00
80) p-Terphenyl-d14	244	13.759	13.754	0.894	4607054	84.48	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.446	2.441	0.418	1305341	79.97	ng/uL	100
3) N-Methyl-N-nitrosometh...	74	2.724	2.719	0.465	1920554	78.19	ng/uL	100
4) Pyridine	79	2.762	2.762	0.471	3082511	80.70	ng/uL	100
6) p-Benzoquinone	54	4.752	4.746	0.811	1206790	82.69	ng/uL	99
7) Aniline	93	5.399	5.388	0.921	4347186	80.42	ng/uL	100
9) Phenol	94	5.324	5.313	0.909	3427564	80.98	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.479	5.468	0.935	3078494	80.38	ng/uL	100
11) 2-Chlorophenol	128	5.559	5.554	0.949	2369211	80.55	ng/uL	100
12) n-Decane	43	5.623	5.618	0.960	1970575	78.58	ng/uL	95
13) 1,3-Dichlorobenzene	146	5.784	5.779	0.987	2794574	80.39	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.880	5.880	1.004	2821850	80.28	ng/uL	100
15) 1,2-Dichlorobenzene	146	6.094	6.089	1.040	2657811	80.45	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	6.228	6.223	1.063	2338961	78.15	ng/uL	98
17) Benzyl alcohol	108	6.035	6.025	1.030	1683794	81.61	ng/uL	100
18) o-Cresol	107	6.174	6.164	1.054	2095455	80.87	ng/uL	100
19) m,p-Cresols	108	6.404	6.388	1.093	2405599	80.45	ng/uL	100
20) N-Nitrosodipropylamine	70	6.431	6.415	1.098	2282494	80.64	ng/uL	98
21) Hexachloroethane	117	6.565	6.565	1.121	1231895	80.90	ng/uL	97
24) Nitrobenzene	77	6.656	6.651	0.874	3026318	79.22	ng/uL	100
25) Isophorone	82	6.993	6.977	0.919	5906317	80.30	ng/uL	100
26) 2-Nitrophenol	139	7.089	7.084	0.931	1220136	81.46	ng/uL	99
27) 2,4-Dimethylphenol	122	7.137	7.127	0.937	1976413	79.60	ng/uL	98
28) bis(2-Chloroethoxy)met...	93	7.276	7.271	0.956	3496831	81.18	ng/uL	99
29) 2,4-Dichlorophenol	162	7.415	7.410	0.974	1904034	83.54	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1307.D
Acq On : 13 Oct 2020 19:29
Operator : AGS1
Sample : |WBN201013-06|ICAL|1|SVM|1|M6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 14 16:29:54 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:29:45 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	7.314	7.260	0.961	1364910	82.79	ng/uL	100
31) 1,2,4-Trichlorobenzene	180	7.533	7.533	0.989	2525742	81.62	ng/uL	99
32) alpha-Terpineol	59	7.661	7.651	1.006	1950006	81.92	ng/uL	97
33) Naphthalene	128	7.645	7.640	1.004	7032452	80.68	ng/uL	100
34) 4-Chloroaniline	127	7.709	7.704	1.013	2628115	80.43	ng/uL	100
35) Hexachlorobutadiene	225	7.811	7.806	1.026	1732017	83.34	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.340	8.335	1.096	2002014	83.67	ng/uL	100
37) 2-Methylnaphthalene	142	8.565	8.565	1.125	4912280	81.37	ng/uL	100
38) 1-Methylnaphthalene	142	8.693	8.694	1.142	4476720	81.45	ng/uL	99
40) Hexachlorocyclopentadiene	237	8.768	8.769	0.885	1950674	88.65	ng/uL	98
41) 2,3-Dichloroaniline	161	8.929	8.924	0.901	2573520	84.64	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.923	8.924	0.900	1818202	87.15	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.966	8.961	0.904	1549713	84.29	ng/uL	100
45) 2-Chloronaphthalene	162	9.202	9.196	0.928	4370737	81.25	ng/uL	100
46) o-Nitroaniline	65	9.325	9.319	0.941	1217816	81.87	ng/uL	98
47) 1,4-Dinitrobenzene	168	9.501	9.496	0.958	605363	82.54	ng/uL	99
48) m-Nitroaniline	138	9.854	9.844	0.994	832476	80.11	ng/uL	100
49) Dimethylphthalate	163	9.571	9.566	0.965	4970551	79.96	ng/uL	100
50) m-Dinitrobenzene	168	9.603	9.592	0.969	684636	81.28	ng/uL	87
51) 2,6-Dinitrotoluene	165	9.640	9.635	0.972	1037851	80.45	ng/uL	99
52) 2,4-Dinitrotoluene	165	10.154	10.143	1.024	1220258	80.49	ng/uL	100
53) Acenaphthylene	152	9.736	9.731	0.982	6772150	79.69	ng/uL	100
54) Acenaphthene	154	9.961	9.956	1.005	4492126	81.52	ng/uL	100
55) 2,4-Dinitrophenol	184	9.977	9.972	1.006	438893	85.20	ng/uL	95
56) Dibenzofuran	168	10.175	10.175	1.026	5703150	81.11	ng/uL	99
57) 2,3,4,6-Tetrachlorophenol	232	10.319	10.320	1.041	1261507	83.07	ng/uL	99
58) Diethylphthalate	149	10.459	10.453	1.055	4411469	78.99	ng/uL	99
59) 4-Nitrophenol	139	10.041	10.031	1.013	529049	85.58	ng/uL	99
60) Fluorene	166	10.608	10.608	1.070	5225741	82.06	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.603	10.603	1.070	2943603	84.63	ng/uL	99
62) p-Nitroaniline	138	10.619	10.614	1.071	530630	71.16	ng/uL	100
65) 2-Methyl-4,6-dinitroph...	198	10.662	10.657	0.905	622141	89.14	ng/uL	97
66) Diphenylamine	169	10.753	10.748	0.912	3921090	84.91	ng/uL	99
67) 1,2-Diphenylhydrazine	77	10.806	10.801	0.917	5454385	81.42	ng/uL	98
68) 4-Bromophenylphenylether	248	11.218	11.218	0.952	1512293	85.24	ng/uL	99
69) Hexachlorobenzene	284	11.298	11.298	0.959	1648318	84.47	ng/uL	99
70) Pentachlorophenol	266	11.534	11.534	0.979	779360	92.07	ng/uL	99
71) n-Octadecane	57	11.630	11.630	0.987	2727135	83.64	ng/uL	95
72) Dinoseb	211	11.764	11.758	0.998	1092870	86.11	ng/uL	99
73) Phenanthrene	178	11.817	11.812	1.003	6107951	82.57	ng/uL	100
74) Anthracene	178	11.881	11.876	1.008	6068866	81.73	ng/uL	100
75) Carbazole	167	12.068	12.069	1.024	4137561	79.37	ng/uL	100
76) Di-n-butylphthalate	149	12.491	12.491	1.060	6621640	82.81	ng/uL	99
77) Fluoranthene	202	13.293	13.294	1.128	5823007	80.00	ng/uL	99
79) Pyrene	202	13.582	13.577	0.883	5847955	83.13	ng/uL	99
81) Butylbenzylphthalate	149	14.417	14.417	0.937	2049138	85.05	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.401	15.401	1.001	3182615	85.20	ng/uL	99
83) Benzo(a)anthracene	228	15.363	15.363	0.999	4019395	79.48	ng/uL	100
84) Chrysene	228	15.438	15.433	1.003	3958320	78.40	ng/uL	99
85) Methoxychlor	227	15.235	15.230	0.990	3337082	85.36	ng/uL	99
86) Methylenebis(2-chloroa...	231	15.310	15.310	0.995	630728	81.48	ng/uL	97
87) Di-n-octylphthalate	149	16.866	16.866	1.096	3753776	89.19	ng/uL	99
89) Benzo(b)fluoranthene	252	17.813	17.808	0.943	2940658	81.83	ng/uL	99
90) Benzo(k)fluoranthene	252	17.893	17.883	0.947	2830778	79.14	ng/uL	99
91) Benzo(a)pyrene	252	18.733	18.728	0.992	2312149	82.63	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	22.263	22.258	1.178	1664143	86.16	ng/uL	99
93) Dibenzo(a,h)anthracene	278	22.338	22.333	1.182	1635370	85.21	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1307.D
Acq On : 13 Oct 2020 19:29
Operator : AGS1
Sample : |WBN201013-06|ICAL|1|SVM|1|M6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 14 16:29:54 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:29:45 2020
Response via : Initial Calibration

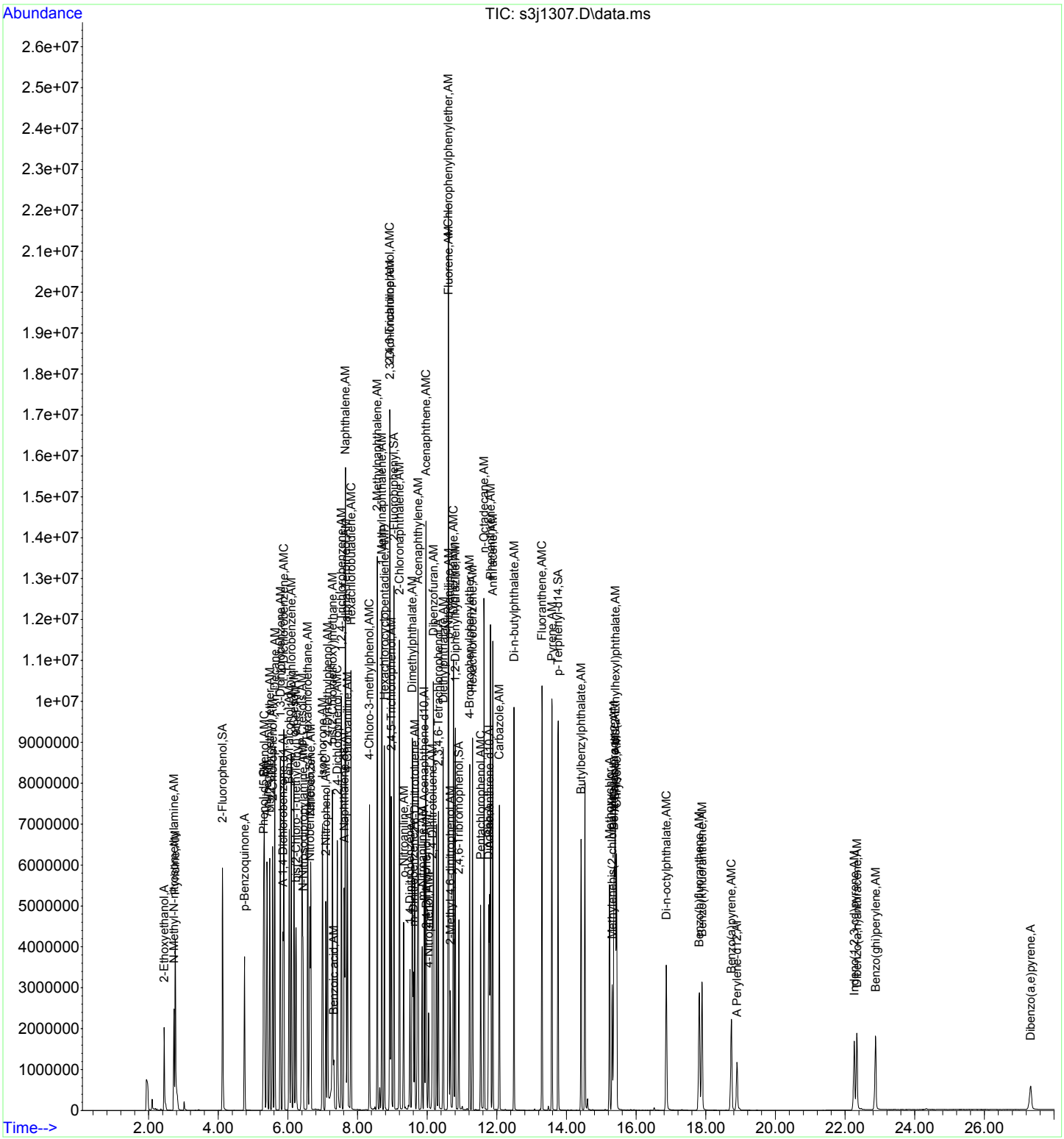
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.878	22.862	1.211	1803845	85.78	ng/uL	100
95) Dibenzo(a,e)pyrene	302	27.328	27.318	1.446	832406	94.35	ng/uL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1307.D
Acq On : 13 Oct 2020 19:29
Operator : AGS1
Sample : |WBN201013-06|ICAL|1|SVM|1|M6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 14 16:29:54 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:29:45 2020
Response via : Initial Calibration



Quantitation Report

10/14/2020

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1308.D
Acq On : 13 Oct 2020 20:02
Operator : AGS1
Sample : |WBN201013-02|ICAL|1|SVM|1|M2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

10/19/2020

Quant Time: Oct 14 16:28:44 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:28:27 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.853	5.854	1.000	915733	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.608	7.613	1.000	3342448	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.908	9.913	1.000	2004977	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.780	11.785	1.000	3126485	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.374	15.385	1.000	1653208	40.00	ng/uL	-0.01
88) A Perylene-d12	264	18.888	18.899	1.000	1201970	40.00	ng/uL	-0.01
96) B 1,4-Dichlorobenzene-d4	152	5.853	5.854	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.608	7.608	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.908	9.908	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.780	11.780	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.374	15.374	1.000	0m	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.888	18.894	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.608	7.608	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.780	11.780	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.374	15.374	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.608	7.608	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.908	9.908	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.780	11.780	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.374	15.374	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.608	7.608	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.888	18.904	1.000	0m	40.00	ng/uL	-0.02
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.115	4.121	0.703	332786	10.48	ng/uL	0.00
8) Phenol-d5	99	5.281	5.292	0.902	392975	10.16	ng/uL	-0.01
23) Nitrobenzene-d5	82	6.613	6.618	0.869	399210	10.46	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.036	9.041	0.912	696167	9.84	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.897	10.903	1.100	76031	8.57	ng/uL	0.00
80) p-Terphenyl-d14	244	13.753	13.754	0.895	537724	9.65	ng/uL	0.00

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.441	2.441	0.417	170636	10.34	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.714	2.719	0.464	258281	10.40	ng/uL	100
4) Pyridine	79	2.762	2.762	0.472	400114	10.36	ng/uL	98
6) p-Benzoquinone	54	4.741	4.746	0.810	136117	9.23	ng/uL	99
7) Aniline	93	5.383	5.388	0.920	578574	10.59	ng/uL	99
9) Phenol	94	5.297	5.313	0.905	440148	10.29	ng/uL	99
10) bis(2-Chloroethyl) ether	93	5.463	5.468	0.933	412029	10.64	ng/uL	99
11) 2-Chlorophenol	128	5.549	5.554	0.948	312278	10.50	ng/uL	100
12) n-Decane	43	5.613	5.618	0.959	290353	11.45	ng/uL	94
13) 1,3-Dichlorobenzene	146	5.773	5.779	0.986	369859	10.52	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.875	5.880	1.004	379404	10.68	ng/uL	99
15) 1,2-Dichlorobenzene	146	6.089	6.089	1.040	355646	10.65	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	6.222	6.223	1.063	351563	11.62	ng/uL	98
17) Benzyl alcohol	108	6.019	6.025	1.028	211461	10.14	ng/uL	99
18) o-Cresol	107	6.158	6.164	1.052	278336	10.63	ng/uL	99
19) m,p-Cresols	108	6.372	6.388	1.089	319275	10.56	ng/uL	99
20) N-Nitrosodipropylamine	70	6.399	6.415	1.093	305248	10.67	ng/uL	97
21) Hexachloroethane	117	6.565	6.565	1.122	162893	10.58	ng/uL	99
24) Nitrobenzene	77	6.640	6.651	0.873	419038	10.56	ng/uL	99
25) Isophorone	82	6.966	6.977	0.916	801988	10.50	ng/uL	100
26) 2-Nitrophenol	139	7.078	7.084	0.930	152267	9.79	ng/uL	98
27) 2,4-Dimethylphenol	122	7.121	7.127	0.936	275947	10.70	ng/uL	99
28) bis(2-Chloroethoxy)met...	93	7.265	7.271	0.955	464071	10.37	ng/uL	98
29) 2,4-Dichlorophenol	162	7.399	7.410	0.973	224552	9.49	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1308.D
Acq On : 13 Oct 2020 20:02
Operator : AGS1
Sample : |WBN201013-02|ICAL|1|SVM|1|M2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 14 16:28:44 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:28:27 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	7.185	7.260	0.944	61912	12.25	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.528	7.533	0.989	323174	10.06	ng/uL	99
32) alpha-Terpineol	59	7.645	7.651	1.005	250460	10.13	ng/uL	97
33) Naphthalene	128	7.635	7.640	1.004	932206	10.30	ng/uL	99
34) 4-Chloroaniline	127	7.693	7.704	1.011	346062	10.20	ng/uL	100
35) Hexachlorobutadiene	225	7.806	7.806	1.026	210158	9.74	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.330	8.335	1.095	230674	9.28	ng/uL	99
37) 2-Methylnaphthalene	142	8.560	8.565	1.125	610405	9.74	ng/uL	100
38) 1-Methylnaphthalene	142	8.688	8.694	1.142	560921	9.83	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.768	8.769	0.885	200991	8.45	ng/uL	99
41) 2,3-Dichloroaniline	161	8.918	8.924	0.900	310329	9.44	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.918	8.924	0.900	189843	8.42	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.956	8.961	0.904	178939	9.00	ng/uL	100
45) 2-Chloronaphthalene	162	9.191	9.196	0.928	557175	9.58	ng/uL	99
46) o-Nitroaniline	65	9.309	9.319	0.940	149098	9.27	ng/uL	98
47) 1,4-Dinitrobenzene	168	9.491	9.496	0.958	68879	8.69	ng/uL	98
48) m-Nitroaniline	138	9.833	9.844	0.992	107419	9.56	ng/uL	100
49) Dimethylphthalate	163	9.549	9.566	0.964	663339	9.87	ng/uL	100
50) m-Dinitrobenzene	168	9.581	9.592	0.967	85798	9.42	ng/uL	93
51) 2,6-Dinitrotoluene	165	9.624	9.635	0.971	139970	10.04	ng/uL	99
52) 2,4-Dinitrotoluene	165	10.132	10.143	1.023	155047	9.46	ng/uL	98
53) Acenaphthylene	152	9.726	9.731	0.982	900286	9.80	ng/uL	100
54) Acenaphthene	154	9.950	9.956	1.004	561554	9.43	ng/uL	98
55) 2,4-Dinitrophenol	184	9.967	9.972	1.006	32324	5.81	ng/uL#	58
56) Dibenzofuran	168	10.164	10.175	1.026	760823	10.01	ng/uL	99
57) 2,3,4,6-Tetrachlorophenol	232	10.309	10.320	1.040	144050	8.78	ng/uL	98
58) Diethylphthalate	149	10.443	10.453	1.054	596253	9.88	ng/uL	100
59) 4-Nitrophenol	139	10.020	10.031	1.011	58065	8.69	ng/uL	98
60) Fluorene	166	10.598	10.608	1.070	629340	9.14	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.598	10.603	1.070	345133	9.18	ng/uL	99
62) p-Nitroaniline	138	10.598	10.614	1.070	90276	11.20	ng/uL	91
65) 2-Methyl-4,6-dinitroph...	198	10.646	10.657	0.904	60296	7.86	ng/uL	99
66) Diphenylamine	169	10.737	10.748	0.911	481719	9.50	ng/uL	99
67) 1,2-Diphenylhydrazine	77	10.796	10.801	0.916	773712	10.51	ng/uL	99
68) 4-Bromophenylphenylether	248	11.213	11.218	0.952	176032	9.03	ng/uL	96
69) Hexachlorobenzene	284	11.293	11.298	0.959	202648	9.45	ng/uL	100
70) Pentachlorophenol	266	11.528	11.534	0.979	76212	8.20	ng/uL	100
71) n-Octadecane	57	11.625	11.630	0.987	355698	9.93	ng/uL	95
72) Dinoseb	211	11.753	11.758	0.998	89654	10.24	ng/uL	100
73) Phenanthrene	178	11.806	11.812	1.002	794383	9.78	ng/uL	99
74) Anthracene	178	11.871	11.876	1.008	776495	9.52	ng/uL	100
75) Carbazole	167	12.058	12.069	1.024	557683	9.74	ng/uL	99
76) Di-n-butylphthalate	149	12.486	12.491	1.060	842160	9.59	ng/uL	100
77) Fluoranthene	202	13.288	13.294	1.128	723476	9.05	ng/uL	100
79) Pyrene	202	13.572	13.577	0.883	735034	10.22	ng/uL	99
81) Butylbenzylphthalate	149	14.411	14.417	0.937	238420	9.68	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.395	15.401	1.001	379180	9.93	ng/uL	98
83) Benzo(a)anthracene	228	15.353	15.363	0.999	539623	10.44	ng/uL	99
84) Chrysene	228	15.422	15.433	1.003	536739	10.40	ng/uL	100
85) Methoxychlor	227	15.224	15.230	0.990	365087	9.14	ng/uL	99
86) Methylenebis(2-chloroa...	231	15.299	15.310	0.995	74369	9.40	ng/uL	96
87) Di-n-octylphthalate	149	16.856	16.866	1.096	369620	8.59	ng/uL	100
89) Benzo(b)fluoranthene	252	17.792	17.808	0.942	382996	9.70	ng/uL	100
90) Benzo(k)fluoranthene	252	17.866	17.883	0.946	373252	9.49	ng/uL	99
91) Benzo(a)pyrene	252	18.712	18.728	0.991	288193	9.37	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	22.242	22.258	1.178	198854	9.37	ng/uL	100
93) Dibenzo(a,h)anthracene	278	22.317	22.333	1.182	195882	9.29	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1308.D
Acq On : 13 Oct 2020 20:02
Operator : AGS1
Sample : |WBN201013-02|ICAL|1|SVM|1|M2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 14 16:28:44 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:28:27 2020
Response via : Initial Calibration

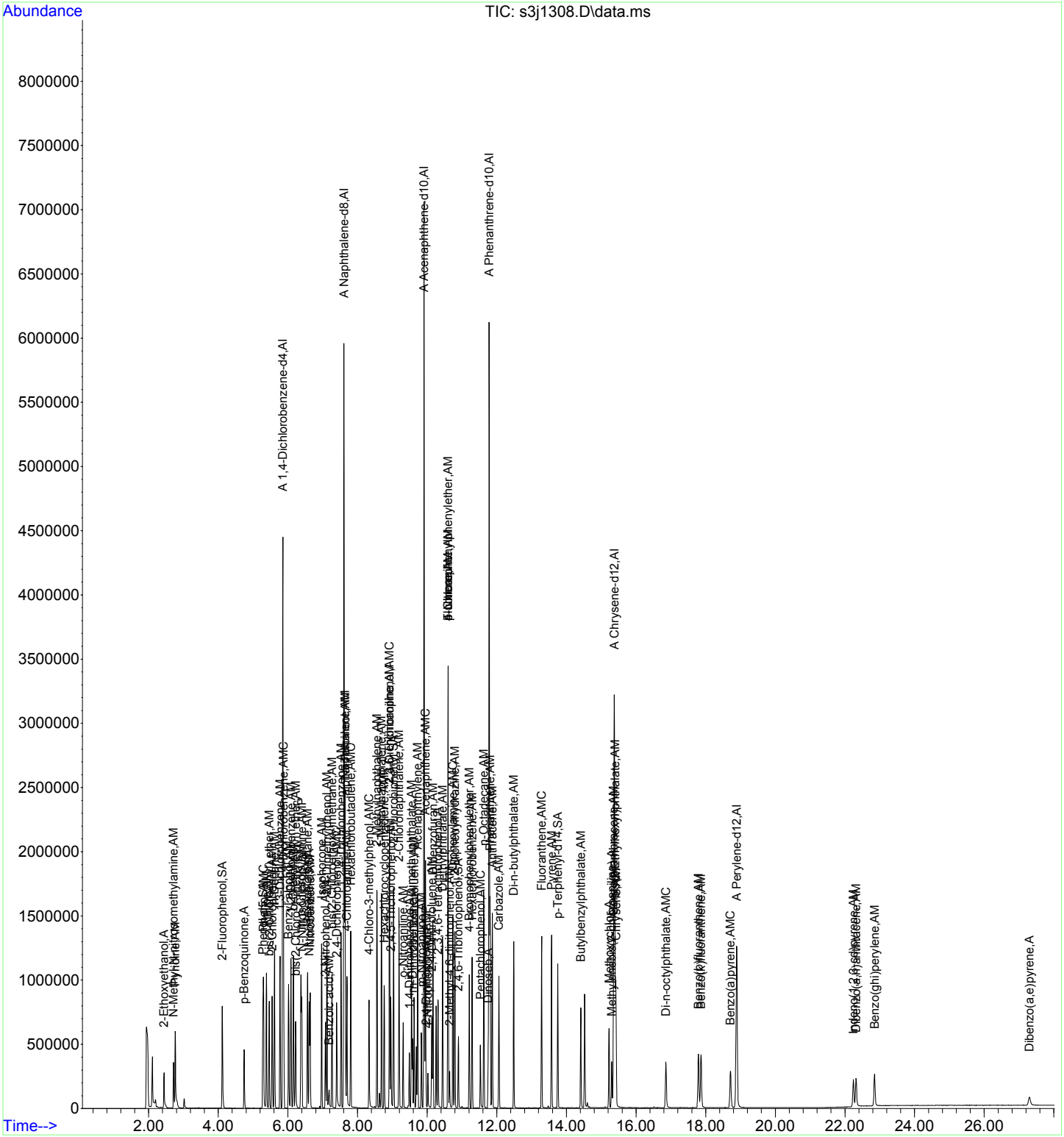
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.851	22.862	1.210	237041	10.26	ng/uL	100
95) Dibenzo(a,e)pyrene	302	27.296	27.318	1.445	93396	9.63	ng/uL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1308.D
Acq On : 13 Oct 2020 20:02
Operator : AGS1
Sample : |WBN201013-02|ICAL|1|SVM|1|M2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 14 16:28:44 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:28:27 2020
Response via : Initial Calibration



Quantitation Report

10/14/2020

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1309.D
Acq On : 13 Oct 2020 20:35
Operator : AGS1
Sample : |WBN201013-07|ICAL|1|SVM|1|M7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

10/19/2020

Quant Time: Oct 14 16:34:42 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:34:03 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.859	5.859	1.000	958904	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.618	7.613	1.000	3428794	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.918	9.913	1.000	2034347	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.785	11.785	1.000	3345763	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.390	15.385	1.000	2147579	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.899	18.893	1.000	1272811	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.859	5.853	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.618	7.613	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.918	9.913	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.390	15.379	1.000	0m	40.00	ng/uL	0.01
148) B Perylene-d12	264	18.899	18.893	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.618	7.613	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.390	15.379	1.000	0m	40.00	ng/uL	0.01
159) D Naphthalene-d8	136	7.618	7.613	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.918	9.913	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.390	15.379	1.000	0m	40.00	ng/uL	0.01
173) E Naphthalene-d8	136	7.618	7.613	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.899	18.893	1.000	0m	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.126	4.120	0.704	3412171	102.64	ng/uL	0.00
8) Phenol-d5	99	5.313	5.302	0.907	4229042	104.37	ng/uL	0.01
23) Nitrobenzene-d5	82	6.634	6.629	0.871	3971874	101.41	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.047	9.041	0.912	7534028	104.93	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.913	10.908	1.100	1009265	112.17	ng/uL	0.00
80) p-Terphenyl-d14	244	13.759	13.759	0.894	7507934	103.70	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.446	2.446	0.418	1764844	102.13	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.730	2.724	0.466	2606613	100.24	ng/uL	99
4) Pyridine	79	2.767	2.762	0.472	4157631	102.81	ng/uL	99
6) p-Benzoquinone	54	4.757	4.752	0.812	1656173	107.20	ng/uL	99
7) Aniline	93	5.404	5.399	0.922	5825488	101.80	ng/uL	100
9) Phenol	94	5.329	5.324	0.910	4648250	103.74	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.484	5.479	0.936	4163360	102.68	ng/uL	99
11) 2-Chlorophenol	128	5.565	5.559	0.950	3201886	102.83	ng/uL	99
12) n-Decane	43	5.623	5.623	0.960	2548332	95.99	ng/uL	93
13) 1,3-Dichlorobenzene	146	5.784	5.784	0.987	3822725	103.88	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.885	5.880	1.005	3864013	103.84	ng/uL	100
15) 1,2-Dichlorobenzene	146	6.094	6.094	1.040	3626832	103.70	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	6.233	6.228	1.064	3073589	97.01	ng/uL	97
17) Benzyl alcohol	108	6.041	6.035	1.031	2309430	105.73	ng/uL	100
18) o-Cresol	107	6.180	6.174	1.055	2813562	102.57	ng/uL	100
19) m,p-Cresols	108	6.410	6.404	1.094	3281141	103.66	ng/uL	99
20) N-Nitrosodipropylamine	70	6.442	6.431	1.100	3070075	102.46	ng/uL	97
21) Hexachloroethane	117	6.570	6.565	1.121	1661251	103.06	ng/uL	95
24) Nitrobenzene	77	6.661	6.656	0.874	4115801	101.13	ng/uL	99
25) Isophorone	82	6.998	6.993	0.919	7923117	101.11	ng/uL	100
26) 2-Nitrophenol	139	7.094	7.089	0.931	1681463	105.37	ng/uL	99
27) 2,4-Dimethylphenol	122	7.142	7.137	0.938	2641245	99.85	ng/uL	97
28) bis(2-Chloroethoxy)met...	93	7.281	7.276	0.956	4712727	102.69	ng/uL	99
29) 2,4-Dichlorophenol	162	7.421	7.415	0.974	2683466	110.51	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1309.D
Acq On : 13 Oct 2020 20:35
Operator : AGS1
Sample : |WBN201013-07|ICAL|1|SVM|1|M7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 14 16:34:42 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:34:03 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	7.351	7.351	0.965	1769023	98.76	ng/uL	96
31) 1,2,4-Trichlorobenzene	180	7.538	7.533	0.989	3495046	106.01	ng/uL	100
32) alpha-Terpineol	59	7.667	7.661	1.006	2592669	102.23	ng/uL	96
33) Naphthalene	128	7.651	7.645	1.004	9371580	100.92	ng/uL	99
34) 4-Chloroaniline	127	7.715	7.709	1.013	3660095	105.14	ng/uL	99
35) Hexachlorobutadiene	225	7.811	7.811	1.025	2386099	107.77	ng/uL	99
36) 4-Chloro-3-methylphenol	107	8.346	8.340	1.095	2817260	110.52	ng/uL	98
37) 2-Methylnaphthalene	142	8.570	8.565	1.125	6785488	105.50	ng/uL	99
38) 1-Methylnaphthalene	142	8.699	8.693	1.142	6204680	105.96	ng/uL	99
40) Hexachlorocyclopentadiene	237	8.774	8.768	0.885	2451341	101.59	ng/uL	99
41) 2,3-Dichloroaniline	161	8.929	8.929	0.900	3567175	106.98	ng/uL	98
42) 2,4,6-Trichlorophenol	196	8.929	8.923	0.900	2540863	111.05	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.972	8.966	0.905	2233504	110.77	ng/uL	100
45) 2-Chloronaphthalene	162	9.207	9.202	0.928	6084228	103.13	ng/uL	99
46) o-Nitroaniline	65	9.330	9.325	0.941	1751805	107.39	ng/uL	98
47) 1,4-Dinitrobenzene	168	9.507	9.501	0.958	899668	111.85	ng/uL	98
48) m-Nitroaniline	138	9.865	9.854	0.995	1240944	108.88	ng/uL	100
49) Dimethylphthalate	163	9.581	9.571	0.966	7024273	103.04	ng/uL	99
50) m-Dinitrobenzene	168	9.608	9.603	0.969	996689	107.89	ng/uL	84
51) 2,6-Dinitrotoluene	165	9.651	9.640	0.973	1479529	104.58	ng/uL	97
52) 2,4-Dinitrotoluene	165	10.159	10.154	1.024	1808554	108.78	ng/uL	83
53) Acenaphthylene	152	9.742	9.736	0.982	9525169	102.21	ng/uL	99
54) Acenaphthene	154	9.966	9.961	1.005	6323192	104.64	ng/uL	99
55) 2,4-Dinitrophenol	184	9.988	9.977	1.007	647369	114.59	ng/uL#	22
56) Dibenzofuran	168	10.180	10.175	1.026	8152884	105.73	ng/uL	99
57) 2,3,4,6-Tetrachlorophenol	232	10.325	10.319	1.041	1923780	115.50	ng/uL	98
58) Diethylphthalate	149	10.464	10.459	1.055	6348393	103.65	ng/uL	99
59) 4-Nitrophenol	139	10.052	10.041	1.013	670729	98.93	ng/uL	98
60) Fluorene	166	10.614	10.608	1.070	7232371	103.56	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.608	10.603	1.070	4124103	108.12	ng/uL	99
62) p-Nitroaniline	138	10.635	10.619	1.072	872126	106.64	ng/uL	98
65) 2-Methyl-4,6-dinitroph...	198	10.673	10.662	0.906	913217	111.31	ng/uL	94
66) Diphenylamine	169	10.758	10.753	0.913	5722943	105.42	ng/uL	99
67) 1,2-Diphenylhydrazine	77	10.812	10.806	0.917	7634133	96.93	ng/uL	96
68) 4-Bromophenylphenylether	248	11.223	11.218	0.952	2309580	110.73	ng/uL	98
69) Hexachlorobenzene	284	11.304	11.298	0.959	2512314	109.51	ng/uL	99
70) Pentachlorophenol	266	11.539	11.534	0.979	998374	100.33	ng/uL	99
71) n-Octadecane	57	11.635	11.630	0.987	3876305	101.13	ng/uL	94
72) Dinoseb	211	11.769	11.764	0.999	1459792	97.27	ng/uL	98
73) Phenanthrene	178	11.822	11.817	1.003	9012434	103.64	ng/uL	99
74) Anthracene	178	11.887	11.881	1.009	9105873	104.31	ng/uL	99
75) Carbazole	167	12.074	12.068	1.025	6499027	106.05	ng/uL	100
76) Di-n-butylphthalate	149	12.491	12.491	1.060	9798728	104.24	ng/uL	99
77) Fluoranthene	202	13.299	13.293	1.128	9284465	108.50	ng/uL	99
79) Pyrene	202	13.582	13.582	0.883	9222542	98.75	ng/uL	99
81) Butylbenzylphthalate	149	14.422	14.417	0.937	3336568	104.32	ng/uL	97
82) bis(2-Ethylhexyl)phtha...	149	15.401	15.401	1.001	5107383	102.99	ng/uL	98
83) Benzo(a)anthracene	228	15.369	15.363	0.999	6599111	98.29	ng/uL	100
84) Chrysene	228	15.444	15.438	1.003	6373248	95.09	ng/uL	99
85) Methoxychlor	227	15.240	15.235	0.990	5505044	106.07	ng/uL	99
86) Methylenebis(2-chloroa...	231	15.320	15.310	0.995	1071870	104.29	ng/uL	96
87) Di-n-octylphthalate	149	16.866	16.866	1.096	6226425	111.44	ng/uL	98
89) Benzo(b)fluoranthene	252	17.824	17.813	0.943	4439244	106.14	ng/uL	99
90) Benzo(k)fluoranthene	252	17.904	17.893	0.947	4363512	104.81	ng/uL	99
91) Benzo(a)pyrene	252	18.744	18.733	0.992	3455052	106.10	ng/uL	99
92) Indeno(1,2,3-cd)pyrene	276	22.268	22.263	1.178	2289839	101.87	ng/uL	99
93) Dibenzo(a,h)anthracene	278	22.343	22.338	1.182	2285686	102.33	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1309.D
Acq On : 13 Oct 2020 20:35
Operator : AGS1
Sample : |WBN201013-07|ICAL|1|SVM|1|M7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 14 16:34:42 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:34:03 2020
Response via : Initial Calibration

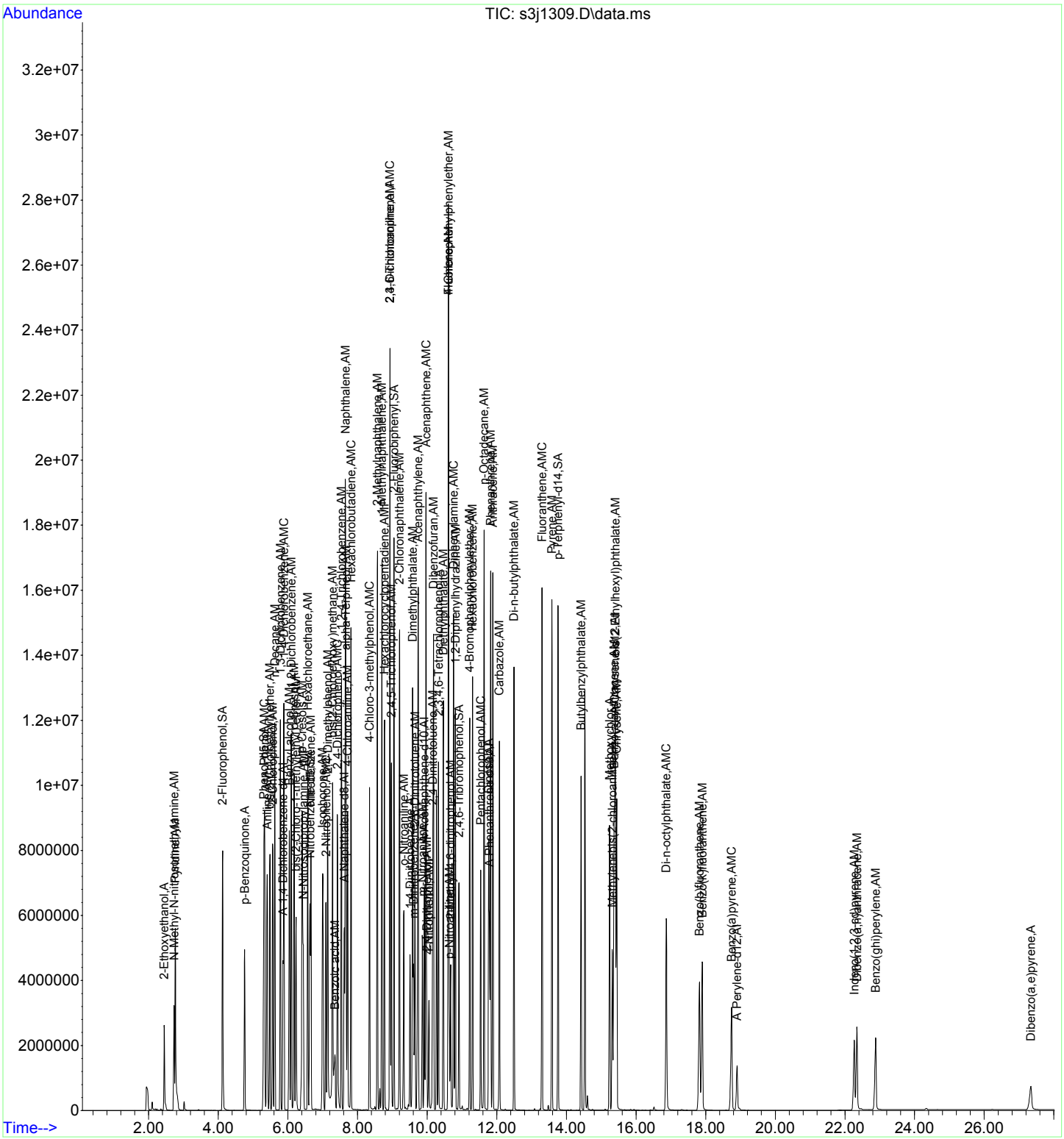
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94)	Benzo(ghi)perylene	276	22.883	22.878	1.211	2384480	97.43	ng/uL	99
95)	Dibenzo(a,e)pyrene	302	27.339	27.328	1.447	1067423	103.96	ng/uL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1309.D
Acq On : 13 Oct 2020 20:35
Operator : AGS1
Sample : |WBN201013-07|ICAL|1|SVM|1|M7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 14 16:34:42 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:34:03 2020
Response via : Initial Calibration



Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1310.D
Acq On : 13 Oct 2020 21:08
Operator : AGS1
Sample : |WBN201013-08|ICAL|1|SVM|1|M8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 14 16:36:06 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:35:20 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)	
Internal Standards								Dev(Min)	
1) A 1,4-Dichlorobenzene-d4	152	5.859	5.859	1.000	1003204	40.00	ng/uL	0.00	
22) A Naphthalene-d8	136	7.619	7.613	1.000	3482126	40.00	ng/uL	0.00	
39) A Acenaphthene-d10	164	9.919	9.913	1.000	1936595	40.00	ng/uL	0.00	
64) A Phenanthrene-d10	188	11.785	11.785	1.000	3081292	40.00	ng/uL	0.00	
78) A Chrysene-d12	240	15.390	15.385	1.000	1979680	40.00	ng/uL	0.00	
88) A Perylene-d12	264	18.904	18.893	1.000	1223845	40.00	ng/uL	0.01	
96) B 1,4-Dichlorobenzene-d4	152	5.859	5.853	1.000	0m	40.00	ng/uL	0.00	
112) B Naphthalene-d8	136	7.619	7.613	1.000	0m	40.00	ng/uL	0.00	
120) B Acenaphthene-d10	164	9.919	9.913	1.000	0m	40.00	ng/uL	0.00	
129) B Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00	
142) B Chrysene-d12	240	15.390	15.379	1.000	0m	40.00	ng/uL	0.01	
148) B Perylene-d12	264	18.904	18.893	1.000	0m	40.00	ng/uL	0.01	
151) J Naphthalene-d8	136	7.619	7.613	1.000	0m	40.00	ng/uL	0.00	
153) J Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00	
156) J Chrysene-d12	240	15.390	15.379	1.000	0m	40.00	ng/uL	0.01	
159) D Naphthalene-d8	136	7.619	7.613	1.000	0m	40.00	ng/uL	0.00	
161) D Acenaphthene-d10	164	9.919	9.913	1.000	0m	40.00	ng/uL	0.00	
164) D Phenanthrene-d10	188	11.785	11.780	1.000	0m	40.00	ng/uL	0.00	
171) D Chrysene-d12	240	15.390	15.379	1.000	0m	40.00	ng/uL	0.01	
173) E Naphthalene-d8	136	7.619	7.613	1.000	0m	40.00	ng/uL	0.00	
175) E Perylene-d12	264	18.904	18.893	1.000	0m	40.00	ng/uL	0.01	
System Monitoring Compounds								Dev(Min)	
5) 2-Fluorophenol	112	4.126	4.120	0.704	4278550	123.02	ng/uL	0.00	A
8) Phenol-d5	99	5.319	5.302	0.908	5275614	124.45	ng/uL	0.02	A
23) Nitrobenzene-d5	82	6.635	6.629	0.871	4839838	121.68	ng/uL	0.00	A
44) 2-Fluorobiphenyl	172	9.047	9.041	0.912	8770827	128.32	ng/uL	0.00	A
63) 2,4,6-Tribromophenol	330	10.913	10.908	1.100	1125755	131.43	ng/uL	0.00	A
80) p-Terphenyl-d14	244	13.759	13.759	0.894	8125111	121.74	ng/uL	0.00	A
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue	
2) 2-Ethoxyethanol	59	2.452	2.446	0.418	2246609	124.27	ng/uL	98	A
3) N-Methyl-N-nitrosometh...	74	2.730	2.724	0.466	3268176	120.13	ng/uL	97	A
4) Pyridine	79	2.767	2.762	0.472	5178450	122.40	ng/uL	98	A
6) p-Benzoquinone	54	4.757	4.752	0.812	2054214	127.09	ng/uL	97	A
7) Aniline	93	5.404	5.399	0.922	7100365	118.60	ng/uL	100	
9) Phenol	94	5.340	5.324	0.911	5716439	121.95	ng/uL	99	A
10) bis(2-Chloroethyl) ether	93	5.485	5.479	0.936	5096838	120.16	ng/uL	99	A
11) 2-Chlorophenol	128	5.565	5.559	0.950	3976580	122.07	ng/uL	99	A
12) n-Decane	43	5.624	5.623	0.960	3092764	111.35	ng/uL	91	
13) 1,3-Dichlorobenzene	146	5.784	5.784	0.987	4801546	124.72	ng/uL	99	A
14) 1,4-Dichlorobenzene	146	5.886	5.880	1.005	4841459	124.36	ng/uL	100	A
15) 1,2-Dichlorobenzene	146	6.100	6.094	1.041	4508856	123.22	ng/uL	100	A
16) bis(2-Chloro-1-methyle...	45	6.233	6.228	1.064	3706528	111.82	ng/uL	96	
17) Benzyl alcohol	108	6.046	6.035	1.032	2791122	122.14	ng/uL	100	A
18) o-Cresol	107	6.180	6.174	1.055	3434558	119.68	ng/uL	100	
19) m,p-Cresols	108	6.415	6.404	1.095	3969106	119.85	ng/uL	99	
20) N-Nitrosodipropylamine	70	6.447	6.431	1.100	3736996	119.21	ng/uL	95	
21) Hexachloroethane	117	6.570	6.565	1.121	2051544	121.65	ng/uL	94	A
24) Nitrobenzene	77	6.667	6.656	0.875	4983992	120.58	ng/uL	98	A
25) Isophorone	82	7.004	6.993	0.919	9388190	117.97	ng/uL	99	
26) 2-Nitrophenol	139	7.094	7.089	0.931	2091013	129.02	ng/uL	97	A
27) 2,4-Dimethylphenol	122	7.148	7.137	0.938	3168744	117.95	ng/uL	99	
28) bis(2-Chloroethoxy)met...	93	7.287	7.276	0.956	5664988	121.55	ng/uL	98	A
29) 2,4-Dichlorophenol	162	7.426	7.415	0.975	3260448	132.21	ng/uL	99	A

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1310.D
Acq On : 13 Oct 2020 21:08
Operator : AGS1
Sample : |WBN201013-08|ICAL|1|SVM|1|M8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 14 16:36:06 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:35:20 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
30) Benzoic acid	105	7.373	7.351	0.968	2191997	118.51	ng/uL	97	
31) 1,2,4-Trichlorobenzene	180	7.538	7.533	0.989	4243685	126.75	ng/uL	100	A
32) alpha-Terpineol	59	7.667	7.661	1.006	3023622	117.40	ng/uL	96	
33) Naphthalene	128	7.651	7.645	1.004	11063116	117.31	ng/uL	99	
34) 4-Chloroaniline	127	7.715	7.709	1.013	4286691	121.25	ng/uL	99	A
35) Hexachlorobutadiene	225	7.811	7.811	1.025	2911418	129.48	ng/uL	98	A
36) 4-Chloro-3-methylphenol	107	8.346	8.340	1.095	3323833	128.40	ng/uL	99	A
37) 2-Methylnaphthalene	142	8.571	8.565	1.125	7996859	122.43	ng/uL	100	A
38) 1-Methylnaphthalene	142	8.699	8.693	1.142	7207411	121.20	ng/uL	99	A
40) Hexachlorocyclopentadiene	237	8.774	8.768	0.885	3014976	131.25	ng/uL	99	A
41) 2,3-Dichloroaniline	161	8.929	8.929	0.900	4122705	129.88	ng/uL	98	A
42) 2,4,6-Trichlorophenol	196	8.929	8.923	0.900	2892175	132.78	ng/uL	100	A
43) 2,4,5-Trichlorophenol	196	8.972	8.966	0.905	2635520	137.30	ng/uL	99	A
45) 2-Chloronaphthalene	162	9.207	9.202	0.928	7139273	127.12	ng/uL	99	A
46) o-Nitroaniline	65	9.330	9.325	0.941	1997283	128.62	ng/uL	97	A
47) 1,4-Dinitrobenzene	168	9.512	9.501	0.959	1040557	135.90	ng/uL	95	A
48) m-Nitroaniline	138	9.865	9.854	0.995	1406685	129.66	ng/uL	99	A
49) Dimethylphthalate	163	9.587	9.571	0.967	7871424	121.29	ng/uL	99	A
50) m-Dinitrobenzene	168	9.614	9.603	0.969	1130131	128.51	ng/uL	72	A
51) 2,6-Dinitrotoluene	165	9.651	9.640	0.973	1689909	125.48	ng/uL	97	A
52) 2,4-Dinitrotoluene	165	10.165	10.154	1.025	2049309	129.48	ng/uL	85	A
53) Acenaphthylene	152	9.742	9.736	0.982	10887129	122.72	ng/uL	99	A
54) Acenaphthene	154	9.967	9.961	1.005	7189306	124.97	ng/uL	99	A
55) 2,4-Dinitrophenol	184	9.988	9.977	1.007	725894	134.98	ng/uL#	18	A
56) Dibenzofuran	168	10.181	10.175	1.026	9269475	126.28	ng/uL	99	A
57) 2,3,4,6-Tetrachlorophenol	232	10.325	10.319	1.041	2180307	137.51	ng/uL	98	A
58) Diethylphthalate	149	10.464	10.459	1.055	7006977	120.18	ng/uL	98	A
59) 4-Nitrophenol	139	10.052	10.041	1.013	829767	128.57	ng/uL	99	A
60) Fluorene	166	10.614	10.608	1.070	7998791	120.32	ng/uL	100	A
61) 4-Chlorophenylphenylether	204	10.609	10.603	1.070	4624838	127.37	ng/uL	99	A
62) p-Nitroaniline	138	10.641	10.619	1.073	958304	123.09	ng/uL	97	A
65) 2-Methyl-4,6-dinitroph...	198	10.678	10.662	0.906	971668	128.59	ng/uL	93	A
66) Diphenylamine	169	10.764	10.753	0.913	6412136	128.25	ng/uL	99	A
67) 1,2-Diphenylhydrazine	77	10.812	10.806	0.917	8472998	116.82	ng/uL	95	
68) 4-Bromophenylphenylether	248	11.224	11.218	0.952	2630940	136.97	ng/uL	98	A
69) Hexachlorobenzene	284	11.304	11.298	0.959	2781646	131.66	ng/uL	99	A
70) Pentachlorophenol	266	11.539	11.534	0.979	1135542	123.90	ng/uL	100	A
71) n-Octadecane	57	11.635	11.630	0.987	4320424	122.39	ng/uL	93	A
72) Dinoseb	211	11.769	11.764	0.999	1656201	118.88	ng/uL	98	
73) Phenanthrene	178	11.823	11.817	1.003	9838025	122.84	ng/uL	98	A
74) Anthracene	178	11.887	11.881	1.009	9888005	122.99	ng/uL	99	A
75) Carbazole	167	12.074	12.068	1.025	7111622	126.01	ng/uL	100	A
76) Di-n-butylphthalate	149	12.497	12.491	1.060	10467174	120.91	ng/uL	98	A
77) Fluoranthene	202	13.299	13.293	1.128	9983114	126.68	ng/uL	98	A
79) Pyrene	202	13.582	13.582	0.883	10003269	116.19	ng/uL	99	
81) Butylbenzylphthalate	149	14.422	14.417	0.937	3579236	121.40	ng/uL	97	A
82) bis(2-Ethylhexyl)phtha...	149	15.406	15.401	1.001	5450732	119.24	ng/uL	97	
83) Benzo(a)anthracene	228	15.369	15.363	0.999	7305660	118.04	ng/uL	99	
84) Chrysene	228	15.449	15.438	1.004	7060482	114.27	ng/uL	99	
85) Methoxychlor	227	15.240	15.235	0.990	5984754	125.09	ng/uL	99	A
86) Methylenebis(2-chloroa...	231	15.321	15.310	0.995	1227567	129.57	ng/uL	95	A
87) Di-n-octylphthalate	149	16.872	16.866	1.096	6917342	134.31	ng/uL	98	A
89) Benzo(b)fluoranthene	252	17.824	17.813	0.943	5162854	128.38	ng/uL	99	A
90) Benzo(k)fluoranthene	252	17.909	17.893	0.947	5012107	125.21	ng/uL	99	A
91) Benzo(a)pyrene	252	18.749	18.733	0.992	4037058	128.93	ng/uL	99	A
92) Indeno(1,2,3-cd)pyrene	276	22.274	22.263	1.178	2746451	127.07	ng/uL	99	A
93) Dibenzo(a,h)anthracene	278	22.349	22.338	1.182	2826435	131.60	ng/uL	99	A

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1310.D
Acq On : 13 Oct 2020 21:08
Operator : AGS1
Sample : |WBN201013-08|ICAL|1|SVM|1|M8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 14 16:36:06 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:35:20 2020
Response via : Initial Calibration

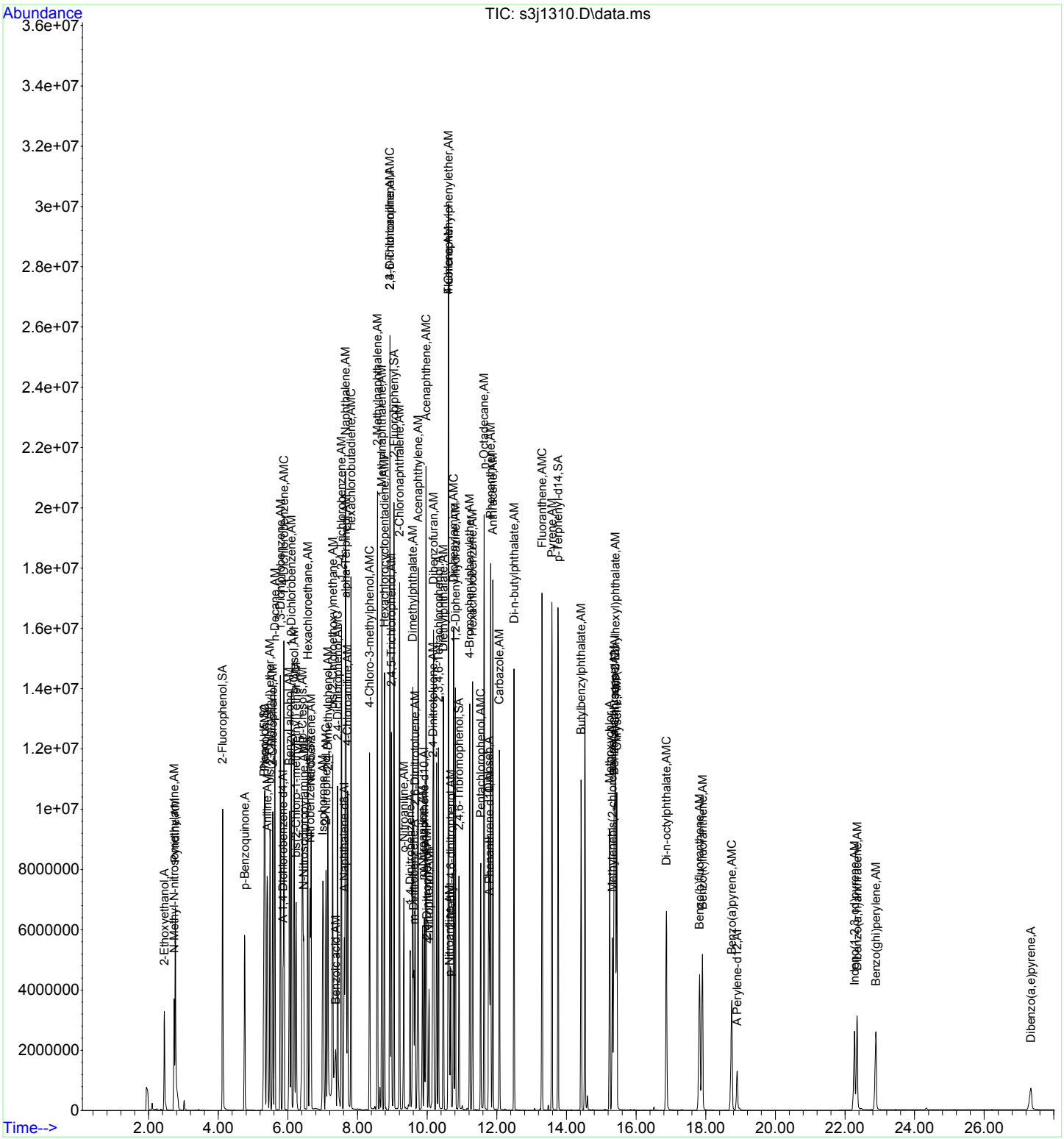
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.889	22.878	1.211	2789438	118.54	ng/uL	99
95) Dibenzo(a,e)pyrene	302	27.339	27.328	1.446	1144589	115.93	ng/uL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1310.D
Acq On : 13 Oct 2020 21:08
Operator : AGS1
Sample : |WBN201013-08|ICAL|1|SVM|1|M8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 14 16:36:06 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 16:35:20 2020
Response via : Initial Calibration



Continuing Calibration Summary

Client SDG: 2021-129

Instrument ID: MSD3.I

Injection Date: 13-OCT-20 21:41

Data File: s101320.s\s3j1311.D

Init. Cal. Date(s) 13-OCT-20 16:14 - 13-OCT-20 21:0

Lab Sample ID WBN201012-09

Method: s101320.s\MSD3_8270c_8270d_101320.m

Quant Type ISTD

Method Update: 14-OCT-20 18:37

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type
S	2-Fluorophenol	1.3867	1.30204		.01		-6.10514	30		Averaged
S	Phenol-d5	1.6903	1.65701		.01		-1.96947	30		Averaged
S	Nitrobenzene-d5	0.4569	0.45117		.01		-1.2541	30		Averaged
S	2-Fluorobiphenyl	1.4118	1.35464		.01		-4.04873	30		Averaged
S	2,4,6-Tribromophenol	0.1769	0.17965		.01		1.55455	30		Averaged
S	p-Terphenyl-d14	1.3485	1.29686		.01		-3.82944	30		Averaged
	Phenol	1.869	1.77331		.8		-5.11985	30		Averaged
	Naphthalene	1.0833	1.05033		.7		-3.04348	30		Averaged
	2-Methylnaphthalene	0.7503	0.71851		.4		-4.23697	30		Averaged
	1-Methylnaphthalene	0.6831	0.67151		.01		-1.69668	30		Averaged
	Fluorene	1.3732	1.3555		.9		-1.28896	30		Averaged
	Phenanthrene	1.0396	1.02561		.7		-1.34571	30		Averaged
	Anthracene	1.0436	1.01389		.7		-2.84688	30		Averaged
	Fluoranthene	1.0231	1.02851		.6		0.52879	30		Averaged
	Pyrene	1.7395	1.68003		.6		-3.4188	30		Averaged
	Benzo(b)fluoranthene	1.3144	1.30734		.7		-0.53713	30		Averaged
	Benzo(k)fluoranthene	1.3083	1.30183		.7		-0.49453	30		Averaged
	Benzo(a)pyrene	1.0234	1.06508		.7		4.0727	30		Averaged

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1311.D
Acq On : 13 Oct 2020 21:41
Operator : AGS1
Sample : |WBN201012-09|ICV|1|SVM|1|MICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

10/14/2020

10/19/2020

Quant Time: Oct 14 18:54:34 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.854	5.854	1.000	1035481	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	3639702	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.913	9.913	1.000	2166944	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.780	11.785	1.000	3543448	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.380	15.385	1.000	2172810	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.899	18.899	1.000	1489156	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.854	5.854	1.000	1035481	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.608	1.000	3639702	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.913	9.908	1.000	2166944	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.780	11.780	1.000	3543448	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.380	15.374	1.000	2172810	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.899	18.894	1.000	1489396	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.608	1.000	3639702	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.780	11.780	1.000	3543448	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.380	15.374	1.000	2172810	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.613	7.608	1.000	3639702	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.913	9.908	1.000	2166944	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.780	11.780	1.000	3543448	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.380	15.374	1.000	2172810	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.613	7.608	1.000	3639702	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.899	18.904	1.000	1489396	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.121	4.121	0.704	1348238	37.56	ng/uL	0.00
8) Phenol-d5	99	5.292	5.292	0.904	1715798	39.21	ng/uL	0.00
23) Nitrobenzene-d5	82	6.618	6.618	0.869	1642124	39.50	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	2935437	38.38	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.903	10.903	1.100	389287	40.62	ng/uL	0.00
80) p-Terphenyl-d14	244	13.754	13.754	0.894	2817822	38.47	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.441	2.441	0.417	658869	35.31	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.719	2.719	0.465	1074591	38.27	ng/uL	99
4) Pyridine	79	2.762	2.762	0.472	1716961	39.32	ng/uL	100
6) p-Benzoquinone	54	4.746	4.746	0.811	569996	34.17	ng/uL	99
7) Aniline	93	5.388	5.388	0.921	2339515	37.86	ng/uL	99
9) Phenol	94	5.313	5.313	0.908	1836224	37.95	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.468	5.468	0.934	1667454	38.08	ng/uL	100
11) 2-Chlorophenol	128	5.554	5.554	0.949	1280875	38.09	ng/uL	97
12) n-Decane	43	5.618	5.618	0.960	1073895	37.46	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.779	5.779	0.987	1505472	37.88	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.880	5.880	1.005	1477763	36.78	ng/uL	100
15) 1,2-Dichlorobenzene	146	6.089	6.089	1.040	1360434	36.02	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	6.223	6.223	1.063	1332405	38.95	ng/uL	99
17) Benzyl alcohol	108	6.030	6.025	1.030	926340	39.27	ng/uL	99
18) o-Cresol	107	6.164	6.164	1.053	1116746	37.70	ng/uL	100
19) m,p-Cresols	108	6.394	6.388	1.092	1325270	38.77	ng/uL	99
20) N-Nitrosodipropylamine	70	6.415	6.415	1.096	1263504	39.05	ng/uL	100
21) Hexachloroethane	117	6.565	6.565	1.122	663098	38.09	ng/uL	98
24) Nitrobenzene	77	6.651	6.651	0.874	1712310	39.63	ng/uL	99
25) Isophorone	82	6.977	6.977	0.916	3346918	40.24	ng/uL	100
26) 2-Nitrophenol	139	7.084	7.084	0.930	659567	38.94	ng/uL	99
27) 2,4-Dimethylphenol	122	7.132	7.127	0.937	1078072	38.39	ng/uL	99
28) bis(2-Chloroethoxy)met...	93	7.271	7.271	0.955	1942941	39.88	ng/uL	99
29) 2,4-Dichlorophenol	162	7.410	7.410	0.973	941652	36.53	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1311.D
Acq On : 13 Oct 2020 21:41
Operator : AGS1
Sample : |WBN201012-09|ICV|1|SVM|1|MICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 14 18:54:34 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	7.271	7.260	0.955	783477	46.47	ng/uL	99
31) 1,2,4-Trichlorobenzene	180	7.533	7.533	0.989	1333971	38.12	ng/uL	100
32) alpha-Terpineol	59	7.651	7.651	1.005	876232	32.55	ng/uL	100
33) Naphthalene	128	7.640	7.640	1.004	3822881	38.78	ng/uL	100
34) 4-Chloroaniline	127	7.704	7.704	1.012	1370763	37.09	ng/uL	100
35) Hexachlorobutadiene	225	7.806	7.806	1.025	913811	38.88	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.335	8.335	1.095	1043218	38.55	ng/uL	100
37) 2-Methylnaphthalene	142	8.560	8.565	1.124	2615162	38.30	ng/uL	99
38) 1-Methylnaphthalene	142	8.694	8.694	1.142	2444097	39.32	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.769	8.769	0.885	927778	36.10	ng/uL	100
41) 2,3-Dichloroaniline	161	8.924	8.924	0.900	1353203	38.10	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.924	8.924	0.900	935503	38.38	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.961	8.961	0.904	783429	36.48	ng/uL	99
45) 2-Chloronaphthalene	162	9.196	9.196	0.928	2363413	37.61	ng/uL	100
46) o-Nitroaniline	65	9.314	9.319	0.940	695807	40.04	ng/uL	98
47) 1,4-Dinitrobenzene	168	9.496	9.496	0.958	349396	40.78	ng/uL	99
48) m-Nitroaniline	138	9.844	9.844	0.993	484240	39.89	ng/uL	100
49) Dimethylphthalate	163	9.560	9.566	0.964	2809348	38.69	ng/uL	100
50) m-Dinitrobenzene	168	9.592	9.592	0.968	405066	41.16	ng/uL	97
51) 2,6-Dinitrotoluene	165	9.635	9.635	0.972	615186	40.82	ng/uL	98
52) 2,4-Dinitrotoluene	165	10.143	10.143	1.023	736274	41.57	ng/uL	96
53) Acenaphthylene	152	9.731	9.731	0.982	3738062	37.66	ng/uL	100
54) Acenaphthene	154	9.956	9.956	1.004	2447092	38.02	ng/uL	100
55) 2,4-Dinitrophenol	184	9.972	9.972	1.006	270696	44.99	ng/uL	92
56) Dibenzofuran	168	10.170	10.175	1.026	3197279	38.93	ng/uL	99
57) 2,3,4,6-Tetrachlorophenol	232	10.314	10.320	1.040	681780	38.43	ng/uL	99
58) Diethylphthalate	149	10.453	10.453	1.054	2569110	39.38	ng/uL	100
59) 4-Nitrophenol	139	10.031	10.031	1.012	319552	44.25	ng/uL	100
60) Fluorene	166	10.603	10.608	1.070	2937296	39.49	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.598	10.603	1.069	1624751	39.99	ng/uL	99
62) p-Nitroaniline	138	10.614	10.614	1.071	405473	46.55	ng/uL	97
65) 2-Methyl-4,6-dinitroph...	198	10.657	10.657	0.905	376127	43.29	ng/uL	98
66) Diphenylamine	169	10.748	10.748	0.912	2228792	38.77	ng/uL	100
67) 1,2-Diphenylhydrazine	77	10.801	10.801	0.917	3257092	39.05	ng/uL	99
68) 4-Bromophenylphenylether	248	11.213	11.218	0.952	837849	37.93	ng/uL	99
69) Hexachlorobenzene	284	11.293	11.298	0.959	900070	37.05	ng/uL	99
70) Pentachlorophenol	266	11.534	11.534	0.979	450018	42.70	ng/uL	99
71) n-Octadecane	57	11.630	11.630	0.987	1504003	37.05	ng/uL	98
72) Dinoseb	211	11.758	11.758	0.998	650186	43.30	ng/uL	99
73) Phenanthrene	178	11.812	11.812	1.003	3634205	39.46	ng/uL	100
74) Anthracene	178	11.876	11.876	1.008	3592681	38.86	ng/uL	100
75) Carbazole	167	12.063	12.069	1.024	2311274	35.61	ng/uL	99
76) Di-n-butylphthalate	149	12.491	12.491	1.060	3996113	40.14	ng/uL	100
77) Fluoranthene	202	13.294	13.294	1.128	3644464	40.21	ng/uL	100
79) Pyrene	202	13.577	13.577	0.883	3650387	38.63	ng/uL	100
81) Butylbenzylphthalate	149	14.417	14.417	0.937	1343773	41.53	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.396	15.401	1.001	2045557	40.77	ng/uL	100
83) Benzo(a)anthracene	228	15.358	15.363	0.999	2756921	40.59	ng/uL	99
84) Chrysene	228	15.433	15.433	1.003	2697045	39.77	ng/uL	100
85) Methoxychlor	227	15.230	15.230	0.990	2134611	40.65	ng/uL	100
86) Methylenebis(2-chloroa...	231	15.305	15.310	0.995	369148	35.50	ng/uL	98
87) Di-n-octylphthalate	149	16.861	16.866	1.096	2445478	43.26	ng/uL	99
89) Benzo(b)fluoranthene	252	17.802	17.808	0.942	1946834	39.79	ng/uL	100
90) Benzo(k)fluoranthene	252	17.883	17.883	0.946	1938623	39.80	ng/uL	100
91) Benzo(a)pyrene	252	18.728	18.728	0.991	1586065	41.63	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	22.253	22.258	1.177	1040085	39.55	ng/uL	99
93) Dibenzo(a,h)anthracene	278	22.327	22.333	1.181	1004920	38.45	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1311.D
Acq On : 13 Oct 2020 21:41
Operator : AGS1
Sample : |WBN201012-09|ICV|1|SVM|1|MICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 14 18:54:34 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

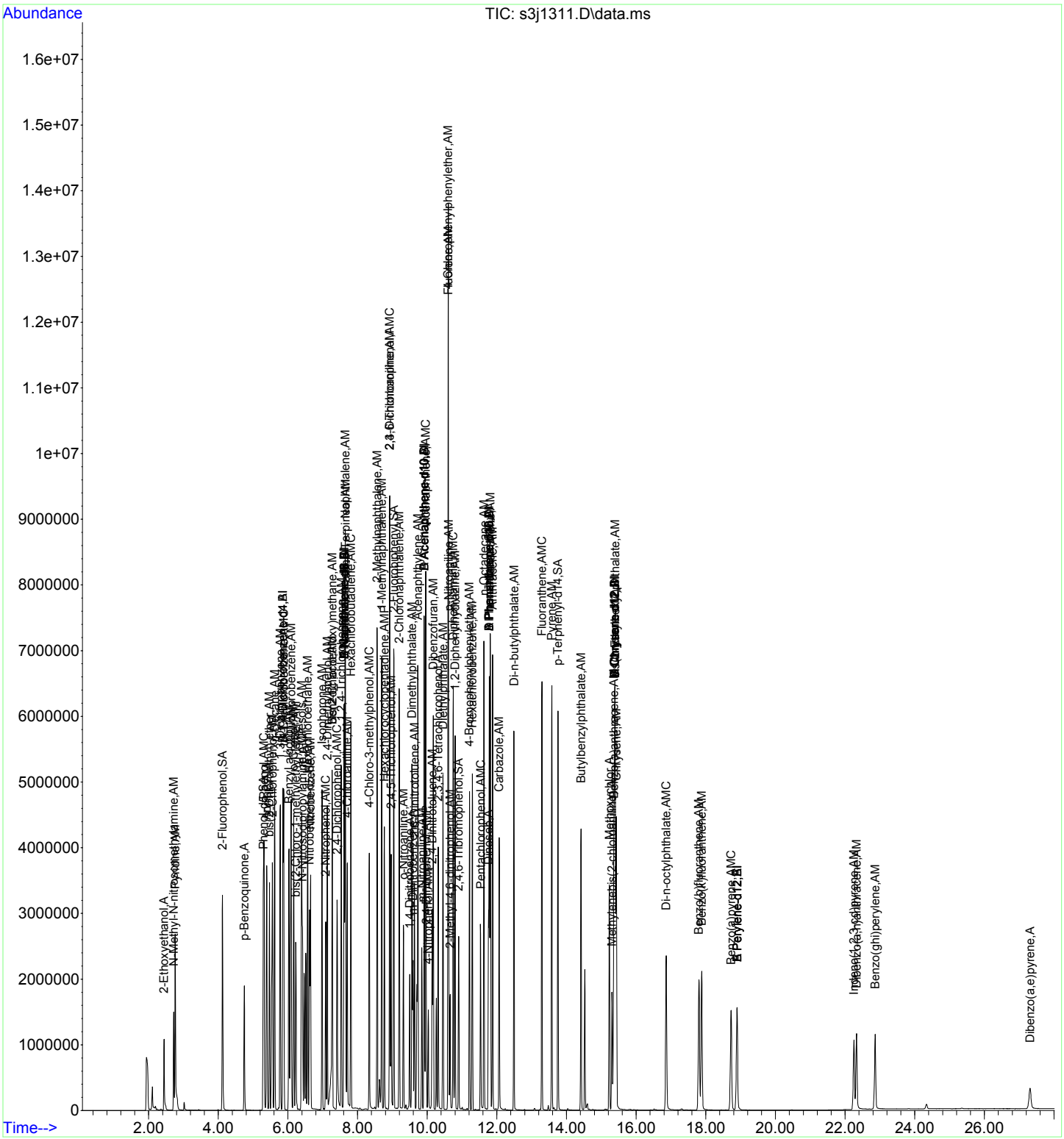
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94)	Benzo(ghi)perylene	276	22.862	22.862	1.210	1104853	38.59	ng/uL	99
95)	Dibenzo(a,e)pyrene	302	27.312	27.318	1.445	437647	36.43	ng/uL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1311.D
Acq On : 13 Oct 2020 21:41
Operator : AGS1
Sample : |WBN201012-09|ICV|1|SVM|1|MICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 14 18:54:34 2020
Quant Method : C:\msdchem\1\data\s101320.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration



Continuing Calibration Summary

Client SDG: 2021-129

Instrument ID: MSD3.I

Injection Date: 19-NOV-20 13:20

Data File: s111920.s\s3k1902.D

Init. Cal. Date(s) 13-OCT-20 16:14 - 13-OCT-20 21:0

Lab Sample ID WBN201013-04.2

Method: s111920.s\MSD3_8270c_8270d_101320.m

Quant Type ISTD

Method Update: 14-OCT-20 18:37

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type
S	2-Fluorophenol	1.3867	1.29931		.01		-6.30201	20		Averaged
S	Phenol-d5	1.6903	1.6745		.01		-0.93475	20		Averaged
S	Nitrobenzene-d5	0.4569	0.44356		.01		-2.91968	20		Averaged
S	2-Fluorobiphenyl	1.4118	1.34429		.01		-4.78184	20		Averaged
S	2,4,6-Tribromophenol	0.1769	0.19446		.01		9.92651	20		Averaged
S	p-Terphenyl-d14	1.3485	1.29254		.01		-4.1498	20		Averaged
	Phenol	1.869	1.73185		.8		-7.33815	20		Averaged
	Naphthalene	1.0833	0.97392		.7		-10.09693	20		Averaged
	2-Methylnaphthalene	0.7503	0.70392		.4		-6.18153	20		Averaged
	1-Methylnaphthalene	0.6831	0.64265		.01		-5.92153	20		Averaged
	Fluorene	1.3732	1.21686		.9		-11.38509	20		Averaged
	Phenanthrene	1.0396	0.9669		.7		-6.99307	20		Averaged
	Anthracene	1.0436	0.97582		.7		-6.49483	20		Averaged
	Fluoranthene	1.0231	0.99278		.6		-2.96354	20		Averaged
	Pyrene	1.7395	1.6246		.6		-6.60535	20		Averaged
	Benzo(b)fluoranthene	1.3144	1.22188		.7		-7.03895	20		Averaged
	Benzo(k)fluoranthene	1.3083	1.14215		.7		-12.69969	20		Averaged
	Benzo(a)pyrene	1.0234	0.99352		.7		-2.91968	20		Averaged

Quantitation Report

11/20/2020

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1902.D
Acq On : 19 Nov 2020 13:20
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 19 14:11:13 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.859	5.859	1.000	785822	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	2588142	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.918	9.918	1.000	1562036	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.790	11.790	1.000	2612637	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.401	15.401	1.000	1581347	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.925	18.925	1.000	1364577	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.859	5.859	1.000	785822	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.613	1.000	2588142	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.918	9.918	1.000	1562036	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.790	11.790	1.000	2612637	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.401	15.401	1.000	1581347	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.925	18.925	1.000	1364577	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.613	1.000	2588142	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.790	11.790	1.000	2612637	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.401	15.401	1.000	1581347	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.613	7.613	1.000	2588142	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.918	9.918	1.000	1562036	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.790	11.790	1.000	2612637	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.401	15.401	1.000	1581347	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.613	7.613	1.000	2588142	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.925	18.925	1.000	1364577	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.131	4.131	0.705	1021024	37.48	ng/uL	0.00
8) Phenol-d5	99	5.302	5.302	0.905	1315856	39.63	ng/uL	0.00
23) Nitrobenzene-d5	82	6.624	6.624	0.870	1147998	38.83	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	2099827	38.09	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.913	10.913	1.100	303753	43.97	ng/uL	0.00
80) p-Terphenyl-d14	244	13.764	13.764	0.894	2043956	38.34	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.468	2.468	0.421	567343	40.06	ng/uL	97
3) N-Methyl-N-nitrosometh...	74	2.740	2.740	0.468	794337	37.27	ng/uL	92
4) Pyridine	79	2.794	2.794	0.477	1225999	37.00	ng/uL	93
6) p-Benzoquinone	54	4.757	4.757	0.812	478367	37.78	ng/uL	96
7) Aniline	93	5.399	5.399	0.921	1711844	36.50	ng/uL	99
9) Phenol	94	5.324	5.324	0.909	1360928	37.06	ng/uL	99
10) bis(2-Chloroethyl) ether	93	5.474	5.474	0.934	1186192	35.70	ng/uL	98
11) 2-Chlorophenol	128	5.559	5.559	0.949	951878	37.30	ng/uL	99
12) n-Decane	43	5.613	5.613	0.958	837871	38.51	ng/uL	92
13) 1,3-Dichlorobenzene	146	5.778	5.778	0.986	1116318	37.02	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.880	5.880	1.004	1109043	36.37	ng/uL	99
15) 1,2-Dichlorobenzene	146	6.094	6.094	1.040	1054302	36.78	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	6.228	6.228	1.063	1078342	41.53	ng/uL	93
17) Benzyl alcohol	108	6.035	6.035	1.030	678445	37.90	ng/uL	98
18) o-Cresol	107	6.174	6.174	1.054	787063	35.01	ng/uL	99
19) m,p-Cresols	108	6.399	6.399	1.092	943352	36.37	ng/uL	97
20) N-Nitrosodipropylamine	70	6.415	6.415	1.095	892004	36.33	ng/uL	98
21) Hexachloroethane	117	6.565	6.565	1.121	459988	34.82	ng/uL	88
24) Nitrobenzene	77	6.650	6.650	0.874	1151180	37.47	ng/uL	98
25) Isophorone	82	6.982	6.982	0.917	2269084	38.36	ng/uL	99
26) 2-Nitrophenol	139	7.089	7.089	0.931	493342	40.96	ng/uL	95
27) 2,4-Dimethylphenol	122	7.137	7.137	0.937	820790	41.11	ng/uL	98
28) bis(2-Chloroethoxy)met...	93	7.276	7.276	0.956	1294497	37.37	ng/uL	100
29) 2,4-Dichlorophenol	162	7.410	7.410	0.973	801260	43.71	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1902.D
Acq On : 19 Nov 2020 13:20
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 14:11:13 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	7.287	7.287	0.957	556650	46.44	ng/uL	91
31) 1,2,4-Trichlorobenzene	180	7.533	7.533	0.989	991403	39.84	ng/uL	99
32) alpha-Terpineol	59	7.650	7.650	1.005	772165	40.34	ng/uL	98
33) Naphthalene	128	7.645	7.645	1.004	2520650	35.96	ng/uL	99
34) 4-Chloroaniline	127	7.709	7.709	1.013	967386	36.82	ng/uL	100
35) Hexachlorobutadiene	225	7.806	7.806	1.025	652419	39.04	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.346	8.346	1.096	802871	41.73	ng/uL	98
37) 2-Methylnaphthalene	142	8.565	8.565	1.125	1821847	37.53	ng/uL	98
38) 1-Methylnaphthalene	142	8.693	8.693	1.142	1663275	37.63	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.768	8.768	0.884	748552	40.40	ng/uL	100
41) 2,3-Dichloroaniline	161	8.929	8.929	0.900	926383	36.18	ng/uL	98
42) 2,4,6-Trichlorophenol	196	8.929	8.929	0.900	680604	38.74	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.972	8.972	0.905	683301	44.13	ng/uL	99
45) 2-Chloronaphthalene	162	9.202	9.202	0.928	1679764	37.08	ng/uL	99
46) o-Nitroaniline	65	9.325	9.325	0.940	507716	40.53	ng/uL	98
47) 1,4-Dinitrobenzene	168	9.506	9.506	0.958	288854	46.77	ng/uL	87
48) m-Nitroaniline	138	9.854	9.854	0.994	350390	40.04	ng/uL	97
49) Dimethylphthalate	163	9.571	9.571	0.965	2006614	38.34	ng/uL	99
50) m-Dinitrobenzene	168	9.603	9.603	0.968	315656	44.50	ng/uL	80
51) 2,6-Dinitrotoluene	165	9.646	9.646	0.972	463077	42.63	ng/uL	86
52) 2,4-Dinitrotoluene	165	10.154	10.154	1.024	552889	43.31	ng/uL	94
53) Acenaphthylene	152	9.736	9.736	0.982	2717235	37.97	ng/uL	99
54) Acenaphthene	154	9.961	9.961	1.004	1676590	36.13	ng/uL	99
55) 2,4-Dinitrophenol	184	9.988	9.988	1.007	194371	44.81	ng/uL#	74
56) Dibenzofuran	168	10.180	10.180	1.026	2311456	39.04	ng/uL	98
57) 2,3,4,6-Tetrachlorophenol	232	10.325	10.325	1.041	563705	44.08	ng/uL	96
58) Diethylphthalate	149	10.459	10.459	1.054	1757517	37.37	ng/uL	98
59) 4-Nitrophenol	139	10.052	10.052	1.013	233890	44.93	ng/uL	95
60) Fluorene	166	10.614	10.614	1.070	1900780	35.45	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.608	10.608	1.070	1099537	37.54	ng/uL	98
62) p-Nitroaniline	138	10.630	10.630	1.072	226628	36.09	ng/uL	97
65) 2-Methyl-4,6-dinitroph...	198	10.667	10.667	0.905	294773	46.01	ng/uL	88
66) Diphenylamine	169	10.753	10.753	0.912	1608212	37.94	ng/uL	97
67) 1,2-Diphenylhydrazine	77	10.806	10.806	0.917	2072070	33.69	ng/uL	93
68) 4-Bromophenylphenylether	248	11.223	11.223	0.952	666873	40.95	ng/uL	96
69) Hexachlorobenzene	284	11.304	11.304	0.959	691066	38.58	ng/uL	99
70) Pentachlorophenol	266	11.544	11.544	0.979	327551	42.15	ng/uL	99
71) n-Octadecane	57	11.630	11.630	0.986	1152221	38.50	ng/uL	91
72) Dinoseb	211	11.769	11.769	0.998	476354	43.05	ng/uL	97
73) Phenanthrene	178	11.822	11.822	1.003	2526162	37.20	ng/uL	99
74) Anthracene	178	11.887	11.887	1.008	2549473	37.40	ng/uL	99
75) Carbazole	167	12.079	12.079	1.024	1790569	37.42	ng/uL	98
76) Di-n-butylphthalate	149	12.496	12.496	1.060	2563114	34.92	ng/uL	99
77) Fluoranthene	202	13.304	13.304	1.128	2593775	38.82	ng/uL	99
79) Pyrene	202	13.587	13.587	0.882	2569058	37.36	ng/uL	98
81) Butylbenzylphthalate	149	14.427	14.427	0.937	852671	36.20	ng/uL	91
82) bis(2-Ethylhexyl)phtha...	149	15.406	15.406	1.000	1217563	33.34	ng/uL	96
83) Benzo(a)anthracene	228	15.374	15.374	0.998	1990121	40.26	ng/uL	100
84) Chrysene	228	15.449	15.449	1.003	1874587	37.98	ng/uL	99
85) Methoxychlor	227	15.240	15.240	0.990	1531394	40.07	ng/uL	98
86) Methylenebis(2-chloroa...	231	15.326	15.326	0.995	286171	37.82	ng/uL	94
87) Di-n-octylphthalate	149	16.872	16.872	1.096	1790271	43.52	ng/uL	96
89) Benzo(b)fluoranthene	252	17.829	17.829	0.942	1667345	37.18	ng/uL	98
90) Benzo(k)fluoranthene	252	17.904	17.904	0.946	1558545	34.92	ng/uL	98
91) Benzo(a)pyrene	252	18.754	18.754	0.991	1355740	38.83	ng/uL	98
92) Indeno(1,2,3-cd)pyrene	276	22.279	22.279	1.177	1060544	44.01	ng/uL	96
93) Dibenzo(a,h)anthracene	278	22.359	22.359	1.181	1041470	43.49	ng/uL	96

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1902.D
Acq On : 19 Nov 2020 13:20
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 14:11:13 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

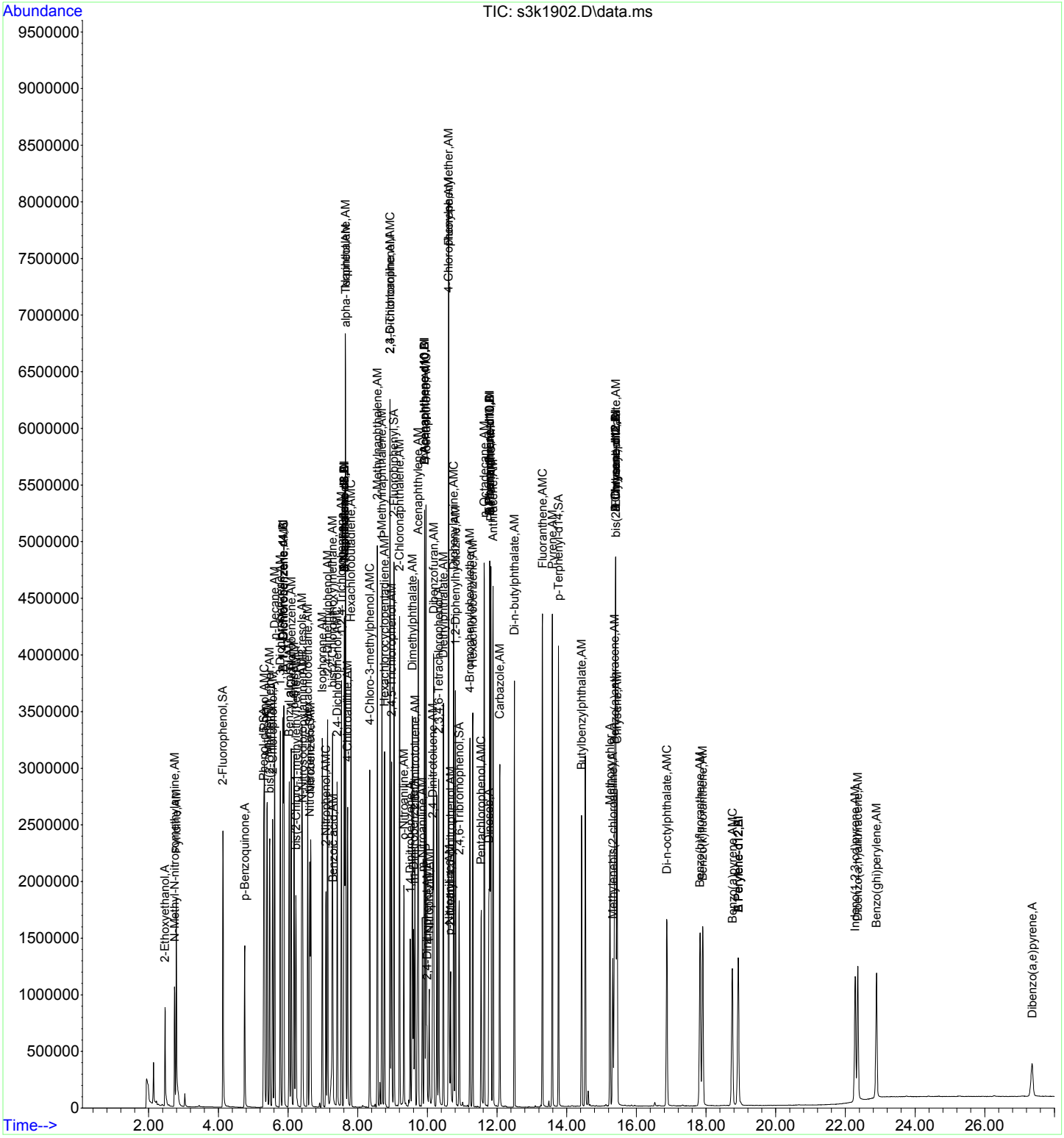
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.894	22.894	1.210	1238594	47.21	ng/uL	95
95) Dibenzo(a,e)pyrene	302	27.360	27.360	1.446	472509	42.92	ng/uL	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1902.D
Acq On : 19 Nov 2020 13:20
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 14:11:13 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration



Calibration History Report MSD4
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

11/17/2020

11/19/2020

Cal Lvl:1 Amt:1.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1907.D

Injection Date	Mix	Calibration File
19 Oct 2020 13:22	A	C:\msdchem\1\data\s101920.B\s4j1907.D

Cal Lvl:2 Amt:10.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1944.D

Injection Date	Mix	Calibration File
19 Oct 2020 13:54	A	C:\msdchem\1\data\s101920.B\s4j1908.D
20 Oct 2020 08:55	B	C:\msdchem\1\data\s101920.B\s4j1917.D
20 Oct 2020 13:50	J	C:\msdchem\1\data\s101920.B\s4j1928.D
20 Oct 2020 17:01	D	C:\msdchem\1\data\s101920.B\s4j1936.D
20 Oct 2020 20:10	E	C:\msdchem\1\data\s101920.B\s4j1944.D

Cal Lvl:3 Amt:20.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1945.D

Injection Date	Mix	Calibration File
19 Oct 2020 14:26	A	C:\msdchem\1\data\s101920.B\s4j1909.D
20 Oct 2020 09:23	B	C:\msdchem\1\data\s101920.B\s4j1918.D
20 Oct 2020 14:14	J	C:\msdchem\1\data\s101920.B\s4j1929.D
20 Oct 2020 17:24	D	C:\msdchem\1\data\s101920.B\s4j1937.D
20 Oct 2020 20:34	E	C:\msdchem\1\data\s101920.B\s4j1945.D

Cal Lvl:4 Amt:40.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1946.D

Injection Date	Mix	Calibration File
19 Oct 2020 14:57	A	C:\msdchem\1\data\s101920.B\s4j1910.D
20 Oct 2020 10:19	B	C:\msdchem\1\data\s101920.B\s4j1920.D
20 Oct 2020 14:38	J	C:\msdchem\1\data\s101920.B\s4j1930.D
20 Oct 2020 17:48	D	C:\msdchem\1\data\s101920.B\s4j1938.D
20 Oct 2020 20:58	E	C:\msdchem\1\data\s101920.B\s4j1946.D

Cal Lvl:5 Amt:50.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1931.D

Injection Date	Mix	Calibration File
19 Oct 2020 15:29	A	C:\msdchem\1\data\s101920.B\s4j1911.D
20 Oct 2020 10:48	B	C:\msdchem\1\data\s101920.B\s4j1921.D
20 Oct 2020 15:02	J	C:\msdchem\1\data\s101920.B\s4j1931.D
20 Oct 2020 18:12	D	C:\msdchem\1\data\s101920.B\s4j1939.D
20 Oct 2020 21:21	E	C:\msdchem\1\data\s101920.B\s4j1947.D

Cal Lvl:6 Amt:80.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1948.D

Injection Date	Mix	Calibration File
19 Oct 2020 16:00	A	C:\msdchem\1\data\s101920.B\s4j1912.D
20 Oct 2020 11:44	B	C:\msdchem\1\data\s101920.B\s4j1923.D
20 Oct 2020 15:25	J	C:\msdchem\1\data\s101920.B\s4j1932.D
20 Oct 2020 18:36	D	C:\msdchem\1\data\s101920.B\s4j1940.D
20 Oct 2020 21:45	E	C:\msdchem\1\data\s101920.B\s4j1948.D

Cal Lvl:7 Amt:100.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1949.D

Injection Date	Mix	Calibration File
19 Oct 2020 16:32	A	C:\msdchem\1\data\s101920.B\s4j1913.D
20 Oct 2020 12:12	B	C:\msdchem\1\data\s101920.B\s4j1924.D

Calibration History Report MSD4
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

20 Oct 2020 15:49	J	C:\msdchem\1\data\s101920.B\s4j1933.D
20 Oct 2020 18:59	D	C:\msdchem\1\data\s101920.B\s4j1941.D
20 Oct 2020 22:09	E	C:\msdchem\1\data\s101920.B\s4j1949.D

Cal Lvl:8 Amt:120.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1942.D

Injection Date	Mix	Calibration File
19 Oct 2020 17:04	A	C:\msdchem\1\data\s101920.B\s4j1914.D
20 Oct 2020 12:41	B	C:\msdchem\1\data\s101920.B\s4j1925.D
20 Oct 2020 16:13	J	C:\msdchem\1\data\s101920.B\s4j1934.D
20 Oct 2020 19:23	D	C:\msdchem\1\data\s101920.B\s4j1942.D

Cal Lvl:9 Amt:30.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1919.D

Injection Date	Mix	Calibration File
20 Oct 2020 09:51	B	C:\msdchem\1\data\s101920.B\s4j1919.D

Cal Lvl:10 Amt:60.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1922.D

Injection Date	Mix	Calibration File
20 Oct 2020 11:16	B	C:\msdchem\1\data\s101920.B\s4j1922.D

MSD4_8270c_8270d_101920.m Tue Nov 17 18:17:49 2020 MSD4

Response Factor Report MSD4
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

11/17/2020

11/19/2020

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
2)A 2-Ethoxyethanol		0.7912367	0.8010714	0.8445261	0.8528957	0.8213162				
	0.8236747	0.8306606					0.8236	AVRG		2.6721
3)AM N-Methyl-N-nitrosomethyl	0.7352371	0.7691373	0.7665417	0.8090838	0.8196338	0.7965558				
	0.7941784	0.7937322					0.7855	AVRG		3.4497
4)AM Pyridine		1.1816054	1.2112109	1.2851663	1.2927656	1.2516189				
	1.2731656	1.2591933					1.2507	AVRG		3.2427
5)SA 2-Fluorophenol		1.1403374	1.1427803	1.2217244	1.2425090	1.2218381				
	1.2348477	1.2203895					1.2035	AVRG		3.5795
6)A p-Benzoquinone		0.8266959	0.8783111	0.9667339	0.9902766	0.9830382				
	0.9994382	0.9654745					0.9443	AVRG		6.9432
7)AM Aniline		1.9534205	2.0004950	2.1022262	2.1391882	2.1101116				
	2.1264721	2.1087787					2.0772	AVRG		3.4144
8)SA Phenol-d5		1.3669759	1.3911460	1.5075048	1.5110837	1.4879897				
	1.5093289	1.4680686					1.4632	AVRG		4.0886
9)AMC Phenol		1.4791446	1.5146920	1.6411273	1.6497597	1.6214863				
	1.6633209	1.6344685					1.6006	AVRG		4.5419
10)AM bis(2-Chloroethyl) ether		1.3212409	1.3613794	1.4232143	1.4398689	1.4147225				
	1.4073462	1.3804169					1.3926	AVRG		2.9453
11)AM 2-Chlorophenol		1.2169939	1.2465461	1.3248203	1.3360869	1.3445948				
	1.3388268	1.3239510					1.3045	AVRG		3.9075
12)AM n-Decane		1.9884618	2.0286990	2.0939319	2.1007666	2.0562379				
	2.0126938	1.9744752					2.0365	AVRG		2.4223
13)AM 1,3-Dichlorobenzene		1.4963533	1.5086819	1.5657779	1.5737800	1.5543831				
	1.5362194	1.5019854					1.5339	AVRG		2.0780
14)AMC 1,4-Dichlorobenzene		1.5223547	1.5345471	1.6133208	1.6058969	1.5718638				
	1.5714283	1.5373904					1.5653	AVRG		2.2743
15)AM 1,2-Dichlorobenzene		1.4323973	1.4583002	1.5233190	1.5226241	1.5069619				
	1.4977962	1.4832320					1.4892	AVRG		2.2751
16)AM bis(2-Chloro-1-methyleth		2.6442769	2.6855504	2.8071357	2.8433757	2.8309766				
	2.8123441	2.7070004					2.7615	AVRG		2.9074

Response Factor Report MSD4
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	7	8	9	10						
17)AM Benzyl alcohol		0.8265488	0.8389701	0.9096657	0.9153506	0.9127803				
	0.9102260	0.8846278					0.8855	AVRG		4.2437
18)AM o-Cresol		0.9824455	1.0008590	1.0485274	1.0787004	1.0641757				
	1.0649465	1.0346197					1.0392	AVRG		3.4352
19)AM m,p-Cresols		1.1393545	1.1801438	1.2576427	1.2821408	1.2688549				
	1.2754746	1.2417802					1.2351	AVRG		4.4005
20)AMP N-Nitrosodipropylamine		1.0428703	1.0701004	1.1291982	1.1383476	1.1293879				
	1.1258076	1.0919330					1.1039	AVRG		3.3007
21)AM Hexachloroethane		0.5660578	0.5749451	0.6107611	0.6162901	0.6026028				
	0.5998836	0.5852955					0.5937	AVRG		3.1552
23)SA Nitrobenzene-d5		0.3041145	0.3290490	0.3424538	0.3491233	0.3485524				
	0.3556962	0.3469781					0.3394	AVRG		5.1912
24)AM Nitrobenzene		0.3206384	0.3291349	0.3488586	0.3519454	0.3498052				
	0.3536999	0.3508335					0.3436	AVRG		3.8073
25)AM Isophorone		0.6409838	0.6701662	0.6996117	0.7021926	0.7033639				
	0.7027179	0.6870662					0.6866	AVRG		3.4180
26)AMC 2-Nitrophenol		0.1184950	0.1331600	0.1486874	0.1571029	0.1580934				
	0.1644410	0.1616743					0.1488	AVRG		11.4067
27)AM 2,4-Dimethylphenol		0.2814738	0.2868642	0.2951383	0.2969112	0.2978920				
	0.2962526	0.2928454					0.2925	AVRG		2.0845
28)AM bis(2-Chloroethoxy)metha		0.3746978	0.3837822	0.4040709	0.4054787	0.4028400				
	0.4033715	0.3966985					0.3958	AVRG		3.0235
29)AMC 2,4-Dichlorophenol		0.2288626	0.2471366	0.2670975	0.2671904	0.2677302				
	0.2699843	0.2636446					0.2588	AVRG		5.9018
30)AM Benzoic acid			126906	422324	520760	900854		1/x^2		
-0.0530 | 0.1833 | 0.00	1387022	1725223						LINR	#	0.9925
31)AM 1,2,4-Trichlorobenzene		0.2783025	0.2853529	0.2915876	0.2929069	0.2888792				
	0.2915719	0.2840037					0.2875	AVRG		1.8286
32)AM alpha-Terpineol		0.3159810	0.3325167	0.3472453	0.3493610	0.3500285				
	0.3472259	0.3404454					0.3404	AVRG		3.6474

Response Factor Report MSD4
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
33)AM Naphthalene	0.8775461	0.9362910	0.9775260	1.0159615	1.0075844	0.9524218				
	0.9068234	0.8416472					0.9395	AVRG		6.5599
34)AM 4-Chloroaniline		0.3430394	0.3496298	0.3831709	0.3814773	0.3811921				
	0.3815592	0.3699692					0.3700	AVRG		4.5571
35)AMC Hexachlorobutadiene		0.1587504	0.1649545	0.1677478	0.1673878	0.1668178				
	0.1676617	0.1660173					0.1656	AVRG		1.9260
36)AMC 4-Chloro-3-methylphenol		0.2363002	0.2535904	0.2722905	0.2764506	0.2799943				
	0.2818460	0.2766119					0.2682	AVRG		6.2991
37)AM 2-Methylnaphthalene	0.6082549	0.6401188	0.6692030	0.6946637	0.6954333	0.6793330				
	0.6641596	0.6452481					0.6621	AVRG		4.4915
38)AM 1-Methylnaphthalene	0.5473864	0.5868333	0.6167311	0.6413836	0.6393789	0.6286780				
	0.6241557	0.6011230					0.6107	AVRG		5.1686
40)AMP Hexachlorocyclopentadien		0.2799273	0.3005273	0.3358601	0.3370077	0.3302805				
	0.3482540	0.3374284					0.3242	AVRG		7.5674
41)AM 2,3-Dichloroaniline		0.5942553	0.5827541	0.6138583	0.6105610	0.5909954				
	0.5954784	0.5843528					0.5960	AVRG		2.0207
42)AMC 2,4,6-Trichlorophenol		0.2727650	0.2978138	0.3236083	0.3316141	0.3275727				
	0.3212535	0.3253270					0.3143	AVRG		6.7865
43)AM 2,4,5-Trichlorophenol		0.2870382	0.3172079	0.3489590	0.3512011	0.3527676				
	0.3616322	0.3456264					0.3378	AVRG		7.7937
44)SA 2-Fluorobiphenyl		1.2036301	1.2283801	1.3028236	1.2986227	1.2526118				
	1.2343477	1.1857571					1.2437	AVRG		3.5772
45)AM 2-Chloronaphthalene	0.9944230	1.0540976	1.0747550	1.1279550	1.1363122	1.1247065				
	1.0990070	1.0796441					1.0864	AVRG		4.3356
46)AM o-Nitroaniline		0.2796503	0.2941560	0.3291809	0.3381396	0.3335135				
	0.3415152	0.3383036					0.3221	AVRG		7.6687
47)A 1,4-Dinitrobenzene		44701	120537	294700	376855	612096		1/x^2		
-0.0186 | 0.1847 | 0.00	815636	976795						LINR	#	0.9988
48)AM m-Nitroaniline		0.2421851	0.2504923	0.2815818	0.2886407	0.2826910				
	0.2900849	0.2830730					0.2741	AVRG		7.0696

Response Factor Report MSD4
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	7	8	9	10						
49)AM Dimethylphthalate	1.1660113	1.2313636	1.2864303	1.3556421	1.3577993	1.3004580				
	1.2823580	1.2332572					1.2767	AVRG		5.1017
50)A m-Dinitrobenzene		0.1571127	0.1738670	0.1965450	0.1992620	0.1966440				
	0.2044069	0.1997411					0.1897	AVRG		9.1737
51)AM 2,6-Dinitrotoluene		0.2592509	0.2806323	0.2963467	0.2980012	0.2917149				
	0.2918114	0.2948653					0.2875	AVRG		4.7611
52)AM 2,4-Dinitrotoluene		0.3059426	0.3419796	0.3761234	0.3765136	0.3656587				
	0.3681546	0.3621784					0.3567	AVRG		7.0602
53)AM Acenaphthylene	1.6956948	1.8139332	1.8770882	1.9847094	1.9700973	1.8463329				
	1.7651977	1.6658944					1.8274	AVRG		6.3891
54)AMC Acenaphthene	1.0435101	1.0946143	1.1196767	1.1513534	1.1637811	1.1356738				
	1.1064918	1.0879755					1.1129	AVRG		3.4708
55)AMP 2,4-Dinitrophenol			47014	135197	183930	331931		1/x^2		
-0.0337 | 0.1165 | 0.00	498979	600703						LINR	#	0.9908
56)AM Dibenzofuran		1.4644863	1.5317748	1.6361511	1.6254930	1.5343717				
	1.5006430	1.4237123					1.5309	AVRG		5.1192
57)A 2,3,4,6-Tetrachloropheno		0.2005811	0.2287465	0.2669521	0.2720257	0.2716828				
	0.2785670	0.2799879					0.2569	AVRG		11.8001
58)AM Diethylphthalate	1.1392299	1.2302250	1.2920319	1.3638461	1.3613029	1.3169542				
	1.2971004	1.2733318					1.2843	AVRG		5.7096
59)AMP 4-Nitrophenol		57425	133018	350780	433735	701362		1/x^2		
-0.0180 | 0.2103 | 0.00	959933	1100023						LINR		0.9955
60)AM Fluorene	1.1634607	1.2222447	1.2621342	1.2971621	1.2944506	1.2429815				
	1.2235639	1.1844391					1.2363	AVRG		3.8855
61)AM 4-Chlorophenylphenylethe		0.5656808	0.5777511	0.5820308	0.5777890	0.5532062				
	0.5438997	0.5305493					0.5616	AVRG		3.4902
62)AM p-Nitroaniline		0.2250476	0.2253828	0.2431879	0.2435428	0.2477806				
	0.2677038	0.2511963					0.2434	AVRG		6.1216
63)SA 2,4,6-Tribromophenol		0.1132059	0.1291176	0.1454741	0.1455283	0.1496128				
	0.1532887	0.1539722					0.1415	AVRG		10.5891

Response Factor Report MSD4
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
65)AM 2-Methyl-4,6-dinitrophen		26875	76658	216390	286728	516325				
-0.0215 0.1012 0.00								LINR	#	0.9938
66)AMC Diphenylamine		0.6055499	0.6211659	0.6638816	0.6718856	0.6669399				
	0.6649798	0.6592979					0.6505	AVRG		4.0060
67)AM 1,2-Diphenylhydrazine		0.7579410	0.7880580	0.8520419	0.8656511	0.8663535				
	0.8544681	0.8306061					0.8307	AVRG		5.0657
68)AM 4-Bromophenylphenylether		0.1911608	0.1972567	0.2050339	0.2098119	0.2092993				
	0.2097791	0.2102369					0.2047	AVRG		3.6920
69)AM Hexachlorobenzene		0.2068460	0.2161630	0.2226603	0.2209830	0.2193019				
	0.2234723	0.2256297					0.2193	AVRG		2.8632
70)AMC Pentachlorophenol		43829	117734	296663	373234	627970		1/x^2		
-0.0139 0.1196 0.00	851411	1004459						LINR	#	0.9961
71)AM n-Octadecane		0.6181942	0.6458387	0.6848658	0.6978851	0.7033269				
	0.6969013	0.6769689					0.6749	AVRG		4.6797
72)A Dinoseb		40829	121597	338459	445141	803322				
-0.0331 0.1573 0.00								LINR	#	0.9943
73)AM Phenanthrene	0.9909872	1.0251403	1.0893226	1.1137517	1.1112851	1.0842619				
	1.0588626	1.0148774					1.0611	AVRG		4.3589
74)AM Anthracene	0.9519684	1.0441570	1.0921031	1.1341097	1.1433321	1.1094683				
	1.0711929	1.0166573					1.0704	AVRG		6.0111
75)AM Carbazole	0.7431975	0.8436613	0.8746969	0.8788448	0.8950602	0.9132940				
	0.9073748	0.8525639					0.8636	AVRG		6.3041
76)AM Di-n-butylphthalate	1.0266843	1.1717775	1.2554366	1.2735342	1.2769251	1.2407733				
	1.1574016	1.0945499					1.1871	AVRG		7.7010
77)AMC Fluoranthene	0.8423508	0.9337320	0.9579917	0.9430228	0.9450739	1.0103245				
	0.9728983	0.9125534					0.9397	AVRG		5.1997
79)AM Pyrene	1.9890970	2.1223495	2.1345562	2.2200859	2.2357816	1.9076481				
	1.9112790	1.8112938					2.0415	AVRG		7.7549
80)SA p-Terphenyl-d14		1.2937477	1.3277548	1.4124701	1.4016707	1.2809088				
	1.3343571	1.2493136					1.3286	AVRG		4.5765

Response Factor Report MSD4
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Integrator : (RTE Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	7	8	9	10						
81)AM Butylbenzylphthalate	0.6533749	0.8108342	0.8230120	0.8634967	0.8854832	0.8394964				
	0.8718358	0.8336956					0.8227	AVRG		8.8657
82)AM bis(2-Ethylhexyl)phthala	1.0032329	1.1837946	1.2051601	1.2652631	1.2976514	1.2543863				
	1.3112427	1.2730446					1.2242	AVRG		8.0967
83)AM Benzo(a)anthracene	1.2253060	1.2636121	1.2825631	1.3248300	1.3285116	1.3283324				
	1.3290815	1.3183025					1.3001	AVRG		2.9961
84)AM Chrysene	1.1723237	1.2019891	1.2258900	1.2514745	1.2697195	1.2208434				
	1.2266958	1.2004569					1.2212	AVRG		2.4975
85)A Methoxychlor		1.0555510	1.1239959	1.1709702	1.2273623	1.2153595				
	1.2247954	1.2103636					1.1755	AVRG		5.4897
86)A Methylenebis(2-chloroani		0.2025618	0.2114496	0.2192895	0.2193629	0.2358468				
	0.2391049	0.2411290					0.2241	AVRG		6.6251
87)AMC Di-n-octylphthalate	25817	347298	867562	1843590	2307434	4974080		1/x^2		
-0.0143 | 1.4939 | 0.00								LINR	#	0.9902
89)AM Benzo(b)fluoranthene	1.1046203	1.1581171	1.2657022	1.3060881	1.3460763	1.4192794				
	1.4474851	1.4791802					1.3158	AVRG		10.2657
90)AM Benzo(k)fluoranthene	1.0279677	1.0937748	1.1748176	1.1946172	1.2524704	1.3261740				
	1.3449994	1.3384462					1.2192	AVRG		9.6790
91)AMC Benzo(a)pyrene	0.8721195	0.9096660	0.9684609	1.0236648	1.0451574	1.0655705				
	1.0822406	1.0656157					1.0041	AVRG		7.8371
92)AM Indeno(1,2,3-cd)pyrene	0.6102700	0.7353555	0.6920370	0.7587399	0.7251235	0.5746258				
	0.5782490	0.5753114					0.6562	AVRG		12.1090
93)AM Dibenzo(a,h)anthracene	0.5814808	0.6340971	0.5715263	0.6608655	0.6207900	0.5219580				
	0.5380454	0.5279888					0.5821	AVRG		8.9509
94)AM Benzo(ghi)perylene	0.7751212	0.8774222	0.7954920	0.8399522	0.7907443	0.5836385				
							0.7771	AVRG		13.1201
95)A Dibenzo(a,e)pyrene		0.2720896	0.2510405	0.2534468	0.2195267	0.1604850				
							0.2313	AVRG	#	18.9641
97)BM 1,4-Dioxane		0.5400410	0.5239860	0.5107063	0.5065299	0.4941505				
	0.4823032	0.4823542	0.5197619	0.5147007			0.5083	AVRG		3.7997

Response Factor Report MSD4
GEL Laboratories, LLC
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Integrator : (RTE Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
98)B Methyl methacrylate		0.2833943	0.2790503	0.2702264	0.2597424	0.2576614				
	0.2484451	0.2485797	0.2745726	0.2648946			0.2652	AVRG		4.7694
99)B Ethyl methacrylate		1.2354432	1.2062886	1.1798237	1.1796388	1.1804923				
	1.1666761	1.1724392	1.1926041	1.2076817			1.1912	AVRG		1.8271
100)B 2-Picoline		1.5427587	1.5441817	1.5273297	1.5285552	1.5280824				
	1.5369994	1.5445871	1.5031213	1.5488920			1.5338	AVRG		0.9179
101)B N-Nitrosomethylethylamin		0.6582415	0.6387443	0.6268140	0.6327525	0.6249427				
	0.6303165	0.6316539	0.6251812	0.6329846			0.6335	AVRG		1.6186
102)B Methyl methanesulfonate		0.8189908	0.7978738	0.7877588	0.7844698	0.7633120				
	0.7873496	0.7755529	0.7823098	0.7919295			0.7877	AVRG		1.9473
103)B N-Nitrosodiethylamine		0.7102078	0.6849262	0.6805527	0.6751544	0.6718163				
	0.6758523	0.6731052	0.6865975	0.6778384			0.6818	AVRG		1.7292
104)B 2-Butoxyethanol		1.8726840	1.8818647	1.8694954	1.9107981	1.9100868				
	1.9509368	1.9626542	1.8636483	1.9356177			1.9064	AVRG		1.9418
105)B Ethyl methanesulfonate		1.0698011	1.0380967	1.0360672	1.0446712	1.0450520				
	1.0644359	1.0473956	1.0244629	1.0488926			1.0465	AVRG		1.3265
106)BM Benzaldehyde		1.1840855	1.1552319	1.1391500	1.1284044	1.1154155				
	1.1082376	1.0860572	1.1400048	1.1385786			1.1328	AVRG		2.4908
107)B Pentachloroethane		0.5659959	0.5382543	0.5326798	0.5328821	0.5235653				
	0.5213749	0.5130729	0.5443383	0.5297392			0.5335	AVRG		2.8688
108)BM N-Nitrosopyrrolidine		0.7470240	0.7388621	0.7351928	0.7430045	0.7357584				
	0.7448104	0.7498357	0.7244148	0.7356011			0.7394	AVRG		1.0471
109)BM Acetophenone		1.9087499	1.8532436	1.8848560	1.9019982	1.9057445				
	1.9137378	1.9129647	1.8641151	1.8955443			1.8934	AVRG		1.1520
110)B N-Nitrosomorpholine		1.0097148	0.9705273	0.9738825	0.9888665	0.9781896				
	1.0090929	1.0232895	0.9715754	0.9752414			0.9889	AVRG		2.0186
111)B o-Toluidine		2.2560098	2.1890772	2.1786150	2.2081561	2.1881744				
	2.2128704	2.1770872	2.1684449	2.2069378			2.1984	AVRG		1.2068
113)B N-Nitrosopiperidine		0.1868242	0.1761701	0.1743877	0.1746979	0.1757929				
	0.1756482	0.1743385	0.1750244	0.1764253			0.1766	AVRG		2.2152

Response Factor Report MSD4
GEL Laboratories, LLC
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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound b m1 m2	1 7	2 8	3 9	4 10	5	6	Avg	Curve	Exp	%RSD/r2
114)B a,a-Dimethylphenethylami		1.0958429	1.0954271	1.1208423	1.1294089	1.1634355				
	1.1764292	1.1388046	1.1031056	1.1426651			1.1296	AVRG		2.5581
115)BM 2,6-Dichlorophenol		0.2568514	0.2563211	0.2568736	0.2605567	0.2641470				
	0.2660967	0.2652231	0.2526758	0.2569585			0.2595	AVRG		1.8074
116)B Hexachloropropene		0.1810294	0.1895595	0.1881639	0.1870240	0.1927452				
	0.1880520	0.1872251	0.1851800	0.1888581			0.1875	AVRG		1.7059
117)BM Caprolactam		0.1062142	0.1069574	0.1065938	0.1059107	0.1082860				
	0.1061859	0.1010262	0.1044662	0.1064193			0.1058	AVRG		1.9325
118)B N-Nitrosodi-n-butylamine		0.2259433	0.2337186	0.2381351	0.2389343	0.2392814				
	0.2363647	0.2324240	0.2363268	0.2354827			0.2352	AVRG		1.7629
119)B Safrole		0.2784357	0.2701081	0.2760549	0.2711888	0.2665110				
	0.2659358	0.2584251	0.2713522	0.2682330			0.2696	AVRG		2.1760
121)B 1,2,4,5-Tetrachlorobenze		0.5413741	0.5330642	0.5162189	0.5139876	0.5149992				
	0.5068021	0.5034643	0.5280650	0.5227957			0.5201	AVRG		2.3777
122)BM 1,1-Biphenyl		1.5410255	1.5084271	1.5131866	1.4965989	1.4497141				
	1.3576444	1.2975705	1.5101439	1.4950145			1.4633	AVRG		5.5986
123)B Isosafrole		0.5133428	0.5012381	0.4998224	0.4995480	0.4995188				
	0.4952410	0.4914919	0.4994825	0.5020965			0.5002	AVRG		1.1814
124)B 1,4-Naphthoquinone		0.4850133	0.4586751	0.4239824	0.3792977					
			0.4566633	0.3630291			0.4278	AVRG		11.2704
125)B Pentachlorobenzene		0.4971589	0.4760093	0.4745040	0.4660164	0.4702036				
	0.4642600	0.4601578	0.4729976	0.4681488			0.4722	AVRG		2.2589
126)B 1-Naphthylamine		1.2253780	1.1934801	1.2226095	1.1991333	1.2167327				
	1.1658801	1.1121440	1.1980026	1.2212516			1.1950	AVRG		3.0445
127)B 2-Naphthylamine		1.1906767	1.1903184	1.2082530	1.1652641	1.2159981				
	1.1453920	1.0846679	1.1870110	1.2128185			1.1778	AVRG		3.5392
128)B 5-Nitro-o-toluidine		0.3126126	0.3193849	0.3245233	0.3210066	0.3403700				
	0.3293971	0.3055851	0.3278979	0.3344432			0.3239	AVRG		3.3118
130)B 1,3,5-Trinitrobenzene		0.1164374	0.1083953	0.1104257	0.1181570	0.1161636				
	0.1240246	0.1034506	0.1148586	0.1281339			0.1156	AVRG		6.5793

Response Factor Report MSD4
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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
131)B Phenacetin		0.3121470	0.3094839	0.2988562	0.3090105	0.3138477				
	0.3228939	0.2890942	0.3206417	0.3213219			0.3108	AVRG		3.5677
132)B Diallate		0.2879252	0.2808013	0.2826239	0.2861717	0.2815939				
	0.2873857	0.2943127	0.2774334	0.2817229			0.2844	AVRG		1.7684
133)B Cis Diallate		0.3387355	0.3303544	0.3324987	0.3366726	0.3312869				
	0.3381008	0.3462503	0.3263922	0.3314387			0.3346	AVRG		1.7684
134)B Trans Diallate		0.6618502	0.6343541	0.6447697	0.6580918	0.6363962				
	0.6536009	0.6685414	0.6350732	0.6470541			0.6489	AVRG		1.9185
135)BM Atrazine		0.2246364	0.2009535	0.1952757	0.1951016	0.1823941				
	0.1806646	0.1733677	0.2025049	0.1910677			0.1940	AVRG		7.7513
136)B 4-Aminobiphenyl		0.6649430	0.6850858	0.7220804	0.7531349	0.7444301				
	0.7177130	0.6763790	0.6836481	0.7576189			0.7117	AVRG		4.9604
137)B Pentachloronitrobenzene		0.0939075	0.0883190	0.0896535	0.0909382	0.0872733				
	0.0870615	0.0868408	0.0902010	0.0894415			0.0893	AVRG		2.5352
138)B Pronamide		0.3610224	0.3380088	0.3358413	0.3443505	0.3329082				
	0.3359250	0.3210082	0.3398092	0.3415280			0.3389	AVRG		3.1326
139)B 4-Nitroquinoline-1-oxide		25724	43990	62434	81758			1/x^2		
0.0033 | 0.0184 | 0.00			50103	96234				LINR	#	0.9930
140)B Methapyrilene		0.4017440	0.3725481	0.3492650	0.3507638	0.3186277				
	0.3305149	0.2884272	0.3705546	0.3563909			0.3488	AVRG		9.5052
141)B Isodrin		0.1485983	0.1393598	0.1385324	0.1403941	0.1342993				
	0.1354139	0.1308304	0.1391981	0.1365096			0.1381	AVRG		3.5788
143)B Aramite		0.1029373	0.1229008	0.1168777	0.1144904	0.1189325				
	0.1060531	0.1016495	0.1140081	0.1173637			0.1128	AVRG		6.6380
144)B Kepone		0.1877186	0.2133654	0.1900512	0.1911663	0.1893402				
	0.1756424	0.1667574	0.1878165	0.1949738			0.1885	AVRG		6.7861
145)B p-(Dimethylamino)azobenz		0.3525315	0.3972353	0.3736794	0.3730386	0.3839097				
	0.3554726	0.3417824	0.3723307	0.3791195			0.3699	AVRG		4.6423
146)B Chlorobenzilate		0.4926173	0.6526972	0.6071905	0.6009483	0.6384235				
	0.5672814	0.5466885	0.5635071	0.6141923			0.5871	AVRG		8.4692

SDG: 2021-129

Response Factor Report MSD4
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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound b m1 m2	1 7	2 8	3 9	4 10	5	6	Avg	Curve	Exp	%RSD/r2
147)B 2-Acetylaminofluorene	0.4519396	0.4178870 0.4977326	0.3652812 0.4210266	0.4068253 0.4260249	0.4424930	0.4338485	0.4292	AVRG		8.3202
149)B 7,12-Dimethylbenz(a)anth	0.7012881	0.6905261 0.6698326	0.7000521 0.6949362	0.6767698 0.7252211	0.6714721	0.6743827	0.6894	AVRG		2.6446
150)B 3-Methylcholanthrene	0.1158917	0.1184775 0.1190428	0.1211094 0.1172003	0.1170298 0.1182219	0.1183021	0.1205575	0.1184	AVRG		1.4022
152)J Sulfolane	0.1485155	0.1463278 0.1473539	0.1432863	0.1482181	0.1485309	0.1536304	0.1480	AVRG		2.0961
154)J Prometon	0.1658701	0.1548826 0.1685155	0.1613147	0.1677511	0.1630449	0.1670746	0.1641	AVRG		2.9298
155)JM Benzidine	0.5962056	0.5379130 0.5985352	0.4798687	0.5533993	0.5274806	0.5675454	0.5516	AVRG		7.5353
157)J 3,3'-Dimethylbenzidine	0.9978317	0.9406353 1.0004832	0.9625059	1.0001677	0.9781395	0.9568652	0.9767	AVRG		2.4590
158)JM 3,3'-Dichlorobenzidine	0.4181542	0.4084513 0.4372121	0.3952587	0.4134094	0.3929413	0.3968900	0.4089	AVRG		3.8574
160)D Triethylphosphorothioate	0.1629299	0.1825514 0.1578420	0.1684351	0.1691228	0.1730649	0.1653377	0.1685	AVRG		4.6819
162)D Thionazine	0.2350733	0.2363504 0.2317290	0.2328726	0.2454194	0.2472814	0.2361823	0.2378	AVRG		2.5530
163)DM Tributylphosphate	1.4737179	1.6027042 1.3684848	1.6588166	1.7298237	1.7305089	1.5293442	1.5848	AVRG		8.5543
165)D Sulfotepp	0.1330705	0.1378659 0.1300568	0.1354073	0.1331816	0.1360823	0.1320507	0.1340	AVRG		1.9782
166)D Phorate	0.5566530	0.5696330 0.5401205	0.5586409	0.5626009	0.5771663	0.5627388	0.5611	AVRG		2.0604
167)D Dimethoate	0.3262291	0.2839906 0.3193755	0.3108892	0.3251904	0.3433630	0.3412714	0.3215	AVRG		6.2588
168)D Disulfoton	0.4710657	0.5212773 0.4550978	0.4878816	0.4825053	0.4912263	0.4745483	0.4834	AVRG		4.2635

SDG: 2021-129

Response Factor Report MSD4
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
169)D Methyl parathion		0.2052825	0.2292553	0.2511078	0.2695190	0.2719784				
	0.2659597	0.2516197					0.2492	AVRG		9.7572
170)D Parathion		0.0652192	0.0805658	0.0871399	0.0938561	0.0906942				
	0.0888339	0.0835489					0.0843	AVRG		11.2520
172)D Famphur		0.5835498	0.6268379	0.6483433	0.6678377	0.6396677				
	0.6189187	0.6038707					0.6270	AVRG		4.4978
174)E p-Phenylenediamine		0.3980869	0.4062995	0.4121832	0.4237145	0.4185725				
	0.4245336						0.4139	AVRG		2.5155
176)E Hexachlorophene		0.0949931	0.1080907	0.1249728	0.1275093	0.1373368				
	0.1421261						0.1225	AVRG		14.6059

(#) = Out of Range ($) = Individual RF Out of Range
AVRG = Average, LINR = Linear Regression, 1/x = the inverse of concentration, 1/x^2 = the inverse square of concentration

Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1907.D
Acq On : 19 Oct 2020 13:22
Operator : JMB3
Sample : |WBN201013-01|ICAL|1|SVM|1|M-1
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 09:21:37 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	793812	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.266	7.265	1.000	3162227	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.598	9.603	1.000	1662351	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2564917	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.984	14.989	1.000	1096216	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.262	18.262	1.000	786406	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.598	9.592	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.984	14.978	1.000	0m	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.262	18.252	1.000	0m	40.00	ng/uL	0.01
151) J Naphthalene-d8	136	7.266	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.984	14.984	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.598	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.984	14.984	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.262	18.300	1.000	0m	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	0.000	3.751	0.000	0d	0.00	ng/uL	
8) Phenol-d5	99	0.000	4.928	0.000	0d	0.00	ng/uL	
23) Nitrobenzene-d5	82	0.000	6.260	0.000	0d	0.00	ng/uL	
44) 2-Fluorobiphenyl	172	0.000	8.726	0.000	0d	0.00	ng/uL	
63) 2,4,6-Tribromophenol	330	0.000	10.603	0.000	0d	0.00	ng/uL	
80) p-Terphenyl-d14	244	0.000	13.475	0.000	0d	0.00	ng/uL	
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.377	2.377	0.435	14591	0.94	ng/uL	96
33) Naphthalene	128	7.292	7.298	1.004	69375	0.93	ng/uL	97
37) 2-Methylnaphthalene	142	8.234	8.239	1.133	48086	0.92	ng/uL	99
38) 1-Methylnaphthalene	142	8.362	8.367	1.151	43274	0.90	ng/uL	98
45) 2-Chloronaphthalene	162	8.870	8.875	0.924	41327	0.92	ng/uL	98
49) Dimethylphthalate	163	9.250	9.271	0.964	48458	0.91	ng/uL	99
53) Acenaphthylene	152	9.410	9.416	0.980	70471	0.93	ng/uL	98
54) Acenaphthene	154	9.635	9.646	1.004	43367	0.94	ng/uL	97
58) Diethylphthalate	149	10.154	10.170	1.058	47345	0.89	ng/uL	96
60) Fluorene	166	10.293	10.298	1.072	48352	0.94	ng/uL	95
73) Phenanthrene	178	11.507	11.512	1.002	63545	0.93	ng/uL	97
74) Anthracene	178	11.571	11.576	1.008	61043	0.89	ng/uL	98
75) Carbazole	167	11.764	11.774	1.025	47656	0.86	ng/uL	100
76) Di-n-butylphthalate	149	12.218	12.218	1.064	65834	0.86	ng/uL	99
77) Fluoranthene	202	12.994	12.999	1.132	54014	0.90	ng/uL	95
79) Pyrene	202	13.272	13.277	0.886	54512	0.97	ng/uL	97
81) Butylbenzylphthalate	149	14.112	14.112	0.942	17906	0.79	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.043	15.042	1.004	27494	0.82	ng/uL	99
83) Benzo(a)anthracene	228	14.962	14.967	0.999	33580	0.94	ng/uL	97
84) Chrysene	228	15.021	15.032	1.002	32128	0.96	ng/uL	98
87) Di-n-octylphthalate	149	16.417	16.417	1.096	25817	1.01	ng/uL#	88
89) Benzo(b)fluoranthene	252	17.230	17.241	0.943	21717	0.84	ng/uL	94
90) Benzo(k)fluoranthene	252	17.305	17.316	0.948	20210	0.84	ng/uL	97
91) Benzo(a)pyrene	252	18.091	18.102	0.991	17146	0.87	ng/uL	92

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1907.D
Acq On : 19 Oct 2020 13:22
Operator : JMB3
Sample : |WBN201013-01|ICAL|1|SVM|1|M-1
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 21 09:21:37 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

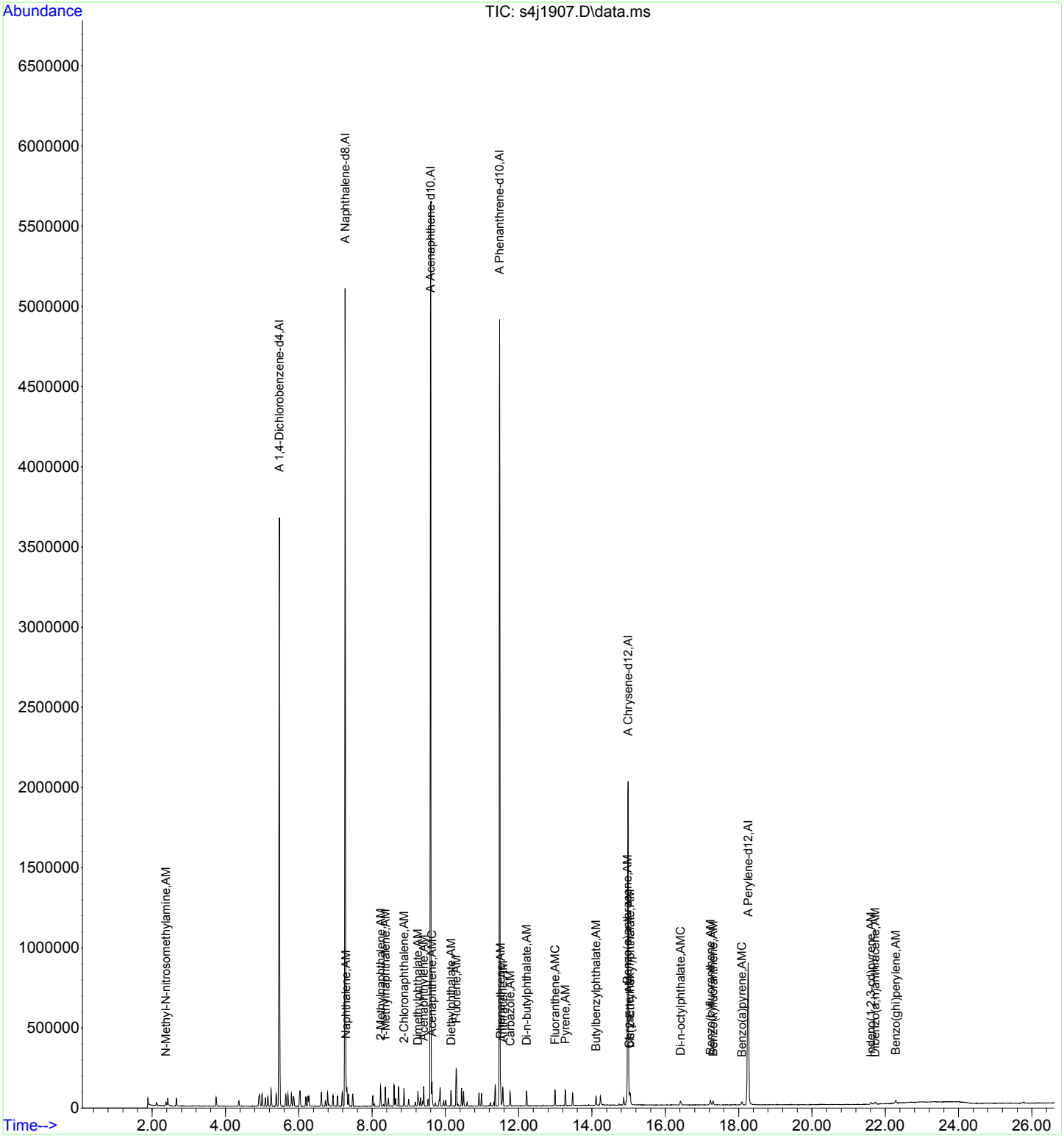
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
92)	Indeno(1,2,3-cd)pyrene	276	21.616	21.632	1.184	11998	0.93	ng/uL	92
93)	Dibenzo(a,h)anthracene	278	21.728	21.733	1.190	11432	1.00	ng/uL	97
94)	Benzo(ghi)perylene	276	22.285	22.306	1.220	15239	1.00	ng/uL	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1907.D
Acq On : 19 Oct 2020 13:22
Operator : JMB3
Sample : |WBN201013-01|ICAL|1|SVM|1|M-1
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 21 09:21:37 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1908.D
Acq On : 19 Oct 2020 13:54
Operator : JMB3
Sample : |WBN201013-02|ICAL|1|SVM|1|M-2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 09:21:40 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	679655	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.265	7.265	1.000	2853083	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.597	9.603	1.000	1559848	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2547866	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.983	14.989	1.000	1124516	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.257	18.262	1.000	881783	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.597	9.592	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.983	14.978	1.000	0m	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.257	18.252	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.265	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.983	14.984	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.597	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.983	14.984	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.257	18.300	1.000	0m	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.746	3.751	0.685	193759	9.48	ng/uL	0.00
8) Phenol-d5	99	4.917	4.928	0.899	232268	9.34	ng/uL	-0.01
23) Nitrobenzene-d5	82	6.249	6.260	0.860	216916	8.96	ng/uL	-0.01
44) 2-Fluorobiphenyl	172	8.720	8.726	0.909	469370	9.68	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.592	10.603	1.104	44146	8.00	ng/uL	-0.01
80) p-Terphenyl-d14	244	13.470	13.475	0.899	363710	9.74	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.109	2.109	0.386	134442	9.61	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.371	2.377	0.434	130687	9.79	ng/uL	99
4) Pyridine	79	2.414	2.414	0.441	200771	9.45	ng/uL	100
6) p-Benzoquinone	54	4.366	4.372	0.799	140467	8.75	ng/uL	98
7) Aniline	93	4.998	5.008	0.914	331913	9.40	ng/uL	100
9) Phenol	94	4.933	4.949	0.902	251327	9.24	ng/uL	97
10) bis(2-Chloroethyl) ether	93	5.089	5.099	0.931	224497	9.49	ng/uL	99
11) 2-Chlorophenol	128	5.158	5.169	0.943	206784	9.33	ng/uL	99
12) n-Decane	43	5.244	5.249	0.959	337867	9.76	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.383	5.388	0.984	254251	9.76	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.490	5.495	1.004	258669	9.73	ng/uL	97
15) 1,2-Dichlorobenzene	146	5.704	5.709	1.043	243384	9.62	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.859	5.869	1.071	449299	9.58	ng/uL	99
17) Benzyl alcohol	108	5.650	5.661	1.033	140442	9.33	ng/uL	99
18) o-Cresol	107	5.800	5.811	1.061	166931	9.45	ng/uL	99
19) m,p-Cresols	108	6.025	6.046	1.102	193592	9.23	ng/uL	97
20) N-Nitrosodipropylamine	70	6.041	6.062	1.105	177198	9.45	ng/uL	98
21) Hexachloroethane	117	6.190	6.196	1.132	96181	9.53	ng/uL	95
24) Nitrobenzene	77	6.276	6.287	0.864	228702	9.33	ng/uL	99
25) Isophorone	82	6.618	6.634	0.911	457195	9.34	ng/uL	99
26) 2-Nitrophenol	139	6.731	6.736	0.926	84519	7.96	ng/uL	99
27) 2,4-Dimethylphenol	122	6.789	6.800	0.934	200767	9.62	ng/uL	95
28) bis(2-Chloroethoxy)met...	93	6.934	6.945	0.954	267261	9.47	ng/uL	98
29) 2,4-Dichlorophenol	162	7.057	7.068	0.971	163241	8.84	ng/uL	96

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1908.D
Acq On : 19 Oct 2020 13:54
Operator : JMB3
Sample : |WBN201013-02|ICAL|1|SVM|1|M-2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 09:21:40 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
31) 1,2,4-Trichlorobenzene	180	7.185	7.191	0.989	198505	9.68	ng/uL	99
32) alpha-Terpineol	59	7.314	7.324	1.007	225380	9.28	ng/uL	98
33) Naphthalene	128	7.292	7.298	1.004	667829	9.97	ng/uL	99
34) 4-Chloroaniline	127	7.362	7.372	1.013	244680	9.27	ng/uL	99
35) Hexachlorobutadiene	225	7.474	7.474	1.029	113232	9.59	ng/uL	98
36) 4-Chloro-3-methylphenol	107	8.020	8.025	1.104	168546	8.81	ng/uL	99
37) 2-Methylnaphthalene	142	8.234	8.239	1.133	456578	9.67	ng/uL	99
38) 1-Methylnaphthalene	142	8.362	8.367	1.151	418571	9.61	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.447	8.447	0.880	109161	8.63	ng/uL	97
41) 2,3-Dichloroaniline	161	8.597	8.603	0.896	231737	9.97	ng/uL	100
42) 2,4,6-Trichlorophenol	196	8.603	8.608	0.896	106368	8.68	ng/uL	98
43) 2,4,5-Trichlorophenol	196	8.640	8.645	0.900	111934	8.50	ng/uL	99
45) 2-Chloronaphthalene	162	8.870	8.875	0.924	411058	9.70	ng/uL	99
46) o-Nitroaniline	65	8.998	9.009	0.938	109053	8.68	ng/uL	97
47) 1,4-Dinitrobenzene	168	9.186	9.196	0.957	44701	10.23	ng/uL	96
48) m-Nitroaniline	138	9.528	9.544	0.993	94443	8.84	ng/uL	99
49) Dimethylphthalate	163	9.255	9.271	0.964	480185	9.65	ng/uL	100
50) m-Dinitrobenzene	168	9.277	9.287	0.967	61268	8.28	ng/uL#	48
51) 2,6-Dinitrotoluene	165	9.325	9.335	0.972	101098	9.02	ng/uL	100
52) 2,4-Dinitrotoluene	165	9.833	9.843	1.025	119306	8.58	ng/uL	85
53) Acenaphthylene	152	9.410	9.416	0.980	707365	9.93	ng/uL	98
54) Acenaphthene	154	9.635	9.646	1.004	426858	9.84	ng/uL	99
56) Dibenzofuran	168	9.854	9.865	1.027	571094	9.57	ng/uL	98
57) 2,3,4,6-Tetrachlorophenol	232	10.009	10.015	1.043	78219	7.81	ng/uL	98
58) Diethylphthalate	149	10.159	10.170	1.059	479741	9.58	ng/uL	98
59) 4-Nitrophenol	139	9.731	9.747	1.014	57425	10.42	ng/uL	96
60) Fluorene	166	10.293	10.298	1.072	476629	9.89	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.298	10.303	1.073	220594	10.07	ng/uL	99
62) p-Nitroaniline	138	10.298	10.320	1.073	87760	9.25	ng/uL	92
65) 2-Methyl-4,6-dinitroph...	198	10.346	10.362	0.901	26875	12.65	ng/uL	98
66) Diphenylamine	169	10.443	10.453	0.910	385715	9.31	ng/uL	98
67) 1,2-Diphenylhydrazine	77	10.496	10.507	0.914	482783	9.12	ng/uL	98
68) 4-Bromophenylphenylether	248	10.913	10.919	0.951	121763	9.34	ng/uL	98
69) Hexachlorobenzene	284	10.983	10.993	0.957	131754	9.43	ng/uL	97
70) Pentachlorophenol	266	11.229	11.234	0.978	43829	10.42	ng/uL	99
71) n-Octadecane	57	11.357	11.362	0.989	393769	9.16	ng/uL	98
72) Dinoseb	211	11.464	11.469	0.999	40829	12.50	ng/uL	91
73) Phenanthrene	178	11.507	11.512	1.002	652980	9.66	ng/uL	98
74) Anthracene	178	11.571	11.576	1.008	665093	9.76	ng/uL	98
75) Carbazole	167	11.764	11.774	1.025	537384	9.77	ng/uL	98
76) Di-n-butylphthalate	149	12.213	12.218	1.064	746383	9.87	ng/uL	99
77) Fluoranthene	202	12.988	12.999	1.131	594756	9.94	ng/uL	99
79) Pyrene	202	13.272	13.277	0.886	596654	10.40	ng/uL	100
81) Butylbenzylphthalate	149	14.106	14.112	0.941	227949	9.86	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.042	15.042	1.004	332799	9.67	ng/uL	97
83) Benzo(a)anthracene	228	14.962	14.967	0.999	355238	9.72	ng/uL	99
84) Chrysene	228	15.026	15.032	1.003	337914	9.84	ng/uL	100
85) Methoxychlor	227	14.866	14.871	0.992	296746	8.98	ng/uL	99
86) Methylenebis(2-chloroa...	231	14.930	14.935	0.996	56946	9.04	ng/uL	99
87) Di-n-octylphthalate	149	16.412	16.417	1.095	347298	8.65	ng/uL	100
89) Benzo(b)fluoranthene	252	17.230	17.241	0.944	255302	8.80	ng/uL	99
90) Benzo(k)fluoranthene	252	17.299	17.316	0.948	241118	8.97	ng/uL	100
91) Benzo(a)pyrene	252	18.086	18.102	0.991	200532	9.06	ng/uL	99
92) Indeno(1,2,3-cd)pyrene	276	21.616	21.632	1.184	162106	11.21	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.723	21.733	1.190	139784	10.89	ng/uL	99
94) Benzo(ghi)perylene	276	22.284	22.306	1.221	193424	11.29	ng/uL	97
95) Dibenzo(a,e)pyrene	302	25.772	25.772	1.412	59981	11.76	ng/uL	97

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1908.D
Acq On : 19 Oct 2020 13:54
Operator : JMB3
Sample : |WBN201013-02|ICAL|1|SVM|1|M-2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 09:21:40 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

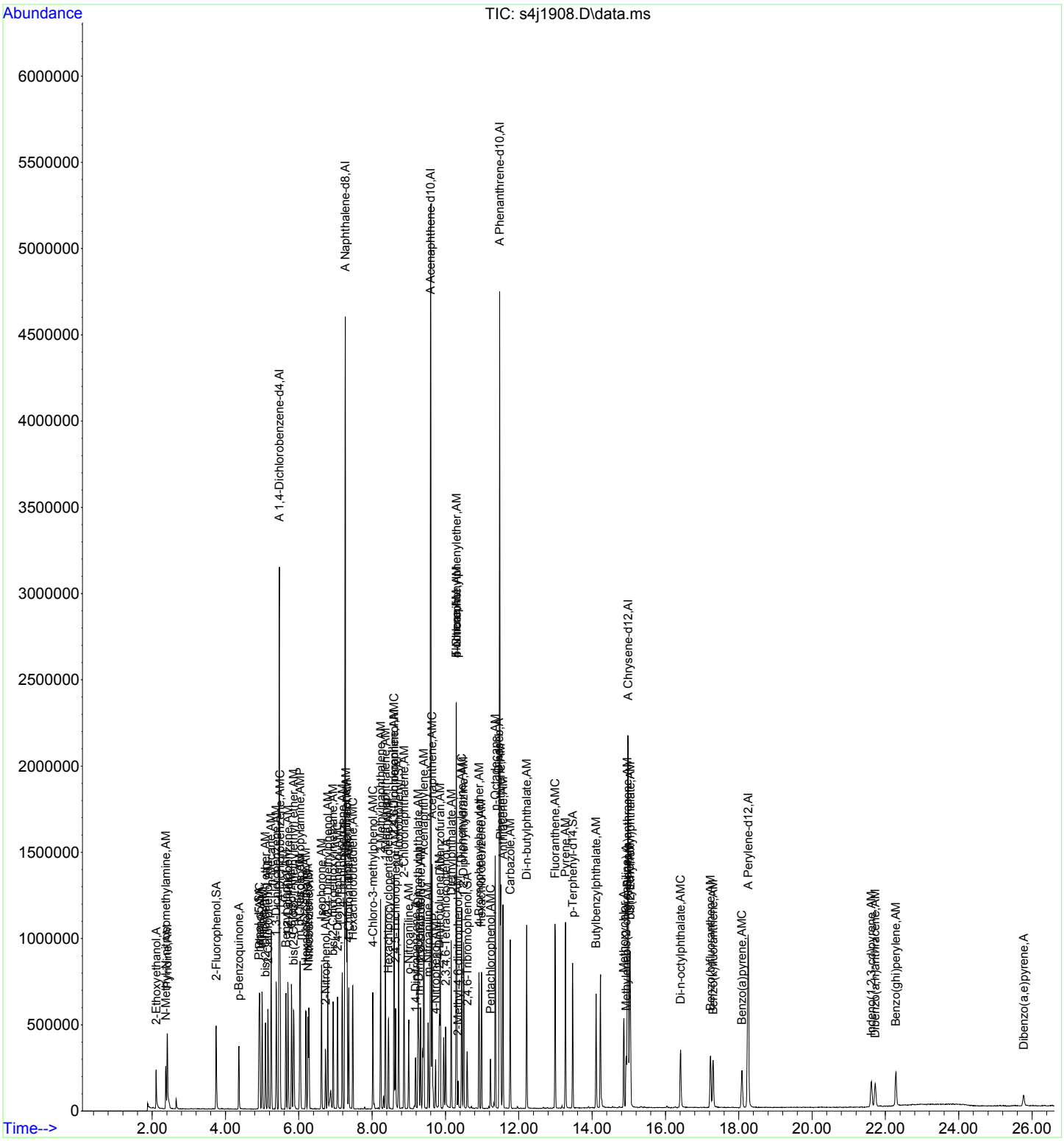
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1908.D
Acq On : 19 Oct 2020 13:54
Operator : JMB3
Sample : |WBN201013-02|ICAL|1|SVM|1|M-2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 09:21:40 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1909.D
Acq On : 19 Oct 2020 14:26
Operator : JMB3
Sample : |WBN201013-03|ICAL|1|SVM|1|M-3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

RJB 10/21/2020

Quant Time: Oct 21 09:21:42 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	747414	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.266	7.265	1.000	3123115	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.598	9.603	1.000	1740940	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2842651	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.984	14.989	1.000	1295325	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.257	18.262	1.000	964960	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.598	9.592	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.984	14.978	1.000	0m	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.257	18.252	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.266	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.984	14.984	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.598	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.984	14.984	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.257	18.300	1.000	0m	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.746	3.751	0.685	427065	18.99	ng/uL	0.00
8) Phenol-d5	99	4.918	4.928	0.899	519881	19.02	ng/uL	-0.01
23) Nitrobenzene-d5	82	6.255	6.260	0.861	513829	19.39	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.726	8.726	0.909	1069268	19.75	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.592	10.603	1.104	112393	18.26	ng/uL	-0.01
80) p-Terphenyl-d14	244	13.470	13.475	0.899	859937	19.99	ng/uL	0.00

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.110	2.109	0.386	299366	19.45	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.372	2.377	0.434	286462	19.52	ng/uL	99
4) Pyridine	79	2.414	2.414	0.442	452638	19.37	ng/uL	99
6) p-Benzoquinone	54	4.367	4.372	0.799	328231	18.60	ng/uL	98
7) Aniline	93	5.003	5.008	0.915	747599	19.26	ng/uL	99
9) Phenol	94	4.939	4.949	0.903	566051	18.93	ng/uL	99
10) bis(2-Chloroethyl) ether	93	5.089	5.099	0.931	508757	19.55	ng/uL	99
11) 2-Chlorophenol	128	5.164	5.169	0.944	465843	19.11	ng/uL	99
12) n-Decane	43	5.249	5.249	0.960	758139	19.92	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.388	5.388	0.985	563805	19.67	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.490	5.495	1.004	573471	19.61	ng/uL	97
15) 1,2-Dichlorobenzene	146	5.704	5.709	1.043	544977	19.58	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.864	5.869	1.072	1003609	19.45	ng/uL	99
17) Benzyl alcohol	108	5.650	5.661	1.033	313529	18.95	ng/uL	98
18) o-Cresol	107	5.805	5.811	1.062	374028	19.26	ng/uL	98
19) m,p-Cresols	108	6.030	6.046	1.103	441028	19.11	ng/uL	99
20) N-Nitrosodipropylamine	70	6.051	6.062	1.107	399904	19.39	ng/uL	100
21) Hexachloroethane	117	6.191	6.196	1.132	214861	19.37	ng/uL	96
24) Nitrobenzene	77	6.282	6.287	0.865	513963	19.16	ng/uL	99
25) Isophorone	82	6.624	6.634	0.912	1046503	19.52	ng/uL	99
26) 2-Nitrophenol	139	6.731	6.736	0.926	207937	17.90	ng/uL	98
27) 2,4-Dimethylphenol	122	6.790	6.800	0.934	447955	19.62	ng/uL	98
28) bis(2-Chloroethoxy)met...	93	6.939	6.945	0.955	599298	19.39	ng/uL	98
29) 2,4-Dichlorophenol	162	7.062	7.068	0.972	385918	19.10	ng/uL	98

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1909.D
Acq On : 19 Oct 2020 14:26
Operator : JMB3
Sample : |WBN201013-03|ICAL|1|SVM|1|M-3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 09:21:42 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.897	6.961	0.949	126906	20.42	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.185	7.191	0.989	445595	19.85	ng/uL	100
32) alpha-Terpineol	59	7.314	7.324	1.007	519244	19.54	ng/uL	99
33) Naphthalene	128	7.292	7.298	1.004	1526463	20.81	ng/uL	99
34) 4-Chloroaniline	127	7.367	7.372	1.014	545967	18.90	ng/uL	99
35) Hexachlorobutadiene	225	7.474	7.474	1.029	257586	19.92	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.020	8.025	1.104	395996	18.91	ng/uL	98
37) 2-Methylnaphthalene	142	8.234	8.239	1.133	1044999	20.22	ng/uL	99
38) 1-Methylnaphthalene	142	8.362	8.367	1.151	963061	20.20	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.448	8.447	0.880	261600	18.54	ng/uL	99
41) 2,3-Dichloroaniline	161	8.603	8.603	0.896	507270	19.55	ng/uL	100
42) 2,4,6-Trichlorophenol	196	8.603	8.608	0.896	259238	18.95	ng/uL	97
43) 2,4,5-Trichlorophenol	196	8.640	8.645	0.900	276120	18.78	ng/uL	98
45) 2-Chloronaphthalene	162	8.876	8.875	0.925	935542	19.79	ng/uL	100
46) o-Nitroaniline	65	8.999	9.009	0.938	256054	18.27	ng/uL	99
47) 1,4-Dinitrobenzene	168	9.186	9.196	0.957	120537	19.02	ng/uL	97
48) m-Nitroaniline	138	9.533	9.544	0.993	218046	18.28	ng/uL	99
49) Dimethylphthalate	163	9.261	9.271	0.965	1119799	20.15	ng/uL	99
50) m-Dinitrobenzene	168	9.282	9.287	0.967	151346	18.34	ng/uL#	46
51) 2,6-Dinitrotoluene	165	9.325	9.335	0.972	244282	19.52	ng/uL	99
52) 2,4-Dinitrotoluene	165	9.838	9.843	1.025	297683	19.18	ng/uL	91
53) Acenaphthylene	152	9.410	9.416	0.980	1633949	20.54	ng/uL	99
54) Acenaphthene	154	9.640	9.646	1.004	974645	20.12	ng/uL	99
55) 2,4-Dinitrophenol	184	9.662	9.672	1.007	47014	20.83	ng/uL#	75
56) Dibenzofuran	168	9.860	9.865	1.027	1333364	20.01	ng/uL	99
57) 2,3,4,6-Tetrachlorophenol	232	10.009	10.015	1.043	199117	17.81	ng/uL	98
58) Diethylphthalate	149	10.159	10.170	1.059	1124675	20.12	ng/uL	100
59) 4-Nitrophenol	139	9.737	9.747	1.014	133018	17.95	ng/uL	97
60) Fluorene	166	10.293	10.298	1.072	1098650	20.42	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.298	10.303	1.073	502915	20.58	ng/uL	99
62) p-Nitroaniline	138	10.309	10.320	1.074	196189	18.52	ng/uL	98
65) 2-Methyl-4,6-dinitroph...	198	10.352	10.362	0.902	76658	19.14	ng/uL	99
66) Diphenylamine	169	10.448	10.453	0.910	882879	19.10	ng/uL	98
67) 1,2-Diphenylhydrazine	77	10.502	10.507	0.915	1120087	18.97	ng/uL	99
68) 4-Bromophenylphenylether	248	10.919	10.919	0.951	280366	19.28	ng/uL	99
69) Hexachlorobenzene	284	10.988	10.993	0.957	307238	19.71	ng/uL	98
70) Pentachlorophenol	266	11.229	11.234	0.978	117734	18.52	ng/uL	97
71) n-Octadecane	57	11.357	11.362	0.989	917947	19.14	ng/uL	98
72) Dinoseb	211	11.464	11.469	0.999	121597	19.30	ng/uL	97
73) Phenanthrene	178	11.507	11.512	1.002	1548282	20.53	ng/uL	100
74) Anthracene	178	11.571	11.576	1.008	1552234	20.41	ng/uL	99
75) Carbazole	167	11.769	11.774	1.025	1243229	20.26	ng/uL	99
76) Di-n-butylphthalate	149	12.218	12.218	1.064	1784384	21.15	ng/uL	99
77) Fluoranthene	202	12.994	12.999	1.132	1361618	20.39	ng/uL	98
79) Pyrene	202	13.278	13.277	0.886	1382472	20.91	ng/uL	100
81) Butylbenzylphthalate	149	14.112	14.112	0.942	533034	20.01	ng/uL	100
82) bis(2-Ethylhexyl)phtha...	149	15.043	15.042	1.004	780537	19.69	ng/uL	99
83) Benzo(a)anthracene	228	14.962	14.967	0.999	830668	19.73	ng/uL	100
84) Chrysene	228	15.027	15.032	1.003	793963	20.08	ng/uL	100
85) Methoxychlor	227	14.866	14.871	0.992	727970	19.12	ng/uL	99
86) Methylenebis(2-chloroa...	231	14.930	14.935	0.996	136948	18.87	ng/uL	99
87) Di-n-octylphthalate	149	16.412	16.417	1.095	867562	18.32	ng/uL	100
89) Benzo(b)fluoranthene	252	17.235	17.241	0.944	610676	19.24	ng/uL	99
90) Benzo(k)fluoranthene	252	17.305	17.316	0.948	566826	19.27	ng/uL	99
91) Benzo(a)pyrene	252	18.091	18.102	0.991	467263	19.29	ng/uL	99
92) Indeno(1,2,3-cd)pyrene	276	21.621	21.632	1.184	333894	21.09	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.728	21.733	1.190	275750	19.64	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1909.D
Acq On : 19 Oct 2020 14:26
Operator : JMB3
Sample : |WBN201013-03|ICAL|1|SVM|1|M-3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 09:21:42 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

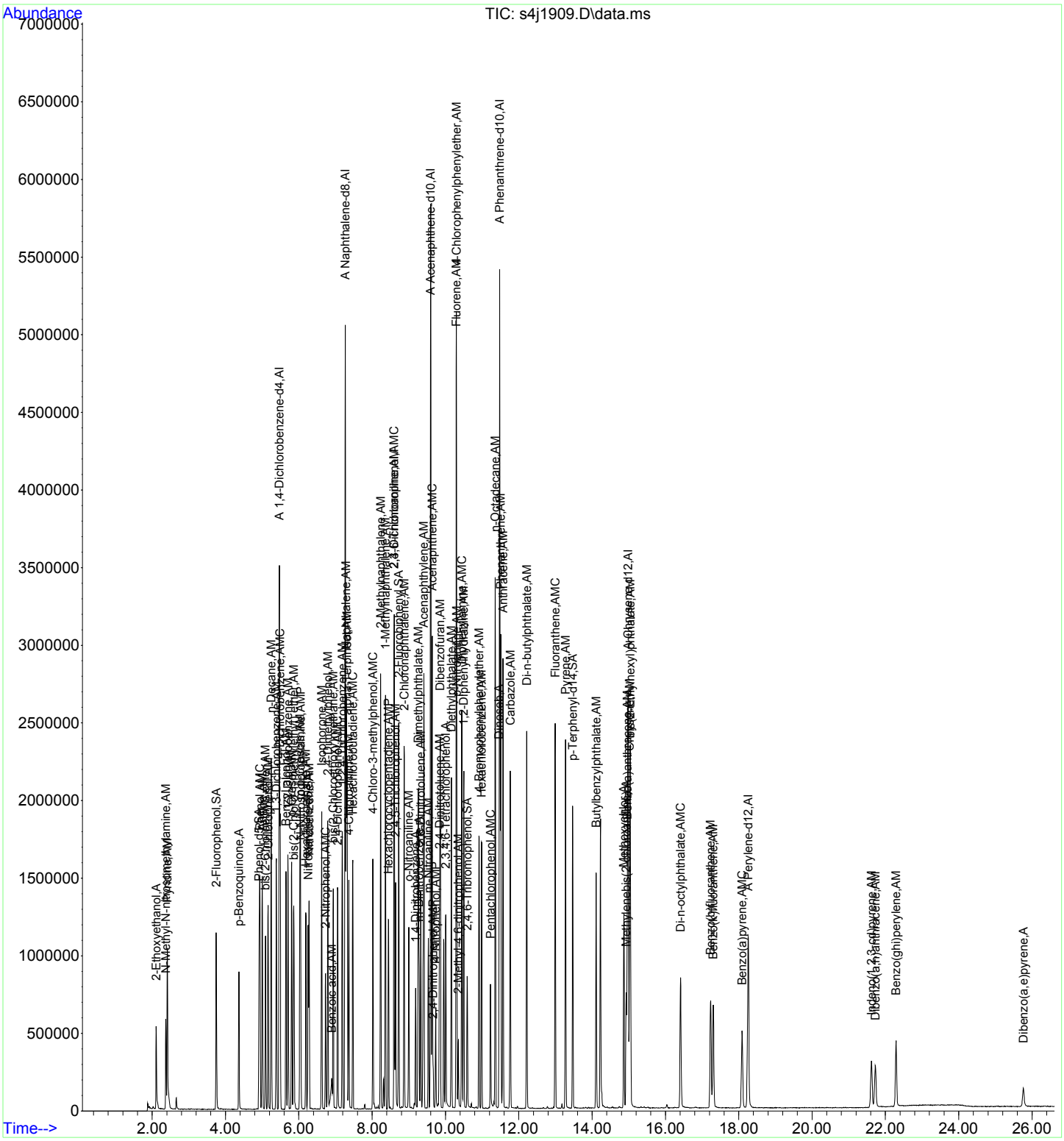
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.290	22.306	1.221	383809	20.47	ng/uL	100
95) Dibenzo(a,e)pyrene	302	25.767	25.772	1.411	121122	21.71	ng/uL	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1909.D
Acq On : 19 Oct 2020 14:26
Operator : JMB3
Sample : |WBN201013-03|ICAL|1|SVM|1|M-3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 09:21:42 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1910.D
Acq On : 19 Oct 2020 14:57
Operator : JMB3
Sample : |WBN201013-04|ICAL|1|SVM|1|M-4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 09:21:44 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	766907	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.265	7.265	1.000	3257896	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.603	9.603	1.000	1799008	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2939684	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.989	14.989	1.000	1219201	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.262	18.262	1.000	917226	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.603	9.592	1.000	0m	40.00	ng/uL	0.01
129) B Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.989	14.978	1.000	0m	40.00	ng/uL	0.01
148) B Perylene-d12	264	18.262	18.252	1.000	0m	40.00	ng/uL	0.01
151) J Naphthalene-d8	136	7.265	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.989	14.984	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.603	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.989	14.984	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.262	18.300	1.000	0m	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.751	3.751	0.686	936949	40.61	ng/uL	0.00
8) Phenol-d5	99	4.928	4.928	0.901	1156116	41.21	ng/uL	0.00
23) Nitrobenzene-d5	82	6.260	6.260	0.862	1115679	40.36	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.726	8.726	0.909	2343790	41.90	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.603	10.603	1.104	261709	41.14	ng/uL	0.00
80) p-Terphenyl-d14	244	13.475	13.475	0.899	1722085	42.52	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.109	2.109	0.386	647673	41.02	ng/uL	100
3) N-Methyl-N-nitrosometh...	74	2.377	2.377	0.435	620492	41.20	ng/uL	100
4) Pyridine	79	2.414	2.414	0.441	985603	41.10	ng/uL	100
6) p-Benzoquinone	54	4.372	4.372	0.799	741395	40.95	ng/uL	100
7) Aniline	93	5.008	5.008	0.916	1612212	40.48	ng/uL	100
9) Phenol	94	4.949	4.949	0.905	1258592	41.01	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.099	5.099	0.933	1091473	40.88	ng/uL	100
11) 2-Chlorophenol	128	5.169	5.169	0.945	1016014	40.62	ng/uL	100
12) n-Decane	43	5.249	5.249	0.960	1605851	41.13	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.388	5.388	0.985	1200806	40.83	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.495	5.495	1.005	1237267	41.23	ng/uL	100
15) 1,2-Dichlorobenzene	146	5.709	5.709	1.044	1168244	40.92	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.869	5.869	1.073	2152812	40.66	ng/uL	100
17) Benzyl alcohol	108	5.661	5.661	1.035	697629	41.09	ng/uL	100
18) o-Cresol	107	5.811	5.811	1.063	804123	40.36	ng/uL	100
19) m,p-Cresols	108	6.046	6.046	1.106	964495	40.73	ng/uL	100
20) N-Nitrosodipropylamine	70	6.062	6.062	1.109	865990	40.91	ng/uL	100
21) Hexachloroethane	117	6.196	6.196	1.133	468397	41.15	ng/uL	100
24) Nitrobenzene	77	6.287	6.287	0.865	1136545	40.62	ng/uL	100
25) Isophorone	82	6.634	6.634	0.913	2279262	40.76	ng/uL	100
26) 2-Nitrophenol	139	6.736	6.736	0.927	484408	39.97	ng/uL	100
27) 2,4-Dimethylphenol	122	6.800	6.800	0.936	961530	40.36	ng/uL	100
28) bis(2-Chloroethoxy)met...	93	6.945	6.945	0.956	1316421	40.83	ng/uL	100
29) 2,4-Dichlorophenol	162	7.068	7.068	0.973	870176	41.28	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1910.D
Acq On : 19 Oct 2020 14:57
Operator : JMB3
Sample : |WBN201013-04|ICAL|1|SVM|1|M-4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 09:21:44 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.961	6.961	0.958	422324	39.84	ng/uL	100
31) 1,2,4-Trichlorobenzene	180	7.191	7.191	0.990	949962	40.57	ng/uL	100
32) alpha-Terpineol	59	7.324	7.324	1.008	1131289	40.80	ng/uL	100
33) Naphthalene	128	7.298	7.298	1.004	3309897	43.26	ng/uL	100
34) 4-Chloroaniline	127	7.372	7.372	1.015	1248331	41.42	ng/uL	100
35) Hexachlorobutadiene	225	7.474	7.474	1.029	546505	40.51	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.025	8.025	1.105	887094	40.62	ng/uL	100
37) 2-Methylnaphthalene	142	8.239	8.239	1.134	2263142	41.97	ng/uL	100
38) 1-Methylnaphthalene	142	8.367	8.367	1.152	2089561	42.01	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.447	8.447	0.880	604215	41.44	ng/uL	100
41) 2,3-Dichloroaniline	161	8.603	8.603	0.896	1104336	41.20	ng/uL	100
42) 2,4,6-Trichlorophenol	196	8.608	8.608	0.896	582174	41.19	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.645	8.645	0.900	627780	41.32	ng/uL	100
45) 2-Chloronaphthalene	162	8.875	8.875	0.924	2029200	41.53	ng/uL	100
46) o-Nitroaniline	65	9.009	9.009	0.938	592199	40.88	ng/uL	100
47) 1,4-Dinitrobenzene	168	9.196	9.196	0.958	294700	39.50	ng/uL	100
48) m-Nitroaniline	138	9.544	9.544	0.994	506568	41.09	ng/uL	100
49) Dimethylphthalate	163	9.271	9.271	0.965	2438811	42.47	ng/uL	100
50) m-Dinitrobenzene	168	9.287	9.287	0.967	353586	41.45	ng/uL	100
51) 2,6-Dinitrotoluene	165	9.335	9.335	0.972	533130	41.23	ng/uL	100
52) 2,4-Dinitrotoluene	165	9.843	9.843	1.025	676649	42.18	ng/uL	100
53) Acenaphthylene	152	9.416	9.416	0.981	3570508	43.44	ng/uL	100
54) Acenaphthene	154	9.646	9.646	1.004	2071294	41.38	ng/uL	100
55) 2,4-Dinitrophenol	184	9.672	9.672	1.007	135197	37.36	ng/uL	100
56) Dibenzofuran	168	9.865	9.865	1.027	2943449	42.75	ng/uL	100
57) 2,3,4,6-Tetrachlorophenol	232	10.015	10.015	1.043	480249	41.56	ng/uL	100
58) Diethylphthalate	149	10.170	10.170	1.059	2453570	42.48	ng/uL	100
59) 4-Nitrophenol	139	9.747	9.747	1.015	350780	40.51	ng/uL	100
60) Fluorene	166	10.298	10.298	1.072	2333605	41.97	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.303	10.303	1.073	1047078	41.46	ng/uL	100
62) p-Nitroaniline	138	10.320	10.320	1.075	437497	39.96	ng/uL	100
65) 2-Methyl-4,6-dinitroph...	198	10.362	10.362	0.903	216390	37.58	ng/uL	100
66) Diphenylamine	169	10.453	10.453	0.911	1951602	40.82	ng/uL	100
67) 1,2-Diphenylhydrazine	77	10.507	10.507	0.915	2504734	41.03	ng/uL	100
68) 4-Bromophenylphenylether	248	10.919	10.919	0.951	602735	40.07	ng/uL	100
69) Hexachlorobenzene	284	10.993	10.993	0.958	654551	40.61	ng/uL	100
70) Pentachlorophenol	266	11.234	11.234	0.979	296663	38.43	ng/uL	100
71) n-Octadecane	57	11.362	11.362	0.990	2013289	40.59	ng/uL	100
72) Dinoseb	211	11.469	11.469	0.999	338459	37.69	ng/uL	100
73) Phenanthrene	178	11.512	11.512	1.003	3274078	41.99	ng/uL	100
74) Anthracene	178	11.576	11.576	1.008	3333924	42.38	ng/uL	100
75) Carbazole	167	11.774	11.774	1.026	2583526	40.71	ng/uL	100
76) Di-n-butylphthalate	149	12.218	12.218	1.064	3743788	42.91	ng/uL	100
77) Fluoranthene	202	12.999	12.999	1.132	2772189	40.14	ng/uL	100
79) Pyrene	202	13.277	13.277	0.886	2706731	43.50	ng/uL	100
81) Butylbenzylphthalate	149	14.112	14.112	0.941	1052776	41.99	ng/uL	100
82) bis(2-Ethylhexyl)phtha...	149	15.042	15.042	1.004	1542610	41.34	ng/uL	100
83) Benzo(a)anthracene	228	14.967	14.967	0.999	1615234	40.76	ng/uL	100
84) Chrysene	228	15.032	15.032	1.003	1525799	40.99	ng/uL	100
85) Methoxychlor	227	14.871	14.871	0.992	1427648	39.85	ng/uL	100
86) Methylenebis(2-chloroa...	231	14.935	14.935	0.996	267358	39.14	ng/uL	100
87) Di-n-octylphthalate	149	16.417	16.417	1.095	1843590	40.87	ng/uL	100
89) Benzo(b)fluoranthene	252	17.241	17.241	0.944	1197978	39.70	ng/uL	100
90) Benzo(k)fluoranthene	252	17.316	17.316	0.948	1095734	39.19	ng/uL	100
91) Benzo(a)pyrene	252	18.102	18.102	0.991	938932	40.78	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	21.632	21.632	1.185	695936	46.25	ng/uL	100
93) Dibenzo(a,h)anthracene	278	21.733	21.733	1.190	606163	45.41	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1910.D
Acq On : 19 Oct 2020 14:57
Operator : JMB3
Sample : |WBN201013-04|ICAL|1|SVM|1|M-4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 09:21:44 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

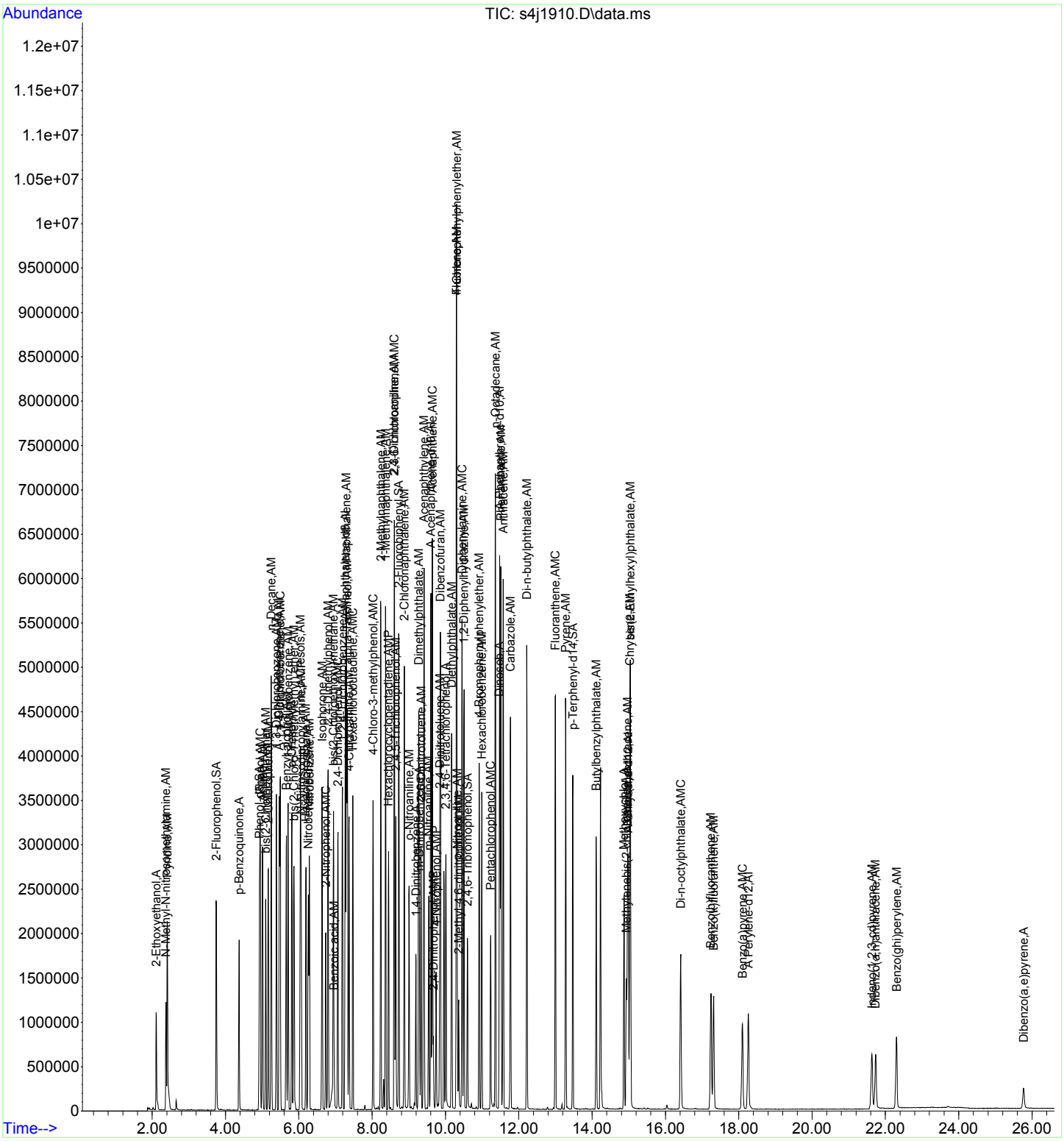
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.306	22.306	1.221	770426	43.24	ng/uL	100
95) Dibenzo(a,e)pyrene	302	25.772	25.772	1.411	232468	43.83	ng/uL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1910.D
Acq On : 19 Oct 2020 14:57
Operator : JMB3
Sample : |WBN201013-04|ICAL|1|SVM|1|M-4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 09:21:44 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1911.D
Acq On : 19 Oct 2020 15:29
Operator : JMB3
Sample : |WBN201013-05|ICAL|1|SVM|1|M-5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 09:21:46 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	735712	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.271	7.265	1.000	3159590	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.603	9.603	1.000	1750664	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2812542	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.989	14.989	1.000	1181042	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.262	18.262	1.000	840306	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.603	9.592	1.000	0m	40.00	ng/uL	0.01
129) B Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.989	14.978	1.000	0m	40.00	ng/uL	0.01
148) B Perylene-d12	264	18.262	18.252	1.000	0m	40.00	ng/uL	0.01
151) J Naphthalene-d8	136	7.271	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.989	14.984	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.603	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.989	14.984	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	0.000	18.300	1.000	0	0.00	ng/uL	-18.30
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.751	3.751	0.686	1142661	51.62	ng/uL	0.00
8) Phenol-d5	99	4.933	4.928	0.902	1389653	51.64	ng/uL	0.00
23) Nitrobenzene-d5	82	6.260	6.260	0.861	1378858	51.43	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.731	8.726	0.909	2841815	52.21	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.603	10.603	1.104	318464	51.44	ng/uL	0.00
80) p-Terphenyl-d14	244	13.475	13.475	0.899	2069290	52.75	ng/uL	0.00

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.115	2.109	0.387	784357	51.78	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.377	2.377	0.435	753768	52.17	ng/uL	100
4) Pyridine	79	2.414	2.414	0.441	1188879	51.68	ng/uL	100
6) p-Benzoquinone	54	4.372	4.372	0.799	910698	52.44	ng/uL	99
7) Aniline	93	5.014	5.008	0.917	1967283	51.49	ng/uL	99
9) Phenol	94	4.955	4.949	0.906	1517185	51.54	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.099	5.099	0.933	1324161	51.70	ng/uL	100
11) 2-Chlorophenol	128	5.169	5.169	0.945	1228719	51.21	ng/uL	100
12) n-Decane	43	5.249	5.249	0.960	1931949	51.58	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.393	5.388	0.986	1447311	51.30	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.495	5.495	1.005	1476847	51.30	ng/uL	99
15) 1,2-Dichlorobenzene	146	5.709	5.709	1.044	1400266	51.12	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.869	5.869	1.073	2614882	51.48	ng/uL	100
17) Benzyl alcohol	108	5.661	5.661	1.035	841793	51.69	ng/uL	99
18) o-Cresol	107	5.811	5.811	1.063	992016	51.90	ng/uL	99
19) m,p-Cresols	108	6.051	6.046	1.107	1179108	51.91	ng/uL	100
20) N-Nitrosodipropylamine	70	6.067	6.062	1.110	1046870	51.56	ng/uL	99
21) Hexachloroethane	117	6.196	6.196	1.133	566765	51.90	ng/uL	99
24) Nitrobenzene	77	6.292	6.287	0.865	1390004	51.22	ng/uL	100
25) Isophorone	82	6.640	6.634	0.913	2773301	51.14	ng/uL	99
26) 2-Nitrophenol	139	6.736	6.736	0.926	620476	52.79	ng/uL	99
27) 2,4-Dimethylphenol	122	6.800	6.800	0.935	1172647	50.76	ng/uL	99
28) bis(2-Chloroethoxy)met...	93	6.950	6.945	0.956	1601433	51.22	ng/uL	100
29) 2,4-Dichlorophenol	162	7.068	7.068	0.972	1055265	51.62	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1911.D
Acq On : 19 Oct 2020 15:29
Operator : JMB3
Sample : |WBN201013-05|ICAL|1|SVM|1|M-5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 09:21:46 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.977	6.961	0.960	520760	47.51	ng/uL	99
31) 1,2,4-Trichlorobenzene	180	7.191	7.191	0.989	1156832	50.94	ng/uL	99
32) alpha-Terpineol	59	7.324	7.324	1.007	1379797	51.32	ng/uL	99
33) Naphthalene	128	7.298	7.298	1.004	3979442	53.62	ng/uL	100
34) 4-Chloroaniline	127	7.372	7.372	1.014	1506640	51.55	ng/uL	100
35) Hexachlorobutadiene	225	7.474	7.474	1.028	661096	50.53	ng/uL	99
36) 4-Chloro-3-methylphenol	107	8.030	8.025	1.104	1091838	51.55	ng/uL	99
37) 2-Methylnaphthalene	142	8.239	8.239	1.133	2746605	52.52	ng/uL	99
38) 1-Methylnaphthalene	142	8.367	8.367	1.151	2525219	52.35	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.447	8.447	0.880	737484	51.98	ng/uL	99
41) 2,3-Dichloroaniline	161	8.608	8.603	0.896	1336109	51.22	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.608	8.608	0.896	725681	52.76	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.651	8.645	0.901	768544	51.99	ng/uL	99
45) 2-Chloronaphthalene	162	8.881	8.875	0.925	2486626	52.30	ng/uL	100
46) o-Nitroaniline	65	9.009	9.009	0.938	739961	52.50	ng/uL	99
47) 1,4-Dinitrobenzene	168	9.196	9.196	0.958	376855	50.64	ng/uL	98
48) m-Nitroaniline	138	9.549	9.544	0.994	631641	52.65	ng/uL	98
49) Dimethylphthalate	163	9.271	9.271	0.965	2971313	53.18	ng/uL	100
50) m-Dinitrobenzene	168	9.293	9.287	0.968	436051	52.53	ng/uL	99
51) 2,6-Dinitrotoluene	165	9.341	9.335	0.973	652125	51.82	ng/uL	99
52) 2,4-Dinitrotoluene	165	9.849	9.843	1.026	823936	52.78	ng/uL	99
53) Acenaphthylene	152	9.421	9.416	0.981	4311223	53.91	ng/uL	100
54) Acenaphthene	154	9.646	9.646	1.004	2546737	52.29	ng/uL	99
55) 2,4-Dinitrophenol	184	9.678	9.672	1.008	183930	47.63	ng/uL#	21
56) Dibenzofuran	168	9.865	9.865	1.027	3557115	53.09	ng/uL	99
57) 2,3,4,6-Tetrachlorophenol	232	10.015	10.015	1.043	595282	52.94	ng/uL	98
58) Diethylphthalate	149	10.170	10.170	1.059	2978980	53.00	ng/uL	100
59) 4-Nitrophenol	139	9.753	9.747	1.016	433735	50.55	ng/uL	99
60) Fluorene	166	10.303	10.298	1.073	2832685	52.35	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.303	10.303	1.073	1264393	51.45	ng/uL	99
62) p-Nitroaniline	138	10.325	10.320	1.075	532952	50.03	ng/uL	98
65) 2-Methyl-4,6-dinitroph...	198	10.368	10.362	0.903	286728	48.78	ng/uL	99
66) Diphenylamine	169	10.459	10.453	0.911	2362133	51.64	ng/uL	100
67) 1,2-Diphenylhydrazine	77	10.507	10.507	0.915	3043350	52.10	ng/uL	100
68) 4-Bromophenylphenylether	248	10.924	10.919	0.952	737631	51.26	ng/uL	99
69) Hexachlorobenzene	284	10.993	10.993	0.958	776905	50.39	ng/uL	97
70) Pentachlorophenol	266	11.234	11.234	0.979	373234	49.06	ng/uL	98
71) n-Octadecane	57	11.363	11.362	0.990	2453539	51.71	ng/uL	100
72) Dinoseb	211	11.475	11.469	1.000	445141	48.66	ng/uL	100
73) Phenanthrene	178	11.512	11.512	1.003	3906920	52.37	ng/uL	99
74) Anthracene	178	11.582	11.576	1.009	4019587	53.41	ng/uL	100
75) Carbazole	167	11.774	11.774	1.026	3146743	51.82	ng/uL	100
76) Di-n-butylphthalate	149	12.218	12.218	1.064	4489257	53.78	ng/uL	100
77) Fluoranthene	202	12.999	12.999	1.132	3322575	50.28	ng/uL	100
79) Pyrene	202	13.283	13.277	0.886	3300690	54.76	ng/uL	100
81) Butylbenzylphthalate	149	14.112	14.112	0.941	1307241	53.82	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.048	15.042	1.004	1915726	53.00	ng/uL	99
83) Benzo(a)anthracene	228	14.967	14.967	0.999	1961285	51.09	ng/uL	99
84) Chrysene	228	15.037	15.032	1.003	1874490	51.99	ng/uL	99
85) Methoxychlor	227	14.871	14.871	0.992	1811958	52.21	ng/uL	99
86) Methylenebis(2-chloroa...	231	14.935	14.935	0.996	323846	48.94	ng/uL	99
87) Di-n-octylphthalate	149	16.417	16.417	1.095	2307434	52.70	ng/uL	100
89) Benzo(b)fluoranthene	252	17.246	17.241	0.944	1413895	51.15	ng/uL	99
90) Benzo(k)fluoranthene	252	17.316	17.316	0.948	1315573	51.37	ng/uL	99
91) Benzo(a)pyrene	252	18.102	18.102	0.991	1097815	52.05	ng/uL	99
92) Indeno(1,2,3-cd)pyrene	276	21.632	21.632	1.185	761657	55.25	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.734	21.733	1.190	652067	53.32	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1911.D
Acq On : 19 Oct 2020 15:29
Operator : JMB3
Sample : |WBN201013-05|ICAL|1|SVM|1|M-5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 09:21:46 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

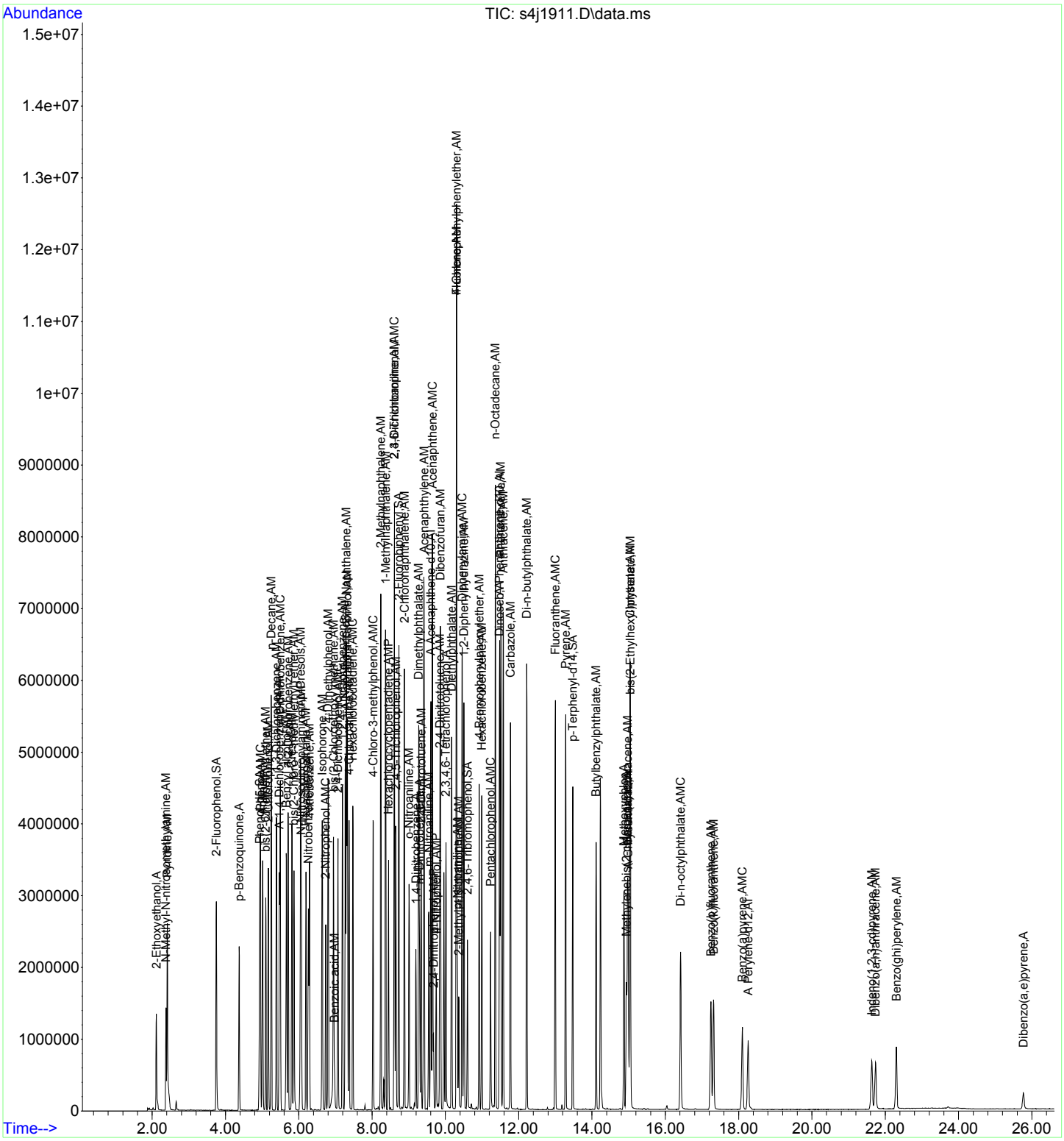
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.306	22.306	1.221	830584	50.88	ng/uL	100
95) Dibenzo(a,e)pyrene	302	25.772	25.772	1.411	230587	47.45	ng/uL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1911.D
Acq On : 19 Oct 2020 15:29
Operator : JMB3
Sample : |WBN201013-05|ICAL|1|SVM|1|M-5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 09:21:46 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1912.D
Acq On : 19 Oct 2020 16:00
Operator : JMB3
Sample : |WBN201013-06|ICAL|1|SVM|1|M-6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 09:32:53 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	733206	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.271	7.265	1.000	3146244	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.603	9.603	1.000	1758770	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.486	11.480	1.000	2781139	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.994	14.989	1.000	1481328	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.268	18.262	1.000	976727	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.603	9.592	1.000	0m	40.00	ng/uL	0.01
129) B Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.994	14.978	1.000	0m	40.00	ng/uL	0.02
148) B Perylene-d12	264	18.268	18.252	1.000	0m	40.00	ng/uL	0.02
151) J Naphthalene-d8	136	7.271	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.994	14.984	1.000	0m	40.00	ng/uL	0.01
159) D Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.603	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.994	14.984	1.000	0m	40.00	ng/uL	0.01
173) E Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.268	18.300	1.000	0m	40.00	ng/uL	-0.03
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.751	3.751	0.685	1791718	81.22	ng/uL	0.00
8) Phenol-d5	99	4.944	4.928	0.903	2182006	81.36	ng/uL	0.02
23) Nitrobenzene-d5	82	6.271	6.260	0.862	2193262	82.15	ng/uL	0.01
44) 2-Fluorobiphenyl	172	8.736	8.726	0.910	4406112	80.57	ng/uL	0.01
63) 2,4,6-Tribromophenol	330	10.608	10.603	1.105	526269	84.61	ng/uL	0.00
80) p-Terphenyl-d14	244	13.481	13.475	0.899	3794892	77.13	ng/uL	0.00

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.115	2.109	0.386	1204388	79.78	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.382	2.377	0.435	1168079	81.12	ng/uL	99
4) Pyridine	79	2.414	2.414	0.441	1835389	80.06	ng/uL	100
6) p-Benzoquinone	54	4.377	4.372	0.800	1441539	83.28	ng/uL	99
7) Aniline	93	5.019	5.008	0.917	3094293	81.27	ng/uL	99
9) Phenol	94	4.960	4.949	0.906	2377767	81.05	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.110	5.099	0.934	2074566	81.27	ng/uL	100
11) 2-Chlorophenol	128	5.174	5.169	0.945	1971730	82.46	ng/uL	99
12) n-Decane	43	5.254	5.249	0.960	3015292	80.78	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.393	5.388	0.985	2279366	81.07	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.500	5.495	1.005	2305000	80.34	ng/uL	99
15) 1,2-Dichlorobenzene	146	5.714	5.709	1.044	2209827	80.95	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.875	5.869	1.073	4151378	82.01	ng/uL	100
17) Benzyl alcohol	108	5.672	5.661	1.036	1338512	82.47	ng/uL	100
18) o-Cresol	107	5.821	5.811	1.064	1560520	81.92	ng/uL	100
19) m,p-Cresols	108	6.062	6.046	1.107	1860664	82.19	ng/uL	99
20) N-Nitrosodipropylamine	70	6.083	6.062	1.111	1656148	81.84	ng/uL	99
21) Hexachloroethane	117	6.196	6.196	1.132	883664	81.20	ng/uL	99
24) Nitrobenzene	77	6.297	6.287	0.866	2201145	81.45	ng/uL	98
25) Isophorone	82	6.650	6.634	0.915	4425909	81.95	ng/uL	99
26) 2-Nitrophenol	139	6.741	6.736	0.927	994801	84.99	ng/uL	99
27) 2,4-Dimethylphenol	122	6.811	6.800	0.937	1874482	81.48	ng/uL	100
28) bis(2-Chloroethoxy)met...	93	6.955	6.945	0.957	2534866	81.41	ng/uL	99
29) 2,4-Dichlorophenol	162	7.078	7.068	0.974	1684689	82.76	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1912.D
Acq On : 19 Oct 2020 16:00
Operator : JMB3
Sample : |WBN201013-06|ICAL|1|SVM|1|M-6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 09:32:53 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
30) Benzoic acid	105	7.019	6.961	0.965	900854	74.02	ng/uL	99	
31) 1,2,4-Trichlorobenzene	180	7.196	7.191	0.990	1817769	80.38	ng/uL	100	
32) alpha-Terpineol	59	7.335	7.324	1.009	2202550	82.26	ng/uL	99	
33) Naphthalene	128	7.303	7.298	1.004	5993103	81.10	ng/uL	99	
34) 4-Chloroaniline	127	7.383	7.372	1.015	2398647	82.42	ng/uL	99	
35) Hexachlorobutadiene	225	7.479	7.474	1.029	1049699	80.58	ng/uL	99	
36) 4-Chloro-3-methylphenol	107	8.036	8.025	1.105	1761861	83.53	ng/uL	99	
37) 2-Methylnaphthalene	142	8.244	8.239	1.134	4274695	82.09	ng/uL	99	
38) 1-Methylnaphthalene	142	8.373	8.367	1.152	3955949	82.35	ng/uL	99	
40) Hexachlorocyclopentadiene	237	8.453	8.447	0.880	1161775	81.50	ng/uL	100	
41) 2,3-Dichloroaniline	161	8.613	8.603	0.897	2078850	79.32	ng/uL	99	
42) 2,4,6-Trichlorophenol	196	8.613	8.608	0.897	1152250	83.38	ng/uL	100	
43) 2,4,5-Trichlorophenol	196	8.656	8.645	0.901	1240874	83.55	ng/uL	99	
45) 2-Chloronaphthalene	162	8.886	8.875	0.925	3956200	82.82	ng/uL	100	
46) o-Nitroaniline	65	9.014	9.009	0.939	1173147	82.84	ng/uL	98	
47) 1,4-Dinitrobenzene	168	9.207	9.196	0.959	612096	79.39	ng/uL	96	
48) m-Nitroaniline	138	9.560	9.544	0.996	994377	82.51	ng/uL	99	
49) Dimethylphthalate	163	9.282	9.271	0.967	4574413	81.49	ng/uL	100	
50) m-Dinitrobenzene	168	9.303	9.287	0.969	691703	82.95	ng/uL	99	
51) 2,6-Dinitrotoluene	165	9.346	9.335	0.973	1026119	81.17	ng/uL	99	
52) 2,4-Dinitrotoluene	165	9.860	9.843	1.027	1286219	82.02	ng/uL	98	
53) Acenaphthylene	152	9.426	9.416	0.982	6494550	80.83	ng/uL	99	
54) Acenaphthene	154	9.651	9.646	1.005	3994778	81.64	ng/uL	99	
55) 2,4-Dinitrophenol	184	9.683	9.672	1.008	331931	76.35	ng/uL#	23	
56) Dibenzofuran	168	9.870	9.865	1.028	5397214	80.18	ng/uL	97	
57) 2,3,4,6-Tetrachlorophenol	232	10.020	10.015	1.043	955655	84.59	ng/uL	99	
58) Diethylphthalate	149	10.175	10.170	1.060	4632439	82.04	ng/uL	100	
59) 4-Nitrophenol	139	9.763	9.747	1.017	701362	79.28	ng/uL	99	
60) Fluorene	166	10.309	10.298	1.074	4372237	80.43	ng/uL	100	
61) 4-Chlorophenylphenylether	204	10.309	10.303	1.074	1945925	78.81	ng/uL	98	
62) p-Nitroaniline	138	10.341	10.320	1.077	871578	81.44	ng/uL	98	
65) 2-Methyl-4,6-dinitroph...	198	10.378	10.362	0.904	516325	81.86	ng/uL	98	A
66) Diphenylamine	169	10.464	10.453	0.911	3709705	82.02	ng/uL	99	
67) 1,2-Diphenylhydrazine	77	10.512	10.507	0.915	4818899	83.43	ng/uL	99	
68) 4-Bromophenylphenylether	248	10.929	10.919	0.952	1164181	81.82	ng/uL	99	
69) Hexachlorobenzene	284	10.999	10.993	0.958	1219818	80.00	ng/uL	97	
70) Pentachlorophenol	266	11.240	11.234	0.979	627970	80.21	ng/uL	99	
71) n-Octadecane	57	11.368	11.362	0.990	3912100	83.38	ng/uL	100	
72) Dinoseb	211	11.480	11.469	1.000	803322	81.86	ng/uL	99	A
73) Phenanthrene	178	11.518	11.512	1.003	6030966	81.75	ng/uL	99	
74) Anthracene	178	11.587	11.576	1.009	6171171	82.92	ng/uL	99	
75) Carbazole	167	11.780	11.774	1.026	5079995	84.60	ng/uL	100	
76) Di-n-butylphthalate	149	12.224	12.218	1.064	6901526	83.61	ng/uL	99	
77) Fluoranthene	202	13.005	12.999	1.132	5619706	86.01	ng/uL	99	
79) Pyrene	202	13.288	13.277	0.886	5651705	74.75	ng/uL	100	
81) Butylbenzylphthalate	149	14.117	14.112	0.941	2487139	81.64	ng/uL	100	
82) bis(2-Ethylhexyl)phtha...	149	15.048	15.042	1.004	3716315	81.97	ng/uL	99	
83) Benzo(a)anthracene	228	14.978	14.967	0.999	3935392	81.74	ng/uL	100	
84) Chrysene	228	15.048	15.032	1.004	3616939	79.98	ng/uL	99	
85) Methoxychlor	227	14.882	14.871	0.993	3600692	82.71	ng/uL	99	
86) Methylenebis(2-chloroa...	231	14.946	14.935	0.997	698733	84.19	ng/uL	98	
87) Di-n-octylphthalate	149	16.422	16.417	1.095	4974080	90.29	ng/uL	99	A
89) Benzo(b)fluoranthene	252	17.257	17.241	0.945	2772497	86.29	ng/uL	100	
90) Benzo(k)fluoranthene	252	17.332	17.316	0.949	2590620	87.02	ng/uL	99	
91) Benzo(a)pyrene	252	18.118	18.102	0.992	2081543	84.90	ng/uL	99	
92) Indeno(1,2,3-cd)pyrene	276	21.643	21.632	1.185	1122505	70.05	ng/uL	99	
93) Dibenzo(a,h)anthracene	278	21.744	21.733	1.190	1019621	71.74	ng/uL	100	

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1912.D
Acq On : 19 Oct 2020 16:00
Operator : JMB3
Sample : |WBN201013-06|ICAL|1|SVM|1|M-6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 09:32:53 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

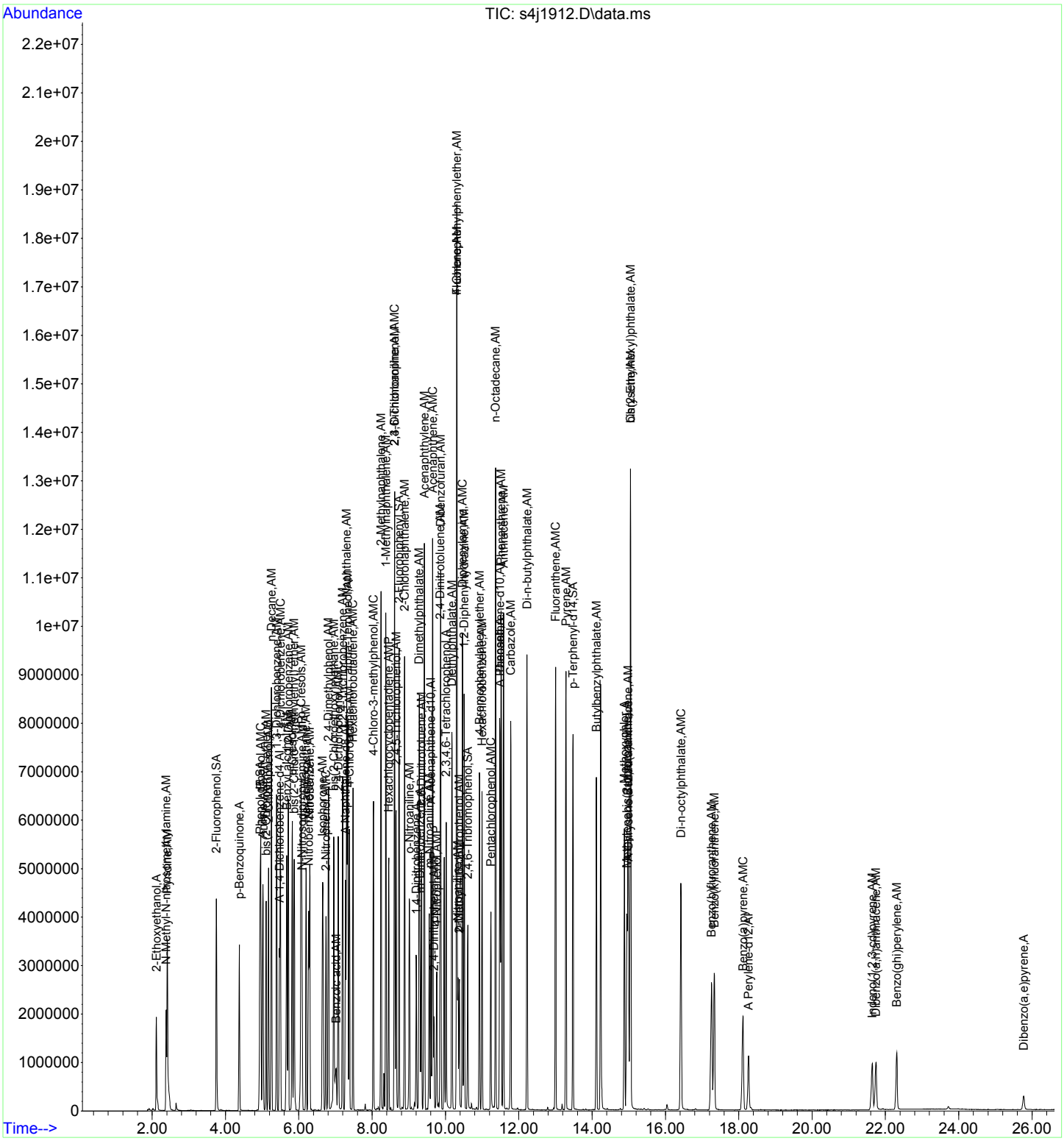
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.311	22.306	1.221	1140111	60.09	ng/uL	99
95) Dibenzo(a,e)pyrene	302	25.772	25.772	1.411	313500	55.50	ng/uL	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1912.D
Acq On : 19 Oct 2020 16:00
Operator : JMB3
Sample : |WBN201013-06|ICAL|1|SVM|1|M-6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 09:32:53 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1913.D
Acq On : 19 Oct 2020 16:32
Operator : JMB3
Sample : |WBN201013-07|ICAL|1|SVM|1|M-7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 09:21:50 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	756148	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.276	7.265	1.000	3237574	40.00	ng/uL	0.01
39) A Acenaphthene-d10	164	9.608	9.603	1.000	1800248	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.486	11.480	1.000	2847327	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.000	14.989	1.000	1442428	40.00	ng/uL	0.01
88) A Perylene-d12	264	18.268	18.262	1.000	901761	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01
120) B Acenaphthene-d10	164	9.608	9.592	1.000	0m	40.00	ng/uL	0.02
129) B Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.000	14.978	1.000	0m	40.00	ng/uL	0.02
148) B Perylene-d12	264	18.268	18.252	1.000	0m	40.00	ng/uL	0.02
151) J Naphthalene-d8	136	7.276	7.265	1.000	0m	40.00	ng/uL	0.01
153) J Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.000	14.984	1.000	0m	40.00	ng/uL	0.02
159) D Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01
161) D Acenaphthene-d10	164	9.608	9.598	1.000	0m	40.00	ng/uL	0.01
164) D Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.000	14.984	1.000	0m	40.00	ng/uL	0.02
173) E Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01
175) E Perylene-d12	264	18.375	18.300	1.000	0m	40.00	ng/uL	0.07
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.757	3.751	0.686	2334319	102.61	ng/uL	0.00
8) Phenol-d5	99	4.950	4.928	0.904	2853190	103.16	ng/uL	0.02
23) Nitrobenzene-d5	82	6.276	6.260	0.863	2878982	104.79	ng/uL	0.02
44) 2-Fluorobiphenyl	172	8.736	8.726	0.909	5555330	99.24	ng/uL	0.01
63) 2,4,6-Tribromophenol	330	10.614	10.603	1.105	689894	108.36	ng/uL	0.01
80) p-Terphenyl-d14	244	13.481	13.475	0.899	4811785	100.43	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.115	2.109	0.386	1557050	100.01	ng/uL	100
3) N-Methyl-N-nitrosometh...	74	2.388	2.377	0.436	1501291	101.10	ng/uL	99
4) Pyridine	79	2.414	2.414	0.441	2406754	101.80	ng/uL	99
6) p-Benzoquinone	54	4.383	4.372	0.801	1889308	105.84	ng/uL	99
7) Aniline	93	5.024	5.008	0.918	4019819	102.37	ng/uL	97
9) Phenol	94	4.971	4.949	0.908	3144292	103.92	ng/uL	99
10) bis(2-Chloroethyl) ether	93	5.115	5.099	0.935	2660405	101.06	ng/uL	99
11) 2-Chlorophenol	128	5.180	5.169	0.946	2530878	102.63	ng/uL	99
12) n-Decane	43	5.254	5.249	0.960	3804736	98.83	ng/uL	98
13) 1,3-Dichlorobenzene	146	5.399	5.388	0.986	2904023	100.15	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.500	5.495	1.005	2970581	100.39	ng/uL	99
15) 1,2-Dichlorobenzene	146	5.714	5.709	1.044	2831389	100.58	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.875	5.869	1.073	5316371	101.84	ng/uL	99
17) Benzyl alcohol	108	5.677	5.661	1.037	1720664	102.80	ng/uL	99
18) o-Cresol	107	5.827	5.811	1.064	2013143	102.48	ng/uL	100
19) m,p-Cresols	108	6.067	6.046	1.108	2411119	103.27	ng/uL	100
20) N-Nitrosodipropylamine	70	6.094	6.062	1.113	2128193	101.98	ng/uL	99
21) Hexachloroethane	117	6.201	6.196	1.133	1134002	101.04	ng/uL	99
24) Nitrobenzene	77	6.303	6.287	0.866	2862824	102.95	ng/uL	99
25) Isophorone	82	6.666	6.634	0.916	5687753	102.35	ng/uL	99
26) 2-Nitrophenol	139	6.747	6.736	0.927	1330975	110.51	ng/uL	99
27) 2,4-Dimethylphenol	122	6.816	6.800	0.937	2397849	101.29	ng/uL	99
28) bis(2-Chloroethoxy)met...	93	6.961	6.945	0.957	3264863	101.90	ng/uL	98
29) 2,4-Dichlorophenol	162	7.084	7.068	0.974	2185235	104.32	ng/uL	99

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1913.D
Acq On : 19 Oct 2020 16:32
Operator : JMB3
Sample : |WBN201013-07|ICAL|1|SVM|1|M-7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 09:21:50 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
30)	Benzoic acid	105	7.052	6.961	0.969	1387022	105.02	ng/uL	98	
31)	1,2,4-Trichlorobenzene	180	7.196	7.191	0.989	2359964	101.41	ng/uL	99	
32)	alpha-Terpineol	59	7.340	7.324	1.009	2810424	102.01	ng/uL	99	
33)	Naphthalene	128	7.308	7.298	1.004	7339770	96.52	ng/uL	97	
34)	4-Chloroaniline	127	7.383	7.372	1.015	3088315	103.12	ng/uL	99	
35)	Hexachlorobutadiene	225	7.479	7.474	1.028	1357043	101.23	ng/uL	99	
36)	4-Chloro-3-methylphenol	107	8.036	8.025	1.104	2281243	105.11	ng/uL	98	
37)	2-Methylnaphthalene	142	8.244	8.239	1.133	5375665	100.32	ng/uL	98	
38)	1-Methylnaphthalene	142	8.378	8.367	1.151	5051876	102.20	ng/uL	98	
40)	Hexachlorocyclopentadiene	237	8.453	8.447	0.880	1567359	107.42	ng/uL	98	
41)	2,3-Dichloroaniline	161	8.613	8.603	0.896	2680022	99.91	ng/uL	99	
42)	2,4,6-Trichlorophenol	196	8.619	8.608	0.897	1445840	102.22	ng/uL	100	
43)	2,4,5-Trichlorophenol	196	8.656	8.645	0.901	1627569	107.06	ng/uL	99	
45)	2-Chloronaphthalene	162	8.886	8.875	0.925	4946213	101.16	ng/uL	99	
46)	o-Nitroaniline	65	9.020	9.009	0.939	1537030	106.04	ng/uL	99	
47)	1,4-Dinitrobenzene	168	9.212	9.196	0.959	815636	102.14	ng/uL	97	
48)	m-Nitroaniline	138	9.565	9.544	0.996	1305562	105.83	ng/uL	99	
49)	Dimethylphthalate	163	9.293	9.271	0.967	5771406	100.45	ng/uL	100	
50)	m-Dinitrobenzene	168	9.309	9.287	0.969	919958	107.78	ng/uL	96	
51)	2,6-Dinitrotoluene	165	9.351	9.335	0.973	1313332	101.49	ng/uL	99	
52)	2,4-Dinitrotoluene	165	9.865	9.843	1.027	1656924	103.23	ng/uL	98	
53)	Acenaphthylene	152	9.426	9.416	0.981	7944484	96.60	ng/uL	98	
54)	Acenaphthene	154	9.656	9.646	1.005	4979899	99.43	ng/uL	100	
55)	2,4-Dinitrophenol	184	9.694	9.672	1.009	498979	106.72	ng/uL#	22	
56)	Dibenzofuran	168	9.876	9.865	1.028	6753824	98.02	ng/uL	95	
57)	2,3,4,6-Tetrachlorophenol	232	10.025	10.015	1.043	1253724	108.42	ng/uL	100	
58)	Diethylphthalate	149	10.180	10.170	1.060	5837756	101.00	ng/uL	100	
59)	4-Nitrophenol	139	9.769	9.747	1.017	959933	104.86	ng/uL	98	
60)	Fluorene	166	10.309	10.298	1.073	5506796	98.97	ng/uL	100	
61)	4-Chlorophenylphenylether	204	10.314	10.303	1.073	2447886	96.86	ng/uL	97	
62)	p-Nitroaniline	138	10.352	10.320	1.077	1204833	109.98	ng/uL	98	
65)	2-Methyl-4,6-dinitroph...	198	10.384	10.362	0.904	715817	107.85	ng/uL	95	A
66)	Diphenylamine	169	10.469	10.453	0.912	4733537	102.22	ng/uL	100	
67)	1,2-Diphenylhydrazine	77	10.517	10.507	0.916	6082375	102.86	ng/uL	100	
68)	4-Bromophenylphenylether	248	10.929	10.919	0.952	1493274	102.50	ng/uL	100	
69)	Hexachlorobenzene	284	10.999	10.993	0.958	1590747	101.91	ng/uL	98	
70)	Pentachlorophenol	266	11.240	11.234	0.979	851411	104.71	ng/uL	99	
71)	n-Octadecane	57	11.368	11.362	0.990	4960765	103.27	ng/uL	99	
72)	Dinoseb	211	11.486	11.469	1.000	1100791	106.71	ng/uL	99	A
73)	Phenanthrene	178	11.523	11.512	1.003	7537320	99.79	ng/uL	98	
74)	Anthracene	178	11.587	11.576	1.009	7625091	100.08	ng/uL	97	
75)	Carbazole	167	11.785	11.774	1.026	6458982	105.07	ng/uL	99	
76)	Di-n-butylphthalate	149	12.224	12.218	1.064	8238752	97.50	ng/uL	97	
77)	Fluoranthene	202	13.005	12.999	1.132	6925399	103.53	ng/uL	98	
79)	Pyrene	202	13.288	13.277	0.886	6892206	93.62	ng/uL	98	
81)	Butylbenzylphthalate	149	14.117	14.112	0.941	3143901	105.98	ng/uL	99	
82)	bis(2-Ethylhexyl)phtha...	149	15.053	15.042	1.004	4728433	107.11	ng/uL	99	
83)	Benzo(a)anthracene	228	14.978	14.967	0.999	4792761	102.23	ng/uL	99	
84)	Chrysene	228	15.048	15.032	1.003	4423551	100.45	ng/uL	98	
85)	Methoxychlor	227	14.887	14.871	0.993	4416698	104.19	ng/uL	99	
86)	Methylenebis(2-chloroa...	231	14.946	14.935	0.996	862229	106.69	ng/uL	98	
87)	Di-n-octylphthalate	149	16.428	16.417	1.095	6302884	117.38	ng/uL	98	A
89)	Benzo(b)fluoranthene	252	17.262	17.241	0.945	3263214	110.01	ng/uL	99	
90)	Benzo(k)fluoranthene	252	17.342	17.316	0.949	3032170	110.32	ng/uL	99	
91)	Benzo(a)pyrene	252	18.123	18.102	0.992	2439806	107.79	ng/uL	99	
92)	Indeno(1,2,3-cd)pyrene	276	21.648	21.632	1.185	1303606	88.12	ng/uL	99	
93)	Dibenzo(a,h)anthracene	278	21.750	21.733	1.191	1212971	92.43	ng/uL	100	

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1913.D
Acq On : 19 Oct 2020 16:32
Operator : JMB3
Sample : |WBN201013-07|ICAL|1|SVM|1|M-7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 09:21:50 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

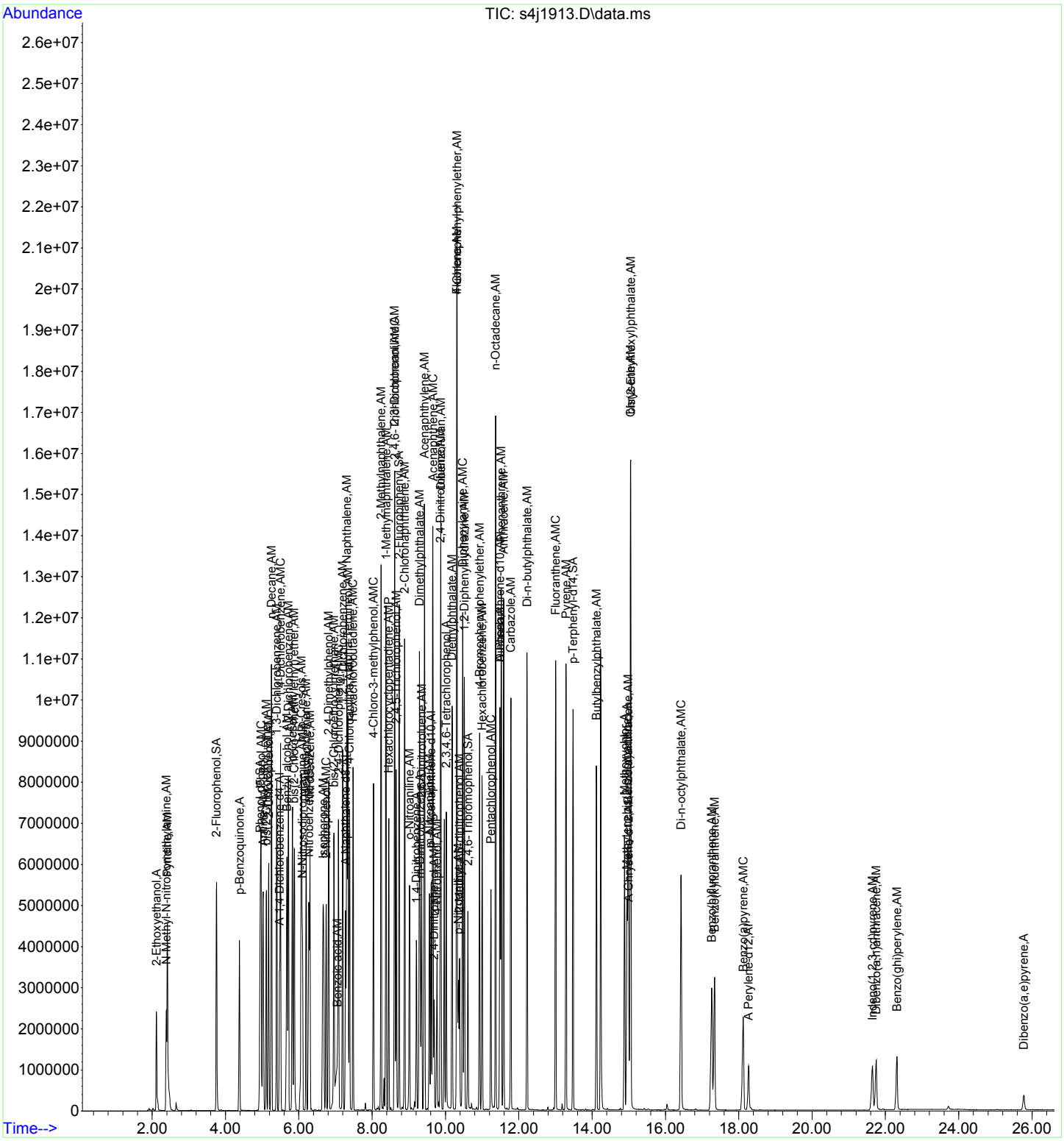
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.317	22.306	1.222	1292948	73.81	ng/uL	99
95) Dibenzo(a,e)pyrene	302	25.777	25.772	1.411	377631	72.41	ng/uL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1913.D
Acq On : 19 Oct 2020 16:32
Operator : JMB3
Sample : |WBN201013-07|ICAL|1|SVM|1|M-7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 09:21:50 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1914.D
Acq On : 19 Oct 2020 17:04
Operator : JMB3
Sample : |WBN201013-08|ICAL|1|SVM|1|M-8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 09:21:52 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)	
Internal Standards									
1) A 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	772124	40.00	ng/uL	0.00	
22) A Naphthalene-d8	136	7.276	7.265	1.000	3263992	40.00	ng/uL	0.01	
39) A Acenaphthene-d10	164	9.608	9.603	1.000	1801661	40.00	ng/uL	0.00	
64) A Phenanthrene-d10	188	11.486	11.480	1.000	2797479	40.00	ng/uL	0.00	
78) A Chrysene-d12	240	15.000	14.989	1.000	1417595	40.00	ng/uL	0.01	
88) A Perylene-d12	264	18.268	18.262	1.000	839769	40.00	ng/uL	0.00	
96) B 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	0m	40.00	ng/uL	0.00	
112) B Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01	
120) B Acenaphthene-d10	164	9.608	9.592	1.000	0m	40.00	ng/uL	0.02	
129) B Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00	
142) B Chrysene-d12	240	15.000	14.978	1.000	0m	40.00	ng/uL	0.02	
148) B Perylene-d12	264	18.268	18.252	1.000	0m	40.00	ng/uL	0.02	
151) J Naphthalene-d8	136	7.276	7.265	1.000	0m	40.00	ng/uL	0.01	
153) J Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00	
156) J Chrysene-d12	240	15.000	14.984	1.000	0m	40.00	ng/uL	0.02	
159) D Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01	
161) D Acenaphthene-d10	164	9.608	9.598	1.000	0m	40.00	ng/uL	0.01	
164) D Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00	
171) D Chrysene-d12	240	15.000	14.984	1.000	0m	40.00	ng/uL	0.02	
173) E Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01	
175) E Perylene-d12	264	0.000	18.300	1.000	0	0.00	ng/uL	-18.30	
System Monitoring Compounds								Dev(Min)	
5) 2-Fluorophenol	112	3.757	3.751	0.686	2826876	121.69	ng/uL	0.00	A
8) Phenol-d5	99	4.955	4.928	0.905	3400593	120.40	ng/uL	0.03	A
23) Nitrobenzene-d5	82	6.276	6.260	0.863	3397601	122.67	ng/uL	0.02	A
44) 2-Fluorobiphenyl	172	8.736	8.726	0.909	6408997	114.41	ng/uL	0.01	
63) 2,4,6-Tribromophenol	330	10.614	10.603	1.105	832217	130.62	ng/uL	0.01	A
80) p-Terphenyl-d14	244	13.481	13.475	0.899	5313062	112.84	ng/uL	0.00	
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue	
2) 2-Ethoxyethanol	59	2.115	2.109	0.386	1924119	121.02	ng/uL	100	A
3) N-Methyl-N-nitrosometh...	74	2.388	2.377	0.436	1838579	121.26	ng/uL	98	A
4) Pyridine	79	2.414	2.414	0.441	2916760	120.82	ng/uL	99	A
6) p-Benzoquinone	54	4.383	4.372	0.801	2236398	122.69	ng/uL	99	A
7) Aniline	93	5.025	5.008	0.918	4884716	121.82	ng/uL	96	A
9) Phenol	94	4.976	4.949	0.909	3786037	122.54	ng/uL	99	A
10) bis(2-Chloroethyl) ether	93	5.115	5.099	0.935	3197559	118.95	ng/uL	100	
11) 2-Chlorophenol	128	5.180	5.169	0.946	3066763	121.79	ng/uL	98	A
12) n-Decane	43	5.255	5.249	0.960	4573619	116.35	ng/uL	97	
13) 1,3-Dichlorobenzene	146	5.399	5.388	0.986	3479157	117.50	ng/uL	100	
14) 1,4-Dichlorobenzene	146	5.501	5.495	1.005	3561168	117.86	ng/uL	99	
15) 1,2-Dichlorobenzene	146	5.715	5.709	1.044	3435717	119.52	ng/uL	99	
16) bis(2-Chloro-1-methyle...	45	5.880	5.869	1.074	6270420	117.63	ng/uL	100	
17) Benzyl alcohol	108	5.682	5.661	1.038	2049127	119.89	ng/uL	99	
18) o-Cresol	107	5.827	5.811	1.064	2396564	119.47	ng/uL	100	
19) m,p-Cresols	108	6.073	6.046	1.109	2876425	120.65	ng/uL	99	A
20) N-Nitrosodipropylamine	70	6.105	6.062	1.115	2529323	118.69	ng/uL	98	
21) Hexachloroethane	117	6.201	6.196	1.133	1355762	118.30	ng/uL	99	
24) Nitrobenzene	77	6.308	6.287	0.867	3435353	122.54	ng/uL	98	A
25) Isophorone	82	6.677	6.634	0.918	6727736	120.08	ng/uL	100	A
26) 2-Nitrophenol	139	6.747	6.736	0.927	1583111	130.38	ng/uL	100	A
27) 2,4-Dimethylphenol	122	6.816	6.800	0.937	2867535	120.15	ng/uL	99	A
28) bis(2-Chloroethoxy)met...	93	6.961	6.945	0.957	3884462	120.26	ng/uL	98	A
29) 2,4-Dichlorophenol	162	7.089	7.068	0.974	2581602	122.24	ng/uL	99	A

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1914.D
Acq On : 19 Oct 2020 17:04
Operator : JMB3
Sample : |WBN201013-08|ICAL|1|SVM|1|M-8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 09:21:52 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
30) Benzoic acid	105	7.073	6.961	0.972	1725223	126.87	ng/uL	98	A
31) 1,2,4-Trichlorobenzene	180	7.196	7.191	0.989	2780957	118.53	ng/uL	100	
32) alpha-Terpineol	59	7.340	7.324	1.009	3333633	120.02	ng/uL	99	A
33) Naphthalene	128	7.308	7.298	1.004	8241389	107.50	ng/uL	96	
34) 4-Chloroaniline	127	7.389	7.372	1.015	3622730	119.99	ng/uL	99	
35) Hexachlorobutadiene	225	7.485	7.474	1.029	1625637	120.29	ng/uL	98	A
36) 4-Chloro-3-methylphenol	107	8.041	8.025	1.105	2708577	123.78	ng/uL	98	A
37) 2-Methylnaphthalene	142	8.250	8.239	1.134	6318254	116.95	ng/uL	98	
38) 1-Methylnaphthalene	142	8.378	8.367	1.151	5886182	118.12	ng/uL	98	
40) Hexachlorocyclopentadiene	237	8.453	8.447	0.880	1823795	124.90	ng/uL	98	A
41) 2,3-Dichloroaniline	161	8.613	8.603	0.896	3158417	117.65	ng/uL	99	
42) 2,4,6-Trichlorophenol	196	8.619	8.608	0.897	1758387	124.22	ng/uL	100	A
43) 2,4,5-Trichlorophenol	196	8.662	8.645	0.901	1868105	122.79	ng/uL	99	A
45) 2-Chloronaphthalene	162	8.892	8.875	0.925	5835458	119.26	ng/uL	99	
46) o-Nitroaniline	65	9.025	9.009	0.939	1828525	126.05	ng/uL	98	A
47) 1,4-Dinitrobenzene	168	9.213	9.196	0.959	976795	121.44	ng/uL	96	A
48) m-Nitroaniline	138	9.571	9.544	0.996	1530005	123.93	ng/uL	99	A
49) Dimethylphthalate	163	9.298	9.271	0.968	6665734	115.92	ng/uL	100	
50) m-Dinitrobenzene	168	9.314	9.287	0.969	1079597	126.38	ng/uL	99	A
51) 2,6-Dinitrotoluene	165	9.357	9.335	0.974	1593742	123.07	ng/uL	99	A
52) 2,4-Dinitrotoluene	165	9.870	9.843	1.027	1957568	121.86	ng/uL	98	A
53) Acenaphthylene	152	9.432	9.416	0.982	9004131	109.40	ng/uL	96	
54) Acenaphthene	154	9.656	9.646	1.005	5880489	117.31	ng/uL	99	
55) 2,4-Dinitrophenol	184	9.694	9.672	1.009	600703	126.03	ng/uL#	21	A
56) Dibenzofuran	168	9.876	9.865	1.028	7695141	111.59	ng/uL	94	
57) 2,3,4,6-Tetrachlorophenol	232	10.025	10.015	1.043	1513330	130.77	ng/uL	99	A
58) Diethylphthalate	149	10.186	10.170	1.060	6882337	118.98	ng/uL	100	
59) 4-Nitrophenol	139	9.774	9.747	1.017	1100023	119.57	ng/uL	99	
60) Fluorene	166	10.314	10.298	1.073	6401873	114.97	ng/uL	100	
61) 4-Chlorophenylphenylether	204	10.314	10.303	1.073	2867610	113.37	ng/uL	97	
62) p-Nitroaniline	138	10.362	10.320	1.078	1357712	123.84	ng/uL	98	A
65) 2-Methyl-4,6-dinitroph...	198	10.389	10.362	0.905	855918	129.42	ng/uL	96	A
66) Diphenylamine	169	10.475	10.453	0.912	5533116	121.62	ng/uL	100	A
67) 1,2-Diphenylhydrazine	77	10.518	10.507	0.916	6970809	119.98	ng/uL	99	
68) 4-Bromophenylphenylether	248	10.935	10.919	0.952	1764400	123.27	ng/uL	99	A
69) Hexachlorobenzene	284	11.004	10.993	0.958	1893583	123.47	ng/uL	97	A
70) Pentachlorophenol	266	11.245	11.234	0.979	1004459	124.80	ng/uL	99	A
71) n-Octadecane	57	11.368	11.362	0.990	5681419	120.38	ng/uL	98	A
72) Dinoseb	211	11.486	11.469	1.000	1328702	129.17	ng/uL	98	A
73) Phenanthrene	178	11.523	11.512	1.003	8517295	114.78	ng/uL	96	
74) Anthracene	178	11.593	11.576	1.009	8532232	113.98	ng/uL	96	
75) Carbazole	167	11.785	11.774	1.026	7155089	118.47	ng/uL	98	
76) Di-n-butylphthalate	149	12.224	12.218	1.064	9185941	110.64	ng/uL	97	
77) Fluoranthene	202	13.010	12.999	1.133	7658547	116.53	ng/uL	98	
79) Pyrene	202	13.294	13.277	0.886	7703043	106.47	ng/uL	98	
81) Butylbenzylphthalate	149	14.123	14.112	0.942	3545528	121.61	ng/uL	99	A
82) bis(2-Ethylhexyl)phtha...	149	15.053	15.042	1.004	5413985	124.79	ng/uL	99	A
83) Benzo(a)anthracene	228	14.984	14.967	0.999	5606457	121.68	ng/uL	99	A
84) Chrysene	228	15.053	15.032	1.004	5105285	117.96	ng/uL	98	
85) Methoxychlor	227	14.887	14.871	0.993	5147416	123.56	ng/uL	99	A
86) Methylenebis(2-chloroa...	231	14.952	14.935	0.997	1025470	129.11	ng/uL	97	A
87) Di-n-octylphthalate	149	16.428	16.417	1.095	7502811	142.10	ng/uL	98	A
89) Benzo(b)fluoranthene	252	17.268	17.241	0.945	3726509	134.90	ng/uL	100	A
90) Benzo(k)fluoranthene	252	17.342	17.316	0.949	3371957	131.74	ng/uL	99	A
91) Benzo(a)pyrene	252	18.123	18.102	0.992	2684613	127.36	ng/uL	99	A
92) Indeno(1,2,3-cd)pyrene	276	21.648	21.632	1.185	1449386	105.21	ng/uL	98	
93) Dibenzo(a,h)anthracene	278	21.750	21.733	1.191	1330166	108.85	ng/uL	100	

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1914.D
Acq On : 19 Oct 2020 17:04
Operator : JMB3
Sample : |WBN201013-08|ICAL|1|SVM|1|M-8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 09:21:52 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

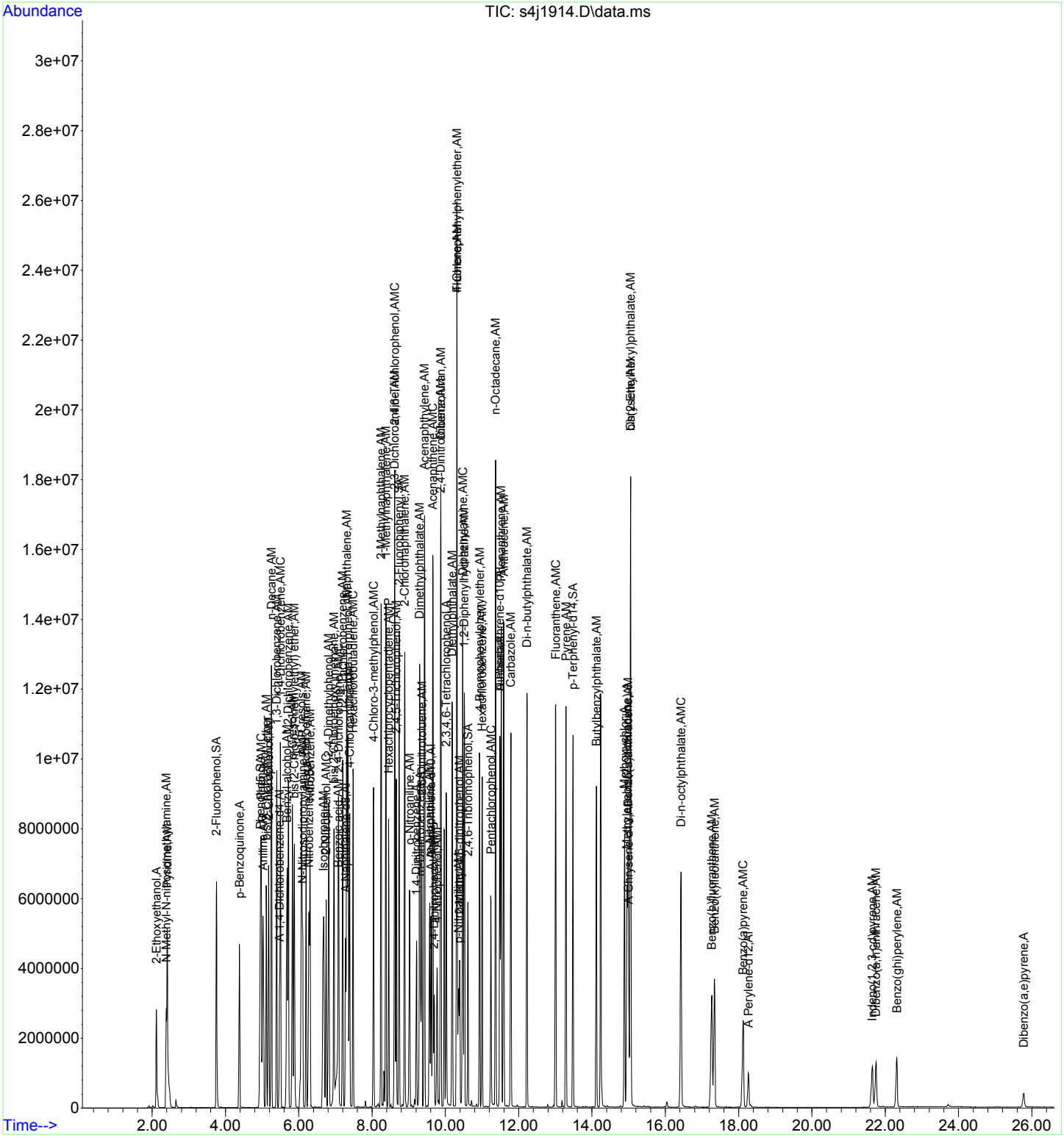
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
94) Benzo(ghi)perylene	276	22.317	22.306	1.222	1429872	87.65	ng/uL	98	A
95) Dibenzo(a,e)pyrene	302	25.777	25.772	1.411	426710	87.87	ng/uL	99	A

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1914.D
Acq On : 19 Oct 2020 17:04
Operator : JMB3
Sample : |WBN201013-08|ICAL|1|SVM|1|M-8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 09:21:52 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Continuing Calibration Summary

Client SDG: 2021-129

Instrument ID: MSD4.I **Injection Date:** 19-OCT-20 17:35

Data File: s101920.B\s4j1915.D **Init. Cal. Date(s)** 19-OCT-20 13:22 - 19-OCT-20 17:0

Lab Sample ID WBN201012-09 **Method:** s101920.B\MSD4_8270c_8270d_101920.m

Quant Type ISTD **Method Update:** 21-OCT-20 09:21

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type
S	2-Fluorophenol	1.2035	1.21294		.01		0.78438	30		Averaged
S	Phenol-d5	1.4632	1.54625		.01		5.67592	30		Averaged
S	Nitrobenzene-d5	0.3394	0.35116		.01		3.46494	30		Averaged
S	2-Fluorobiphenyl	1.2437	1.30179		.01		4.67074	30		Averaged
S	2,4,6-Tribromophenol	0.1415	0.15585		.01		10.14134	30		Averaged
S	p-Terphenyl-d14	1.3286	1.4072		.01		5.916	30		Averaged
	Phenol	1.6006	1.58749		.8		-0.81907	30		Averaged
	Naphthalene	0.9395	1.03332		.7		9.98616	30		Averaged
	2-Methylnaphthalene	0.6621	0.68391		.4		3.29406	30		Averaged
	1-Methylnaphthalene	0.6107	0.65044		.01		6.50729	30		Averaged
	Fluorene	1.2363	1.33605		.9		8.06843	30		Averaged
	Phenanthrene	1.0611	1.13916		.7		7.35652	30		Averaged
	Anthracene	1.0704	1.13769		.7		6.28643	30		Averaged
	Fluoranthene	0.9397	0.98365		.6		4.67702	30		Averaged
	Pyrene	2.0415	2.32166		.6		13.72324	30		Averaged
	Benzo(b)fluoranthene	1.3158	1.3629		.7		3.57957	30		Averaged
	Benzo(k)fluoranthene	1.2192	1.30774		.7		7.26214	30		Averaged
	Benzo(a)pyrene	1.0041	1.13202		.7		12.73977	30		Averaged

Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1915.D
Acq On : 19 Oct 2020 17:35
Operator : JMB3
Sample : |WBN201012-09|ICV|1|SVM|1|M-ICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 11:39:35 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	813294	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.271	7.265	1.000	3335050	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.603	9.603	1.000	1845567	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2985516	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.989	14.989	1.000	1241485	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.262	18.262	1.000	925351	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	813294	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.271	7.266	1.000	3335050	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.603	9.592	1.000	1845609	40.00	ng/uL	0.01
129) B Phenanthrene-d10	188	11.480	11.480	1.000	2985516	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.989	14.978	1.000	1241401	40.00	ng/uL	0.01
148) B Perylene-d12	264	18.262	18.252	1.000	925351	40.00	ng/uL	0.01
151) J Naphthalene-d8	136	7.271	7.265	1.000	3335050	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	2985516	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.989	14.984	1.000	1241485	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.271	7.266	1.000	3335050	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.603	9.598	1.000	1845609	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	2985516	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.989	14.984	1.000	1241401	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.271	7.266	1.000	3335050	40.00	ng/uL	0.00
175) E Perylene-d12	264	0.000	18.300	1.000	0	0.00	ng/uL	-18.30
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.751	3.751	0.686	986479	40.31	ng/uL	0.00
8) Phenol-d5	99	4.933	4.928	0.902	1257555	42.27	ng/uL	0.00
23) Nitrobenzene-d5	82	6.260	6.260	0.861	1171143	41.38	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.731	8.726	0.909	2402549	41.87	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.603	10.603	1.104	287633	44.07	ng/uL	0.00
80) p-Terphenyl-d14	244	13.475	13.475	0.899	1747017	42.37	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.109	2.109	0.386	572913	34.21	ng/uL	100
3) N-Methyl-N-nitrosometh...	74	2.377	2.377	0.435	668813	41.88	ng/uL	99
4) Pyridine	79	2.409	2.414	0.441	1079008	42.43	ng/uL	99
6) p-Benzoquinone	54	4.367	4.372	0.799	597293	31.11	ng/uL	98
7) Aniline	93	5.008	5.008	0.916	1646667	38.99	ng/uL	98
9) Phenol	94	4.950	4.949	0.905	1291097	39.67	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.099	5.099	0.933	1102763	38.95	ng/uL	99
11) 2-Chlorophenol	128	5.169	5.169	0.945	1048869	39.54	ng/uL	96
12) n-Decane	43	5.249	5.249	0.960	1554743	37.55	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.388	5.388	0.985	1269993	40.72	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.495	5.495	1.005	1233414	38.76	ng/uL	99
15) 1,2-Dichlorobenzene	146	5.709	5.709	1.044	1107392	36.57	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.870	5.869	1.073	2220854	39.55	ng/uL	99
17) Benzyl alcohol	108	5.661	5.661	1.035	731475	40.63	ng/uL	98
18) o-Cresol	107	5.811	5.811	1.063	833237	39.44	ng/uL	98
19) m,p-Cresols	108	6.051	6.046	1.107	1005886	40.06	ng/uL	99
20) N-Nitrosodipropylamine	70	6.067	6.062	1.110	895758	39.91	ng/uL	99
21) Hexachloroethane	117	6.196	6.196	1.133	485548	40.22	ng/uL	98
24) Nitrobenzene	77	6.292	6.287	0.865	1220897	42.62	ng/uL	100
25) Isophorone	82	6.634	6.634	0.912	2361931	41.26	ng/uL	100
26) 2-Nitrophenol	139	6.736	6.736	0.926	537253	43.30	ng/uL	99
27) 2,4-Dimethylphenol	122	6.800	6.800	0.935	972562	39.88	ng/uL	99
28) bis(2-Chloroethoxy)met...	93	6.945	6.945	0.955	1382037	41.87	ng/uL	99
29) 2,4-Dichlorophenol	162	7.068	7.068	0.972	883284	40.93	ng/uL	99

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1915.D
Acq On : 19 Oct 2020 17:35
Operator : JMB3
Sample : |WBN201012-09|ICV|1|SVM|1|M-ICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 11:39:35 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.966	6.961	0.958	564062	48.45	ng/uL	99
31) 1,2,4-Trichlorobenzene	180	7.191	7.191	0.989	972880	40.58	ng/uL	99
32) alpha-Terpineol	59	7.324	7.324	1.007	840923	29.63	ng/uL	99
33) Naphthalene	128	7.298	7.298	1.004	3446166	44.00	ng/uL	100
34) 4-Chloroaniline	127	7.372	7.372	1.014	1185249	38.42	ng/uL	99
35) Hexachlorobutadiene	225	7.474	7.474	1.028	591168	42.81	ng/uL	99
36) 4-Chloro-3-methylphenol	107	8.025	8.025	1.104	901176	40.31	ng/uL	100
37) 2-Methylnaphthalene	142	8.239	8.239	1.133	2280877	41.32	ng/uL	99
38) 1-Methylnaphthalene	142	8.367	8.367	1.151	2169237	42.60	ng/uL	99
40) Hexachlorocyclopentadiene	237	8.448	8.447	0.880	524810	35.09	ng/uL	98
41) 2,3-Dichloroaniline	161	8.608	8.603	0.896	1090502	39.65	ng/uL	100
42) 2,4,6-Trichlorophenol	196	8.608	8.608	0.896	619313	42.71	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.645	8.645	0.900	621434	39.87	ng/uL	99
45) 2-Chloronaphthalene	162	8.881	8.875	0.925	2048085	40.86	ng/uL	100
46) o-Nitroaniline	65	9.009	9.009	0.938	618739	41.64	ng/uL	99
47) 1,4-Dinitrobenzene	168	9.196	9.196	0.958	323327	41.96	ng/uL	96
48) m-Nitroaniline	138	9.544	9.544	0.994	499933	39.53	ng/uL	97
49) Dimethylphthalate	163	9.271	9.271	0.965	2555494	43.38	ng/uL	100
50) m-Dinitrobenzene	168	9.293	9.287	0.968	379532	43.37	ng/uL	96
51) 2,6-Dinitrotoluene	165	9.335	9.335	0.972	578153	43.58	ng/uL	97
52) 2,4-Dinitrotoluene	165	9.849	9.843	1.026	732513	44.51	ng/uL	98
53) Acenaphthylene	152	9.416	9.416	0.981	3457566	41.01	ng/uL	100
54) Acenaphthene	154	9.646	9.646	1.004	2120875	41.30	ng/uL	99
55) 2,4-Dinitrophenol	184	9.672	9.672	1.007	187458	46.43	ng/uL#	18
56) Dibenzofuran	168	9.865	9.865	1.027	2958864	41.89	ng/uL	100
57) 2,3,4,6-Tetrachlorophenol	232	10.015	10.015	1.043	488100	41.17	ng/uL	99
58) Diethylphthalate	149	10.170	10.170	1.059	2585599	43.64	ng/uL	100
59) 4-Nitrophenol	139	9.747	9.747	1.015	356437	40.16	ng/uL	99
60) Fluorene	166	10.298	10.298	1.072	2465770	43.23	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.304	10.303	1.073	1107464	42.74	ng/uL	99
62) p-Nitroaniline	138	10.325	10.320	1.075	482753	42.99	ng/uL	98
65) 2-Methyl-4,6-dinitroph...	198	10.362	10.362	0.903	267636	43.91	ng/uL	98
66) Diphenylamine	169	10.453	10.453	0.911	2030128	41.81	ng/uL	100
67) 1,2-Diphenylhydrazine	77	10.507	10.507	0.915	2590828	41.78	ng/uL	99
68) 4-Bromophenylphenylether	248	10.919	10.919	0.951	637275	41.72	ng/uL	100
69) Hexachlorobenzene	284	10.993	10.993	0.958	661865	40.44	ng/uL	99
70) Pentachlorophenol	266	11.234	11.234	0.979	339231	42.68	ng/uL	99
71) n-Octadecane	57	11.363	11.362	0.990	1857970	36.89	ng/uL	99
72) Dinoseb	211	11.470	11.469	0.999	421823	44.34	ng/uL	100
73) Phenanthrene	178	11.512	11.512	1.003	3400979	42.94	ng/uL	100
74) Anthracene	178	11.576	11.576	1.008	3396589	42.52	ng/uL	100
75) Carbazole	167	11.774	11.774	1.026	2599157	40.32	ng/uL	99
76) Di-n-butylphthalate	149	12.218	12.218	1.064	3983867	44.96	ng/uL	100
77) Fluoranthene	202	12.994	12.999	1.132	2936707	41.87	ng/uL	100
79) Pyrene	202	13.277	13.277	0.886	2882301	45.49	ng/uL	99
81) Butylbenzylphthalate	149	14.112	14.112	0.941	1129671	44.24	ng/uL	100
82) bis(2-Ethylhexyl)phtha...	149	15.042	15.042	1.004	1654351	43.54	ng/uL	100
83) Benzo(a)anthracene	228	14.968	14.967	0.999	1736238	43.03	ng/uL	99
84) Chrysene	228	15.032	15.032	1.003	1633366	43.09	ng/uL	99
85) Methoxychlor	227	14.866	14.871	0.992	1560441	42.77	ng/uL	100
86) Methylenebis(2-chloroa...	231	14.930	14.935	0.996	234003	33.64	ng/uL	98
87) Di-n-octylphthalate	149	16.412	16.417	1.095	1981806	43.13	ng/uL	100
89) Benzo(b)fluoranthene	252	17.241	17.241	0.944	1261163	41.43	ng/uL	100
90) Benzo(k)fluoranthene	252	17.316	17.316	0.948	1210120	42.91	ng/uL	100
91) Benzo(a)pyrene	252	18.096	18.102	0.991	1047512	45.10	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	21.632	21.632	1.185	714202	47.05	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.734	21.733	1.190	606456	45.04	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1915.D
Acq On : 19 Oct 2020 17:35
Operator : JMB3
Sample : |WBN201012-09|ICV|1|SVM|1|M-ICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 11:39:35 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

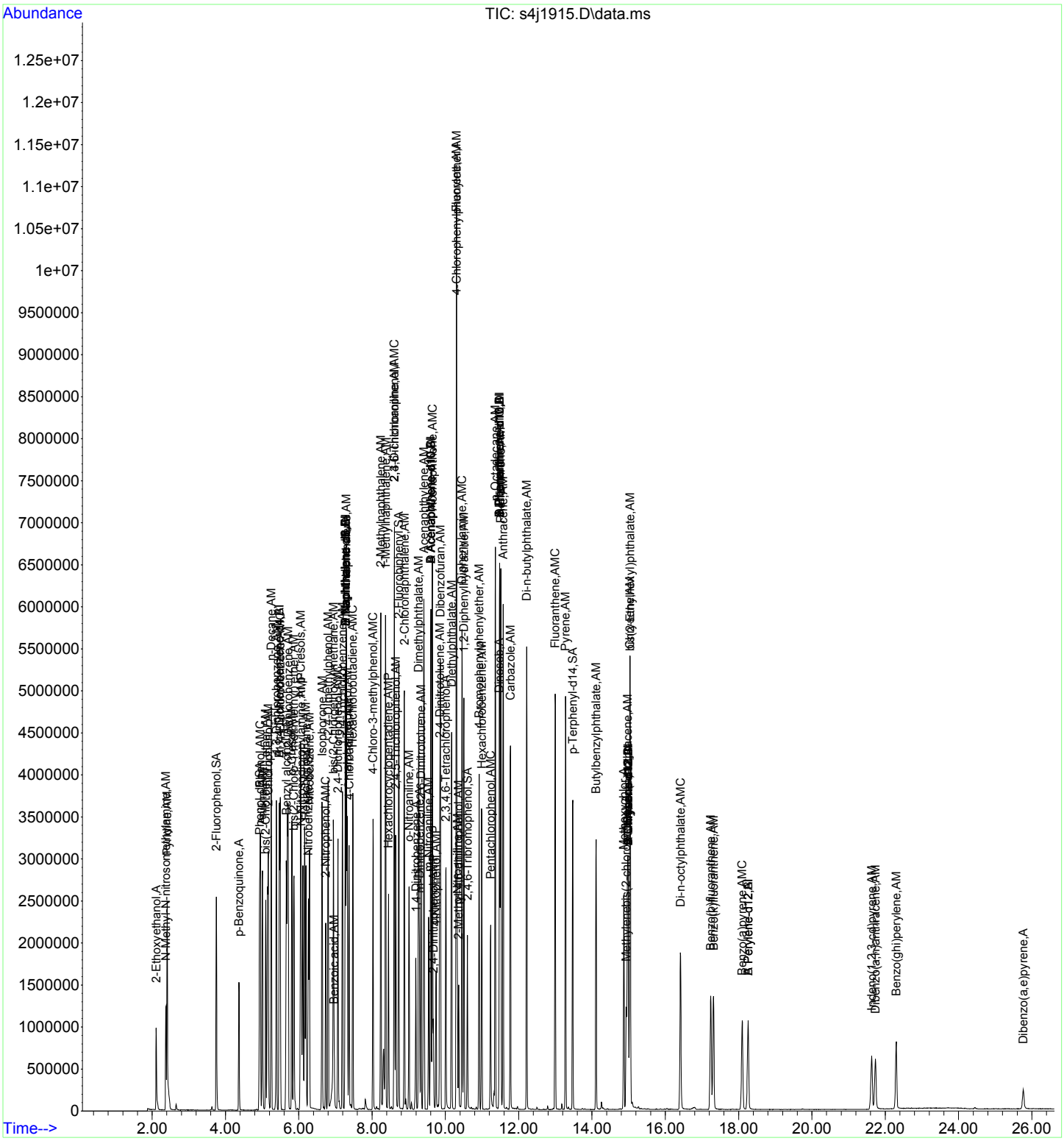
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.301	22.306	1.221	756575	42.09	ng/uL	99
95) Dibenzo(a,e)pyrene	302	25.766	25.772	1.411	238022	44.48	ng/uL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1915.D
Acq On : 19 Oct 2020 17:35
Operator : JMB3
Sample : |WBN201012-09|ICV|1|SVM|1|M-ICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 11:39:35 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Continuing Calibration Summary

Client SDG: 2021-129

Instrument ID: MSD4.I **Injection Date:** 17-NOV-20 13:42

Data File: s111720.B\s4k1702.D **Init. Cal. Date(s)** 19-OCT-20 13:22 - 19-OCT-20 17:0

Lab Sample ID WBN201013-04.2 **Method:** s111720.B\MSD4_8270c_8270d_101920.m

Quant Type ISTD **Method Update:** 21-OCT-20 09:21

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type
S	2-Fluorophenol	1.2035	1.20256		.01		-0.07811	20		Averaged
S	Phenol-d5	1.4632	1.37658		.01		-5.9199	20		Averaged
S	Nitrobenzene-d5	0.3394	0.3562		.01		4.94991	20		Averaged
S	2-Fluorobiphenyl	1.2437	1.305		.01		4.92884	20		Averaged
S	2,4,6-Tribromophenol	0.1415	0.15249		.01		7.76678	20		Averaged
S	p-Terphenyl-d14	1.3286	1.22264		.01		-7.97531	20		Averaged
	Phenol	1.6006	1.46073		.8		-8.7386	20		Averaged
	Naphthalene	0.9395	0.96382		.7		2.58861	20		Averaged
	2-Methylnaphthalene	0.6621	0.64768		.4		-2.17792	20		Averaged
	1-Methylnaphthalene	0.6107	0.60457		.01		-1.00377	20		Averaged
	Fluorene	1.2363	1.19593		.9		-3.26539	20		Averaged
	Phenanthrene	1.0611	1.0475		.7		-1.28169	20		Averaged
	Anthracene	1.0704	1.07435		.7		0.36902	20		Averaged
	Fluoranthene	0.9397	1.05664		.6		12.4444	20		Averaged
	Pyrene	2.0415	1.66487		.6		-18.44869	20		Averaged
	Benzo(b)fluoranthene	1.3158	1.32628		.7		0.79647	20		Averaged
	Benzo(k)fluoranthene	1.2192	1.28426		.7		5.33629	20		Averaged
	Benzo(a)pyrene	1.0041	1.05275		.7		4.84513	20		Averaged

Quantitation Report

11/17/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1702.D
Acq On : 17 Nov 2020 13:42
Operator : LOF
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

11/19/2020

Quant Time: Nov 17 14:14:56 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.415	5.415	1.000	992303	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.212	7.212	1.000	3707027	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.544	9.544	1.000	1935447	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.421	11.421	1.000	2880955	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.898	14.898	1.000	1828068	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.102	18.102	1.000	1267281	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.415	5.415	1.000	992303	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.212	7.212	1.000	3707027	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.544	9.544	1.000	1935447	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.421	11.421	1.000	2880955	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.898	14.898	1.000	1828068	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.102	18.102	1.000	1267281	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.212	7.212	1.000	3707027	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.421	11.421	1.000	2880955	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.898	14.898	1.000	1828068	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.212	7.212	1.000	3707027	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.544	9.544	1.000	1935447	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.421	11.421	1.000	2880955	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.898	14.898	1.000	1828068	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.212	7.212	1.000	3707027	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.102	18.102	1.000	1267281	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.724	3.724	0.688	1193303	39.97	ng/uL	0.00
8) Phenol-d5	99	4.890	4.890	0.903	1365988	37.63	ng/uL	0.00
23) Nitrobenzene-d5	82	6.206	6.206	0.861	1320428	41.98	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.672	8.672	0.909	2525760	41.97	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.544	10.544	1.105	295144	43.12	ng/uL	0.00
80) p-Terphenyl-d14	244	13.411	13.411	0.900	2235065	36.81	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.131	2.131	0.393	706129	34.56	ng/uL	96
3) N-Methyl-N-nitrosometh...	74	2.382	2.382	0.440	730601	37.49	ng/uL	89
4) Pyridine	79	2.425	2.425	0.448	1193421	38.46	ng/uL	98
6) p-Benzoquinone	54	4.323	4.323	0.798	881206	37.62	ng/uL	95
7) Aniline	93	4.960	4.960	0.916	1777508	34.49	ng/uL	99
9) Phenol	94	4.912	4.912	0.907	1449484	36.51	ng/uL	91
10) bis(2-Chloroethyl) ether	93	5.051	5.051	0.933	1261465	36.51	ng/uL	99
11) 2-Chlorophenol	128	5.120	5.120	0.946	1228446	37.96	ng/uL	98
12) n-Decane	43	5.195	5.195	0.960	1800501	35.64	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.334	5.334	0.985	1486508	39.07	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.441	5.441	1.005	1505275	38.77	ng/uL	98
15) 1,2-Dichlorobenzene	146	5.650	5.650	1.043	1445486	39.13	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.810	5.810	1.073	2330126	34.01	ng/uL	97
17) Benzyl alcohol	108	5.612	5.612	1.037	741283	33.75	ng/uL	90
18) o-Cresol	107	5.768	5.768	1.065	898649	34.86	ng/uL	97
19) m,p-Cresols	108	5.998	5.998	1.108	1056221	34.47	ng/uL	97
20) N-Nitrosodipropylamine	70	6.008	6.008	1.110	965759	35.26	ng/uL	99
21) Hexachloroethane	117	6.137	6.137	1.133	614719	41.74	ng/uL	94
24) Nitrobenzene	77	6.233	6.233	0.864	1299312	40.81	ng/uL	99
25) Isophorone	82	6.581	6.581	0.912	2536833	39.87	ng/uL	99
26) 2-Nitrophenol	139	6.682	6.682	0.927	632372	45.85	ng/uL	95
27) 2,4-Dimethylphenol	122	6.752	6.752	0.936	1059058	39.07	ng/uL	96
28) bis(2-Chloroethoxy)met...	93	6.891	6.891	0.956	1460800	39.82	ng/uL	99
29) 2,4-Dichlorophenol	162	7.019	7.019	0.973	1010360	42.12	ng/uL	98

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1702.D
Acq On : 17 Nov 2020 13:42
Operator : LOF
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:14:56 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.928	6.928	0.961	700123	52.76	ng/uL	97
31) 1,2,4-Trichlorobenzene	180	7.137	7.137	0.990	1180338	44.30	ng/uL	99
32) alpha-Terpineol	59	7.271	7.271	1.008	1196283	37.92	ng/uL	95
33) Naphthalene	128	7.244	7.244	1.004	3572894	41.04	ng/uL	99
34) 4-Chloroaniline	127	7.319	7.319	1.015	1243602	36.27	ng/uL	98
35) Hexachlorobutadiene	225	7.420	7.420	1.029	766960	49.97	ng/uL	99
36) 4-Chloro-3-methylphenol	107	7.982	7.982	1.107	978754	39.38	ng/uL	96
37) 2-Methylnaphthalene	142	8.180	8.180	1.134	2400981	39.13	ng/uL	99
38) 1-Methylnaphthalene	142	8.308	8.308	1.152	2241175	39.60	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.388	8.388	0.879	889801	56.73	ng/uL	98
41) 2,3-Dichloroaniline	161	8.549	8.549	0.896	1132350	39.26	ng/uL	98
42) 2,4,6-Trichlorophenol	196	8.554	8.554	0.896	702343	46.19	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.597	8.597	0.901	708869	43.37	ng/uL	99
45) 2-Chloronaphthalene	162	8.822	8.822	0.924	2143271	40.77	ng/uL	99
46) o-Nitroaniline	65	8.955	8.955	0.938	584850	37.53	ng/uL	98
47) 1,4-Dinitrobenzene	168	9.143	9.143	0.958	327240	40.64	ng/uL	97
48) m-Nitroaniline	138	9.490	9.490	0.994	488751	36.85	ng/uL	98
49) Dimethylphthalate	163	9.212	9.212	0.965	2568723	41.58	ng/uL	100
50) m-Dinitrobenzene	168	9.239	9.239	0.968	355570	38.75	ng/uL#	40
51) 2,6-Dinitrotoluene	165	9.282	9.282	0.973	548888	39.45	ng/uL	99
52) 2,4-Dinitrotoluene	165	9.790	9.790	1.026	672652	38.98	ng/uL	98
53) Acenaphthylene	152	9.357	9.357	0.980	3508580	39.68	ng/uL	99
54) Acenaphthene	154	9.587	9.587	1.004	2116756	39.31	ng/uL	99
55) 2,4-Dinitrophenol	184	9.619	9.619	1.008	235998	53.42	ng/uL#	22
56) Dibenzofuran	168	9.806	9.806	1.027	2883263	38.92	ng/uL	96
57) 2,3,4,6-Tetrachlorophenol	232	9.961	9.961	1.044	552365	44.43	ng/uL	99
58) Diethylphthalate	149	10.111	10.111	1.059	2591000	41.70	ng/uL	99
59) 4-Nitrophenol	139	9.710	9.710	1.017	351961	38.01	ng/uL	91
60) Fluorene	166	10.239	10.239	1.073	2314658	38.69	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.244	10.244	1.073	1151622	42.38	ng/uL	98
62) p-Nitroaniline	138	10.271	10.271	1.076	445400	37.82	ng/uL	90
65) 2-Methyl-4,6-dinitroph...	198	10.309	10.309	0.903	321920	52.65	ng/uL	98
66) Diphenylamine	169	10.400	10.400	0.911	1847131	39.42	ng/uL	99
67) 1,2-Diphenylhydrazine	77	10.448	10.448	0.915	2355390	39.37	ng/uL	99
68) 4-Bromophenylphenylether	248	10.859	10.859	0.951	637474	43.25	ng/uL	98
69) Hexachlorobenzene	284	10.929	10.929	0.957	697004	44.13	ng/uL	98
70) Pentachlorophenol	266	11.175	11.175	0.978	347970	45.08	ng/uL	99
71) n-Octadecane	57	11.303	11.303	0.990	2057666	42.33	ng/uL	97
72) Dinoseb	211	11.416	11.416	1.000	500614	52.60	ng/uL	100
73) Phenanthrene	178	11.453	11.453	1.003	3017811	39.49	ng/uL	99
74) Anthracene	178	11.517	11.517	1.008	3095155	40.15	ng/uL	99
75) Carbazole	167	11.715	11.715	1.026	2468350	39.68	ng/uL	99
76) Di-n-butylphthalate	149	12.159	12.159	1.065	3981272	46.56	ng/uL	99
77) Fluoranthene	202	12.935	12.935	1.133	3044131	44.98	ng/uL	98
79) Pyrene	202	13.213	13.213	0.887	3043487	32.62	ng/uL	97
81) Butylbenzylphthalate	149	14.042	14.042	0.943	1443934	38.41	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	14.951	14.951	1.004	2084244	37.25	ng/uL	98
83) Benzo(a)anthracene	228	14.876	14.876	0.999	2368439	39.86	ng/uL	100
84) Chrysene	228	14.946	14.946	1.003	2251168	40.34	ng/uL	99
85) Methoxychlor	227	14.785	14.785	0.992	2023361	37.66	ng/uL	100
86) Methylenebis(2-chloroa...	231	14.850	14.850	0.997	440294	42.99	ng/uL	95
87) Di-n-octylphthalate	149	16.288	16.288	1.093	3130875	46.24	ng/uL	98
89) Benzo(b)fluoranthene	252	17.101	17.101	0.945	1680770	40.32	ng/uL	99
90) Benzo(k)fluoranthene	252	17.176	17.176	0.949	1627518	42.14	ng/uL	98
91) Benzo(a)pyrene	252	17.941	17.941	0.991	1334127	41.94	ng/uL	99
92) Indeno(1,2,3-cd)pyrene	276	21.439	21.439	1.184	909467	43.75	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.546	21.546	1.190	896111	48.59	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1702.D
Acq On : 17 Nov 2020 13:42
Operator : LOF
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:14:56 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

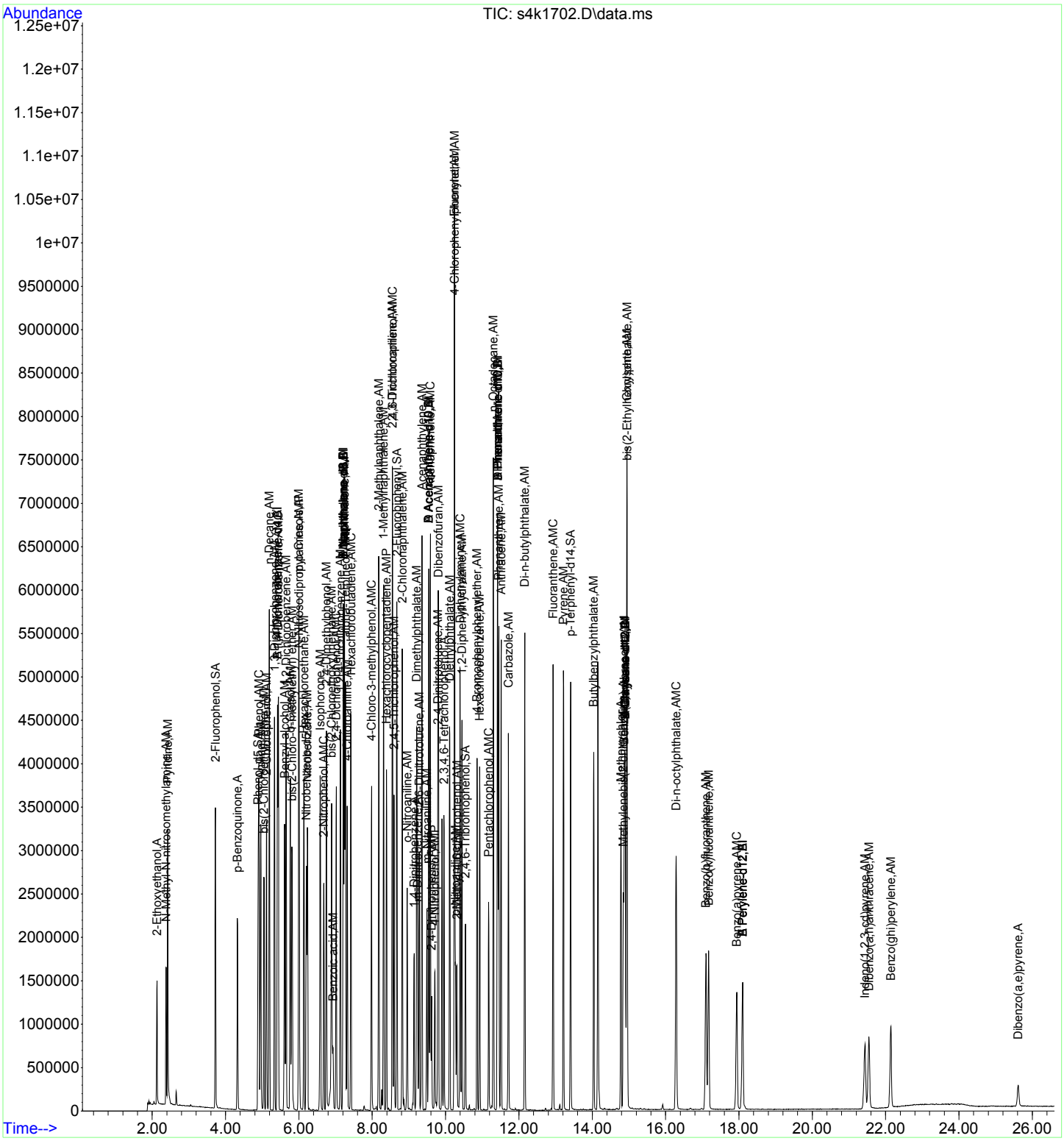
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.145	22.145	1.223	932310	37.87	ng/uL	99
95) Dibenzo(a,e)pyrene	302	25.616	25.616	1.415	257189	35.09	ng/uL	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1702.D
Acq On : 17 Nov 2020 13:42
Operator : LOF
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:14:56 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Continuing Calibration Summary

Client SDG: 2021-129

Instrument ID: MSD4.I **Injection Date:** 18-NOV-20 10:31

Data File: s111820.B\s4k1805.D **Init. Cal. Date(s)** 19-OCT-20 13:22 - 19-OCT-20 17:0

Lab Sample ID WBN201013-04.2 **Method:** s111820.B\MSD4_8270c_8270d_101920.m

Quant Type ISTD **Method Update:** 21-OCT-20 09:21

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type
S	2-Fluorophenol	1.2035	1.19751		.01		-0.49771	20		Averaged
S	Phenol-d5	1.4632	1.39894		.01		-4.39174	20		Averaged
S	Nitrobenzene-d5	0.3394	0.36069		.01		6.27283	20		Averaged
S	2-Fluorobiphenyl	1.2437	1.26637		.01		1.82279	20		Averaged
S	2,4,6-Tribromophenol	0.1415	0.15645		.01		10.56537	20		Averaged
S	p-Terphenyl-d14	1.3286	1.33303		.01		0.33343	20		Averaged
	Phenol	1.6006	1.47327		.8		-7.95514	20		Averaged
	Naphthalene	0.9395	0.97803		.7		4.10112	20		Averaged
	2-Methylnaphthalene	0.6621	0.66844		.4		0.95756	20		Averaged
	1-Methylnaphthalene	0.6107	0.6128		.01		0.34387	20		Averaged
	Fluorene	1.2363	1.23821		.9		0.15449	20		Averaged
	Phenanthrene	1.0611	1.0717		.7		0.99896	20		Averaged
	Anthracene	1.0704	1.08807		.7		1.65078	20		Averaged
	Fluoranthene	0.9397	1.06516		.6		13.35107	20		Averaged
	Pyrene	2.0415	1.8289		.6		-10.41391	20		Averaged
	Benzo(b)fluoranthene	1.3158	1.38027		.7		4.89968	20		Averaged
	Benzo(k)fluoranthene	1.2192	1.33421		.7		9.43323	20		Averaged
	Benzo(a)pyrene	1.0041	1.06584		.7		6.14879	20		Averaged

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1805.D
Acq On : 18 Nov 2020 10:31
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 18 11:14:47 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.409	5.409	1.000	1032624	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.206	7.206	1.000	3972400	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.538	9.538	1.000	2178002	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.416	11.416	1.000	3544897	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.892	14.898	1.000	2081807	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.086	18.096	1.000	1156727	40.00	ng/uL	-0.01
96) B 1,4-Dichlorobenzene-d4	152	5.409	5.409	1.000	1032624	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.206	7.206	1.000	3972400	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.538	9.538	1.000	2178002	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.416	11.416	1.000	3544897	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.892	14.898	1.000	2081807	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.086	18.096	1.000	1156727	40.00	ng/uL	-0.01
151) J Naphthalene-d8	136	7.206	7.206	1.000	3972400	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.416	11.416	1.000	3544897	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.892	14.898	1.000	2081807	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.206	7.206	1.000	3972400	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.538	9.538	1.000	2178002	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.416	11.416	1.000	3544897	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.892	14.898	1.000	2081807	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.206	7.206	1.000	3972400	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.086	18.096	1.000	1156727	40.00	ng/uL	-0.01
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.714	3.714	0.687	1236578	39.80	ng/uL	0.00
8) Phenol-d5	99	4.885	4.885	0.903	1444576	38.24	ng/uL	0.00
23) Nitrobenzene-d5	82	6.201	6.195	0.860	1432788	42.51	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.667	8.666	0.909	2758165	40.73	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.539	10.539	1.105	340750	44.24	ng/uL	0.00
80) p-Terphenyl-d14	244	13.406	13.405	0.900	2775107	40.13	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.120	2.109	0.392	733053	34.48	ng/uL	97
3) N-Methyl-N-nitrosometh...	74	2.371	2.366	0.438	763137	37.63	ng/uL	92
4) Pyridine	79	2.414	2.409	0.446	1229779	38.09	ng/uL	98
6) p-Benzoquinone	54	4.318	4.318	0.798	869563	35.67	ng/uL	96
7) Aniline	93	4.949	4.949	0.915	1924946	35.90	ng/uL	98
9) Phenol	94	4.907	4.901	0.907	1521331	36.82	ng/uL	93
10) bis(2-Chloroethyl) ether	93	5.040	5.040	0.932	1311608	36.48	ng/uL	99
11) 2-Chlorophenol	128	5.110	5.110	0.945	1289563	38.29	ng/uL	98
12) n-Decane	43	5.185	5.185	0.958	1876737	35.70	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.329	5.329	0.985	1521861	38.43	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.431	5.431	1.004	1540271	38.12	ng/uL	98
15) 1,2-Dichlorobenzene	146	5.645	5.644	1.044	1494846	38.88	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.805	5.805	1.073	2482868	34.83	ng/uL	98
17) Benzyl alcohol	108	5.602	5.602	1.036	785587	34.37	ng/uL	95
18) o-Cresol	107	5.757	5.757	1.064	970552	36.18	ng/uL	99
19) m,p-Cresols	108	5.992	5.992	1.108	1162728	36.47	ng/uL	98
20) N-Nitrosodipropylamine	70	5.998	5.997	1.109	1019008	35.76	ng/uL	99
21) Hexachloroethane	117	6.126	6.131	1.132	625080	40.78	ng/uL	96
24) Nitrobenzene	77	6.228	6.228	0.864	1421120	41.65	ng/uL	99
25) Isophorone	82	6.575	6.575	0.912	2703094	39.64	ng/uL	100
26) 2-Nitrophenol	139	6.672	6.671	0.926	699729	47.35	ng/uL	96
27) 2,4-Dimethylphenol	122	6.746	6.746	0.936	1160283	39.95	ng/uL	97
28) bis(2-Chloroethoxy)met...	93	6.886	6.885	0.955	1577182	40.12	ng/uL	100
29) 2,4-Dichlorophenol	162	7.014	7.014	0.973	1093559	42.55	ng/uL	99

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1805.D
Acq On : 18 Nov 2020 10:31
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 18 11:14:47 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.928	6.917	0.961	774239	54.08	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.126	7.126	0.989	1215846	42.58	ng/uL	100
32) alpha-Terpineol	59	7.265	7.265	1.008	1287933	38.10	ng/uL	98
33) Naphthalene	128	7.233	7.233	1.004	3885134	41.64	ng/uL	99
34) 4-Chloroaniline	127	7.313	7.313	1.015	1454051	39.57	ng/uL	99
35) Hexachlorobutadiene	225	7.410	7.410	1.028	766729	46.62	ng/uL	100
36) 4-Chloro-3-methylphenol	107	7.977	7.976	1.107	1104847	41.49	ng/uL	97
37) 2-Methylnaphthalene	142	8.175	8.174	1.134	2655312	40.39	ng/uL	99
38) 1-Methylnaphthalene	142	8.303	8.303	1.152	2434296	40.14	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.383	8.383	0.879	872260	49.41	ng/uL	100
41) 2,3-Dichloroaniline	161	8.544	8.543	0.896	1289925	39.75	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.549	8.549	0.896	766969	44.82	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.592	8.592	0.901	816716	44.41	ng/uL	97
45) 2-Chloronaphthalene	162	8.816	8.816	0.924	2419126	40.90	ng/uL	100
46) o-Nitroaniline	65	8.950	8.950	0.938	701097	39.98	ng/uL	100
47) 1,4-Dinitrobenzene	168	9.137	9.137	0.958	398990	43.70	ng/uL	97
48) m-Nitroaniline	138	9.485	9.485	0.994	615027	41.21	ng/uL	96
49) Dimethylphthalate	163	9.212	9.212	0.966	2915540	41.94	ng/uL	100
50) m-Dinitrobenzene	168	9.234	9.233	0.968	429284	41.57	ng/uL#	41
51) 2,6-Dinitrotoluene	165	9.276	9.276	0.973	640848	40.93	ng/uL	99
52) 2,4-Dinitrotoluene	165	9.784	9.784	1.026	807428	41.58	ng/uL	98
53) Acenaphthylene	152	9.351	9.351	0.980	3999435	40.20	ng/uL	99
54) Acenaphthene	154	9.581	9.581	1.004	2409121	39.76	ng/uL	99
55) 2,4-Dinitrophenol	184	9.613	9.613	1.008	251562	51.21	ng/uL#	22
56) Dibenzofuran	168	9.801	9.800	1.027	3343894	40.11	ng/uL	96
57) 2,3,4,6-Tetrachlorophenol	232	9.950	9.950	1.043	640264	45.77	ng/uL	99
58) Diethylphthalate	149	10.105	10.111	1.059	2986793	42.71	ng/uL	100
59) 4-Nitrophenol	139	9.704	9.704	1.017	413948	39.58	ng/uL	93
60) Fluorene	166	10.234	10.234	1.073	2696813	40.06	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.239	10.239	1.073	1287326	42.10	ng/uL	98
62) p-Nitroaniline	138	10.266	10.266	1.076	552239	41.67	ng/uL	91
65) 2-Methyl-4,6-dinitroph...	198	10.303	10.303	0.903	383135	51.20	ng/uL	100
66) Diphenylamine	169	10.394	10.394	0.911	2220257	38.51	ng/uL	99
67) 1,2-Diphenylhydrazine	77	10.442	10.442	0.915	2781910	37.79	ng/uL	99
68) 4-Bromophenylphenylether	248	10.854	10.854	0.951	719407	39.67	ng/uL	97
69) Hexachlorobenzene	284	10.924	10.924	0.957	802173	41.28	ng/uL	97
70) Pentachlorophenol	266	11.170	11.175	0.978	380264	40.56	ng/uL	98
71) n-Octadecane	57	11.298	11.298	0.990	2353107	39.34	ng/uL	98
72) Dinoseb	211	11.410	11.410	1.000	604942	51.81	ng/uL	99
73) Phenanthrene	178	11.448	11.448	1.003	3799058	40.40	ng/uL	100
74) Anthracene	178	11.512	11.512	1.008	3857089	40.66	ng/uL	99
75) Carbazole	167	11.710	11.710	1.026	3179375	41.54	ng/uL	100
76) Di-n-butylphthalate	149	12.154	12.154	1.065	4912539	46.69	ng/uL	100
77) Fluoranthene	202	12.929	12.929	1.133	3775885	45.34	ng/uL	98
79) Pyrene	202	13.213	13.213	0.887	3807423	35.83	ng/uL	98
81) Butylbenzylphthalate	149	14.037	14.037	0.943	1744581	40.75	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	14.941	14.946	1.003	2462883	38.65	ng/uL	98
83) Benzo(a)anthracene	228	14.871	14.876	0.999	2673971	39.52	ng/uL	99
84) Chrysene	228	14.935	14.940	1.003	2494808	39.25	ng/uL	99
85) Methoxychlor	227	14.775	14.780	0.992	2202140	36.00	ng/uL	99
86) Methylenebis(2-chloroa...	231	14.844	14.844	0.997	418831	35.91	ng/uL	98
87) Di-n-octylphthalate	149	16.278	16.283	1.093	3471791	45.04	ng/uL	99
89) Benzo(b)fluoranthene	252	17.091	17.096	0.945	1596597	41.96	ng/uL	99
90) Benzo(k)fluoranthene	252	17.160	17.171	0.949	1543314	43.77	ng/uL	99
91) Benzo(a)pyrene	252	17.925	17.936	0.991	1232889	42.46	ng/uL	98
92) Indeno(1,2,3-cd)pyrene	276	21.418	21.428	1.184	770902	40.62	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.530	21.541	1.190	765818	45.49	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1805.D
Acq On : 18 Nov 2020 10:31
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 18 11:14:47 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

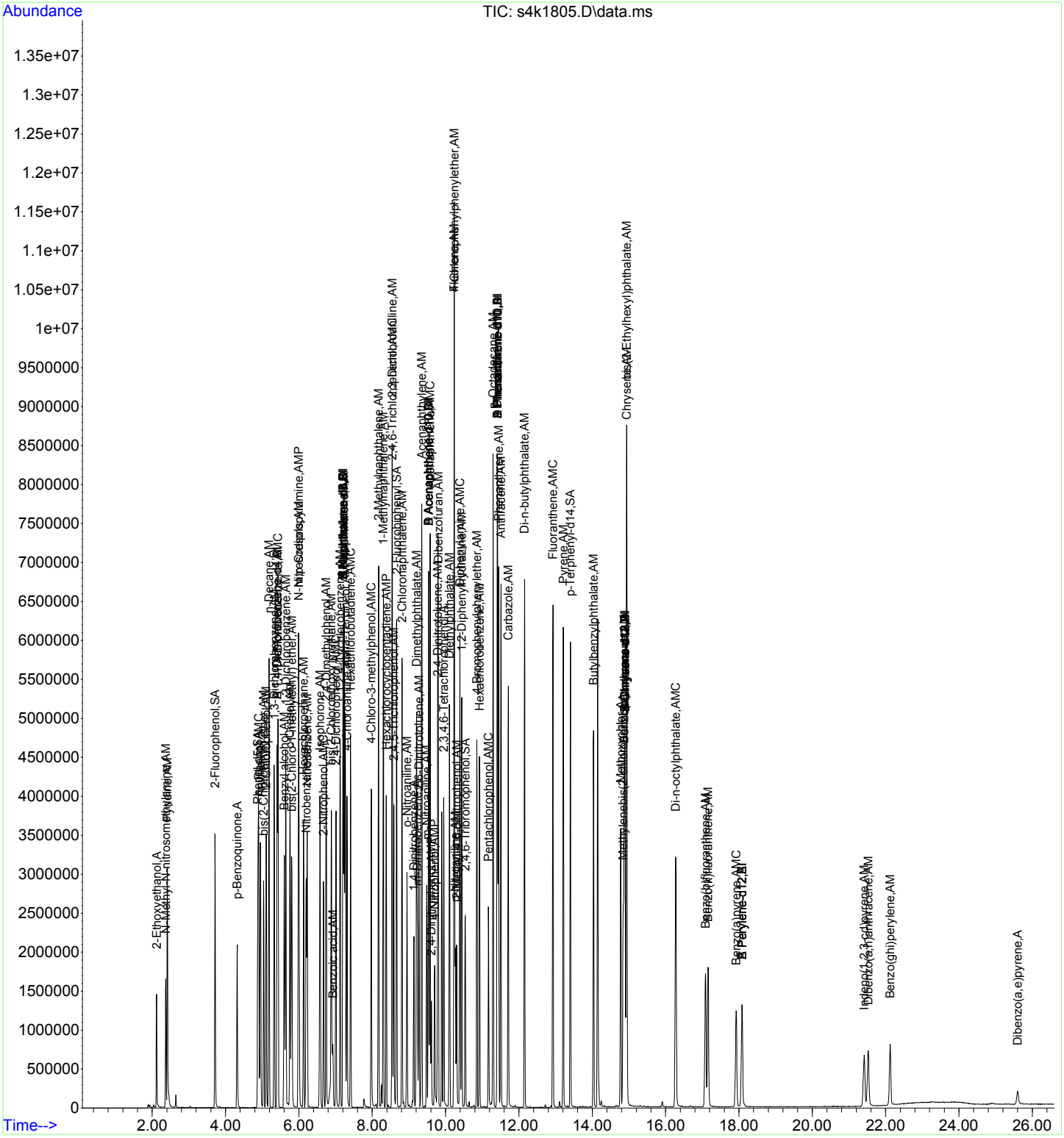
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.124	22.134	1.223	760278	33.83	ng/uL	100
95) Dibenzo(a,e)pyrene	302	25.600	25.611	1.416	186926	27.94	ng/uL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1805.D
Acq On : 18 Nov 2020 10:31
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 18 11:14:47 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



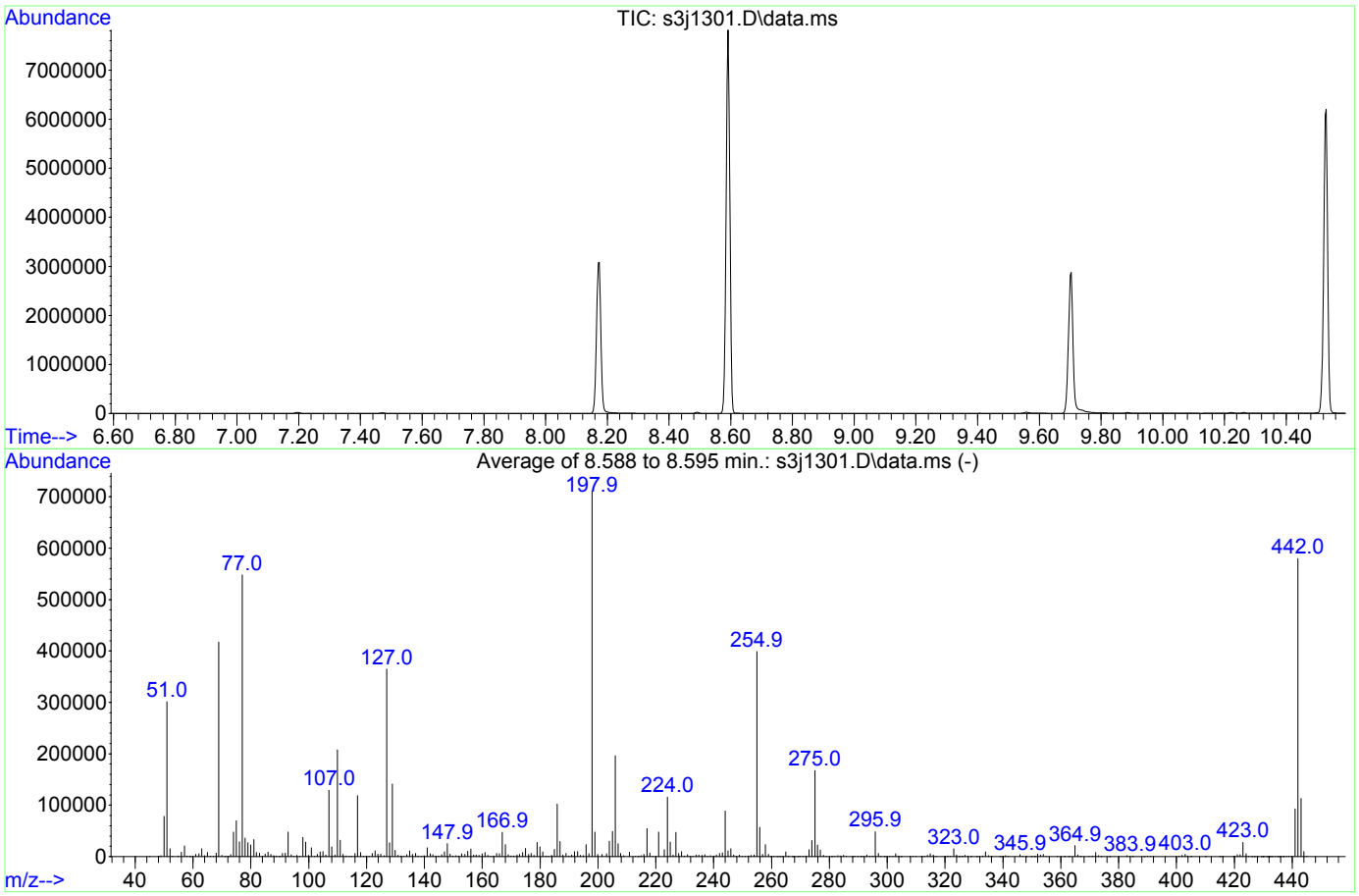
Quality Control Data

DFTPP Tune Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1301.D
Acq On : 13 Oct 2020 15:42
Operator : AGS1
Sample : |WBN200505-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\data\s101320.s\BNABrk_Down8270D.m
Title : dftpp / endrin / ddt
Last Update : Tue Jun 08 08:47:00 2010



AutoFind: Scans 2709, 2710, 2711; Background Corrected with Scan 2699

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	42.4	301419	PASS
68	69	0.00	2	1.6	6567	PASS
69	198	0.00	100	58.7	417024	PASS
70	69	0.00	2	0.5	2238	PASS
127	198	10	80	51.4	364907	PASS
197	198	0.00	2	0.8	5394	PASS
198	198	50	100	100.0	710443	PASS
199	198	5	9	6.7	47688	PASS
275	198	10	60	23.6	167701	PASS
365	198	1	100	3.0	21467	PASS
441	442	0.01	24	16.0	93016	PASS
442	198	50	100	81.6	579712	PASS
443	442	15	24	19.5	113107	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Quantitation Report

10/14/2020

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1301.D
Acq On : 13 Oct 2020 15:42
Operator : AGS1
Sample : |WBN200505-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

10/19/2020

Quant Time: Oct 13 16:20:31 2020
Quant Method : C:\msdchem\1\data\s101320.s\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Tue Jun 08 08:47:00 2010
Response via : Initial Calibration

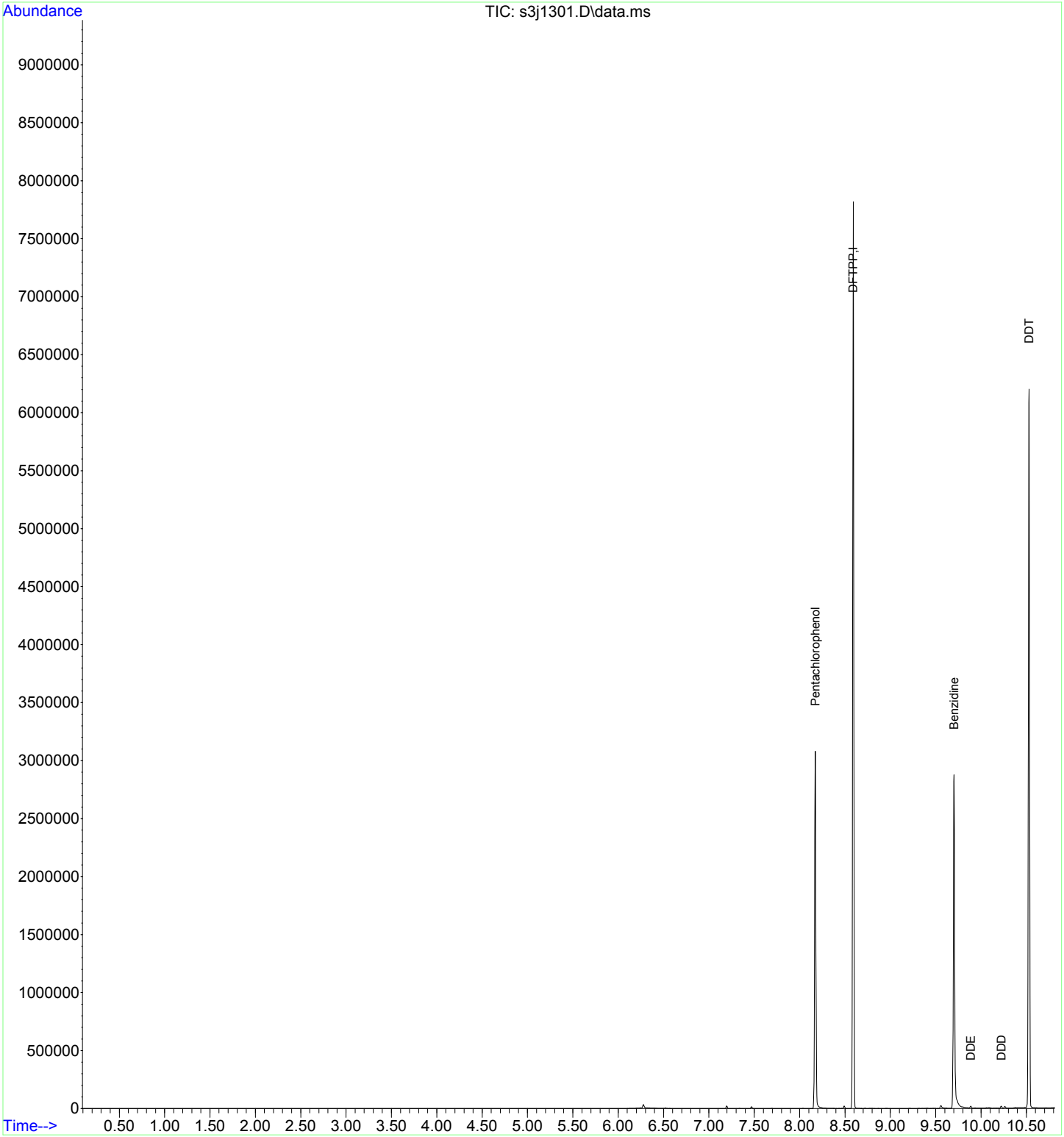
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) DFTPP	TIC	8.591	8.590	1.000	6456888	5.00	ug/l	# 0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) DFTPP	TIC	8.591	8.590	1.000	6456888	No Calib	#	
3) Pentachlorophenol	266	8.174	8.172	0.951	320568	2.47	ug/l	99
4) Benzidine	184	9.703	9.702	1.129	1178292	5.34	ug/l	97
5) DDE	246	9.888	9.885	1.151	1612	0.50	ug/l	92
6) DDD	235	10.225	10.224	1.190	3284	0.27	ug/l	100
7) DDT	235	10.529	10.529	1.226	1023629	3.16	ug/l	91

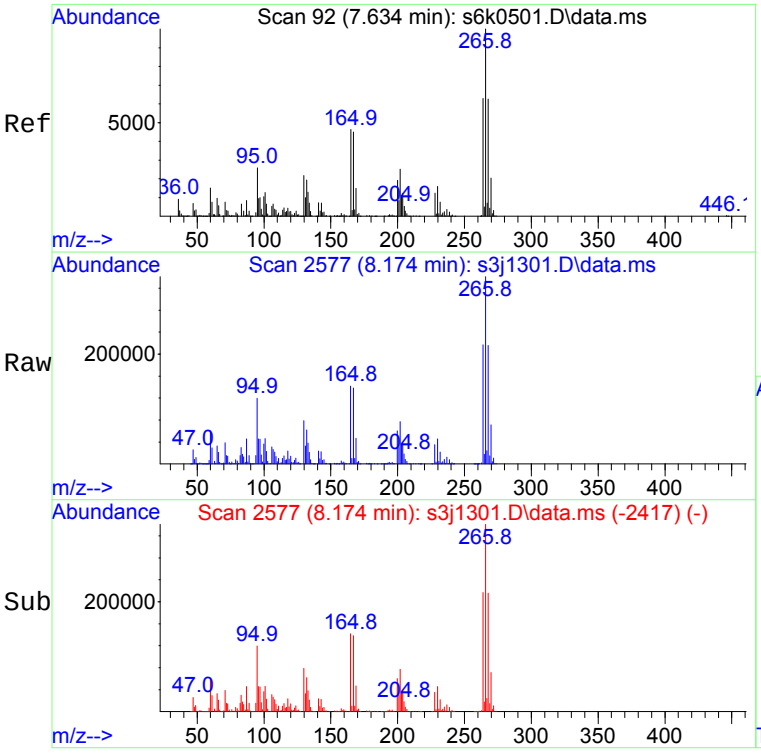
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101320.s\
Data File : s3j1301.D
Acq On : 13 Oct 2020 15:42
Operator : AGS1
Sample : |WBN200505-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 13 16:20:31 2020
Quant Method : C:\msdchem\1\data\s101320.s\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Tue Jun 08 08:47:00 2010
Response via : Initial Calibration

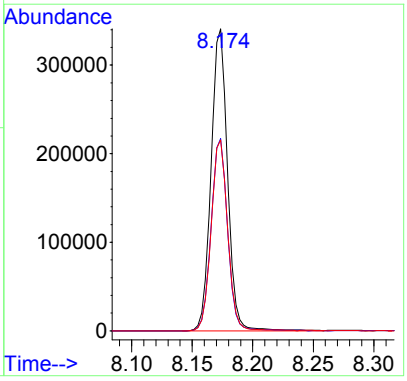


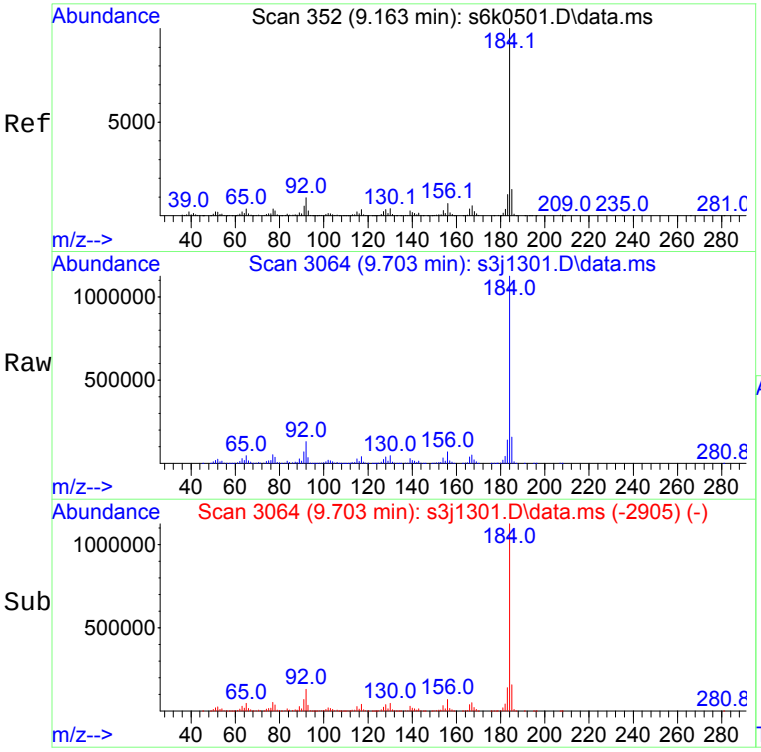


#3
Pentachlorophenol
Concen: 2.47 ug/l
RT: 8.174 min Scan# 2577
Delta R.T. 0.002 min
Lab File: s3j1301.D
Acq: 13 Oct 2020 15:42

Tgt Ion:266 Resp: 320568

Ion	Ratio	Lower	Upper
266	100		
264	63.7	0.0	162.7
268	63.4	0.0	163.4

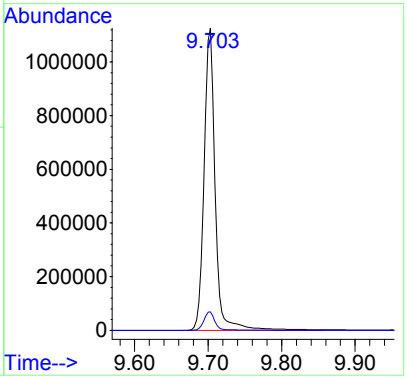


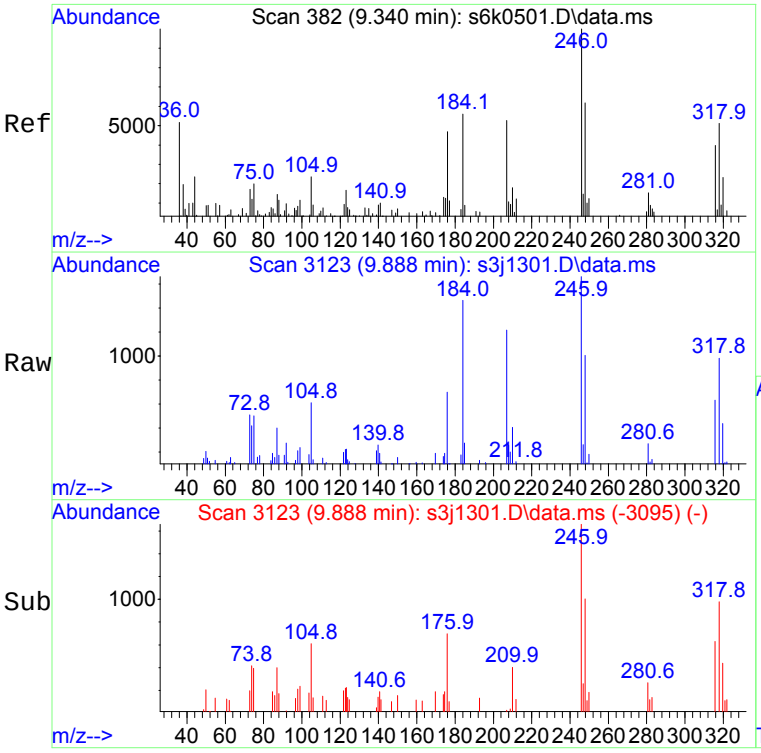


#4
Benzidine
Concen: 5.34 ug/l
RT: 9.703 min Scan# 3064
Delta R.T. 0.001 min
Lab File: s3j1301.D
Acq: 13 Oct 2020 15:42

Tgt Ion:184 Resp: 1178292

Ion	Ratio	Lower	Upper
184	100		
156	6.2	0.0	107.4

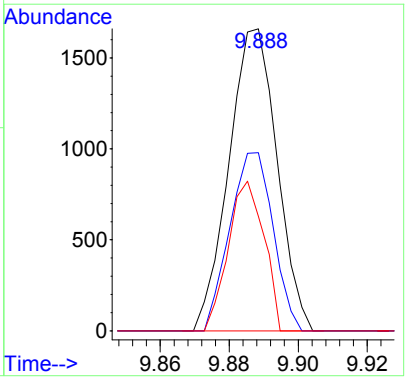


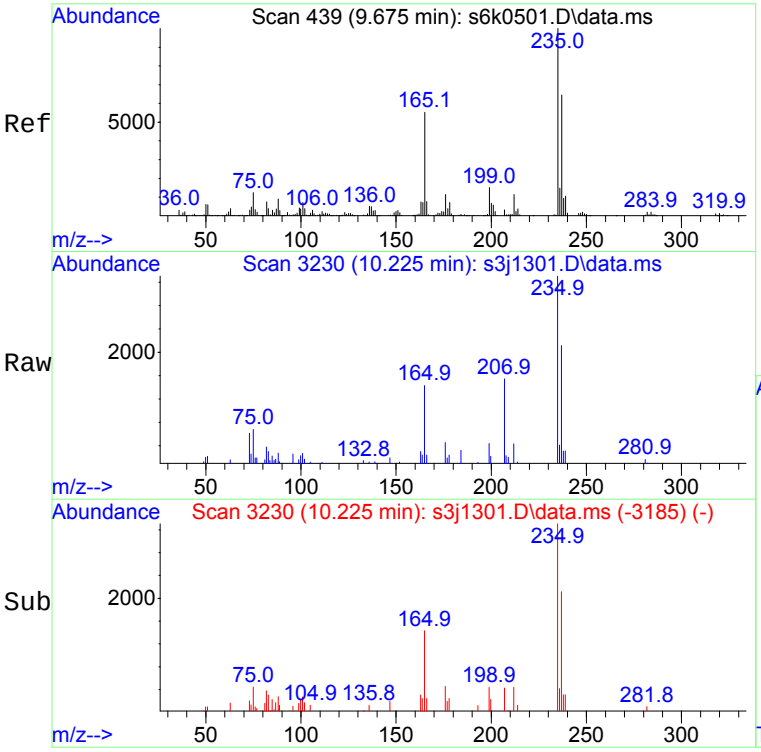


#5
DDE
Concen: 0.50 ug/l
RT: 9.888 min Scan# 3123
Delta R.T. 0.004 min
Lab File: s3j1301.D
Acq: 13 Oct 2020 15:42

Tgt Ion:246 Resp: 1612

Ion	Ratio	Lower	Upper
246	100		
318	53.0	0.0	150.4
316	36.8	0.0	144.4

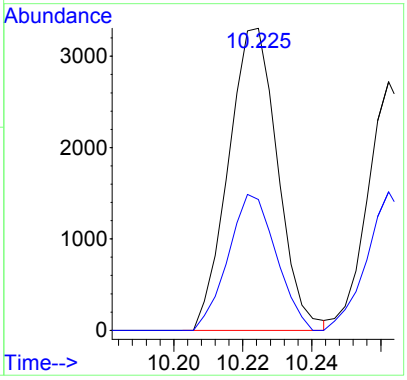


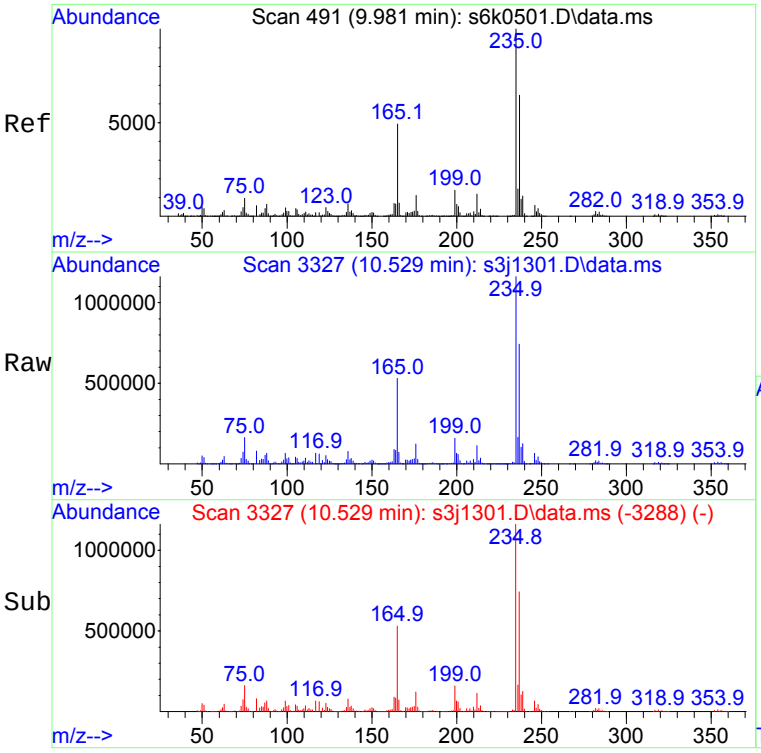


#6
DDD
Concen: 0.27 ug/l
RT: 10.225 min Scan# 3230
Delta R.T. 0.000 min
Lab File: s3j1301.D
Acq: 13 Oct 2020 15:42

Tgt Ion:235 Resp: 3284

Ion	Ratio	Lower	Upper
235	100		
165	43.8	0.0	100.0

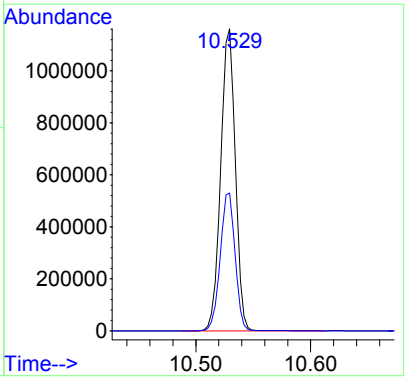




#7
DDT
Concen: 3.16 ug/l
RT: 10.529 min Scan# 3327
Delta R.T. 0.000 min
Lab File: s3j1301.D
Acq: 13 Oct 2020 15:42

Tgt Ion:235 Resp: 1023629

Ion	Ratio	Lower	Upper
235	100		
165	46.3	0.0	152.7



8270 Breakdown Report

10/14/2020

Data File : C:\msdchem\1\data\s101320.s\s3j1301.D Vial: 1
Acq On : 13 Oct 2020 15:42 Operator: AGS1
Sample : |WBN200505-99|DFTPP|1|SVM|1|DFTPP Inst : MSD3
Misc : Multiplr: 1.00
IntFile : rteint.p

10/19/2020

Compounds	Area/%Breakdown	8270C	8270D
DDE	1612		
DDD	3284		
DDT	1023629		
Breakdown	0.48%	Pass(<20)	Pass(<20)

Compounds	Tailing Factor	8270C	8270D
Benzidine	0.86	Pass(<3)	Pass(<2)
Pentachlorophenol	0.84	Pass(<5)	Pass(<2)

DFTPP Tune Report

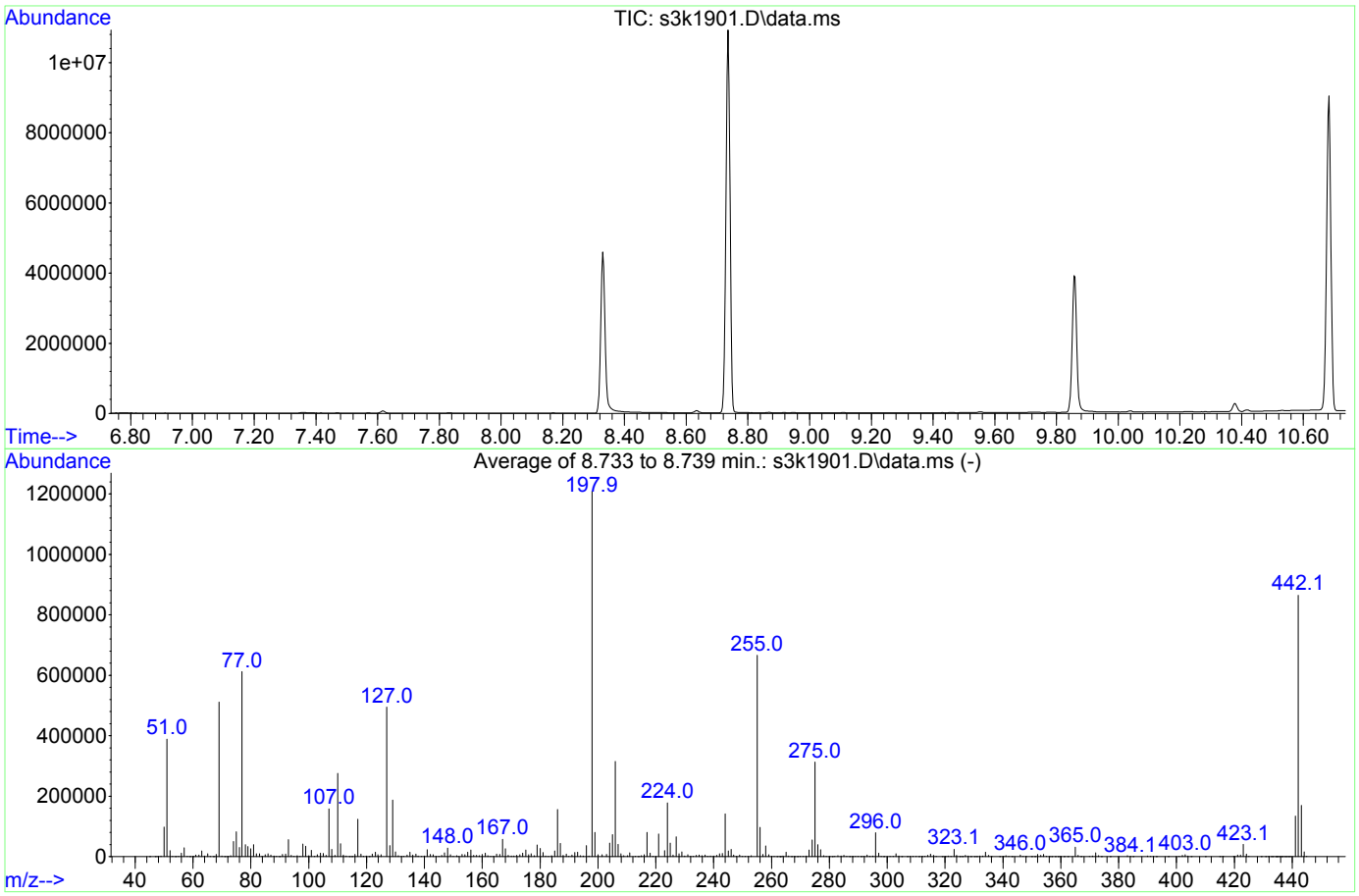
11/20/2020

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1901.D
Acq On : 19 Nov 2020 13:04
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

11/20/2020

Integration File: rteint.p

Method : C:\msdchem\1\data\s111920.s\BNABrk_Down8270D.m
Title : dftpp / endrin / ddt
Last Update : Tue Jun 08 08:47:00 2010



AutoFind: Scans 2753, 2754, 2755; Background Corrected with Scan 2743

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.2	389035	PASS
68	69	0.00	2	1.5	7425	PASS
69	198	0.00	100	42.3	511451	PASS
70	69	0.00	2	0.5	2430	PASS
127	198	10	80	40.9	494635	PASS
197	198	0.00	2	0.2	2389	PASS
198	198	50	100	100.0	1208491	PASS
199	198	5	9	6.6	80168	PASS
275	198	10	60	25.9	312576	PASS
365	198	1	100	2.6	31091	PASS
441	442	0.01	24	15.5	134072	PASS
442	198	50	100	71.6	864683	PASS
443	442	15	24	19.6	169792	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Quantitation Report

11/20/2020

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1901.D
Acq On : 19 Nov 2020 13:04
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 19 14:08:32 2020
Quant Method : C:\msdchem\1\data\s111920.s\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Tue Jun 08 08:47:00 2010
Response via : Initial Calibration

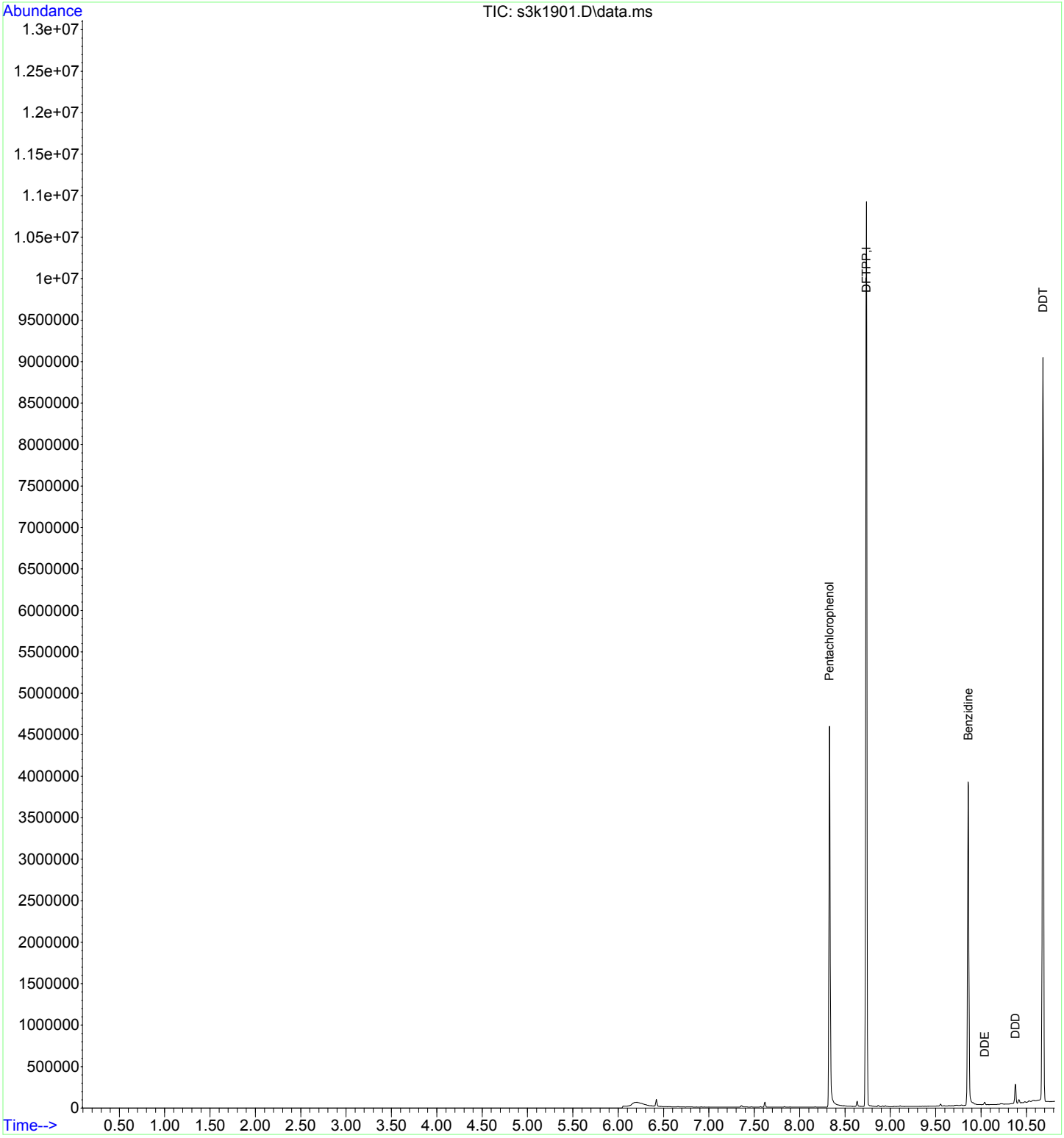
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) DFTPP	TIC	8.736	8.736	1.000	9904612	5.00	ug/l	# 0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) DFTPP	TIC	8.736	8.736	1.000	9904612	No Calib	#	
3) Pentachlorophenol	266	8.329	8.329	0.953	608857	3.06	ug/l	99
4) Benzidine	184	9.860	9.860	1.129	1756154	5.19	ug/l	100
5) DDE	246	10.040	10.040	1.149	3676	0.74	ug/l	97
6) DDD	235	10.377	10.377	1.188	47553	2.58	ug/l	98
7) DDT	235	10.683	10.683	1.223	1836688	3.69	ug/l	100

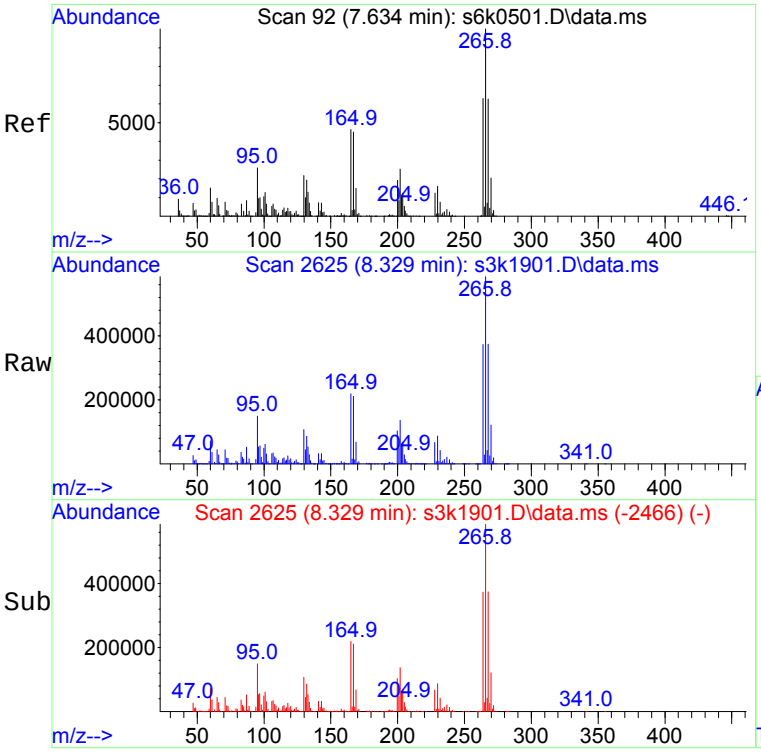
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1901.D
Acq On : 19 Nov 2020 13:04
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 19 14:08:32 2020
Quant Method : C:\msdchem\1\data\s111920.s\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Tue Jun 08 08:47:00 2010
Response via : Initial Calibration

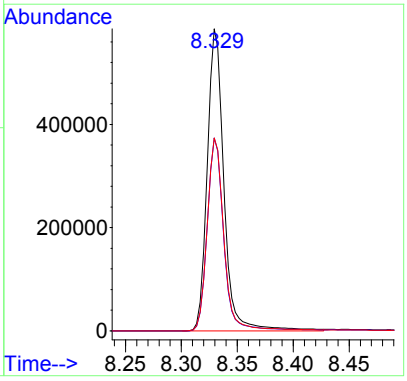


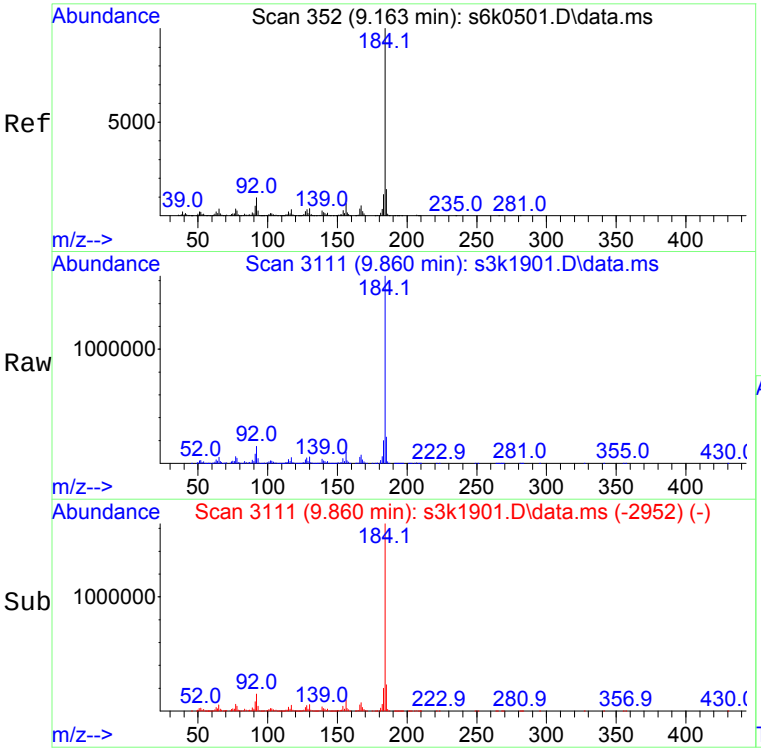


#3
Pentachlorophenol
Concen: 3.06 ug/l
RT: 8.329 min Scan# 2625
Delta R.T. 0.000 min
Lab File: s3k1901.D
Acq: 19 Nov 2020 13:04

Tgt Ion:266 Resp: 608857

Ion	Ratio	Lower	Upper
266	100		
264	63.5	0.0	163.8
268	64.5	0.0	163.9

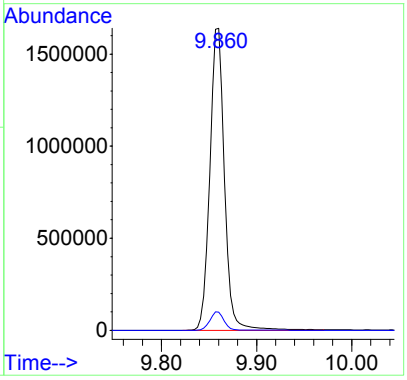


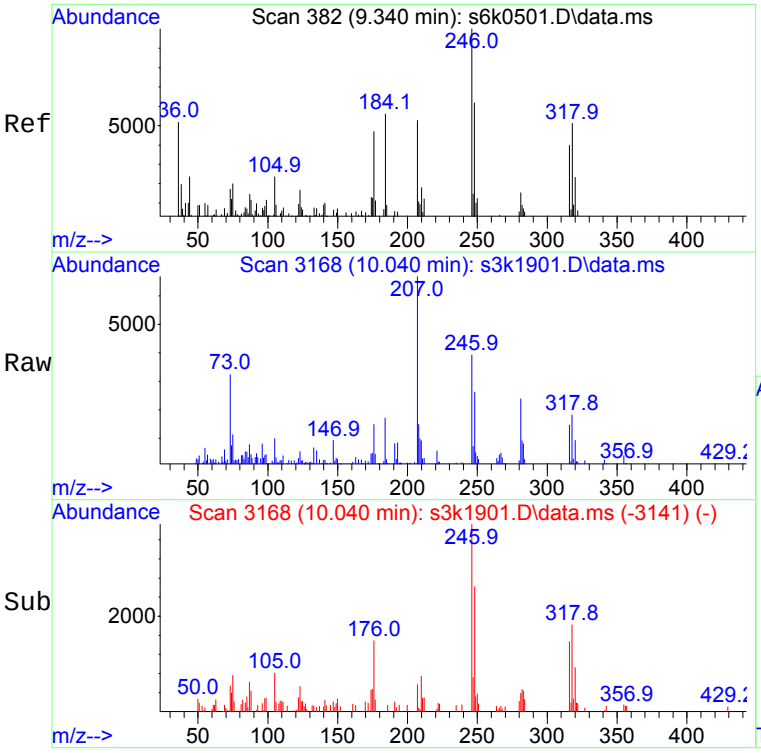


#4
Benzidine
Concen: 5.19 ug/l
RT: 9.860 min Scan# 3111
Delta R.T. 0.000 min
Lab File: s3k1901.D
Acq: 19 Nov 2020 13:04

Tgt Ion:184 Resp: 1756154

Ion	Ratio	Lower	Upper
184	100		
156	6.0	0.0	106.0

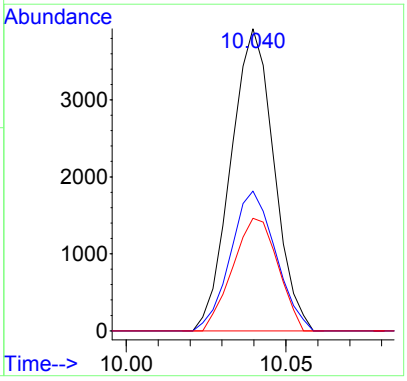


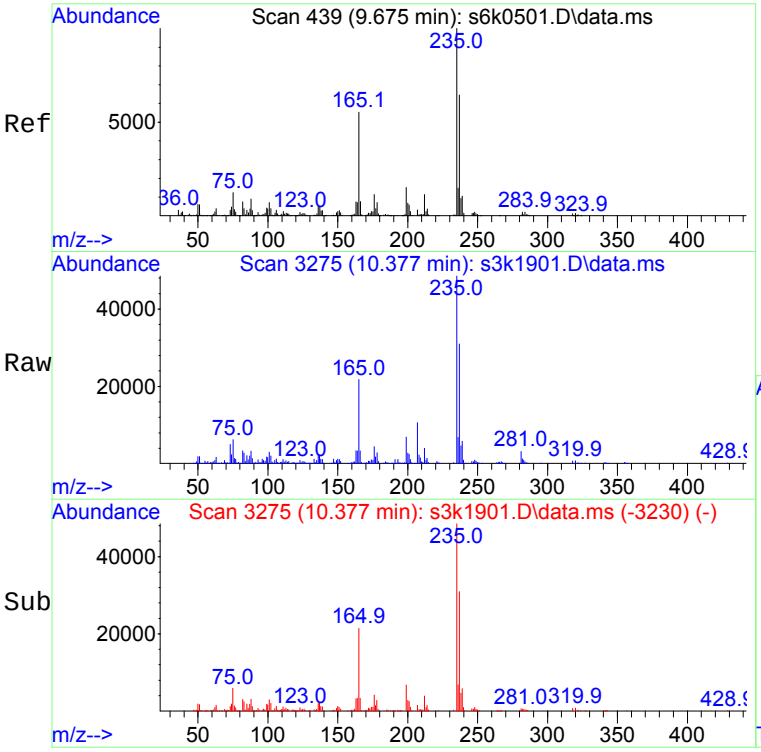


#5
DDE
Concen: 0.74 ug/l
RT: 10.040 min Scan# 3168
Delta R.T. 0.000 min
Lab File: s3k1901.D
Acq: 19 Nov 2020 13:04

Tgt Ion:246 Resp: 3676

Ion	Ratio	Lower	Upper
246	100		
318	48.3	0.0	146.3
316	39.0	0.0	137.3

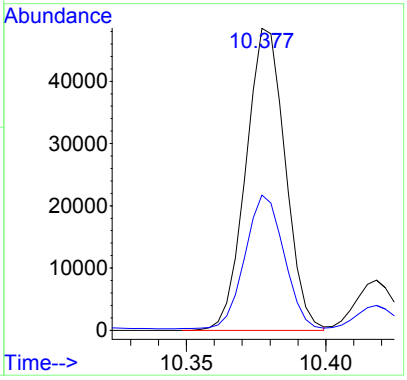


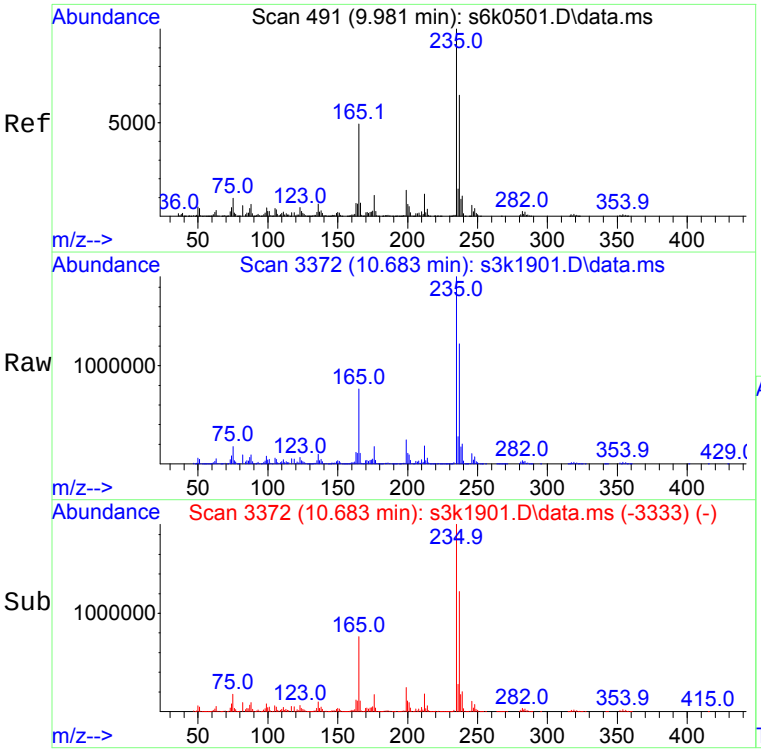


#6
DDD
Concen: 2.58 ug/l
RT: 10.377 min Scan# 3275
Delta R.T. 0.000 min
Lab File: s3k1901.D
Acq: 19 Nov 2020 13:04

Tgt Ion:235 Resp: 47553

Ion	Ratio	Lower	Upper
235	100		
165	43.7	0.0	144.8

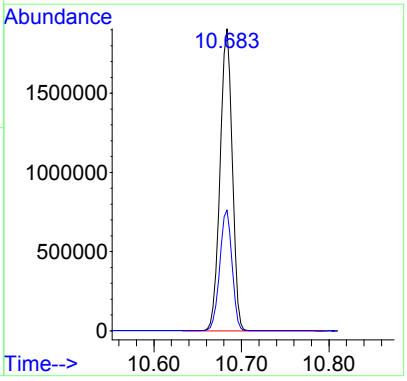




#7
DDT
Concen: 3.69 ug/l
RT: 10.683 min Scan# 3372
Delta R.T. 0.000 min
Lab File: s3k1901.D
Acq: 19 Nov 2020 13:04

Tgt Ion:235 Resp: 1836688

Ion	Ratio	Lower	Upper
235	100		
165	40.1	0.0	140.0



8270 Breakdown Report

11/20/2020

Data File : C:\msdchem\1\data\s111920.s\s3k1901.D Vial: 1
Acq On : 19 Nov 2020 13:04 Operator: JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP Inst : MSD3
Misc : Multiplr: 1.00
IntFile : rteint.p

11/20/2020

Compounds	Area/%Breakdown	8270C	8270D
DDE	3676		
DDD	47553		
DDT	1836688		
Breakdown	2.71%	Pass(<20)	Pass(<20)

Compounds	Tailing Factor	8270C	8270D
Benzidine	0.83	Pass(<3)	Pass(<2)
Pentachlorophenol	1.30	Pass(<5)	Pass(<2)

DFTPP Tune Report

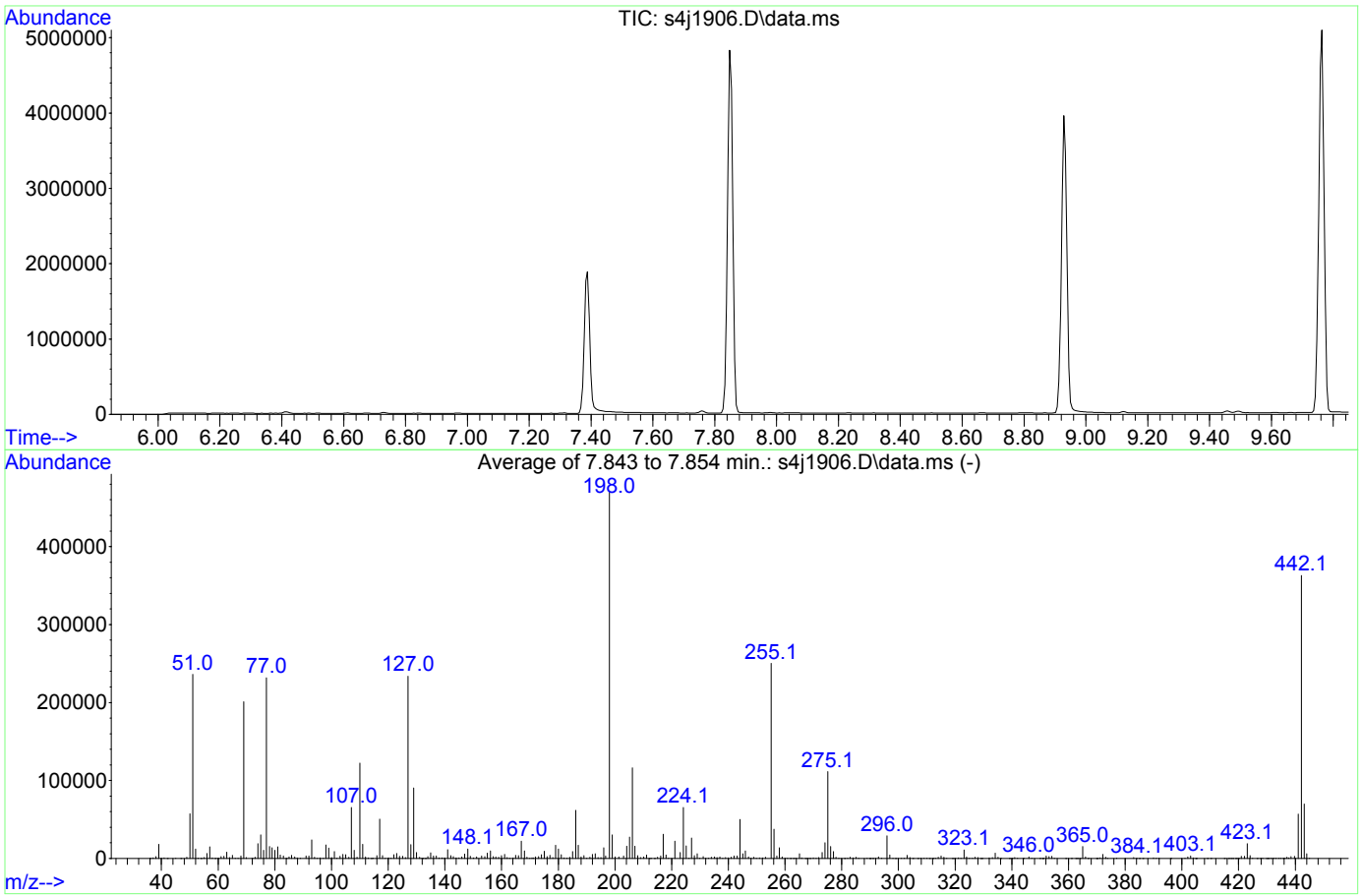
JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1906.D
Acq On : 19 Oct 2020 13:03
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

RJB 10/21/2020

Integration File: rteint.p

Method : C:\msdchem\1\data\s101920.B\BNABrk_Down8270D.m
Title : dftpp / endrin / ddt
Last Update : Sat Dec 07 10:19:10 2019



AutoFind: Scans 1449, 1450, 1451; Background Corrected with Scan 1442

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	50.3	236271	PASS
68	69	0.00	2	1.5	3100	PASS
69	198	0.00	100	42.8	201002	PASS
70	69	0.00	2	0.6	1131	PASS
127	198	10	80	49.8	233813	PASS
197	198	0.00	2	0.7	3092	PASS
198	198	50	100	100.0	469397	PASS
199	198	5	9	6.4	30144	PASS
275	198	10	60	23.7	111280	PASS
365	198	1	100	3.2	15176	PASS
441	442	0.01	24	15.7	56893	PASS
442	198	50	100	77.3	362923	PASS
443	442	15	24	19.3	69936	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1906.D
Acq On : 19 Oct 2020 13:03
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 19 14:32:17 2020
Quant Method : C:\msdchem\1\data\s101920.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

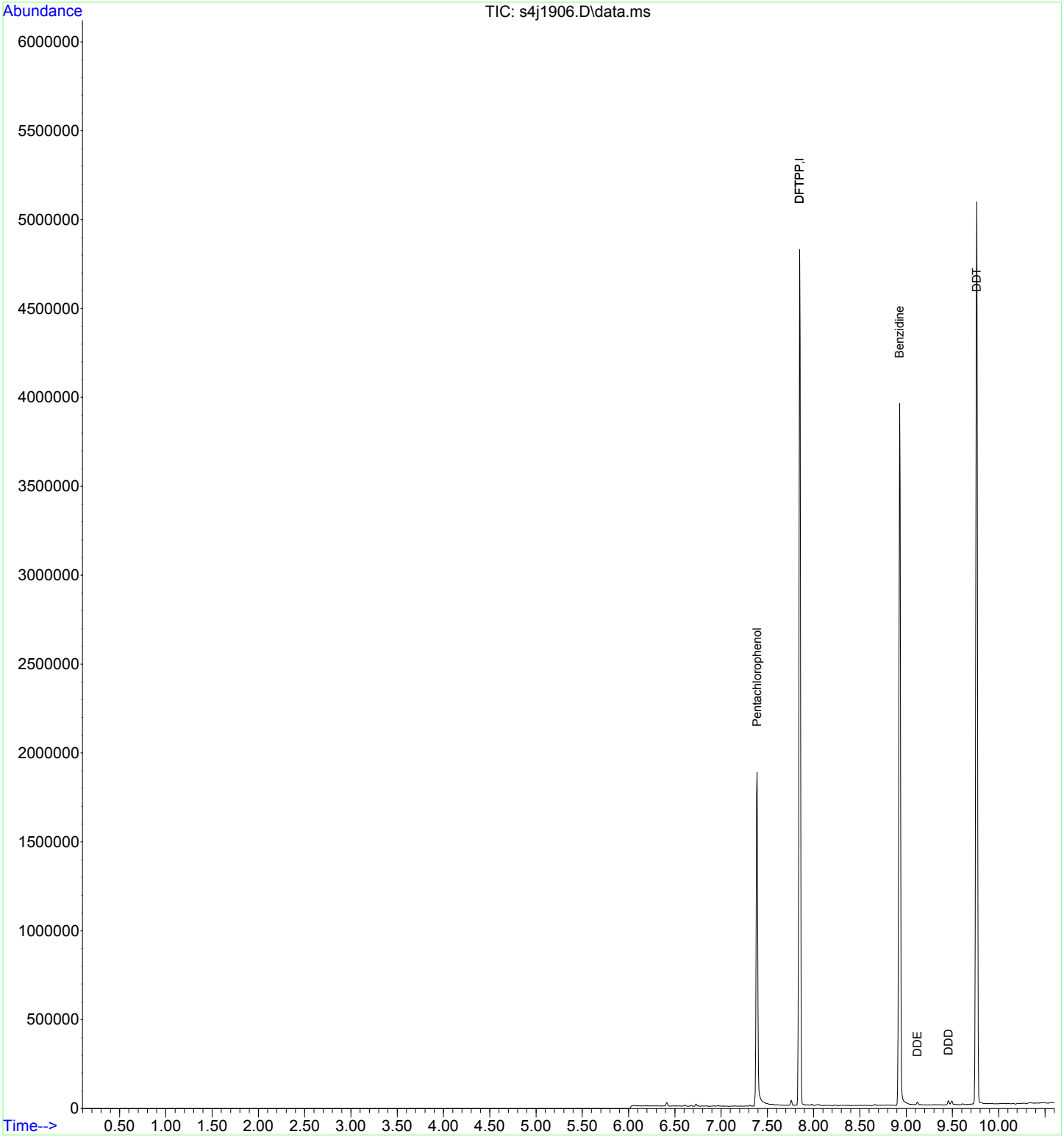
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) DFTPP	TIC	7.848	7.848	1.000	5632771	5.00	ug/ml	# 0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) DFTPP	TIC	7.848	7.849	1.000	5632771	5.00	ug/ml	# 1
3) Pentachlorophenol	266	7.388	7.388	0.941	272455	2.86	ug/ml	100
4) Benzidine	184	8.929	8.929	1.138	1992920	6.14	ug/ml	100
5) DDE	246	9.121	9.121	1.162	1915	4.69	ug/ml	91
6) DDD	235	9.458	9.458	1.205	4856	3.69	ug/ml	95
7) DDT	235	9.763	9.763	1.244	1159732	4.28	ug/ml	95

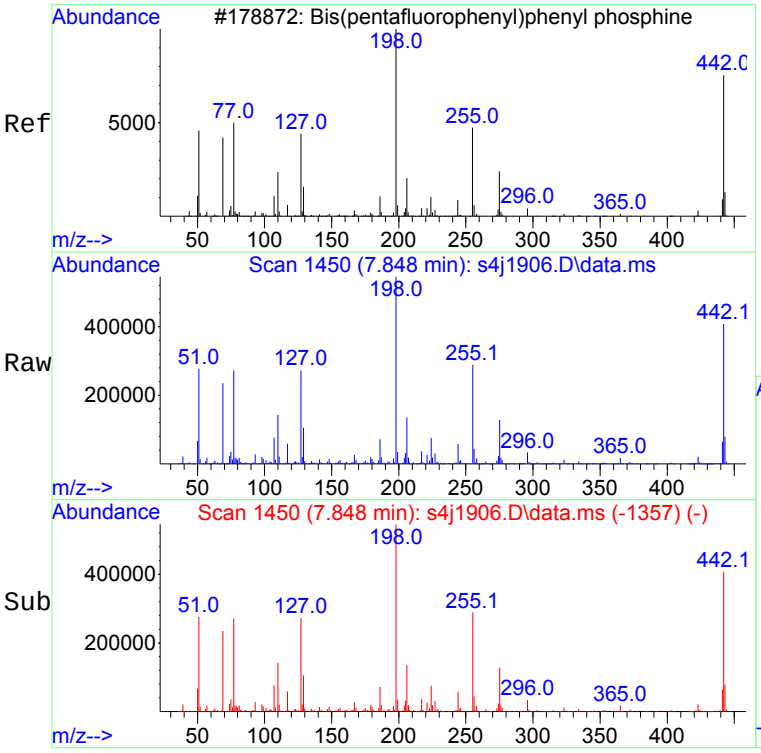
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1906.D
Acq On : 19 Oct 2020 13:03
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 19 14:32:17 2020
Quant Method : C:\msdchem\1\data\s101920.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

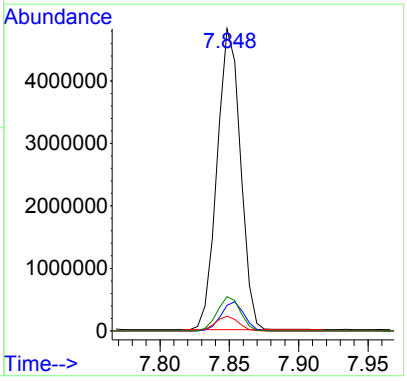


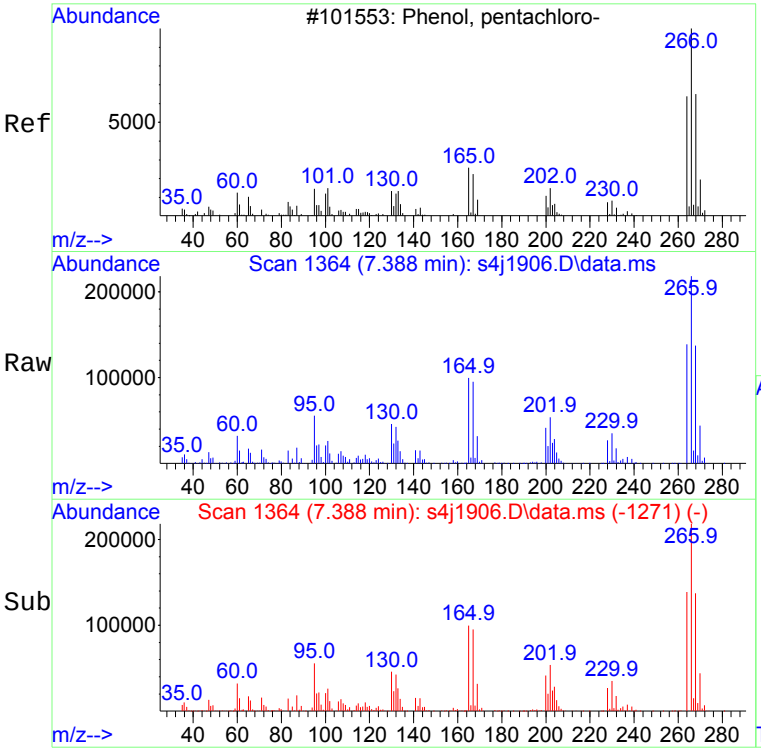


#2
DFTPP
Concen: 5.00 ug/ml
RT: 7.848 min Scan# 1450
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:TIC Resp: 5632771

Ion	Ratio	Lower	Upper
TIC	100		
442	9.4	985.3	1025.3#
69	4.7	398.8	438.8#
198	11.2	1189.4	1229.4#

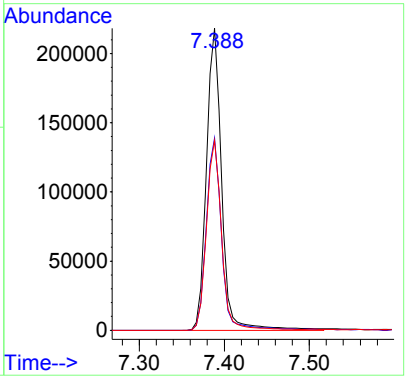


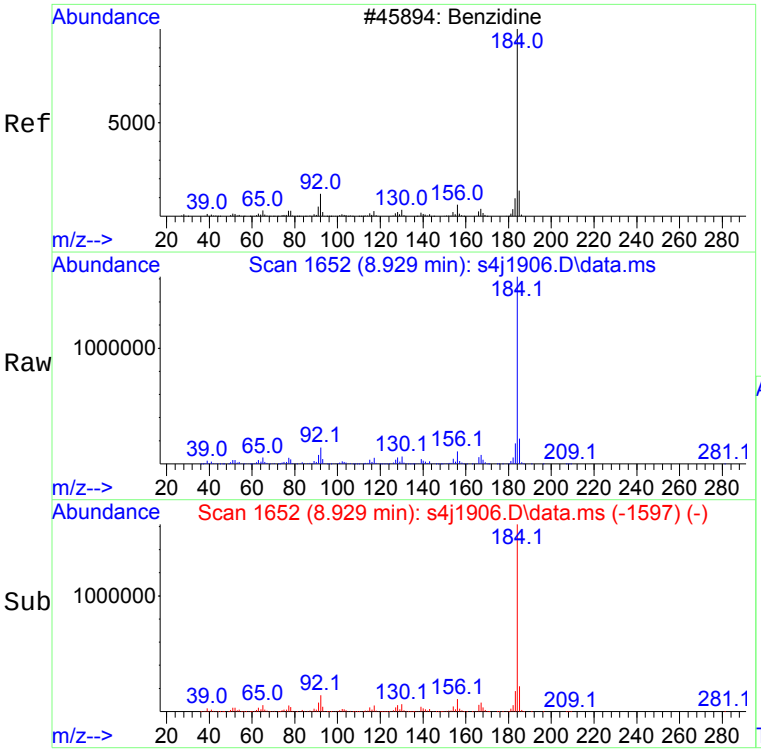


#3
Pentachlorophenol
Concen: 2.86 ug/ml
RT: 7.388 min Scan# 1364
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:266 Resp: 272455

Ion	Ratio	Lower	Upper
266	100		
264	63.7	0.0	163.8
268	62.6	0.0	162.0

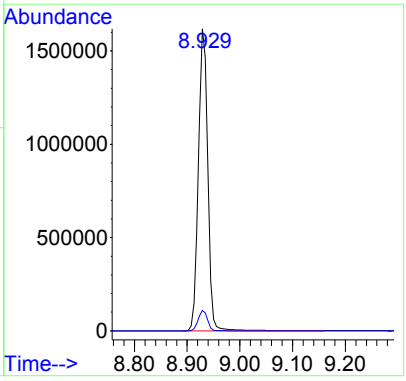


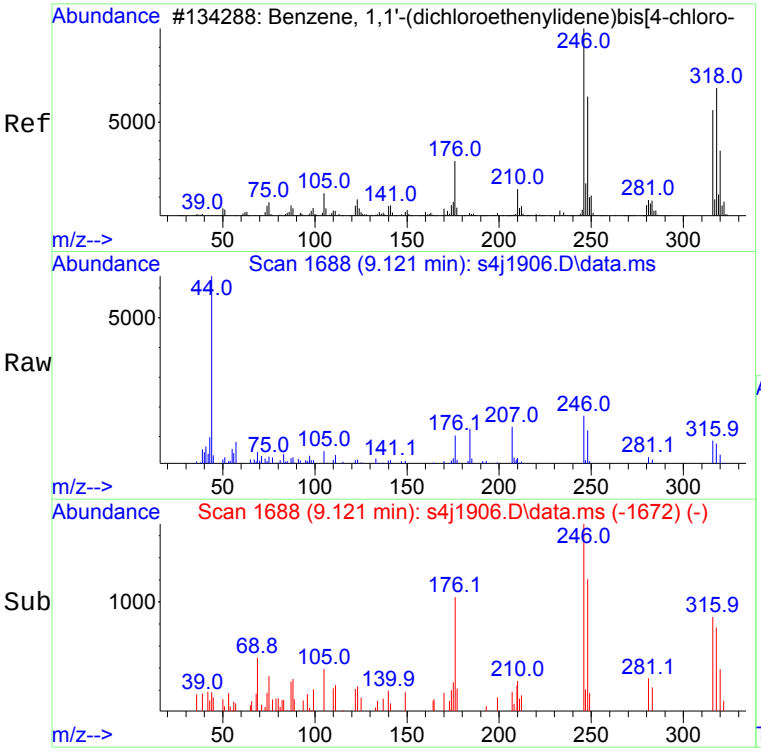


#4
Benzidine
Concen: 6.14 ug/ml
RT: 8.929 min Scan# 1652
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:184 Resp: 1992920

Ion	Ratio	Lower	Upper
184	100		
156	6.6	0.0	106.7

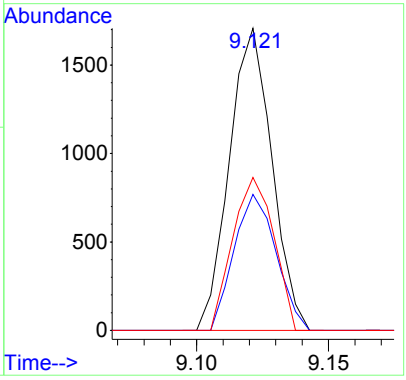


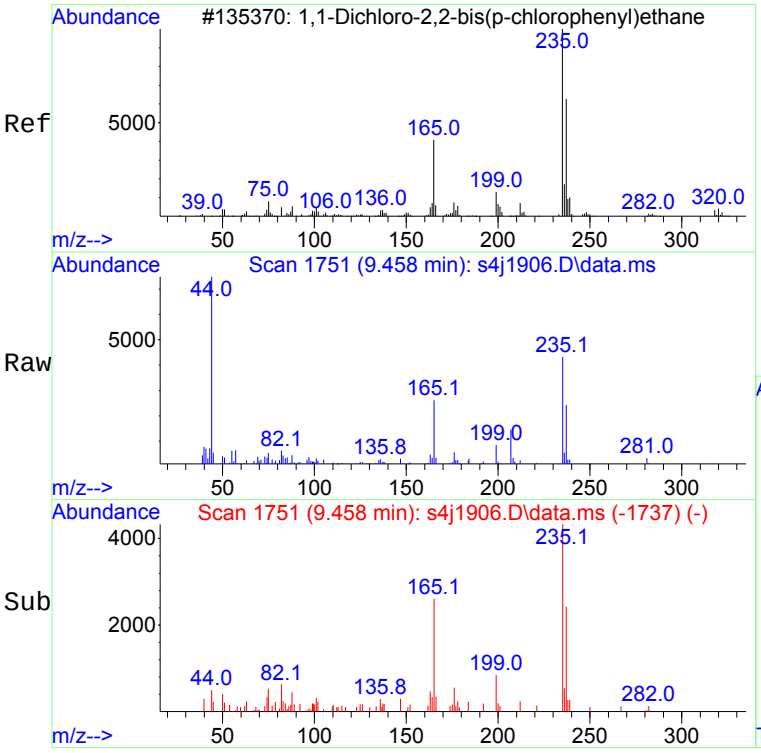


#5
DDE
Concen: 4.69 ug/ml
RT: 9.121 min Scan# 1688
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:246 Resp: 1915

Ion	Ratio	Lower	Upper
246	100		
318	44.4	0.0	151.8
316	48.8	0.0	143.7

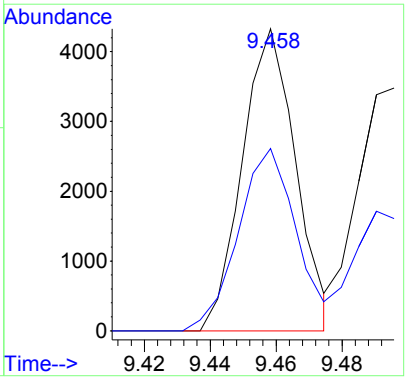


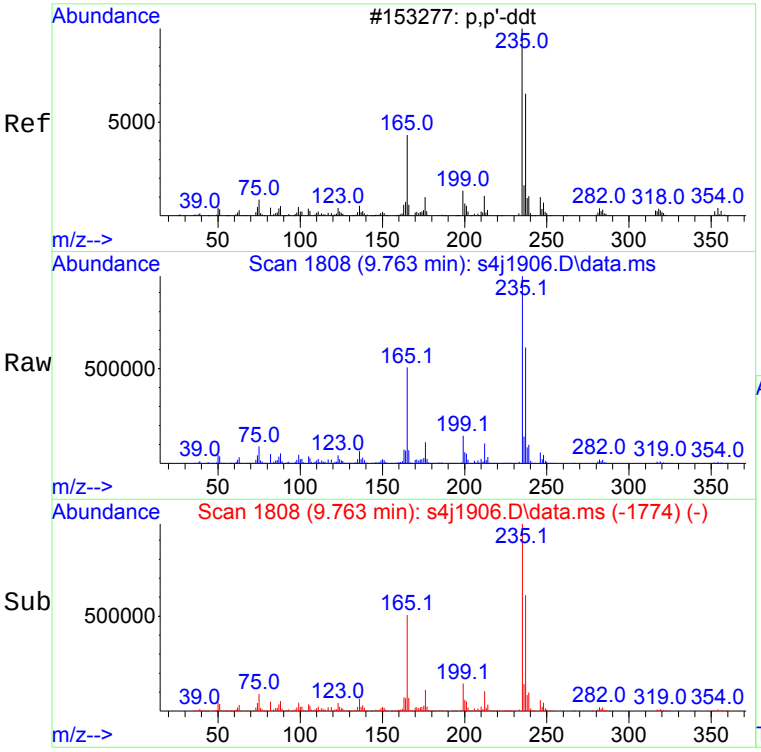


#6
DDD
Concen: 3.69 ug/ml
RT: 9.458 min Scan# 1751
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:235 Resp: 4856

Ion	Ratio	Lower	Upper
235	100		
165	65.6	0.0	161.6

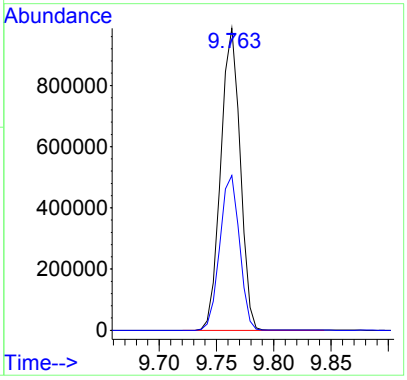




#7
DDT
Concen: 4.28 ug/ml
RT: 9.763 min Scan# 1808
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:235 Resp: 1159732

Ion	Ratio	Lower	Upper
235	100		
165	51.8	0.0	155.6



8270 Breakdown Report

JMB 10/21/2020

Data File : C:\msdchem\1\data\s101920.B\s4j1906.D Vial: 1
Acq On : 19 Oct 2020 13:03 Operator: JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP Inst : MSD4
Misc : Multiplr: 1.00
IntFile : rteint.p

JMB 10/21/2020

Compounds	Area/%Breakdown	8270C	8270D
DDE	1915		
DDD	4856		
DDT	1159732		
Breakdown	0.58%	Pass(<20)	Pass(<20)

Compounds	Tailing Factor	8270C	8270D
Benzidine	1.19	Pass(<3)	Pass(<2)
Pentachlorophenol	0.93	Pass(<5)	Pass(<2)

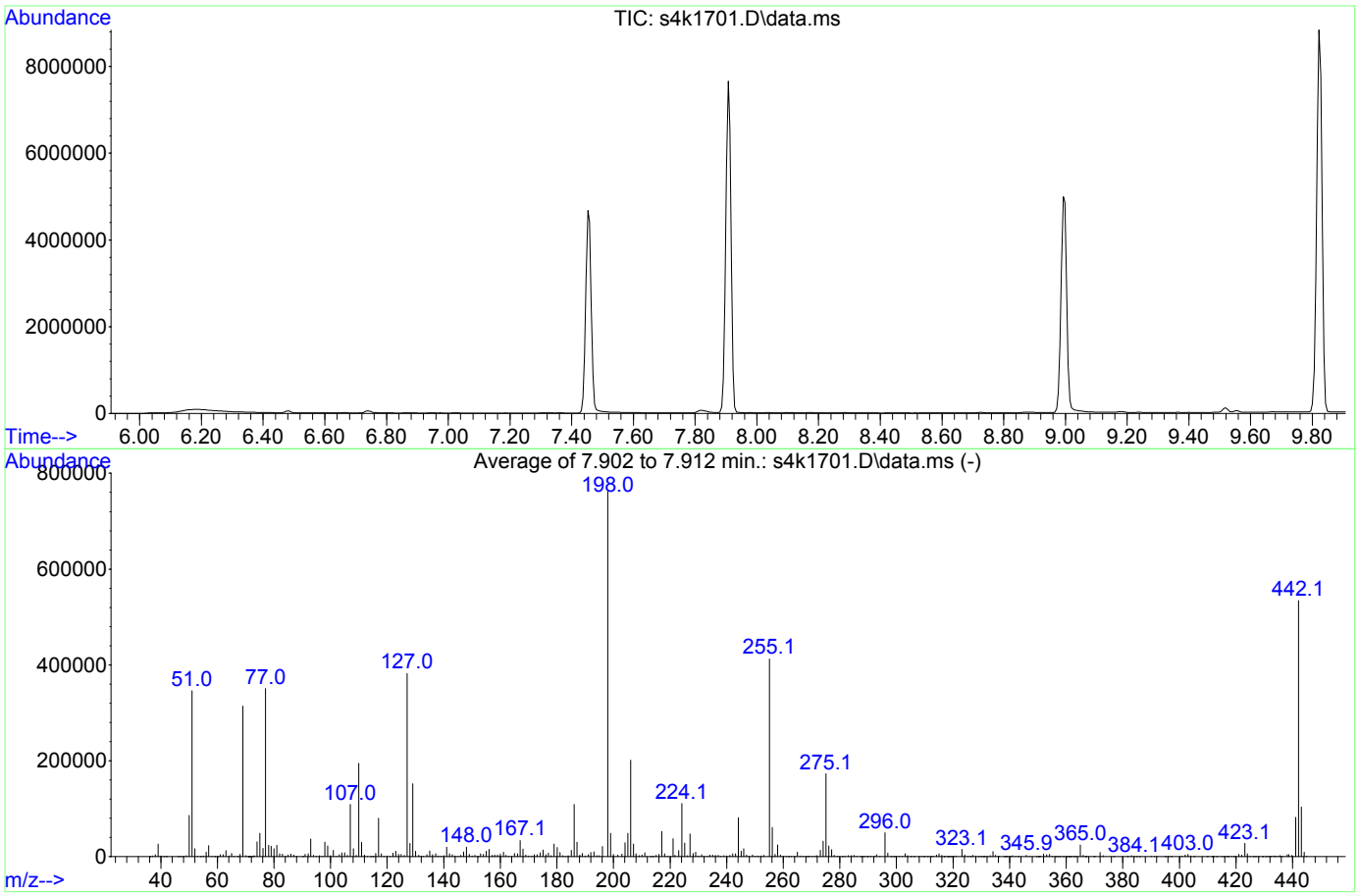
DFTPP Tune Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1701.D
Acq On : 17 Nov 2020 13:25
Operator : LOF
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

11/19/2020

Integration File: rteint.p

Method : C:\msdchem\1\data\s111720.B\BNABrk_Down8270D.m
Title : dftpp / endrin / ddt
Last Update : Sat Dec 07 10:19:10 2019



AutoFind: Scans 1460, 1461, 1462; Background Corrected with Scan 1453

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	45.4	346197	PASS
68	69	0.00	2	1.5	4684	PASS
69	198	0.00	100	41.2	313669	PASS
70	69	0.00	2	0.6	1979	PASS
127	198	10	80	50.2	382458	PASS
197	198	0.00	2	0.0	0	PASS
198	198	50	100	100.0	762197	PASS
199	198	5	9	6.3	48392	PASS
275	198	10	60	22.7	172821	PASS
365	198	1	100	3.2	24136	PASS
441	442	0.01	24	15.3	81680	PASS
442	198	50	100	70.0	533888	PASS
443	442	15	24	19.4	103328	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Quantitation Report

11/17/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1701.D
Acq On : 17 Nov 2020 13:25
Operator : LOF
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

11/19/2020

Quant Time: Nov 17 13:36:54 2020
Quant Method : C:\msdchem\1\data\s111720.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

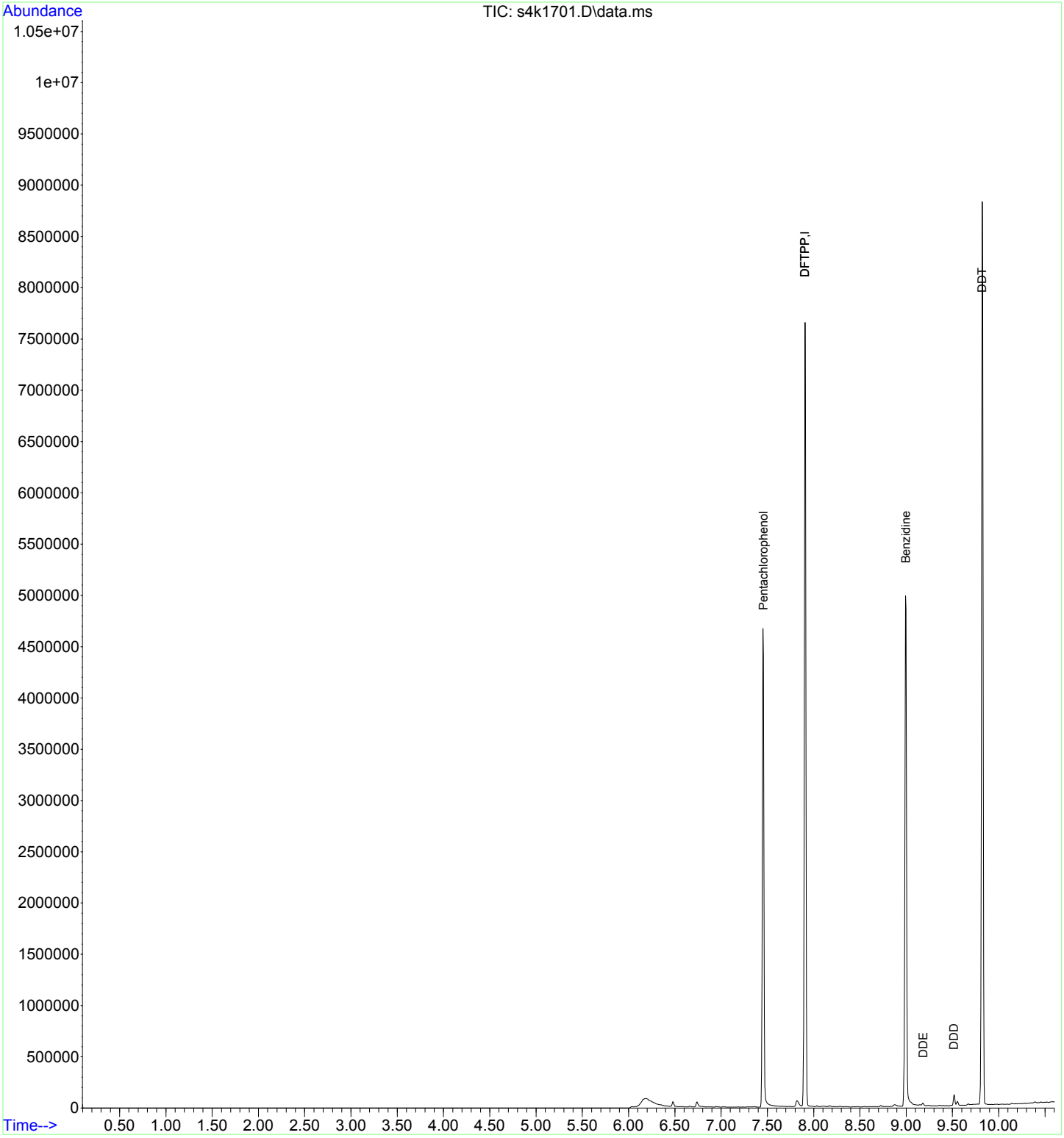
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
Internal Standards								Dev(Min)
1) DFTPP	TIC	7.907	7.918	1.000	8979773	5.00	ug/ml	#-0.01
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) DFTPP	TIC	7.907	7.918	1.000	8979773	5.00	ug/ml#	1
3) Pentachlorophenol	266	7.458	7.470	0.943	643893	4.24	ug/ml	100
4) Benzidine	184	8.998	8.999	1.138	2664607	5.15	ug/ml	100
5) DDE	246	9.185	9.191	1.162	2196	3.38	ug/ml	82
6) DDD	235	9.517	9.526	1.204	22064	10.52	ug/ml	82
7) DDT	235	9.822	9.830	1.242	2094819	4.85	ug/ml	99

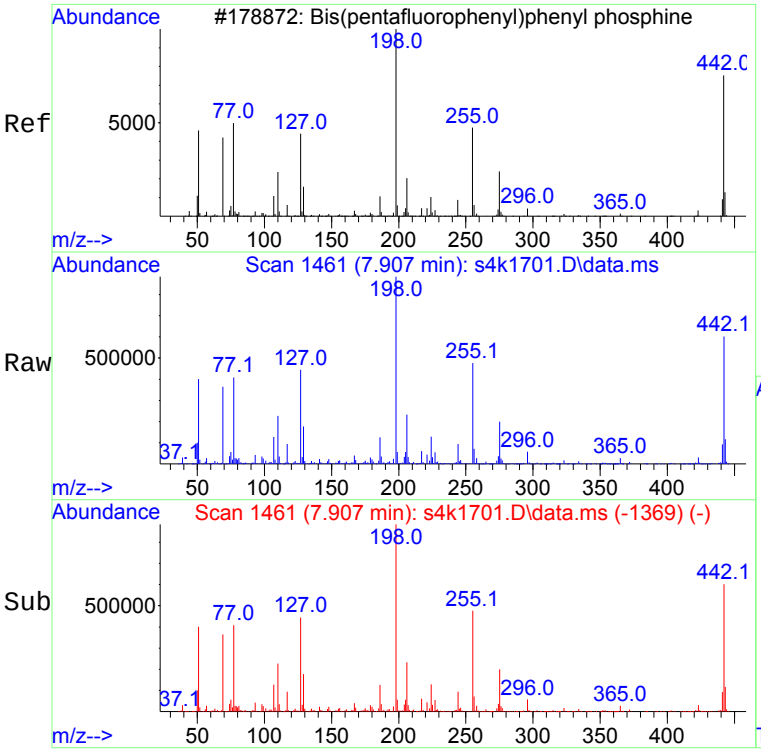
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1701.D
Acq On : 17 Nov 2020 13:25
Operator : LOF
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 17 13:36:54 2020
Quant Method : C:\msdchem\1\data\s111720.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

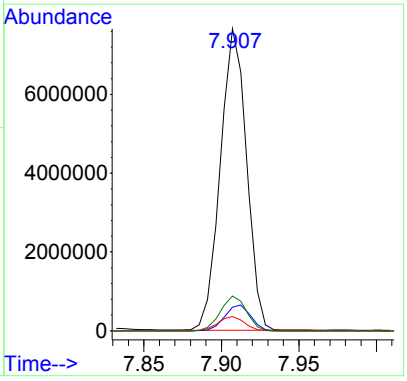


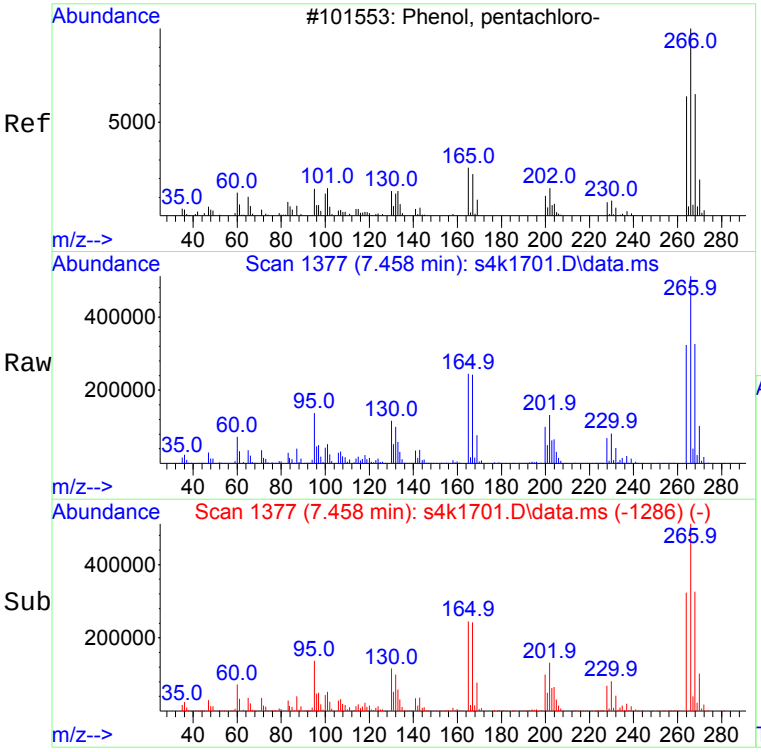


#2
DFTPP
Concen: 5.00 ug/ml
RT: 7.907 min Scan# 1461
Delta R.T. -0.011 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:TIC Resp: 8979773

Ion	Ratio	Lower	Upper
TIC	100		
442	8.5	809.7	849.7#
69	4.7	432.3	472.3#
198	11.4	1117.0	1157.0#

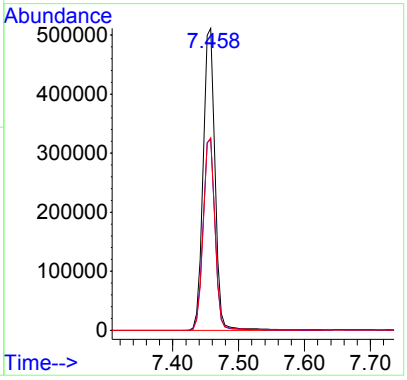


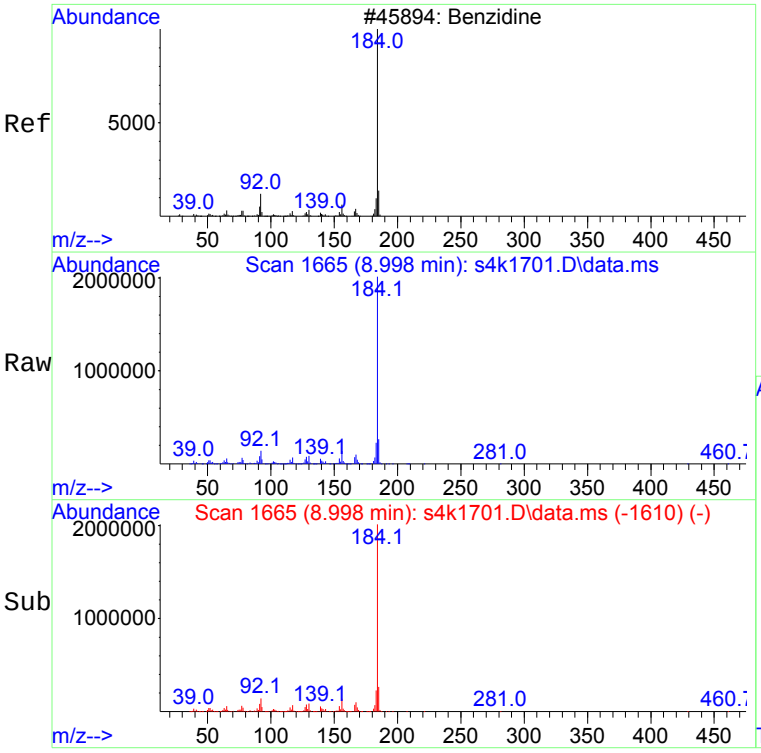


#3
Pentachlorophenol
Concen: 4.24 ug/ml
RT: 7.458 min Scan# 1377
Delta R.T. -0.012 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:266 Resp: 643893

Ion	Ratio	Lower	Upper
266	100		
264	63.3	0.0	163.4
268	62.9	0.0	162.6

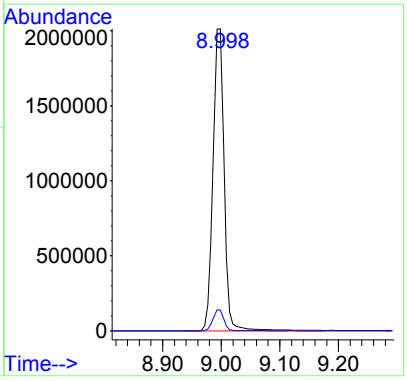


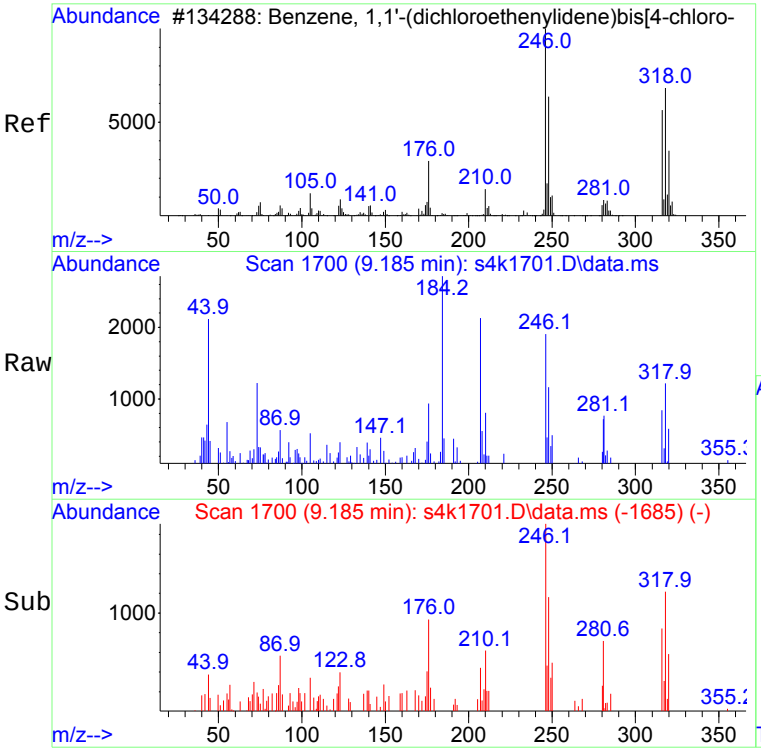


#4
Benzidine
Concen: 5.15 ug/ml
RT: 8.998 min Scan# 1665
Delta R.T. -0.001 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:184 Resp: 2664607

Ion	Ratio	Lower	Upper
184	100		
156	6.9	0.0	107.0

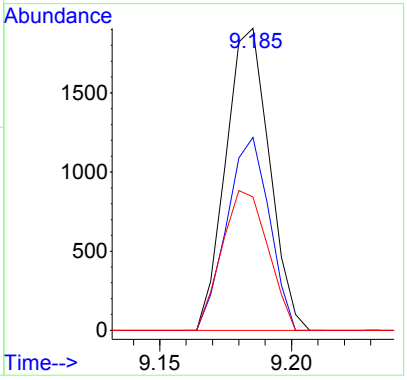


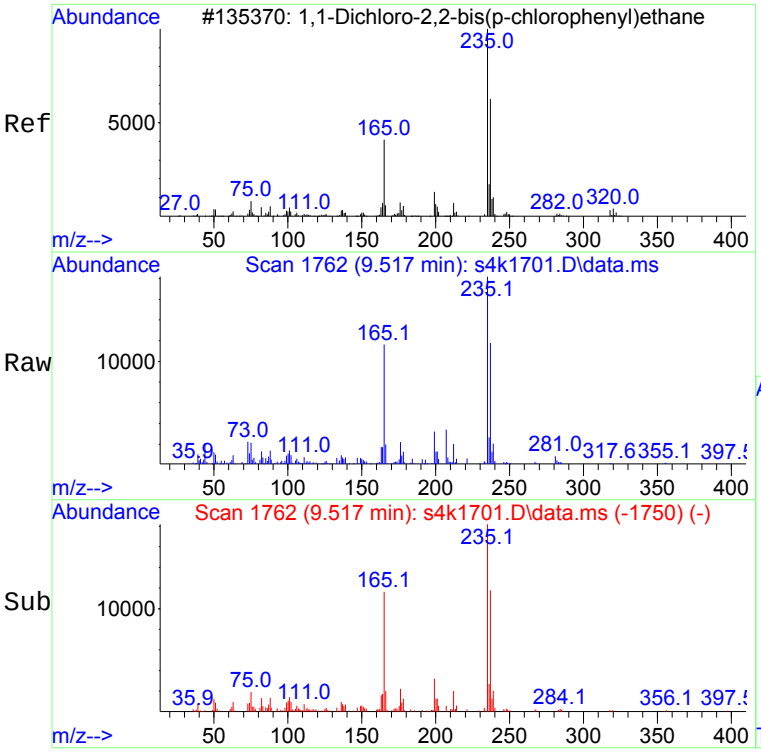


#5
DDE
Concen: 3.38 ug/ml
RT: 9.185 min Scan# 1700
Delta R.T. -0.005 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:246 Resp: 2196

Ion	Ratio	Lower	Upper
246	100		
318	62.0	0.0	148.4
316	48.7	0.0	138.9

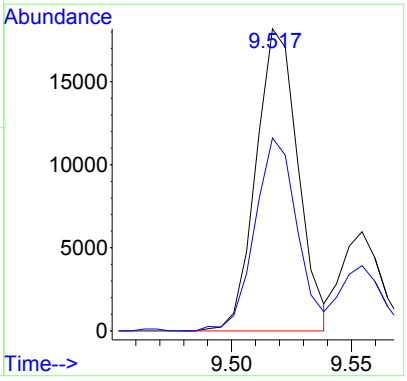


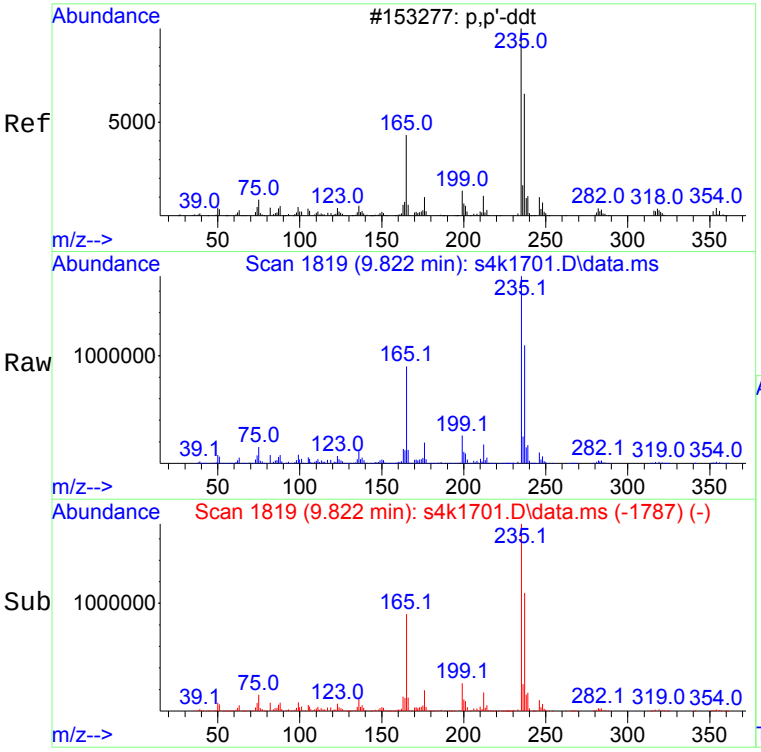


#6
DDD
Concen: 10.52 ug/ml
RT: 9.517 min Scan# 1762
Delta R.T. -0.009 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:235 Resp: 22064

Ion	Ratio	Lower	Upper
235	100		
165	64.4	0.0	152.1

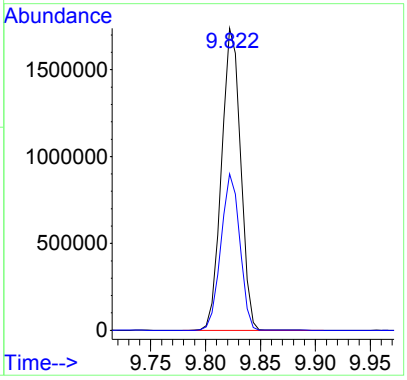




#7
DDT
Concen: 4.85 ug/ml
RT: 9.822 min Scan# 1819
Delta R.T. -0.008 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:235 Resp: 2094819

Ion	Ratio	Lower	Upper
235	100		
165	51.4	0.0	150.9



8270 Breakdown Report

11/17/2020

Data File : C:\msdchem\1\data\s111720.B\s4k1701.D Vial: 1
Acq On : 17 Nov 2020 13:25 Operator: LOF
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP Inst : MSD4
Misc : Multiplr: 1.00
IntFile : rteint.p

11/19/2020

Compounds	Area/%Breakdown	8270C	8270D
DDE	2196		
DDD	22064		
DDT	2094819		
Breakdown	1.14%	Pass(<20)	Pass(<20)

Compounds	Tailing Factor	8270C	8270D
Benzidine	0.71	Pass(<3)	Pass(<2)
Pentachlorophenol	0.73	Pass(<5)	Pass(<2)

DFTPP Tune Report

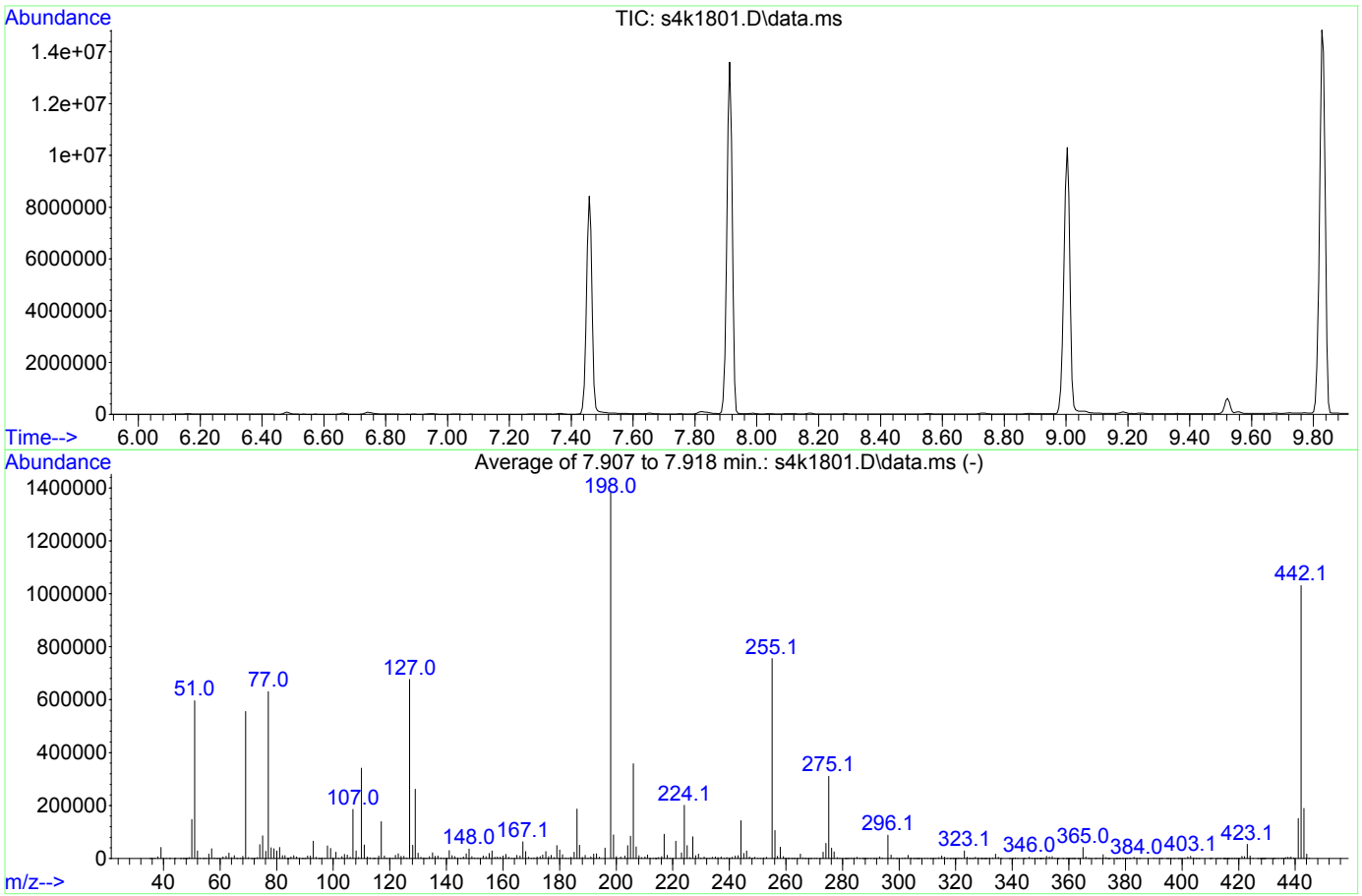
JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1801.D
Acq On : 18 Nov 2020 08:50
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

RAB 11/19/2020

Integration File:

Method : C:\msdchem\1\data\s111820.B\BNABrk_Down8270D.m
Title : dftpp / endrin / ddt
Last Update : Sat Dec 07 10:19:10 2019



AutoFind: Scans 1461, 1462, 1463; Background Corrected with Scan 1453

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	43.1	596240	PASS
68	69	0.00	2	1.5	8385	PASS
69	198	0.00	100	40.2	555433	PASS
70	69	0.00	2	0.6	3075	PASS
127	198	10	80	48.9	676821	PASS
197	198	0.00	2	0.0	0	PASS
198	198	50	100	100.0	1382741	PASS
199	198	5	9	6.5	89389	PASS
275	198	10	60	22.5	310464	PASS
365	198	1	100	3.0	42104	PASS
441	442	0.01	24	14.6	150843	PASS
442	198	50	100	74.6	1031403	PASS
443	442	15	24	18.4	189589	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1801.D
Acq On : 18 Nov 2020 08:50
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

JMB 11/19/2020

Quant Time: Nov 18 11:15:06 2020
Quant Method : C:\msdchem\1\data\s111820.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

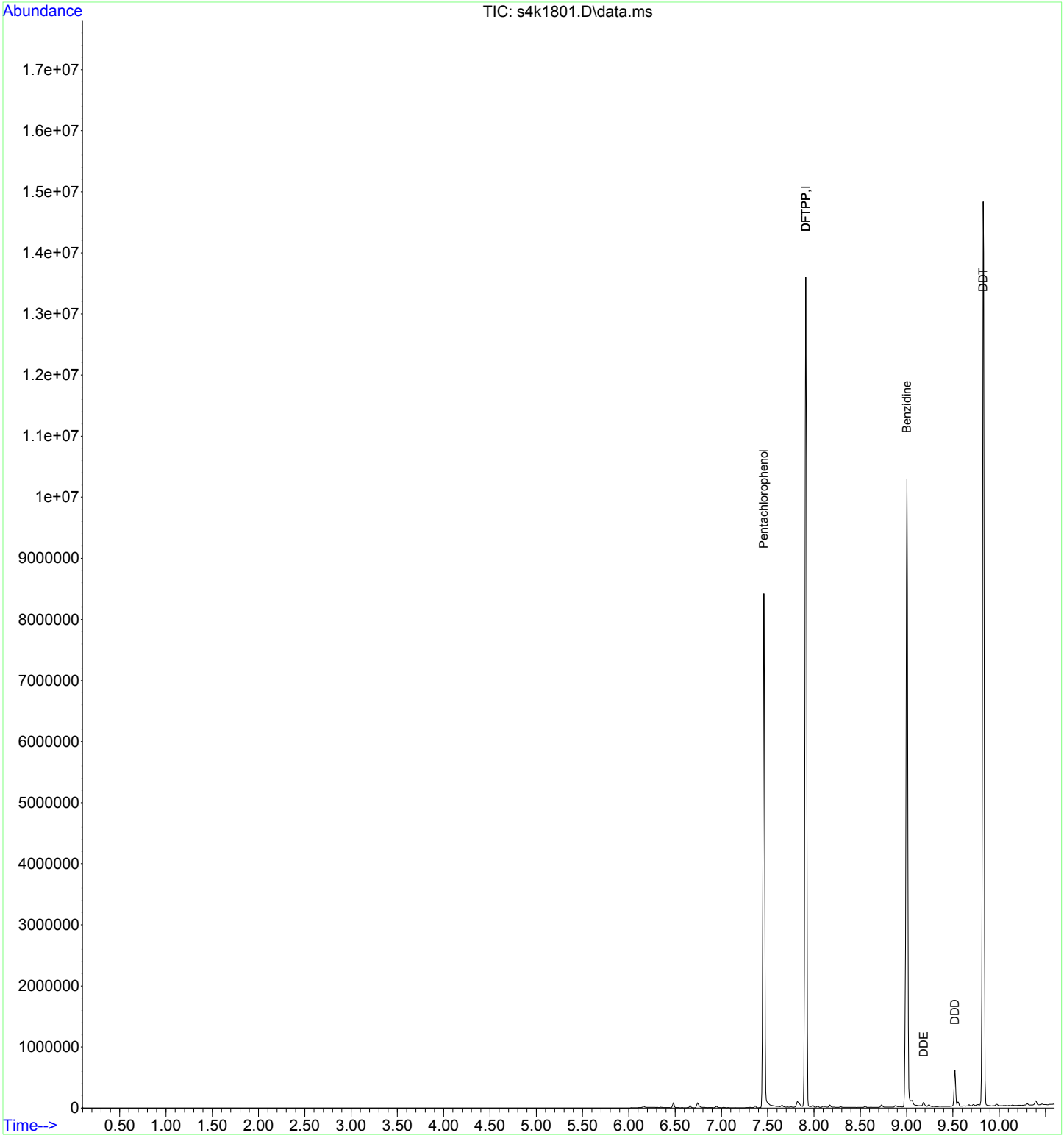
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) DFTPP	TIC	7.912	7.918	1.000	16233804	5.00	ug/ml #	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) DFTPP	TIC	7.912	7.918	1.000	16233804	5.00	ug/ml#	1
3) Pentachlorophenol	266	7.458	7.470	0.943	1178345	4.29	ug/ml	99
4) Benzidine	184	9.003	8.999	1.138	5678183	6.07	ug/ml	100
5) DDE	246	9.185	9.191	1.161	9182	7.81	ug/ml	93
6) DDD	235	9.522	9.526	1.203	130475	34.40	ug/ml	90
7) DDT	235	9.827	9.830	1.242	3680536	4.71	ug/ml	99

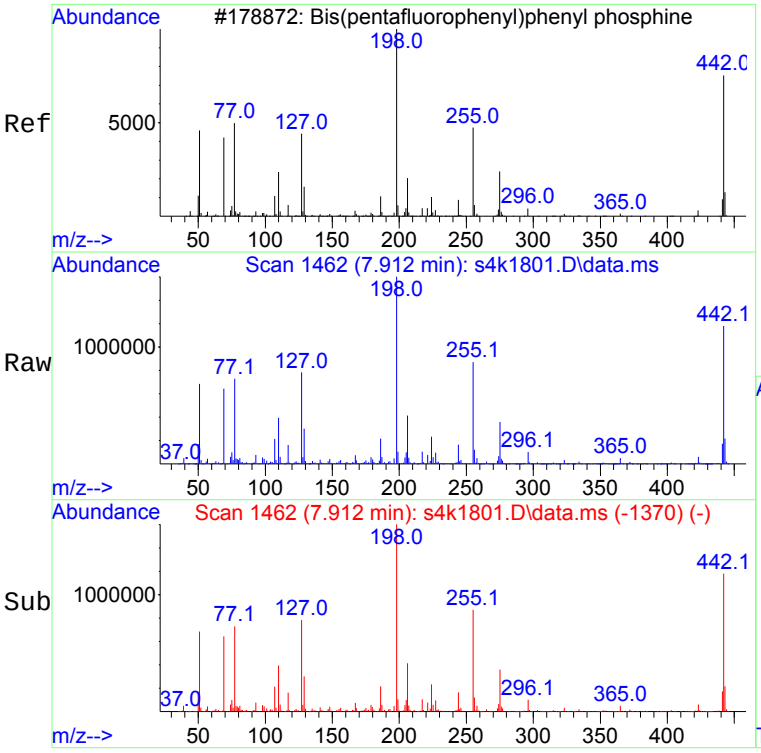
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1801.D
Acq On : 18 Nov 2020 08:50
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 18 11:15:06 2020
Quant Method : C:\msdchem\1\data\s111820.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

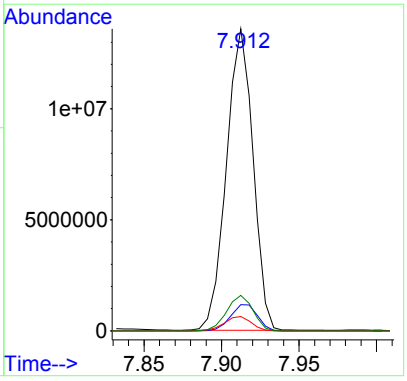


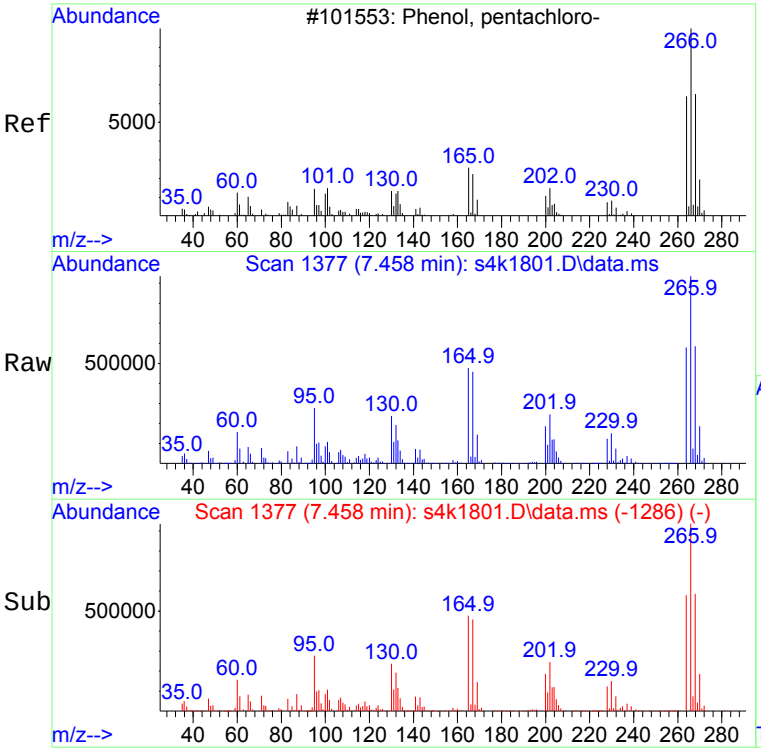


#2
DFTPP
Concen: 5.00 ug/ml
RT: 7.912 min Scan# 1462
Delta R.T. -0.005 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:TIC Resp:16233804

Ion	Ratio	Lower	Upper
TIC	100		
442	8.8	809.7	849.7#
69	4.7	432.3	472.3#
198	11.6	1117.0	1157.0#

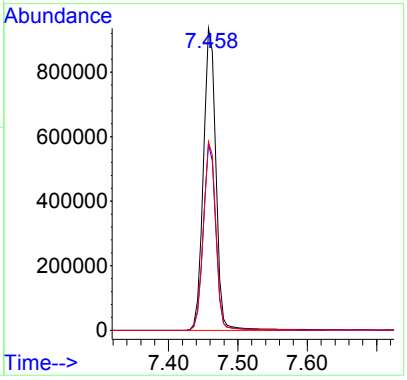


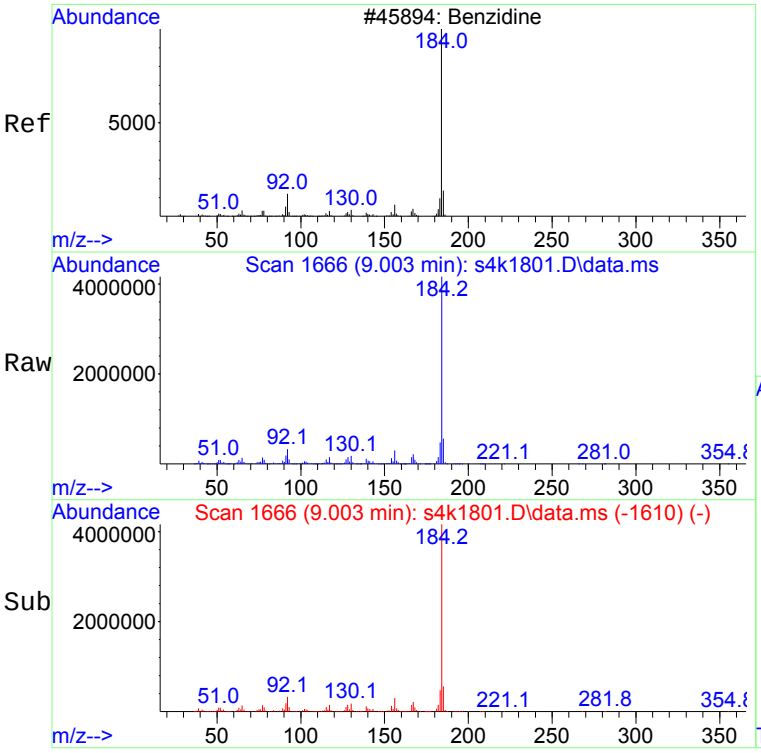


#3
Pentachlorophenol
Concen: 4.29 ug/ml
RT: 7.458 min Scan# 1377
Delta R.T. -0.012 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:266 Resp: 1178345

Ion	Ratio	Lower	Upper
266	100		
264	61.6	0.0	163.4
268	62.3	0.0	162.6

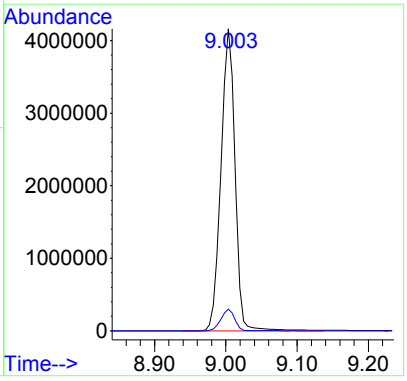


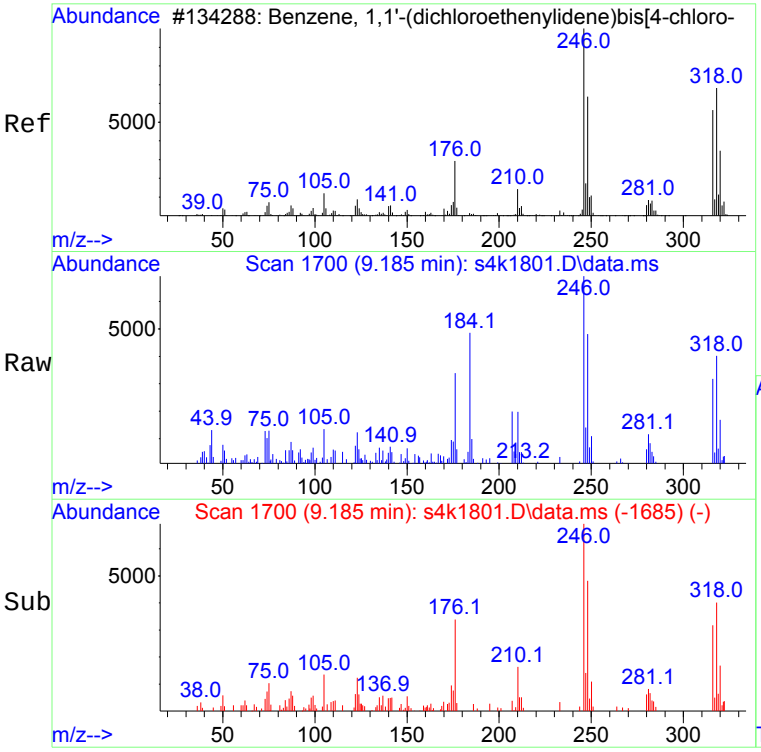


#4
Benzidine
Concen: 6.07 ug/ml
RT: 9.003 min Scan# 1666
Delta R.T. 0.004 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:184 Resp: 5678183

Ion	Ratio	Lower	Upper
184	100		
156	7.1	0.0	107.0

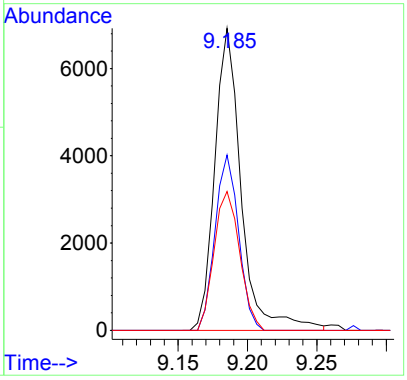


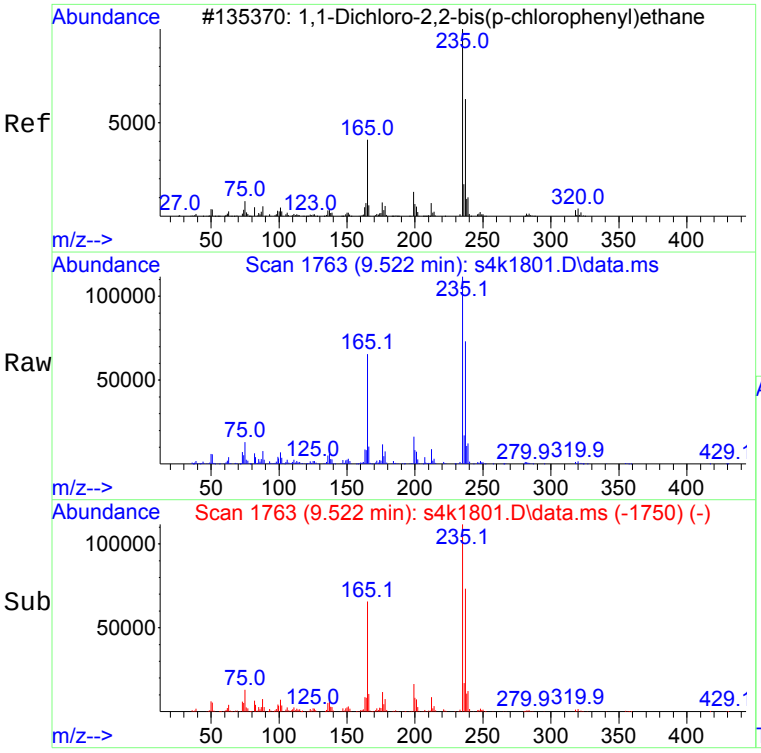


#5
DDE
Concen: 7.81 ug/ml
RT: 9.185 min Scan# 1700
Delta R.T. -0.005 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:246 Resp: 9182

Ion	Ratio	Lower	Upper
246	100		
318	51.5	0.0	148.4
316	44.5	0.0	138.9

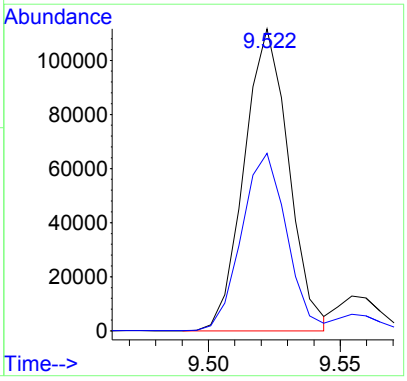


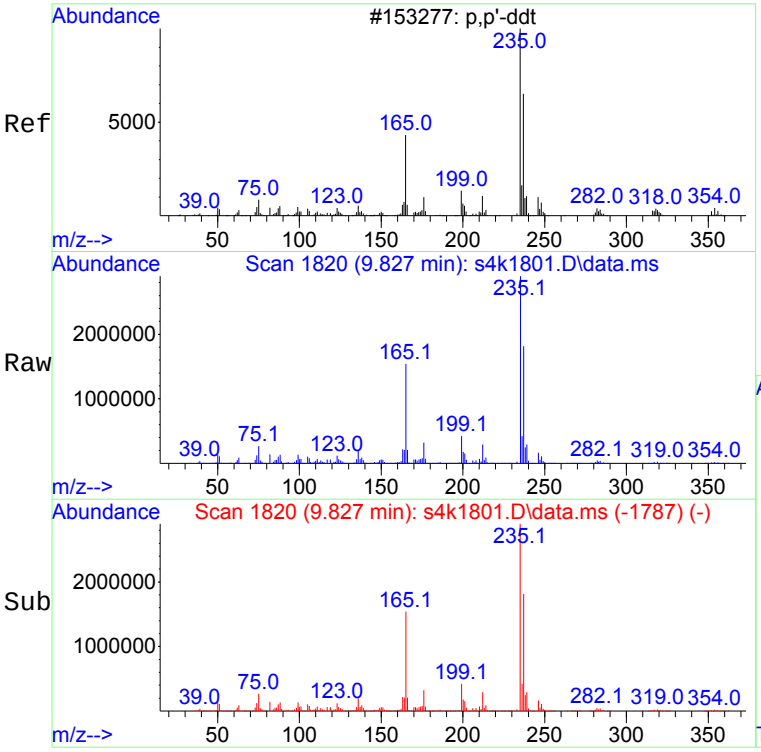


#6
DDD
Concen: 34.40 ug/ml
RT: 9.522 min Scan# 1763
Delta R.T. -0.004 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:235 Resp: 130475

Ion	Ratio	Lower	Upper
235	100		
165	59.3	0.0	152.1

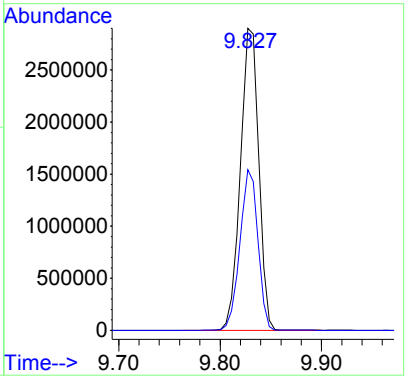




#7
DDT
Concen: 4.71 ug/ml
RT: 9.827 min Scan# 1820
Delta R.T. -0.003 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:235 Resp: 3680536

Ion	Ratio	Lower	Upper
235	100		
165	51.9	0.0	150.9



8270 Breakdown Report

JMB 11/18/2020

Data File : C:\msdchem\1\data\s111820.B\s4k1801.D Vial: 1
Acq On : 18 Nov 2020 08:50 Operator: JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP Inst : MSD4
Misc : Multiplr: 1.00
IntFile : rteint.p

RJB 11/19/2020

Compounds	Area/%Breakdown	8270C	8270D
DDE	9182		
DDD	130475		
DDT	3680536		
Breakdown	3.66%	Pass(<20)	Pass(<20)

Compounds	Tailing Factor	8270C	8270D
Benzidine	0.87	Pass(<3)	Pass(<2)
Pentachlorophenol	1.18	Pass(<5)	Pass(<2)

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**			**Matrix:**	**WATER**
Lab Sample ID:	**1204698146**				
Client Sample:	**QC for batch 2064468**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2064468**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2064469**	**Inst:**	**MSD3.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 15:31**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/19/2020 05:12**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s111920.s\s3k1907.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.00	ug/L	3.00	10.0
91-57-6	2-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
91-20-3	Naphthalene	U	0.300	ug/L	0.300	1.00
90-12-0	1-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
86-73-7	Fluorene	U	0.300	ug/L	0.300	1.00
85-01-8	Phenanthrene	U	0.300	ug/L	0.300	1.00
120-12-7	Anthracene	U	0.300	ug/L	0.300	1.00
206-44-0	Fluoranthene	U	0.300	ug/L	0.300	1.00
129-00-0	Pyrene	U	0.300	ug/L	0.300	1.00
205-99-2	Benzo(b)fluoranthene	U	0.300	ug/L	0.300	1.00
207-08-9	Benzo(k)fluoranthene	U	0.300	ug/L	0.300	1.00
50-32-8	Benzo(a)pyrene	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	104	100	ug/L	104	(32%-122%)
2-Fluorobiphenyl	42.7	50.0	ug/L	85	(31%-107%)
2-Fluorophenol	42.3	100	ug/L	42	(15%-88%)
Nitrobenzene-d5	38.9	50.0	ug/L	78	(35%-113%)
Phenol-d5	31.4	100	ug/L	31	(15%-91%)
p-Terphenyl-d14	42.7	50.0	ug/L	85	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
000110-82-7	Cyclohexane	2.141	27.6	ug/L	94	NJ
	unknown	2.227	30.5	ug/L	0	J

Quantitation Report

11/20/2020

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1907.D
Acq On : 19 Nov 2020 15:31
Operator : JMB3
Sample : |1204698146|2064469|1|SVM|1|MB
Misc : |MSD1C70E_L| MIX[A,B,D,E,J]
ALS Vial : 7 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 19 23:49:55 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.853	5.859	1.000	805666	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.608	7.613	1.000	2703993	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.913	9.918	1.000	1561558	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.790	11.790	1.000	2918920	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.390	15.401	1.000	1452904	40.00	ng/uL	-0.01
88) A Perylene-d12	264	18.920	18.925	1.000	1057650	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.853	5.859	1.000	805666	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.608	7.613	1.000	2703993	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.913	9.918	1.000	1561558	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.790	11.790	1.000	2918920	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.390	15.401	1.000	1452904	40.00	ng/uL	-0.01
148) B Perylene-d12	264	18.920	18.925	1.000	1057650	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.608	7.613	1.000	2703993	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.790	11.790	1.000	2918920	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.390	15.401	1.000	1452904	40.00	ng/uL	-0.01
159) D Naphthalene-d8	136	7.608	7.613	1.000	2703993	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.913	9.918	1.000	1561558	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.790	11.790	1.000	2918920	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.390	15.401	1.000	1452904	40.00	ng/uL	-0.01
173) E Naphthalene-d8	136	7.608	7.613	1.000	2703993	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.920	18.925	1.000	1057650	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.131	4.131	0.706	1181043	42.28	ng/uL	0.00
8) Phenol-d5	99	5.297	5.302	0.905	1068019	31.37	ng/uL	0.00
23) Nitrobenzene-d5	82	6.618	6.624	0.870	1200284	38.86	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	2354254	42.72	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.908	10.913	1.100	716508	103.74	ng/uL	0.00
80) p-Terphenyl-d14	244	13.764	13.764	0.894	2092683	42.72	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	42%
8) Phenol-d5	100.000	15 - 91	31%
23) Nitrobenzene-d5	50.000	35 - 113	78%
44) 2-Fluorobiphenyl	50.000	31 - 107	85%
63) 2,4,6-Tribromophenol	100.000	32 - 122	104%
80) p-Terphenyl-d14	50.000	35 - 134	85%

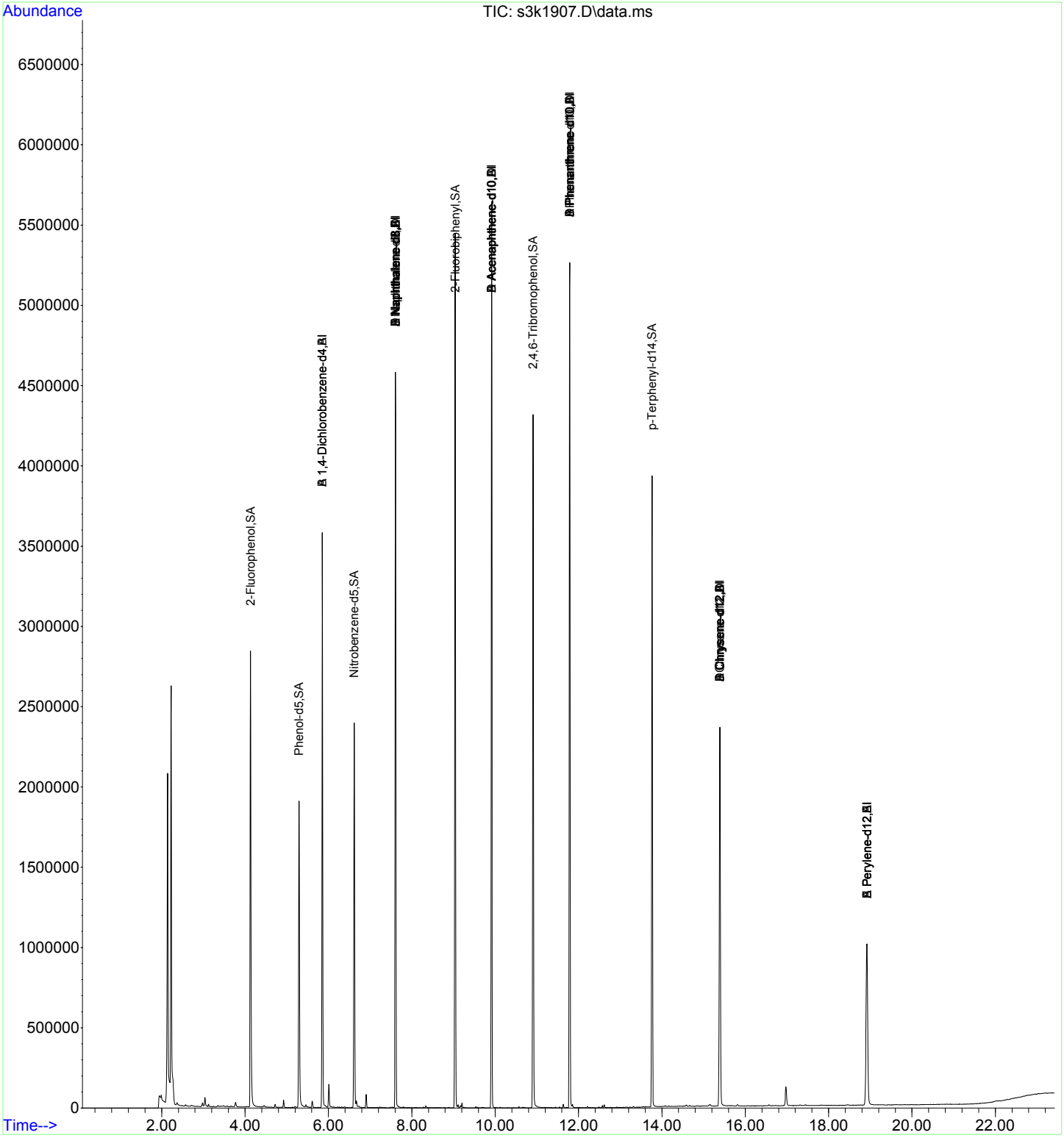
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1907.D
Acq On : 19 Nov 2020 15:31
Operator : JMB3
Sample : |1204698146|2064469|1|SVM|1|MB
Misc : |MSD1C70E_L| MIX[A,B,D,E,J]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 23:49:55 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration



Library Search Compound Report

11/20/2020

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1907.D
Acq On : 19 Nov 2020 15:31
Operator : JMB3
Sample : |1204698146|2064469|1|SVM|1|MB
Misc : |MSD1C70E_L| MIX[A,B,D,E,J]
ALS Vial : 7 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

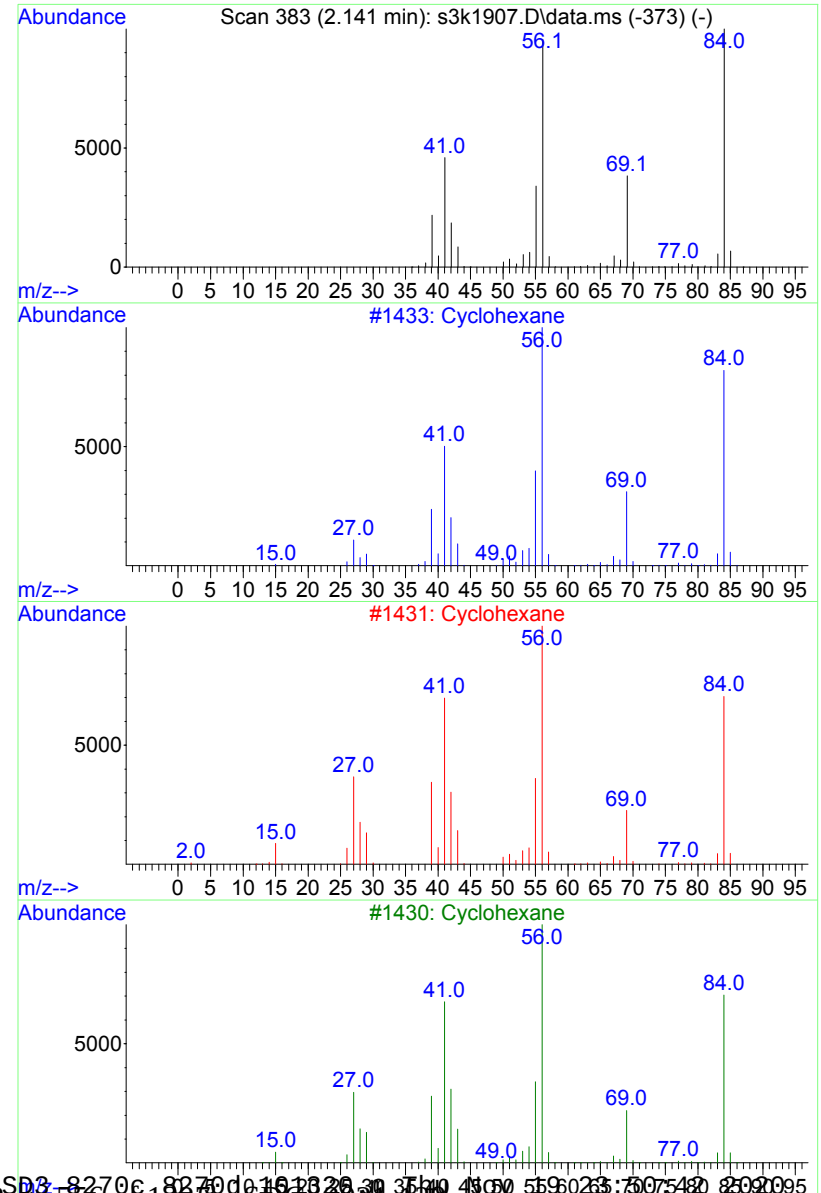
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

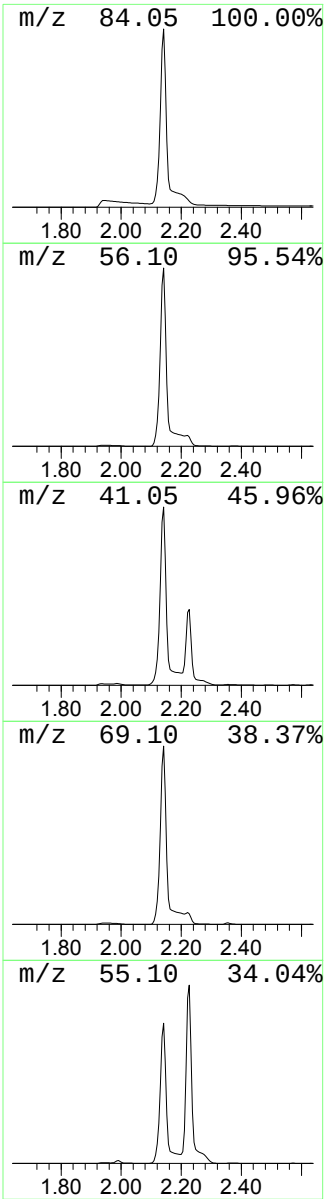
****

Peak Number 1 Cyclohexane Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.141	27.62 ng/uL	3346760	A 1,4-Dichlorobenzene-d4	5.853

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane	84	C6H12	000110-82-7	94
2	Cyclohexane	84	C6H12	000110-82-7	91
3	Cyclohexane	84	C6H12	000110-82-7	91
4	Cyclohexane	84	C6H12	000110-82-7	86
5	Pyridine-D5-	84	C5D5N	007291-22-7	78





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1907.D
Acq On : 19 Nov 2020 15:31
Operator : JMB3
Sample : |1204698146|2064469|1|SVM|1|MB
Misc : |MSD1C70E_L| MIX[A,B,D,E,J]
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

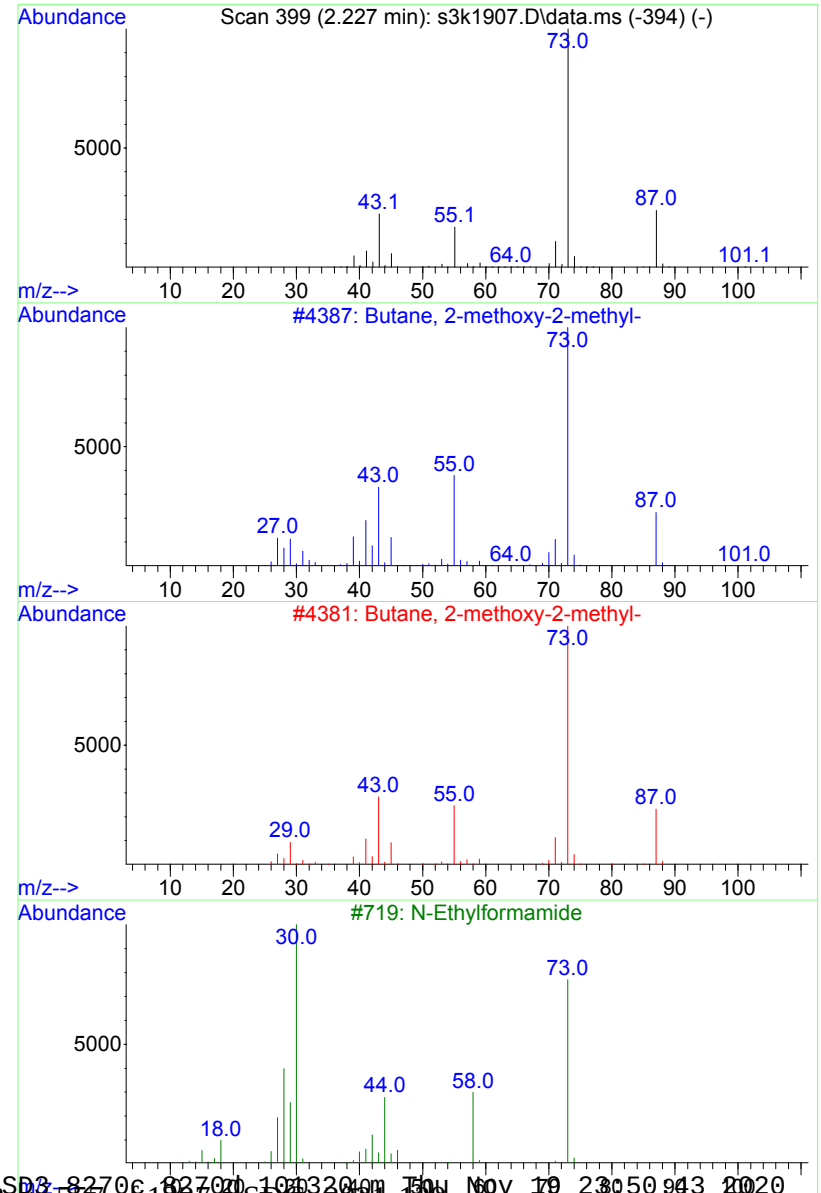
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

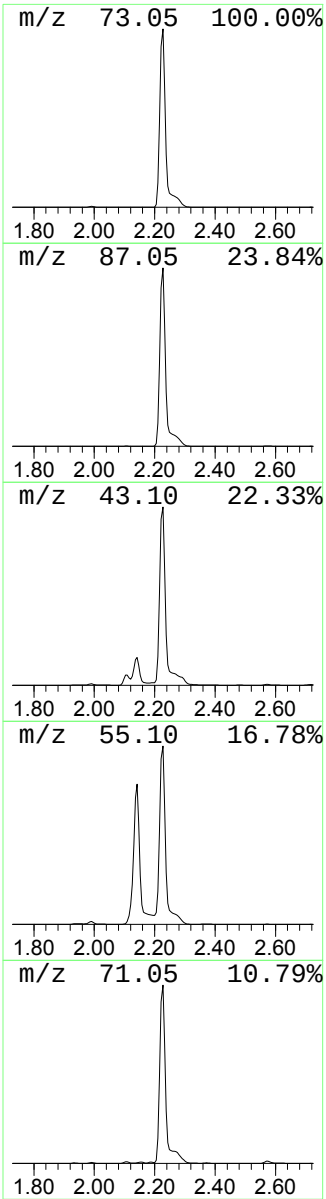
****

Peak Number 2 unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.227	30.52 ng/uL	3698130	A 1,4-Dichlorobenzene-d4	5.853

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	50
3	N-Ethylformamide	73	C3H7NO	000627-45-2	9
4	3-Pentanol, 2,4-dimethyl-	116	C7H16O	000600-36-2	9
5	3-Hexanol, 2-methyl-	116	C7H16O	000617-29-8	9





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1907.D
Acq On : 19 Nov 2020 15:31
Operator : JMB3
Sample : |1204698146|2064469|1|SVM|1|MB
Misc : |MSD1C70E_L| MIX[A,B,D,E,J]
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
Cyclohexane	000110-82-7	2.141	27.6	3346760	1	5.853	4846050	40.0
unknown		2.227	30.5	3698130	1	5.853	4846050	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**			**Matrix:**	**WATER**
Lab Sample ID:	**1204695847**				
Client Sample:	**QC for batch 2063408**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2063408**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 16:08**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1707.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.00	ug/L	3.00	10.0
91-57-6	2-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
91-20-3	Naphthalene	U	0.300	ug/L	0.300	1.00
90-12-0	1-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
86-73-7	Fluorene	U	0.300	ug/L	0.300	1.00
85-01-8	Phenanthrene	U	0.300	ug/L	0.300	1.00
120-12-7	Anthracene	U	0.300	ug/L	0.300	1.00
206-44-0	Fluoranthene	U	0.300	ug/L	0.300	1.00
129-00-0	Pyrene	U	0.300	ug/L	0.300	1.00
205-99-2	Benzo(b)fluoranthene	U	0.300	ug/L	0.300	1.00
207-08-9	Benzo(k)fluoranthene	U	0.300	ug/L	0.300	1.00
50-32-8	Benzo(a)pyrene	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	107	100	ug/L	107	(32%-122%)
2-Fluorobiphenyl	47.5	50.0	ug/L	95	(31%-107%)
2-Fluorophenol	47.4	100	ug/L	47	(15%-88%)
Nitrobenzene-d5	43.9	50.0	ug/L	88	(35%-113%)
Phenol-d5	34.1	100	ug/L	34	(15%-91%)
p-Terphenyl-d14	32.2	50.0	ug/L	64	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
1000315-48-0	Phthalic acid, octyl 2-pentyl ester	16.384	2.14	ug/L	83	J

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1707.D
Acq On : 17 Nov 2020 16:08
Operator : LOF
Sample : |1204695847|2063409|1|SVM|1|MB|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 17 18:19:54 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.414	5.431	1.000	806145	40.00	ng/uL	-0.02
22) A Naphthalene-d8	136	7.212	7.228	1.000	2988728	40.00	ng/uL	-0.02
39) A Acenaphthene-d10	164	9.538	9.555	1.000	1528368	40.00	ng/uL	-0.02
64) A Phenanthrene-d10	188	11.421	11.432	1.000	2550024	40.00	ng/uL	-0.01
78) A Chrysene-d12	240	14.892	14.914	1.000	1609501	40.00	ng/uL	-0.02
88) A Perylene-d12	264	18.101	18.139	1.000	1176909	40.00	ng/uL	-0.04
96) B 1,4-Dichlorobenzene-d4	152	5.414	5.431	1.000	806145	40.00	ng/uL	-0.02
112) B Naphthalene-d8	136	7.212	7.228	1.000	2988728	40.00	ng/uL	-0.02
120) B Acenaphthene-d10	164	9.538	9.555	1.000	1528368	40.00	ng/uL	-0.02
129) B Phenanthrene-d10	188	11.421	11.432	1.000	2550059	40.00	ng/uL	-0.01
142) B Chrysene-d12	240	14.892	14.914	1.000	1609501	40.00	ng/uL	-0.02
148) B Perylene-d12	264	18.101	18.139	1.000	1177005	40.00	ng/uL	-0.04
151) J Naphthalene-d8	136	7.212	7.228	1.000	2988728	40.00	ng/uL	-0.02
153) J Phenanthrene-d10	188	11.421	11.432	1.000	2550024	40.00	ng/uL	-0.01
156) J Chrysene-d12	240	14.892	14.914	1.000	1609501	40.00	ng/uL	-0.02
159) D Naphthalene-d8	136	7.212	7.228	1.000	2988728	40.00	ng/uL	-0.02
161) D Acenaphthene-d10	164	9.538	9.555	1.000	1528368	40.00	ng/uL	-0.02
164) D Phenanthrene-d10	188	11.421	11.432	1.000	2550059	40.00	ng/uL	-0.01
171) D Chrysene-d12	240	14.892	14.914	1.000	1609501	40.00	ng/uL	-0.02
173) E Naphthalene-d8	136	7.212	7.228	1.000	2988728	40.00	ng/uL	-0.02
175) E Perylene-d12	264	18.101	18.139	1.000	1176909	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.724	3.735	0.688	1150406	47.43	ng/uL	-0.01
8) Phenol-d5	99	4.885	4.906	0.902	1003951	34.05	ng/uL	-0.02
23) Nitrobenzene-d5	82	6.201	6.222	0.860	1112744	43.88	ng/uL	-0.02
44) 2-Fluorobiphenyl	172	8.672	8.736	0.909	2254899m	47.45	ng/uL	-0.06
63) 2,4,6-Tribromophenol	330	10.544	10.555	1.105	578152	106.97	ng/uL	-0.01
80) p-Terphenyl-d14	244	13.411	13.422	0.901	1723093	32.23	ng/uL	-0.01

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	47%
8) Phenol-d5	100.000	15 - 91	34%
23) Nitrobenzene-d5	50.000	35 - 113	88%
44) 2-Fluorobiphenyl	50.000	31 - 107	95%
63) 2,4,6-Tribromophenol	100.000	32 - 122	107%
80) p-Terphenyl-d14	50.000	35 - 134	64%

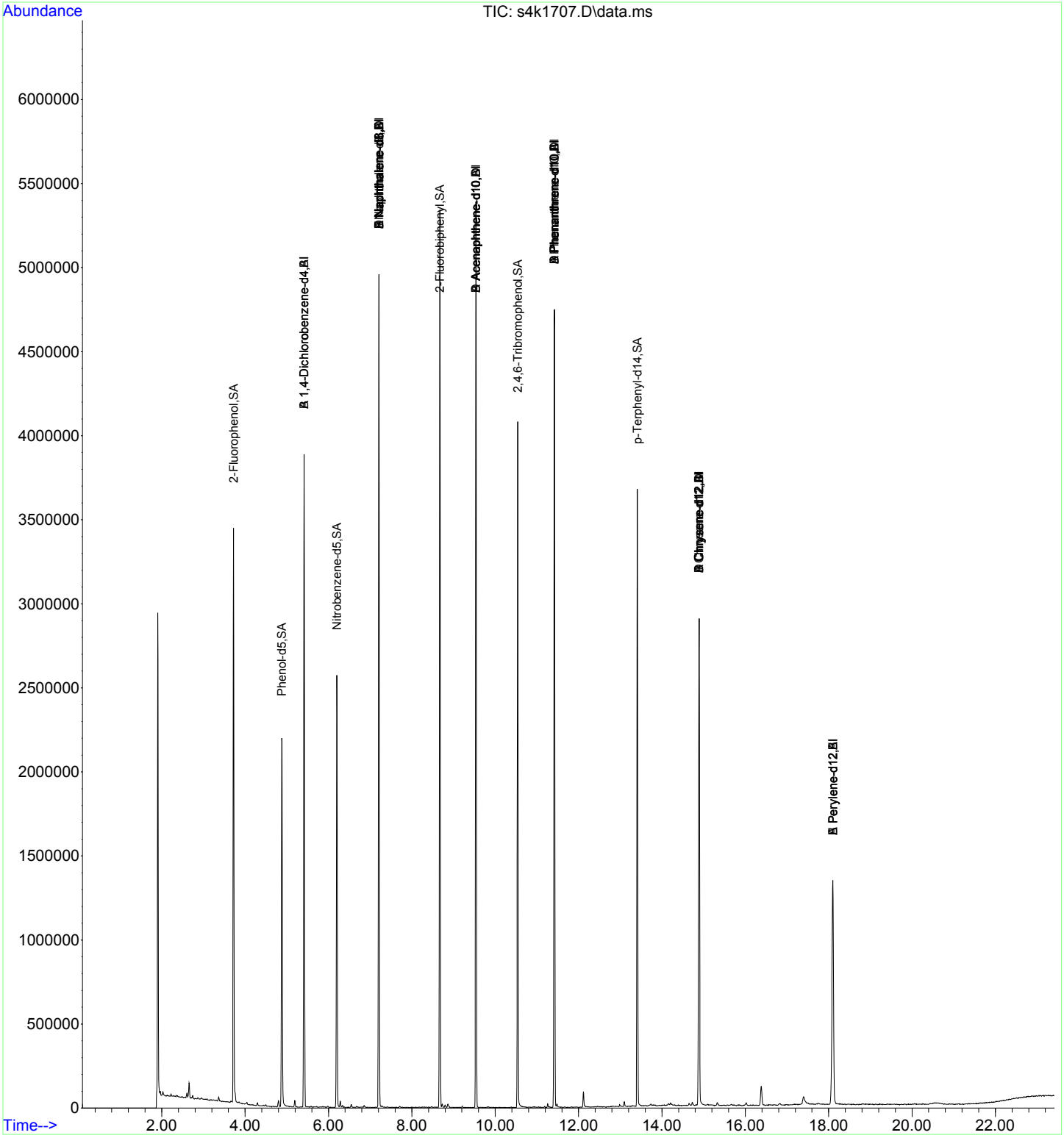
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

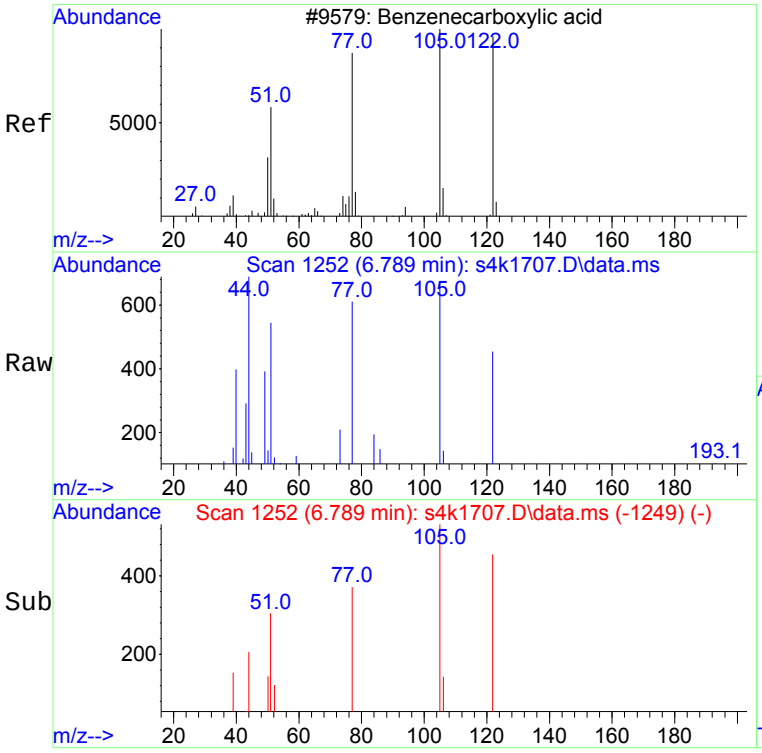
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1707.D
Acq On : 17 Nov 2020 16:08
Operator : LOF
Sample : |1204695847|2063409|1|SVM|1|MB|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 17 18:19:54 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

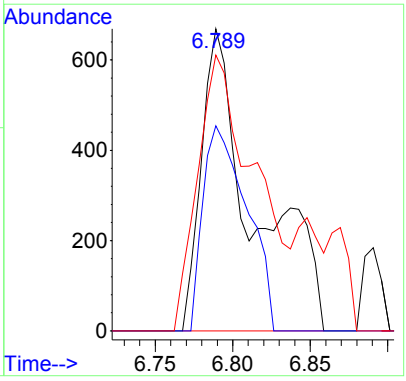


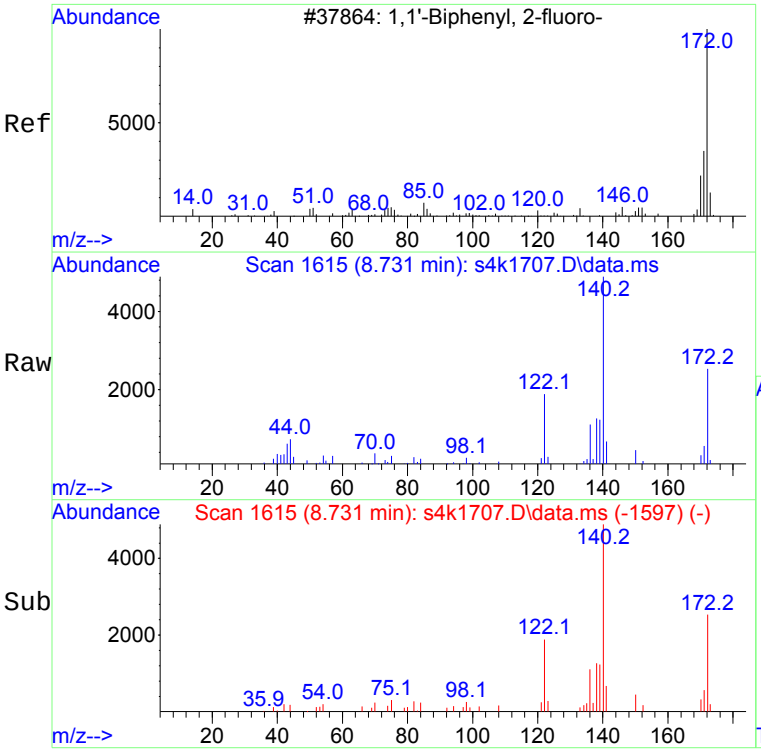


#30 BEFORE analyst DELETION
Benzoic acid
Concen: 11.67 ng/uL
RT: 6.789 min Scan# 1252
Delta R.T. -0.134 min
Lab File: s4k1707.D
Acq: 17 Nov 2020 16:08

Tgt Ion:105 Resp: 1596

Ion	Ratio	Lower	Upper
105	100		
122	56.1	51.3	111.3
77	126.4	45.6	105.6#

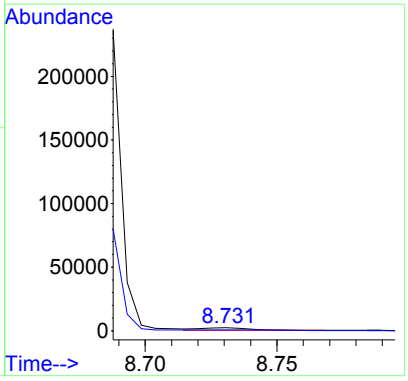


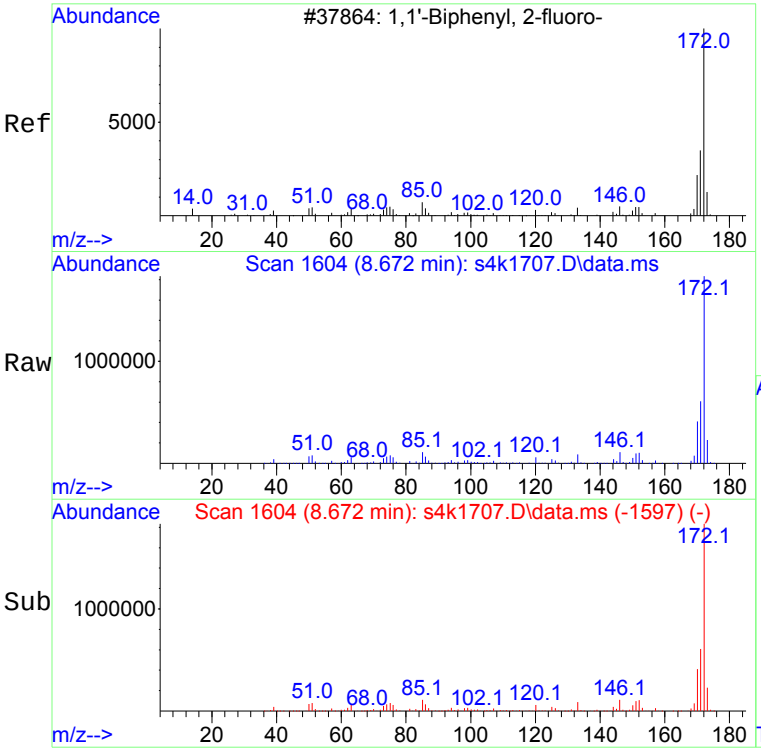


#44 BEFORE analyst integration
2-Fluorobiphenyl
Concen: 0.05 ng/uL
RT: 8.731 min Scan# 1615
Delta R.T. -0.006 min
Lab File: s4k1707.D
Acq: 17 Nov 2020 16:08

Tgt Ion:172 Resp: 2327

Ion	Ratio	Lower	Upper
172	100		
171	33.2	2.5	62.5

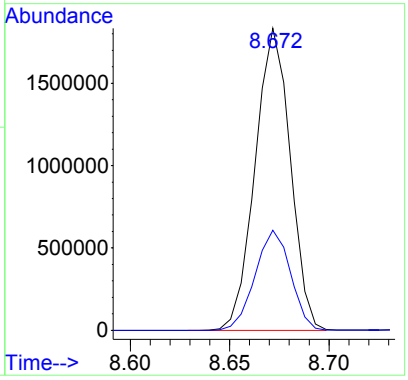


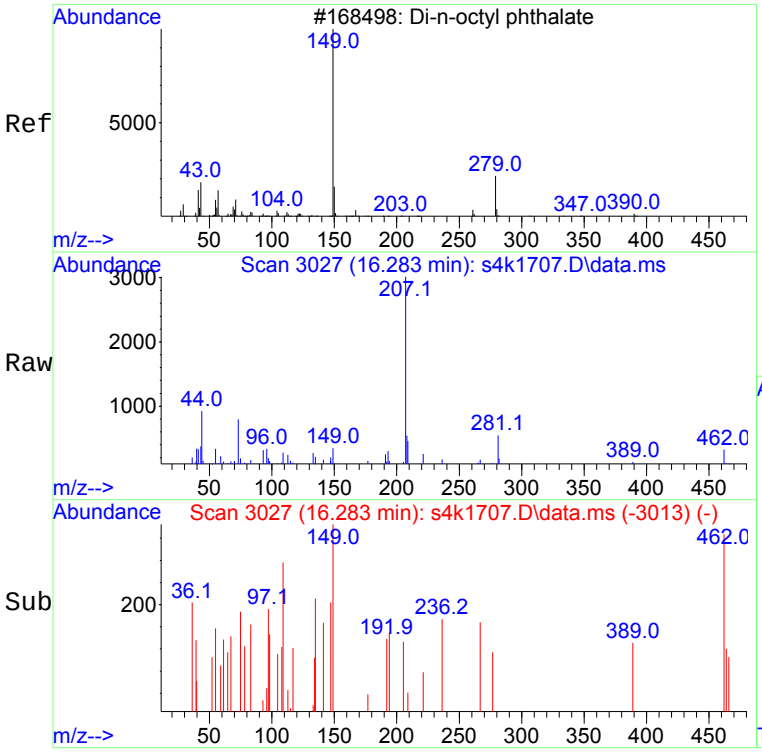


#44 AFTER analyst integration
2-Fluorobiphenyl AP
Concen: 47.45 ng/uL MANUALLY INTEGRATED
RT: 8.672 min Scan# 1604
Delta R.T. -0.064 min
Lab File: s4k1707.D
Acq: 17 Nov 2020 16:08

Tgt Ion:172 Resp: 2254899

Ion	Ratio	Lower	Upper
172	100		
171	0.0	2.5	62.5#

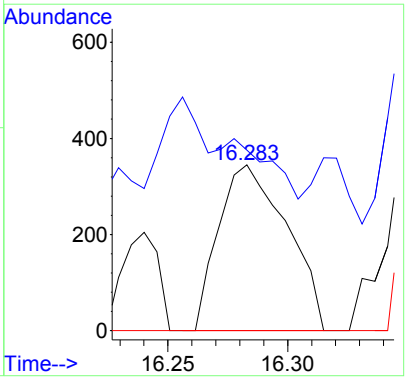




#87 BEFORE analyst DELETION
Di-n-octylphthalate
Concen: 0.40 ng/uL
RT: 16.283 min Scan# 3027
Delta R.T. -0.027 min
Lab File: s4k1707.D
Acq: 17 Nov 2020 16:08

Tgt Ion:149 Resp: 684

Ion	Ratio	Lower	Upper
149	100		
43	0.0	0.0	42.3
167	0.0	0.0	31.5



Library Search Compound Report

11/17/2020

11/19/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1707.D
Acq On : 17 Nov 2020 16:08
Operator : LOF
Sample : |1204695847|2063409|1|SVM|1|MB|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

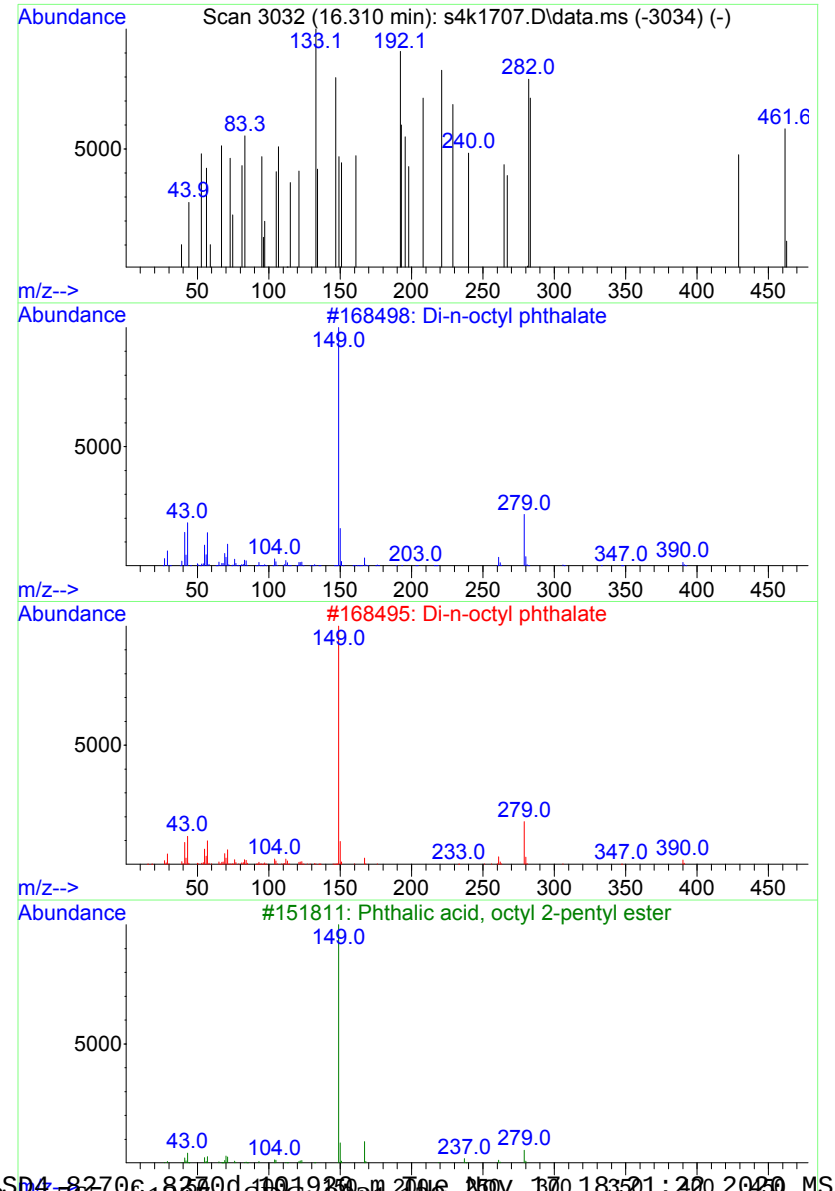
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: BenzoicAcid.p

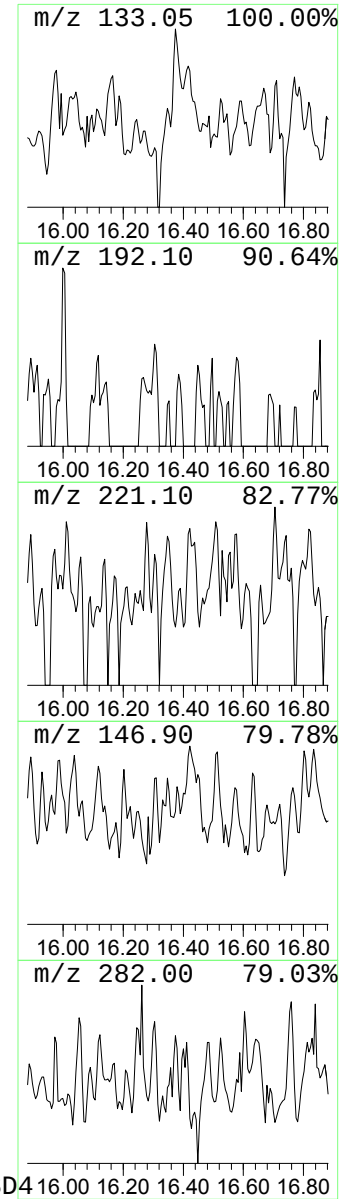
****

Peak Number 1 Phthalic acid, octyl 2-pent... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.384	2.14 ng/uL	258042	D Chrysene-d12	14.892

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Di-n-octyl phthalate	390	C24H38O4	000117-84-0	99
2	Di-n-octyl phthalate	390	C24H38O4	000117-84-0	98
3	Phthalic acid, octyl 2-pentyl ester	348	C21H32O4	1000315-48-0	83
4	1,2-Benzenedicarboxylic acid, is...	418	C26H42O4	001330-96-7	64
5	1,2-Benzenedicarboxylic acid, de...	418	C26H42O4	000119-07-3	59





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1707.D
Acq On : 17 Nov 2020 16:08
Operator : LOF
Sample : |1204695847|2063409|1|SVM|1|MB|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: BenzoicAcid.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
Phthalic acid, octyl 2-pent...	1000315-48-0	16.384	2.1	258042	18	14.892	4812810	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**			**Matrix:**	**WATER**
Lab Sample ID:	**1204698147**				
Client Sample:	**QC for batch 2064468**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2064468**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2064469**	**Inst:**	**MSD3.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 16:00**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/19/2020 05:12**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s111920.s\s3k1908.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)		371	ug/L		
108-95-2	Phenol		14.7	ug/L	3.00	10.0
91-57-6	2-Methylnaphthalene		34.7	ug/L	0.300	1.00
91-20-3	Naphthalene		34.6	ug/L	0.300	1.00
90-12-0	1-Methylnaphthalene		37.4	ug/L	0.300	1.00
86-73-7	Fluorene		38.1	ug/L	0.300	1.00
85-01-8	Phenanthrene		38.1	ug/L	0.300	1.00
120-12-7	Anthracene		36.3	ug/L	0.300	1.00
206-44-0	Fluoranthene		37.1	ug/L	0.300	1.00
129-00-0	Pyrene		40.4	ug/L	0.300	1.00
205-99-2	Benzo(b)fluoranthene		37.5	ug/L	0.300	1.00
207-08-9	Benzo(k)fluoranthene		37.1	ug/L	0.300	1.00
50-32-8	Benzo(a)pyrene		37.2	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	100	100	ug/L	100	(32%-122%)
2-Fluorobiphenyl	42.5	50.0	ug/L	85	(31%-107%)
2-Fluorophenol	41.1	100	ug/L	41	(15%-88%)
Nitrobenzene-d5	38.9	50.0	ug/L	78	(35%-113%)
Phenol-d5	31.1	100	ug/L	31	(15%-91%)
p-Terphenyl-d14	41.0	50.0	ug/L	82	(35%-134%)

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1908.D
Acq On : 19 Nov 2020 16:00
Operator : JMB3
Sample : |1204698147|2064469|1|SVM|1|LCS
Misc : |MSD1C70E_L| MIX[A,B,D,E,J]
ALS Vial : 8 Sample Multiplier: 1

JMB 11/20/2020

Quant Time: Nov 19 23:50:47 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.859	5.859	1.000	818043	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	2618988	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.918	9.918	1.000	1446996	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.790	11.790	1.000	2474595	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.395	15.401	1.000	1313281	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.920	18.925	1.000	1086091	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.859	5.859	1.000	818043	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.613	1.000	2618988	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.918	9.918	1.000	1446996	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.790	11.790	1.000	2474595	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.395	15.401	1.000	1313281	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.920	18.925	1.000	1086091	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.613	1.000	2618988	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.790	11.790	1.000	2474595	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.395	15.401	1.000	1313281	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.613	7.613	1.000	2618988	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.918	9.918	1.000	1446996	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.790	11.790	1.000	2474595	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.395	15.401	1.000	1313281	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.613	7.613	1.000	2618988	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.920	18.925	1.000	1086290	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.131	4.131	0.705	1165878	41.11	ng/uL	0.00
8) Phenol-d5	99	5.302	5.302	0.905	1073744	31.06	ng/uL	0.00
23) Nitrobenzene-d5	82	6.624	6.624	0.870	1162852	38.87	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	2168860	42.47	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.913	10.913	1.100	642959	100.46	ng/uL	0.00
80) p-Terphenyl-d14	244	13.764	13.764	0.894	1814518	40.98	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	41%
8) Phenol-d5	100.000	15 - 91	31%
23) Nitrobenzene-d5	50.000	35 - 113	78%
44) 2-Fluorobiphenyl	50.000	31 - 107	85%
63) 2,4,6-Tribromophenol	100.000	32 - 122	100%
80) p-Terphenyl-d14	50.000	35 - 134	82%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.740	2.740	0.468	522533	23.55	ng/uL	93
4) Pyridine	79	2.794	2.794	0.477	778401	22.56	ng/uL	94
7) Aniline	93	5.393	5.399	0.921	1609972	32.98	ng/uL	99
9) Phenol	94	5.318	5.324	0.908	562642	14.72	ng/uL	96
10) bis(2-Chloroethyl) ether	93	5.468	5.474	0.933	1099969	31.80	ng/uL	99
11) 2-Chlorophenol	128	5.559	5.559	0.949	883293	33.25	ng/uL	99
12) n-Decane	43	5.613	5.613	0.958	615393	27.17	ng/uL	92
13) 1,3-Dichlorobenzene	146	5.778	5.778	0.986	970861	30.93	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.880	5.880	1.004	979183	30.85	ng/uL	99
15) 1,2-Dichlorobenzene	146	6.094	6.094	1.040	951075	31.88	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	6.228	6.228	1.063	1020847	37.77	ng/uL	95
17) Benzyl alcohol	108	6.035	6.035	1.030	601756	32.29	ng/uL	97
18) o-Cresol	107	6.174	6.174	1.054	698455	29.85	ng/uL	98
19) m,p-Cresols	108	6.399	6.399	1.092	778325	28.82	ng/uL#	26
20) N-Nitrosodipropylamine	70	6.415	6.415	1.095	903108	35.33	ng/uL	54
21) Hexachloroethane	117	6.565	6.565	1.121	377976	27.49	ng/uL	86
24) Nitrobenzene	77	6.656	6.650	0.874	1141121	36.71	ng/uL	98

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1908.D
Acq On : 19 Nov 2020 16:00
Operator : JMB3
Sample : |1204698147|2064469|1|SVM|1|LCS
Misc : |MSD1C70E_L| MIX[A,B,D,E,J]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 23:50:47 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
25) Isophorone	82	6.982	6.982	0.917	2255881	37.69	ng/uL	98
26) 2-Nitrophenol	139	7.089	7.089	0.931	503593	41.31	ng/uL	95
27) 2,4-Dimethylphenol	122	7.137	7.137	0.937	748047	37.02	ng/uL	98
28) bis(2-Chloroethoxy)met...	93	7.276	7.276	0.956	1343359	38.32	ng/uL	100
29) 2,4-Dichlorophenol	162	7.415	7.410	0.974	849333	45.79	ng/uL	99
30) Benzoic acid	105	7.287	7.287	0.957	584087	47.82	ng/uL	90
31) 1,2,4-Trichlorobenzene	180	7.533	7.533	0.989	931782	37.00	ng/uL	99
32) alpha-Terpineol	59	7.656	7.650	1.006	547128	28.24	ng/uL	98
33) Naphthalene	128	7.645	7.645	1.004	2451149	34.56	ng/uL	100
34) 4-Chloroaniline	127	7.709	7.709	1.013	1072526	40.34	ng/uL	99
35) Hexachlorobutadiene	225	7.806	7.806	1.025	580429	34.32	ng/uL	99
36) 4-Chloro-3-methylphenol	107	8.351	8.346	1.097	826107	42.43	ng/uL	98
37) 2-Methylnaphthalene	142	8.565	8.565	1.125	1703035	34.67	ng/uL	99
38) 1-Methylnaphthalene	142	8.693	8.693	1.142	1673153	37.41	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.768	8.768	0.884	560201	32.64	ng/uL	100
41) 2,3-Dichloroaniline	161	8.929	8.929	0.900	975790	41.14	ng/uL	97
42) 2,4,6-Trichlorophenol	196	8.929	8.929	0.900	739146	45.42	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.977	8.972	0.905	747490	52.12	ng/uL	99
45) 2-Chloronaphthalene	162	9.202	9.202	0.928	1646893	39.25	ng/uL	96
46) o-Nitroaniline	65	9.325	9.325	0.940	537279	46.31	ng/uL	97
48) m-Nitroaniline	138	9.854	9.854	0.994	388946	47.98	ng/uL	97
49) Dimethylphthalate	163	9.565	9.571	0.964	2033796	41.94	ng/uL	100
51) 2,6-Dinitrotoluene	165	9.640	9.646	0.972	464080	46.12	ng/uL	87
52) 2,4-Dinitrotoluene	165	10.148	10.154	1.023	566097	47.87	ng/uL	85
53) Acenaphthylene	152	9.736	9.736	0.982	2536132	38.26	ng/uL	100
54) Acenaphthene	154	9.961	9.961	1.004	1634238	38.02	ng/uL	98
55) 2,4-Dinitrophenol	184	9.988	9.988	1.007	215797	53.70	ng/uL#	69
56) Dibenzofuran	168	10.175	10.180	1.026	2337384	42.62	ng/uL	98
57) 2,3,4,6-Tetrachlorophenol	232	10.325	10.325	1.041	590648	49.86	ng/uL	97
58) Diethylphthalate	149	10.459	10.459	1.054	1744244	40.04	ng/uL	98
59) 4-Nitrophenol	139	10.063	10.052	1.015	72362	15.01	ng/uL	96
60) Fluorene	166	10.614	10.614	1.070	1892891	38.11	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.603	10.608	1.069	1101437	40.60	ng/uL	98
62) p-Nitroaniline	138	10.630	10.630	1.072	319209	54.87	ng/uL	98
65) 2-Methyl-4,6-dinitroph...	198	10.667	10.667	0.905	347564	57.28	ng/uL	87
66) Diphenylamine	169	10.753	10.753	0.912	1652841	41.16	ng/uL	97
67) 1,2-Diphenylhydrazine	77	10.806	10.806	0.917	2333593	40.06	ng/uL	97
68) 4-Bromophenylphenylether	248	11.223	11.223	0.952	659392	42.75	ng/uL	96
69) Hexachlorobenzene	284	11.304	11.304	0.959	680201	40.09	ng/uL	99
70) Pentachlorophenol	266	11.550	11.544	0.980	340642	46.28	ng/uL	100
71) n-Octadecane	57	11.630	11.630	0.986	993264	35.04	ng/uL	91
73) Phenanthrene	178	11.822	11.822	1.003	2447708	38.06	ng/uL	99
74) Anthracene	178	11.887	11.887	1.008	2345449	36.33	ng/uL	99
75) Carbazole	167	12.079	12.079	1.024	1732814	38.23	ng/uL	98
76) Di-n-butylphthalate	149	12.496	12.496	1.060	2246710	32.32	ng/uL	99
77) Fluoranthene	202	13.304	13.304	1.128	2348828	37.11	ng/uL	99
79) Pyrene	202	13.587	13.587	0.883	2307002	40.39	ng/uL	98
81) Butylbenzylphthalate	149	14.427	14.427	0.937	708266	36.21	ng/uL	91
82) bis(2-Ethylhexyl)phtha...	149	15.406	15.406	1.001	946021	31.20	ng/uL	96
83) Benzo(a)anthracene	228	15.374	15.374	0.999	1722106	41.94	ng/uL	98
84) Chrysene	228	15.443	15.449	1.003	1622815	39.59	ng/uL	99
87) Di-n-octylphthalate	149	16.872	16.872	1.096	1345786	39.39	ng/uL	96
89) Benzo(b)fluoranthene	252	17.824	17.829	0.942	1338240	37.50	ng/uL	98
90) Benzo(k)fluoranthene	252	17.904	17.904	0.946	1316971	37.07	ng/uL	97
91) Benzo(a)pyrene	252	18.749	18.754	0.991	1034815	37.24	ng/uL	98
92) Indeno(1,2,3-cd)pyrene	276	22.279	22.279	1.178	992837	51.76	ng/uL	95
93) Dibenzo(a,h)anthracene	278	22.354	22.359	1.181	944793	49.57	ng/uL	97

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1908.D
Acq On : 19 Nov 2020 16:00
Operator : JMB3
Sample : |1204698147|2064469|1|SVM|1|LCS
Misc : |MSD1C70E_L| MIX[A,B,D,E,J]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 23:50:47 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

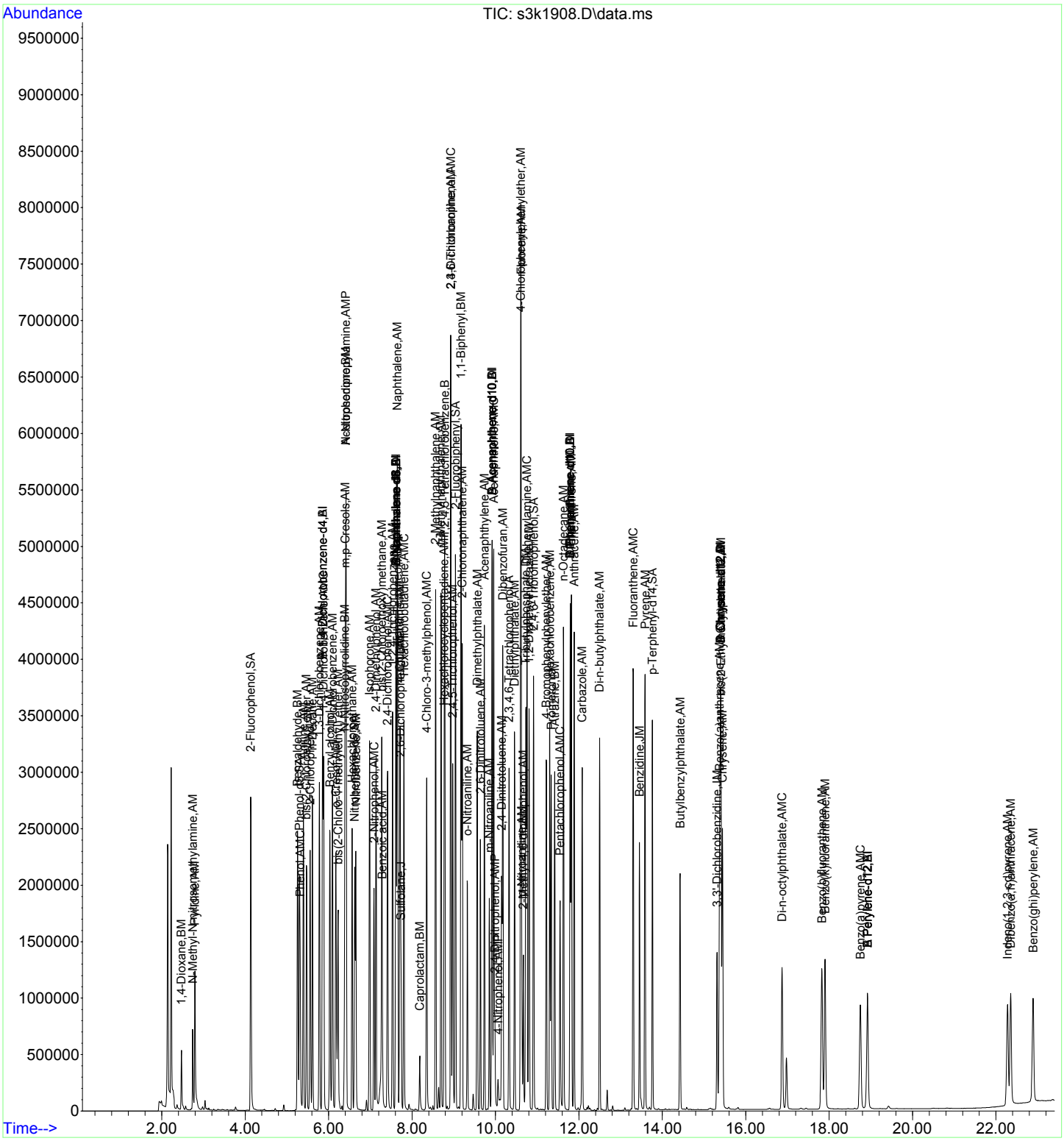
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94)	Benzo(ghi)perylene	276	22.889	22.894	1.210	1021154	48.90	ng/uL	95
97)	1,4-Dioxane	88	2.473	2.468	0.422	291862	21.02	ng/uL	91
106)	Benzaldehyde	77	5.254	5.254	0.897	848543	37.35	ng/uL	98
108)	N-Nitrosopyrrolidine	100	6.388	6.383	1.090	628733	42.36	ng/uL	96
109)	Acetophenone	105	6.415	6.409	1.095	1373288	33.60	ng/uL	80
115)	2,6-Dichlorophenol	162	7.720	7.720	1.014	344642	18.97	ng/uL	100
117)	Caprolactam	113	8.185	8.164	1.075	104635	14.41	ng/uL	76
121)	1,2,4,5-Tetrachloroben...	216	8.784	8.784	0.886	1110435	43.51	ng/uL	99
122)	1,1-Biphenyl	154	9.175	9.175	0.925	2553460	47.53	ng/uL	100
135)	Atrazine	200	11.421	11.416	0.969	582621	43.91	ng/uL	99
152)	Sulfolane	56	7.736	7.730	1.016	266410	37.86	ng/uL	99
154)	Prometon	210	11.336	11.330	0.961	482321	45.67	ng/uL	97
155)	Benzidine	184	13.454	13.453	1.141	1363812	56.79	ng/uL	98
158)	3,3'-Dichlorobenzidine	252	15.315	15.315	0.995	568287	43.61	ng/uL	99
163)	Tributylphosphate	99	10.726	10.715	1.081	2359842	39.67	ng/uL	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1908.D
Acq On : 19 Nov 2020 16:00
Operator : JMB3
Sample : |1204698147|2064469|1|SVM|1|LCS
Misc : |MSD1C70E_L| MIX[A,B,D,E,J]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 23:50:47 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration



Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**			**Matrix:**	**WATER**
Lab Sample ID:	**1204695848**				
Client Sample:	**QC for batch 2063408**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2063408**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 16:37**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1708.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)		393	ug/L		
108-95-2	Phenol		13.1	ug/L	3.00	10.0
91-57-6	2-Methylnaphthalene		34.1	ug/L	0.300	1.00
91-20-3	Naphthalene		35.7	ug/L	0.300	1.00
90-12-0	1-Methylnaphthalene		36.9	ug/L	0.300	1.00
86-73-7	Fluorene		42.0	ug/L	0.300	1.00
85-01-8	Phenanthrene		41.7	ug/L	0.300	1.00
120-12-7	Anthracene		38.2	ug/L	0.300	1.00
206-44-0	Fluoranthene		47.0	ug/L	0.300	1.00
129-00-0	Pyrene		33.9	ug/L	0.300	1.00
205-99-2	Benzo(b)fluoranthene		40.6	ug/L	0.300	1.00
207-08-9	Benzo(k)fluoranthene		42.8	ug/L	0.300	1.00
50-32-8	Benzo(a)pyrene		35.7	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	101	100	ug/L	101	(32%-122%)
2-Fluorobiphenyl	41.6	50.0	ug/L	83	(31%-107%)
2-Fluorophenol	36.0	100	ug/L	36	(15%-88%)
Nitrobenzene-d5	36.7	50.0	ug/L	73	(35%-113%)
Phenol-d5	26.4	100	ug/L	26	(15%-91%)
p-Terphenyl-d14	32.2	50.0	ug/L	64	(35%-134%)

Quantitation Report

11/17/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1708.D
Acq On : 17 Nov 2020 16:37
Operator : LOF
Sample : |1204695848|2063409|1|SVM|1|LCS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

11/19/2020

Quant Time: Nov 17 18:21:32 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.414	5.431	1.000	916732	40.00	ng/uL	-0.02
22) A Naphthalene-d8	136	7.212	7.228	1.000	3442167	40.00	ng/uL	-0.02
39) A Acenaphthene-d10	164	9.544	9.555	1.000	1764051	40.00	ng/uL	-0.01
64) A Phenanthrene-d10	188	11.421	11.432	1.000	2905022	40.00	ng/uL	-0.01
78) A Chrysene-d12	240	14.898	14.914	1.000	1868518	40.00	ng/uL	-0.02
88) A Perylene-d12	264	18.101	18.139	1.000	1196313	40.00	ng/uL	-0.04
96) B 1,4-Dichlorobenzene-d4	152	5.414	5.431	1.000	916732	40.00	ng/uL	-0.02
112) B Naphthalene-d8	136	7.212	7.228	1.000	3442188	40.00	ng/uL	-0.02
120) B Acenaphthene-d10	164	9.544	9.555	1.000	1764051	40.00	ng/uL	-0.01
129) B Phenanthrene-d10	188	11.421	11.432	1.000	2905022	40.00	ng/uL	-0.01
142) B Chrysene-d12	240	14.898	14.914	1.000	1868518	40.00	ng/uL	-0.02
148) B Perylene-d12	264	18.101	18.139	1.000	1195331	40.00	ng/uL	-0.04
151) J Naphthalene-d8	136	7.212	7.228	1.000	3442167	40.00	ng/uL	-0.02
153) J Phenanthrene-d10	188	11.421	11.432	1.000	2905022	40.00	ng/uL	-0.01
156) J Chrysene-d12	240	14.898	14.914	1.000	1868518	40.00	ng/uL	-0.02
159) D Naphthalene-d8	136	7.212	7.228	1.000	3442188	40.00	ng/uL	-0.02
161) D Acenaphthene-d10	164	9.544	9.555	1.000	1764051	40.00	ng/uL	-0.01
164) D Phenanthrene-d10	188	11.421	11.432	1.000	2905022	40.00	ng/uL	-0.01
171) D Chrysene-d12	240	14.898	14.914	1.000	1868518	40.00	ng/uL	-0.02
173) E Naphthalene-d8	136	7.212	7.228	1.000	3442167	40.00	ng/uL	-0.02
175) E Perylene-d12	264	18.101	18.139	1.000	1196313	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.724	3.735	0.688	993204	36.01	ng/uL	-0.01
8) Phenol-d5	99	4.885	4.906	0.902	884017	26.36	ng/uL	-0.02
23) Nitrobenzene-d5	82	6.206	6.222	0.861	1071479	36.68	ng/uL	-0.02
44) 2-Fluorobiphenyl	172	8.672	8.736	0.909	2280198	41.57	ng/uL	-0.06
63) 2,4,6-Tribromophenol	330	10.549	10.555	1.105	631231	101.18	ng/uL	0.00
80) p-Terphenyl-d14	244	13.411	13.422	0.900	2000831	32.24	ng/uL	-0.01

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	36%
8) Phenol-d5	100.000	15 - 91	26%
23) Nitrobenzene-d5	50.000	35 - 113	73%
44) 2-Fluorobiphenyl	50.000	31 - 107	83%
63) 2,4,6-Tribromophenol	100.000	32 - 122	101%
80) p-Terphenyl-d14	50.000	35 - 134	64%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.376	2.387	0.439	368836	20.49	ng/uL	89
4) Pyridine	79	2.425	2.430	0.448	447690	15.62	ng/uL	98
7) Aniline	93	4.954	4.976	0.915	1024074	21.51	ng/uL	99
9) Phenol	94	4.906	4.923	0.906	482162	13.14	ng/uL	86
10) bis(2-Chloroethyl) ether	93	5.045	5.067	0.932	960436	30.09	ng/uL	98
11) 2-Chlorophenol	128	5.115	5.136	0.945	844798	28.26	ng/uL	98
12) n-Decane	43	5.195	5.211	0.959	805308	17.25	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.334	5.356	0.985	1000415	28.46	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.441	5.457	1.005	1008224	28.11	ng/uL	98
15) 1,2-Dichlorobenzene	146	5.650	5.671	1.043	1019910	29.88	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.810	5.832	1.073	1817359	28.72	ng/uL	95
17) Benzyl alcohol	108	5.607	5.629	1.036	453918	22.37	ng/uL	86
18) o-Cresol	107	5.767	5.778	1.065	614716	25.81	ng/uL	98
19) m,p-Cresols	108	5.997	6.014	1.108	683088	24.13	ng/uL#	15
20) N-Nitrosodipropylamine	70	6.008	6.024	1.110	868101	34.31	ng/uL	97
21) Hexachloroethane	117	6.137	6.153	1.133	379159	27.87	ng/uL	93
24) Nitrobenzene	77	6.238	6.254	0.865	1085669	36.72	ng/uL	98

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1708.D
Acq On : 17 Nov 2020 16:37
Operator : LOF
Sample : |1204695848|2063409|1|SVM|1|LCS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 18:21:32 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
25) Isophorone	82	6.580	6.597	0.912	2302270	38.97	ng/uL	99
26) 2-Nitrophenol	139	6.682	6.698	0.927	537556	41.98	ng/uL	97
27) 2,4-Dimethylphenol	122	6.752	6.768	0.936	806834	32.06	ng/uL	97
28) bis(2-Chloroethoxy)met...	93	6.891	6.907	0.955	1284880	37.72	ng/uL	98
29) 2,4-Dichlorophenol	162	7.019	7.035	0.973	894331	40.16	ng/uL	98
30) Benzoic acid	105	6.917	6.923	0.959	569232	47.63	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.137	7.148	0.990	870864	35.20	ng/uL	99
32) alpha-Terpineol	59	7.270	7.287	1.008	753930	25.74	ng/uL	95
33) Naphthalene	128	7.244	7.260	1.004	2887057	35.71	ng/uL	99
34) 4-Chloroaniline	127	7.324	7.335	1.016	983004	30.87	ng/uL	98
35) Hexachlorobutadiene	225	7.420	7.431	1.029	510358	35.81	ng/uL	98
36) 4-Chloro-3-methylphenol	107	7.987	7.993	1.108	875322	37.93	ng/uL	98
37) 2-Methylnaphthalene	142	8.180	8.196	1.134	1943827	34.12	ng/uL	98
38) 1-Methylnaphthalene	142	8.313	8.324	1.153	1937294	36.86	ng/uL	97
40) Hexachlorocyclopentadiene	237	8.394	8.404	0.880	287427	20.10	ng/uL	98
41) 2,3-Dichloroaniline	161	8.554	8.565	0.896	1123025	42.72	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.554	8.565	0.896	711966	51.37	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.602	8.608	0.901	734376	49.30	ng/uL	100
45) 2-Chloronaphthalene	162	8.822	8.832	0.924	1882932	39.30	ng/uL	94
46) o-Nitroaniline	65	8.955	8.966	0.938	636710	44.83	ng/uL	99
48) m-Nitroaniline	138	9.490	9.501	0.994	478352	39.57	ng/uL	100
49) Dimethylphthalate	163	9.212	9.228	0.965	2727102	48.44	ng/uL	100
51) 2,6-Dinitrotoluene	165	9.282	9.292	0.973	567665	44.77	ng/uL	97
52) 2,4-Dinitrotoluene	165	9.790	9.800	1.026	727657	46.26	ng/uL	98
53) Acenaphthylene	152	9.356	9.373	0.980	3119285	38.71	ng/uL	99
54) Acenaphthene	154	9.586	9.597	1.004	1956798	39.87	ng/uL	99
55) 2,4-Dinitrophenol	184	9.618	9.629	1.008	251588	60.52	ng/uL#	23
56) Dibenzofuran	168	9.806	9.817	1.027	2758907	40.86	ng/uL	94
57) 2,3,4,6-Tetrachlorophenol	232	9.961	9.972	1.044	593071	52.34	ng/uL	100
58) Diethylphthalate	149	10.111	10.127	1.059	2851629	50.35	ng/uL	99
59) 4-Nitrophenol	139	9.720	9.710	1.018	103385	14.57	ng/uL	90
60) Fluorene	166	10.239	10.255	1.073	2287759	41.96	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.244	10.260	1.073	1106198	44.67	ng/uL	98
62) p-Nitroaniline	138	10.271	10.277	1.076	499183	46.50	ng/uL	90
65) 2-Methyl-4,6-dinitroph...	198	10.308	10.314	0.903	401801	63.15	ng/uL	99
66) Diphenylamine	169	10.399	10.410	0.911	1868767	39.55	ng/uL	96
67) 1,2-Diphenylhydrazine	77	10.448	10.458	0.915	2488012	41.24	ng/uL	98
68) 4-Bromophenylphenylether	248	10.859	10.876	0.951	625193	42.06	ng/uL	98
69) Hexachlorobenzene	284	10.934	10.945	0.957	688359	43.22	ng/uL	97
70) Pentachlorophenol	266	11.186	11.186	0.979	394454	50.10	ng/uL	98
71) n-Octadecane	57	11.303	11.314	0.990	1822065	37.18	ng/uL	98
73) Phenanthrene	178	11.453	11.464	1.003	3209726	41.65	ng/uL	99
74) Anthracene	178	11.517	11.528	1.008	2971781	38.23	ng/uL	99
75) Carbazole	167	11.715	11.726	1.026	2651443	42.28	ng/uL	99
76) Di-n-butylphthalate	149	12.159	12.170	1.065	4209205	48.82	ng/uL	99
77) Fluoranthene	202	12.935	12.945	1.133	3210325	47.04	ng/uL	98
79) Pyrene	202	13.218	13.224	0.887	3230867	33.88	ng/uL	97
81) Butylbenzylphthalate	149	14.042	14.053	0.943	1523201	39.64	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	14.951	14.967	1.004	1983346	34.68	ng/uL	99
83) Benzo(a)anthracene	228	14.876	14.892	0.999	2438245	40.15	ng/uL	95
84) Chrysene	228	14.946	14.957	1.003	2333859	40.91	ng/uL	99
87) Di-n-octylphthalate	149	16.288	16.310	1.093	2927596	42.34	ng/uL	98
89) Benzo(b)fluoranthene	252	17.101	17.128	0.945	1597447	40.59	ng/uL	99
90) Benzo(k)fluoranthene	252	17.176	17.198	0.949	1559919	42.78	ng/uL	98
91) Benzo(a)pyrene	252	17.936	17.968	0.991	1070904	35.66	ng/uL	98
92) Indeno(1,2,3-cd)pyrene	276	21.434	21.482	1.184	767935	39.13	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.541	21.584	1.190	756164	43.43	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1708.D
Acq On : 17 Nov 2020 16:37
Operator : LOF
Sample : |1204695848|2063409|1|SVM|1|LCS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 18:21:32 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

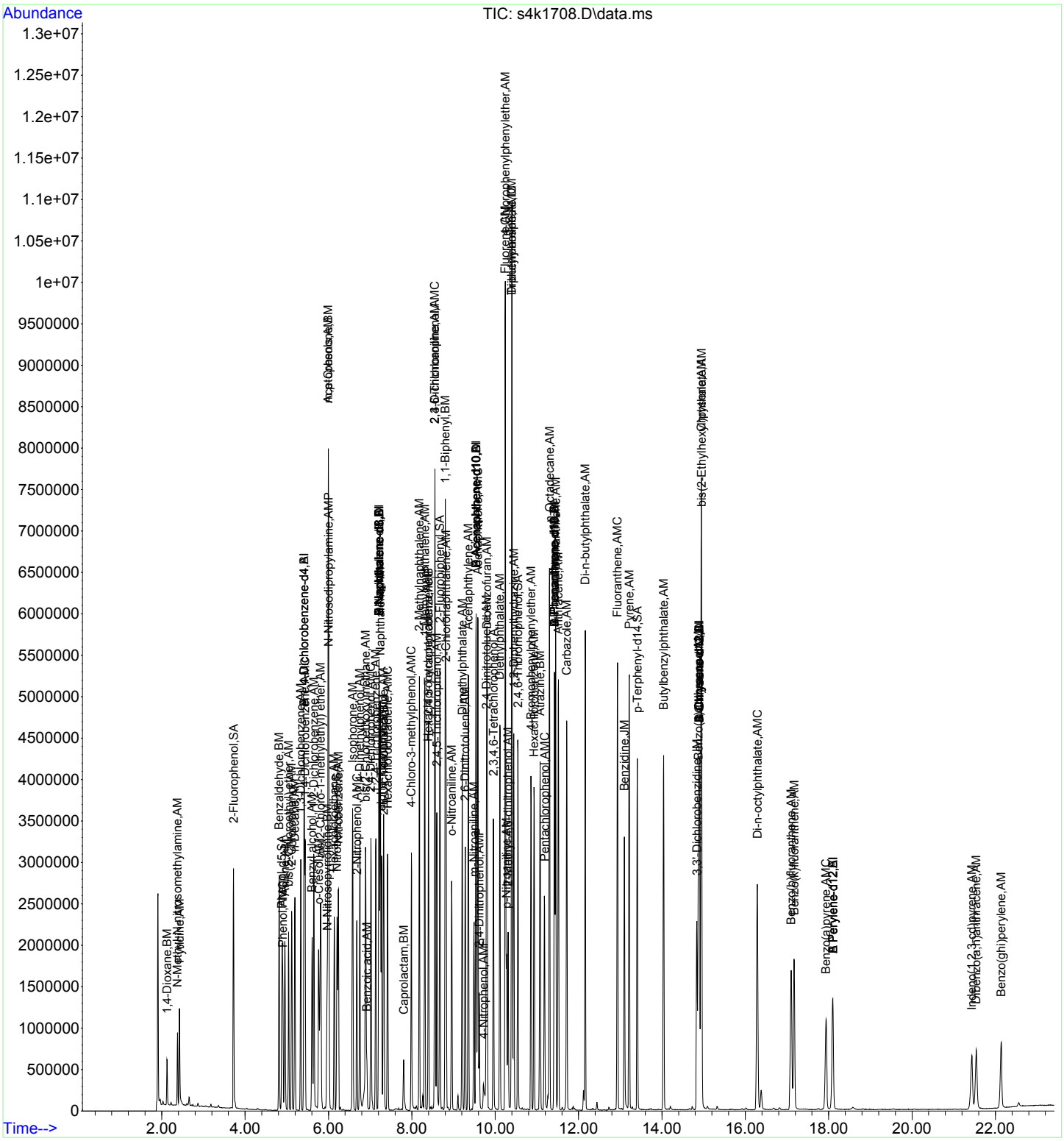
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94)	Benzo(ghi)perylene	276	22.140	22.177	1.223	784640	33.76	ng/uL	99
97)	1,4-Dioxane	88	2.125	2.130	0.392	197580	16.96	ng/uL	97
106)	Benzaldehyde	77	4.815	4.831	0.889	741095	28.55	ng/uL	98
108)	N-Nitrosopyrrolidine	100	5.971	5.976	1.103	557250	32.88	ng/uL	83
109)	Acetophenone	105	5.997	6.008	1.108	1404063	32.36	ng/uL	77
115)	2,6-Dichlorophenol	162	7.329	7.340	1.016	375414	16.81	ng/uL	99
117)	Caprolactam	113	7.805	7.795	1.082	103039	11.32	ng/uL#	73
121)	1,2,4,5-Tetrachloroben...	216	8.404	8.415	0.881	892735	38.92	ng/uL	99
122)	1,1-Biphenyl	154	8.800	8.811	0.922	2982342	46.22	ng/uL	99
135)	Atrazine	200	11.079	11.084	0.970	711485	50.50	ng/uL	99
155)	Benzidine	184	13.100	13.111	1.147	1721288	42.97	ng/uL	98
158)	3,3'-Dichlorobenzidine	252	14.839	14.850	0.996	749327	39.23	ng/uL	99
163)	Tributylphosphate	99	10.399	10.400	1.090	3491773	49.96	ng/uL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1708.D
Acq On : 17 Nov 2020 16:37
Operator : LOF
Sample : |1204695848|2063409|1|SVM|1|LCS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 18:21:32 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/16/2020 11:07**	**Matrix:**	**W**
Lab Sample ID:	**1204698148**	**Date Received:**	**11/18/2020 09:00**		
Client Sample:	**QC for batch 2064468**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**CAMO-21-210460MS**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2064469**	**Inst:**	**MSD3.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 17:50**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/19/2020 05:12**	**Aliquot:**	**500 mL**	**Final Volume:**	**1 mL**
Data File:	**s111920.s\s3k1912.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)		794	ug/L		
108-95-2	Phenol		48.3	ug/L	6.00	20.0
91-57-6	2-Methylnaphthalene		73.3	ug/L	0.600	2.00
91-20-3	Naphthalene		73.7	ug/L	0.600	2.00
90-12-0	1-Methylnaphthalene		78.0	ug/L	0.600	2.00
86-73-7	Fluorene		81.9	ug/L	0.600	2.00
85-01-8	Phenanthrene		81.8	ug/L	0.600	2.00
120-12-7	Anthracene		78.6	ug/L	0.600	2.00
206-44-0	Fluoranthene		81.5	ug/L	0.600	2.00
129-00-0	Pyrene		85.0	ug/L	0.600	2.00
205-99-2	Benzo(b)fluoranthene		79.7	ug/L	0.600	2.00
207-08-9	Benzo(k)fluoranthene		80.9	ug/L	0.600	2.00
50-32-8	Benzo(a)pyrene		78.9	ug/L	0.600	2.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	200	200	ug/L	100	(32%-122%)
2-Fluorobiphenyl	84.4	100	ug/L	84	(31%-107%)
2-Fluorophenol	109	200	ug/L	54	(15%-88%)
Nitrobenzene-d5	78.5	100	ug/L	79	(35%-113%)
Phenol-d5	95.5	200	ug/L	48	(15%-91%)
p-Terphenyl-d14	70.6	100	ug/L	71	(35%-134%)

Quantitation Report

11/20/2020

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1912.D
Acq On : 19 Nov 2020 17:50
Operator : JMB3
Sample : |1204698148|2064469|1|SVM|1|MS
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 12 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 20 00:05:08 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.858	5.859	1.000	761302	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	2395522	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.918	9.918	1.000	1290882	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.790	11.790	1.000	2211189	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.395	15.401	1.000	1231422	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.920	18.925	1.000	968940	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.858	5.859	1.000	761302	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.613	1.000	2395522	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.918	9.918	1.000	1290882	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.790	11.790	1.000	2211189	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.395	15.401	1.000	1231422	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.920	18.925	1.000	968940	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.613	1.000	2395522	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.790	11.790	1.000	2211189	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.395	15.401	1.000	1231422	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.613	7.613	1.000	2395522	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.918	9.918	1.000	1290882	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.790	11.790	1.000	2211189	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.395	15.401	1.000	1231422	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.613	7.613	1.000	2395522	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.920	18.925	1.000	968940	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.131	4.131	0.705	1435815	54.40	ng/uL	0.00
8) Phenol-d5	99	5.308	5.302	0.906	1535651	47.73	ng/uL	0.00
23) Nitrobenzene-d5	82	6.623	6.624	0.870	1074167	39.26	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	1922053	42.19	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.913	10.913	1.100	570975	100.00	ng/uL	0.00
80) p-Terphenyl-d14	244	13.764	13.764	0.894	1464758	35.28	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	54%
8) Phenol-d5	100.000	15 - 91	48%
23) Nitrobenzene-d5	50.000	35 - 113	79%
44) 2-Fluorobiphenyl	50.000	31 - 107	84%
63) 2,4,6-Tribromophenol	100.000	32 - 122	100%
80) p-Terphenyl-d14	50.000	35 - 134	71%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.740	2.740	0.468	686245	33.24	ng/uL	93
4) Pyridine	79	2.794	2.794	0.477	931306	29.01	ng/uL	93
7) Aniline	93	5.398	5.399	0.921	1669201	36.74	ng/uL	100
9) Phenol	94	5.324	5.324	0.909	859934	24.17	ng/uL	97
10) bis(2-Chloroethyl) ether	93	5.473	5.474	0.934	1087343	33.78	ng/uL	99
11) 2-Chlorophenol	128	5.559	5.559	0.949	913265	36.94	ng/uL	100
12) n-Decane	43	5.612	5.613	0.958	635585	30.15	ng/uL	93
13) 1,3-Dichlorobenzene	146	5.778	5.778	0.986	958895	32.82	ng/uL	98
14) 1,4-Dichlorobenzene	146	5.880	5.880	1.004	956503	32.38	ng/uL	99
15) 1,2-Dichlorobenzene	146	6.094	6.094	1.040	927034	33.38	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	6.228	6.228	1.063	991058	39.40	ng/uL	95
17) Benzyl alcohol	108	6.035	6.035	1.030	658768	37.99	ng/uL	97
18) o-Cresol	107	6.174	6.174	1.054	764383	35.10	ng/uL	97
19) m,p-Cresols	108	6.399	6.399	1.092	895112	35.62	ng/uL#	36
20) N-Nitrosodipropylamine	70	6.415	6.415	1.095	889281	37.38	ng/uL	52
21) Hexachloroethane	117	6.564	6.565	1.121	378388	29.57	ng/uL	86
24) Nitrobenzene	77	6.655	6.650	0.874	1123728	39.52	ng/uL	98

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1912.D
Acq On : 19 Nov 2020 17:50
Operator : JMB3
Sample : |1204698148|2064469|1|SVM|1|MS
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 20 00:05:08 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
25) Isophorone	82	6.982	6.982	0.917	2195277	40.10	ng/uL	98
26) 2-Nitrophenol	139	7.089	7.089	0.931	493638	44.28	ng/uL	96
27) 2,4-Dimethylphenol	122	7.137	7.137	0.937	753618	40.78	ng/uL	97
28) bis(2-Chloroethoxy)met...	93	7.276	7.276	0.956	1309077	40.83	ng/uL	100
29) 2,4-Dichlorophenol	162	7.415	7.410	0.974	832577	49.07	ng/uL	99
30) Benzoic acid	105	7.313	7.287	0.961	918619	75.72	ng/uL	89
31) 1,2,4-Trichlorobenzene	180	7.533	7.533	0.989	902473	39.18	ng/uL	98
32) alpha-Terpineol	59	7.656	7.650	1.006	534850	30.19	ng/uL	97
33) Naphthalene	128	7.645	7.645	1.004	2390216	36.84	ng/uL	99
34) 4-Chloroaniline	127	7.709	7.709	1.013	1056623	43.44	ng/uL	100
35) Hexachlorobutadiene	225	7.805	7.806	1.025	581984	37.62	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.351	8.346	1.097	828183	46.50	ng/uL	97
37) 2-Methylnaphthalene	142	8.565	8.565	1.125	1646436	36.64	ng/uL	99
38) 1-Methylnaphthalene	142	8.693	8.693	1.142	1595550	39.00	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.773	8.768	0.885	537460	35.10	ng/uL	99
41) 2,3-Dichloroaniline	161	8.929	8.929	0.900	946069	44.71	ng/uL	98
42) 2,4,6-Trichlorophenol	196	8.929	8.929	0.900	709674	48.88	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.977	8.972	0.905	718855	56.18	ng/uL	99
45) 2-Chloronaphthalene	162	9.201	9.202	0.928	1583857	42.31	ng/uL	96
46) o-Nitroaniline	65	9.330	9.325	0.941	529883	51.19	ng/uL	97
48) m-Nitroaniline	138	9.854	9.854	0.994	392409	54.26	ng/uL	96
49) Dimethylphthalate	163	9.565	9.571	0.964	1936024	44.76	ng/uL	99
51) 2,6-Dinitrotoluene	165	9.640	9.646	0.972	446875	49.78	ng/uL	87
52) 2,4-Dinitrotoluene	165	10.153	10.154	1.024	549170	52.05	ng/uL	85
53) Acenaphthylene	152	9.736	9.736	0.982	2437649	41.22	ng/uL	100
54) Acenaphthene	154	9.961	9.961	1.004	1562053	40.74	ng/uL	98
55) 2,4-Dinitrophenol	184	9.988	9.988	1.007	225133	62.80	ng/uL#	28
56) Dibenzofuran	168	10.180	10.180	1.026	2230442	45.59	ng/uL	98
57) 2,3,4,6-Tetrachlorophenol	232	10.325	10.325	1.041	568931	53.83	ng/uL	97
58) Diethylphthalate	149	10.458	10.459	1.054	1646815	42.37	ng/uL	98
59) 4-Nitrophenol	139	10.057	10.052	1.014	128962	29.98	ng/uL	96
60) Fluorene	166	10.613	10.614	1.070	1815601	40.97	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.608	10.608	1.070	1050519	43.40	ng/uL	98
62) p-Nitroaniline	138	10.629	10.630	1.072	332499	64.07	ng/uL	99
65) 2-Methyl-4,6-dinitroph...	198	10.667	10.667	0.905	344919	63.61	ng/uL	87
66) Diphenylamine	169	10.758	10.753	0.912	1564320	43.60	ng/uL	98
67) 1,2-Diphenylhydrazine	77	10.806	10.806	0.917	2198939	42.25	ng/uL	97
68) 4-Bromophenylphenylether	248	11.223	11.223	0.952	619582	44.95	ng/uL	96
69) Hexachlorobenzene	284	11.303	11.304	0.959	635537	41.92	ng/uL	99
70) Pentachlorophenol	266	11.544	11.544	0.979	335415	51.00	ng/uL	99
71) n-Octadecane	57	11.630	11.630	0.986	866267	34.20	ng/uL	91
73) Phenanthrene	178	11.822	11.822	1.003	2351475	40.92	ng/uL	99
74) Anthracene	178	11.886	11.887	1.008	2266147	39.28	ng/uL	99
75) Carbazole	167	12.079	12.079	1.024	1722586	42.53	ng/uL	98
76) Di-n-butylphthalate	149	12.496	12.496	1.060	2104338	33.87	ng/uL	99
77) Fluoranthene	202	13.304	13.304	1.128	2303940	40.74	ng/uL	98
79) Pyrene	202	13.587	13.587	0.883	2277208	42.52	ng/uL	98
81) Butylbenzylphthalate	149	14.427	14.427	0.937	674180	36.76	ng/uL	91
82) bis(2-Ethylhexyl)phtha...	149	15.406	15.406	1.001	889814	31.29	ng/uL	96
83) Benzo(a)anthracene	228	15.374	15.374	0.999	1690685	43.92	ng/uL	98
84) Chrysene	228	15.443	15.449	1.003	1616998	42.07	ng/uL	99
87) Di-n-octylphthalate	149	16.871	16.872	1.096	1253503	39.13	ng/uL	96
89) Benzo(b)fluoranthene	252	17.829	17.829	0.942	1269046	39.86	ng/uL	98
90) Benzo(k)fluoranthene	252	17.904	17.904	0.946	1282574	40.47	ng/uL	97
91) Benzo(a)pyrene	252	18.749	18.754	0.991	978061	39.45	ng/uL	98
92) Indeno(1,2,3-cd)pyrene	276	22.279	22.279	1.178	933199	54.53	ng/uL	95
93) Dibenzo(a,h)anthracene	278	22.354	22.359	1.181	903086	53.11	ng/uL	97

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1912.D
Acq On : 19 Nov 2020 17:50
Operator : JMB3
Sample : |1204698148|2064469|1|SVM|1|MS
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 20 00:05:08 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

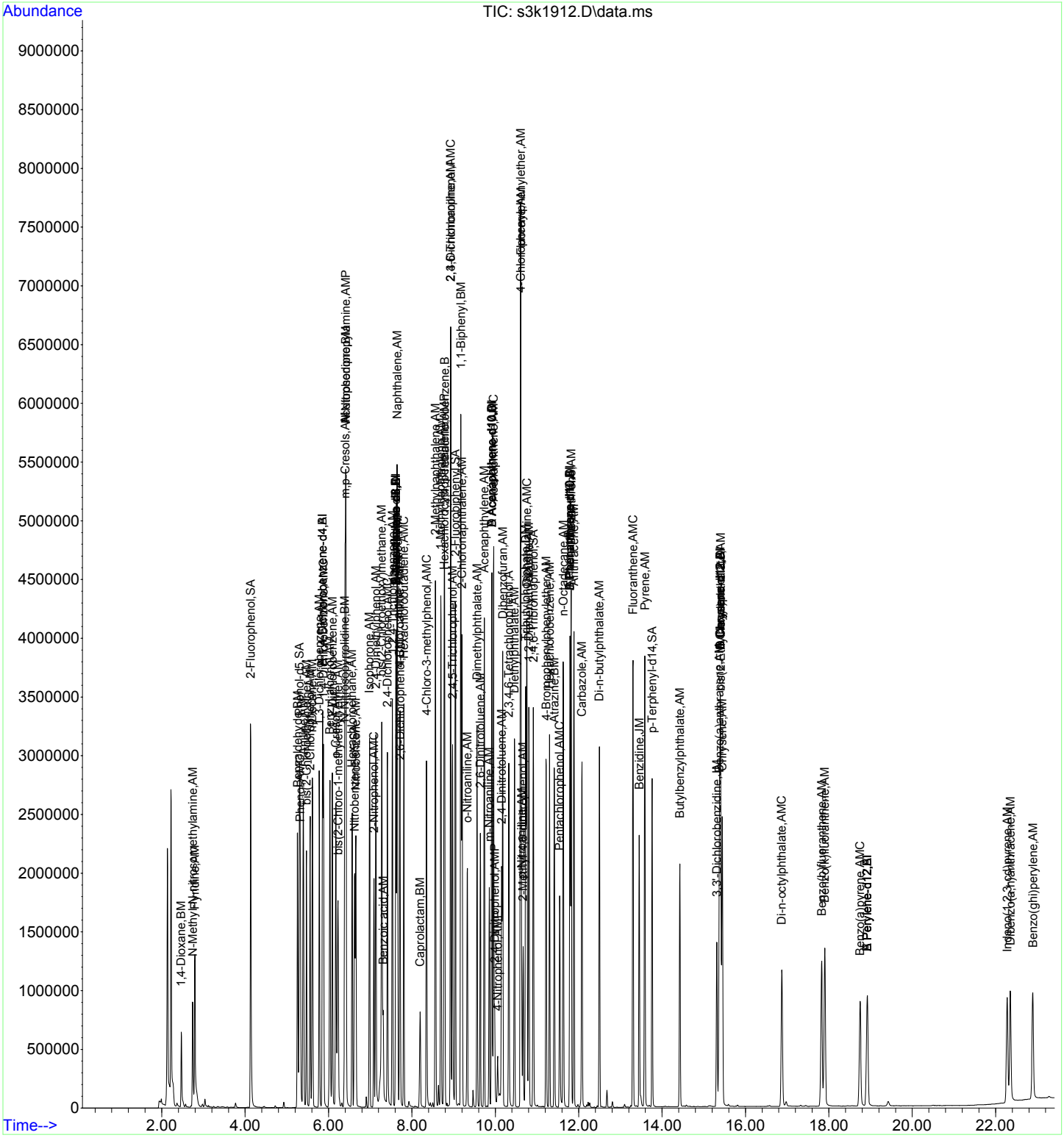
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94)	Benzo(ghi)perylene	276	22.894	22.894	1.210	966761	51.89	ng/uL	95
97)	1,4-Dioxane	88	2.467	2.468	0.421	383298	29.66	ng/uL	92
106)	Benzaldehyde	77	5.259	5.254	0.898	842529	39.85	ng/uL	98
108)	N-Nitrosopyrrolidine	100	6.388	6.383	1.090	651044	47.13	ng/uL	98
109)	Acetophenone	105	6.415	6.409	1.095	1359457	35.74	ng/uL	77
115)	2,6-Dichlorophenol	162	7.720	7.720	1.014	336223	20.24	ng/uL	100
117)	Caprolactam	113	8.196	8.164	1.077	176232	26.53	ng/uL	77
121)	1,2,4,5-Tetrachloroben...	216	8.784	8.784	0.886	1083071	47.57	ng/uL	99
122)	1,1-Biphenyl	154	9.175	9.175	0.925	2462677	51.38	ng/uL	100
135)	Atrazine	200	11.416	11.416	0.968	548949	46.30	ng/uL	98
155)	Benzidine	184	13.454	13.453	1.141	1298616	60.51	ng/uL	98
158)	3,3'-Dichlorobenzidine	252	15.315	15.315	0.995	560989	45.91	ng/uL	99
163)	Tributylphosphate	99	10.731	10.715	1.082	2199230	41.44	ng/uL	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1912.D
Acq On : 19 Nov 2020 17:50
Operator : JMB3
Sample : |1204698148|2064469|1|SVM|1|MS
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 20 00:05:08 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration



Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**1204695853**	**Date Received:**	**11/14/2020 09:00**		
Client Sample:	**QC for batch 2063408**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209972MS**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 11:34**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**430 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1807.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)		694	ug/L		
108-95-2	Phenol		52.0	ug/L	6.98	23.3
91-57-6	2-Methylnaphthalene		71.9	ug/L	0.698	2.33
91-20-3	Naphthalene		78.9	ug/L	0.698	2.33
90-12-0	1-Methylnaphthalene		77.4	ug/L	0.698	2.33
86-73-7	Fluorene		78.3	ug/L	0.698	2.33
85-01-8	Phenanthrene		71.1	ug/L	0.698	2.33
120-12-7	Anthracene		66.3	ug/L	0.698	2.33
206-44-0	Fluoranthene		71.4	ug/L	0.698	2.33
129-00-0	Pyrene		57.1	ug/L	0.698	2.33
205-99-2	Benzo(b)fluoranthene		60.6	ug/L	0.698	2.33
207-08-9	Benzo(k)fluoranthene		60.9	ug/L	0.698	2.33
50-32-8	Benzo(a)pyrene		54.8	ug/L	0.698	2.33

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	182	233	ug/L	78		(32%-122%)
2-Fluorobiphenyl	73.5	116	ug/L	63		(31%-107%)
2-Fluorophenol	116	233	ug/L	50		(15%-88%)
Nitrobenzene-d5	80.7	116	ug/L	69		(35%-113%)
Phenol-d5	105	233	ug/L	45		(15%-91%)
p-Terphenyl-d14	36.4	116	ug/L	31	*	(35%-134%)

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1807.D
Acq On : 18 Nov 2020 11:34
Operator : JMB3
Sample : |1204695853|2063409|1|SVM|1|MS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

JMB 11/19/2020

Quant Time: Nov 18 13:15:51 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	881036	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.206	7.206	1.000	3368738	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.533	9.538	1.000	1761070	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.416	11.416	1.000	2973963	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.887	14.898	1.000	1689378	40.00	ng/uL	-0.01
88) A Perylene-d12	264	18.080	18.096	1.000	935841	40.00	ng/uL	-0.02
96) B 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	881036	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.206	7.206	1.000	3368738	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.533	9.538	1.000	1764152	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.416	11.416	1.000	2974921	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.887	14.898	1.000	1689378	40.00	ng/uL	-0.01
148) B Perylene-d12	264	18.080	18.096	1.000	935854	40.00	ng/uL	-0.02
151) J Naphthalene-d8	136	7.206	7.206	1.000	3368738	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.416	11.416	1.000	2973963	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.887	14.898	1.000	1689378	40.00	ng/uL	-0.01
159) D Naphthalene-d8	136	7.206	7.206	1.000	3368738	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.533	9.538	1.000	1764152	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.416	11.416	1.000	2974921	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.887	14.898	1.000	1689378	40.00	ng/uL	-0.01
173) E Naphthalene-d8	136	7.206	7.206	1.000	3368738	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.080	18.096	1.000	935841	40.00	ng/uL	-0.02
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.719	3.714	0.688	1319875	49.79	ng/uL	0.00
8) Phenol-d5	99	4.885	4.885	0.904	1452017	45.06	ng/uL	0.00
23) Nitrobenzene-d5	82	6.196	6.195	0.860	991463	34.68	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.661	8.666	0.909	1731372	31.62	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.539	10.539	1.105	487464	78.27	ng/uL	0.00
80) p-Terphenyl-d14	244	13.400	13.405	0.900	877542	15.64	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	50%
8) Phenol-d5	100.000	15 - 91	45%
23) Nitrobenzene-d5	50.000	35 - 113	69%
44) 2-Fluorobiphenyl	50.000	31 - 107	63%
63) 2,4,6-Tribromophenol	100.000	32 - 122	78%
80) p-Terphenyl-d14	50.000	35 - 134	31%#

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.371	2.366	0.439	511284	29.55	ng/uL	89
4) Pyridine	79	2.414	2.409	0.447	715540	25.98	ng/uL	99
7) Aniline	93	4.949	4.949	0.916	1102231	24.09	ng/uL	98
9) Phenol	94	4.901	4.901	0.907	788055	22.35	ng/uL	88
10) bis(2-Chloroethyl) ether	93	5.035	5.040	0.932	913835	29.79	ng/uL	98
11) 2-Chlorophenol	128	5.110	5.110	0.946	903974	31.46	ng/uL	98
12) n-Decane	43	5.185	5.185	0.959	677690	15.11	ng/uL	98
13) 1,3-Dichlorobenzene	146	5.324	5.329	0.985	858498	25.41	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.431	5.431	1.005	915024	26.54	ng/uL	98
15) 1,2-Dichlorobenzene	146	5.645	5.644	1.045	974792	29.72	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.805	5.805	1.074	1734231	28.51	ng/uL	96
17) Benzyl alcohol	108	5.602	5.602	1.037	564296	28.93	ng/uL	93
18) o-Cresol	107	5.762	5.757	1.066	685719	29.96	ng/uL	95
19) m,p-Cresols	108	5.987	5.992	1.108	789661	29.03	ng/uL#	32
20) N-Nitrosodipropylamine	70	5.998	5.997	1.110	770398	31.68	ng/uL	100
21) Hexachloroethane	117	6.126	6.131	1.134	317229	24.26	ng/uL	94
24) Nitrobenzene	77	6.228	6.228	0.864	1227393	42.42	ng/uL	97

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1807.D
Acq On : 18 Nov 2020 11:34
Operator : JMB3
Sample : |1204695853|2063409|1|SVM|1|MS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 18 13:15:51 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
25) Isophorone	82	6.570	6.575	0.912	1997186	34.54	ng/uL	99
26) 2-Nitrophenol	139	6.672	6.671	0.926	519088	41.42	ng/uL	98
27) 2,4-Dimethylphenol	122	6.746	6.746	0.936	750963	30.49	ng/uL	95
28) bis(2-Chloroethoxy)met...	93	6.886	6.885	0.955	1172459	35.17	ng/uL	100
29) 2,4-Dichlorophenol	162	7.014	7.014	0.973	817354	37.50	ng/uL	99
30) Benzoic acid	105	6.944	6.917	0.964	1037469	78.75	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.126	7.126	0.989	770275	31.81	ng/uL	98
32) alpha-Terpineol	59	7.260	7.265	1.007	645322	22.51	ng/uL	96
33) Naphthalene	128	7.233	7.233	1.004	2682855	33.91	ng/uL	99
34) 4-Chloroaniline	127	7.313	7.313	1.015	731547	23.48	ng/uL	98
35) Hexachlorobutadiene	225	7.410	7.410	1.028	391244	28.05	ng/uL	99
36) 4-Chloro-3-methylphenol	107	7.987	7.976	1.108	819642	36.29	ng/uL	98
37) 2-Methylnaphthalene	142	8.169	8.174	1.134	1723604	30.91	ng/uL	100
38) 1-Methylnaphthalene	142	8.303	8.303	1.152	1711536	33.28	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.383	8.383	0.879	252824	17.71	ng/uL	99
41) 2,3-Dichloroaniline	161	8.544	8.543	0.896	317310	12.09	ng/uL	97
42) 2,4,6-Trichlorophenol	196	8.549	8.549	0.897	613975	44.37	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.602	8.592	0.902	619128	41.63	ng/uL	100
45) 2-Chloronaphthalene	162	8.811	8.816	0.924	1643488	34.36	ng/uL	94
46) o-Nitroaniline	65	8.945	8.950	0.938	390547	27.54	ng/uL	99
48) m-Nitroaniline	138	9.480	9.485	0.994	132895	11.01	ng/uL	98
49) Dimethylphthalate	163	9.201	9.212	0.965	2192547	39.01	ng/uL	100
51) 2,6-Dinitrotoluene	165	9.271	9.276	0.973	466491	36.85	ng/uL	96
52) 2,4-Dinitrotoluene	165	9.784	9.784	1.026	605124	38.54	ng/uL	97
53) Acenaphthylene	152	9.346	9.351	0.980	2671898	33.21	ng/uL	99
54) Acenaphthene	154	9.576	9.581	1.004	1584024	32.33	ng/uL	98
55) 2,4-Dinitrophenol	184	9.613	9.613	1.008	232111	56.81	ng/uL#	28
56) Dibenzofuran	168	9.795	9.800	1.027	2264539	33.60	ng/uL	94
57) 2,3,4,6-Tetrachlorophenol	232	9.956	9.950	1.044	477776	42.24	ng/uL	98
58) Diethylphthalate	149	10.105	10.111	1.060	2236616	39.56	ng/uL	99
59) 4-Nitrophenol	139	9.726	9.704	1.020	215889	26.74	ng/uL	91
60) Fluorene	166	10.234	10.234	1.073	1831571	33.65	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.239	10.239	1.074	807519	32.66	ng/uL	98
62) p-Nitroaniline	138	10.260	10.266	1.076	120170	11.21	ng/uL	92
65) 2-Methyl-4,6-dinitroph...	198	10.298	10.303	0.902	348990	54.86	ng/uL	97
66) Diphenylamine	169	10.389	10.394	0.910	1585309	32.78	ng/uL	96
67) 1,2-Diphenylhydrazine	77	10.437	10.442	0.914	1969387	31.89	ng/uL	98
68) 4-Bromophenylphenylether	248	10.854	10.854	0.951	435402	28.62	ng/uL	96
69) Hexachlorobenzene	284	10.924	10.924	0.957	467484	28.67	ng/uL	98
70) Pentachlorophenol	266	11.180	11.175	0.979	312431	39.81	ng/uL	98
71) n-Octadecane	57	11.293	11.298	0.989	1169035	23.30	ng/uL	96
73) Phenanthrene	178	11.443	11.448	1.002	2412315	30.58	ng/uL	100
74) Anthracene	178	11.507	11.512	1.008	2270415	28.53	ng/uL	100
75) Carbazole	167	11.710	11.710	1.026	2182101	33.99	ng/uL	98
76) Di-n-butylphthalate	149	12.154	12.154	1.065	2679410	30.36	ng/uL	99
77) Fluoranthene	202	12.924	12.929	1.132	2145774	30.71	ng/uL	98
79) Pyrene	202	13.208	13.213	0.887	2116992	24.55	ng/uL	98
81) Butylbenzylphthalate	149	14.031	14.037	0.943	915819	26.36	ng/uL	98
82) bis(2-Ethylhexyl)phtha...	149	14.941	14.946	1.004	1145630	22.16	ng/uL	99
83) Benzo(a)anthracene	228	14.871	14.876	0.999	1386239	25.25	ng/uL	96
84) Chrysene	228	14.930	14.940	1.003	1302308	25.25	ng/uL	99
87) Di-n-octylphthalate	149	16.272	16.283	1.093	1615060	25.98	ng/uL	99
89) Benzo(b)fluoranthene	252	17.080	17.096	0.945	802406	26.06	ng/uL	99
90) Benzo(k)fluoranthene	252	17.155	17.171	0.949	746945	26.19	ng/uL	100
91) Benzo(a)pyrene	252	17.920	17.936	0.991	553460	23.56	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	21.407	21.428	1.184	371731	24.21	ng/uL	98
93) Dibenzo(a,h)anthracene	278	21.519	21.541	1.190	357391	26.24	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1807.D
Acq On : 18 Nov 2020 11:34
Operator : JMB3
Sample : |1204695853|2063409|1|SVM|1|MS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 18 13:15:51 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

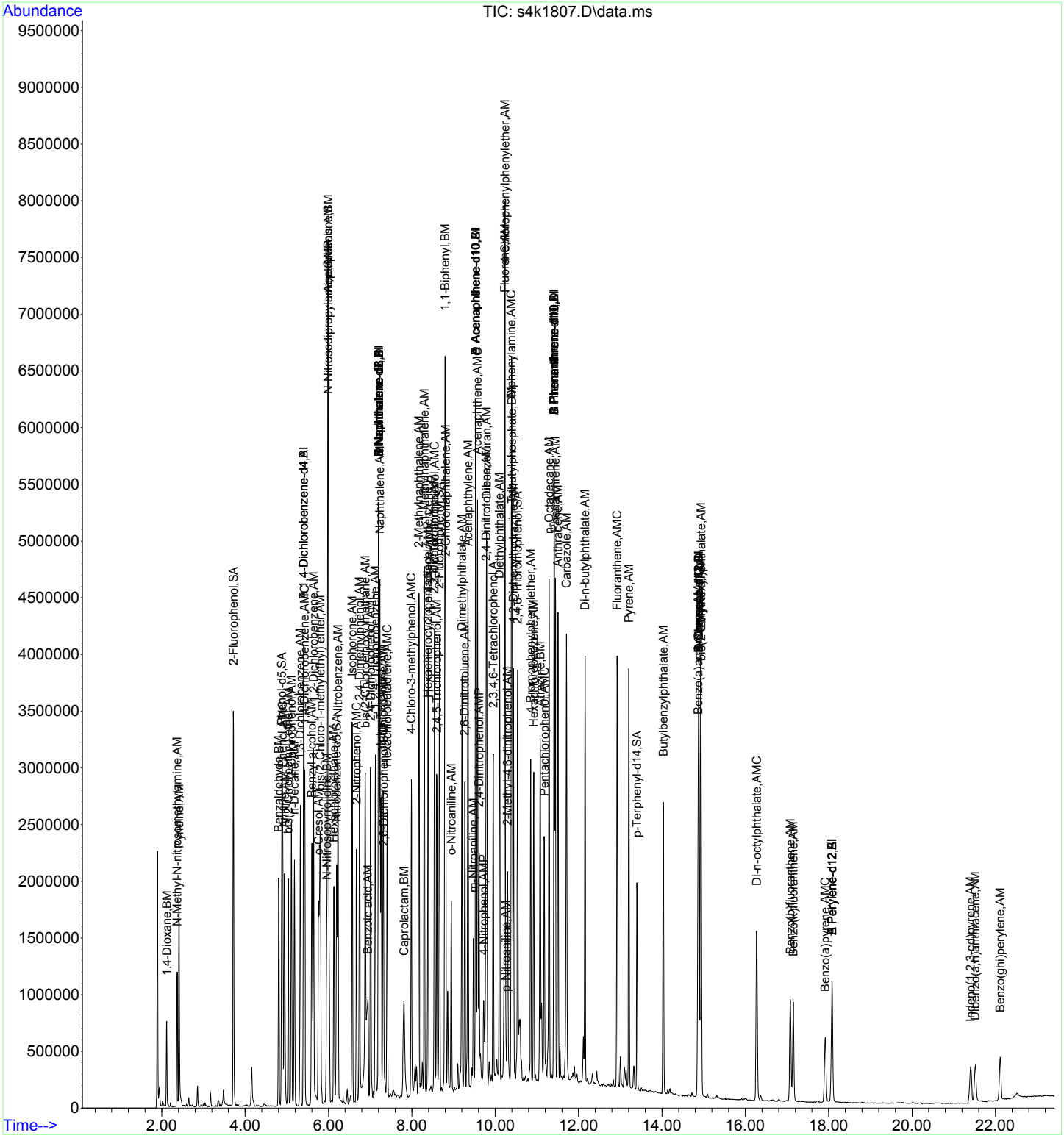
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94)	Benzo(ghi)perylene	276	22.118	22.134	1.223	361563	19.89	ng/uL	99
97)	1,4-Dioxane	88	2.120	2.115	0.392	273167	24.40	ng/uL	97
106)	Benzaldehyde	77	4.805	4.805	0.889	546298	21.89	ng/uL	99
108)	N-Nitrosopyrrolidine	100	5.960	5.960	1.103	579604	35.59	ng/uL	87
109)	Acetophenone	105	5.987	5.987	1.108	1308808	31.38	ng/uL	73
115)	2,6-Dichlorophenol	162	7.324	7.324	1.016	338074	15.47	ng/uL	100
117)	Caprolactam	113	7.811	7.790	1.084	215076	24.14	ng/uL#	71
121)	1,2,4,5-Tetrachloroben...	216	8.394	8.394	0.880	745198	32.49	ng/uL	100
122)	1,1-Biphenyl	154	8.795	8.795	0.923	2628011	40.72	ng/uL	98
135)	Atrazine	200	11.084	11.074	0.971	520670	36.09	ng/uL	100
163)	Tributylphosphate	99	10.405	10.400	1.091	2570667	36.78	ng/uL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1807.D
Acq On : 18 Nov 2020 11:34
Operator : JMB3
Sample : |1204695853|2063409|1|SVM|1|MS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 18 13:15:51 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/16/2020 11:07**	**Matrix:**	**W**
Lab Sample ID:	**1204698149**	**Date Received:**	**11/18/2020 09:00**		
Client Sample:	**QC for batch 2064468**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**CAMO-21-210460MSD**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2064469**	**Inst:**	**MSD3.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 18:19**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/19/2020 05:12**	**Aliquot:**	**500 mL**	**Final Volume:**	**1 mL**
Data File:	**s111920.s\s3k1913.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)		674	ug/L		
108-95-2	Phenol		36.4	ug/L	6.00	20.0
91-57-6	2-Methylnaphthalene		58.9	ug/L	0.600	2.00
91-20-3	Naphthalene		58.3	ug/L	0.600	2.00
90-12-0	1-Methylnaphthalene		63.5	ug/L	0.600	2.00
86-73-7	Fluorene		67.4	ug/L	0.600	2.00
85-01-8	Phenanthrene		70.1	ug/L	0.600	2.00
120-12-7	Anthracene		66.8	ug/L	0.600	2.00
206-44-0	Fluoranthene		70.7	ug/L	0.600	2.00
129-00-0	Pyrene		73.1	ug/L	0.600	2.00
205-99-2	Benzo(b)fluoranthene		72.0	ug/L	0.600	2.00
207-08-9	Benzo(k)fluoranthene		73.4	ug/L	0.600	2.00
50-32-8	Benzo(a)pyrene		72.7	ug/L	0.600	2.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	170	200	ug/L	85	(32%-122%)
2-Fluorobiphenyl	70.0	100	ug/L	70	(31%-107%)
2-Fluorophenol	80.9	200	ug/L	40	(15%-88%)
Nitrobenzene-d5	61.5	100	ug/L	62	(35%-113%)
Phenol-d5	74.2	200	ug/L	37	(15%-91%)
p-Terphenyl-d14	61.4	100	ug/L	61	(35%-134%)

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1913.D
Acq On : 19 Nov 2020 18:19
Operator : JMB3
Sample : |1204698149|2064469|1|SVM|1|MSD
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 13 Sample Multiplier: 1

11/20/2020

11/20/2020

Quant Time: Nov 20 00:07:19 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.858	5.859	1.000	761094	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	2449606	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.918	9.918	1.000	1329435	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.790	11.790	1.000	2241248	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.395	15.401	1.000	1273302	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.925	18.925	1.000	1060044	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.858	5.859	1.000	761094	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.613	1.000	2449606	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.918	9.918	1.000	1329435	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.790	11.790	1.000	2241248	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.395	15.401	1.000	1273302	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.925	18.925	1.000	1060044	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.613	1.000	2449606	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.790	11.790	1.000	2241248	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.395	15.401	1.000	1273302	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.613	7.613	1.000	2449606	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.918	9.918	1.000	1329435	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.790	11.790	1.000	2241248	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.395	15.401	1.000	1273302	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.613	7.613	1.000	2449606	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.925	18.925	1.000	1060044	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.131	4.131	0.705	1067001	40.44	ng/uL	0.00
8) Phenol-d5	99	5.302	5.302	0.905	1193622	37.11	ng/uL	0.00
23) Nitrobenzene-d5	82	6.623	6.624	0.870	860734	30.76	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	1641675	34.99	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.913	10.913	1.100	500153	85.06	ng/uL	0.00
80) p-Terphenyl-d14	244	13.764	13.764	0.894	1318818	30.72	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	40%
8) Phenol-d5	100.000	15 - 91	37%
23) Nitrobenzene-d5	50.000	35 - 113	62%
44) 2-Fluorobiphenyl	50.000	31 - 107	70%
63) 2,4,6-Tribromophenol	100.000	32 - 122	85%
80) p-Terphenyl-d14	50.000	35 - 134	61%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.740	2.740	0.468	511016	24.76	ng/uL	93
4) Pyridine	79	2.788	2.794	0.476	681763	21.24	ng/uL	94
7) Aniline	93	5.393	5.399	0.921	1322720	29.12	ng/uL	100
9) Phenol	94	5.318	5.324	0.908	647757	18.21	ng/uL	96
10) bis(2-Chloroethyl) ether	93	5.468	5.474	0.933	838432	26.05	ng/uL	99
11) 2-Chlorophenol	128	5.554	5.559	0.948	696879	28.20	ng/uL	100
12) n-Decane	43	5.612	5.613	0.958	503666	23.90	ng/uL	93
13) 1,3-Dichlorobenzene	146	5.778	5.778	0.986	736112	25.20	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.880	5.880	1.004	739662	25.04	ng/uL	100
15) 1,2-Dichlorobenzene	146	6.088	6.094	1.039	727816	26.22	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	6.222	6.228	1.062	784023	31.18	ng/uL	95
17) Benzyl alcohol	108	6.030	6.035	1.029	514342	29.67	ng/uL	98
18) o-Cresol	107	6.174	6.174	1.054	596800	27.41	ng/uL	98
19) m,p-Cresols	108	6.393	6.399	1.091	707189	28.15	ng/uL#	36
20) N-Nitrosodipropylamine	70	6.415	6.415	1.095	717592	30.17	ng/uL	92
21) Hexachloroethane	117	6.564	6.565	1.121	300764	23.51	ng/uL	87
24) Nitrobenzene	77	6.650	6.650	0.874	886378	30.48	ng/uL	98

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1913.D
Acq On : 19 Nov 2020 18:19
Operator : JMB3
Sample : |1204698149|2064469|1|SVM|1|MSD
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 20 00:07:19 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
25) Isophorone	82	6.982	6.982	0.917	1781132	31.82	ng/uL	98
26) 2-Nitrophenol	139	7.089	7.089	0.931	392133	34.40	ng/uL	95
27) 2,4-Dimethylphenol	122	7.131	7.137	0.937	610632	32.31	ng/uL	98
28) bis(2-Chloroethoxy)met...	93	7.276	7.276	0.956	1050544	32.04	ng/uL	99
29) 2,4-Dichlorophenol	162	7.410	7.410	0.973	665749	38.37	ng/uL	99
30) Benzoic acid	105	7.292	7.287	0.958	728157	60.73	ng/uL	89
31) 1,2,4-Trichlorobenzene	180	7.533	7.533	0.989	735474	31.23	ng/uL	99
32) alpha-Terpineol	59	7.650	7.650	1.005	431922	23.84	ng/uL	97
33) Naphthalene	128	7.640	7.645	1.004	1935403	29.17	ng/uL	99
34) 4-Chloroaniline	127	7.709	7.709	1.013	851450	34.24	ng/uL	100
35) Hexachlorobutadiene	225	7.805	7.806	1.025	478663	30.26	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.351	8.346	1.097	690520	37.92	ng/uL	97
37) 2-Methylnaphthalene	142	8.565	8.565	1.125	1352581	29.44	ng/uL	99
38) 1-Methylnaphthalene	142	8.693	8.693	1.142	1327744	31.74	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.768	8.768	0.884	444217	28.17	ng/uL	99
41) 2,3-Dichloroaniline	161	8.929	8.929	0.900	785320	36.04	ng/uL	98
42) 2,4,6-Trichlorophenol	196	8.929	8.929	0.900	598467	40.03	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.977	8.972	0.905	606321	46.01	ng/uL	99
45) 2-Chloronaphthalene	162	9.201	9.202	0.928	1313841	34.08	ng/uL	96
46) o-Nitroaniline	65	9.324	9.325	0.940	445949	41.83	ng/uL	97
48) m-Nitroaniline	138	9.854	9.854	0.994	334285	44.88	ng/uL	96
49) Dimethylphthalate	163	9.560	9.571	0.964	1679466	37.70	ng/uL	100
51) 2,6-Dinitrotoluene	165	9.640	9.646	0.972	386961	41.86	ng/uL	87
52) 2,4-Dinitrotoluene	165	10.148	10.154	1.023	483967	44.54	ng/uL	85
53) Acenaphthylene	152	9.736	9.736	0.982	2037631	33.46	ng/uL	99
54) Acenaphthene	154	9.955	9.961	1.004	1310328	33.18	ng/uL	98
55) 2,4-Dinitrophenol	184	9.982	9.988	1.006	186274	50.46	ng/uL#	65
56) Dibenzofuran	168	10.175	10.180	1.026	1858942	36.89	ng/uL	98
57) 2,3,4,6-Tetrachlorophenol	232	10.325	10.325	1.041	490379	45.05	ng/uL	96
58) Diethylphthalate	149	10.458	10.459	1.054	1446832	36.15	ng/uL	98
59) 4-Nitrophenol	139	10.057	10.052	1.014	112051	25.29	ng/uL	91
60) Fluorene	166	10.608	10.614	1.070	1538565	33.71	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.603	10.608	1.069	882182	35.39	ng/uL	98
62) p-Nitroaniline	138	10.629	10.630	1.072	284988	53.32	ng/uL	99
65) 2-Methyl-4,6-dinitroph...	198	10.667	10.667	0.905	297464	54.12	ng/uL	87
66) Diphenylamine	169	10.752	10.753	0.912	1361856	37.45	ng/uL	98
67) 1,2-Diphenylhydrazine	77	10.806	10.806	0.917	1875613	35.55	ng/uL	97
68) 4-Bromophenylphenylether	248	11.223	11.223	0.952	526440	37.68	ng/uL	96
69) Hexachlorobenzene	284	11.303	11.304	0.959	554555	36.09	ng/uL	99
70) Pentachlorophenol	266	11.544	11.544	0.979	285911	42.89	ng/uL	99
71) n-Octadecane	57	11.630	11.630	0.986	748331	29.14	ng/uL	91
73) Phenanthrene	178	11.822	11.822	1.003	2042565	35.06	ng/uL	99
74) Anthracene	178	11.886	11.887	1.008	1951868	33.38	ng/uL	99
75) Carbazole	167	12.074	12.079	1.024	1500059	36.54	ng/uL	99
76) Di-n-butylphthalate	149	12.496	12.496	1.060	1874245	29.76	ng/uL	99
77) Fluoranthene	202	13.298	13.304	1.128	2025312	35.33	ng/uL	98
79) Pyrene	202	13.587	13.587	0.883	2024118	36.55	ng/uL	97
81) Butylbenzylphthalate	149	14.427	14.427	0.937	632582	33.36	ng/uL	91
82) bis(2-Ethylhexyl)phtha...	149	15.406	15.406	1.001	850927	28.94	ng/uL	95
83) Benzo(a)anthracene	228	15.374	15.374	0.999	1589246	39.92	ng/uL	98
84) Chrysene	228	15.443	15.449	1.003	1523063	38.33	ng/uL	99
87) Di-n-octylphthalate	149	16.871	16.872	1.096	1236689	37.33	ng/uL	96
89) Benzo(b)fluoranthene	252	17.829	17.829	0.942	1253152	35.98	ng/uL	98
90) Benzo(k)fluoranthene	252	17.904	17.904	0.946	1273114	36.72	ng/uL	97
91) Benzo(a)pyrene	252	18.749	18.754	0.991	986259	36.37	ng/uL	98
92) Indeno(1,2,3-cd)pyrene	276	22.279	22.279	1.177	940101	50.22	ng/uL	96
93) Dibenzo(a,h)anthracene	278	22.354	22.359	1.181	910156	48.93	ng/uL	97

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1913.D
Acq On : 19 Nov 2020 18:19
Operator : JMB3
Sample : |1204698149|2064469|1|SVM|1|MSD
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 20 00:07:19 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

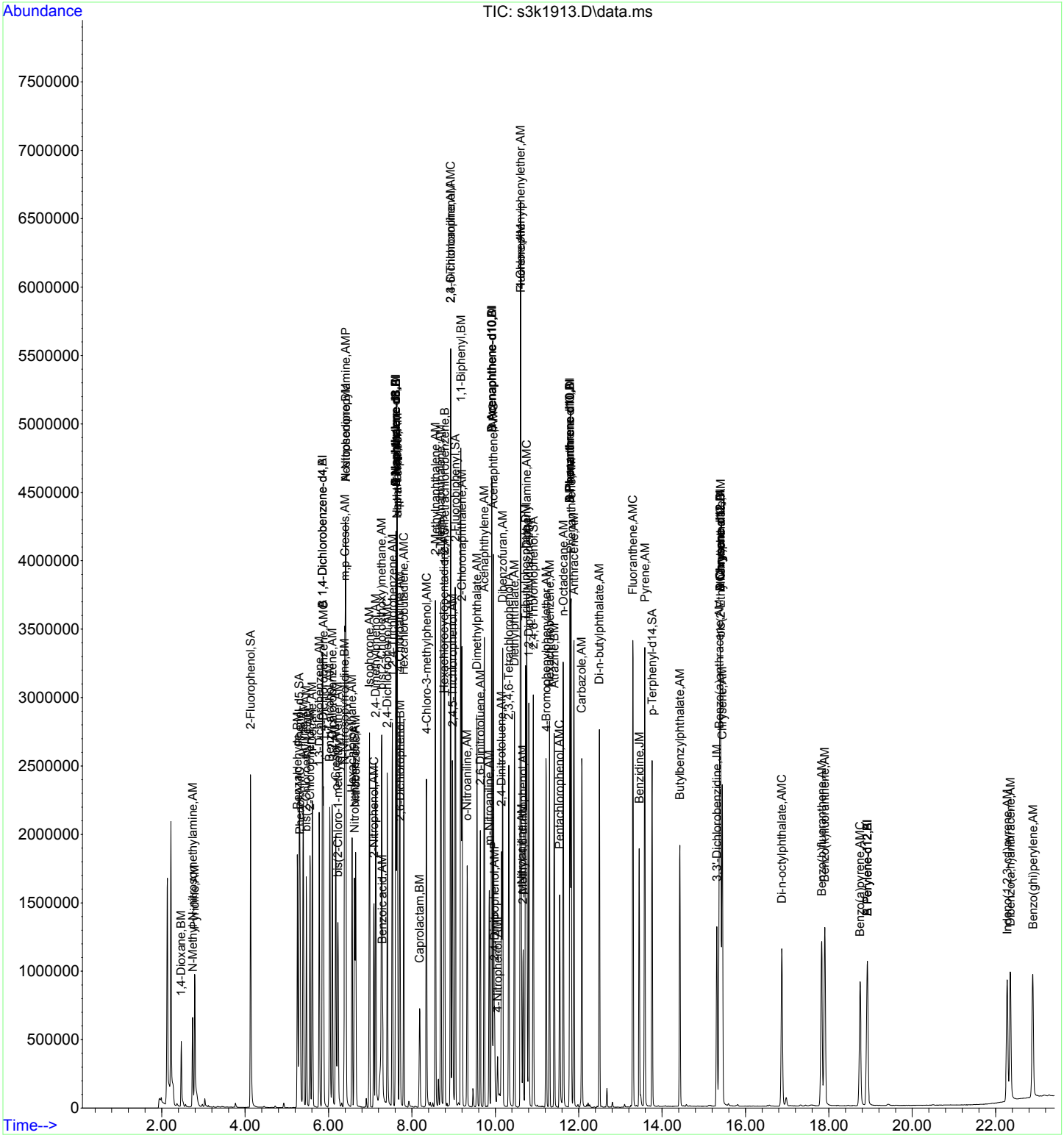
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94)	Benzo(ghi)perylene	276	22.894	22.894	1.210	974933	47.83	ng/uL	95
97)	1,4-Dioxane	88	2.467	2.468	0.421	283583	21.95	ng/uL	91
106)	Benzaldehyde	77	5.254	5.254	0.897	641845	30.36	ng/uL	97
108)	N-Nitrosopyrrolidine	100	6.383	6.383	1.089	523779	37.92	ng/uL	99
109)	Acetophenone	105	6.415	6.409	1.095	1076979	28.32	ng/uL	77
115)	2,6-Dichlorophenol	162	7.720	7.720	1.014	270705	15.93	ng/uL	99
117)	Caprolactam	113	8.185	8.164	1.075	156019	22.97	ng/uL	75
121)	1,2,4,5-Tetrachloroben...	216	8.784	8.784	0.886	895145	38.17	ng/uL	99
122)	1,1-Biphenyl	154	9.175	9.175	0.925	2041681	41.36	ng/uL	100
135)	Atrazine	200	11.416	11.416	0.968	507565	42.23	ng/uL	98
155)	Benzidine	184	13.454	13.453	1.141	1067100	49.06	ng/uL	98
158)	3,3'-Dichlorobenzidine	252	15.315	15.315	0.995	532903	42.18	ng/uL	99
163)	Tributylphosphate	99	10.726	10.715	1.081	1987504	36.36	ng/uL	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1913.D
Acq On : 19 Nov 2020 18:19
Operator : JMB3
Sample : |1204698149|2064469|1|SVM|1|MSD
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 20 00:07:19 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration



Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**1204695854**	**Date Received:**	**11/14/2020 09:00**		
Client Sample:	**QC for batch 2063408**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209972MSD**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 12:03**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**430 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1808.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)		711	ug/L		
108-95-2	Phenol		53.2	ug/L	6.98	23.3
91-57-6	2-Methylnaphthalene		63.5	ug/L	0.698	2.33
91-20-3	Naphthalene		67.7	ug/L	0.698	2.33
90-12-0	1-Methylnaphthalene		69.6	ug/L	0.698	2.33
86-73-7	Fluorene		78.8	ug/L	0.698	2.33
85-01-8	Phenanthrene		78.1	ug/L	0.698	2.33
120-12-7	Anthracene		72.4	ug/L	0.698	2.33
206-44-0	Fluoranthene		79.8	ug/L	0.698	2.33
129-00-0	Pyrene		64.0	ug/L	0.698	2.33
205-99-2	Benzo(b)fluoranthene		67.2	ug/L	0.698	2.33
207-08-9	Benzo(k)fluoranthene		70.0	ug/L	0.698	2.33
50-32-8	Benzo(a)pyrene		64.1	ug/L	0.698	2.33

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	211	233	ug/L	91		(32%-122%)
2-Fluorobiphenyl	71.2	116	ug/L	61		(31%-107%)
2-Fluorophenol	101	233	ug/L	43		(15%-88%)
Nitrobenzene-d5	69.4	116	ug/L	60		(35%-113%)
Phenol-d5	107	233	ug/L	46		(15%-91%)
p-Terphenyl-d14	40.1	116	ug/L	34	*	(35%-134%)

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1808.D
Acq On : 18 Nov 2020 12:03
Operator : JMB3
Sample : |1204695854|2063409|1|SVM|1|MSD|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

JMB 11/19/2020

Quant Time: Nov 18 13:15:58 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	837228	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.201	7.206	1.000	3270074	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.533	9.538	1.000	1679345	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.416	11.416	1.000	2816536	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.887	14.898	1.000	1634723	40.00	ng/uL	-0.01
88) A Perylene-d12	264	18.086	18.096	1.000	1018834	40.00	ng/uL	-0.01
96) B 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	837228	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.201	7.206	1.000	3270074	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.533	9.538	1.000	1679345	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.416	11.416	1.000	2816282	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.887	14.898	1.000	1634723	40.00	ng/uL	-0.01
148) B Perylene-d12	264	18.086	18.096	1.000	1018834	40.00	ng/uL	-0.01
151) J Naphthalene-d8	136	7.201	7.206	1.000	3270074	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.416	11.416	1.000	2816282	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.887	14.898	1.000	1634723	40.00	ng/uL	-0.01
159) D Naphthalene-d8	136	7.201	7.206	1.000	3270074	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.533	9.538	1.000	1679345	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.416	11.416	1.000	2816282	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.887	14.898	1.000	1634723	40.00	ng/uL	-0.01
173) E Naphthalene-d8	136	7.201	7.206	1.000	3270074	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.086	18.096	1.000	1018834	40.00	ng/uL	-0.01
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.719	3.714	0.688	1095557	43.49	ng/uL	0.00
8) Phenol-d5	99	4.885	4.885	0.904	1413940	46.17	ng/uL	0.00
23) Nitrobenzene-d5	82	6.196	6.195	0.860	827767	29.83	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.661	8.666	0.909	1599561	30.63	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.539	10.539	1.105	538634	90.70	ng/uL	0.00
80) p-Terphenyl-d14	244	13.400	13.405	0.900	935803	17.23	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	43%
8) Phenol-d5	100.000	15 - 91	46%
23) Nitrobenzene-d5	50.000	35 - 113	60%
44) 2-Fluorobiphenyl	50.000	31 - 107	61%
63) 2,4,6-Tribromophenol	100.000	32 - 122	91%
80) p-Terphenyl-d14	50.000	35 - 134	34%#

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.366	2.366	0.438	404234	24.59	ng/uL	91
4) Pyridine	79	2.414	2.409	0.447	383072	14.63	ng/uL	98
7) Aniline	93	4.949	4.949	0.916	804452	18.50	ng/uL	98
9) Phenol	94	4.901	4.901	0.907	766178	22.87	ng/uL	89
10) bis(2-Chloroethyl) ether	93	5.035	5.040	0.932	712458	24.44	ng/uL	99
11) 2-Chlorophenol	128	5.110	5.110	0.946	757007	27.72	ng/uL	98
12) n-Decane	43	5.185	5.185	0.959	439735	10.32	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.324	5.329	0.985	652417	20.32	ng/uL	98
14) 1,4-Dichlorobenzene	146	5.431	5.431	1.005	695079	21.22	ng/uL	98
15) 1,2-Dichlorobenzene	146	5.645	5.644	1.045	768286	24.65	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.800	5.805	1.073	1369176	23.69	ng/uL	97
17) Benzyl alcohol	108	5.602	5.602	1.037	507922	27.41	ng/uL	94
18) o-Cresol	107	5.762	5.757	1.066	620687	28.54	ng/uL	96
19) m,p-Cresols	108	5.987	5.992	1.108	757497	29.30	ng/uL#	40
20) N-Nitrosodipropylamine	70	5.998	5.997	1.110	669343	28.97	ng/uL	100
21) Hexachloroethane	117	6.126	6.131	1.134	233742	18.81	ng/uL	96
24) Nitrobenzene	77	6.228	6.228	0.865	1062756	37.84	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1808.D
Acq On : 18 Nov 2020 12:03
Operator : JMB3
Sample : |1204695854|2063409|1|SVM|1|MSD|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 18 13:15:58 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
25)	Isophorone	82	6.570	6.575	0.912	1745870	31.10	ng/uL	99
26)	2-Nitrophenol	139	6.672	6.671	0.926	456771	37.55	ng/uL	97
27)	2,4-Dimethylphenol	122	6.747	6.746	0.937	722096	30.20	ng/uL	96
28)	bis(2-Chloroethoxy)met...	93	6.880	6.885	0.955	1013308	31.31	ng/uL	99
29)	2,4-Dichlorophenol	162	7.009	7.014	0.973	772015	36.49	ng/uL	98
30)	Benzoic acid	105	6.955	6.917	0.966	1180762	90.33	ng/uL	98
31)	1,2,4-Trichlorobenzene	180	7.126	7.126	0.990	612149	26.04	ng/uL	99
32)	alpha-Terpineol	59	7.260	7.265	1.008	558990	20.09	ng/uL	97
33)	Naphthalene	128	7.233	7.233	1.004	2235801	29.11	ng/uL	99
34)	4-Chloroaniline	127	7.313	7.313	1.016	618964	20.46	ng/uL	99
35)	Hexachlorobutadiene	225	7.410	7.410	1.029	286019	21.12	ng/uL	99
36)	4-Chloro-3-methylphenol	107	7.987	7.976	1.109	848453	38.70	ng/uL	99
37)	2-Methylnaphthalene	142	8.169	8.174	1.134	1477732	27.30	ng/uL	98
38)	1-Methylnaphthalene	142	8.303	8.303	1.153	1493168	29.91	ng/uL	98
40)	Hexachlorocyclopentadiene	237	8.383	8.383	0.879	194327	14.28	ng/uL	99
42)	2,4,6-Trichlorophenol	196	8.549	8.549	0.897	619100	46.92	ng/uL	100
43)	2,4,5-Trichlorophenol	196	8.603	8.592	0.902	638691	45.04	ng/uL	99
45)	2-Chloronaphthalene	162	8.811	8.816	0.924	1473789	32.31	ng/uL	93
46)	o-Nitroaniline	65	8.945	8.950	0.938	238574	17.64	ng/uL	99
49)	Dimethylphthalate	163	9.202	9.212	0.965	2233146	41.66	ng/uL	100
51)	2,6-Dinitrotoluene	165	9.271	9.276	0.973	479997	39.76	ng/uL	98
52)	2,4-Dinitrotoluene	165	9.785	9.784	1.026	645072	43.08	ng/uL	98
53)	Acenaphthylene	152	9.346	9.351	0.980	2499538	32.58	ng/uL	99
54)	Acenaphthene	154	9.576	9.581	1.004	1467945	31.42	ng/uL	99
55)	2,4-Dinitrophenol	184	9.613	9.613	1.008	266170	65.97	ng/uL#	28
56)	Dibenzofuran	168	9.795	9.800	1.027	2152927	33.50	ng/uL	94
57)	2,3,4,6-Tetrachlorophenol	232	9.956	9.950	1.044	530688	49.20	ng/uL	98
58)	Diethylphthalate	149	10.105	10.111	1.060	2335328	43.31	ng/uL	99
59)	4-Nitrophenol	139	9.726	9.704	1.020	278390	34.96	ng/uL	93
60)	Fluorene	166	10.234	10.234	1.073	1758435	33.88	ng/uL	99
61)	4-Chlorophenylphenylether	204	10.239	10.239	1.074	774463	32.85	ng/uL	100
65)	2-Methyl-4,6-dinitroph...	198	10.298	10.303	0.902	384013	62.37	ng/uL	97
66)	Diphenylamine	169	10.389	10.394	0.910	1661436	36.27	ng/uL	97
67)	1,2-Diphenylhydrazine	77	10.437	10.442	0.914	1921513	32.85	ng/uL	98
68)	4-Bromophenylphenylether	248	10.854	10.854	0.951	425254	29.51	ng/uL	96
69)	Hexachlorobenzene	284	10.924	10.924	0.957	470416	30.46	ng/uL	98
70)	Pentachlorophenol	266	11.181	11.175	0.979	358131	47.21	ng/uL	99
71)	n-Octadecane	57	11.293	11.298	0.989	1133683	23.86	ng/uL	96
73)	Phenanthrene	178	11.443	11.448	1.002	2510496	33.60	ng/uL	99
74)	Anthracene	178	11.507	11.512	1.008	2345950	31.13	ng/uL	100
75)	Carbazole	167	11.710	11.710	1.026	2347460	38.60	ng/uL	99
76)	Di-n-butylphthalate	149	12.154	12.154	1.065	2845525	34.04	ng/uL	100
77)	Fluoranthene	202	12.930	12.929	1.133	2270475	34.31	ng/uL	98
79)	Pyrene	202	13.208	13.213	0.887	2296508	27.53	ng/uL	98
81)	Butylbenzylphthalate	149	14.037	14.037	0.943	1016553	30.24	ng/uL	98
82)	bis(2-Ethylhexyl)phtha...	149	14.941	14.946	1.004	1267093	25.33	ng/uL	99
83)	Benzo(a)anthracene	228	14.871	14.876	0.999	1579400	29.73	ng/uL	96
84)	Chrysene	228	14.930	14.940	1.003	1461013	29.27	ng/uL	98
87)	Di-n-octylphthalate	149	16.272	16.283	1.093	1812003	30.06	ng/uL	100
89)	Benzo(b)fluoranthene	252	17.085	17.096	0.945	968577	28.90	ng/uL	99
90)	Benzo(k)fluoranthene	252	17.155	17.171	0.949	934499	30.09	ng/uL	99
91)	Benzo(a)pyrene	252	17.920	17.936	0.991	705385	27.58	ng/uL	99
92)	Indeno(1,2,3-cd)pyrene	276	21.413	21.428	1.184	434104	25.97	ng/uL	99
93)	Dibenzo(a,h)anthracene	278	21.525	21.541	1.190	412208	27.80	ng/uL	99
94)	Benzo(ghi)perylene	276	22.119	22.134	1.223	403352	20.38	ng/uL	99
97)	1,4-Dioxane	88	2.115	2.115	0.391	200078	18.81	ng/uL	96
106)	Benzaldehyde	77	4.805	4.805	0.889	452657	19.09	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1808.D
Acq On : 18 Nov 2020 12:03
Operator : JMB3
Sample : |1204695854|2063409|1|SVM|1|MSD|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 18 13:15:58 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

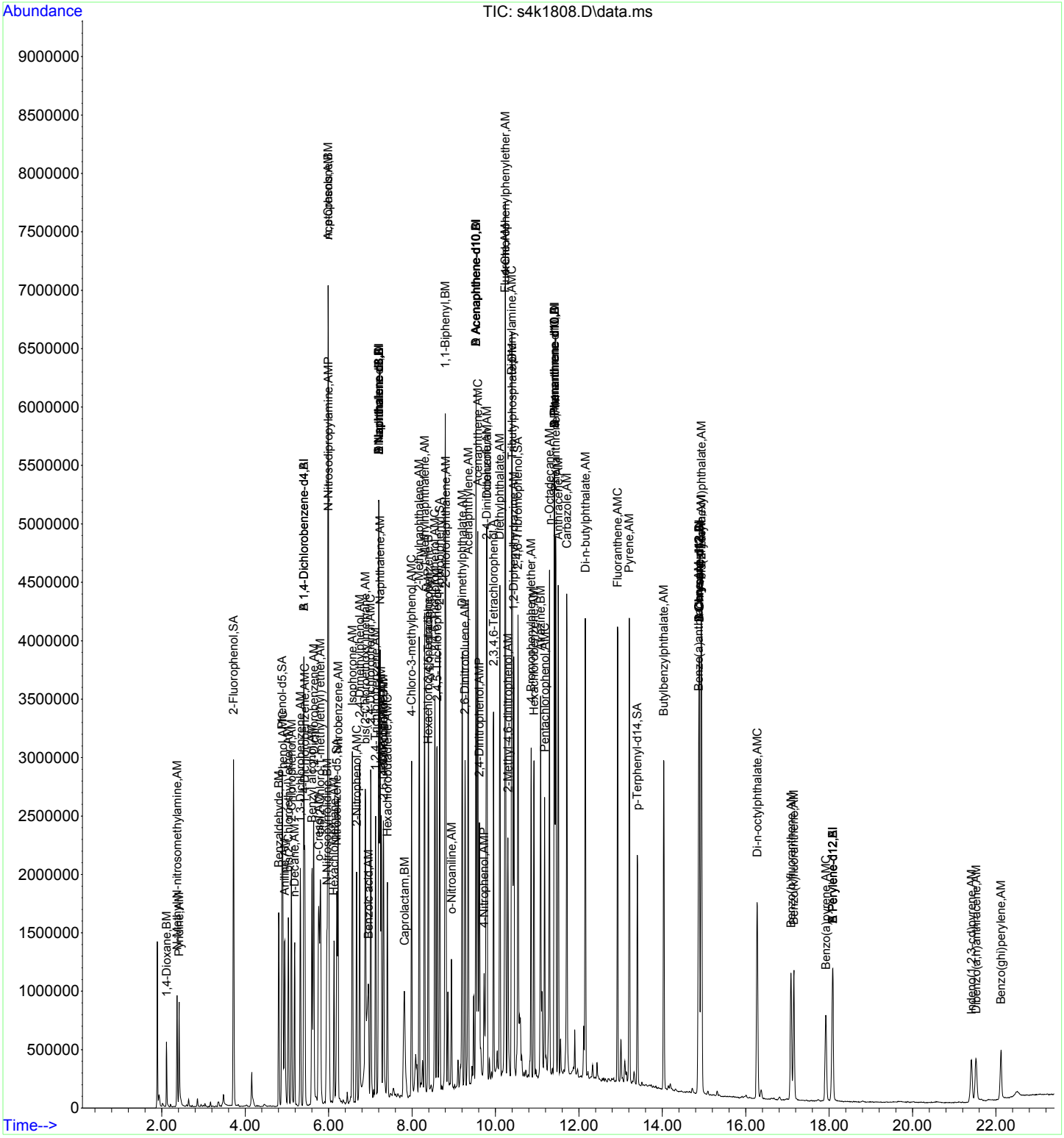
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
108) N-Nitrosopyrrolidine	100	5.960	5.960	1.103	526426	34.02	ng/uL	94
109) Acetophenone	105	5.987	5.987	1.108	1078285	27.21	ng/uL	68
115) 2,6-Dichlorophenol	162	7.319	7.324	1.016	307910	14.51	ng/uL	99
117) Caprolactam	113	7.816	7.790	1.085	226103	26.14	ng/uL#	73
121) 1,2,4,5-Tetrachloroben...	216	8.394	8.394	0.880	635132	29.09	ng/uL	99
122) 1,1-Biphenyl	154	8.795	8.795	0.923	2293078	37.33	ng/uL	98
135) Atrazine	200	11.084	11.074	0.971	557649	40.83	ng/uL	98
163) Tributylphosphate	99	10.405	10.400	1.091	2686424	40.38	ng/uL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1808.D
Acq On : 18 Nov 2020 12:03
Operator : JMB3
Sample : |1204695854|2063409|1|SVM|1|MSD|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 18 13:15:58 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Miscellaneous

Prep Logbook

Extraction of Semivolatile and Nonvolatile Organic Compounds from Groundwater, Wastewater, and Other Aqueous Samples

Batch ID: 2063408 **Verified by:** _____
Analyst: Alexsys Hamilton
Method: SW846 3510C

Lab SOP: GL-OA-E-013 REV# 34
Instrument: Semi-Volatiles Manual

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Initial pH	Int Ext pH	Sec Ext pH	Final Volume (mL)	Prepped Factor (mL/mL)
1204695847 MB	17-NOV-2020 08:34:00			1000	7	1	13	1	0.001
1204695848 LCS	17-NOV-2020 08:34:00			1000	7	1	13	1	0.001
527235002	17-NOV-2020 08:34:00	1543.58	506.58	1037	7	1	12	1	0.00096
527235003	17-NOV-2020 08:34:00	1563.05	506.77	1056.28	7	1	13	1	0.00095
527509003	17-NOV-2020 08:34:00			1000	10	1	13	1	0.001
1204695853 MS (527509003)	17-NOV-2020 08:34:00			430	10	1	13	1	0.00233
1204695854 MSD (527509003)	17-NOV-2020 08:34:00			430	10	1	13	1	0.00233
527509005	17-NOV-2020 08:34:00	1294.67	411.8	882.87	7	1	13	1	0.00113
527509009	17-NOV-2020 08:34:00	1391.27	439.71	951.56	7	1	13	1	0.00105
527509012	17-NOV-2020 08:34:00	1358.68	411.95	946.73	10	1	13	1	0.00106
527510003	17-NOV-2020 08:34:00	1391.07	412.1	978.97	7	1	13	1	0.00102
527510006	17-NOV-2020 08:34:00	1261.16	408.34	852.82	7	1	13	1	0.00117
527510009	17-NOV-2020 08:34:00	1445.74	410.36	1035.38	9	1	13	1	0.00097
527510015	17-NOV-2020 08:34:00	1441.01	441.03	999.98	10	1	13	1	0.001
527510018	17-NOV-2020 08:34:00	1394.3	439.68	954.62	7	1	13	1	0.00105
527235001	17-NOV-2020 09:45:00			1000	7	1	13	1	0.001
1204695849 MS (527235001)	17-NOV-2020 09:45:00			500	7	1	13	1	0.002
1204695850 MSD (527235001)	17-NOV-2020 09:45:00			500	7	1	13	1	0.002

Type	Sample Id	Description	Serial Number	Spike Amt	Units
LCS	1204695848	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
LCS	1204695848	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
MS	1204695849	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
MS	1204695849	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
MS	1204695853	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
MS	1204695853	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
MSD	1204695850	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
MSD	1204695850	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
MSD	1204695854	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
MSD	1204695854	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
SURR	All	BNA for all Surrogate	UE201116-13	1	mL

Comments:

Final Solvent:Ch2Cl2
Verified By:DPF
Turbo Vap#:3,4,5,6
Samples 527510003 and 527510005 needed 4mL of 1:1 sulfuric acid to adjust the pH less than 2.
Samples 527235003, 527509003,(MS/MSD),527510003, 527510009 and 5275100015 were emulsive in base extraction.

Prep Logbook

Batch ID: **2063408** **Verified by:** _____

Analyst: **Alexsys Hamilton**

Method: **SW846 3510C**

Lab SOP: **GL-OA-E-013 REV# 34**

Instrument: **Semi-Volatiles Manual**

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Initial pH	Int Ext pH	Sec Ext pH	Final Volume (mL)	Prepped Factor (mL/mL)
REGNT All	Methylene Chloride			3138096		360 mL			
REGNT All	1:1 sulfuric acid			3145030		2 mL			
REGNT All	10 N Sodium Hydroxide			3145050		10 mL			
SOURC All	SODIUM SULFATE			3129846		30 g			

Prep Logbook

Extraction of Semivolatile and Nonvolatile Organic Compounds from Groundwater, Wastewater, and Other Aqueous Samples

Batch ID: 2064468 **Verified by:** _____
Analyst: Donna Frazier
Method: SW846 3510C

Lab SOP: GL-OA-E-013 REV# 34
Instrument: Semi-Volatiles Manual

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Initial pH	Int Ext pH	Sec Ext pH	Final Volume (mL)	Prepped Factor (mL/mL)
1204698146 MB	19-NOV-2020 05:12:00			1000	7	1	13	1	0.001
1204698147 LCS	19-NOV-2020 05:12:00			1000	7	1	13	1	0.001
526422007 - 2	19-NOV-2020 05:12:00	1554.42	498.91	1055.51	7	1	13	1	0.00095
526422010 - 2	19-NOV-2020 05:12:00	1547.21	505.15	1042.06	7	1	13	1	0.00096
526857002 - 2	19-NOV-2020 05:12:00	1562.84	503.93	1058.91	7	1	13	1	0.00094
527099001 - 2	19-NOV-2020 05:12:00	1561.04	504.05	1056.99	7	1	13	1	0.00095
527161001 - 2	19-NOV-2020 05:12:00	1487.91	505.71	982.2	7	1	13	1	0.00102
527161004 - 2	19-NOV-2020 05:12:00	1524.85	505.52	1019.33	7	1	13	1	0.00098
527471002	19-NOV-2020 05:12:00	1531.31	514.66	1016.65	7	1	13	1	0.00098
527471003	19-NOV-2020 05:12:00	1525.15	508.71	1016.44	7	1	13	1	0.00098
527499005 - 2	19-NOV-2020 05:12:00	1363.69	408.39	955.3	7	1	13	1	0.00105
527509012 - 2	19-NOV-2020 05:12:00	1357.39	411.52	945.87	10	1	13	1	0.00106
527510003 - 2	19-NOV-2020 05:12:00	1496.46	441.24	1055.22	7	1	13	1	0.00095
527510009 - 2	19-NOV-2020 05:12:00	1472.21	437.64	1034.57	7	1	13	1	0.00097
527510015 - 2	19-NOV-2020 05:12:00	1413.44	440.6	972.84	10	1	13	1	0.00103
527531002	19-NOV-2020 05:12:00	1542.67	507.95	1034.72	7	1	13	1	0.00097
527533001	19-NOV-2020 05:12:00	1536	508.74	1027.26	7	1	13	1	0.00097
527734001	19-NOV-2020 05:12:00		1000	1000	7	1	13	1	0.001
1204698148 MS (527734001)	19-NOV-2020 05:12:00		500	500	7	1	13	1	0.002
1204698149 MSD (527734001)	19-NOV-2020 05:12:00		500	500	7	1	13	1	0.002
527734006	19-NOV-2020 05:12:00	1417.64	508.67	908.97	7	1	13	1	0.0011
527767012	19-NOV-2020 05:12:00	1566.77	502.77	1064	7	1	13	1	0.00094

Type	Sample Id	Description	Serial Number	Spike Amt	Units
LCS	1204698147	PrometonSulfolane 50 ppm	WBN201009-11	1	mL
LCS	1204698147	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
LCS	1204698147	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
MS	1204698148	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
MS	1204698148	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
MSD	1204698149	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
MSD	1204698149	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
SURR	All	BNA for all Surrogate	UE201030-13	1	mL

Comments:

Final Solvent:CH2CL2
Verified By:SC

Sample#527510003 and 527510009 were both emulsive during the acid extraction.

Sample #527509012 was emulsive during the base extraction.

Sample #527510015 was emulsive during the acid and base extraction.

Prep Logbook

Batch ID: **2064468** **Verified by:** _____

Analyst: **Donna Frazier**

Method: **SW846 3510C**

Lab SOP: **GL-OA-E-013 REV# 34**

Instrument: **Semi-Volatiles Manual**

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Initial pH	Int Ext pH	Sec Ext pH	Final Volume (mL)	Prepped Factor (mL/mL)
REGNT All	Methylene Chloride			3138096		360 mL			
REGNT All	1:1 sulfuric acid			3145032		2 mL			
REGNT All	10 N Sodium Hydroxide			3145050		10 mL			
SOURC All	SODIUM SULFATE			3129846		30 g			

ORGANIC RUN LOG - INSTRUMENT ID#MSD3

10/15/2020

GEL ORGANIC RUN LOG

DATE: 13-Oct-20 METHOD: See Data OPERATOR: AGS1 Sequence Numbe 20.S

10/19/2020

Multiplier Voltage: 1635
Internal Std ID: UBN200122-02.4
Internal Std ID: WBN200812-99 (SIM)
Solvent Lot: 2896506

Calibration & QC Information:
Initial Calibration Dates: See Calibration History and Standards Log
Initial Calibration Std ID's: See Calibration History and Standards Log
GEL SOP: GL-OA-E-009

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
10/13/2020	15:42	s3j1301.D	WBN200505-99	DFTPP	DFTPP	1	1	AGS1	√ pass C/D/E
10/13/2020	16:14	s3j1302.D	WBN201013-04	M4	ICAL	1	5	AGS1	√
10/13/2020	16:47	s3j1303.D	WBN201013-03	M3	ICAL	1	4	AGS1	√
10/13/2020	17:53	s3j1304.D	WBN201013-01	M1	ICAL	1	2	AGS1	√
10/13/2020	18:22	s3j1305.D	WBN201013-02	M2	duse	1	3	AGS1	duse
10/13/2020	18:55	s3j1306.D	WBN201013-05	M5	ICAL	1	6	AGS1	√
10/13/2020	19:29	s3j1307.D	WBN201013-06	M6	ICAL	1	7	AGS1	√
10/13/2020	20:02	s3j1308.D	WBN201013-02	M2	ICAL	1	3	AGS1	√
10/13/2020	20:35	s3j1309.D	WBN201013-07	M7	ICAL	1	8	AGS1	√
10/13/2020	21:08	s3j1310.D	WBN201013-08	M8	ICAL	1	9	AGS1	√
10/13/2020	21:41	s3j1311.D	WBN201012-09	MICV	ICV	1	10	AGS1	√
10/13/2020	22:15	s3j1312.D	WBN200505-99	DFTPP	DFTPP	1	1	AGS1	√ pass C/D/E
10/13/2020	22:30	s3j1313.D	WBN200618-15.1	A4	ICAL	1	11	AGS1	√
10/13/2020	22:59	s3j1314.D	WBN200618-17	A2	ICAL	1	12	AGS1	√
10/13/2020	23:27	s3j1315.D	WBN200618-16	A3	ICAL	1	13	AGS1	√
10/13/2020	23:56	s3j1316.D	WBN200618-18	A9	ICAL	1	14	AGS1	√
10/14/2020	00:24	s3j1317.D	WBN200618-14	A5	ICAL	1	15	AGS1	√
10/14/2020	00:52	s3j1318.D	WBN200618-19	A10	ICAL	1	16	AGS1	√
10/14/2020	01:21	s3j1319.D	WBN200618-13	A6	ICAL	1	17	AGS1	√
10/14/2020	01:49	s3j1320.D	WBN200618-12	A7	ICAL	1	18	AGS1	√
10/14/2020	02:18	s3j1321.D	WBN200618-11.1	A8	ICAL	1	19	AGS1	√
10/14/2020	02:46	s3j1322.D	WBN201013-20	AICV	ICV	1	20	AGS1	√
10/14/2020	03:14	s3j1323.D	WBN201013-42.1	B2	ICAL	1	21	AGS1	√
10/14/2020	03:43	s3j1324.D	WBN201013-43	B3	ICAL	1	22	AGS1	√
10/14/2020	04:11	s3j1325.D	WBN201013-44.1	B4	ICAL	1	23	AGS1	√
10/14/2020	04:40	s3j1326.D	WBN201013-45	B5	ICAL	1	24	AGS1	√
10/14/2020	05:08	s3j1327.D	WBN201013-46	B6	ICAL	1	25	AGS1	√
10/14/2020	05:36	s3j1328.D	WBN201013-47	B7	ICAL	1	26	AGS1	√
10/14/2020	06:05	s3j1329.D	WBN201013-48	B8	ICAL	1	27	AGS1	√
10/14/2020	06:33	s3j1330.D	WBN200905-50	BICV	ICV	1	28	AGS1	√
10/14/2020	07:01	s3j1331.D	WBN200505-99	DFTPP	DFTPP	1	1	AGS1	√ pass C/D/E
10/14/2020	07:17	s3j1332.D	WBN201013-27	P2	ICAL	1	29	AGS1	√

ORGANIC RUN LOG - INSTRUMENT ID#MSD3

GEL ORGANIC RUN LOG

10/14/2020 07:45	s3j1333.D	WBN201013-26	P3	ICAL	1	30	AGS1	√
10/14/2020 08:14	s3j1334.D	WBN201013-25	P4	ICAL	1	31	AGS1	√
10/14/2020 08:42	s3j1335.D	WBN201013-24	P5	ICAL	1	32	AGS1	√
10/14/2020 09:10	s3j1336.D	WBN201013-23	P6	ICAL	1	33	AGS1	√
10/14/2020 09:39	s3j1337.D	WBN201013-22	P7	ICAL	1	34	AGS1	√
10/14/2020 10:07	s3j1338.D	WBN201013-21	P8	ICAL	1	35	AGS1	√
10/14/2020 10:35	s3j1339.D	WBN200730-26.2	PICV	ICV	1	36	AGS1	√
10/14/2020 11:04	s3j1340.D	WBN200804-32	H2	ICAL	1	37	AGS1	√
10/14/2020 11:32	s3j1341.D	WBN200804-33	H3	ICAL	1	38	AGS1	√
10/14/2020 12:01	s3j1342.D	WBN200804-34	H4	ICAL	1	39	AGS1	√
10/14/2020 12:29	s3j1343.D	WBN200804-35	H5	ICAL	1	40	AGS1	√
10/14/2020 12:58	s3j1344.D	WBN200804-36	H6	ICAL	1	41	AGS1	√
10/14/2020 13:26	s3j1345.D	WBN200804-37	H7	ICAL	1	42	AGS1	√
10/14/2020 13:55	s3j1346.D	WBN200902-38	HICV	ICV	1	43	AGS1	√
10/14/2020 14:23	s3j1347.D	WBN200505-99	DFTPP	DFTPP	1	1	AGS1	√

ORGANIC RUN LOG - INSTRUMENT ID#MSD3

GEL ORGANIC RUN LOG

DATE: 19-Nov-20 METHOD: See Data OPERATOR: JMB3 Sequence Number: S111920.S

Multiplier Voltage: 1635
Internal Std ID: UBN200716-01.1
Internal Std ID: WBN200812-99 (SIM)
Solvent Lot: 2896506

Calibration & QC Information:
Initial Calibration Dates: See Calibration History and Standards Log
Initial Calibration Std ID's: See Calibration History and Standards Log
GEL SOP: GL-OA-E-009

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
11/19/2020	13:04	s3k1901.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	√
11/19/2020	13:20	s3k1902.D	WBN201013-04.2	M-CCV	CCV	1	2	JMB3	√
11/19/2020	13:53	s3k1903.D	WBN201113-44.4	B-CCV	CCV	1	3	JMB3	√ sulfolane high
11/19/2020	14:17	s3k1904.D	WBN200929-15.4	A-CCV	CCV	1	4	JMB3	√
11/19/2020	14:43	s3k1905.D	WBN201008-33.6	H-CCV	CCV	1	5	JMB3	√ hex low
11/19/2020	15:07	s3k1906.D	WBN200909-24.2	P-CCV	CCV	1	6	JMB3	√
11/19/2020	15:31	s3k1907.D	1204698146	MB	2064469	1	7	JMB3	Report: see rerun on MSD1 111920 to confirm absence of hex
11/19/2020	16:00	s3k1908.D	1204698147	LCS	2064469	1	8	JMB3	Report
11/19/2020	16:28	s3k1909.D	527099001	NORW(rx)	2064469	1	9	JMB3	duse confirms surr failure
11/19/2020	16:52	s3k1910.D	WBN201013-04.2	M-CCV	CCV	1	10	JMB3	√
11/19/2020	17:21	s3k1911.D	527734001	ARSL	2064469	1	11	JMB3	Report
11/19/2020	17:50	s3k1912.D	1204698148	MS	2064469	1	12	JMB3	Report
11/19/2020	18:19	s3k1913.D	1204698149	MSD	2064469	1	13	JMB3	Report
11/19/2020	18:47	s3k1914.D	527734006	ARSL	2064469	1	14	JMB3	Report
11/19/2020	19:16	s3k1915.D	526857002	CPRC(rx)	2064469	1	15	JMB3	duse confirms surr failure - see rerun on MSD1 111920 to confirm absence of hex
11/19/2020	19:45	s3k1916.D	527471002	CPRC	2064469	1	16	JMB3	Report: see rerun on MSD1 111920 to confirm absence of hex
11/19/2020	20:13	s3k1917.D	527471003	CPRC	2064469	1	17	JMB3	Report: see rerun on MSD1 111920 to confirm absence of hex
11/19/2020	20:42	s3k1918.D	527531002	CPRC	2064469	1	18	JMB3	Report: see rerun on MSD1 111920 to confirm absence of hex
11/19/2020	21:11	s3k1919.D	527533001	CPRC	2064469	1	19	JMB3	Report: see rerun on MSD1 111920 to confirm absence of hex
11/19/2020	21:40	s3k1920.D	526422007	CPRC(rx)	2064469	1	20	JMB3	Report
11/19/2020	22:04	s3k1921.D	526422010	CPRC(rx)	2064469	1	21	JMB3	Report
11/19/2020	22:28	s3k1922.D	527499005	N3BL(rx)	2064469	1	22	JMB3	Report
11/19/2020	22:57	s3k1923.D	527509012	ARSL(rx)	2064469	20	23	JMB3	duse run neat see s3k1927
11/19/2020	23:26	s3k1924.D	527510003	ARSL(rx)	2064469	1	24	JMB3	duse confirms surr failure
11/19/2020	23:55	s3k1925.D	527510009	ARSL(rx)	2064469	1	25	JMB3	duse confirms surr failure
11/20/2020	00:23	s3k1926.D	527510015	ARSL(rx)	2064469	1	26	JMB3	duse confirms surr failure
11/20/2020	00:52	s3k1927.D	527509012	ARSL(rx)	2064469	1	27	JMB3	Report

ORGANIC RUN LOG - INSTRUMENT ID#MSD4

JMB 10/21/2020

GEL ORGANIC RUN LOG

DATE: 19-Oct-20 METHOD: See Data OPERATOR: JMB3 Sequence Number: S101920.E JMB 10/21/2020

Multiplier Voltage: 1847
Internal Std ID: UBN200122-02.4
Internal Std ID: WBN200812-99 (SIM)
Solvent Reference ID: 2910641

Calibration Information:
Initial Calibration Dates: See Calibration History
Initial Calibration Std ID's: See Associated Data and Run Log
GEL SOP: GL-OA-E-009

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
10/19/2020	08:40	s4j1901.D	WBN200903-04.1	M-CCV	SCREEN	1	100	JMB3	DUSE
10/19/2020	09:11	s4j1902.D	WBN200903-04.1	M-CCV	SCREEN	1	100	JMB3	DUSE
10/19/2020	09:42	s4j1903.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	DUSE
10/19/2020	12:17	s4j1904.D	WBN200903-04.1	M-CCV	SCREEN	1	100	JMB3	DUSE
10/19/2020	12:48	s4j1905.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	DUSE
10/19/2020	13:03	s4j1906.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	√
10/19/2020	13:22	s4j1907.D	WBN201013-01	M-1	ICAL	1	2	JMB3	√
10/19/2020	13:54	s4j1908.D	WBN201013-02	M-2	ICAL	1	3	JMB3	√
10/19/2020	14:26	s4j1909.D	WBN201013-03	M-3	ICAL	1	4	JMB3	√
10/19/2020	14:57	s4j1910.D	WBN201013-04	M-4	ICAL	1	5	JMB3	√
10/19/2020	15:29	s4j1911.D	WBN201013-05	M-5	ICAL	1	6	JMB3	√
10/19/2020	16:00	s4j1912.D	WBN201013-06	M-6	ICAL	1	7	JMB3	√
10/19/2020	16:32	s4j1913.D	WBN201013-07	M-7	ICAL	1	8	JMB3	√
10/19/2020	17:04	s4j1914.D	WBN201013-08	M-8	ICAL	1	9	JMB3	√
10/19/2020	17:35	s4j1915.D	WBN201012-09	M-ICV	ICV	1	10	JMB3	√
10/20/2020	08:40	s4j1916.D	WBN200802-99	DFTPP	DFTPP	1	11	JMB3	√
10/20/2020	08:55	s4j1917.D	WBN201019-17	A-2	ICAL	1	12	JMB3	√
10/20/2020	09:23	s4j1918.D	WBN201019-16	A-3	ICAL	1	13	JMB3	√
10/20/2020	09:51	s4j1919.D	WBN201019-18	A-9	ICAL	1	14	JMB3	√
10/20/2020	10:19	s4j1920.D	WBN201019-15	A-4	ICAL	1	15	JMB3	√
10/20/2020	10:48	s4j1921.D	WBN201019-14	A-5	ICAL	1	16	JMB3	√
10/20/2020	11:16	s4j1922.D	WBN201019-19	A-10	ICAL	1	17	JMB3	√
10/20/2020	11:44	s4j1923.D	WBN201019-13	A-6	ICAL	1	18	JMB3	√
10/20/2020	12:12	s4j1924.D	WBN201019-12	A-7	ICAL	1	19	JMB3	√
10/20/2020	12:41	s4j1925.D	WBN201019-11	A-8	ICAL	1	20	JMB3	√
10/20/2020	13:07	s4j1926.D	WBN201013-20	A-ICV	ICV	1	21	JMB3	√
10/20/2020	13:35	s4j1927.D	WBN200802-99	DFTPP	DFTPP	1	30	JMB3	√
10/20/2020	13:50	s4j1928.D	WBN201013-42.1	B-2	ICAL	1	22	JMB3	√
10/20/2020	14:14	s4j1929.D	WBN201013-43	B-3	ICAL	1	23	JMB3	√
10/20/2020	14:38	s4j1930.D	WBN201013-44.1	B-4	ICAL	1	24	JMB3	√
10/20/2020	15:02	s4j1931.D	WBN201013-45	B-5	ICAL	1	25	JMB3	√
10/20/2020	15:25	s4j1932.D	WBN201013-46	B-6	ICAL	1	26	JMB3	√

ORGANIC RUN LOG - INSTRUMENT ID#MSD4

GEL ORGANIC RUN LOG

10/20/2020 15:49	s4j1933.D	WBN201013-47	B-7	ICAL	1	27	JMB3	√
10/20/2020 16:13	s4j1934.D	WBN201013-48	B-8	ICAL	1	28	JMB3	√
10/20/2020 16:37	s4j1935.D	WBN200905-50	B-ICV	ICV	1	29	JMB3	√
10/20/2020 17:01	s4j1936.D	WBN201013-27	P-2	ICAL	1	31	JMB3	√
10/20/2020 17:24	s4j1937.D	WBN201013-26	P-3	ICAL	1	32	JMB3	√
10/20/2020 17:48	s4j1938.D	WBN201013-25	P-4	ICAL	1	33	JMB3	√
10/20/2020 18:12	s4j1939.D	WBN201013-24	P-5	ICAL	1	34	JMB3	√
10/20/2020 18:36	s4j1940.D	WBN201013-23	P-6	ICAL	1	35	JMB3	√
10/20/2020 18:59	s4j1941.D	WBN201013-22	P-7	ICAL	1	36	JMB3	√
10/20/2020 19:23	s4j1942.D	WBN201013-21	P-8	ICAL	1	37	JMB3	√
10/20/2020 19:47	s4j1943.D	WBN200730-26.2	P-ICV	ICV	1	38	JMB3	√
10/20/2020 20:10	s4j1944.D	WBN200804-32	H-2	ICAL	1	39	JMB3	√
10/20/2020 20:34	s4j1945.D	WBN200804-33	H-3	ICAL	1	40	JMB3	√
10/20/2020 20:58	s4j1946.D	WBN200804-34	H-4	ICAL	1	41	JMB3	√
10/20/2020 21:21	s4j1947.D	WBN200804-35	H-5	ICAL	1	42	JMB3	√
10/20/2020 21:45	s4j1948.D	WBN200804-36	H-6	ICAL	1	43	JMB3	√
10/20/2020 22:09	s4j1949.D	WBN200804-37	H-7	ICAL	1	44	JMB3	√
10/20/2020 22:32	s4j1950.D	WBN200902-38	H-ICV	ICV	1	45	JMB3	√

ORGANIC RUN LOG - INSTRUMENT ID#MSD4

GEL ORGANIC RUN LOG

DATE: 17-Nov-20 METHOD: See Data OPERATOR: LOF Sequence Number: S111720.B

Multiplier Voltage: 1847
Internal Std ID: UBN200716-01.1
Internal Std ID: WBN200812-99 (SIM)
Solvent Reference ID: 2910641

Calibration Information:
Initial Calibration Dates: See Calibration History
Initial Calibration Std ID's: See Associated Data and Run Log
GEL SOP: GL-OA-E-009

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
11/17/2020	13:25	s4k1701.D	WBN200802-99	DFTPP	DFTPP	1	1	LOF	√
11/17/2020	13:42	s4k1702.D	WBN201013-04.2	M-CCV	CCV	1	2	LOF	√
11/17/2020	14:14	s4k1703.D	WBN201009-45.1	B-CCV	CCV	1	3	LOF	√
11/17/2020	14:39	s4k1704.D	WBN200810-15.5	AP-CCV	CCV	1	4	LOF	√
11/17/2020	15:08	s4k1705.D	WBN200909-24.1	P-CCV	CCV	1	5	LOF	√
11/17/2020	15:33	s4k1706.D	WBN201008-33.6	H-CCV	CCV	1	6	LOF	√ Hexachlorophene low
11/17/2020	16:08	s4k1707.D	**1204695847**	**MB**	2063409	1	7	LOF	**Report: see rerun _____ to confirm absence of Hexachlorophene**
11/17/2020	16:37	s4k1708.D	1204695848	LCS	2063409	1	8	LOF	Report
11/17/2020	17:06	s4k1709.D	**527235001**	**CPRC**	2063409	1	9	LOF	**Report: see rerun _____ to confirm absence of Hexachlorophene**
11/17/2020	17:35	s4k1710.D	1204695849	MS	2063409	1	10	LOF	Report
11/17/2020	18:04	s4k1711.D	1204695850	MSD	2063409	1	11	LOF	Report
11/17/2020	18:34	s4k1712.D	**527235002**	**CPRC**	2063409	1	12	LOF	**Report: see rerun _____ to confirm absence of Hexachlorophene**
11/17/2020	19:03	s4k1713.D	**527235003**	**CPRC**	2063409	1	13	LOF	**Report: see rerun _____ to confirm absence of Hexachlorophene**
11/17/2020	19:32	s4k1714.D	527509003	ARSL	2063409	10	14	LOF	DUSE: rerun neat - see MSD4 111820
11/17/2020	20:02	s4k1715.D	1204695853	MS	2063409	10	15	LOF	DUSE: rerun neat - see MSD4 111820
11/17/2020	20:31	s4k1716.D	1204695854	MSD	2063409	10	16	LOF	DUSE: rerun neat - see MSD4 111820
11/17/2020	21:01	s4k1717.D	527509005	ARSL	2063409	1	17	LOF	Report
11/17/2020	21:30	s4k1718.D	527509009	ARSL	2063409	1	18	LOF	Report
11/17/2020	21:59	s4k1719.D	527509012	ARSL	2063409	5	19	LOF	DUSE: rerun neat - see MSD4 111820
11/17/2020	22:29	s4k1720.D	527510003	ARSL	2063409	1	20	LOF	Report: failed surr - RX batch 2064469 confirmed surr failure
11/17/2020	22:58	s4k1721.D	527510006	ARSL	2063409	1	21	LOF	Report
11/17/2020	23:27	s4k1722.D	527510009	ARSL	2063409	1	22	LOF	Report: failed surr - RX batch 2064469 confirmed surr failure
11/17/2020	23:57	s4k1723.D	527510015	ARSL	2063409	5	23	LOF	DUSE: rerun neat - see MSD4 111820
11/18/2020	00:26	s4k1724.D	527510018	ARSL	2063409	1	24	LOF	Report
11/18/2020	00:55	s4k1725.D	WBN200802-99	DFTPP	DFTPP	1	1	LOF	
11/18/2020	01:10	s4k1726.D	WBN201013-04.2	M-CCV	CCV	1	2	LOF	

ORGANIC RUN LOG - INSTRUMENT ID#MSD4

GEL ORGANIC RUN LOG

DATE: 18-Nov-20 METHOD: See Data OPERATOR: JMB3 Sequence Number: S111820.B

Multiplier Voltage: 1847
Internal Std ID: UBN200716-01.1
Internal Std ID: WBN200812-99 (SIM)
Solvent Reference ID: 2910641

Calibration Information:
Initial Calibration Dates: See Calibration History
Initial Calibration Std ID's: See Associated Data and Run Log
GEL SOP: GL-OA-E-009

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
11/18/2020	08:50	s4k1801.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	√
11/18/2020	09:05	s4k1802.D	WBN201115-04	M-CCV	duse	1	2	JMB3	DUSE
11/18/2020	09:38	s4k1803.D	WBN201113-44.4	B-CCV	CCV	1	3	JMB3	√
11/18/2020	10:02	s4k1804.D	WBN200929-15.4	A-CCV	CCV	1	4	JMB3	√
11/18/2020	10:31	s4k1805.D	WBN201013-04.2	M-CCV	CCV	1	5	JMB3	√
11/18/2020	11:04	s4k1806.D	527509003	ARSL	2063409	1	6	JMB3	Report
11/18/2020	11:34	s4k1807.D	1204695853	MS	2063409	1	7	JMB3	Report
11/18/2020	12:03	s4k1808.D	1204695854	MSD	2063409	1	8	JMB3	Report
11/18/2020	12:32	s4k1809.D	527509012	ARSL	2063409	1	9	JMB3	Report: failed surr - RX batch 2064469 passed OUT OF HOLD
11/18/2020	13:01	s4k1810.D	527510015	ARSL	2063409	1	10	JMB3	Report: failed surr - RX batch 2064469 confirmed surr failure
11/18/2020	13:31	s4k1811.D	**1204695796**	**MB**	2063393	1	11	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	14:00	s4k1812.D	**1204695797**	**LCS**	2063393	1	12	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	14:30	s4k1813.D	**526570002**	**N3BL**	2063393	1	13	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	14:59	s4k1814.D	**526399005**	**N3BL**	2063393	1	14	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	15:28	s4k1815.D	**1204695799**	**MS**	2063393	1	15	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	15:57	s4k1816.D	WBN200909-24.2	P-CCV	CCV	1	16	JMB3	√
11/18/2020	16:22	s4k1817.D	**1204695801**	**MSD**	2063393	1	17	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	16:51	s4k1818.D	1204696655	MB	2063783	1	18	JMB3	Report
11/18/2020	17:21	s4k1819.D	1204696656	LCS	2063783	1	19	JMB3	Report
11/18/2020	17:50	s4k1820.D	1204697886	LCSD	2063783	1	20	JMB3	Report
11/18/2020	18:19	s4k1821.D	527123003	PAES	2063783	1	21	JMB3	Report
11/18/2020	18:48	s4k1822.D	527123004	PAES	2063783	1	22	JMB3	DUSE: failed ISTD - see rerun s4k1828
11/18/2020	22:31	s4k1823.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	√
11/18/2020	22:47	s4k1824.D	WBN201115-04	M-CCV	CCV	1	2	JMB3	√
11/18/2020	23:19	s4k1825.D	WBN201113-44.4	B-CCV	CCV	1	3	JMB3	√
11/18/2020	23:44	s4k1826.D	WBN200929-15.4	A-CCV	CCV	1	4	JMB3	√
11/19/2020	00:13	s4k1827.D	WBN200909-24.2	P-CCV	CCV	1	16	JMB3	√
11/19/2020	00:38	s4k1828.D	527123004	PAES(rr)	2063783	1	22	JMB3	Report

PCB Analysis

Case Narrative

GC Semivolatile PCB
Technical Case Narrative
ARS International, LLC
SDG #: 2021-129
Work Order #: 527509

Product: **Analysis of The Analysis of Polychlorinated Biphenyls by GC/ECD by ECD**
Analytical Method: SW846 3535A/8082A
Analytical Procedure: GL-OA-E-040 REV# 25
Analytical Batch: 2065082

Preparation Method: SW846 3535A
Preparation Procedure: GL-OA-E-037 REV# 7
Preparation Batch: 2065081

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509006	SMEB01-20-209986
527509013	SMEB02-20-209976
527509015	SMEB02-20-209996
1204699392	Method Blank (MB)
1204699393	Laboratory Control Sample (LCS)
1204699394	525871007(NonSDG) Matrix Spike (MS)
1204699395	525871007(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Surrogate Recoveries
Samples (See Below) failed to meet surrogate recovery acceptance criteria and were re-extracted. The re-extracted samples failed surrogate recovery in the same manner; therefore, the failures were attributed to sample matrix interference.

Sample	Analyte	Value
527509013 (SMEB02-20-209976)	4cmx	14* (30%-113%)
	4cmx	16* (30%-113%)
	Decachlorobiphenyl	18* (34%-130%)
	Decachlorobiphenyl	20* (34%-130%)
527509015 (SMEB02-20-209996)	4cmx	14* (30%-113%)
	4cmx	15* (30%-113%)

	Decachlorobiphenyl	16* (34%-130%)
	Decachlorobiphenyl	20* (34%-130%)

Technical Information

Preparation/Analytical Method Verification
All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Miscellaneous Information

Manual integrations
Samples 1204699394 (Non SDG 525871007MS), 527509013 (SMEB02-20-209976) and 527509015 (SMEB02-20-209996) required manual integration to correctly position the baseline as set in the calibration standard injections.

Additional Comments
Sample 527509004 (SMEB01-20-209972) was extracted and analyzed in this batch; however, the data could not be reported due to preparation error. The sample was possibly spiked with the spiking solution.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-129 GEL Work Order: 527509

The Qualifiers in this report are defined as follows:

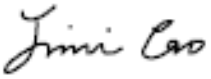
* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Jimin Cao**

Date: 25 NOV 2020 **Title: Data Validator**

Sample Data Summary

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:40**	**Matrix:**	**W**
Lab Sample ID:	**527509006**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**PCB**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209986**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 19:41**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**906.89 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2063.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2063.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0367	ug/L	0.0367	0.110	1
11104-28-2	Aroclor-1221	U	0.0367	ug/L	0.0367	0.110	1
11141-16-5	Aroclor-1232	U	0.0367	ug/L	0.0367	0.110	1
53469-21-9	Aroclor-1242	U	0.0367	ug/L	0.0367	0.110	1
12672-29-6	Aroclor-1248	U	0.0367	ug/L	0.0367	0.110	1
11097-69-1	Aroclor-1254	U	0.0367	ug/L	0.0367	0.110	1
11096-82-5	Aroclor-1260	U	0.0367	ug/L	0.0367	0.110	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.139	0.221	ug/L	63	(30%-113%)
Decachlorobiphenyl	0.220	0.221	ug/L	100	(34%-130%)

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509013**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**PCB**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 19:55**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**995.17 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2064.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2064.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0335	ug/L	0.0335	0.100	1
11104-28-2	Aroclor-1221	U	0.0335	ug/L	0.0335	0.100	1
11141-16-5	Aroclor-1232	U	0.0335	ug/L	0.0335	0.100	1
53469-21-9	Aroclor-1242	U	0.0335	ug/L	0.0335	0.100	1
12672-29-6	Aroclor-1248	U	0.0335	ug/L	0.0335	0.100	1
11097-69-1	Aroclor-1254	U	0.0335	ug/L	0.0335	0.100	1
11096-82-5	Aroclor-1260	U	0.0335	ug/L	0.0335	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
4cmx	0.0289	0.201	ug/L	14	*	(30%-113%)
Decachlorobiphenyl	0.0365	0.201	ug/L	18	*	(34%-130%)

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509015**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209996**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 20:09**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**976.67 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2065.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2065.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0341	ug/L	0.0341	0.102	1
11104-28-2	Aroclor-1221	U	0.0341	ug/L	0.0341	0.102	1
11141-16-5	Aroclor-1232	U	0.0341	ug/L	0.0341	0.102	1
53469-21-9	Aroclor-1242	U	0.0341	ug/L	0.0341	0.102	1
12672-29-6	Aroclor-1248	U	0.0341	ug/L	0.0341	0.102	1
11097-69-1	Aroclor-1254	U	0.0341	ug/L	0.0341	0.102	1
11096-82-5	Aroclor-1260	U	0.0341	ug/L	0.0341	0.102	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
4cmx	0.0292	0.205	ug/L	14	*	(30%-113%)
Decachlorobiphenyl	0.0328	0.205	ug/L	16	*	(34%-130%)

Quality Control Summary

Surrogate Recovery Report

SDG Number: 2021-129

Matrix Type: LIQUID

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
1204699392	MB for batch 2065081	53	56	83	89
1204699393	LCS for batch 2065081	54	49	91	93
1204699394	400RIS208WA075MS	49	53	83	89
1204699395	400RIS208WA075MSD	57	54	88	96
527509006	SMEB01-20-209986	63	65	100	107
527509013	SMEB02-20-209976	14 *	16 *	18 *	20 *
527509015	SMEB02-20-209996	14 *	15 *	16 *	20 *

Surrogate	Parmname	Acceptance Limits
4CMX	= 4cmx	(30%-113%)
DCB	= Decachlorobiphenyl	(34%-130%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129
Sample Type: Laboratory Control Sample
Client ID: LCS for batch 2065081
Matrix: WATER
Lab Sample ID 1204699393
Instrument: ECD2A.I
Analysis Date: 11/20/2020 15:51
Dilution: 1
Analyst: YS1
Prep Batch ID: 2065081
Inj. Vol: 1 uL
Batch ID: 2065082

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
12674-11-2	LCS	Aroclor-1016	1.00	0.0	0.572	57	38-100
11096-82-5	LCS	Aroclor-1260	1.00	0.0	0.638	64	46-110

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129
Sample Type: Matrix Spike
Client ID: 400RIS208WA075MS
Matrix: WG
Lab Sample ID 1204699394
Instrument: ECD2A.I
Analysis Date: 11/20/2020 16:17
Dilution: 1
Analyst: YS1
Prep Batch ID: 2065081
Inj. Vol: 1 uL
Batch ID: 2065082

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits
12674-11-2	MS	Aroclor-1016	1.00	0.000	U	0.677	68	28-107
11096-82-5	MS	Aroclor-1260	1.00	0.000	U	0.688	69	32-122

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-129
Sample Type: Matrix Spike Duplicate
Client ID: 400RIS208WA075MSD
Matrix: WG
Lab Sample ID 1204699395
Instrument: ECD2A.I
Analysis Date: 11/20/2020 16:31
Dilution: 1
Analyst: YS1
Prep Batch ID: 2065081
Inj. Vol: 1 uL
Batch ID: 2065082

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
12674-11-2	MSD	Aroclor-1016	1.00	0.000	U	0.635	64	28-107	6	0-27
11096-82-5	MSD	Aroclor-1260	1.00	0.000	U	0.720	72	32-122	4	0-29

Method Blank Summary

SDG Number:	**2021-129**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2065081**	**Instrument ID:**	**ECD2A.I_1**	**Data File:**	**112020.S\E2k2043.D**
			ECD2A.I_2		**112020.S\E2k2043.D**
Lab Sample ID:	**1204699392**			**Analyzed:**	**11/20/20 15:15**
Column:	**CLPesticides**	**Prep Date:**	**11/20/2020 05:50**		
	CLPesticides2				

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 2065081	1204699393	112020.S\E2k2046.D	11/20/20	1551
02	400RIS208WA075MS	1204699394	112020.S\E2k2048.D	11/20/20	1617
03	400RIS208WA075MSD	1204699395	112020.S\E2k2049.D	11/20/20	1631
04	SMEB01-20-209986	527509006	112020.S\E2k2063.D	11/20/20	1941
05	SMEB02-20-209976	527509013	112020.S\E2k2064.D	11/20/20	1955
06	SMEB02-20-209996	527509015	112020.S\E2k2065.D	11/20/20	2009

Identification Summary

SDG Number: 2021-129 **Client ID:** LCS for batch 2065081

Lab Sample ID: 1204699393

Data File:	112020.S\E2k2046.D	**Data File:**	112020.S\E2k2046.D
Inst:	ECD2A.I_1	**Inst:**	ECD2A.I_2
Column:	CLPesticides	**Column:**	CLPesticides2
Analyzed:	20-NOV-20 15:51	**Analyzed:**	20-NOV-20 15:51

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							4.11
Column 1	1	2.82	2.79 - 2.85	.559		ug/L	
	2	3.17	3.14 - 3.2	.624		ug/L	
	3	3.26	3.23 - 3.29	.588		ug/L	
	4	3.4	3.37 - 3.43	.529		ug/L	
	5	3.56	3.53 - 3.59	.56		ug/L	
					.572		
Column 2	1	3.66	3.63 - 3.69	.619		ug/L	
	2	3.76	3.73 - 3.79	.607		ug/L	
	3	3.83	3.8 - 3.86	.613		ug/L	
	4	3.91	3.88 - 3.94	.554		ug/L	
	5	4.1	4.07 - 4.13	.586		ug/L	
					.596		
Aroclor-1260							5.36
Column 1	1	4.42	4.39 - 4.45	.712		ug/L	
	2	4.89	4.86 - 4.92	.589		ug/L	
	3	5.06	5.03 - 5.09	.49		ug/L	
	4	5.27	5.24 - 5.3	.635		ug/L	
	5	5.47	5.44 - 5.5	.761		ug/L	
					.638		
Column 2	1	5.01	4.98 - 5.04	.741		ug/L	
	2	5.15	5.12 - 5.18	.639		ug/L	
	3	5.47	5.44 - 5.5	.616		ug/L	
	4	5.85	5.82 - 5.88	.662		ug/L	
	5	6.1	6.07 - 6.13	.706		ug/L	
					.673		

Sample Data

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:40**	**Matrix:**	**W**
Lab Sample ID:	**527509006**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**PCB**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209986**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 19:41**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**906.89 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2063.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2063.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0367	ug/L	0.0367	0.110	1
11104-28-2	Aroclor-1221	U	0.0367	ug/L	0.0367	0.110	1
11141-16-5	Aroclor-1232	U	0.0367	ug/L	0.0367	0.110	1
53469-21-9	Aroclor-1242	U	0.0367	ug/L	0.0367	0.110	1
12672-29-6	Aroclor-1248	U	0.0367	ug/L	0.0367	0.110	1
11097-69-1	Aroclor-1254	U	0.0367	ug/L	0.0367	0.110	1
11096-82-5	Aroclor-1260	U	0.0367	ug/L	0.0367	0.110	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.139	0.221	ug/L	63	(30%-113%)
Decachlorobiphenyl	0.220	0.221	ug/L	100	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

11/21/2020

11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2063.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 19:41 (#1); 20 Nov 2020 19:41 (#2)
Operator : YS1   InstName : ECD2
Sample   : |527509006|2065082|1|SVA|1|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB01-20-209986 |||
ALS Vial : 0 (Sig #1); 61 (Sig #2)   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 21 04:57:29 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.267	0.000	690393618	126.359	2.589	2.589	0.000	740883533	129.279
DCB	6.216	6.213	-0.003	857182447	199.407	6.909	6.907	-0.002	989163343	213.709

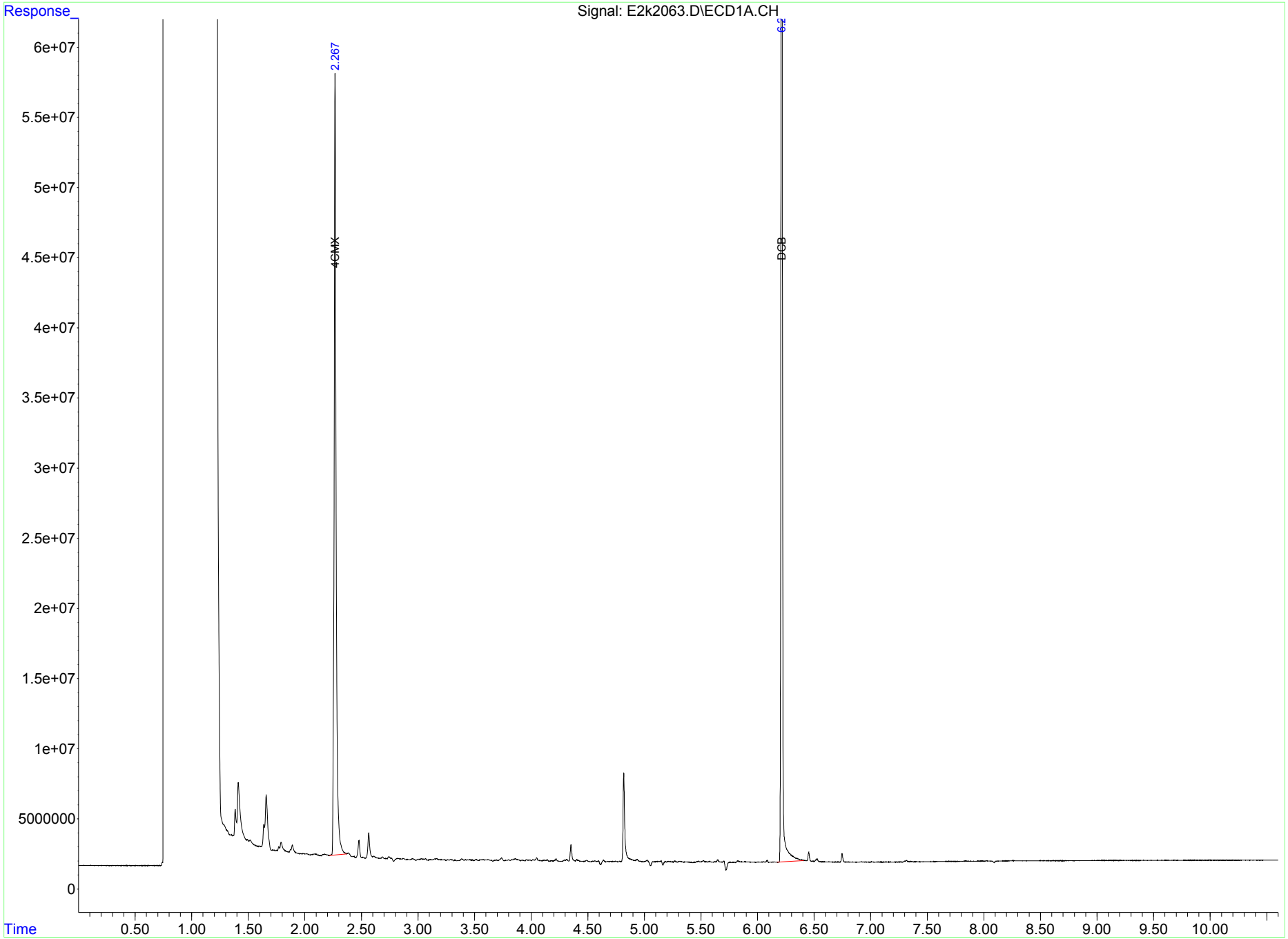
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	63%	65%
DCB	200.000	No Limits	100%	107%

Target Compounds

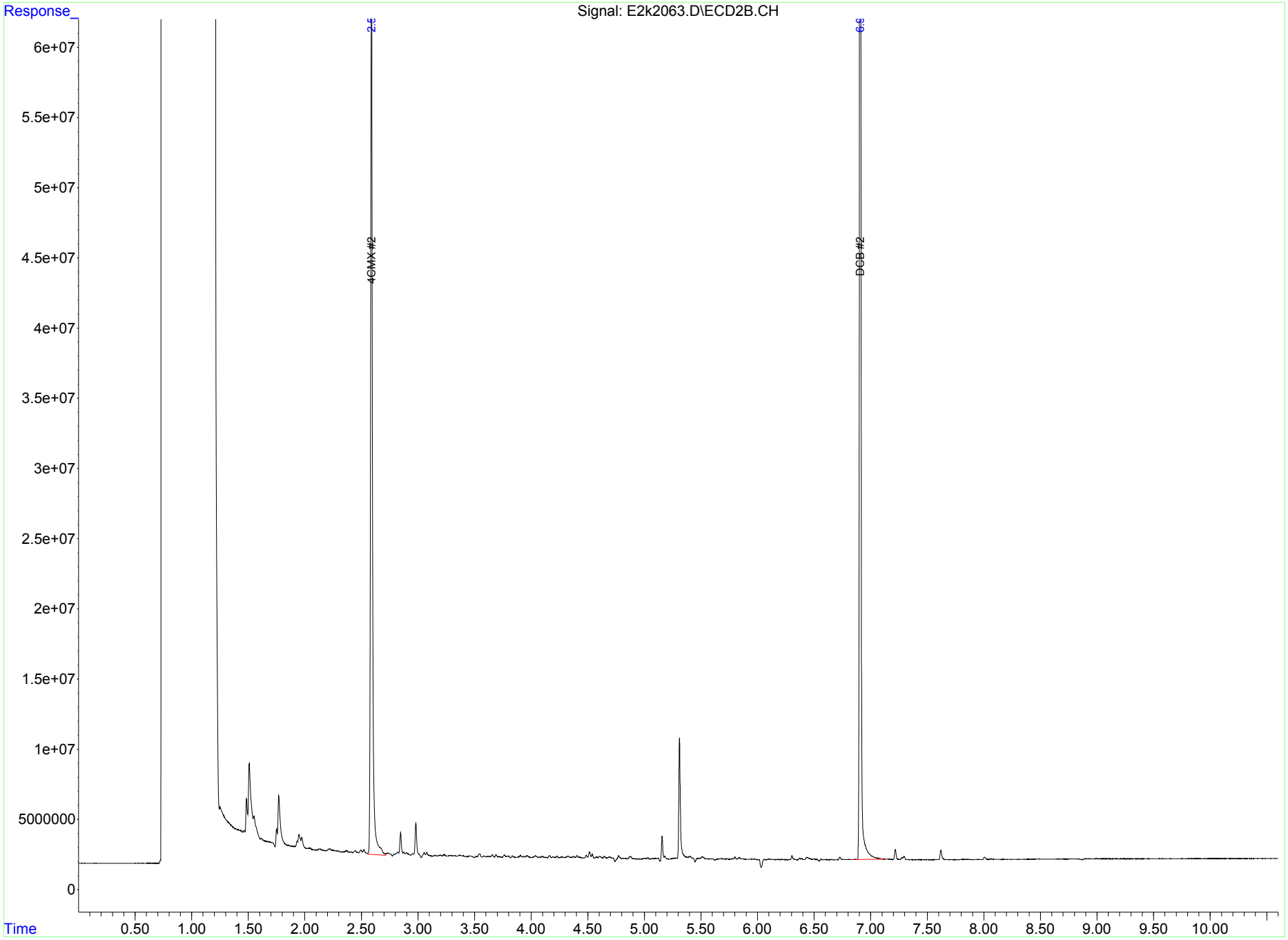
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2063.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2063.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.267	0.000	690393618	126.359	2.589	2.589	0.000	740883533	129.279
DCB	6.216	6.213	-0.003	857182447	199.407	6.909	6.907	-0.002	989163343	213.709

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	63%	65%
DCB	200.000	No Limits	100%	107%
4CMX	200.000	No Limits	63%	65%
DCB	200.000	No Limits	100%	107%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.819	0.002	2183137	12.266	3.658	3.658	0.000	1948676	7.441
Aroclor-1016 {2}	3.165	0.000	-3.165	0	N.D.	3.757	3.763	0.006	1823534	11.132
Aroclor-1016 {3}	3.261	0.000	-3.261	0	N.D.	3.834	3.833	-0.001	1099700	11.118
Aroclor-1016 {4}	3.398	0.000	-3.398	0	N.D.	3.905	3.905	0.000	1884518	19.603
Sum Aroclor-1016				2183137	12.266				6756428	49.294 #
Average Aroclor-1016					<MDL					<MDL
Aroclor-1221	2.406	0.000	-2.406	0	N.D.	2.828	2.822	-0.006	4428996	77.761
Aroclor-1221 {2}	2.519	0.000	-2.519	0	N.D.	2.942	2.952	0.010	3504962	96.062
Aroclor-1221 {3}	2.549	2.565	0.016f	18526102	140.960	2.990	2.981	-0.009	27678937	213.183
Sum Aroclor-1221				18526102	140.960				35612896	387.007 #
Average Aroclor-1221					140.960					129.002
Aroclor-1232	2.817	2.819	0.002	2183137	27.852	3.657	3.658	0.001	1948676	19.037
Aroclor-1232 {2}	3.165	0.000	-3.165	0	N.D.	3.756	3.763	0.007	1823534	27.543
Aroclor-1232 {3}	3.261	0.000	-3.261	0	N.D.	3.832	3.833	0.001	1099700	26.478
Aroclor-1232 {4}	3.307	0.000	-3.307	0	N.D.	3.904	3.905	0.001	1884518	57.907
Aroclor-1232 {5}	3.557	0.000	-3.557	0	N.D.	3.936	3.963	0.027f	1962834	54.473
Sum Aroclor-1232				2183137	27.852				8719262	185.438 #
Average Aroclor-1232					<MDL					37.088
Aroclor-1242	2.817	2.819	0.002	2183137	14.492	3.657	3.658	0.001	1948676	8.500
Aroclor-1242 {2}	3.165	0.000	-3.165	0	N.D.	3.756	3.763	0.007	1823534	12.409
Aroclor-1242 {3}	3.261	0.000	-3.261	0	N.D.	3.833	3.833	0.000	1099700	12.216
Aroclor-1242 {4}	3.307	0.000	-3.307	0	N.D.	3.904	3.905	0.001	1884518	23.553
Aroclor-1242 {5}	3.397	0.000	-3.397	0	N.D.	3.937	3.963	0.026f	1962834	22.324
Sum Aroclor-1242				2183137	14.492				8719262	79.001 #
Average Aroclor-1242					<MDL					<MDL
Aroclor-1248	3.165	0.000	-3.165	0	N.D.	3.657	3.658	0.001	1948676	15.059
Aroclor-1248 {2}	3.397	0.000	-3.397	0	N.D.	3.905	3.905	0.000	1884518	13.671
Aroclor-1248 {4}	3.861	0.000	-3.861	0	N.D.	4.376	4.405	0.029f	1052144	5.308
Aroclor-1248 {5}	3.880	0.000	-3.880	0	N.D.	4.409	4.405	-0.004	1052144	4.372
Sum Aroclor-1248				0	N.D.				5937481	38.410
Average Aroclor-1248					N.D.					<MDL
Aroclor-1254	3.831	0.000	-3.831	0	N.D.	4.406	4.405	-0.001	1052144	4.333
Aroclor-1254 {2}	4.015	0.000	-4.015	0	N.D.	4.541	4.540	-0.001	2471008	9.681

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254 {3}	4.294	0.000	-4.294	0	N.D.	4.788	4.773	-0.015	5791953	27.051	
Aroclor-1254 {5}	4.488	0.000	-4.488	0	N.D.	5.152	5.157	0.005	14543773	76.394	
Sum Aroclor-1254				0	N.D.				23858877	117.459	
Average Aroclor-1254					N.D.					<MDL	
Aroclor-1260 {2}	4.888	0.000	-4.888	0	N.D.	5.152	5.157	0.005	14543773	51.164	
Aroclor-1260 {3}	5.058	0.000	-5.058	0	N.D.	5.467	5.467	0.000	2344602	10.473	
Aroclor-1260 {5}	5.466	0.000	-5.466	0	N.D.	6.103	6.105	0.002	7807040	21.870	
Sum Aroclor-1260				0	N.D.				24695415	83.508	
Average Aroclor-1260					N.D.					<MDL	
Aroclor-1262	4.615	4.640	0.025f	2436375	11.962	5.152	5.157	0.005	14543773	64.514	
Aroclor-1262 {2}	4.887	0.000	-4.887	0	N.D.	5.466	5.467	0.001	2344602	7.714	
Aroclor-1262 {3}	5.058	0.000	-5.058	0	N.D.	5.674	5.675	0.001	1472311	4.823	
Aroclor-1262 {5}	5.490	0.000	-5.490	0	N.D.	6.097	6.105	0.008	7807040	19.438	
Sum Aroclor-1262				2436375	11.962				26167726	96.490	#
Average Aroclor-1262					<MDL					<MDL	
Aroclor-1268	5.490	0.000	-5.490	0	N.D.	6.096	6.105	0.009	7807040	9.977	
Aroclor-1268 {2}	5.516	0.000	-5.516	0	N.D.	6.129	6.132	0.003	1700993	2.001	
Aroclor-1268 {3}	5.649	0.000	-5.649	0	N.D.	6.306	6.304	-0.002	2848975	4.262	
Aroclor-1268 {5}	6.088	0.000	-6.088	0	N.D.	6.729	6.727	-0.002	1722248	0.826	
Sum Aroclor-1268				0	N.D.				14079256	17.066	
Average Aroclor-1268					N.D.					<MDL	
4,4' DDT	4.830	4.818	-0.012	67158412	61.586	5.402	5.404	0.002	11085262	6.377	#
4,4' DDD	4.638	4.640	0.002	2436375	<MDL	5.183	5.182	-0.001	2286688	<MDL	#
4,4' DDE	4.220	0.000	-4.220	0	N.D.	4.773	4.773	0.000	5791953	<MDL	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2063.D

Aroclor-1016	Multi	-	Deletion ==	DMP
Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1260	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD	Both	-	Deletion ==	DMP
4,4' DDE #2		-	Deletion ==	DMP

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509013**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**PCB**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209976**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 19:55**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**995.17 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2064.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2064.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0335	ug/L	0.0335	0.100	1
11104-28-2	Aroclor-1221	U	0.0335	ug/L	0.0335	0.100	1
11141-16-5	Aroclor-1232	U	0.0335	ug/L	0.0335	0.100	1
53469-21-9	Aroclor-1242	U	0.0335	ug/L	0.0335	0.100	1
12672-29-6	Aroclor-1248	U	0.0335	ug/L	0.0335	0.100	1
11097-69-1	Aroclor-1254	U	0.0335	ug/L	0.0335	0.100	1
11096-82-5	Aroclor-1260	U	0.0335	ug/L	0.0335	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
4cmx	0.0289	0.201	ug/L	14	*	(30%-113%)
Decachlorobiphenyl	0.0365	0.201	ug/L	18	*	(34%-130%)

11/21/2020

11/23/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2064.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 19:55 (#1); 20 Nov 2020 19:55 (#2)
Operator : YS1   InstName : ECD2
Sample   : |527509013|2065082|1|SVA|1|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB02-20-209976|||
ALS Vial : 0 (Sig #1); 62 (Sig #2)   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 21 04:57:31 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.268	0.001	157097109	28.753	2.589	2.589	0.000	181739686	31.712m
DCB	6.216	6.213	-0.003	156091100	36.312	6.909	6.907	-0.002	182645911	39.461

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	14%	16%
DCB	200.000	No Limits	18%	20%

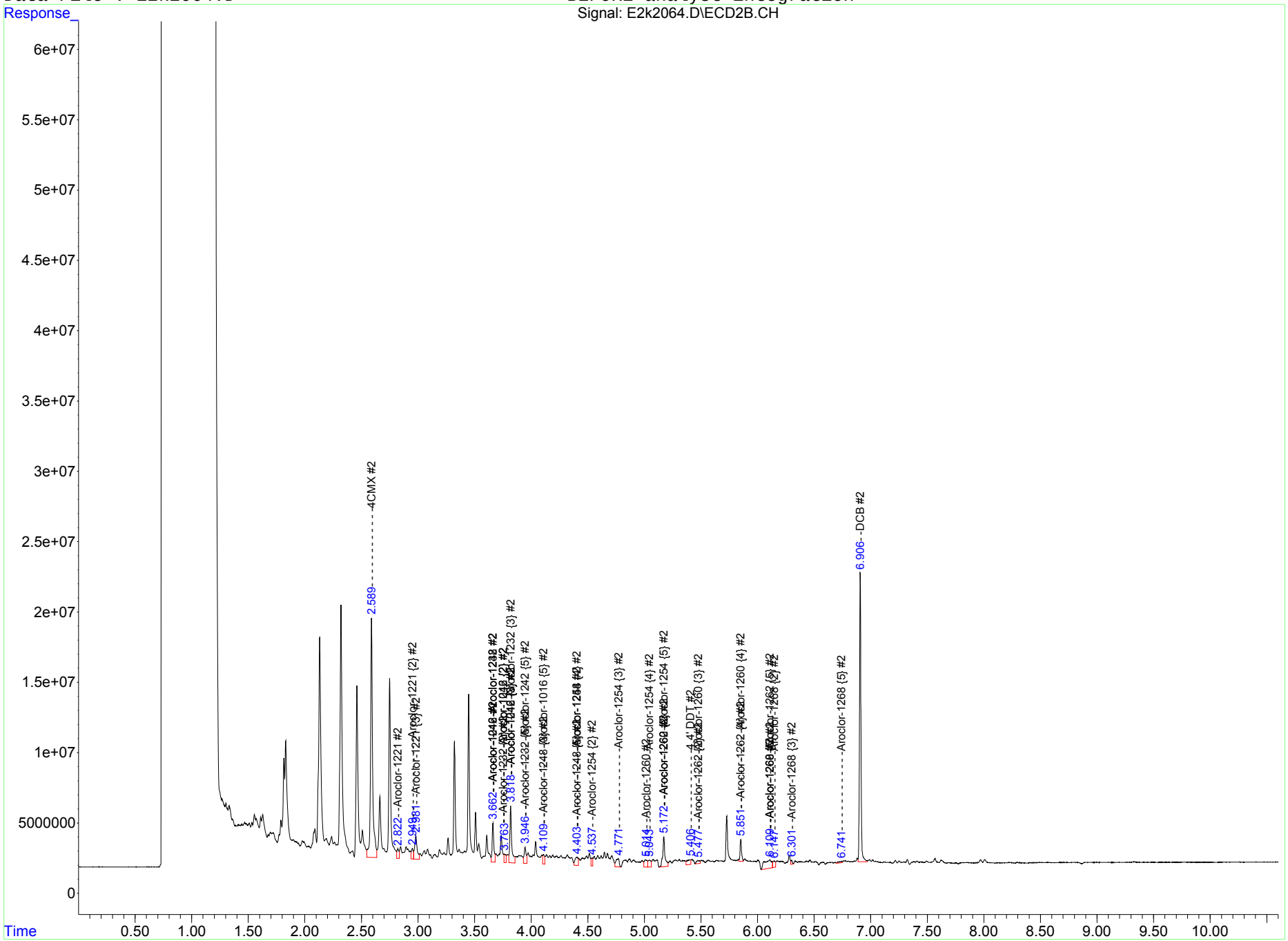
Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

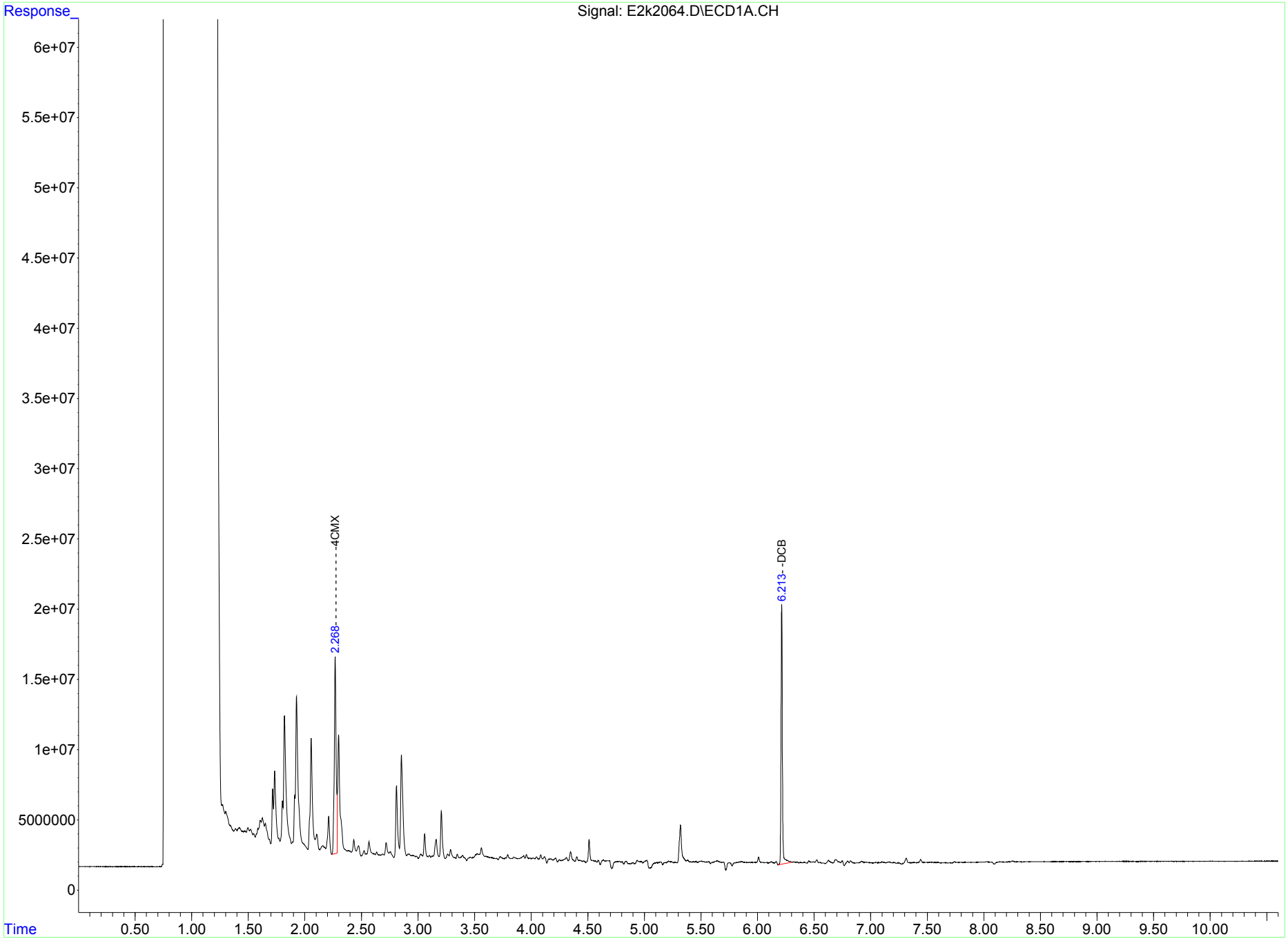
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2064.D

BEFORE analyst integration

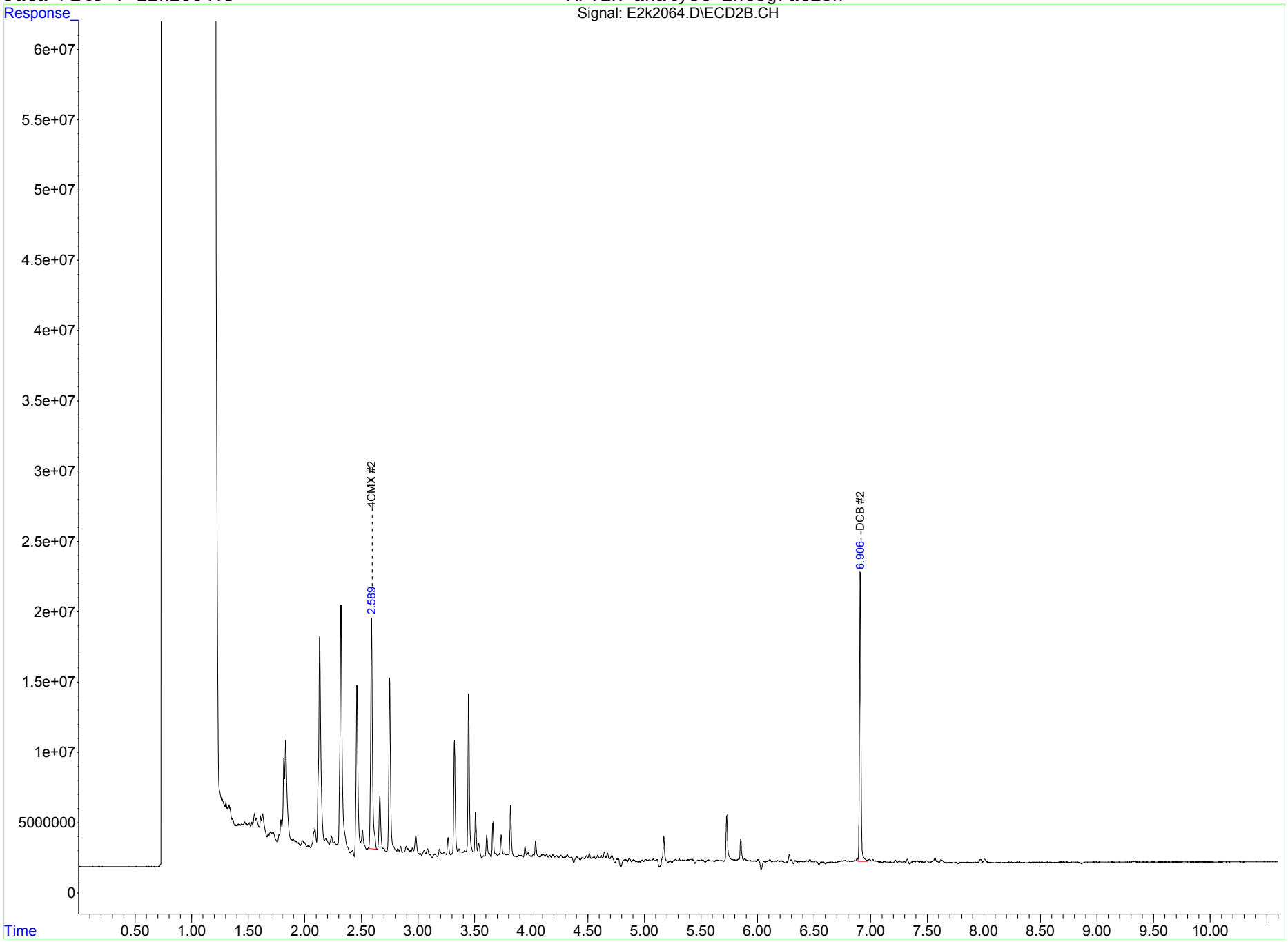


Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2064.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2064.D

AFTER analyst integration



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.268	0.001	157097109	28.753	2.589	2.589	0.000	212875654	37.145
DCB	6.216	6.213	-0.003	156091100	36.312	6.909	6.907	-0.002	182645911	39.461

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	14%	16%
DCB	200.000	No Limits	18%	20%
4CMX	200.000	No Limits	14%	19%
DCB	200.000	No Limits	18%	20%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1016	2.817	2.810	-0.007	56666389	318.373	3.658	3.662	0.004	27878499	106.451	
Aroclor-1016 {2}	3.165	3.161	-0.004	15601274	68.811	3.757	3.763	0.006	6844384	41.784	
Aroclor-1016 {3}	3.261	3.262	0.001	3544325	22.709	3.834	3.819	-0.015	45024451	455.191	
Aroclor-1016 {5}	3.558	3.560	0.002	10412500	88.677	4.102	4.109	0.007	7536470	58.251	
Sum Aroclor-1016				86224489	498.570				87283804	661.677	
Average Aroclor-1016					124.643					165.419	
Aroclor-1221	2.406	2.433	0.027f	10287182	173.533	2.828	2.823	-0.005	8672598	152.267	
Aroclor-1221 {2}	2.519	2.524	0.005	3535130	112.534	2.942	2.950	0.008	8532356	233.851	
Aroclor-1221 {3}	2.549	2.567	0.018f	11187431	85.122	2.990	2.981	-0.009	25757368	198.383	
Sum Aroclor-1221				25009742	371.190				42962322	584.501	#
Average Aroclor-1221					123.730					194.834	#
Aroclor-1232	2.817	2.810	-0.007	56666389	722.950	3.657	3.662	0.005	27878499	272.353	
Aroclor-1232 {2}	3.165	3.161	-0.004	15601274	155.219	3.756	3.763	0.007	6844384	103.380	
Aroclor-1232 {3}	3.261	3.262	0.001	3544325	53.094	3.832	3.819	-0.013	45024451	1084.080	A
Aroclor-1232 {4}	3.307	3.288	-0.019f	8412956	194.773	3.904	0.000	-3.904	0	N.D.	
Aroclor-1232 {5}	3.557	3.560	0.003	10412500	232.469	3.936	3.946	0.010	14015009	388.945	
Sum Aroclor-1232				94637445	1358.505				93762343	1848.758	
Average Aroclor-1232					271.701					462.190	#
Aroclor-1242	2.817	2.810	-0.007	56666389	376.156	3.657	3.662	0.005	27878499	121.599	
Aroclor-1242 {2}	3.165	3.161	-0.004	15601274	78.927	3.756	3.763	0.007	6844384	46.574	
Aroclor-1242 {3}	3.261	3.262	0.001	3544325	26.835	3.833	3.819	-0.014	45024451	500.152	
Aroclor-1242 {4}	3.307	3.288	-0.019f	8412956	98.964	3.904	0.000	-3.904	0	N.D.	
Aroclor-1242 {5}	3.397	0.000	-3.397	0	N.D.	3.937	3.946	0.009	14015009	159.399	
Sum Aroclor-1242				84224945	580.882				93762343	827.724	
Average Aroclor-1242					145.220					206.931	
Aroclor-1248	3.165	3.161	-0.004	15601274	140.653	3.657	3.662	0.005	27878499	215.447	
Aroclor-1248 {3}	3.557	3.560	0.003	10412500	63.944	4.102	4.109	0.007	7536470	41.281	
Aroclor-1248 {4}	3.861	0.000	-3.861	0	N.D.	4.376	4.404	0.028f	10812033	54.542	
Aroclor-1248 {5}	3.880	0.000	-3.880	0	N.D.	4.409	4.404	-0.005	10812033	44.926	
Sum Aroclor-1248				26013774	204.597				57039034	356.196	#
Average Aroclor-1248					102.298					89.049	
Aroclor-1254	3.831	0.000	-3.831	0	N.D.	4.406	4.404	-0.002	10812033	44.531	
Aroclor-1254 {2}	4.015	0.000	-4.015	0	N.D.	4.541	4.537	-0.004	5438121	21.305	

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254 {3}	4.294	4.311	0.017f	7404454	22.336	4.788	4.771	-0.017f	11836234	55.280	
Aroclor-1254 {4}	4.422	4.403	-0.019f	2626776	22.421	5.029	5.043	0.014	8643152	30.637	
Aroclor-1254 {5}	4.488	4.512	0.024f	13321060	57.923	5.152	5.172	0.020f	29299359	153.901	
Sum Aroclor-1254				23352290	102.680				66028898	305.654	#
Average Aroclor-1254					34.227					61.131	#
Aroclor-1260	4.422	4.403	-0.019f	2626776	12.058	5.006	5.014	0.008	9790641	44.270	
Aroclor-1260 {2}	4.888	0.000	-4.888	0	N.D.	5.152	5.172	0.020f	29299359	103.074	
Aroclor-1260 {3}	5.058	0.000	-5.058	0	N.D.	5.467	5.477	0.010	4471713	19.975	
Aroclor-1260 {4}	5.272	0.000	-5.272	0	N.D.	5.846	5.852	0.006	14320325	27.774	
Aroclor-1260 {5}	5.466	0.000	-5.466	0	N.D.	6.103	6.109	0.006	26809644	75.103	
Sum Aroclor-1260				2626776	12.058				84691682	270.196	#
Average Aroclor-1260					<MDL					54.039	
Aroclor-1262	4.615	4.638	0.023f	2707739	13.295	5.152	5.172	0.020f	29299359	129.968	
Aroclor-1262 {2}	4.887	0.000	-4.887	0	N.D.	5.466	5.477	0.011	4471713	14.713	
Aroclor-1262 {4}	5.271	0.000	-5.271	0	N.D.	5.846	5.852	0.006	14320325	24.937	
Aroclor-1262 {5}	5.490	0.000	-5.490	0	N.D.	6.097	6.109	0.012	26809644	66.751	
Sum Aroclor-1262				2707739	13.295				74901041	236.370	#
Average Aroclor-1262					<MDL					59.092	
Aroclor-1268	5.490	0.000	-5.490	0	N.D.	6.096	6.109	0.013	26809644	34.261	
Aroclor-1268 {2}	5.516	0.000	-5.516	0	N.D.	6.129	6.147	0.018f	7025685	8.266	
Aroclor-1268 {3}	5.649	0.000	-5.649	0	N.D.	6.306	6.302	-0.004	2295516	3.434	
Aroclor-1268 {5}	6.088	0.000	-6.088	0	N.D.	6.729	6.742	0.013	2476941	1.188	
Sum Aroclor-1268				0	N.D.				38607787	47.149	
Average Aroclor-1268					N.D.					<MDL	
4,4' DDT	4.830	4.838	0.008	3308711	<MDL	5.402	5.407	0.005	7740905	4.453	
4,4' DDD	4.638	4.638	0.000	2707739	<MDL	5.183	5.172	-0.011	29299359	<MDL	#
4,4' DDE	4.220	4.216	-0.004	5189419	<MDL	4.773	4.771	-0.002	11836234	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2064.D

4CMX #2 - Manual Integration == AB/AP

Aroclor-1016	Multi	-	Deletion ==	DMP
Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1260	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD	Both	-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**11/10/2020 13:25**	**Matrix:**	**W**
Lab Sample ID:	**527509015**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB02-20-209996**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 20:09**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**976.67 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2065.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2065.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0341	ug/L	0.0341	0.102	1
11104-28-2	Aroclor-1221	U	0.0341	ug/L	0.0341	0.102	1
11141-16-5	Aroclor-1232	U	0.0341	ug/L	0.0341	0.102	1
53469-21-9	Aroclor-1242	U	0.0341	ug/L	0.0341	0.102	1
12672-29-6	Aroclor-1248	U	0.0341	ug/L	0.0341	0.102	1
11097-69-1	Aroclor-1254	U	0.0341	ug/L	0.0341	0.102	1
11096-82-5	Aroclor-1260	U	0.0341	ug/L	0.0341	0.102	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
4cmx	0.0292	0.205	ug/L	14	*	(30%-113%)
Decachlorobiphenyl	0.0328	0.205	ug/L	16	*	(34%-130%)

11/21/2020

11/23/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2065.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 20:09 (#1); 20 Nov 2020 20:09 (#2)
Operator : YS1   InstName : ECD2
Sample   : |527509015|2065082|1|SVA|1|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB02-20-209996|||
ALS Vial : 0 (Sig #1); 63 (Sig #2)   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 21 04:57:33 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.269	0.002	156052159	28.561	2.589	2.590	0.001	177086921	30.901m
DCB	6.216	6.213	-0.003	137722617	32.038	6.909	6.907	-0.002	183273512	39.596

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	14%	15%
DCB	200.000	No Limits	16%	20%

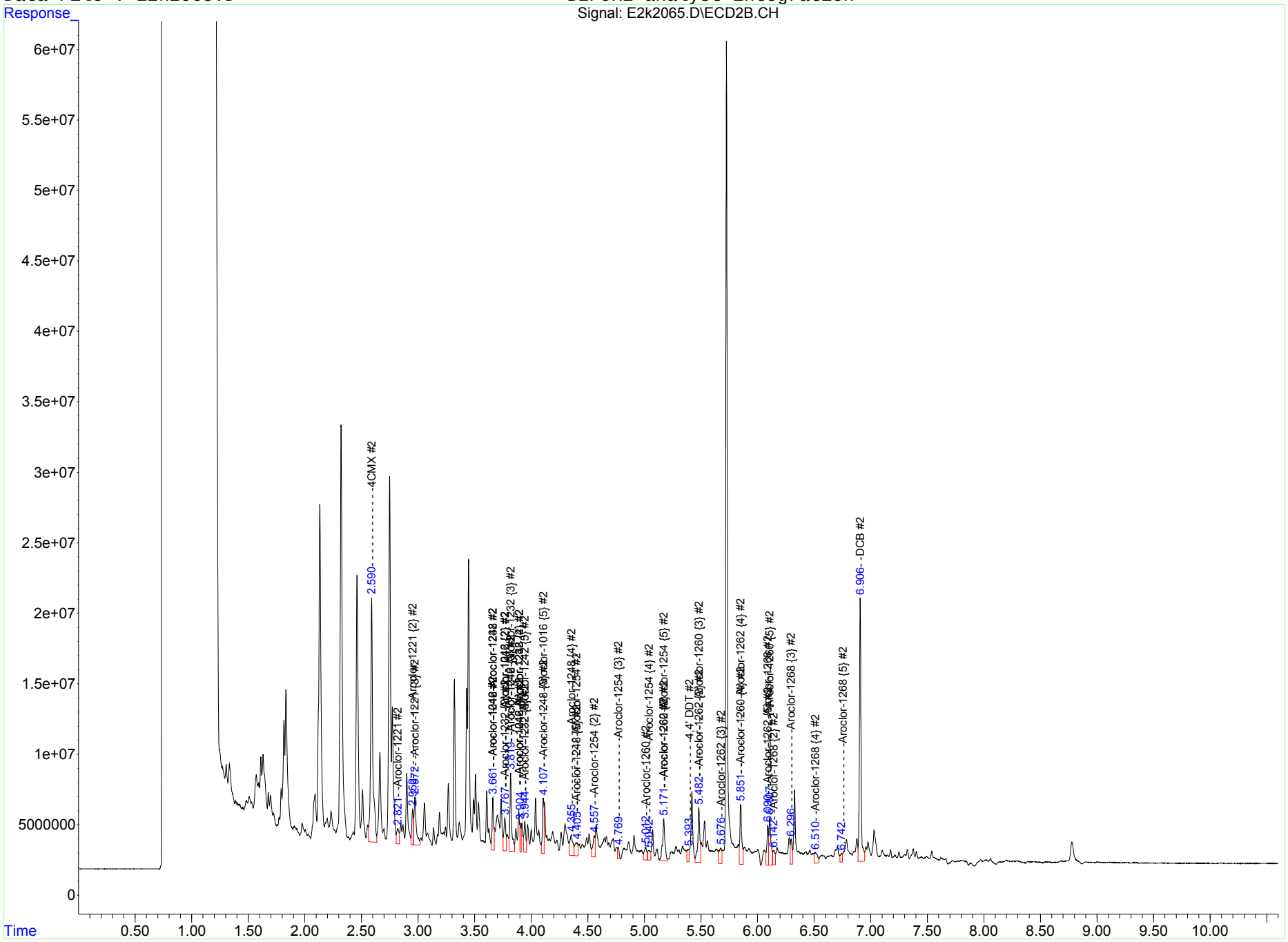
Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

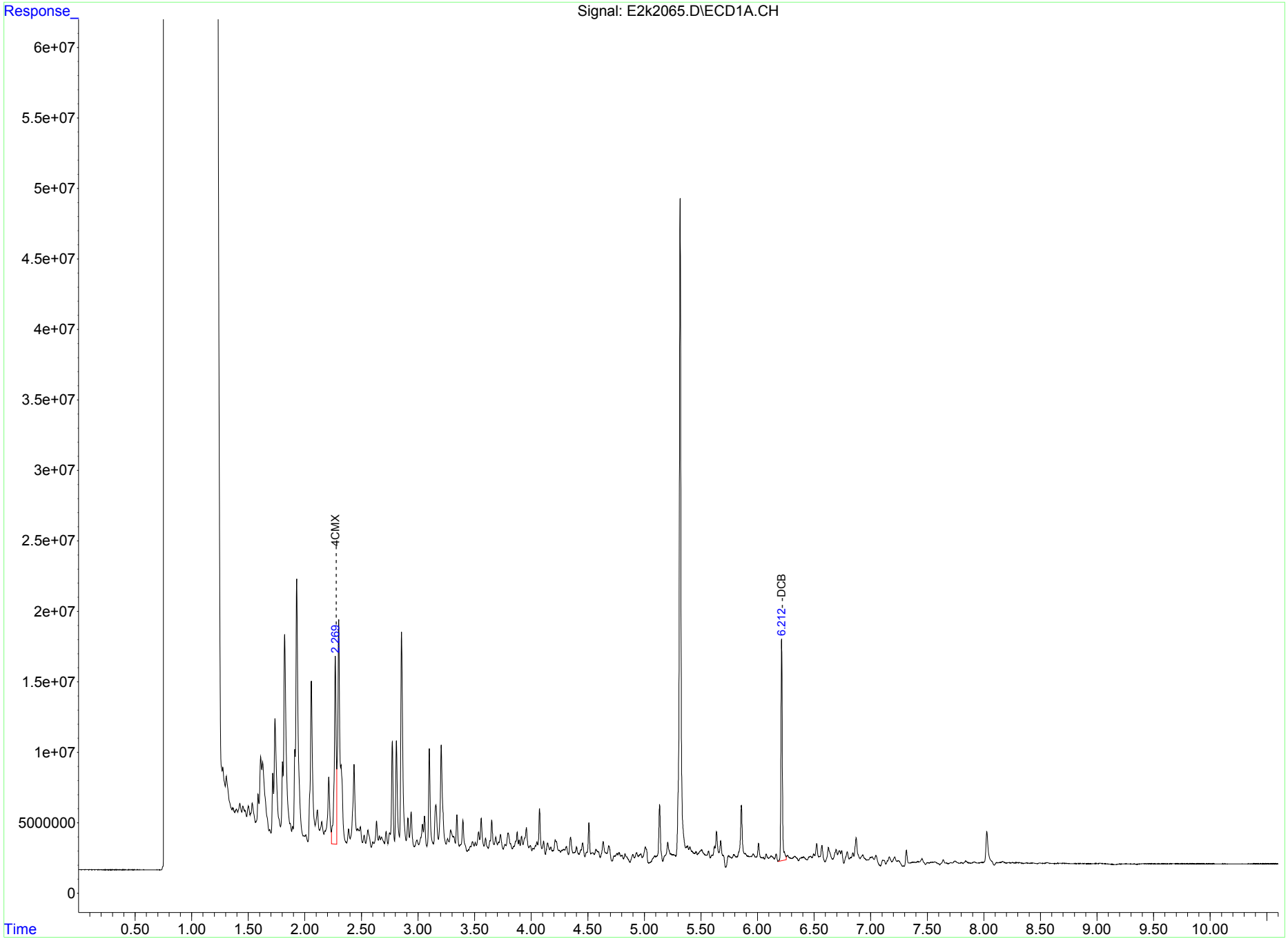
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2065.D

BEFORE analyst integration

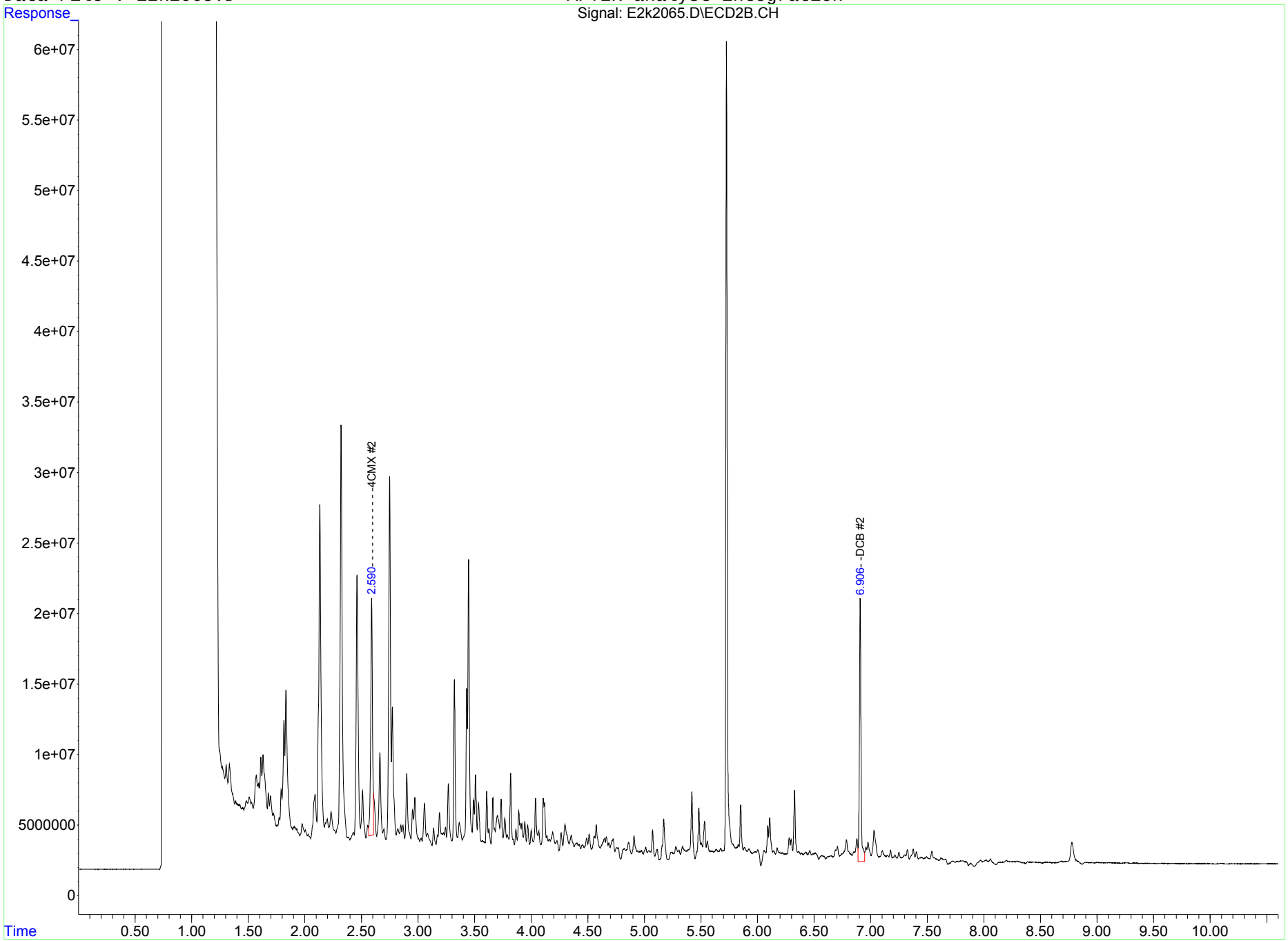


Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2065.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2065.D

AFTER analyst integration



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.269	0.002	156052159	28.561	2.589	2.591	0.002	225307288	39.315
DCB	6.216	6.213	-0.003	137722617	32.038	6.909	6.907	-0.002	183273512	39.596

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	14%	15%
DCB	200.000	No Limits	16%	20%
4CMX	200.000	No Limits	14%	20%
DCB	200.000	No Limits	16%	20%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.809	-0.008	83014532	466.406	3.658	3.662	0.004	34589753	132.078
Aroclor-1016 {2}	3.165	3.158	-0.007	48313138	213.091	3.757	3.768	0.011	28389438	173.314
Aroclor-1016 {3}	3.261	3.262	0.001	11374579	72.879	3.834	3.819	-0.015	59761805	604.183
Aroclor-1016 {4}	3.398	3.397	-0.001	30050446	367.621	3.905	3.904	-0.001	13150883	136.797
Aroclor-1016 {5}	3.558	3.559	0.001	28328863	241.261	4.102	4.108	0.006	35412770	273.711
Sum Aroclor-1016				201081559	1361.258				171304648	1320.083
Average Aroclor-1016					272.252					264.017
Aroclor-1221	2.406	2.387	-0.019f	12118065	204.418	2.828	2.822	-0.006	16165610	283.823
Aroclor-1221 {2}	2.519	2.525	0.006	8515717	271.082	2.942	2.952	0.010	23936780	656.048
Aroclor-1221 {3}	2.549	2.558	0.009	18335988	139.514	2.990	2.973	-0.017f	45968378	354.049
Sum Aroclor-1221				38969770	615.014				86070768	1293.920 #
Average Aroclor-1221					205.005					431.307 #
Aroclor-1232	2.817	2.809	-0.008	83014532	1059.100 A	3.657	3.662	0.005	34589753	337.918
Aroclor-1232 {2}	3.165	3.158	-0.007	48313138	480.674	3.756	3.768	0.012	28389438	428.804
Aroclor-1232 {3}	3.261	3.262	0.001	11374579	170.391	3.832	3.819	-0.013	59761805	1438.920 A
Aroclor-1232 {4}	3.307	3.289	-0.018f	33856888	783.842	3.904	3.904	0.000	13150883	404.097
Aroclor-1232 {5}	3.557	3.559	0.002	28328863	632.468	3.936	3.944	0.008	23991455	665.812
Sum Aroclor-1232				204888001	3126.475				159883333	3275.550
Average Aroclor-1232					625.295					655.110
Aroclor-1242	2.817	2.809	-0.008	83014532	551.057	3.657	3.662	0.005	34589753	150.872
Aroclor-1242 {2}	3.165	3.158	-0.007	48313138	244.416	3.756	3.768	0.012	28389438	193.180
Aroclor-1242 {3}	3.261	3.262	0.001	11374579	86.119	3.833	3.819	-0.014	59761805	663.861
Aroclor-1242 {4}	3.307	3.289	-0.018f	33856888	398.269	3.904	3.904	0.000	13150883	164.361
Aroclor-1242 {5}	3.397	3.397	0.000	30050446	455.126	3.937	3.944	0.007	23991455	272.865
Sum Aroclor-1242				206609584	1734.987				159883333	1445.139
Average Aroclor-1242					346.997					289.028
Aroclor-1248	3.165	3.158	-0.007	48313138	435.566	3.657	3.662	0.005	34589753	267.312
Aroclor-1248 {2}	3.397	3.397	0.000	30050446	253.937	3.905	3.904	-0.001	13150883	95.403
Aroclor-1248 {3}	3.557	3.559	0.002	28328863	173.970	4.102	4.108	0.006	35412770	193.972
Aroclor-1248 {4}	3.861	3.877	0.016f	25183870	141.731	4.376	4.355	-0.021f	27987890	141.188
Aroclor-1248 {5}	3.880	3.877	-0.003	25183870	143.751	4.409	4.401	-0.008	17579795	73.047
Sum Aroclor-1248				157060187	1148.953				128721091	770.921
Average Aroclor-1248					229.791					154.184

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.831	0.000	-3.831	0	N.D.	4.406	4.401	-0.005	17579795	72.405	
Aroclor-1254 {2}	4.015	0.000	-4.015	0	N.D.	4.541	4.557	0.016f	20326758	79.636	
Aroclor-1254 {3}	4.294	4.311	0.017f	5680055	17.134	4.788	4.770	-0.018f	7199381	33.624	
Aroclor-1254 {4}	4.422	4.401	-0.021f	9082232	77.522	5.029	5.042	0.013	12113951	42.940	
Aroclor-1254 {5}	4.488	4.510	0.022f	25196182	109.558	5.152	5.172	0.020f	42935723	225.529	
Sum Aroclor-1254				39958470	204.214				100155608	454.133	#
Average Aroclor-1254					68.071					90.827	
Aroclor-1260	4.422	4.401	-0.021f	9082232	41.690	5.006	5.012	0.006	14272890	64.538	
Aroclor-1260 {2}	4.888	4.898	0.010	8254955	40.800	5.152	5.172	0.020f	42935723	151.046	
Aroclor-1260 {3}	5.058	0.000	-5.058	0	N.D.	5.467	5.482	0.015	48529038	216.778	
Aroclor-1260 {4}	5.272	5.255	-0.017f	2511397	5.237	5.846	5.851	0.005	49624870	96.246	
Aroclor-1260 {5}	5.466	0.000	-5.466	0	N.D.	6.103	6.108	0.005	43172864	120.941	
Sum Aroclor-1260				19848584	87.727				198535385	649.549	#
Average Aroclor-1260					<MDL					129.910	
Aroclor-1262	4.615	4.594	-0.021f	5014088	24.618	5.152	5.172	0.020f	42935723	190.457	
Aroclor-1262 {2}	4.887	4.898	0.011	8254955	31.172	5.466	5.482	0.016f	48529038	159.675	
Aroclor-1262 {3}	5.058	0.000	-5.058	0	N.D.	5.674	5.674	0.000	19337815	63.350	
Aroclor-1262 {4}	5.271	5.255	-0.016f	2511397	4.908	5.846	5.851	0.005	49624870	86.417	
Aroclor-1262 {5}	5.490	5.506	0.016f	31587292	146.615	6.097	6.090	-0.007	27187900	67.692	
Sum Aroclor-1262				47367731	207.313				187615347	567.592	#
Average Aroclor-1262					51.828					113.518	#
Aroclor-1268	5.490	5.506	0.016f	31587292	44.344	6.096	6.090	-0.006	27187900	34.745	
Aroclor-1268 {2}	5.516	5.506	-0.010	31587292	42.605	6.129	6.142	0.013	13855635	16.302	
Aroclor-1268 {3}	5.649	5.638	-0.011	31975896	52.728	6.306	6.297	-0.009	18555224	27.758	
Aroclor-1268 {4}	5.892	5.891	-0.001	2719428	10.513	6.501	6.510	0.009	15057017	53.658	
Aroclor-1268 {5}	6.088	6.077	-0.011	2799922	1.501	6.729	6.745	0.016f	7182782	3.445	
Sum Aroclor-1268				100669829	151.691				81838559	135.906	
Average Aroclor-1268					<MDL					<MDL	
4,4' DDT	4.830	4.829	-0.001	10004354	<MDL	5.402	5.387	-0.015	9247628	5.320	#
4,4' DDD	4.638	4.637	-0.001	23234823	<MDL	5.183	5.172	-0.011	42935723	<MDL	#
4,4' DDE	4.220	4.213	-0.007	12379446	<MDL	4.773	4.770	-0.003	7199381	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2065.D

4CMX #2 - Manual Integration == AB/AP

Aroclor-1016	Multi	-	Deletion ==	DMP
Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1260	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD	Both	-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

Standards

Calibration History Report ECD2
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

11/20/2020

Cal Lvl:1 Amt:10.00 Last Updated with: C:\msdchem\1\data\110420.S\E2k0411.D

Injection Date	Mix	Calibration File
26 Oct 2020 07:03	A	C:\msdchem\1\data\102620.S\E2J2614.D
04 Nov 2020 09:41	B	C:\msdchem\1\data\110420.S\E2k0411.D
03 Nov 2020 08:22	D	C:\msdchem\1\data\110320.S\E2k0311.D
03 Nov 2020 09:35	E	C:\msdchem\1\data\110320.S\E2k0317.D
03 Nov 2020 10:47	O	C:\msdchem\1\data\110320.S\E2k0323.D
04 Nov 2020 10:54	K	C:\msdchem\1\data\110420.S\E2k0417.D

Cal Lvl:2 Amt:25.00 Last Updated with: C:\msdchem\1\data\110420.S\E2k0412.D

Injection Date	Mix	Calibration File
26 Oct 2020 07:15	A	C:\msdchem\1\data\102620.S\E2J2615.D
04 Nov 2020 09:53	B	C:\msdchem\1\data\110420.S\E2k0412.D
03 Nov 2020 08:35	D	C:\msdchem\1\data\110320.S\E2k0312.D
03 Nov 2020 09:47	E	C:\msdchem\1\data\110320.S\E2k0318.D
03 Nov 2020 10:59	O	C:\msdchem\1\data\110320.S\E2k0324.D
04 Nov 2020 11:06	K	C:\msdchem\1\data\110420.S\E2k0418.D

Cal Lvl:3 Amt:50.00 Last Updated with: C:\msdchem\1\data\110420.S\E2k0413.D

Injection Date	Mix	Calibration File
26 Oct 2020 07:27	A	C:\msdchem\1\data\102620.S\E2J2616.D
04 Nov 2020 10:05	B	C:\msdchem\1\data\110420.S\E2k0413.D
03 Nov 2020 08:47	D	C:\msdchem\1\data\110320.S\E2k0313.D
03 Nov 2020 09:59	E	C:\msdchem\1\data\110320.S\E2k0319.D
03 Nov 2020 11:11	O	C:\msdchem\1\data\110320.S\E2k0325.D
04 Nov 2020 11:18	K	C:\msdchem\1\data\110420.S\E2k0419.D

Cal Lvl:4 Amt:100.00 Last Updated with: C:\msdchem\1\data\110420.S\E2k0414.D

Injection Date	Mix	Calibration File
26 Oct 2020 07:39	A	C:\msdchem\1\data\102620.S\E2J2617.D
04 Nov 2020 10:17	B	C:\msdchem\1\data\110420.S\E2k0414.D
03 Nov 2020 08:59	D	C:\msdchem\1\data\110320.S\E2k0314.D
03 Nov 2020 10:11	E	C:\msdchem\1\data\110320.S\E2k0320.D
26 Oct 2020 05:03	J	C:\msdchem\1\data\102620.S\E2J2604.D
03 Nov 2020 11:23	O	C:\msdchem\1\data\110320.S\E2k0326.D
26 Oct 2020 04:39	X	C:\msdchem\1\data\102620.S\E2J2602.D
26 Oct 2020 04:51	F	C:\msdchem\1\data\102620.S\E2J2603.D
04 Nov 2020 11:30	K	C:\msdchem\1\data\110420.S\E2k0420.D

Cal Lvl:5 Amt:400.00 Last Updated with: C:\msdchem\1\data\110420.S\E2k0415.D

Injection Date	Mix	Calibration File
26 Oct 2020 07:51	A	C:\msdchem\1\data\102620.S\E2J2618.D
04 Nov 2020 10:29	B	C:\msdchem\1\data\110420.S\E2k0415.D
03 Nov 2020 09:11	D	C:\msdchem\1\data\110320.S\E2k0315.D
03 Nov 2020 10:23	E	C:\msdchem\1\data\110320.S\E2k0321.D
03 Nov 2020 11:35	O	C:\msdchem\1\data\110320.S\E2k0327.D
04 Nov 2020 11:42	K	C:\msdchem\1\data\110420.S\E2k0421.D

ECD2_8082_102620.M Fri Nov 20 06:57:44 2020

SDG: 2021-129

Response Factor Report ECD2
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

GS 11/20/2020

JC 11/20/2020

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
1)SA 4CMX	5.6392704	5.4095874	5.4137906	5.4963190	5.3596859		5.4637	AVRG	E6	2.0076
2)MAL1 Aroclor-1016	1.8642862	1.8493350	1.7503513	1.7395314	1.6958780		1.7799	AVRG	E5	4.1195
3)MAL1 Aroclor-1016 {2}	2.4479206	2.2747057	2.1841384	2.2108220	2.2186846		2.2673	AVRG	E5	4.6858
4)MAL1 Aroclor-1016 {3}	1.7156805	1.5887918	1.5012926	1.4745069	1.5234764		1.5607	AVRG	E5	6.1749
5)MAL1 Aroclor-1016 {4}	9.0151998	8.3884588	7.7684088	7.6494413	8.0499880		8.1743	AVRG	E4	6.7247
6)MAL1 Aroclor-1016 {5}	1.2795685	1.1896634	1.1179060	1.1158151	1.1680480		1.1742	AVRG	E5	5.7062
7)JL2 Aroclor-1221				5.9280702			5.9281	AVRG	E4	0.0000
8)JL2 Aroclor-1221 {2}				3.1413777			3.1414	AVRG	E4	0.0000
9)JL2 Aroclor-1221 {3}				1.3142797			1.3143	AVRG	E5	0.0000
10)FL3 Aroclor-1232				7.8382160			7.8382	AVRG	E4	0.0000
11)FL3 Aroclor-1232 {2}				1.0051122			1.0051	AVRG	E5	0.0000
12)FL3 Aroclor-1232 {3}				6.6755622			6.6756	AVRG	E4	0.0000
13)FL3 Aroclor-1232 {4}				4.3193537			4.3194	AVRG	E4	0.0000
14)FL3 Aroclor-1232 {5}				4.4790995			4.4791	AVRG	E4	0.0000
15)DL4 Aroclor-1242	1.6193407	1.4891894	1.5294424	1.5256065	1.3687159		1.5065	AVRG	E5	6.0210

Response Factor Report ECD2
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
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Integrator : (ChemStation Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
16)DL4 Aroclor-1242 {2}	2.1073302	2.0179701	1.9464736	1.9892393	1.8223650		1.9767	AVRG	E5	5.2852
17)DL4 Aroclor-1242 {3}	1.4844392	1.4149851	1.3403842	1.3292460	1.0349677		1.3208	AVRG	E5	12.9930
18)DL4 Aroclor-1242 {4}	8.8917883	8.8994827	8.4879483	8.3584834	7.8673318		8.5010	AVRG	E4	5.0374
19)DL4 Aroclor-1242 {5}	7.3846679	6.9019522	6.4890054	6.3057500	5.9319783		6.6027	AVRG	E4	8.4733
20)EL5 Aroclor-1248	1.1589550	1.1136748	1.0808939	1.1002632	1.0922372		1.1092	AVRG	E5	2.7287
21)EL5 Aroclor-1248 {2}	1.2465940	1.1731910	1.1285701	1.1627559	1.2058077		1.1834	AVRG	E5	3.7867
22)EL5 Aroclor-1248 {3}	1.7204079	1.6065409	1.5600778	1.6025571	1.6523103		1.6284	AVRG	E5	3.7419
23)EL5 Aroclor-1248 {4}	1.7535529	1.6225035	1.7328928	1.8248982	1.9505705		1.7769	AVRG	E5	6.8225
24)EL5 Aroclor-1248 {5}	1.7288111	1.5995425	1.7559255	1.7980045	1.8772641		1.7519	AVRG	E5	5.8214
25)BL6 Aroclor-1254	2.0066013	1.8762032	1.8083054	1.8135454	1.8838476		1.8777	AVRG	E5	4.2594
26)BL6 Aroclor-1254 {2}	2.5116648	2.3895670	2.3677755	2.4104187	2.5399437		2.4439	AVRG	E5	3.1486
27)BL6 Aroclor-1254 {3}	3.2888058	3.2492506	3.2412497	3.3336047	3.4623309		3.3150	AVRG	E5	2.7191
28)BL6 Aroclor-1254 {4}	1.2014461	1.1467767	1.1259411	1.1428856	1.2408250		1.1716	AVRG	E5	4.0953
29)BL6 Aroclor-1254 {5}	2.1270431	2.2439991	2.2397666	2.3363088	2.5518731		2.2998	AVRG	E5	6.9243
30)MAL7 Aroclor-1260	2.2314992	2.1214300	2.1304490	2.1497018	2.2594091					

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
31)MAL7 Aroclor-1260 {2}	2.0636142	2.0015200	1.9483690	1.9967349	2.1061774		2.0233	AVRG	E5	3.0556
32)MAL7 Aroclor-1260 {3}	2.1147947	2.1275538	2.1322623	2.2242900	2.3645001		2.1927	AVRG	E5	4.8092
33)MAL7 Aroclor-1260 {4}	5.1556960	4.5345961	4.6322063	4.7644992	4.8914059		4.7957	AVRG	E5	5.0503
34)MAL7 Aroclor-1260 {5}	2.0283458	1.9861855	2.1687878	2.3417446	2.5158431		2.2082	AVRG	E5	10.0161
35)KL8 Aroclor-1262	2.0447306	2.0117196	2.0330250	2.0533924	2.0407986		2.0367	AVRG	E5	0.7753
36)KL8 Aroclor-1262 {2}	2.6256566	2.6871583	2.6414134	2.6822246	2.6044638		2.6482	AVRG	E5	1.3540
37)KL8 Aroclor-1262 {3}	2.4721225	2.5179267	2.5147345	2.5540586	2.5327938		2.5183	AVRG	E5	1.1969
38)KL8 Aroclor-1262 {4}	5.4566624	4.9823808	5.1039609	5.1323855	4.9092945		5.1169	AVRG	E5	4.1115
39)KL8 Aroclor-1262 {5}	2.2365898	2.1764634	2.1701477	2.1274758	2.0615449		2.1544	AVRG	E5	3.0114
40)OL9 Aroclor-1268	7.2479418	7.0543315	7.1224109	7.2770460	6.9145030		7.1232	AVRG	E5	2.0766
41)OL9 Aroclor-1268 {2}	7.5970935	7.1028943	7.4817161	7.6536487	7.2341657		7.4139	AVRG	E5	3.1966
42)OL9 Aroclor-1268 {3}	6.0935075	5.8981174	6.0707691	6.2698883	5.9891712		6.0643	AVRG	E5	2.2793
43)OL9 Aroclor-1268 {4}	2.6306296	2.5273520	2.4673916	2.6225733	2.6856284		2.5867	AVRG	E5	3.3901
44)OL9 Aroclor-1268 {5}	1.9642937	1.9236766	1.8701865	1.8693570	1.7019866		1.8659	AVRG	E6	5.3538

Response Factor Report ECD2
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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
45)X 4,4' DDT				1.0904859			1.0905	AVRG	E6	0.0000
46)X 4,4' DDD				3.6110206			3.6110	AVRG	E6	0.0000
47)X 4,4' DDE				5.2235952			5.2236	AVRG	E6	0.0000
48)SA DCB	4.3651112	4.2353493	4.2308843	4.2074458	4.4545464		4.2987	AVRG	E6	2.4848

COLUMN #2

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
1)SA 4CMX	6.0174874	5.7146157	5.5625625	5.6778874	5.6818050		5.7309	AVRG	E6	2.9709
2)MAL1 Aroclor-1016	2.9316026	2.6620288	2.5016119	2.4655277	2.5337077		2.6189	AVRG	E5	7.2494
3)MAL1 Aroclor-1016 {2}	1.9593877	1.6915083	1.5575396	1.4928074	1.4889135		1.6380	AVRG	E5	12.0537
4)MAL1 Aroclor-1016 {3}	1.1380499	1.0268101	0.9404221	0.9102182	0.9301688		0.9891	AVRG	E5	9.5474
5)MAL1 Aroclor-1016 {4}	1.1520812	1.0131530	0.9142220	0.8677948	0.8594765		0.9613	AVRG	E5	12.7838
6)MAL1 Aroclor-1016 {5}	1.5320188	1.3269053	1.2260720	1.1854078	1.1986097		1.2938	AVRG	E5	11.1499
7)JL2 Aroclor-1221				5.6956666			5.6957	AVRG	E4	0.0000
8)JL2 Aroclor-1221 {2}				3.6486340			3.6486	AVRG	E4	0.0000
9)JL2 Aroclor-1221 {3}				1.2983626						

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
							1.2984	AVRG	E5	0.0000
10)FL3 Aroclor-1232				1.0236151			1.0236	AVRG	E5	0.0000
11)FL3 Aroclor-1232 {2}				6.6206123			6.6206	AVRG	E4	0.0000
12)FL3 Aroclor-1232 {3}				4.1532413			4.1532	AVRG	E4	0.0000
13)FL3 Aroclor-1232 {4}				3.2543898			3.2544	AVRG	E4	0.0000
14)FL3 Aroclor-1232 {5}				3.6033362			3.6033	AVRG	E4	0.0000
15)DL4 Aroclor-1242	2.5977767	2.3832341	2.2203346	2.2171412	2.0448179		2.2927	AVRG	E5	9.0882
16)DL4 Aroclor-1242 {2}	1.7713975	1.5615509	1.4209083	1.3662582	1.2278070		1.4696	AVRG	E5	14.0714
17)DL4 Aroclor-1242 {3}	1.0549040	0.9563817	0.8664172	0.8451030	0.7782700		0.9002	AVRG	E5	11.9298
18)DL4 Aroclor-1242 {4}	9.8897280	8.6748529	7.6446104	7.2931277	6.5038205		8.0012	AVRG	E4	16.4042
19)DL4 Aroclor-1242 {5}	1.0811933	0.9447027	0.8434487	0.8070910	0.7197697		0.8792	AVRG	E5	15.7788
20)EL5 Aroclor-1248	1.4058637	1.2881654	1.2764621	1.2427771	1.2566582		1.2940	AVRG	E5	5.0193
21)EL5 Aroclor-1248 {2}	1.6137222	1.3930889	1.3143397	1.2836622	1.2874845		1.3785	AVRG	E5	10.0610
22)EL5 Aroclor-1248 {3}	2.1061942	1.8203542	1.7297480	1.7128272	1.7592020		1.8257	AVRG	E5	8.8776
23)EL5 Aroclor-1248 {4}	2.2054898	1.9551961	1.9010637	1.8995388	1.9503079		1.9823	AVRG	E5	6.4316

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
24)EL5 Aroclor-1248 {5}	2.7079869	2.4342146	2.3270655	2.3236085	2.2403302		2.4066	AVRG	E5	7.5613
25)BL6 Aroclor-1254	2.7466755	2.4315401	2.3342904	2.2590578	2.3684168		2.4280	AVRG	E5	7.7721
26)BL6 Aroclor-1254 {2}	2.7926907	2.5915192	2.4475491	2.3859623	2.5445840		2.5525	AVRG	E5	6.1331
27)BL6 Aroclor-1254 {3}	2.3080814	2.1539694	2.0821556	2.0068739	2.1545454		2.1411	AVRG	E5	5.2071
28)BL6 Aroclor-1254 {4}	3.0917704	2.8283779	2.7454221	2.6220989	2.8181310		2.8212	AVRG	E5	6.1049
29)BL6 Aroclor-1254 {5}	1.9939175	1.8901059	1.9673838	1.7940239	1.8734643		1.9038	AVRG	E5	4.1793
30)MAL7 Aroclor-1260	2.4917061	2.2677788	2.1072260	2.0194749	2.1715987		2.2116	AVRG	E5	8.1836
31)MAL7 Aroclor-1260 {2}	3.1732748	2.9267682	2.7048624	2.5924407	2.8154900		2.8426	AVRG	E5	7.8411
32)MAL7 Aroclor-1260 {3}	2.5793221	2.2853932	2.1082943	2.0340204	2.1862446		2.2387	AVRG	E5	9.4720
33)MAL7 Aroclor-1260 {4}	5.5114876	5.1167456	4.9014814	4.8527230	5.3976996		5.1560	AVRG	E5	5.6801
34)MAL7 Aroclor-1260 {5}	3.8910117	3.5321138	3.3974580	3.3350647	3.6930244		3.5697	AVRG	E5	6.3353
35)KL8 Aroclor-1262	2.4347212	2.3665631	2.2862333	2.1558354	2.0283857		2.2543	AVRG	E5	7.2519
36)KL8 Aroclor-1262 {2}	3.1993529	3.1343232	3.0510796	2.9308944	2.8805672		3.0392	AVRG	E5	4.4062
37)KL8 Aroclor-1262 {3}	3.2922715	3.0918232	3.0723247	2.9580300	2.8481508		3.0525	AVRG	E5	5.4354
38)KL8 Aroclor-1262 {4}	5.9839325	5.7336891	5.7341674	5.6124380	5.6483480		5.7425	AVRG	E5	2.5268

Response Factor Report ECD2
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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound b m1 m2	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
39)KL8 Aroclor-1262 {5}	4.2395091	4.0180817	3.9915275	3.8991004	3.9336962		4.0164	AVRG	E5	3.3171
40)OL9 Aroclor-1268	8.1686450	7.6354338	7.4885813	7.6506159	8.1820184		7.8251	AVRG	E5	4.1660
41)OL9 Aroclor-1268 {2}	9.2060430	8.4167718	8.1293536	8.2858587	8.4591421		8.4994	AVRG	E5	4.8877
42)OL9 Aroclor-1268 {3}	7.0378112	6.5279820	6.3969470	6.5760170	6.8849419		6.6847	AVRG	E5	3.9858
43)OL9 Aroclor-1268 {4}	3.1423746	2.8017057	2.5674016	2.7204497	2.7986674		2.8061	AVRG	E5	7.5063
44)OL9 Aroclor-1268 {5}	2.0733518	2.0287594	2.0017773	2.0854898	2.2367681		2.0852	AVRG	E6	4.3729
45)X 4,4' DDT				1.7383374			1.7383	AVRG	E6	0.0000
46)X 4,4' DDD				4.7336948			4.7337	AVRG	E6	0.0000
47)X 4,4' DDE				5.6411007			5.6411	AVRG	E6	0.0000
48)SA DCB	5.0073974	4.5749197	4.4391859	4.3817937	4.7394842		4.6286	AVRG	E6	5.4599

(#) = Out of Range ($) = Individual RF Out of Range ### Number of calibration levels exceeded format ###
AVRG = Average, LINR = Linear Regression, 1/x = the inverse of concentration, 1/x^2 = the inverse square of concentration

COMPOUND LISTING
GEL Laboratories, LLC
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GS 11/20/2020

JC 11/20/2020

Integration Parameter File: autoint1.e

*** Integrator Events ***	
Initial Threshold	19.0
Initial Peak Width	0.010
Initial Area Reject	0.0
Shoulders OFF	

Integration Parameter File: autoint2.e

*** Integrator Events ***	
Initial Threshold	18.0
Initial Peak Width	0.001
Initial Area Reject	0.0
Shoulders OFF	

Compound	RT	RT Window
1)SA 4CMX	2.267	2.237- 2.297
2)MAL1Aroclor-1016	2.817	2.787- 2.847
3)MAL1Aroclor-1016 {2}	3.165	3.135- 3.195
4)MAL1Aroclor-1016 {3}	3.261	3.231- 3.291
5)MAL1Aroclor-1016 {4}	3.398	3.368- 3.428
6)MAL1Aroclor-1016 {5}	3.558	3.528- 3.588
7)JL2 Aroclor-1221	2.406	2.376- 2.436
8)JL2 Aroclor-1221 {2}	2.519	2.489- 2.549
9)JL2 Aroclor-1221 {3}	2.549	2.519- 2.579
10)FL3 Aroclor-1232	2.817	2.787- 2.847
11)FL3 Aroclor-1232 {2}	3.165	3.135- 3.195
12)FL3 Aroclor-1232 {3}	3.261	3.231- 3.291
13)FL3 Aroclor-1232 {4}	3.307	3.277- 3.337
14)FL3 Aroclor-1232 {5}	3.557	3.527- 3.587
15)DL4 Aroclor-1242	2.817	2.787- 2.847
16)DL4 Aroclor-1242 {2}	3.165	3.135- 3.195
17)DL4 Aroclor-1242 {3}	3.261	3.231- 3.291
18)DL4 Aroclor-1242 {4}	3.307	3.277- 3.337
19)DL4 Aroclor-1242 {5}	3.397	3.367- 3.427
20)EL5 Aroclor-1248	3.165	3.135- 3.195
21)EL5 Aroclor-1248 {2}	3.397	3.367- 3.427
22)EL5 Aroclor-1248 {3}	3.557	3.527- 3.587
23)EL5 Aroclor-1248 {4}	3.861	3.831- 3.891
24)EL5 Aroclor-1248 {5}	3.880	3.850- 3.910
25)BL6 Aroclor-1254	3.831	3.801- 3.861
26)BL6 Aroclor-1254 {2}	4.015	3.985- 4.045
27)BL6 Aroclor-1254 {3}	4.294	4.264- 4.324
28)BL6 Aroclor-1254 {4}	4.422	4.392- 4.452
29)BL6 Aroclor-1254 {5}	4.488	4.458- 4.518
30)MAL7Aroclor-1260	4.422	4.392- 4.452
31)MAL7Aroclor-1260 {2}	4.888	4.858- 4.918
32)MAL7Aroclor-1260 {3}	5.058	5.028- 5.088
33)MAL7Aroclor-1260 {4}	5.272	5.242- 5.302
34)MAL7Aroclor-1260 {5}	5.466	5.436- 5.496
35)KL8 Aroclor-1262	4.615	4.590- 4.645
36)KL8 Aroclor-1262 {2}	4.887	4.862- 4.917
37)KL8 Aroclor-1262 {3}	5.058	5.033- 5.088
38)KL8 Aroclor-1262 {4}	5.271	5.246- 5.301
39)KL8 Aroclor-1262 {5}	5.490	5.465- 5.520
40)OL9 Aroclor-1268	5.490	5.465- 5.520
41)OL9 Aroclor-1268 {2}	5.516	5.491- 5.546
42)OL9 Aroclor-1268 {3}	5.649	5.624- 5.679
43)OL9 Aroclor-1268 {4}	5.892	5.867- 5.922
44)OL9 Aroclor-1268 {5}	6.088	6.063- 6.117

45)X 4,4' DDT	4.830	4.805- 4.860
46)X 4,4' DDD	4.638	4.613- 4.668
47)X 4,4' DDE	4.220	4.190- 4.250
48)SA DCB	6.216	6.186- 6.246
49) Column #2	4.823	4.793- 4.853
50)SA 4CMX #2	2.589	2.559- 2.619
51)MAL1Aroclor-1016 #2	3.658	3.628- 3.688
52)MAL1Aroclor-1016 {2} #2	3.757	3.727- 3.787
53)MAL1Aroclor-1016 {3} #2	3.834	3.804- 3.864
54)MAL1Aroclor-1016 {4} #2	3.905	3.875- 3.935
55)MAL1Aroclor-1016 {5} #2	4.102	4.072- 4.132
56)JL2 Aroclor-1221 #2	2.828	2.798- 2.858
57)JL2 Aroclor-1221 {2} #2	2.942	2.912- 2.972
58)JL2 Aroclor-1221 {3} #2	2.990	2.960- 3.020
59)FL3 Aroclor-1232 #2	3.657	3.627- 3.687
60)FL3 Aroclor-1232 {2} #2	3.756	3.726- 3.786
61)FL3 Aroclor-1232 {3} #2	3.832	3.802- 3.862
62)FL3 Aroclor-1232 {4} #2	3.904	3.874- 3.934
63)FL3 Aroclor-1232 {5} #2	3.936	3.906- 3.966
64)DL4 Aroclor-1242 #2	3.657	3.627- 3.687
65)DL4 Aroclor-1242 {2} #2	3.756	3.726- 3.786
66)DL4 Aroclor-1242 {3} #2	3.833	3.803- 3.863
67)DL4 Aroclor-1242 {4} #2	3.904	3.874- 3.934
68)DL4 Aroclor-1242 {5} #2	3.937	3.907- 3.967
69)EL5 Aroclor-1248 #2	3.657	3.627- 3.687
70)EL5 Aroclor-1248 {2} #2	3.905	3.875- 3.935
71)EL5 Aroclor-1248 {3} #2	4.102	4.072- 4.132
72)EL5 Aroclor-1248 {4} #2	4.376	4.346- 4.406
73)EL5 Aroclor-1248 {5} #2	4.409	4.379- 4.439
74)BL6 Aroclor-1254 #2	4.406	4.376- 4.436
75)BL6 Aroclor-1254 {2} #2	4.541	4.511- 4.571
76)BL6 Aroclor-1254 {3} #2	4.788	4.758- 4.818
77)BL6 Aroclor-1254 {4} #2	5.029	4.999- 5.059
78)BL6 Aroclor-1254 {5} #2	5.152	5.122- 5.182
79)MAL7Aroclor-1260 #2	5.006	4.976- 5.036
80)MAL7Aroclor-1260 {2} #2	5.152	5.122- 5.182
81)MAL7Aroclor-1260 {3} #2	5.467	5.437- 5.497
82)MAL7Aroclor-1260 {4} #2	5.846	5.816- 5.877
83)MAL7Aroclor-1260 {5} #2	6.103	6.073- 6.133
84)KL8 Aroclor-1262 #2	5.152	5.122- 5.182
85)KL8 Aroclor-1262 {2} #2	5.466	5.436- 5.496
86)KL8 Aroclor-1262 {3} #2	5.674	5.644- 5.704
87)KL8 Aroclor-1262 {4} #2	5.846	5.816- 5.876
88)KL8 Aroclor-1262 {5} #2	6.097	6.067- 6.127
89)OL9 Aroclor-1268 #2	6.096	6.066- 6.126
90)OL9 Aroclor-1268 {2} #2	6.129	6.099- 6.159
91)OL9 Aroclor-1268 {3} #2	6.306	6.276- 6.336
92)OL9 Aroclor-1268 {4} #2	6.501	6.471- 6.531
93)OL9 Aroclor-1268 {5} #2	6.729	6.699- 6.759
94)X 4,4' DDT #2	5.402	5.372- 5.432
95)X 4,4' DDD #2	5.183	5.153- 5.213
96)X 4,4' DDE #2	4.773	4.473- 5.073
97)SA DCB #2	6.909	6.879- 6.939

ECD2_8082_102620.M Fri Nov 20 06:57:53 2020

GS 10/26/2020

JC 10/26/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2614.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 07:03 (#1); 26 Oct 2020 7:03 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR201009-01|ICAL|1|SVA|1|AR1660-1
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 14 (Sig #2) Sample Multiplier: 1

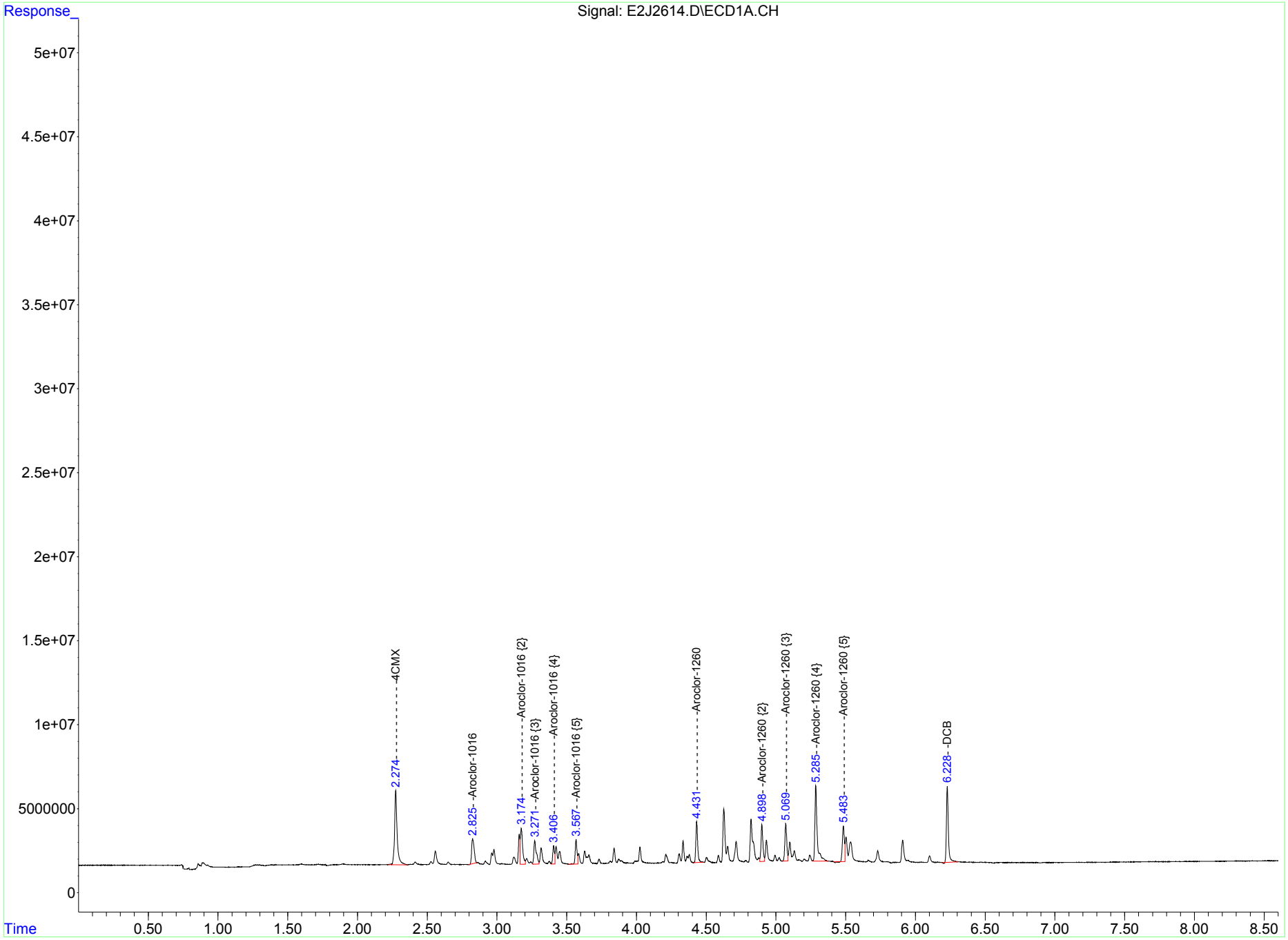
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:02:17 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.274	2.274	0.000	56392704	10.321	2.595	2.596	0.001	60174874	10.500
DCB	6.226	6.228	0.002	43651112	10.155	6.918	6.918	0.000	50073974	10.818
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.826	0.001	18642862	104.742	3.665	3.666	0.001	29316026	111.940
Aroclor-1016 {2}	3.173	3.175	0.002	24479206	107.969	3.764	3.765	0.001	19593877	119.618
Aroclor-1016 {3}	3.270	3.271	0.001	17156805	109.927	3.841	3.842	0.001	11380499	115.055
Aroclor-1016 {4}	3.406	3.406	0.000	9015200	110.287	3.912	3.913	0.001	11520812	119.840
Aroclor-1016 {5}	3.566	3.567	0.001	12795685	108.974	4.109	4.110	0.001	15320188	118.412
Sum Aroclor-1016				82089758	541.898				87131402	584.867
Average Aroclor-1016					108.380					116.973
Aroclor-1260	4.431	4.431	0.000	22314992	102.433	5.015	5.016	0.001	24917061	112.668
Aroclor-1260 {2}	4.898	4.899	0.001	20636142	101.993	5.160	5.161	0.001	31732748	111.634
Aroclor-1260 {3}	5.068	5.070	0.002	21147947	96.448	5.475	5.476	0.001	25793221	115.217
Aroclor-1260 {4}	5.282	5.285	0.003	51556960	107.507	5.855	5.857	0.002	55114876	106.894
Aroclor-1260 {5}	5.477	5.483	0.006	20283458	91.856	6.113	6.114	0.001	38910117	109.000
Sum Aroclor-1260				135939500	500.237				176468022	555.413
Average Aroclor-1260					100.047					111.083

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2614.D



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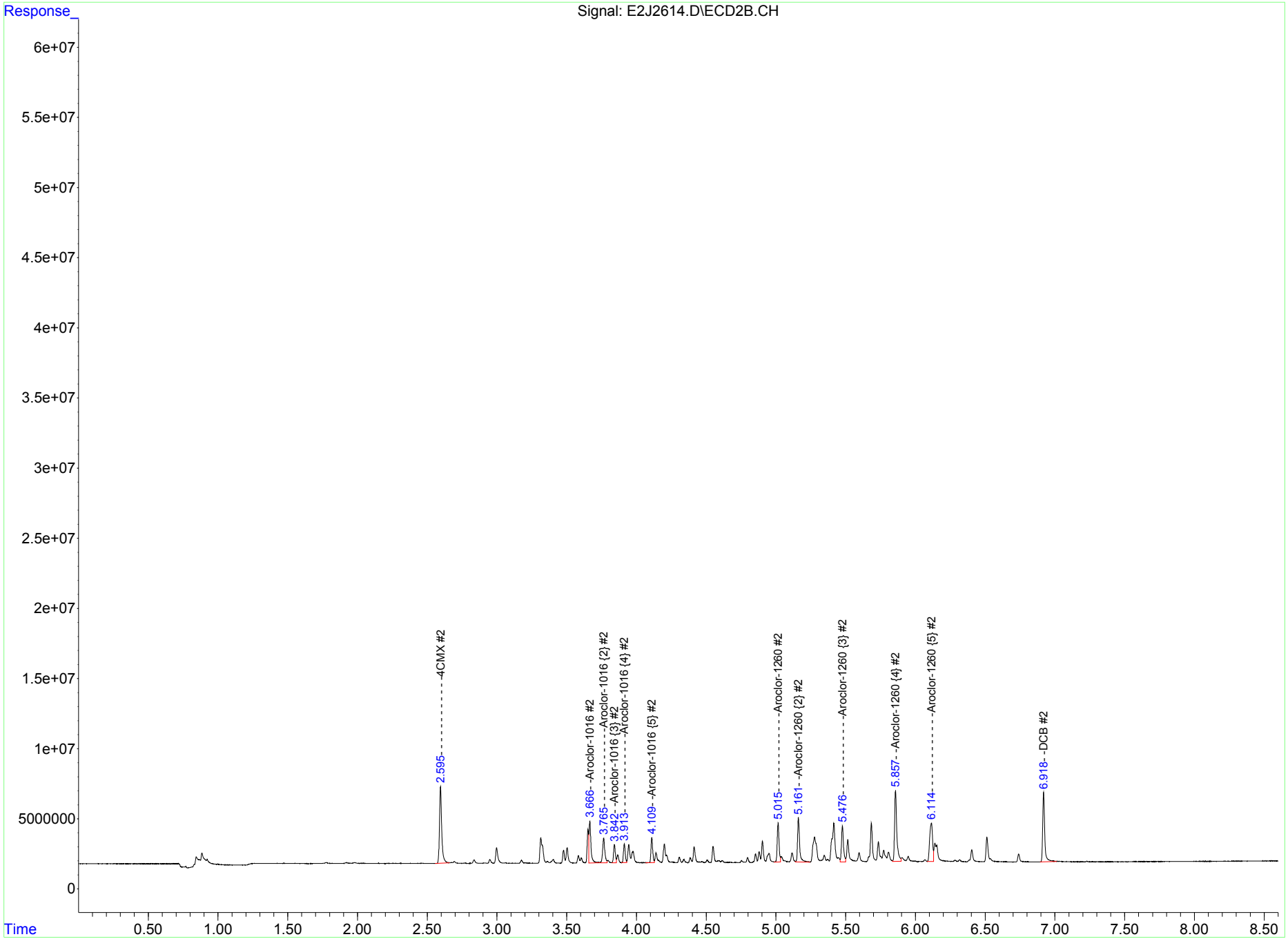
Data File : E2J2614.D



Quantitation Report
GEL Laboratories, LLC

10/26/2020

10/26/2020

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2615.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 07:15 (#1); 26 Oct 2020 7:15 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR201009-02|ICAL|1|SVA|1|AR1660-2
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 15 (Sig #2) Sample Multiplier: 1

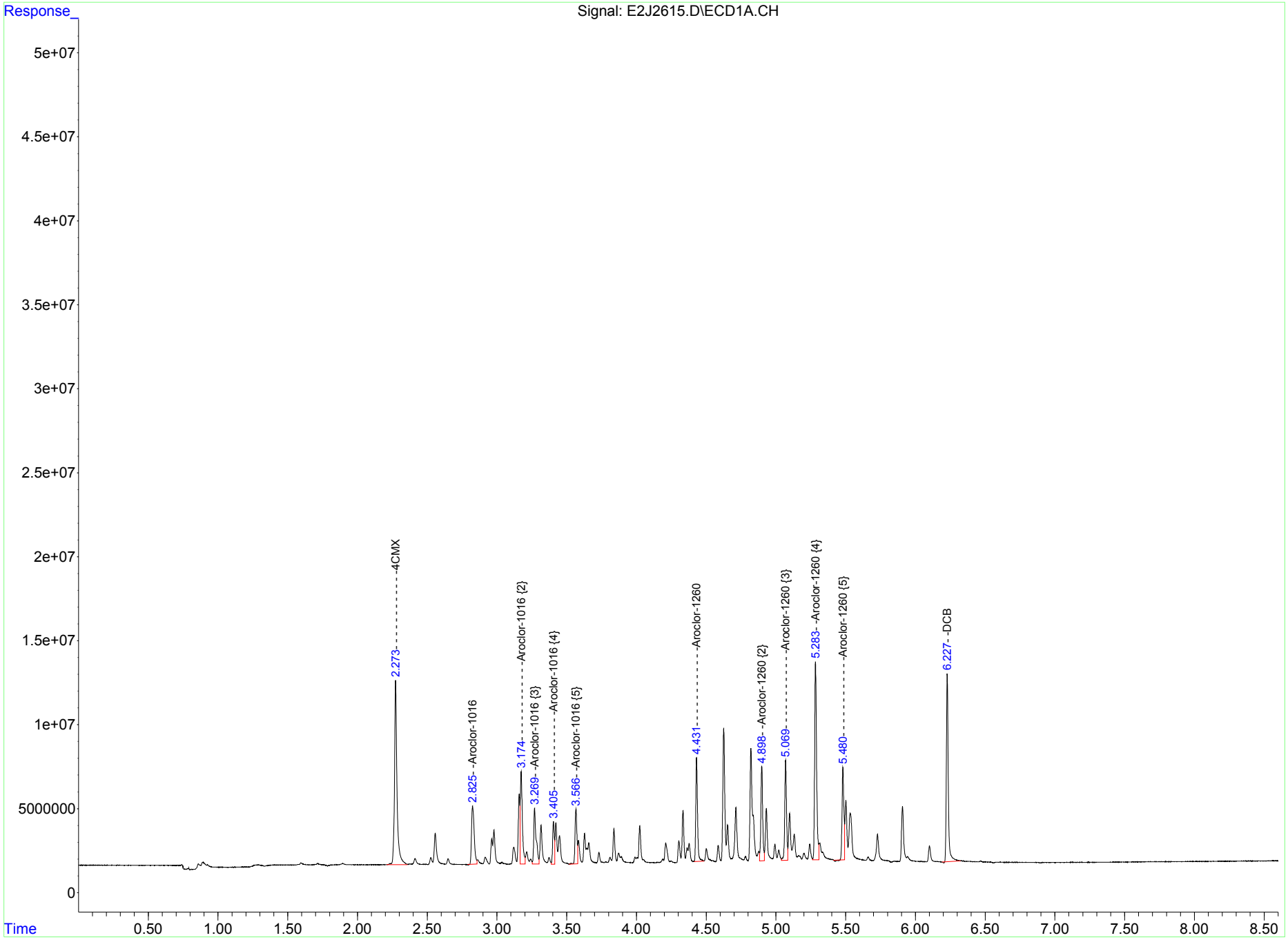
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:02:19 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.274	2.274	0.000	135239685	24.752	2.595	2.595	0.000	142865392	24.929
DCB	6.226	6.228	0.002	105883733	24.632	6.918	6.919	0.001	114372993	24.710
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.825	0.000	46233375	259.756	3.665	3.666	0.001	66550721	254.117
Aroclor-1016 {2}	3.173	3.174	0.001	56867642	250.822	3.764	3.765	0.001	42287707	258.162
Aroclor-1016 {3}	3.270	3.270	0.000	39719795	254.492	3.841	3.841	0.000	25670254	259.523
Aroclor-1016 {4}	3.406	3.406	0.000	20971147	256.550	3.912	3.913	0.001	25328824	263.473
Aroclor-1016 {5}	3.566	3.566	0.000	29741586	253.292	4.109	4.109	0.000	33172633	256.396
Sum Aroclor-1016				193533546	1274.912				193010138	1291.671
Average Aroclor-1016					254.982					258.334
Aroclor-1260	4.431	4.431	0.000	53035751	243.451	5.015	5.015	0.000	56694469	256.355
Aroclor-1260 {2}	4.898	4.898	0.000	50037999	247.311	5.160	5.161	0.001	73169205	257.405
Aroclor-1260 {3}	5.068	5.069	0.001	53188844	242.575	5.475	5.475	0.000	57134830	255.219
Aroclor-1260 {4}	5.282	5.284	0.002	113364902	236.390	5.855	5.856	0.001	127918640	248.095
Aroclor-1260 {5}	5.477	5.480	0.003	49654638	224.867	6.113	6.113	0.000	88302844	247.365
Sum Aroclor-1260				319282135	1194.593				403219987	1264.441
Average Aroclor-1260					238.919					252.888

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2615.D



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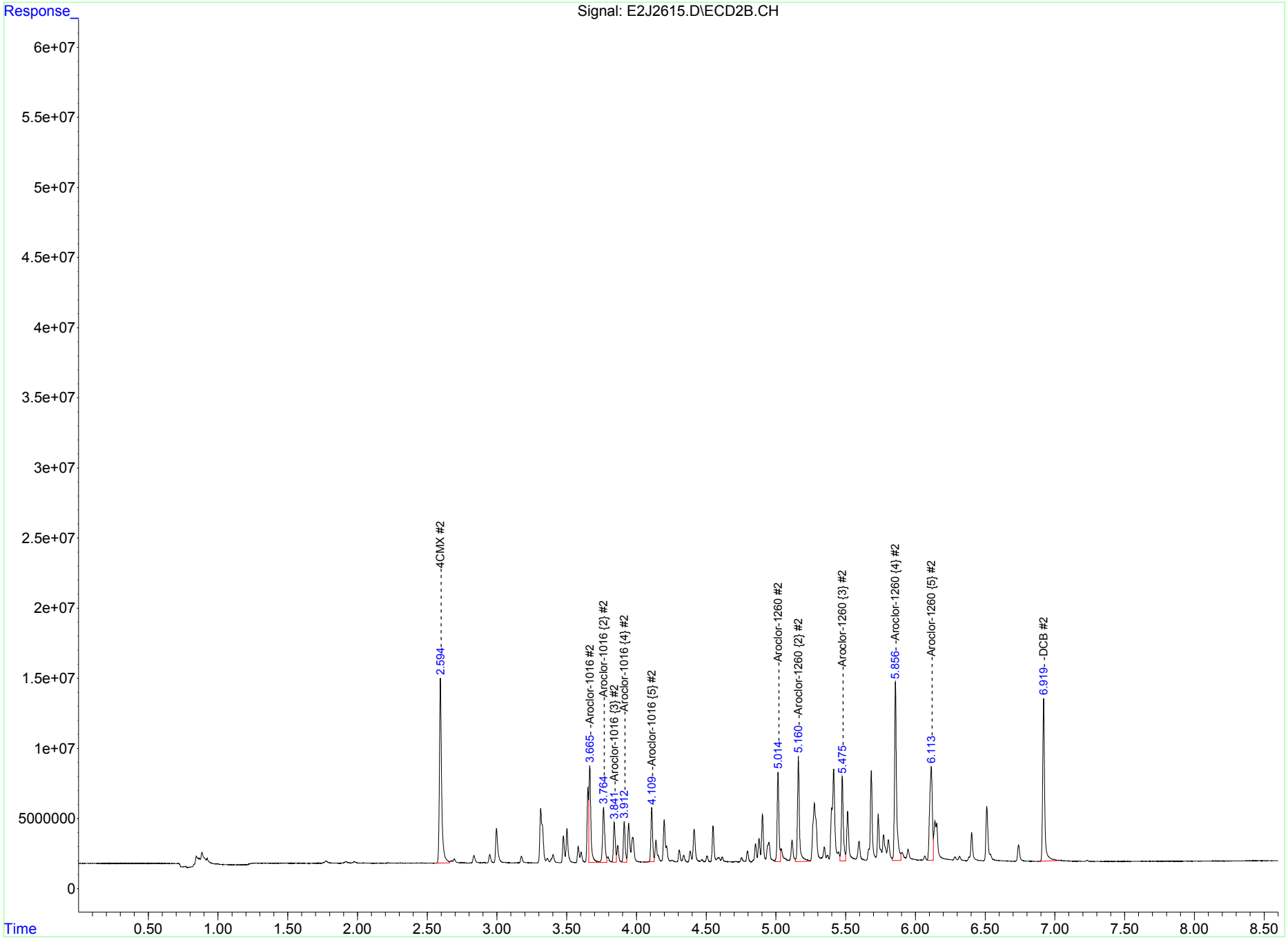
Data File : E2J2615.D



Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2616.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 07:27 (#1); 26 Oct 2020 7:27 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR201009-03|ICAL|1|SVA|1|AR1660-3
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 16 (Sig #2) Sample Multiplier: 1

GS 10/26/2020
JC 10/26/2020

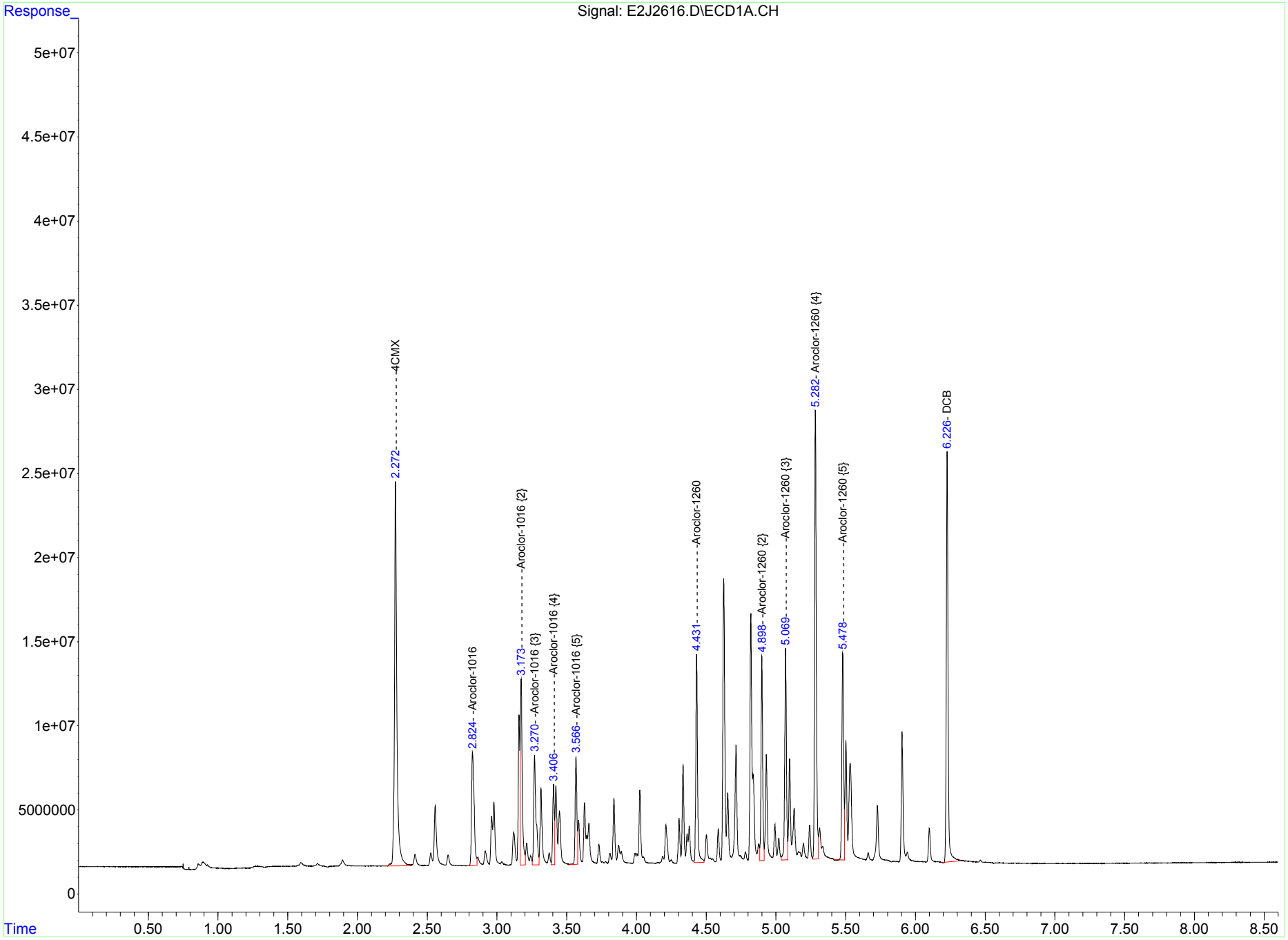
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:02:21 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

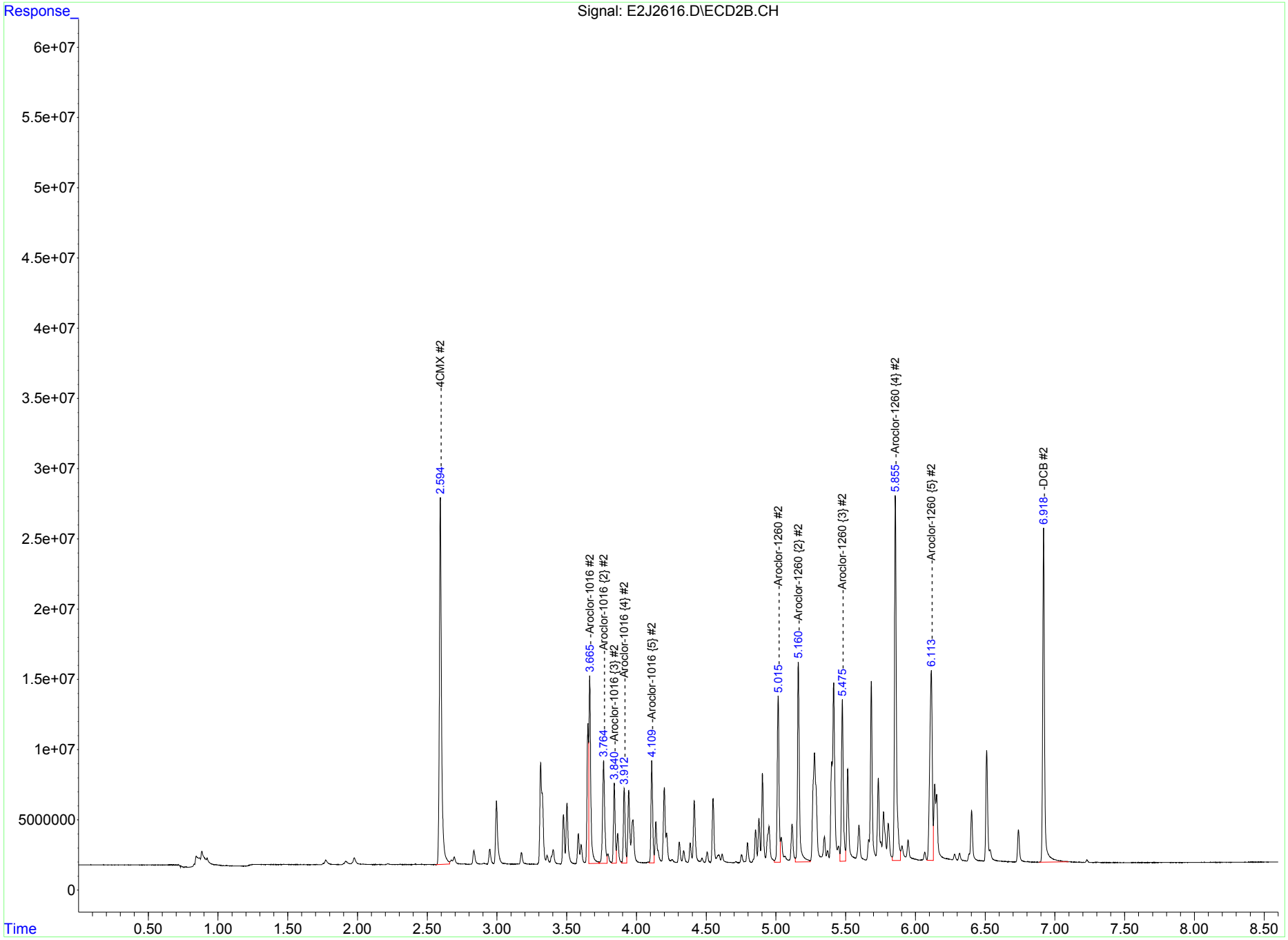
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.274	2.273	-0.001	270689530	49.543	2.595	2.594	-0.001	278128123	48.532
DCB	6.226	6.227	0.001	211544213	49.212	6.918	6.918	0.000	221959294	47.954
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.825	0.000	87517565	491.706	3.665	3.665	0.000	125080595	477.608
Aroclor-1016 {2}	3.173	3.173	0.000	109206921	481.670	3.764	3.765	0.001	77876980	475.430
Aroclor-1016 {3}	3.270	3.270	0.000	75064631	480.952	3.841	3.841	0.000	47021107	475.377
Aroclor-1016 {4}	3.406	3.406	0.000	38842044	475.173	3.912	3.912	0.000	45711098	475.491
Aroclor-1016 {5}	3.566	3.567	0.001	55895301	476.029	4.109	4.110	0.001	61303602	473.825
Sum Aroclor-1016				366526462	2405.530				356993382	2377.731
Average Aroclor-1016					481.106					475.546
Aroclor-1260	4.431	4.431	0.000	106522448	488.972	5.015	5.016	0.001	105361301	476.412
Aroclor-1260 {2}	4.898	4.899	0.001	97418448	481.487	5.160	5.160	0.000	135243118	475.778
Aroclor-1260 {3}	5.068	5.069	0.001	106613113	486.223	5.475	5.476	0.001	105414714	470.884
Aroclor-1260 {4}	5.282	5.283	0.001	231610313	482.956	5.855	5.856	0.001	245074071	475.316
Aroclor-1260 {5}	5.477	5.479	0.002	108439392	491.080	6.113	6.114	0.001	169872901	475.870
Sum Aroclor-1260				650603714	2430.718				760966104	2374.260
Average Aroclor-1260					486.144					474.852

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2616.D



Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2616.D



Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2617.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 07:39 (#1); 26 Oct 2020 7:39 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR201009-04|ICAL|1|SVA|1|AR1660-4
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 17 (Sig #2) Sample Multiplier: 1

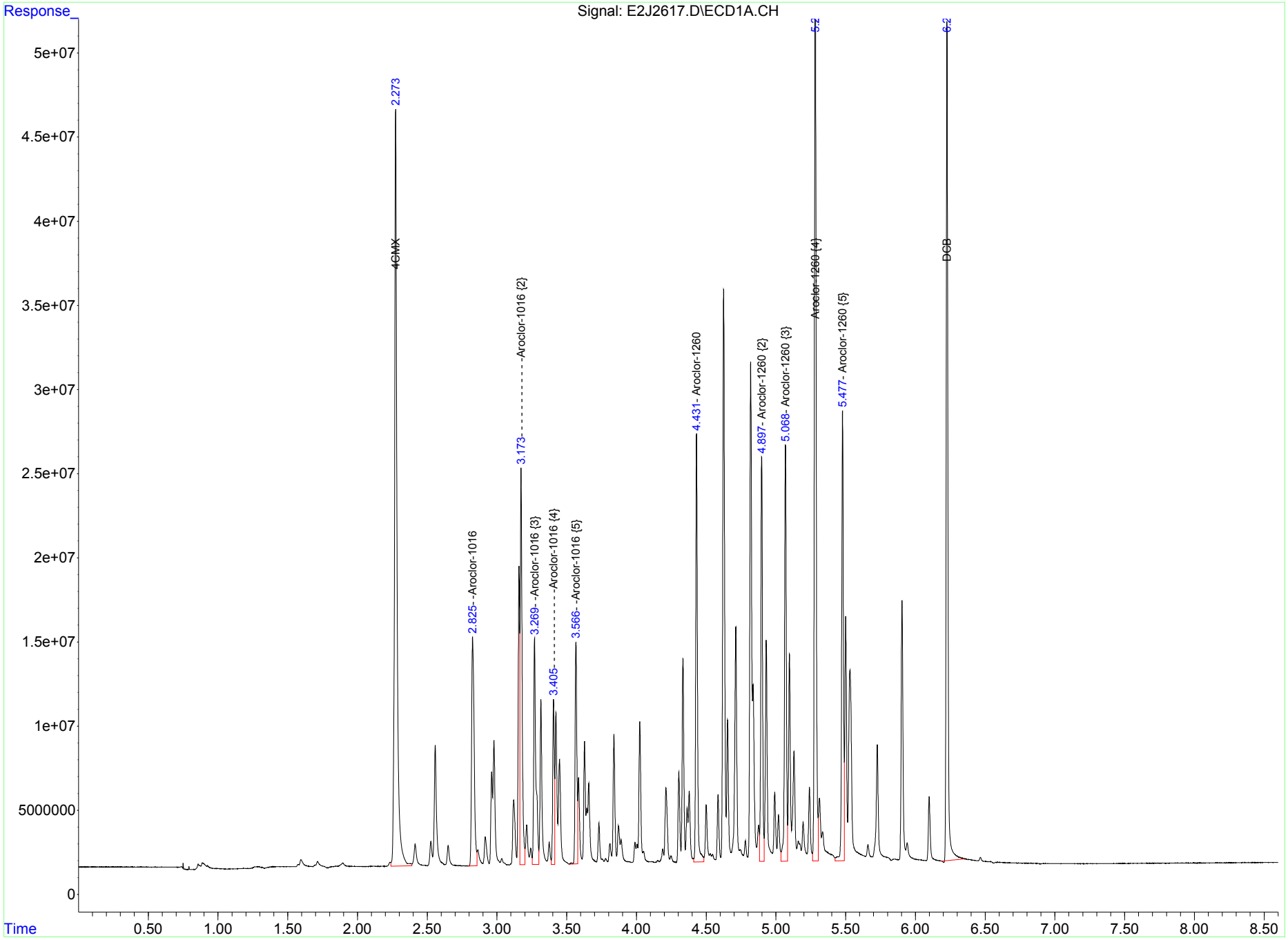
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:02:23 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

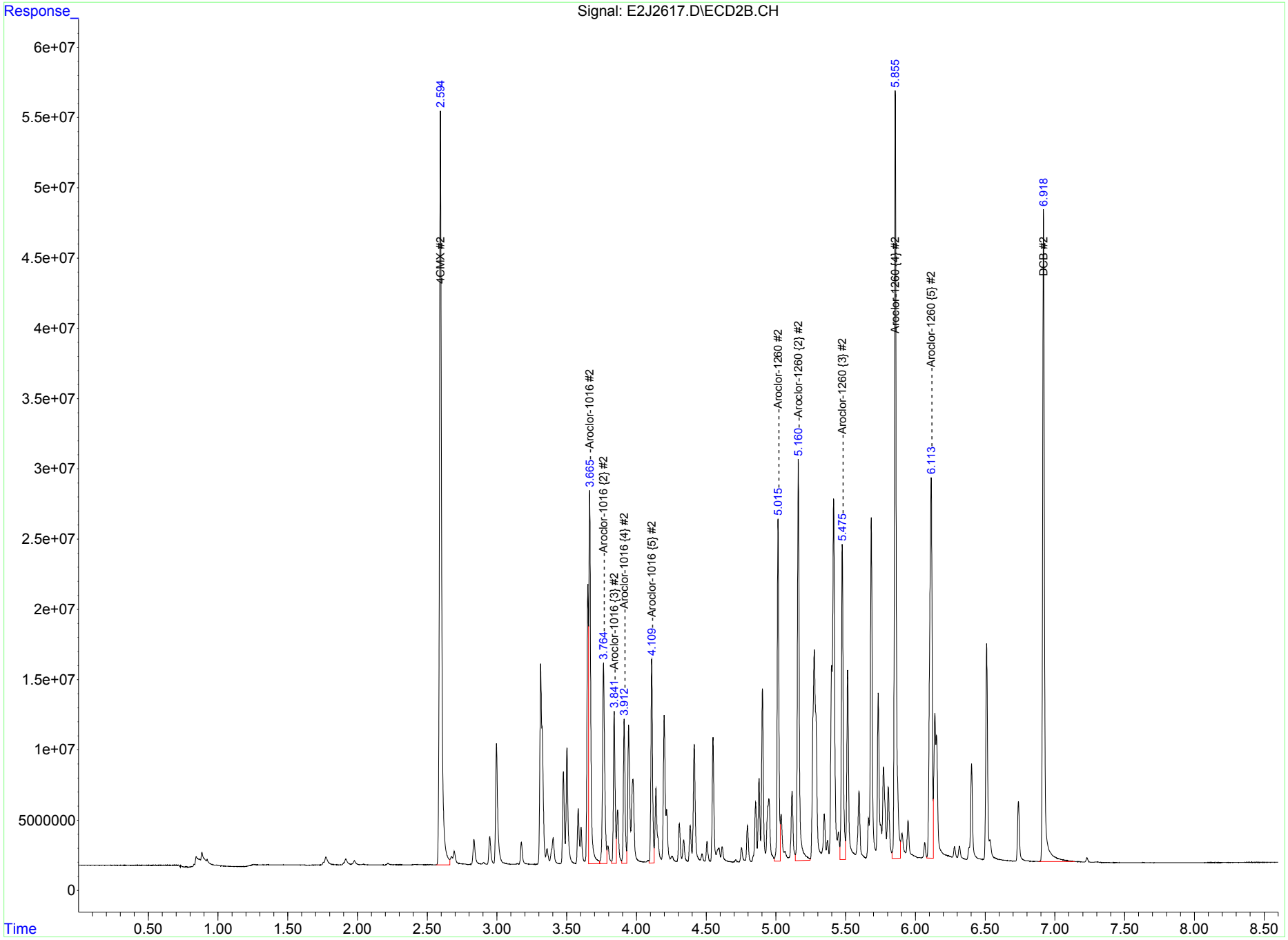
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.274	2.274	0.000	549631902	100.596	2.595	2.595	0.000	567788742	99.075
DCB	6.226	6.226	0.000	420744581	97.878	6.918	6.918	0.000	438179368	94.669
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.825	0.000	173953140	977.333	3.665	3.665	0.000	246552773	941.438
Aroclor-1016 {2}	3.173	3.173	0.000	221082196	975.110	3.764	3.764	0.000	149280740	911.342
Aroclor-1016 {3}	3.270	3.270	0.000	147450694	944.743	3.841	3.841	0.000	91021816	920.217
Aroclor-1016 {4}	3.406	3.406	0.000	76494413	935.792	3.912	3.912	0.000	86779482	902.688
Aroclor-1016 {5}	3.566	3.566	0.000	111581514	950.277	4.109	4.109	0.000	118540783	916.220
Sum Aroclor-1016				730561957	4783.254				692175593	4591.905
Average Aroclor-1016					956.651					918.381
Aroclor-1260	4.431	4.431	0.000	214970185	986.782	5.015	5.015	0.000	201947495	913.146
Aroclor-1260 {2}	4.898	4.898	0.000	199673495	986.879	5.160	5.160	0.000	259244073	912.007
Aroclor-1260 {3}	5.068	5.068	0.000	222429002	1014.416	5.475	5.475	0.000	203402042	908.590
Aroclor-1260 {4}	5.282	5.282	0.000	476449915	993.498	5.855	5.855	0.000	485272299	941.175
Aroclor-1260 {5}	5.477	5.477	0.000	234174458	1060.486	6.113	6.113	0.000	333506469	934.261
Sum Aroclor-1260				1347697055	5042.060				1483372378	4609.180
Average Aroclor-1260					1008.412					921.836

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2617.D



Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2617.D



Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2618.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 07:51 (#1); 26 Oct 2020 7:51 (#2)
Operator : YS1 InstName : ECD2
Sample : |IAR200730-01|ICAL|1|SVA|1|AR1660-5
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 18 (Sig #2) Sample Multiplier: 1

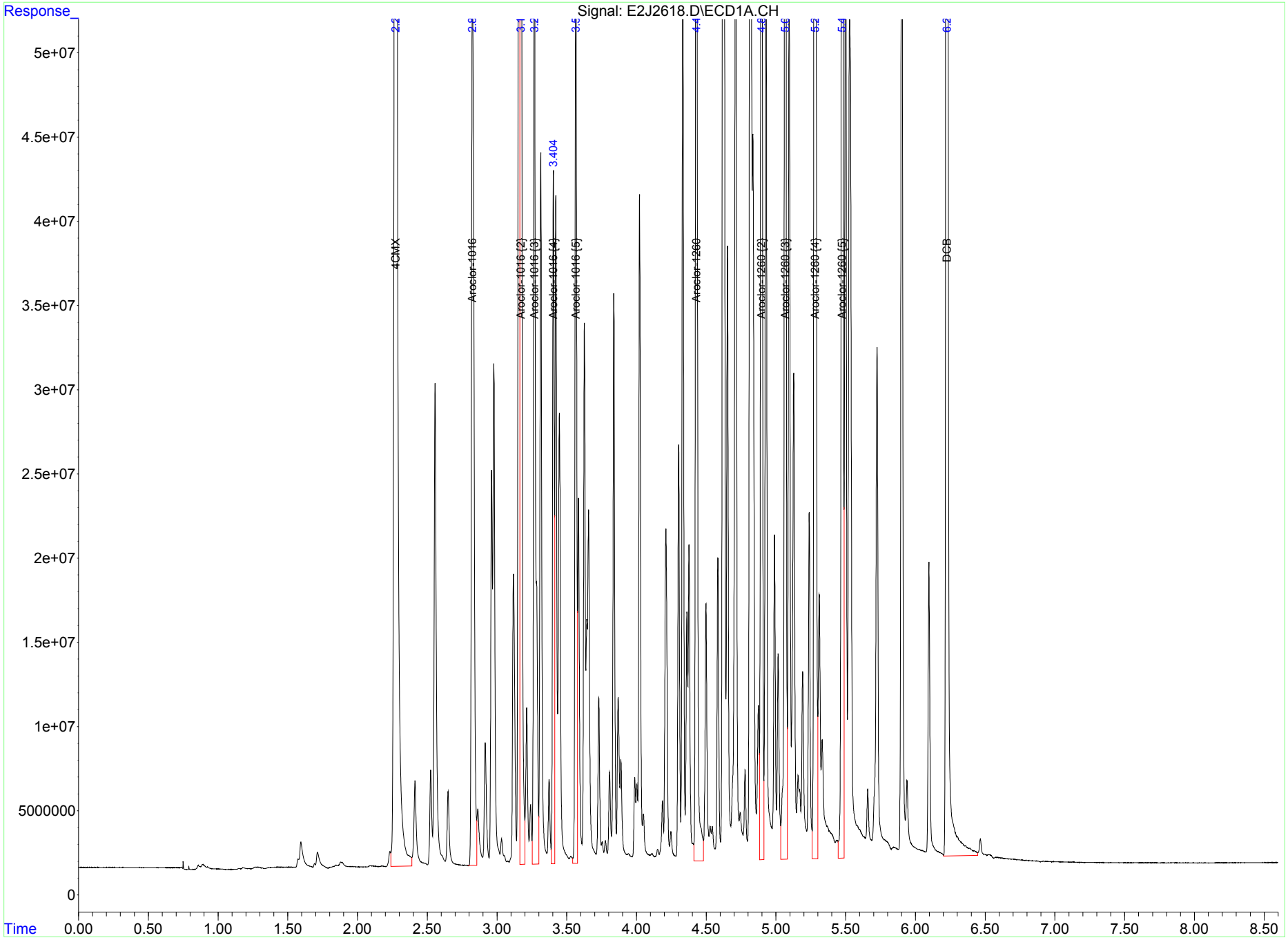
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:02:25 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

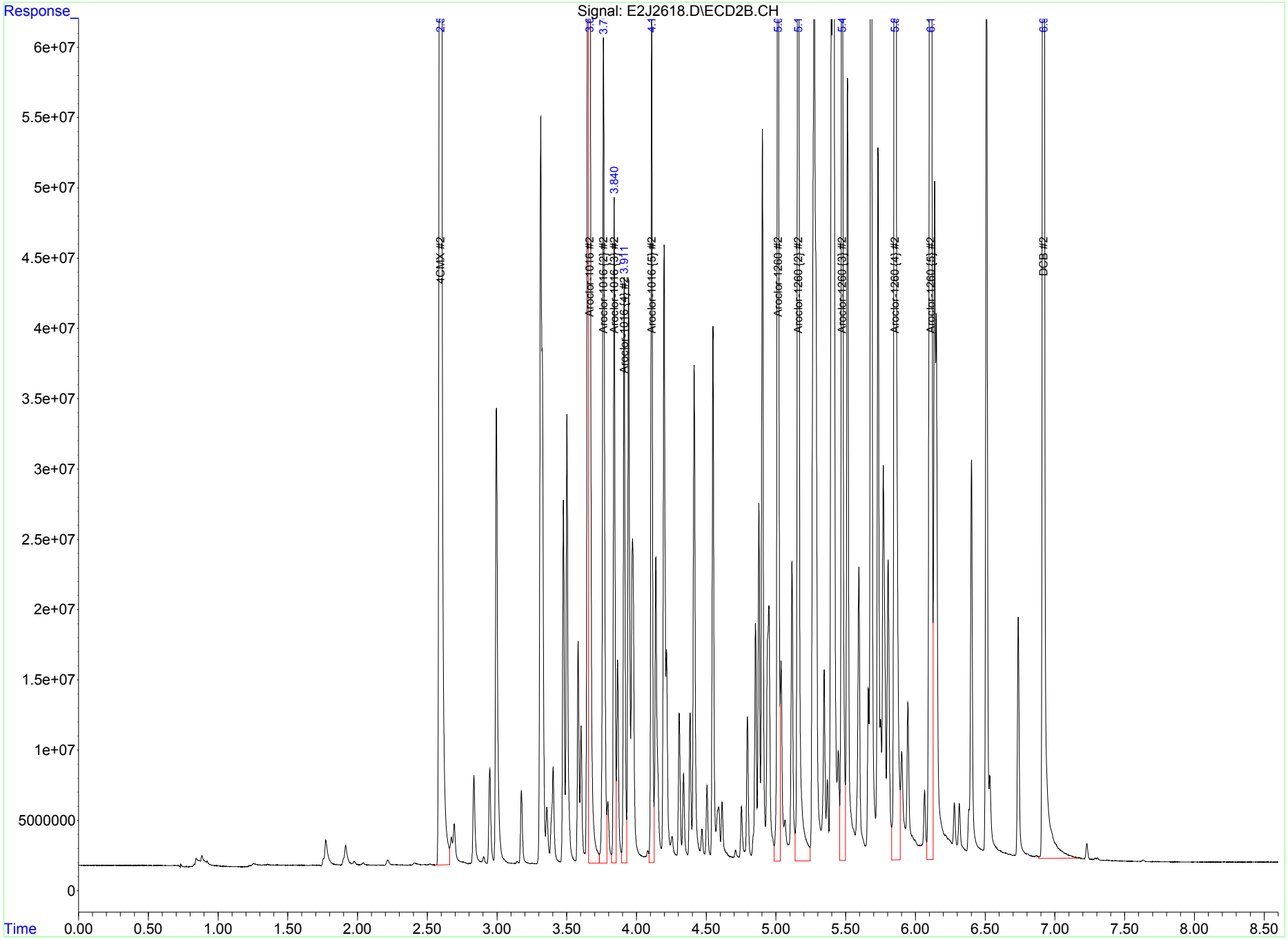
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.274	2.273	-0.001	2143874349	392.383	2.595	2.594	-0.001	2272721994	396.575
DCB	6.226	6.226	0.000	1781818556	414.505 A	6.918	6.918	0.000	1895793669	409.586 A
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.824	-0.001	678351205	3811.227	3.665	3.665	0.000	1013483094	3869.887
Aroclor-1016 {2}	3.173	3.172	-0.001	887473840	3914.311	3.764	3.764	0.000	595565402	3635.861
Aroclor-1016 {3}	3.270	3.269	-0.001	609390578	3904.474	3.841	3.841	0.000	372067522	3761.549
Aroclor-1016 {4}	3.406	3.405	-0.001	321999522	3939.170	3.912	3.912	0.000	343790584	3576.140
Aroclor-1016 {5}	3.566	3.565	-0.001	467219185	3979.042	4.109	4.109	0.000	479443876	3705.695
Sum Aroclor-1016				2964434330	19548.223				2804350478	18549.132
Average Aroclor-1016					3909.645					3709.826
Aroclor-1260	4.431	4.430	-0.001	903763652	4148.563 A	5.015	5.014	-0.001	868639463	3927.728
Aroclor-1260 {2}	4.898	4.897	-0.001	842470960	4163.881 A	5.160	5.160	0.000	1126196000	3961.898
Aroclor-1260 {3}	5.068	5.067	-0.001	945800047	4313.443 A	5.475	5.474	-0.001	874497822	3906.354
Aroclor-1260 {4}	5.282	5.280	-0.002	1956562374	4079.843 A	5.855	5.854	-0.001	2159079823	4187.487 A
Aroclor-1260 {5}	5.477	5.475	-0.002	1006337228	4557.312 A	6.113	6.111	-0.002	1477209747	4138.150 A
Sum Aroclor-1260				5654934260	21263.042				6505622855	20121.617
Average Aroclor-1260					4252.608					4024.323

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2618.D



Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2618.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-129

Injection Date: 26-OCT-20 08:03

Data File: 102620.S\E2J2619.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200605-60

Method: 102620.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	192321.91	1000	8.05	20		Averaged
Aroclor-1016(2)	226725.43	251958.96	1000	11.13	20		Averaged
Aroclor-1016(3)	156074.97	167120.3	1000	7.08	20		Averaged
Aroclor-1016(4)	81742.99	83886.46	1000	2.62	20		Averaged
Aroclor-1016(5)	117420.02	122119.86	1000	4	20		Averaged
Aroclor-1260	217849.78	259023.59	1000	18.9	20		Averaged
Aroclor-1260(2)	202328.31	197836.5	1000	-2.22	20		Averaged
Aroclor-1260(3)	219268.02	229550.44	1000	4.69	20		Averaged
Aroclor-1260(4)	479568.07	484506.79	1000	1.03	20		Averaged
Aroclor-1260(5)	220818.14	255317.53	1000	15.62	20		Averaged
4cmx(Surr)	5463730.67	5812394.25	100	6.38	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4649314.67	100	8.16	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-129

Injection Date: 26-OCT-20 08:03

Data File: 102620.S\E2J2619.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200605-60

Method: 102620.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	290310	1000	10.85	20		Averaged
Aroclor-1016(2)	163803.13	170844.22	1000	4.3	20		Averaged
Aroclor-1016(3)	98913.38	104122.17	1000	5.27	20		Averaged
Aroclor-1016(4)	96134.55	96863.98	1000	0.76	20		Averaged
Aroclor-1016(5)	129380.27	134018.62	1000	3.59	20		Averaged
Aroclor-1260	221155.69	249860.79	1000	12.98	20		Averaged
Aroclor-1260(2)	284256.72	324344.88	1000	14.1	20		Averaged
Aroclor-1260(3)	223865.49	209421.25	1000	-6.45	20		Averaged
Aroclor-1260(4)	515602.74	510944.42	1000	-0.9	20		Averaged
Aroclor-1260(5)	356973.45	351914.56	1000	-1.42	20		Averaged
4cmx(Surr)	5730871.59	6024196.19	100	5.12	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	4847665.32	100	4.73	20		Averaged

Quantitation Report
GEL Laboratories, LLC

10/26/2020

10/26/2020

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2619.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 08:03 (#1); 26 Oct 2020 8:03 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR200605-60|ICV|1|SVA|1|AR1660
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 19 (Sig #2) Sample Multiplier: 1

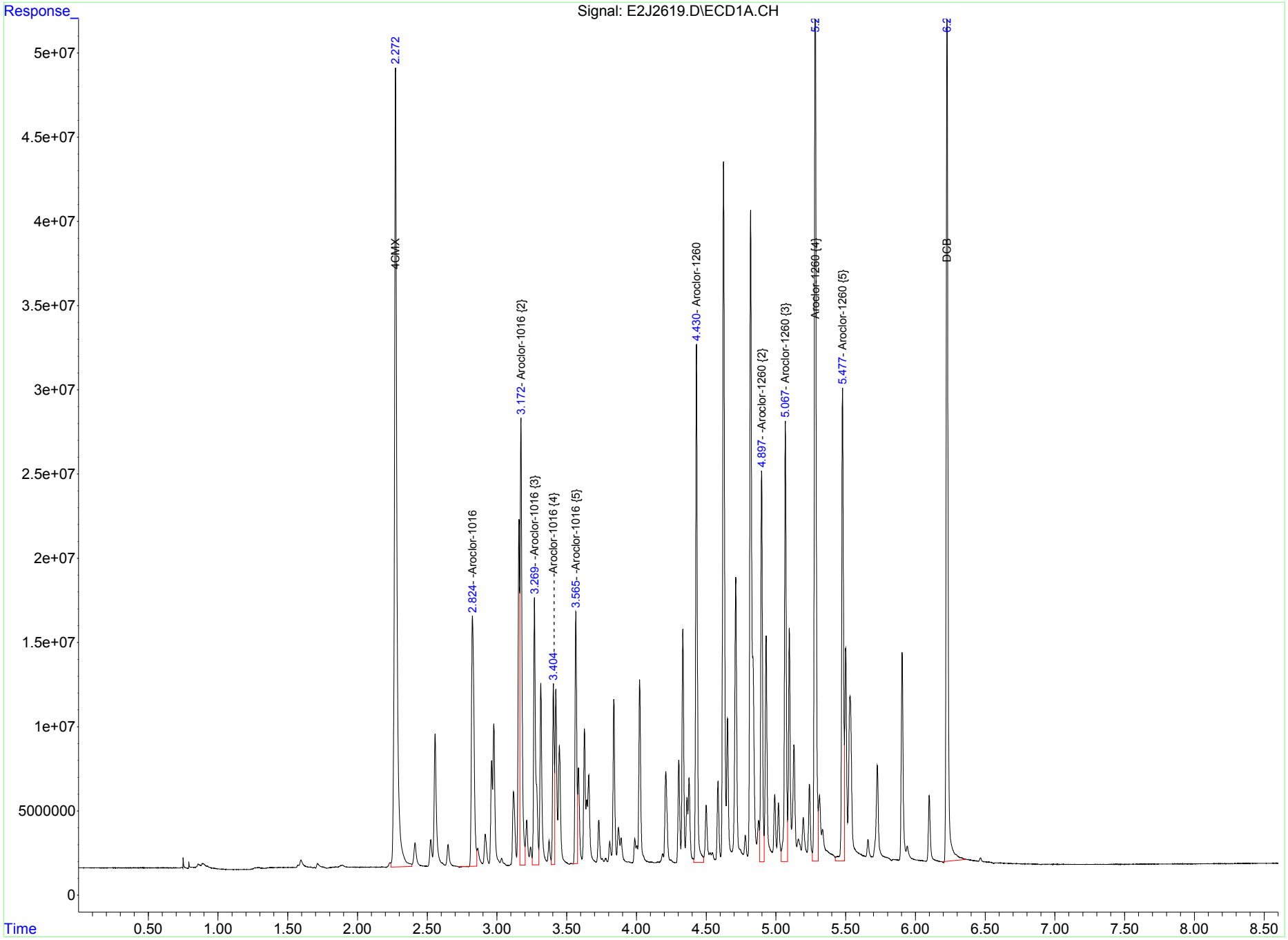
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:17:13 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

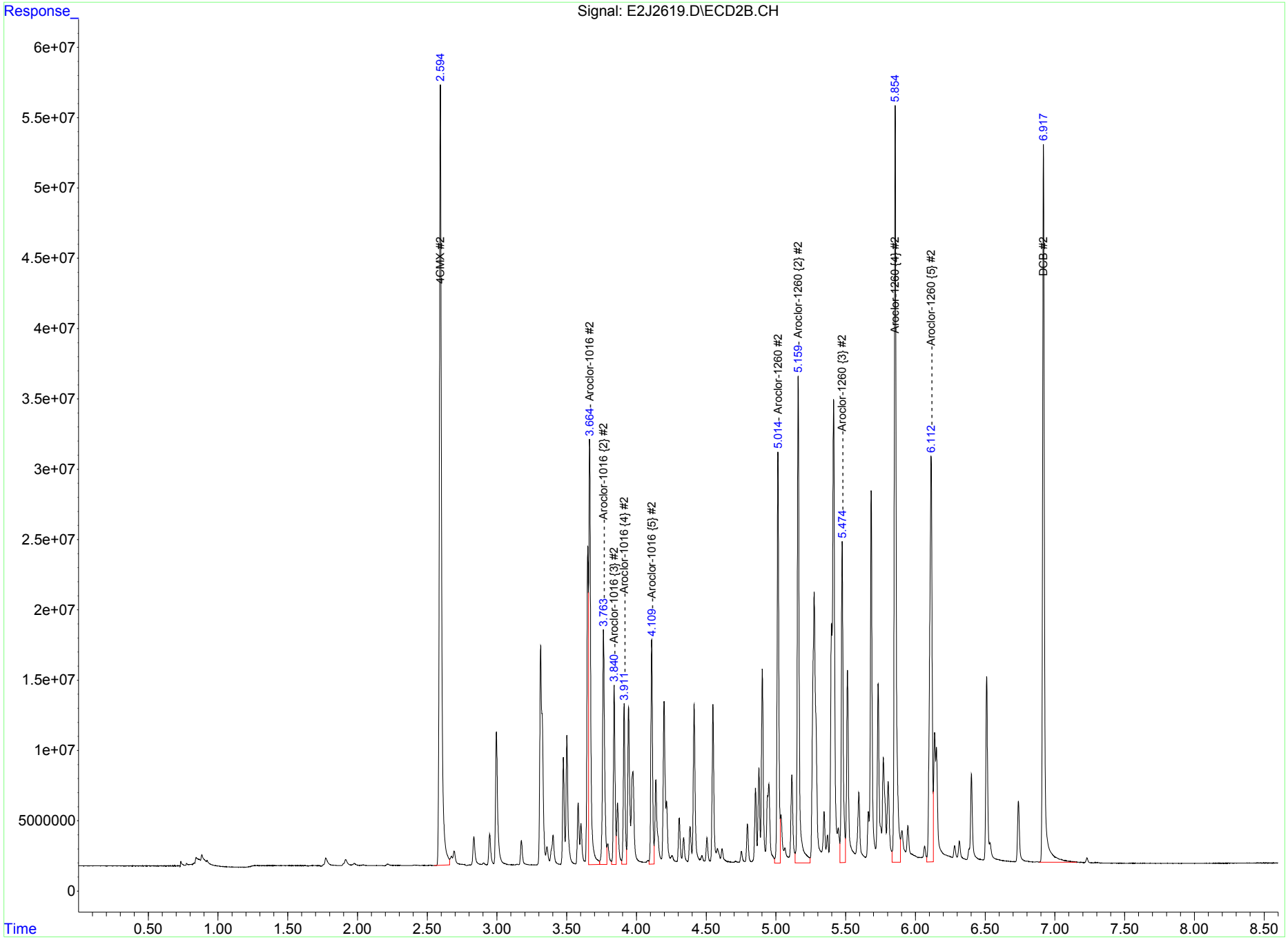
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.273	2.273	0.000	581239425	106.381	2.594	2.594	0.000	602419619	105.118
DCB	6.226	6.226	0.000	464931467	108.157	6.918	6.918	0.000	484766532	104.734
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.825	0.000	192321913	1080.535	3.664	3.664	0.000	290310001	1108.521
Aroclor-1016 {2}	3.173	3.173	0.000	251958960	1111.296	3.764	3.764	0.000	170844220	1042.985
Aroclor-1016 {3}	3.269	3.269	0.000	167120298	1070.769	3.841	3.841	0.000	104122166	1052.660
Aroclor-1016 {4}	3.405	3.405	0.000	83886459	1026.222	3.912	3.912	0.000	96863979	1007.588
Aroclor-1016 {5}	3.566	3.566	0.000	122119856	1040.026	4.109	4.109	0.000	134018617	1035.850
Sum Aroclor-1016				817407486	5328.848				796158983	5247.604
Average Aroclor-1016					1065.770					1049.521
Aroclor-1260	4.431	4.431	0.000	259023586	1189.001	5.014	5.014	0.000	249860786	1129.796
Aroclor-1260 {2}	4.897	4.897	0.000	197836500	977.799	5.159	5.159	0.000	324344880	1141.028
Aroclor-1260 {3}	5.068	5.068	0.000	229550441	1046.894	5.475	5.475	0.000	209421247	935.478
Aroclor-1260 {4}	5.282	5.282	0.000	484506791	1010.298	5.855	5.855	0.000	510944420	990.965
Aroclor-1260 {5}	5.477	5.477	0.000	255317533	1156.234	6.112	6.112	0.000	351914562	985.828
Sum Aroclor-1260				1426234850	5380.227				1646485895	5183.096
Average Aroclor-1260					1076.045					1036.619

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2619.D



Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2619.D



Quantitation Report
GEL Laboratories, LLC

11/20/2020

11/20/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2003.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 05:23 (#1); 20 Nov 2020   5:23 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200707-32|CCV|1|SVA|1|AR1232
Misc   : MIX[F]
ALS Vial : 0 (Sig #1); 3 (Sig #2)   Sample Multiplier: 1

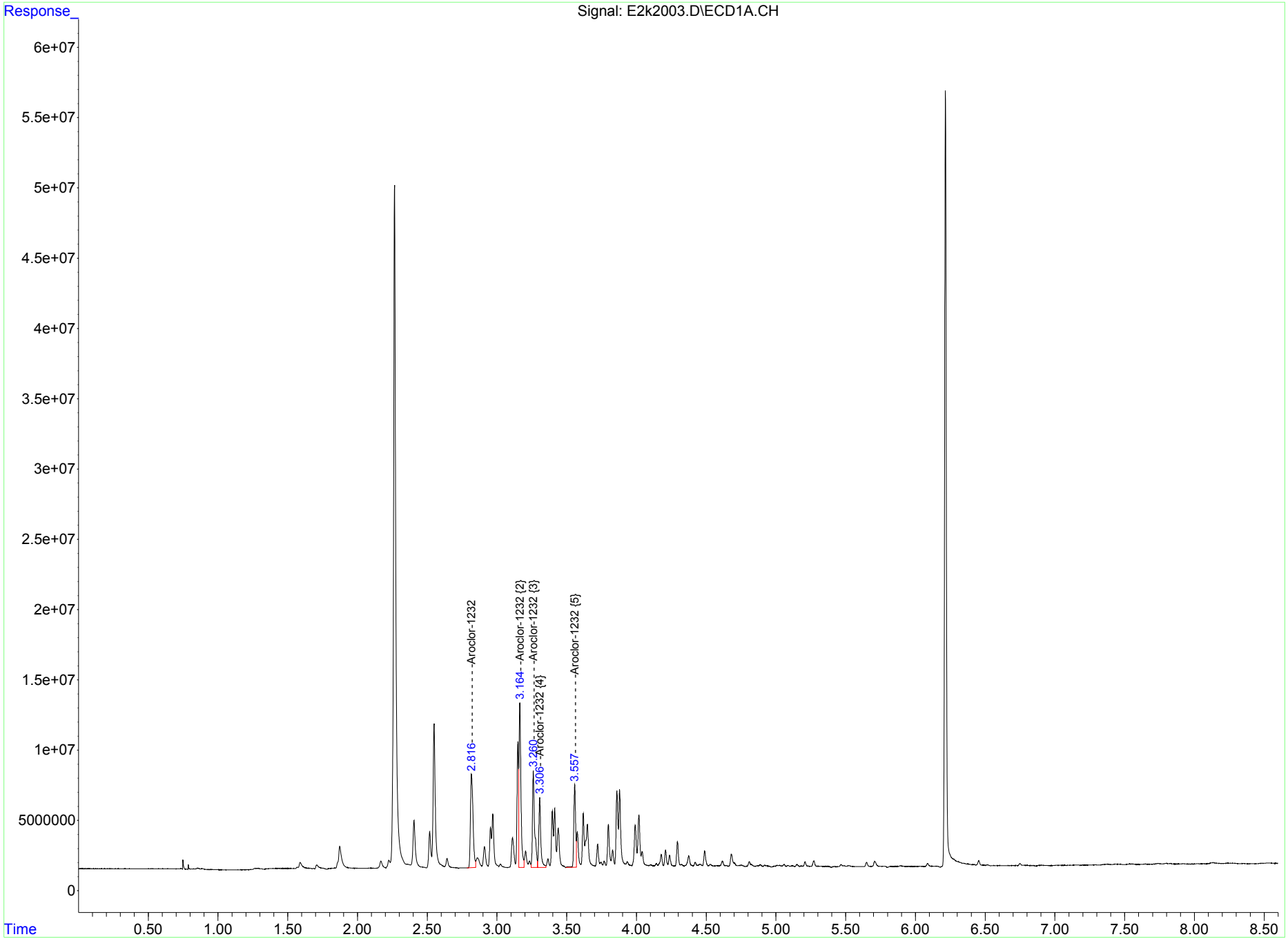
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:45:57 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

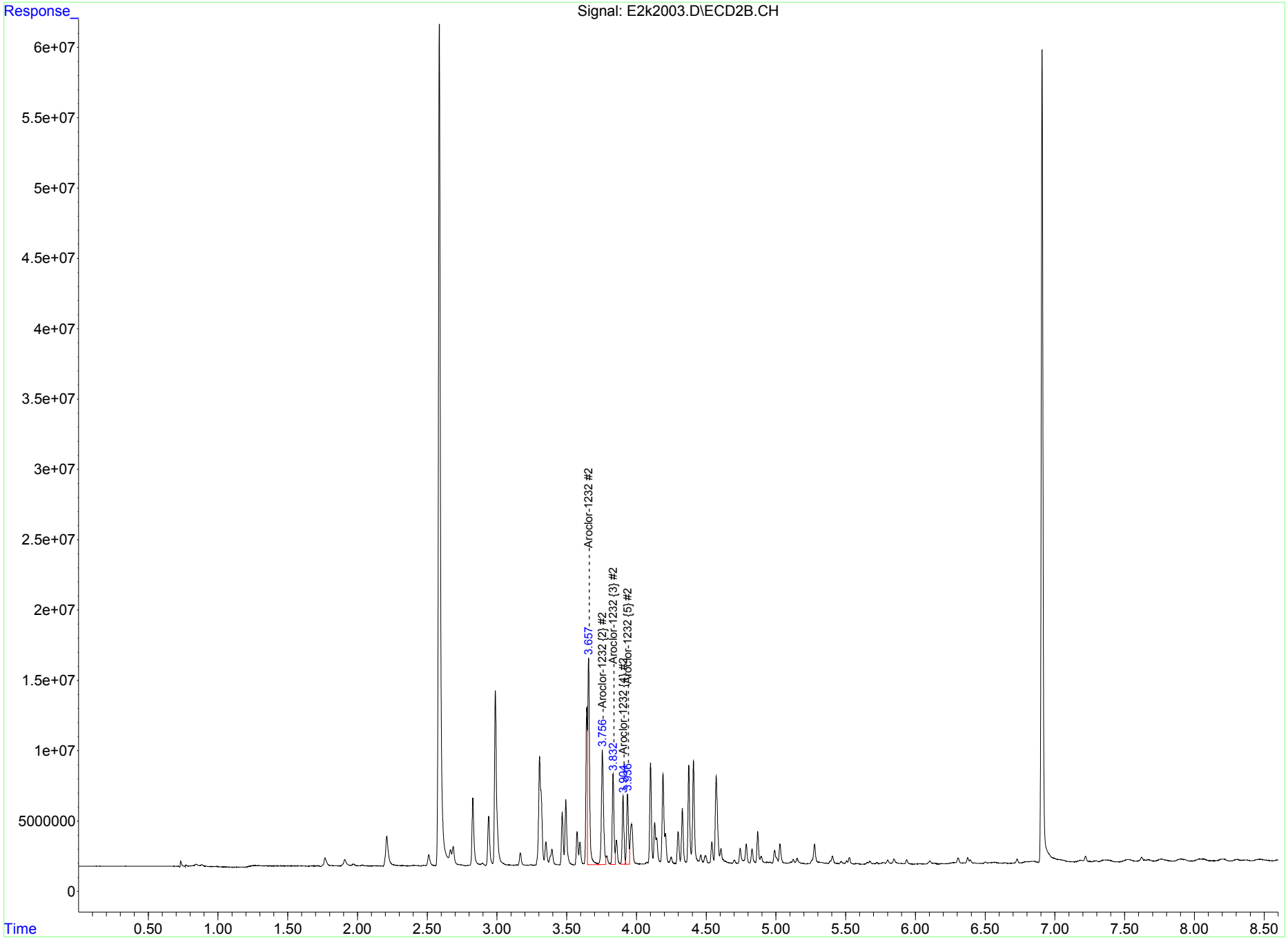
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Aroclor-1232	2.817	2.817	0.000	85863535	1095.447 A	3.657	3.657	0.000	132010597	1289.651 A
Aroclor-1232 {2}	3.165	3.165	0.000	111418585	1108.519 A	3.756	3.756	0.000	84832685	1281.342 A
Aroclor-1232 {3}	3.261	3.261	0.000	74780565	1120.214 A	3.832	3.832	0.000	52868455	1272.944 A
Aroclor-1232 {4}	3.307	3.307	0.000	48922417	1132.633 A	3.904	3.904	0.000	40453891	1243.056 A
Aroclor-1232 {5}	3.557	3.557	0.000	51709068	1154.452 A	3.936	3.936	0.000	45113589	1251.995 A
Sum Aroclor-1232				372694170	5611.265				355279218	6338.988
Average Aroclor-1232					1122.253					1267.798

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2003.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2003.D



Quantitation Report
GEL Laboratories, LLC

11/20/2020

11/20/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2004.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 05:35 (#1); 20 Nov 2020   5:35 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200701-21|CCV|1|SVA|1|AR1221
Misc   : MIX[J]
ALS Vial : 0 (Sig #1); 4 (Sig #2)   Sample Multiplier: 1

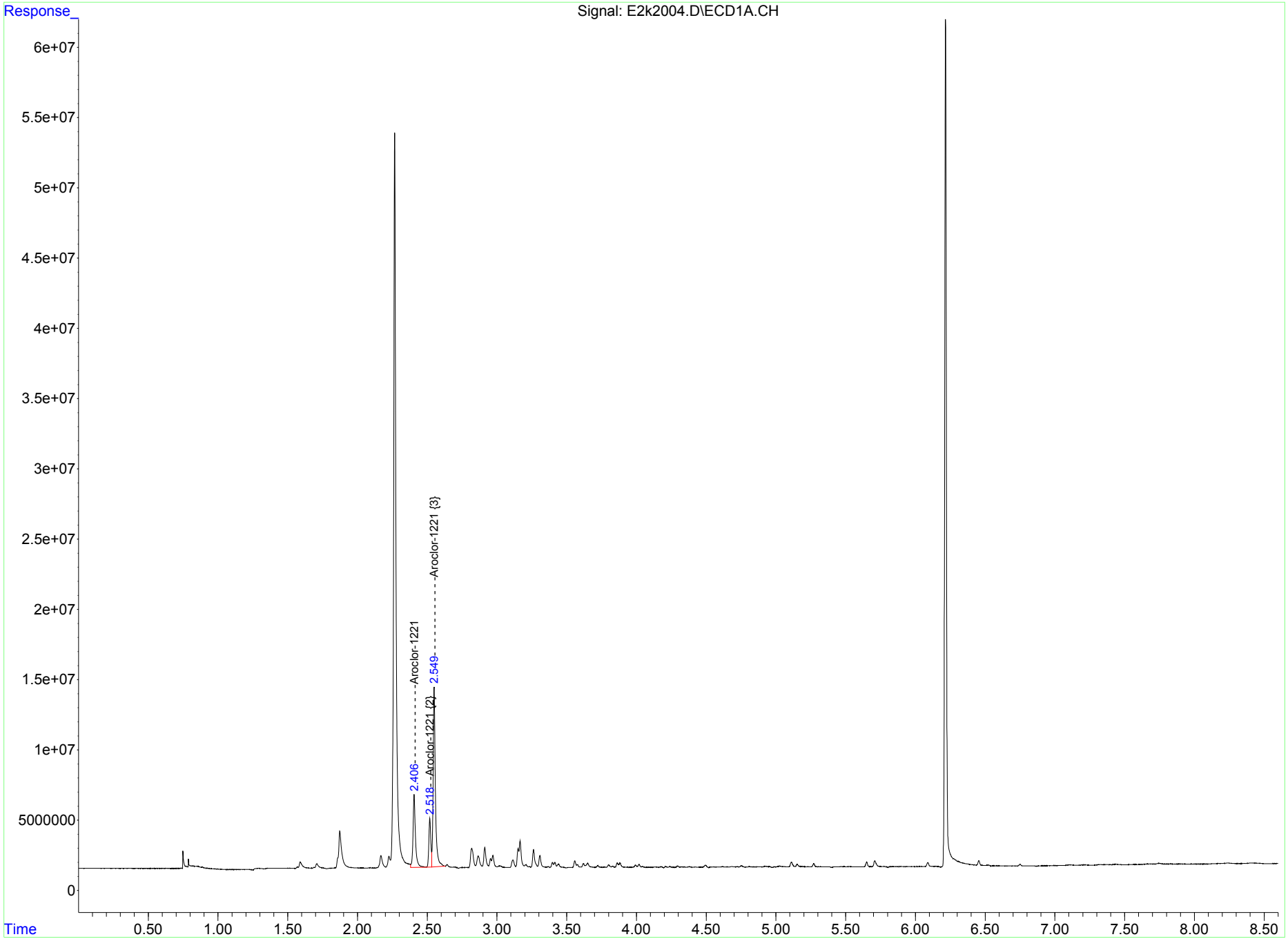
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:45:59 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

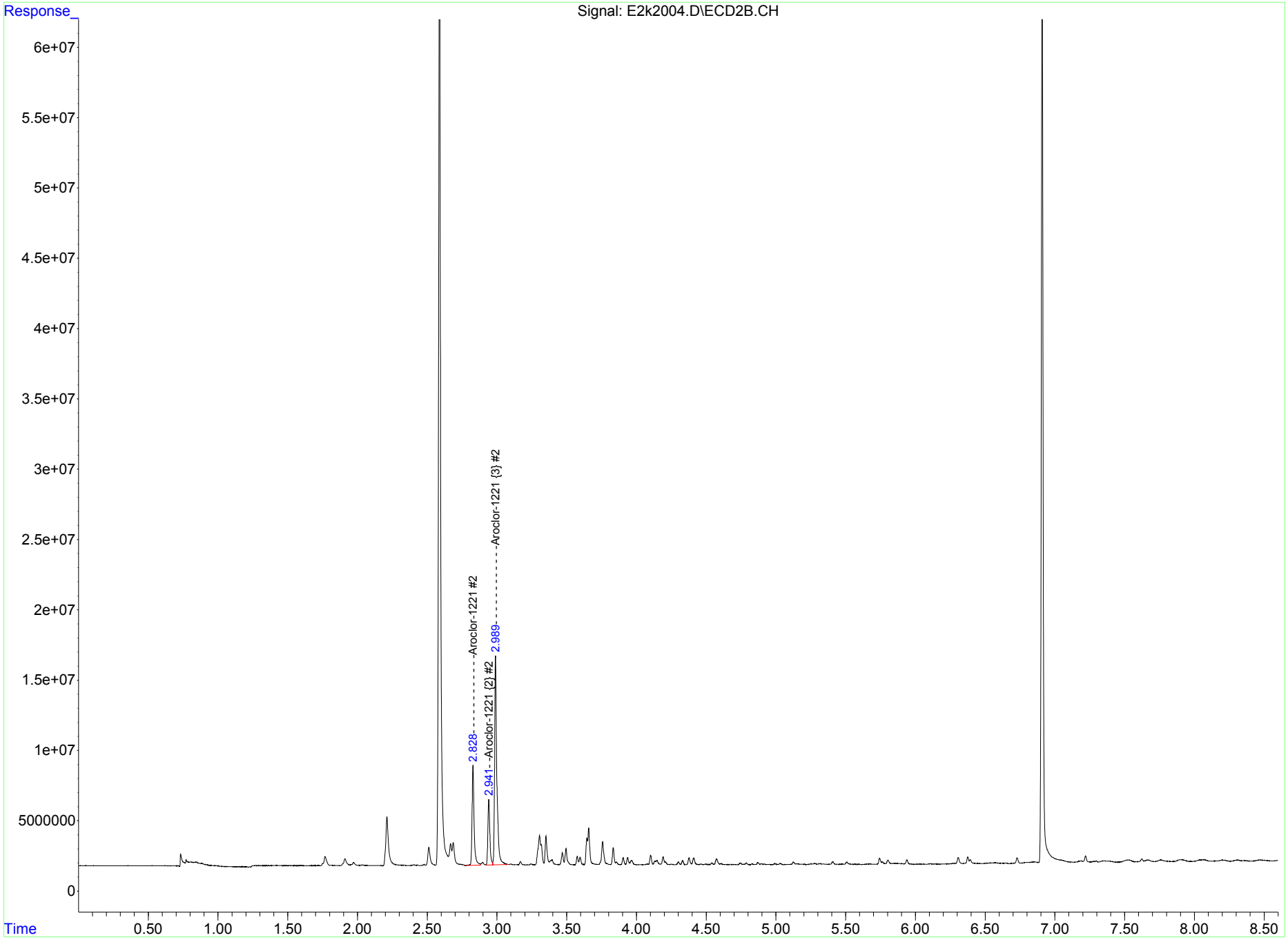
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Aroclor-1221	2.406	2.406	0.000	62153951	1048.469 A	2.828	2.828	0.000	72046220	1264.930 A
Aroclor-1221 {2}	2.519	2.519	0.000	33227454	1057.735 A	2.942	2.942	0.000	45211011	1239.122 A
Aroclor-1221 {3}	2.549	2.549	0.000	142433841	1083.741 A	2.990	2.990	0.000	164750316	1268.908 A
Sum Aroclor-1221				237815246	3189.944				282007547	3772.960
Average Aroclor-1221					1063.315					1257.653

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2004.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2004.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-129

Injection Date: 20-NOV-20 05:47

Data File: 112020.S\E2k2005.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	175642.52	1000	-1.32	20		Averaged
Aroclor-1016(2)	226725.43	234067.1	1000	3.24	20		Averaged
Aroclor-1016(3)	156074.97	153286.41	1000	-1.79	20		Averaged
Aroclor-1016(4)	81742.99	78411.86	1000	-4.08	20		Averaged
Aroclor-1016(5)	117420.02	114495.08	1000	-2.49	20		Averaged
Aroclor-1260	217849.78	232320.08	1000	6.64	20		Averaged
Aroclor-1260(2)	202328.31	215467.44	1000	6.49	20		Averaged
Aroclor-1260(3)	219268.02	241154.85	1000	9.98	20		Averaged
Aroclor-1260(4)	479568.07	525073.45	1000	9.49	20		Averaged
Aroclor-1260(5)	220818.14	254474.45	1000	15.24	20		Averaged
4cmx(Surr)	5463730.67	5456316.76	100	-0.14	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4708063.81	100	9.52	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-129

Injection Date: 20-NOV-20 05:47

Data File: 112020.S\E2k2005.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	272992.31	1000	4.24	20		Averaged
Aroclor-1016(2)	163803.13	169408.46	1000	3.42	20		Averaged
Aroclor-1016(3)	98913.38	105160.99	1000	6.32	20		Averaged
Aroclor-1016(4)	96134.55	97748.39	1000	1.68	20		Averaged
Aroclor-1016(5)	129380.27	136631.8	1000	5.6	20		Averaged
Aroclor-1260	221155.69	251790.87	1000	13.85	20		Averaged
Aroclor-1260(2)	284256.72	319137.21	1000	12.27	20		Averaged
Aroclor-1260(3)	223865.49	249760.85	1000	11.57	20		Averaged
Aroclor-1260(4)	515602.74	610714.56	1000	18.45	20		Averaged
Aroclor-1260(5)	356973.45	424217.01	1000	18.84	20		Averaged
4cmx(Surr)	5730871.59	5892837.52	100	2.83	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	5179848.23	100	11.91	20		Averaged

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2005.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 05:47 (#1); 20 Nov 2020 5:47 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR200922-60|CCV|1|SVA|1|AR12660
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 5 (Sig #2) Sample Multiplier: 1

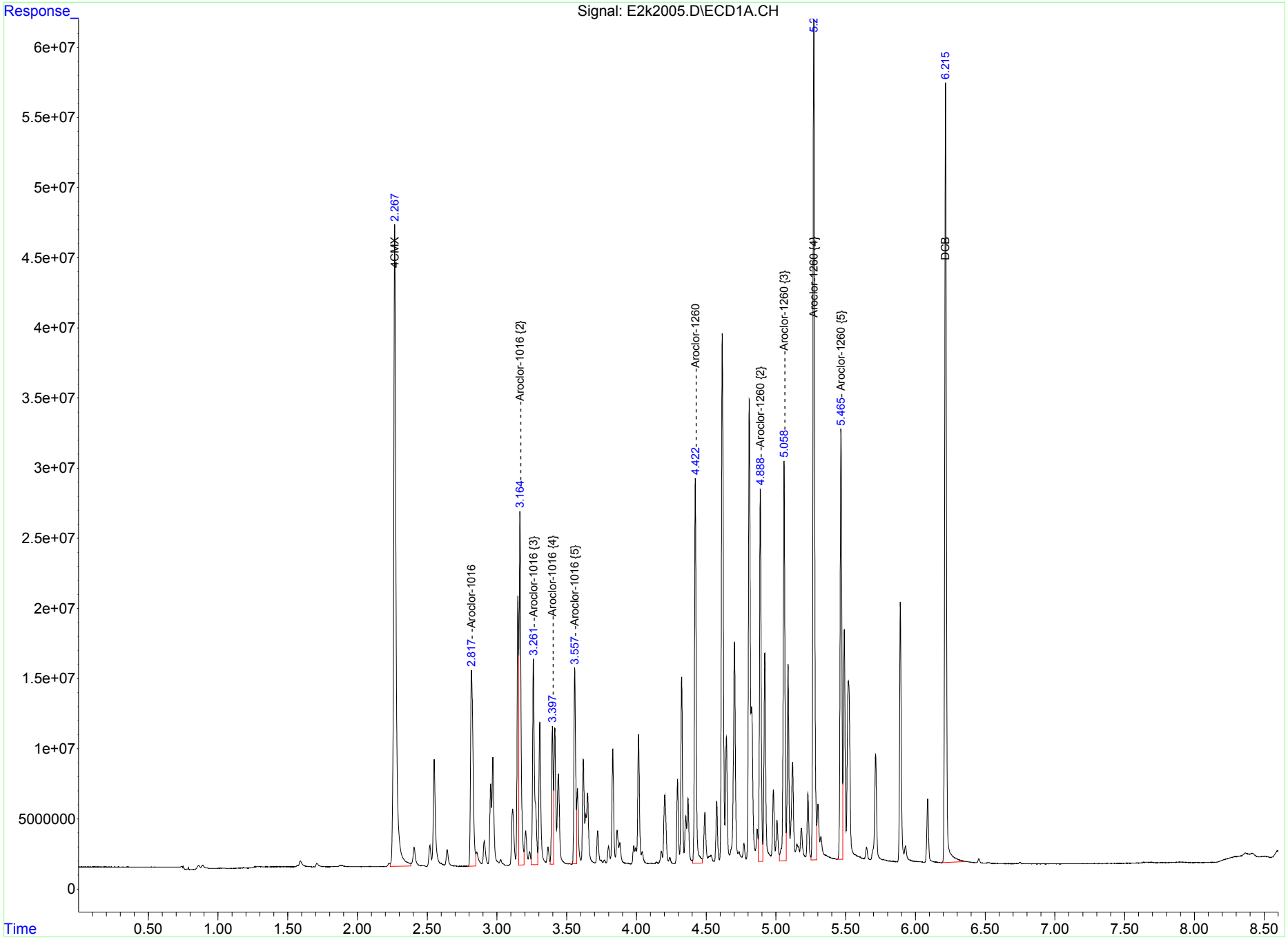
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 20 06:46:01 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

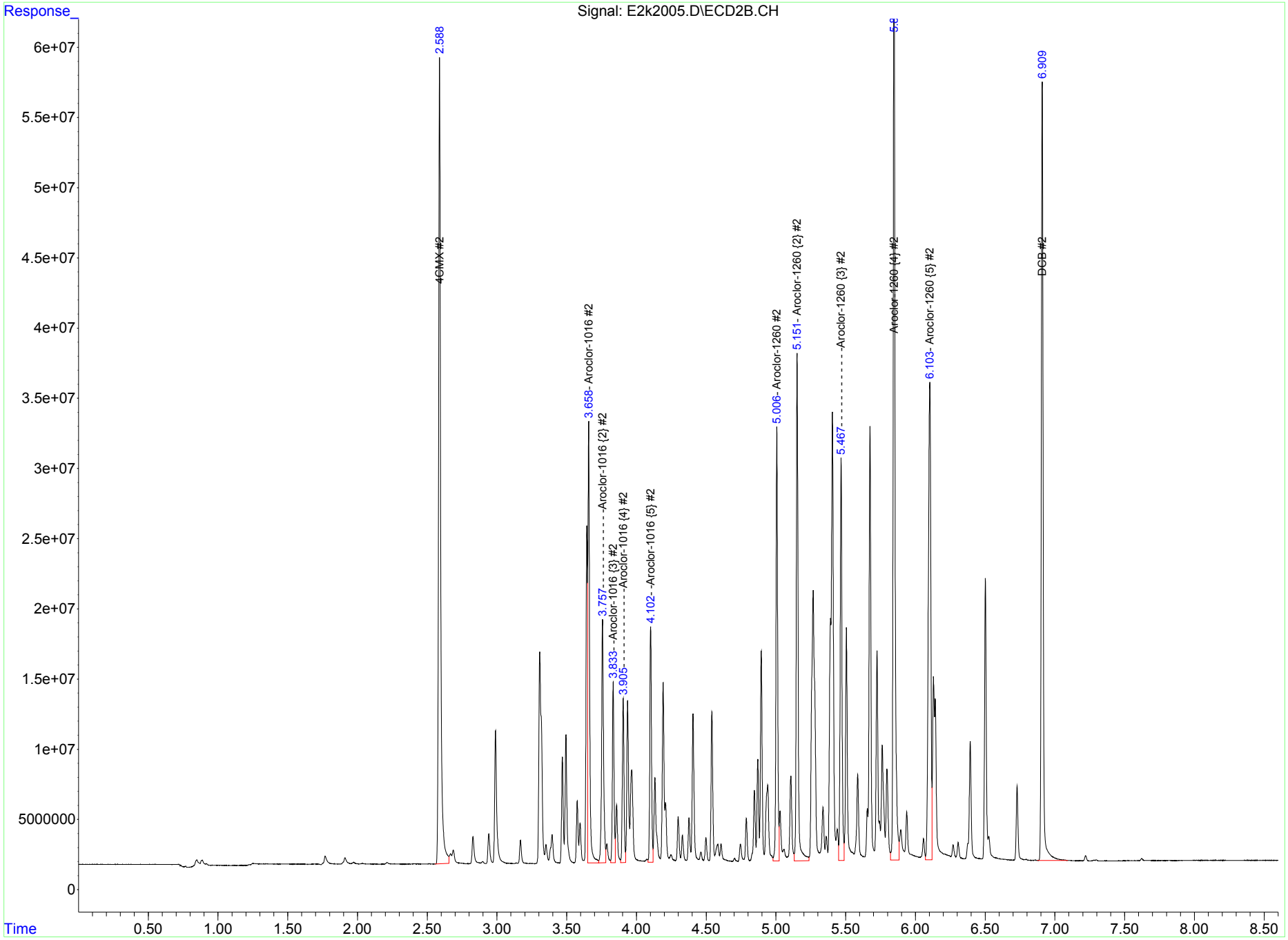
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.267	0.000	545631676	99.864	2.589	2.589	0.000	589283752	102.826
DCB	6.216	6.216	0.000	470806381	109.524	6.909	6.909	0.000	517984823	111.911
Target Compounds										
Aroclor-1016	2.817	2.817	0.000	175642523	986.824	3.658	3.658	0.000	272992309	1042.395
Aroclor-1016 {2}	3.165	3.165	0.000	234067095	1032.381	3.757	3.757	0.000	169408463	1034.220
Aroclor-1016 {3}	3.261	3.261	0.000	153286412	982.133	3.834	3.834	0.000	105160993	1063.162
Aroclor-1016 {4}	3.398	3.398	0.000	78411856	959.249	3.905	3.905	0.000	97748385	1016.787
Aroclor-1016 {5}	3.558	3.558	0.000	114495083	975.090	4.102	4.102	0.000	136631804	1056.048
Sum Aroclor-1016				755902969	4935.677				781941954	5212.613
Average Aroclor-1016					987.135					1042.523
Aroclor-1260	4.422	4.422	0.000	232320075	1066.423	5.006	5.006	0.000	251790865	1138.523
Aroclor-1260 {2}	4.888	4.888	0.000	215467438	1064.940	5.152	5.152	0.000	319137209	1122.708
Aroclor-1260 {3}	5.058	5.058	0.000	241154849	1099.818	5.467	5.467	0.000	249760846	1115.674
Aroclor-1260 {4}	5.272	5.272	0.000	525073452	1094.888	5.846	5.846	0.000	610714563	1184.467
Aroclor-1260 {5}	5.466	5.466	0.000	254474452	1152.416	6.103	6.103	0.000	424217011	1188.371
Sum Aroclor-1260				1468490265	5478.485				1855620493	5749.743
Average Aroclor-1260					1095.697					1149.949

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2005.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2005.D



Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2006.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 05:59 (#1); 20 Nov 2020   5:59 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200825-54|CCV|1|SVA|1|AR1254
Misc   : MIX[B]
ALS Vial : 0 (Sig #1); 6 (Sig #2)   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:46:03 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

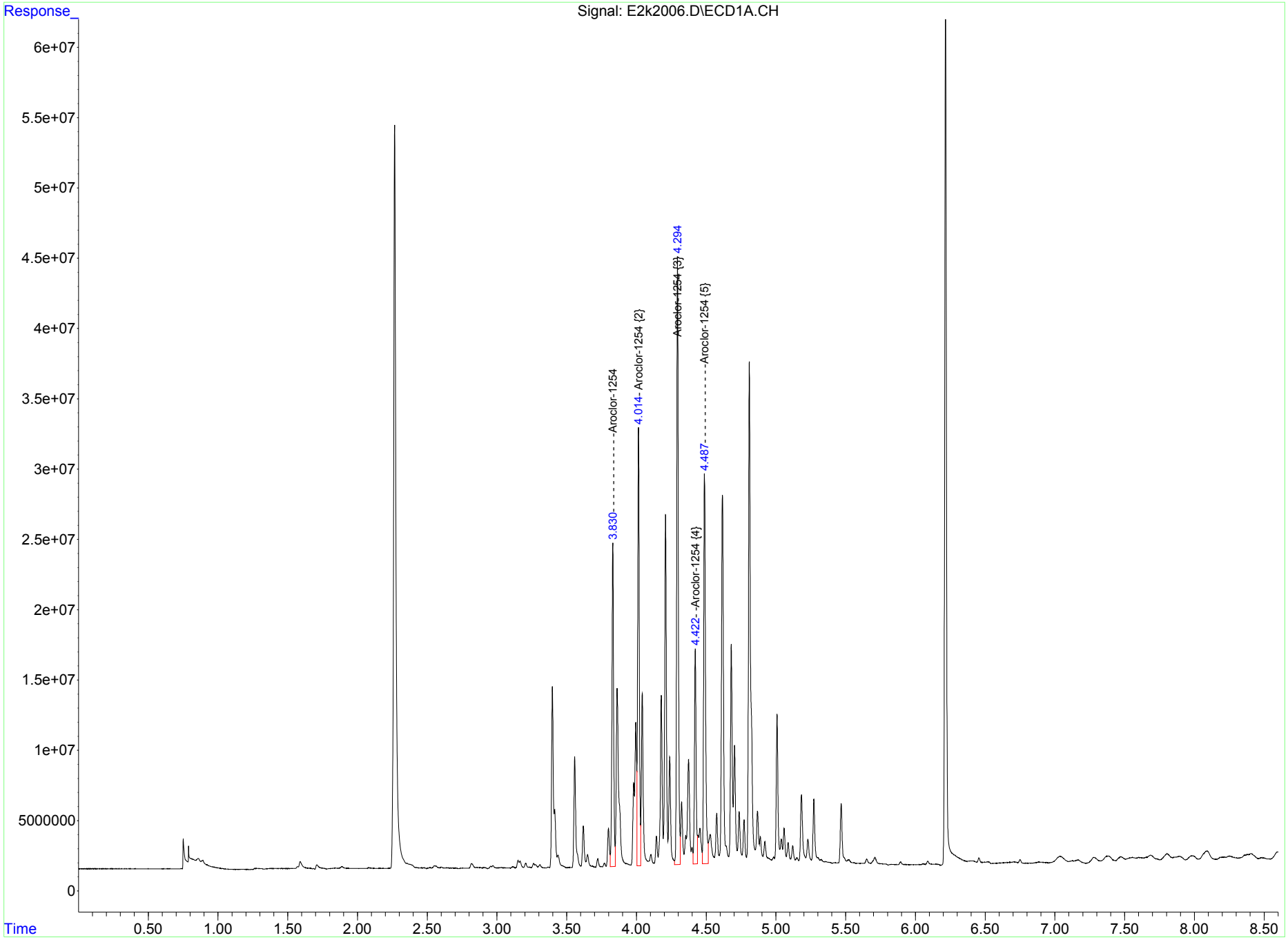
System Monitoring Compounds

Target Compounds

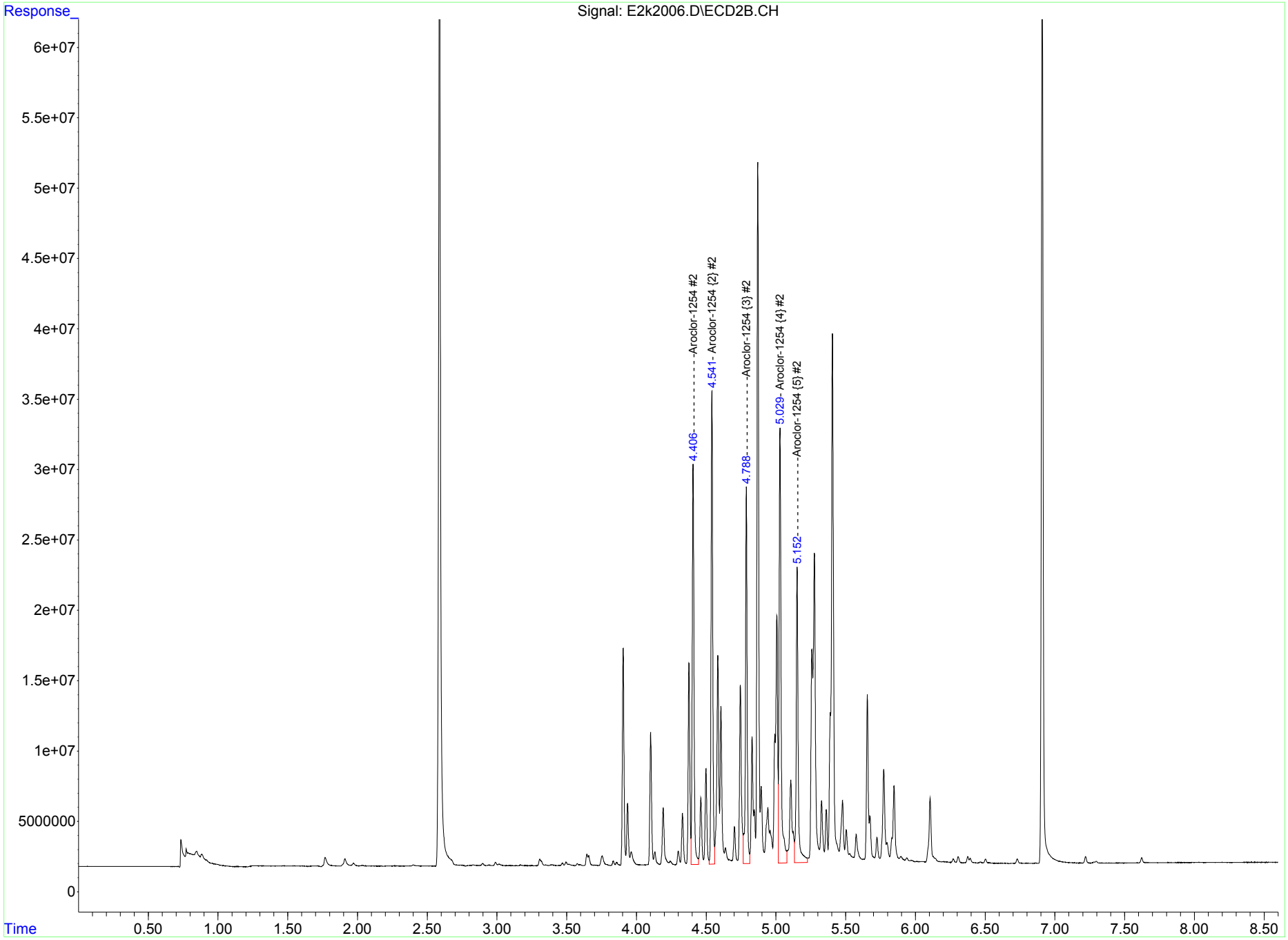
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1254	3.831	3.831	0.000	193204532	1028.942	4.406	4.406	0.000	250241035	1030.648
Aroclor-1254 {2}	4.015	4.015	0.000	258131970	1056.241	4.541	4.541	0.000	274019786	1073.551
Aroclor-1254 {3}	4.294	4.294	0.000	365678975	1103.088	4.788	4.788	0.000	223063522	1041.805
Aroclor-1254 {4}	4.422	4.422	0.000	127738322	1090.313	5.029	5.029	0.000	301403960	1068.369
Aroclor-1254 {5}	4.488	4.488	0.000	256103717	1113.592	5.152	5.152	0.000	200558804	1053.477
Sum Aroclor-1254				1200857516	5392.176				1249287107	5267.851
Average Aroclor-1254					1078.435					1053.570

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2006.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2006.D



Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2007.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 06:11 (#1); 20 Nov 2020   6:11 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200612-42|CCV|1|SVA|1|AR1242
Misc   : MIX[D]
ALS Vial : 0 (Sig #1); 7 (Sig #2)   Sample Multiplier: 1

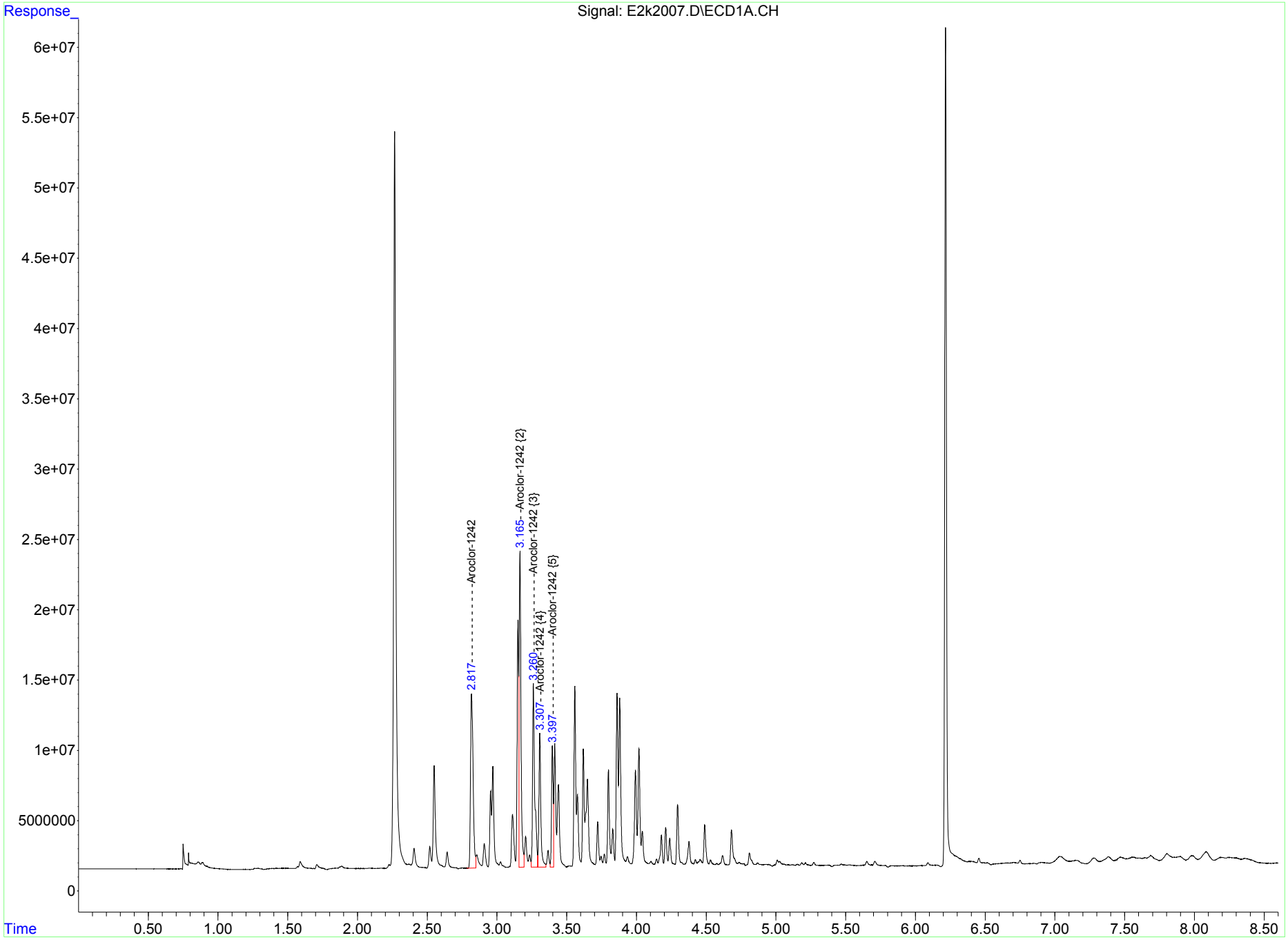
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:46:05 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

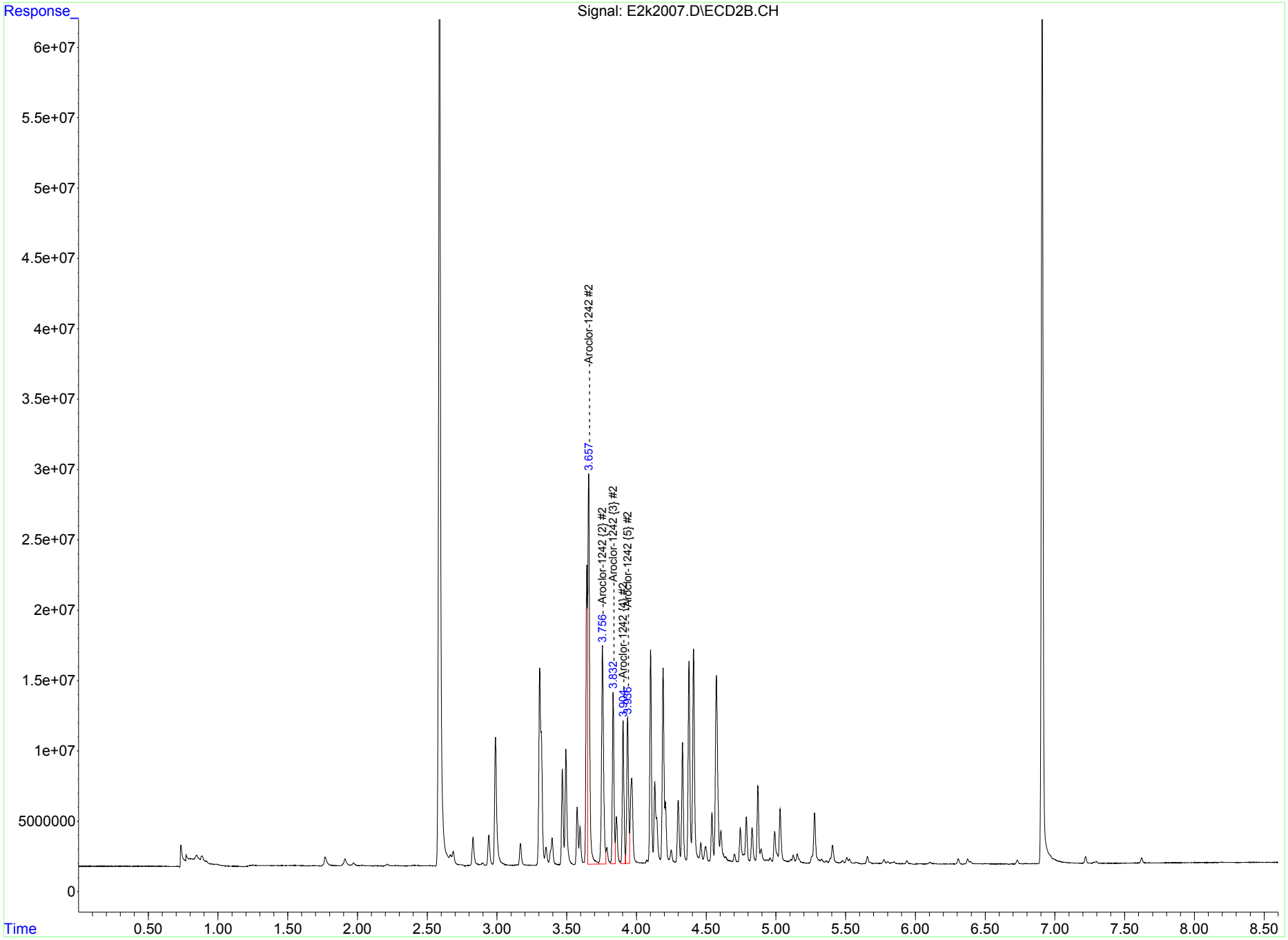
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Aroclor-1242	2.817	2.817	0.000	160933914	1068.293	3.657	3.657	0.000	246297245	1074.286
Aroclor-1242 {2}	3.165	3.165	0.000	206747311	1045.934	3.756	3.756	0.000	153808300	1046.611
Aroclor-1242 {3}	3.261	3.261	0.000	141179636	1068.891	3.833	3.833	0.000	95974437	1066.128
Aroclor-1242 {4}	3.307	3.307	0.000	89932037	1057.899	3.904	3.904	0.000	82237596	1027.812
Aroclor-1242 {5}	3.397	3.397	0.000	67113357	1016.458	3.937	3.937	0.000	91057403	1035.636
Sum Aroclor-1242				665906254	5257.475				669374980	5250.473
Average Aroclor-1242					1051.495					1050.095

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2007.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2007.D



Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2008.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 06:23 (#1); 20 Nov 2020   6:23 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200916-48|CCV|1|SVA|1|AR1248
Misc   : MIX[E]
ALS Vial : 0 (Sig #1); 8 (Sig #2)   Sample Multiplier: 1

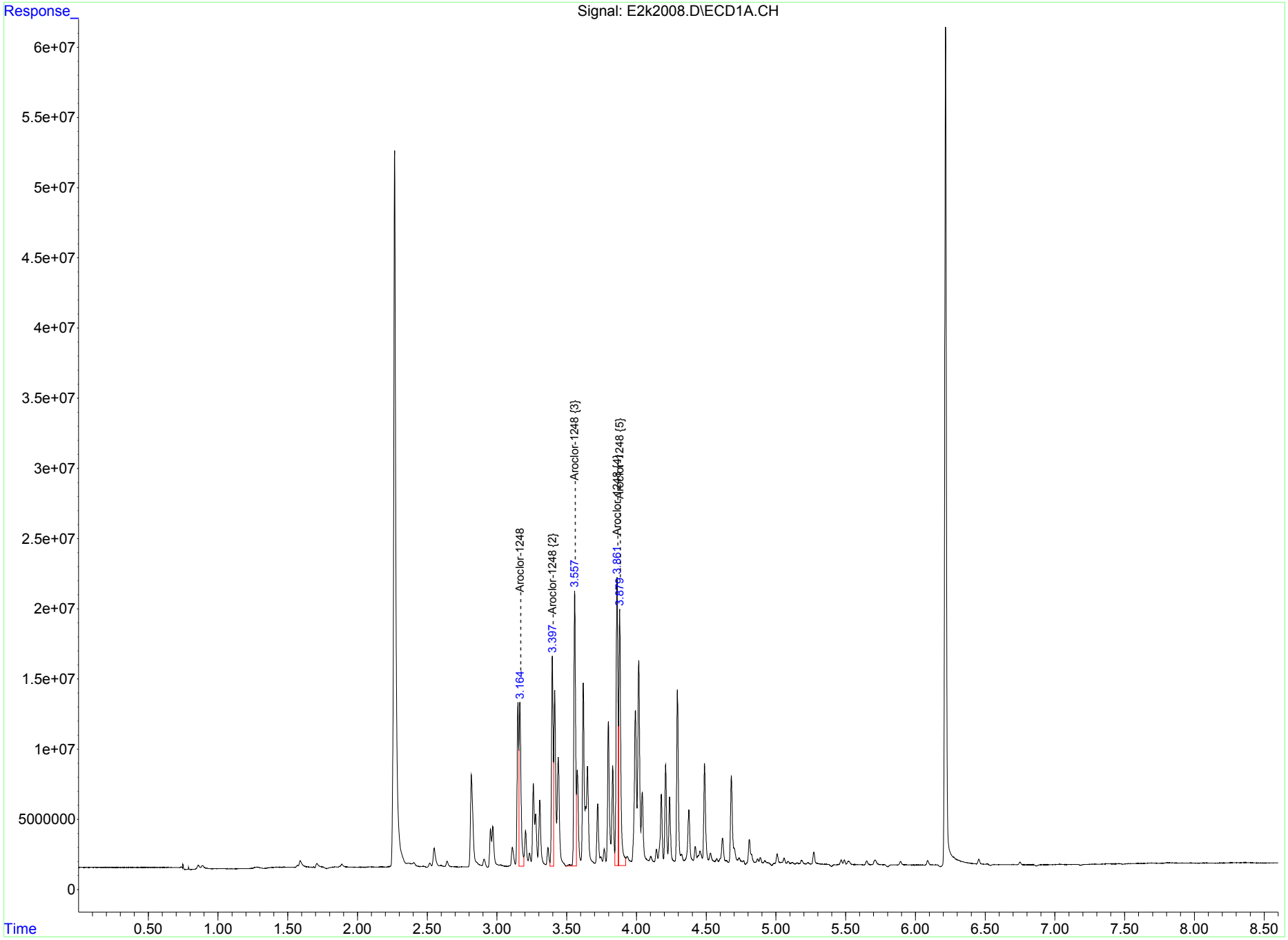
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:46:07 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

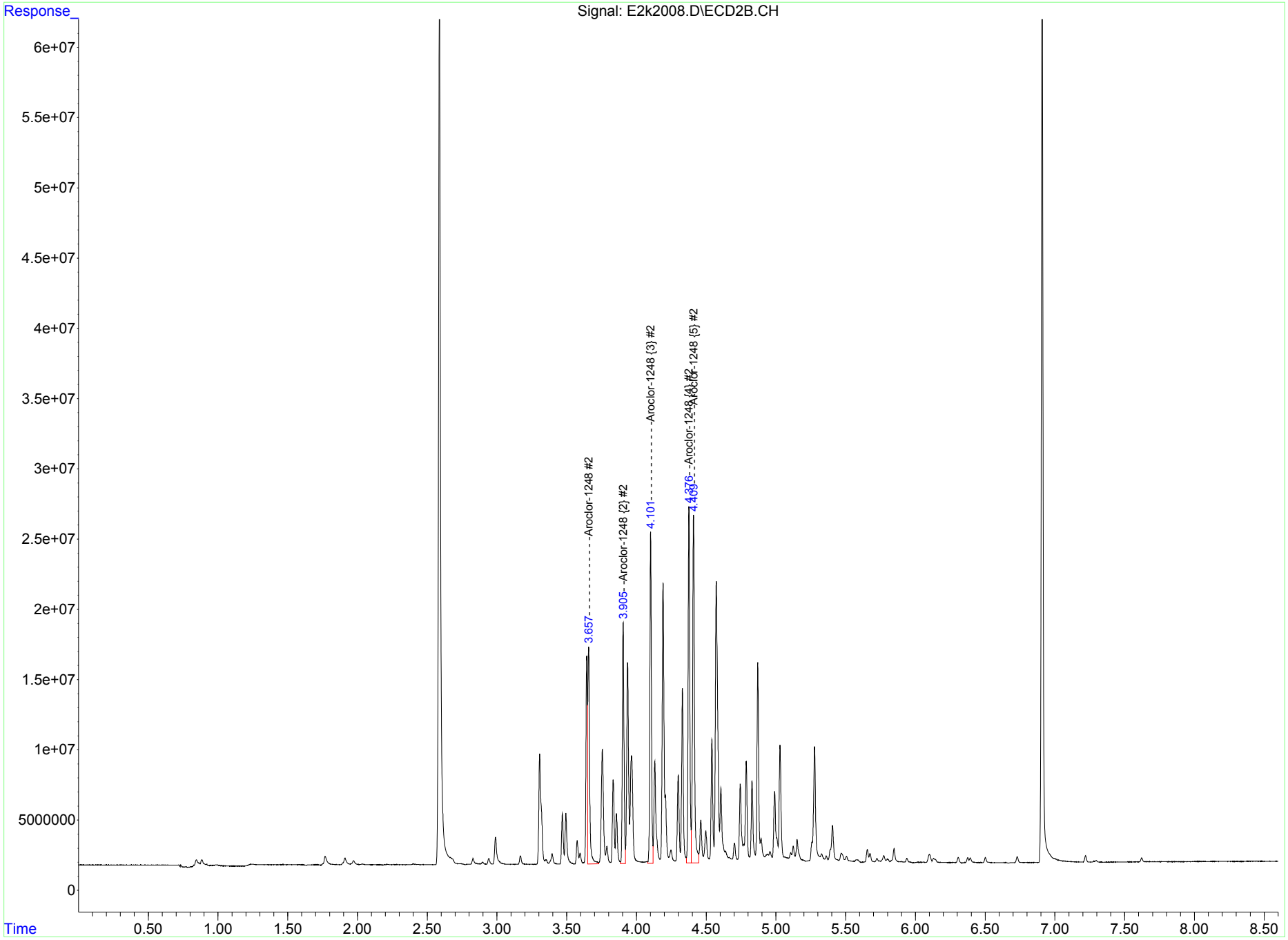
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1248	3.165	3.165	0.000	110912047	999.924	3.657	3.657	0.000	136631832	1055.899
Aroclor-1248 {2}	3.397	3.397	0.000	118541976	1001.720	3.905	3.905	0.000	141755466	1028.361
Aroclor-1248 {3}	3.557	3.557	0.000	166246188	1020.931	4.102	4.102	0.000	188902827	1034.707
Aroclor-1248 {4}	3.861	3.861	0.000	180891081	1018.024	4.376	4.376	0.000	206282269	1040.611
Aroclor-1248 {5}	3.880	3.880	0.000	176692722	1008.572	4.409	4.409	0.000	235381324	978.049
Sum Aroclor-1248				753284015	5049.172				908953719	5137.628
Average Aroclor-1248					1009.834					1027.526

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2008.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2008.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-129

Injection Date: 20-NOV-20 14:51

Data File: 112020.S\E2k2041.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	173855.08	1000	-2.32	20		Averaged
Aroclor-1016(2)	226725.43	233753.72	1000	3.1	20		Averaged
Aroclor-1016(3)	156074.97	153168.09	1000	-1.86	20		Averaged
Aroclor-1016(4)	81742.99	77749.69	1000	-4.89	20		Averaged
Aroclor-1016(5)	117420.02	113866.03	1000	-3.03	20		Averaged
Aroclor-1260	217849.78	230011.39	1000	5.58	20		Averaged
Aroclor-1260(2)	202328.31	214789.12	1000	6.16	20		Averaged
Aroclor-1260(3)	219268.02	239702.72	1000	9.32	20		Averaged
Aroclor-1260(4)	479568.07	525261.22	1000	9.53	20		Averaged
Aroclor-1260(5)	220818.14	253425.06	1000	14.77	20		Averaged
4cmx(Surr)	5463730.67	5447149.7	100	-0.3	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4818905.98	100	12.1	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-129

Injection Date: 20-NOV-20 14:51

Data File: 112020.S\E2k2041.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	275288.9	1000	5.12	20		Averaged
Aroclor-1016(2)	163803.13	167167.84	1000	2.05	20		Averaged
Aroclor-1016(3)	98913.38	103532.18	1000	4.67	20		Averaged
Aroclor-1016(4)	96134.55	94941.9	1000	-1.24	20		Averaged
Aroclor-1016(5)	129380.27	133348.96	1000	3.07	20		Averaged
Aroclor-1260	221155.69	248357.2	1000	12.3	20		Averaged
Aroclor-1260(2)	284256.72	319070.58	1000	12.25	20		Averaged
Aroclor-1260(3)	223865.49	249171.07	1000	11.3	20		Averaged
Aroclor-1260(4)	515602.74	612594.5	1000	18.81	20		Averaged
Aroclor-1260(5)	356973.45	420285.86	1000	17.74	20		Averaged
4cmx(Surr)	5730871.59	6064367.7	100	5.82	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	5248493.69	100	13.39	20		Averaged

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Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2041.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 14:51 (#1); 20 Nov 2020 14:51 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR200922-60|CCV|1|SVA|1|AR12660
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 39 (Sig #2) Sample Multiplier: 1

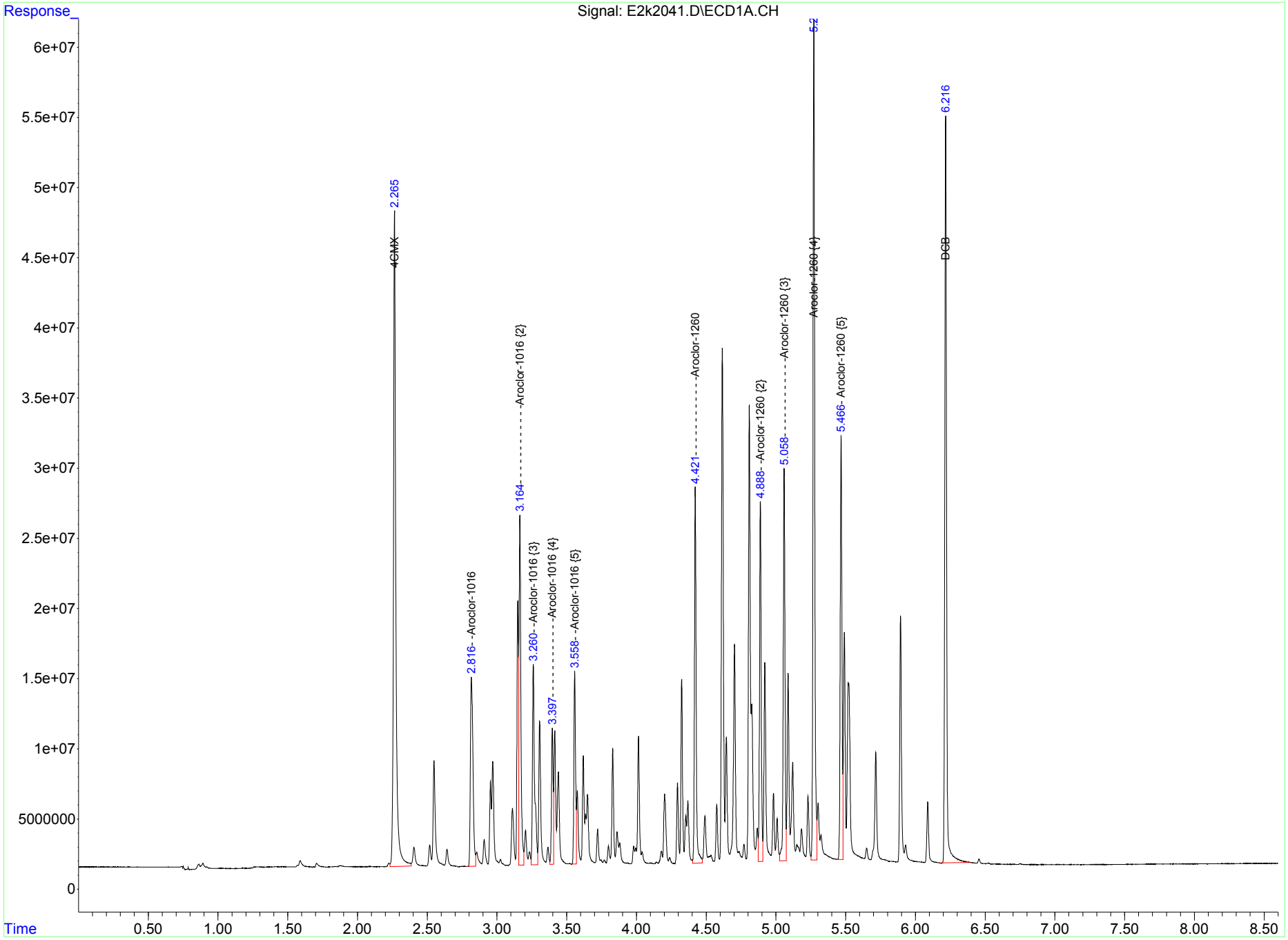
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 20 15:09:32 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

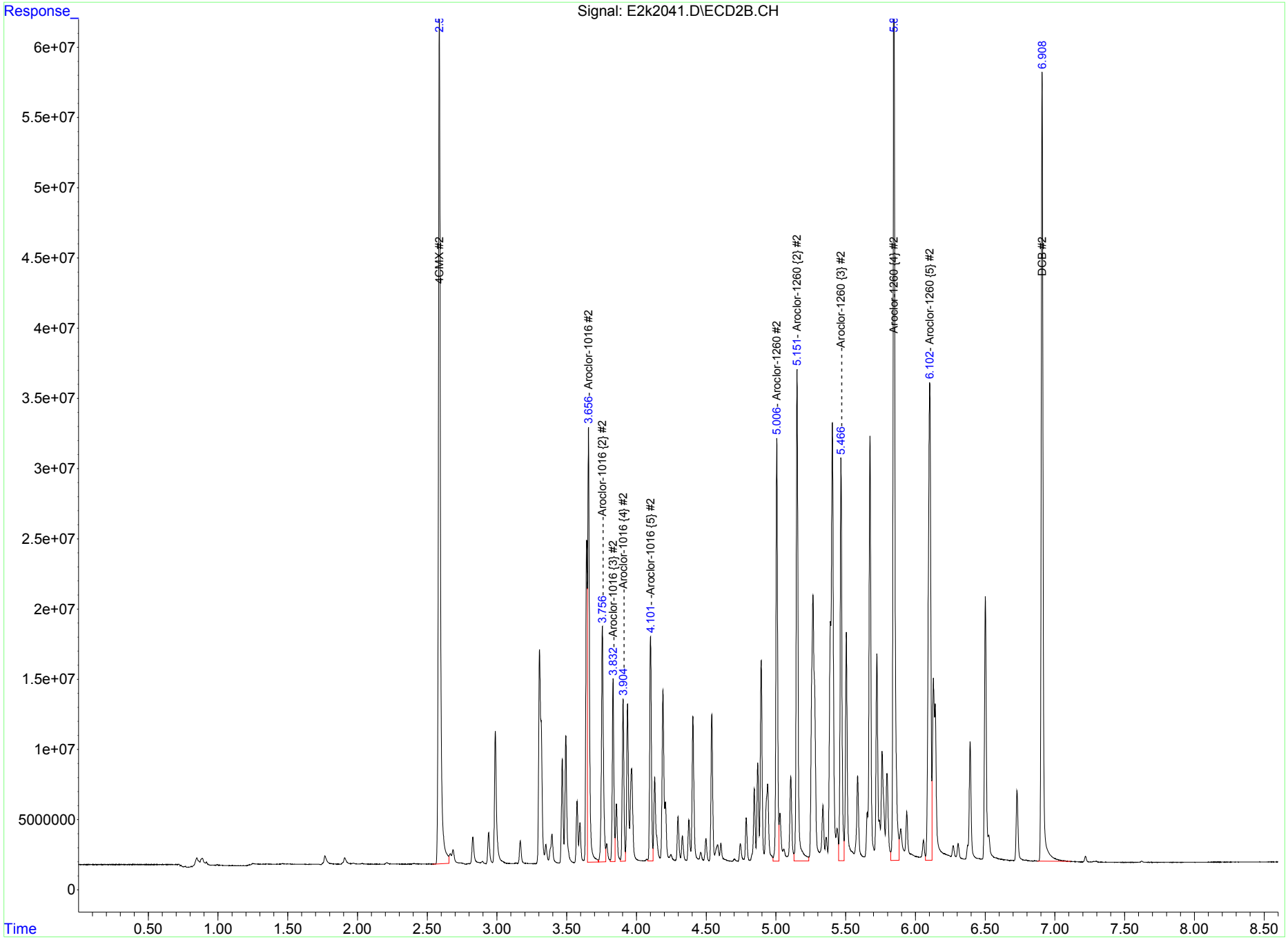
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.266	-0.001	544714970	99.697	2.589	2.587	-0.002	606436770	105.819
DCB	6.216	6.217	0.001	481890598	112.102	6.909	6.908	-0.001	524849369	113.394
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.817	0.000	173855084	976.782	3.658	3.657	-0.001	275288900	1051.164
Aroclor-1016 {2}	3.165	3.165	0.000	233753721	1030.999	3.757	3.756	-0.001	167167840	1020.541
Aroclor-1016 {3}	3.261	3.261	0.000	153168093	981.375	3.834	3.833	-0.001	103532181	1046.695
Aroclor-1016 {4}	3.398	3.397	-0.001	77749688	951.148	3.905	3.904	-0.001	94941900	987.594
Aroclor-1016 {5}	3.558	3.558	0.000	113866034	969.733	4.102	4.101	-0.001	133348955	1030.675
Sum Aroclor-1016				752392620	4910.037				774279776	5136.669
Average Aroclor-1016					982.007					1027.334
Aroclor-1260	4.422	4.421	-0.001	230011393	1055.826	5.006	5.006	0.000	248357204	1122.997
Aroclor-1260 {2}	4.888	4.888	0.000	214789121	1061.587	5.152	5.152	0.000	319070583	1122.473
Aroclor-1260 {3}	5.058	5.059	0.001	239702721	1093.195	5.467	5.466	-0.001	249171068	1113.039
Aroclor-1260 {4}	5.272	5.272	0.000	525261222	1095.280	5.846	5.846	0.000	612594503	1188.113
Aroclor-1260 {5}	5.466	5.467	0.001	253425062	1147.664	6.103	6.103	0.000	420285861	1177.359
Sum Aroclor-1260				1463189519	5453.552				1849479218	5723.982
Average Aroclor-1260					1090.710					1144.796

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2041.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2041.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-129

Injection Date: 20-NOV-20 17:28

Data File: 112020.S\E2k2053.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	176210.62	1000	-1	20		Averaged
Aroclor-1016(2)	226725.43	239390.62	1000	5.59	20		Averaged
Aroclor-1016(3)	156074.97	155822.69	1000	-0.16	20		Averaged
Aroclor-1016(4)	81742.99	79011.56	1000	-3.34	20		Averaged
Aroclor-1016(5)	117420.02	116129.19	1000	-1.1	20		Averaged
Aroclor-1260	217849.78	232258.64	1000	6.61	20		Averaged
Aroclor-1260(2)	202328.31	217654.27	1000	7.57	20		Averaged
Aroclor-1260(3)	219268.02	242029.63	1000	10.38	20		Averaged
Aroclor-1260(4)	479568.07	529572.59	1000	10.43	20		Averaged
Aroclor-1260(5)	220818.14	257819.97	1000	16.76	20		Averaged
4cmx(Surr)	5463730.67	5516418.15	100	0.96	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4885252.1	100	13.65	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-129

Injection Date: 20-NOV-20 17:28

Data File: 112020.S\E2k2053.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	277739.05	1000	6.05	20		Averaged
Aroclor-1016(2)	163803.13	171839.08	1000	4.91	20		Averaged
Aroclor-1016(3)	98913.38	107406.16	1000	8.59	20		Averaged
Aroclor-1016(4)	96134.55	97942.35	1000	1.88	20		Averaged
Aroclor-1016(5)	129380.27	136784.42	1000	5.72	20		Averaged
Aroclor-1260	221155.69	252225.74	1000	14.05	20		Averaged
Aroclor-1260(2)	284256.72	324162.01	1000	14.04	20		Averaged
Aroclor-1260(3)	223865.49	251961.88	1000	12.55	20		Averaged
Aroclor-1260(4)	515602.74	622574.27	1000	20.75	20	*	Averaged
Aroclor-1260(5)	356973.45	428714.8	1000	20.1	20	*	Averaged
4cmx(Surr)	5730871.59	6085075.8	100	6.18	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	5281477.41	100	14.11	20		Averaged

Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2053.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 17:28 (#1); 20 Nov 2020 17:28 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR200922-60|CCV|1|SVA|1|AR12660
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 51 (Sig #2) Sample Multiplier: 1

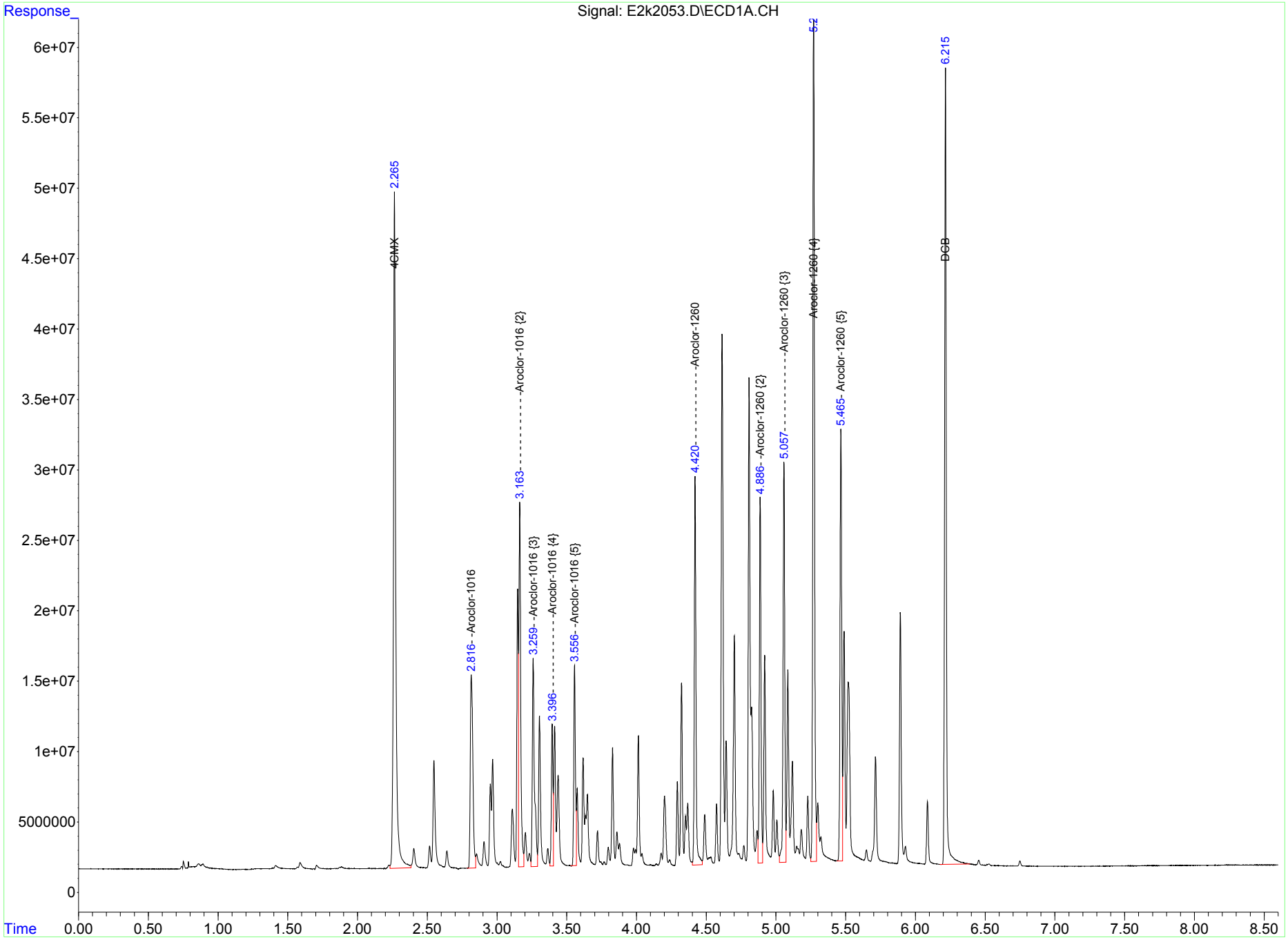
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:57:09 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.265	-0.002	551641815	100.964	2.589	2.588	-0.001	608507580	106.181
DCB	6.216	6.215	-0.001	488525210	113.646	6.909	6.908	-0.001	528147741	114.106
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.816	-0.001	176210619	990.016	3.658	3.657	-0.001	277739045	1060.520
Aroclor-1016 {2}	3.165	3.163	-0.002	239390624	1055.861	3.757	3.756	-0.001	171839079	1049.059
Aroclor-1016 {3}	3.261	3.260	-0.001	155822694	998.384	3.834	3.833	-0.001	107406164	1085.861
Aroclor-1016 {4}	3.398	3.396	-0.002	79011558	966.585	3.905	3.904	-0.001	97942345	1018.805
Aroclor-1016 {5}	3.558	3.557	-0.001	116129192	989.007	4.102	4.101	-0.001	136784418	1057.228
Sum Aroclor-1016				766564686	4999.853				791711051	5271.472
Average Aroclor-1016					999.971					1054.294
Aroclor-1260	4.422	4.420	-0.002	232258642	1066.141	5.006	5.006	0.000	252225743	1140.490
Aroclor-1260 {2}	4.888	4.887	-0.001	217654274	1075.748	5.152	5.151	-0.001	324162008	1140.385
Aroclor-1260 {3}	5.058	5.057	-0.001	242029630	1103.807	5.467	5.466	-0.001	251961877	1125.506
Aroclor-1260 {4}	5.272	5.270	-0.002	529572586	1104.270	5.846	5.846	0.000	622574270	1207.469
Aroclor-1260 {5}	5.466	5.465	-0.001	257819974	1167.567	6.103	6.102	-0.001	428714798	1200.971
Sum Aroclor-1260				1479335106	5517.533				1879638697	5814.820
Average Aroclor-1260					1103.507					1162.964

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2053.D



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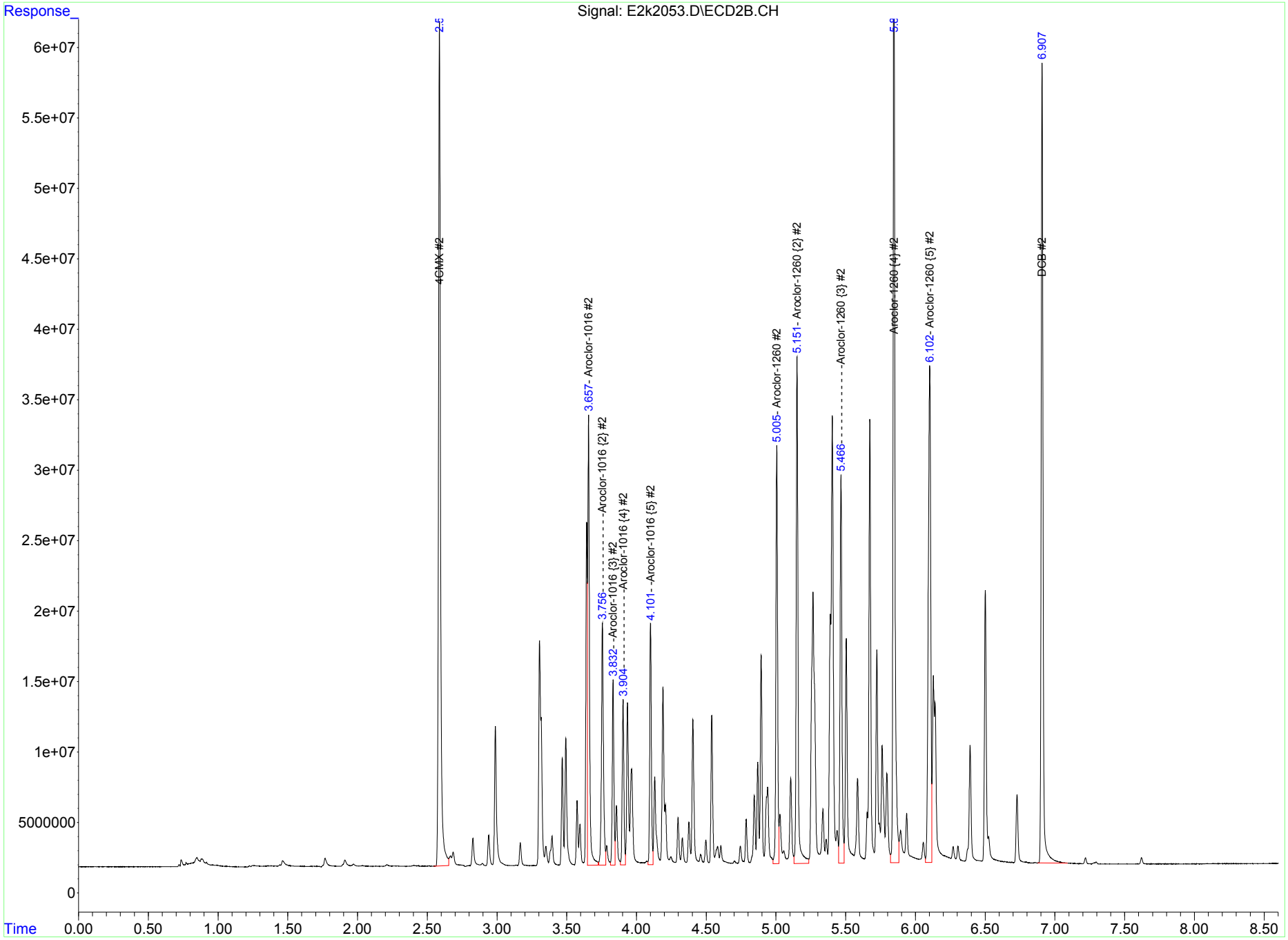
Data File : E2k2053.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-129

Injection Date: 20-NOV-20 18:35

Data File: 112020.S\E2k2058.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	172525.05	1000	-3.07	20		Averaged
Aroclor-1016(2)	226725.43	236127.88	1000	4.15	20		Averaged
Aroclor-1016(3)	156074.97	153620.74	1000	-1.57	20		Averaged
Aroclor-1016(4)	81742.99	77360.23	1000	-5.36	20		Averaged
Aroclor-1016(5)	117420.02	113065.49	1000	-3.71	20		Averaged
Aroclor-1260	217849.78	228332.97	1000	4.81	20		Averaged
Aroclor-1260(2)	202328.31	212807.99	1000	5.18	20		Averaged
Aroclor-1260(3)	219268.02	237752.82	1000	8.43	20		Averaged
Aroclor-1260(4)	479568.07	518430.01	1000	8.1	20		Averaged
Aroclor-1260(5)	220818.14	251797.02	1000	14.03	20		Averaged
4cmx(Surr)	5463730.67	5475329.01	100	0.21	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4763004.66	100	10.8	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-129

Injection Date: 20-NOV-20 18:35

Data File: 112020.S\E2k2058.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	276227.86	1000	5.47	20		Averaged
Aroclor-1016(2)	163803.13	170253.17	1000	3.94	20		Averaged
Aroclor-1016(3)	98913.38	106392.23	1000	7.56	20		Averaged
Aroclor-1016(4)	96134.55	97195.29	1000	1.1	20		Averaged
Aroclor-1016(5)	129380.27	135622.59	1000	4.82	20		Averaged
Aroclor-1260	221155.69	249392.48	1000	12.77	20		Averaged
Aroclor-1260(2)	284256.72	321669.01	1000	13.16	20		Averaged
Aroclor-1260(3)	223865.49	249241.91	1000	11.34	20		Averaged
Aroclor-1260(4)	515602.74	617331.75	1000	19.73	20		Averaged
Aroclor-1260(5)	356973.45	424006.95	1000	18.78	20		Averaged
4cmx(Surr)	5730871.59	6028344.99	100	5.19	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	5233009.46	100	13.06	20		Averaged

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2058.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 18:35 (#1); 20 Nov 2020 18:35 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR200922-60|CCV|1|SVA|1|AR12660
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 56 (Sig #2) Sample Multiplier: 1

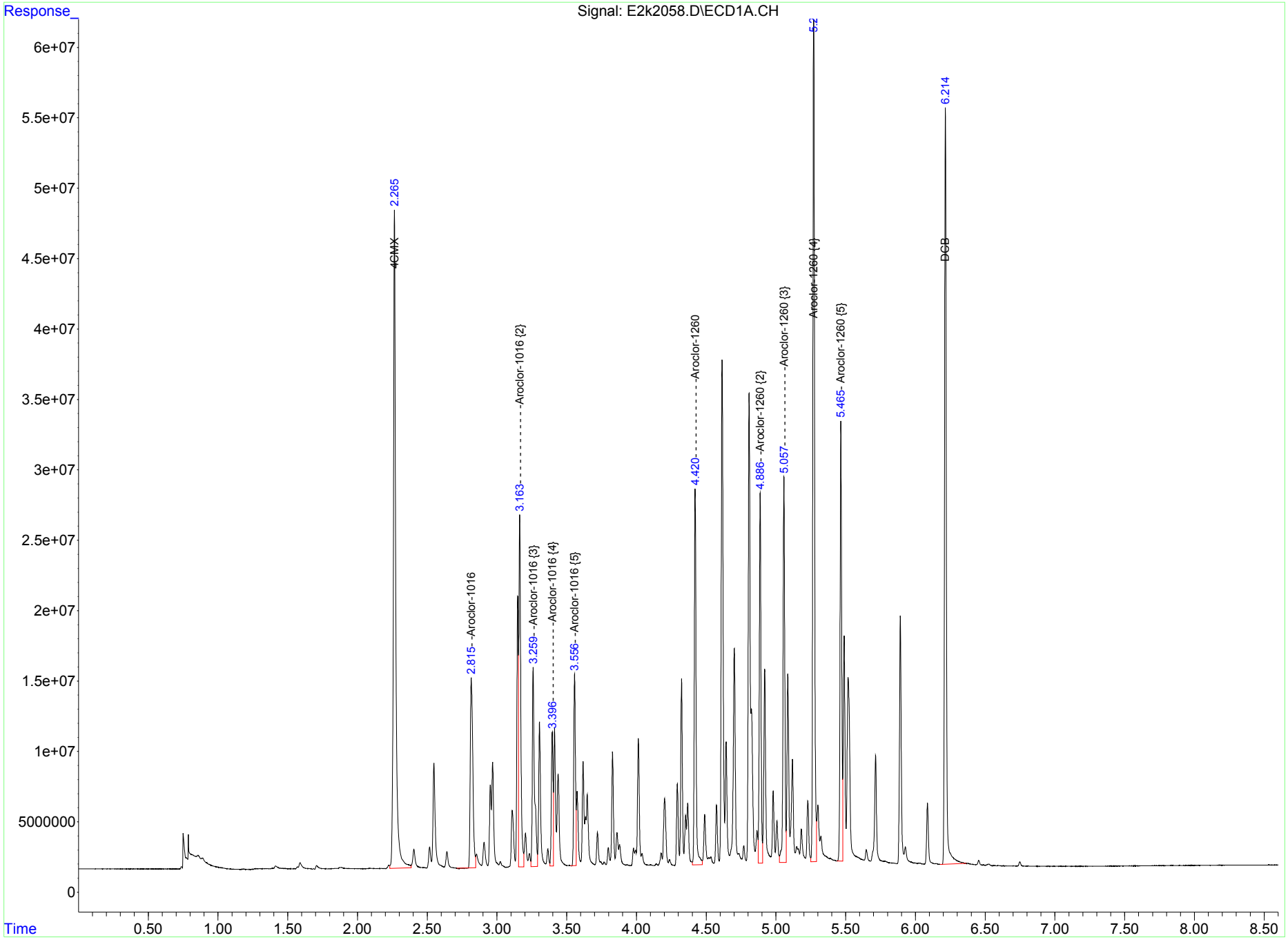
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:57:19 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

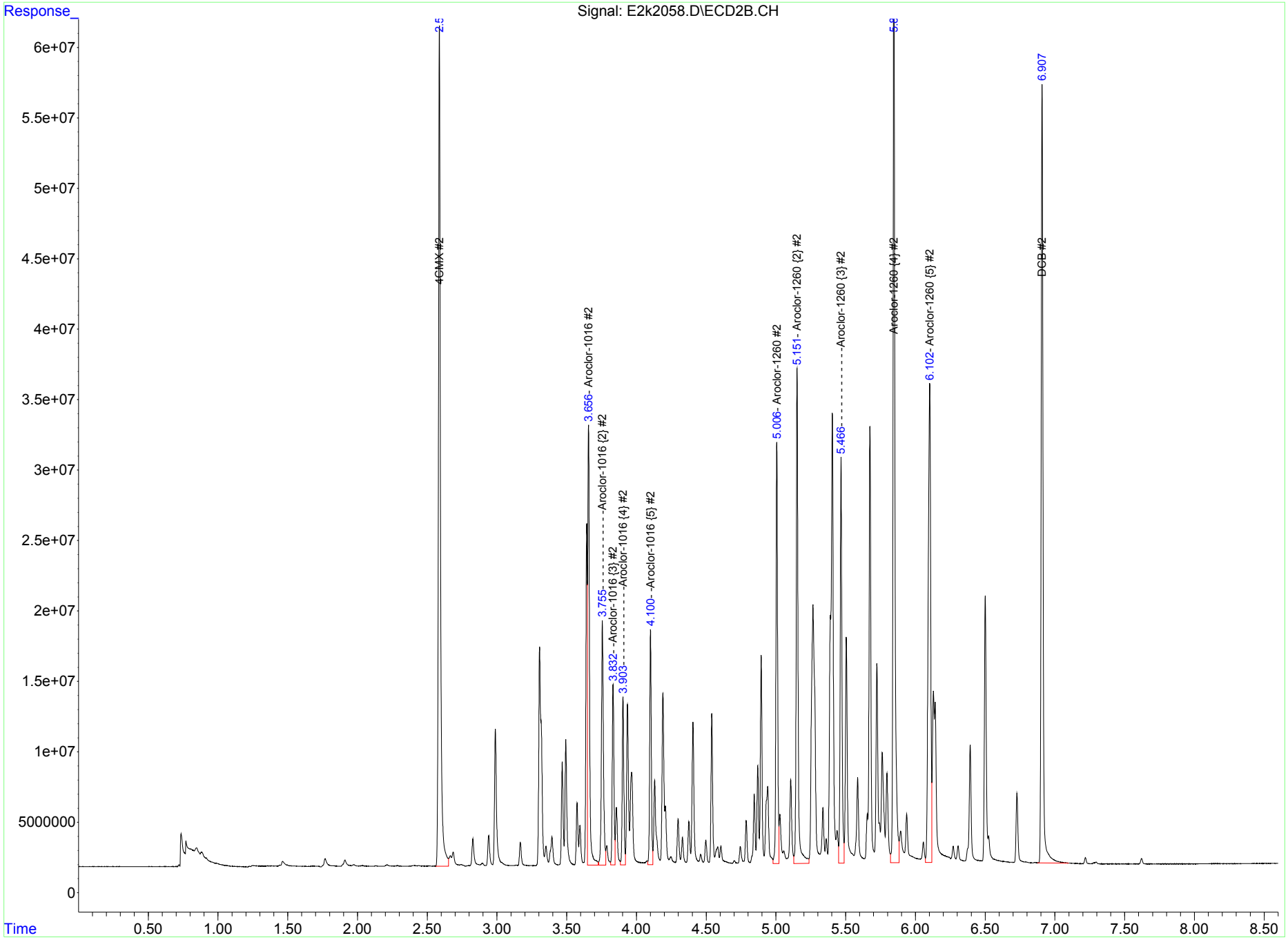
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.265	-0.002	547532901	100.212	2.589	2.587	-0.002	602834499	105.191
DCB	6.216	6.215	-0.001	476300466	110.802	6.909	6.908	-0.001	523300946	113.059
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.816	-0.001	172525048	969.309	3.658	3.657	-0.001	276227863	1054.749
Aroclor-1016 {2}	3.165	3.163	-0.002	236127879	1041.471	3.757	3.756	-0.001	170253172	1039.377
Aroclor-1016 {3}	3.261	3.260	-0.001	153620742	984.275	3.834	3.832	-0.002	106392226	1075.610
Aroclor-1016 {4}	3.398	3.397	-0.001	77360229	946.384	3.905	3.904	-0.001	97195289	1011.034
Aroclor-1016 {5}	3.558	3.556	-0.002	113065486	962.915	4.102	4.101	-0.001	135622588	1048.248
Sum Aroclor-1016				752699384	4904.354				785691138	5229.018
Average Aroclor-1016					980.871					1045.804
Aroclor-1260	4.422	4.421	-0.001	228332974	1048.121	5.006	5.006	0.000	249392475	1127.678
Aroclor-1260 {2}	4.888	4.887	-0.001	212807988	1051.795	5.152	5.151	-0.001	321669006	1131.614
Aroclor-1260 {3}	5.058	5.057	-0.001	237752824	1084.302	5.467	5.466	-0.001	249241914	1113.356
Aroclor-1260 {4}	5.272	5.270	-0.002	518430007	1081.035	5.846	5.845	-0.001	617331748	1197.301
Aroclor-1260 {5}	5.466	5.465	-0.001	251797019	1140.291	6.103	6.102	-0.001	424006949	1187.783
Sum Aroclor-1260				1449120812	5405.546				1861642092	5757.732
Average Aroclor-1260					1081.109					1151.546

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2058.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2058.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-129

Injection Date: 20-NOV-20 21:19

Data File: 112020.S\E2k2070.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	174237.81	1000	-2.11	20		Averaged
Aroclor-1016(2)	226725.43	237750.46	1000	4.86	20		Averaged
Aroclor-1016(3)	156074.97	153910.87	1000	-1.39	20		Averaged
Aroclor-1016(4)	81742.99	76988.81	1000	-5.82	20		Averaged
Aroclor-1016(5)	117420.02	113019.83	1000	-3.75	20		Averaged
Aroclor-1260	217849.78	226411.45	1000	3.93	20		Averaged
Aroclor-1260(2)	202328.31	212773.82	1000	5.16	20		Averaged
Aroclor-1260(3)	219268.02	239097.79	1000	9.04	20		Averaged
Aroclor-1260(4)	479568.07	521749.76	1000	8.8	20		Averaged
Aroclor-1260(5)	220818.14	258492.16	1000	17.06	20		Averaged
4cmx(Surr)	5463730.67	5544702.96	100	1.48	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4833101	100	12.43	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-129

Injection Date: 20-NOV-20 21:19

Data File: 112020.S\E2k2070.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	272435.39	1000	4.03	20		Averaged
Aroclor-1016(2)	163803.13	169026.16	1000	3.19	20		Averaged
Aroclor-1016(3)	98913.38	104895.98	1000	6.05	20		Averaged
Aroclor-1016(4)	96134.55	94813.94	1000	-1.37	20		Averaged
Aroclor-1016(5)	129380.27	133004.39	1000	2.8	20		Averaged
Aroclor-1260	221155.69	245785.09	1000	11.14	20		Averaged
Aroclor-1260(2)	284256.72	313607.11	1000	10.33	20		Averaged
Aroclor-1260(3)	223865.49	246868.34	1000	10.28	20		Averaged
Aroclor-1260(4)	515602.74	618403.9	1000	19.94	20		Averaged
Aroclor-1260(5)	356973.45	427314.31	1000	19.7	20		Averaged
4cmx(Surr)	5730871.59	6006063.35	100	4.8	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	5330937.08	100	15.17	20		Averaged

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2070.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 21:19 (#1); 20 Nov 2020 21:19 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR200922-60|CCV|1|SVA|1|AR12660
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 68 (Sig #2) Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:57:43 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

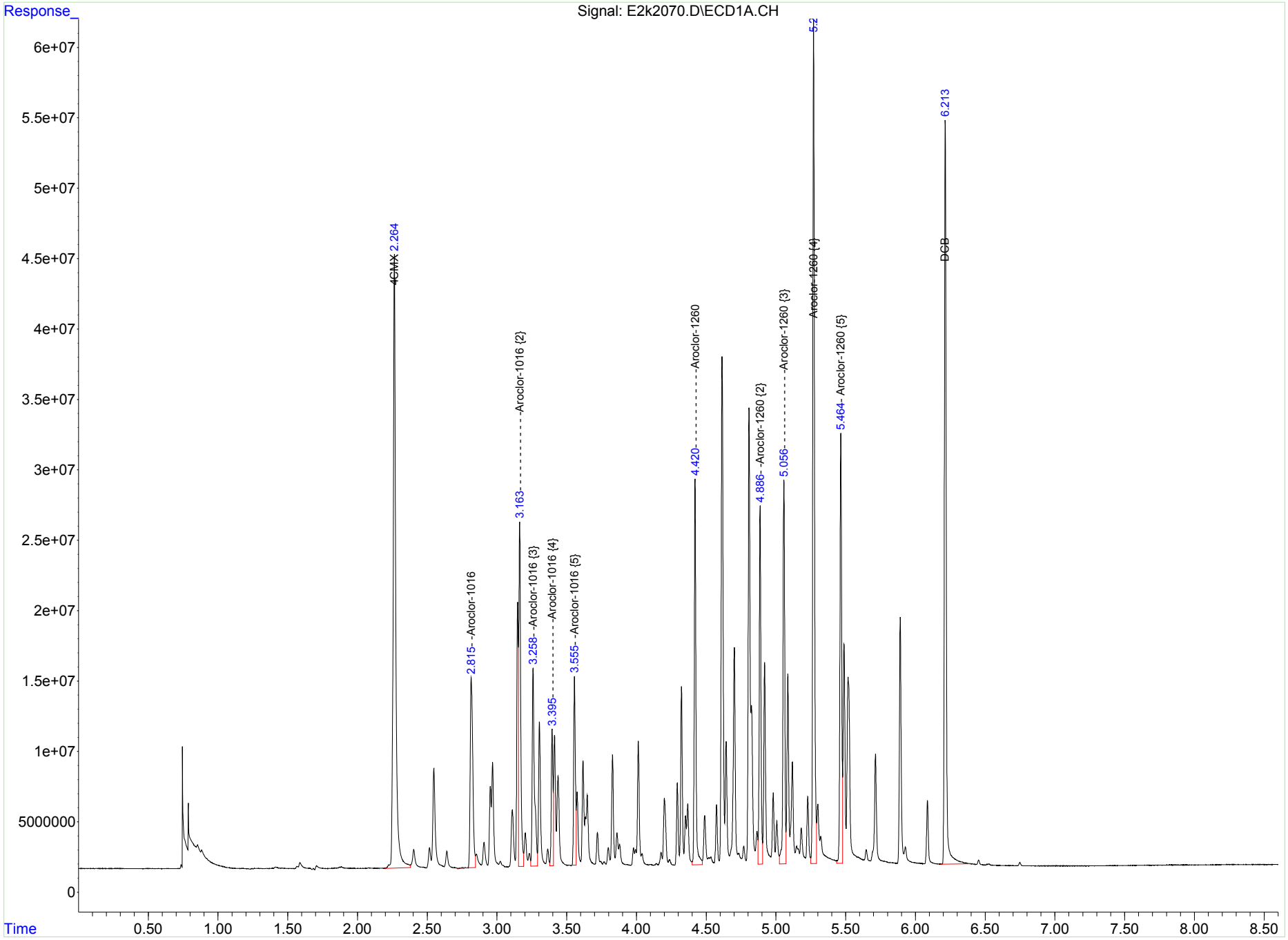
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.265	-0.002	554470296	101.482	2.589	2.587	-0.002	600606335	104.802
DCB	6.216	6.213	-0.003	483310100	112.433	6.909	6.908	-0.001	533093708	115.175
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.815	-0.002	174237807	978.932	3.658	3.656	-0.002	272435392	1040.268
Aroclor-1016 {2}	3.165	3.163	-0.002	237750459	1048.627	3.757	3.755	-0.002	169026155	1031.886
Aroclor-1016 {3}	3.261	3.259	-0.002	153910874	986.134	3.834	3.832	-0.002	104895978	1060.483
Aroclor-1016 {4}	3.398	3.396	-0.002	76988813	941.840	3.905	3.904	-0.001	94813942	986.263
Aroclor-1016 {5}	3.558	3.556	-0.002	113019833	962.526	4.102	4.101	-0.001	133004390	1028.011
Sum Aroclor-1016				755907786	4918.060				774175858	5146.912
Average Aroclor-1016					983.612					1029.382
Aroclor-1260	4.422	4.420	-0.002	226411453	1039.301	5.006	5.005	-0.001	245785086	1111.367
Aroclor-1260 {2}	4.888	4.886	-0.002	212773822	1051.627	5.152	5.151	-0.001	313607112	1103.253
Aroclor-1260 {3}	5.058	5.057	-0.001	239097792	1090.436	5.467	5.466	-0.001	246868341	1102.753
Aroclor-1260 {4}	5.272	5.270	-0.002	521749755	1087.958	5.846	5.845	-0.001	618403901	1199.381
Aroclor-1260 {5}	5.466	5.465	-0.001	258492157	1170.611	6.103	6.102	-0.001	427314314	1197.048
Sum Aroclor-1260				1458524980	5439.932				1851978755	5713.801
Average Aroclor-1260					1087.986					1142.760

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

11/21/2020

11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2070.D



Data Path : C:\msdchem\1\data\112020.S\
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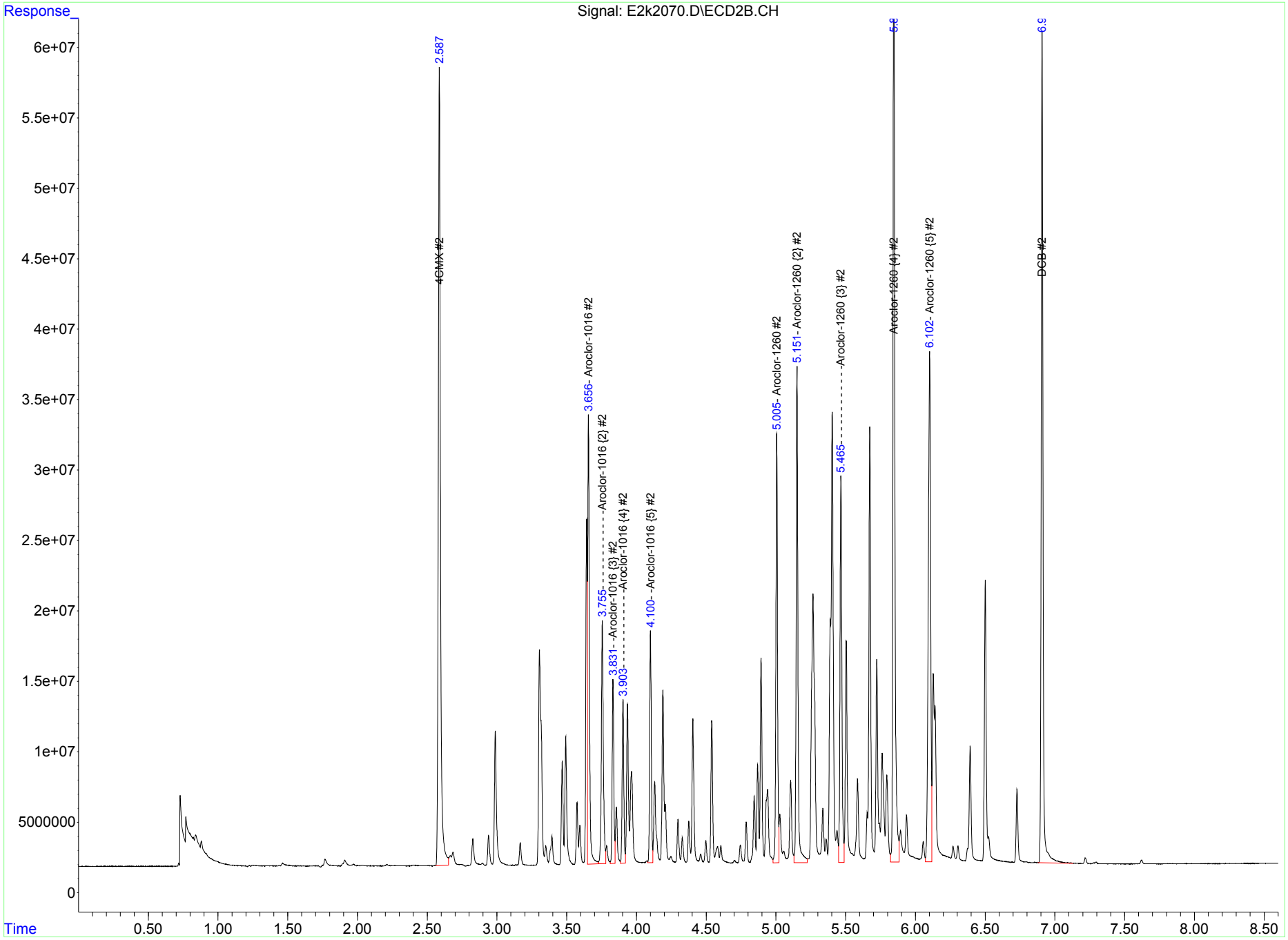


Lab Name: GEL Laboratories LLC **Client SDG:** 2021-129

GC Column: CLPesticides

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.27	6.23
RT Range Based on Calibration Verification:				2.24 2.3 #	6.2 6.26 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2J2614.D	ICAL	WAR201009-01	26-OCT-20 07:03	2.27	6.23
E2J2615.D	ICAL	WAR201009-02	26-OCT-20 07:15	2.27	6.23
E2J2616.D	ICAL	WAR201009-03	26-OCT-20 07:27	2.27	6.23
E2J2617.D	ICAL	WAR201009-04	26-OCT-20 07:39	2.27	6.23
E2J2618.D	ICAL	IAR200730-01	26-OCT-20 07:51	2.27	6.23
E2J2619.D	ICV	WAR200605-60	26-OCT-20 08:03	2.27	6.23

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-129

GC Column: CLPesticides2

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.59	6.92
RT Range Based on Calibration Verification:				2.56 2.62 #	6.89 6.95 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2J2614.D	ICAL	WAR201009-01	26-OCT-20 07:03	2.6	6.92
E2J2615.D	ICAL	WAR201009-02	26-OCT-20 07:15	2.6	6.92
E2J2616.D	ICAL	WAR201009-03	26-OCT-20 07:27	2.59	6.92
E2J2617.D	ICAL	WAR201009-04	26-OCT-20 07:39	2.6	6.92
E2J2618.D	ICAL	IAR200730-01	26-OCT-20 07:51	2.59	6.92
E2J2619.D	ICV	WAR200605-60	26-OCT-20 08:03	2.59	6.92

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-129

GC Column: CLPesticides

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.27	6.22
RT Range Based on Calibration Verification:				2.24 2.3 #	6.19 6.25 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2001.D	CCB	WAR201102-99	20-NOV-20 04:59	2.27	6.22
E2k2002.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 05:11	NA	NA
E2k2003.D	CCV	WAR200707-32	20-NOV-20 05:23	NA	NA
E2k2004.D	CCV	WAR200701-21	20-NOV-20 05:35	NA	NA
E2k2005.D	CCV	WAR200922-60	20-NOV-20 05:47	2.27	6.22
E2k2006.D	CCV	WAR200825-54	20-NOV-20 05:59	NA	NA
E2k2007.D	CCV	WAR200612-42	20-NOV-20 06:11	NA	NA
E2k2008.D	CCV	WAR200916-48	20-NOV-20 06:23	NA	NA
E2k2009.D	CCV	WAR201112-68	20-NOV-20 06:35	NA	NA
E2k2010.D	CCV	WAR201104-62	20-NOV-20 06:47	NA	NA
E2k2011.D	CCB	WAR201102-99	20-NOV-20 07:01	2.27	6.22
E2k2012.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:13	2.27	6.22
E2k2013.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:25	2.27	6.22
E2k2014.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:37	2.27	6.22
E2k2015.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:49	2.27	6.22
E2k2016.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:01	2.27	6.22
E2k2017.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:13	2.27	6.21
E2k2018.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:25	2.27	6.21
E2k2019.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:37	2.27	6.22
E2k2020.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:49	2.27	6.21
E2k2021.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:01	2.27	6.22
E2k2022.D	CCV	WAR200922-60	20-NOV-20 09:13	2.27	6.22
E2k2023.D	CCB	WAR201102-99	20-NOV-20 09:25	2.27	6.22
E2k2024.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:37	2.27	6.21
E2k2025.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:49	2.27	6.21
E2k2026.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:01	2.27	6.21
E2k2027.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:13	2.27	6.21
E2k2028.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:25	2.27	6.21
E2k2029.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:37	2.27	6.22

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-129

GC Column: CLPesticides

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.27	6.22
RT Range Based on Calibration Verification:				2.24 2.3 #	6.19 6.25 #
	Sample Number	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2031.D	CCV	WAR200922-60	20-NOV-20 11:03	2.27	6.21
E2k2032.D	CCB	WAR201102-99	20-NOV-20 11:15	2.27	6.22
E2k2033.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:27	2.27	6.22
E2k2034.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:40	2.27	6.21
E2k2035.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:52	2.27	6.22
E2k2036.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 12:04	2.27	6.22
E2k2037.D	CCV	WAR200922-60	20-NOV-20 12:16	2.27	6.22
E2k2038.D	CCB	WAR201102-99	20-NOV-20 12:28	2.27	6.22
E2k2040.D	CCB	WAR201102-99	20-NOV-20 14:39	2.27	6.22
E2k2041.D	CCV	WAR200922-60	20-NOV-20 14:51	2.27	6.22
E2k2042.D	CCB	WAR201102-99	20-NOV-20 15:03	2.27	6.22
E2k2043.D	MB	1204699392	20-NOV-20 15:15	2.27	6.22
E2k2044.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 15:27	2.27	6.22
E2k2045.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 15:39	2.27	6.21
E2k2046.D	BLK01LCS	1204699393	20-NOV-20 15:51	2.27	6.21
E2k2047.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 16:03	2.27	6.21
E2k2048.D	400RIS208WA075MS	1204699394	20-NOV-20 16:17	2.27	6.21
E2k2049.D	400RIS208WA075MSD	1204699395	20-NOV-20 16:31	2.27	6.21
E2k2050.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 16:46	2.27	6.21
E2k2051.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:00	2.27	6.21
E2k2052.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:14	2.27	6.21
E2k2053.D	CCV	WAR200922-60	20-NOV-20 17:28	2.27	6.22
E2k2054.D	CCB	WAR201102-99	20-NOV-20 17:40	2.27	6.22
E2k2055.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:52	2.27	6.22
E2k2056.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 18:06	2.27	6.21
E2k2057.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 18:21	2.27	6.21
E2k2058.D	CCV	WAR200922-60	20-NOV-20 18:35	2.27	6.22
E2k2059.D	CCB	WAR201102-99	20-NOV-20 18:47	2.27	6.22
E2k2063.D	SMEB01-20-209986	527509006	20-NOV-20 19:41	2.27	6.21

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-129

GC Column: CLPesticides

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.27	6.22
RT Range Based on Calibration Verification:				2.24 2.3 #	6.19 6.25 #
	Sample Number	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2064.D	SMEB02-20-209976	527509013	20-NOV-20 19:55	2.27	6.21
E2k2065.D	SMEB02-20-209996	527509015	20-NOV-20 20:09	2.27	6.21
E2k2066.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 20:23	2.27	6.21
E2k2067.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 20:37	2.27	6.21
E2k2068.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 20:51	2.27	6.21
E2k2069.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 21:05	2.27	6.21
E2k2070.D	CCV	WAR200922-60	20-NOV-20 21:19	2.27	6.21

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-129

GC Column: CLPesticides2

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.59	6.91
RT Range Based on Calibration Verification:				2.56 2.62 #	6.88 6.94 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2001.D	CCB	WAR201102-99	20-NOV-20 04:59	2.58	6.91
E2k2002.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 05:11	NA	NA
E2k2003.D	CCV	WAR200707-32	20-NOV-20 05:23	NA	NA
E2k2004.D	CCV	WAR200701-21	20-NOV-20 05:35	NA	NA
E2k2005.D	CCV	WAR200922-60	20-NOV-20 05:47	2.59	6.91
E2k2006.D	CCV	WAR200825-54	20-NOV-20 05:59	NA	NA
E2k2007.D	CCV	WAR200612-42	20-NOV-20 06:11	NA	NA
E2k2008.D	CCV	WAR200916-48	20-NOV-20 06:23	NA	NA
E2k2009.D	CCV	WAR201112-68	20-NOV-20 06:35	NA	NA
E2k2010.D	CCV	WAR201104-62	20-NOV-20 06:47	NA	NA
E2k2011.D	CCB	WAR201102-99	20-NOV-20 07:01	2.59	6.91
E2k2012.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:13	2.59	6.91
E2k2013.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:25	2.59	6.91
E2k2014.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:37	2.59	6.91
E2k2015.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:49	2.59	6.91
E2k2016.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:01	2.59	6.91
E2k2017.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:13	2.59	6.91
E2k2018.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:25	2.59	6.91
E2k2019.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:37	2.59	6.91
E2k2020.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:49	2.59	6.91
E2k2021.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:01	2.59	6.91
E2k2022.D	CCV	WAR200922-60	20-NOV-20 09:13	2.59	6.91
E2k2023.D	CCB	WAR201102-99	20-NOV-20 09:25	2.59	6.91
E2k2024.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:37	2.59	6.91
E2k2025.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:49	2.59	6.91
E2k2026.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:01	2.59	6.91
E2k2027.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:13	2.59	6.91
E2k2028.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:25	2.59	6.91
E2k2029.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:37	2.59	6.91

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-129

GC Column: CLPesticides2

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.59	6.91
RT Range Based on Calibration Verification:				2.56 2.62 #	6.88 6.94 #
	Sample Number	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2031.D	CCV	WAR200922-60	20-NOV-20 11:03	2.59	6.91
E2k2032.D	CCB	WAR201102-99	20-NOV-20 11:15	2.59	6.91
E2k2033.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:27	2.59	6.91
E2k2034.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:40	2.59	6.91
E2k2035.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:52	2.59	6.91
E2k2036.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 12:04	2.59	6.91
E2k2037.D	CCV	WAR200922-60	20-NOV-20 12:16	2.59	6.91
E2k2038.D	CCB	WAR201102-99	20-NOV-20 12:28	2.59	6.91
E2k2040.D	CCB	WAR201102-99	20-NOV-20 14:39	2.59	6.91
E2k2041.D	CCV	WAR200922-60	20-NOV-20 14:51	2.59	6.91
E2k2042.D	CCB	WAR201102-99	20-NOV-20 15:03	2.59	6.91
E2k2043.D	MB	1204699392	20-NOV-20 15:15	2.59	6.91
E2k2044.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 15:27	2.59	6.91
E2k2045.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 15:39	2.59	6.91
E2k2046.D	BLK01LCS	1204699393	20-NOV-20 15:51	2.59	6.91
E2k2047.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 16:03	2.59	6.91
E2k2048.D	400RIS208WA075MS	1204699394	20-NOV-20 16:17	2.59	6.91
E2k2049.D	400RIS208WA075MSD	1204699395	20-NOV-20 16:31	2.59	6.91
E2k2050.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 16:46	2.59	6.91
E2k2051.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:00	2.59	6.91
E2k2052.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:14	2.59	6.91
E2k2053.D	CCV	WAR200922-60	20-NOV-20 17:28	2.59	6.91
E2k2054.D	CCB	WAR201102-99	20-NOV-20 17:40	2.59	6.91
E2k2055.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:52	2.59	6.91
E2k2056.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 18:06	2.59	6.91
E2k2057.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 18:21	2.59	6.91
E2k2058.D	CCV	WAR200922-60	20-NOV-20 18:35	2.59	6.91
E2k2059.D	CCB	WAR201102-99	20-NOV-20 18:47	2.59	6.91
E2k2063.D	SMEB01-20-209986	527509006	20-NOV-20 19:41	2.59	6.91

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-129

GC Column: CLPesticides2

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.59	6.91
RT Range Based on Calibration Verification:				2.56 2.62 #	6.88 6.94 #
	Sample Number	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2064.D	SMEB02-20-209976	527509013	20-NOV-20 19:55	2.59	6.91
E2k2065.D	SMEB02-20-209996	527509015	20-NOV-20 20:09	2.59	6.91
E2k2066.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 20:23	2.59	6.91
E2k2067.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 20:37	2.59	6.91
E2k2068.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 20:51	2.59	6.91
E2k2069.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 21:05	2.59	6.91
E2k2070.D	CCV	WAR200922-60	20-NOV-20 21:19	2.59	6.91

Column used to flag retention time values with an asterisk.

Quality Control Data

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**			**Matrix:**	**WATER**
Lab Sample ID:	**1204699392**				
Client Sample:	**QC for batch 2065081**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2065081**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 15:15**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2043.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2043.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0333	ug/L	0.0333	0.100	1
11104-28-2	Aroclor-1221	U	0.0333	ug/L	0.0333	0.100	1
11141-16-5	Aroclor-1232	U	0.0333	ug/L	0.0333	0.100	1
53469-21-9	Aroclor-1242	U	0.0333	ug/L	0.0333	0.100	1
12672-29-6	Aroclor-1248	U	0.0333	ug/L	0.0333	0.100	1
11097-69-1	Aroclor-1254	U	0.0333	ug/L	0.0333	0.100	1
11096-82-5	Aroclor-1260	U	0.0333	ug/L	0.0333	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.107	0.200	ug/L	53	(30%-113%)
Decachlorobiphenyl	0.167	0.200	ug/L	83	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

11/21/2020

11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2043.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 15:15 (#1); 20 Nov 2020 15:15 (#2)
Operator : YS1   InstName : ECD2
Sample   : |1204699392|2065082|1|SVA|1|MB|||
Misc   : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 0 (Sig #1); 41 (Sig #2)   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 21 04:56:49 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.269	0.002	582439064	106.601	2.589	2.590	0.001	639979546	111.672
DCB	6.216	6.216	0.000	716537781	166.688	6.909	6.908	-0.001	819244440	176.998

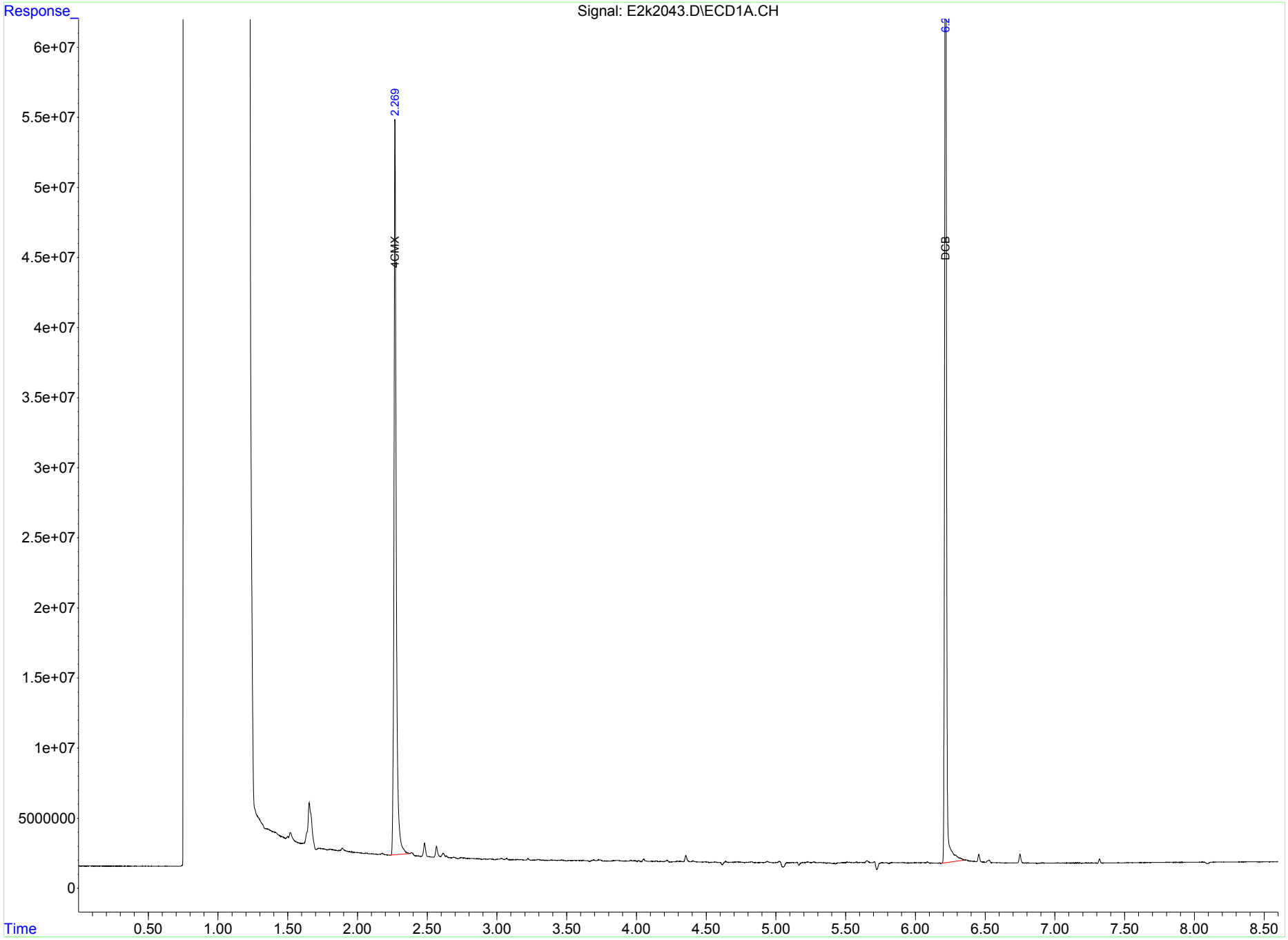
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	53%	56%
DCB	200.000	No Limits	83%	88%

Target Compounds

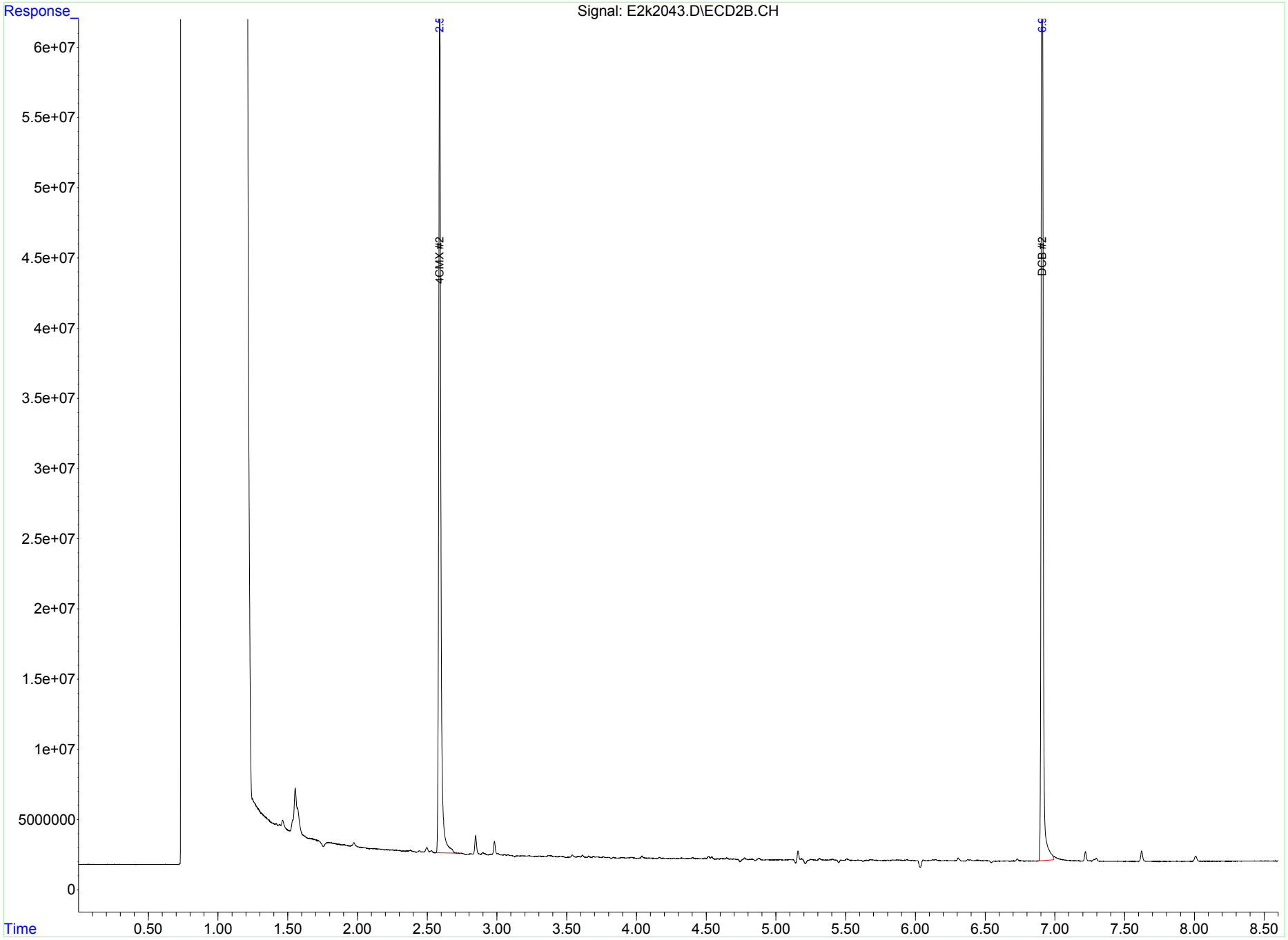
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2043.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2043.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.269	0.002	582439064	106.601	2.589	2.590	0.001	639979546	111.672
DCB	6.216	6.216	0.000	716537781	166.688	6.909	6.908	-0.001	819244440	176.998

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	53%	56%
DCB	200.000	No Limits	83%	88%
4CMX	200.000	No Limits	53%	56%
DCB	200.000	No Limits	83%	88%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1221	2.406	0.000	-2.406	0	N.D.	2.828	2.848	0.020f	12841288	225.457
Aroclor-1221 {3}	2.549	2.567	0.018f	7235069	55.050	2.990	2.982	-0.008	7351533	56.622
Sum Aroclor-1221				7235069	55.050				20192822	282.079 #
Average Aroclor-1221					55.050					141.039 #
Aroclor-1254 {2}	4.015	0.000	-4.015	0	N.D.	4.541	4.540	-0.001	1570724	6.154
Aroclor-1254 {3}	4.294	0.000	-4.294	0	N.D.	4.788	4.788	0.000	286208	1.337
Aroclor-1254 {5}	4.488	0.000	-4.488	0	N.D.	5.152	5.159	0.007	8615599	45.255
Sum Aroclor-1254				0	N.D.				10472530	52.746
Average Aroclor-1254					N.D.					<MDL
Aroclor-1260 {2}	4.888	0.000	-4.888	0	N.D.	5.152	5.159	0.007	8615599	30.309
Aroclor-1260 {3}	5.058	0.000	-5.058	0	N.D.	5.467	5.466	-0.001	1385687	6.190
Aroclor-1260 {5}	5.466	0.000	-5.466	0	N.D.	6.103	6.088	-0.015f	2871519	8.044
Sum Aroclor-1260				0	N.D.				12872805	44.543
Average Aroclor-1260					N.D.					<MDL
Aroclor-1262	4.615	4.640	0.025f	-42821	N.D.	5.152	5.159	0.007	8615599	38.218
Aroclor-1262 {2}	4.887	0.000	-4.887	0	N.D.	5.466	5.466	0.000	1385687	4.559
Aroclor-1262 {5}	5.490	0.000	-5.490	0	N.D.	6.097	6.088	-0.009	2871519	7.150
Sum Aroclor-1262				0	N.D.				12872805	49.927
Average Aroclor-1262					N.D.					<MDL
Aroclor-1268	5.490	0.000	-5.490	0	N.D.	6.096	6.088	-0.008	2871519	3.670
Aroclor-1268 {2}	5.516	0.000	-5.516	0	N.D.	6.129	6.124	-0.005	6749116	7.941
Aroclor-1268 {3}	5.649	0.000	-5.649	0	N.D.	6.306	6.306	0.000	2154862	3.224
Aroclor-1268 {5}	6.088	0.000	-6.088	0	N.D.	6.729	6.730	0.001	1311747	0.629
Sum Aroclor-1268				0	N.D.				13087245	15.463
Average Aroclor-1268					N.D.					<MDL
4,4' DDD	4.638	4.640	0.002	-42821	N.D.	5.183	5.184	0.001	4573442	<MDL
4,4' DDE	4.220	0.000	-4.220	0	N.D.	4.773	4.774	0.001	2592468	<MDL

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2043.D

Aroclor-1221	Multi -	Deletion == DMP			4,4' DDD #2 -	Deletion == DMP
Aroclor-1254	Multi -	Deletion == DMP			4,4' DDE #2 -	Deletion == DMP
Aroclor-1260	Multi -	Deletion == DMP				
Aroclor-1262	Multi -	Deletion == DMP				
Aroclor-1268	Multi -	Deletion == DMP				

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**			**Matrix:**	**WATER**
Lab Sample ID:	**1204699393**				
Client Sample:	**QC for batch 2065081**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2065081**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 15:51**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2046.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2046.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		0.572	ug/L	0.0333	0.100	1
11104-28-2	Aroclor-1221	U	0.0333	ug/L	0.0333	0.100	1
11141-16-5	Aroclor-1232	U	0.0333	ug/L	0.0333	0.100	1
53469-21-9	Aroclor-1242	U	0.0333	ug/L	0.0333	0.100	1
12672-29-6	Aroclor-1248	U	0.0333	ug/L	0.0333	0.100	1
11097-69-1	Aroclor-1254	U	0.0333	ug/L	0.0333	0.100	1
11096-82-5	Aroclor-1260		0.638	ug/L	0.0333	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.109	0.200	ug/L	54	(30%-113%)
Decachlorobiphenyl	0.183	0.200	ug/L	91	(34%-130%)

GS 11/21/2020

JC 11/23/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2046.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 15:51 (#1); 20 Nov 2020 15:51 (#2)
Operator : YS1 InstName : ECD2
Sample : |1204699393|2065082|1|SVA|1|LCS|||
Misc : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 0 (Sig #1); 44 (Sig #2) Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:56:55 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	594542616	108.816	2.589	2.590	0.001	562119324	98.086
DCB	6.216	6.214	-0.002	784571333	182.515	6.909	6.908	-0.001	857057916	185.167

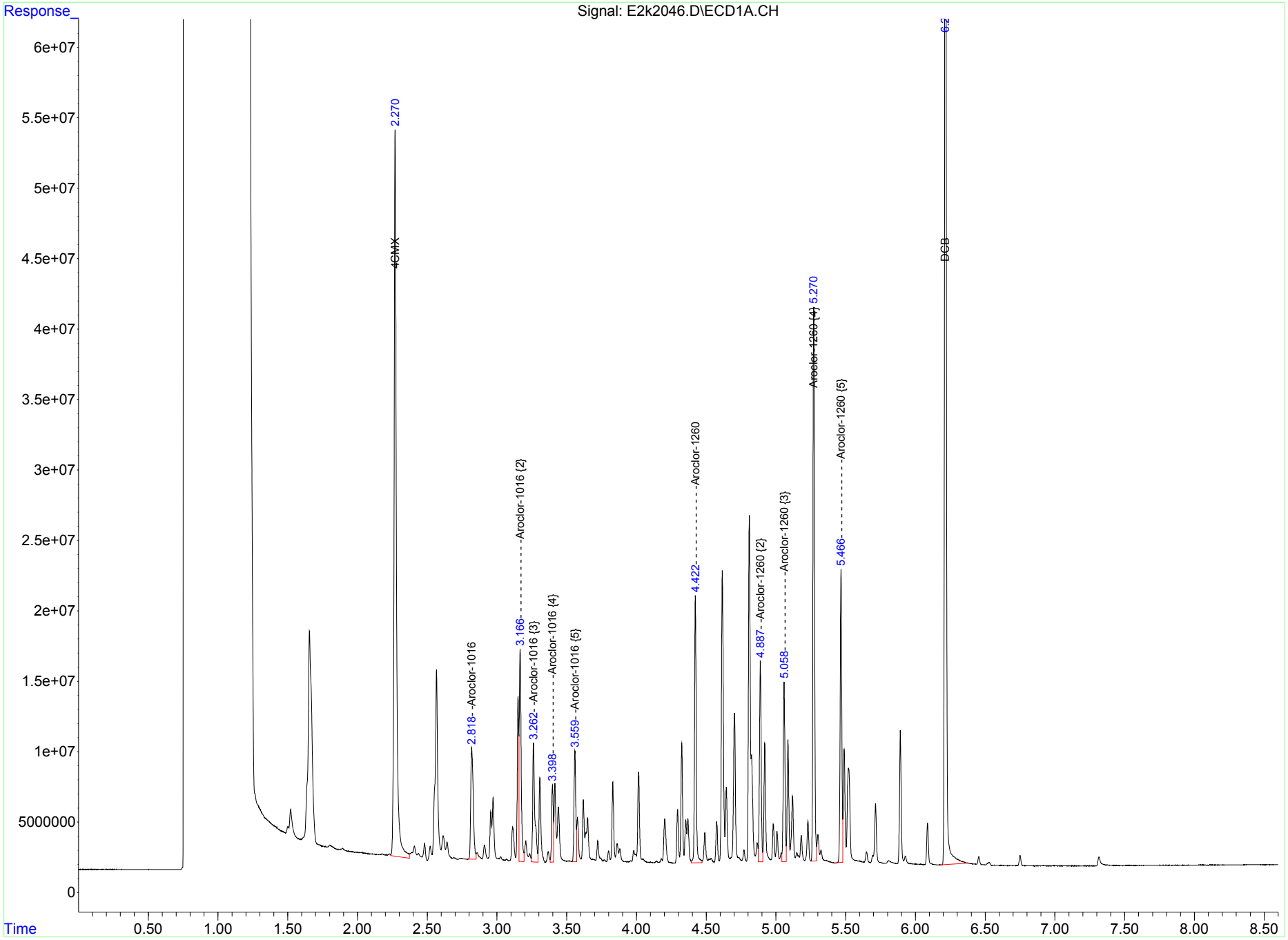
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	54%	49%
DCB	200.000	No Limits	91%	93%

Target Compounds

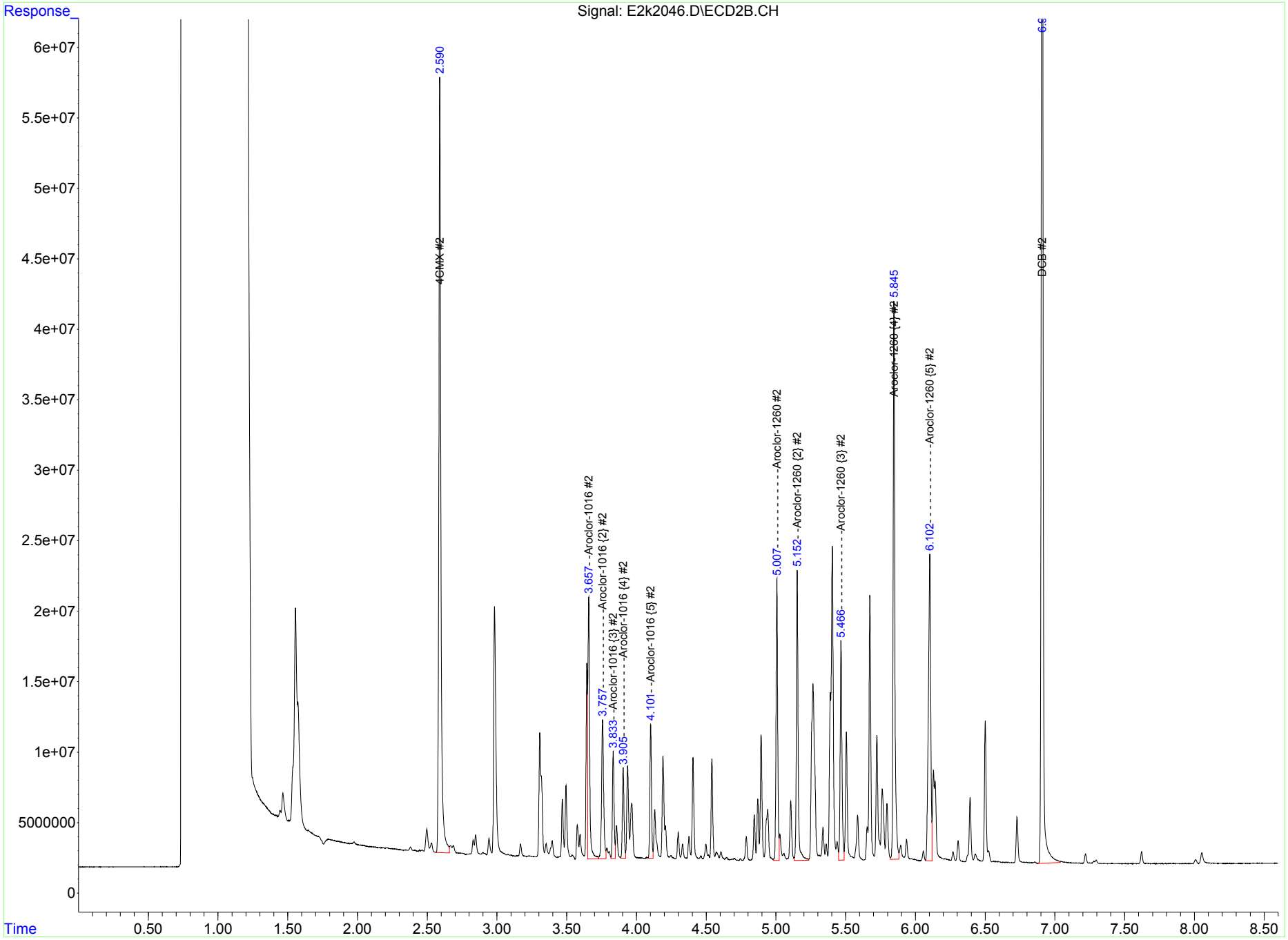
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.819	0.002	99559136	559.360	3.658	3.658	0.000	162140436	619.118
Aroclor-1016 {2}	3.165	3.167	0.002	141475540	623.995	3.757	3.757	0.000	99485784	607.350
Aroclor-1016 {3}	3.261	3.262	0.001	91756486	587.900	3.834	3.834	0.000	60646013	613.122
Aroclor-1016 {4}	3.398	3.398	0.000	43212844	528.643	3.905	3.905	0.000	53267013	554.088
Aroclor-1016 {5}	3.558	3.559	0.001	65733117	559.812	4.102	4.102	0.000	75822015	586.040
Sum Aroclor-1016				441737123	2859.710				451361261	2979.718
Average Aroclor-1016					571.942					595.944
Aroclor-1260	4.422	4.422	0.000	155202546	712.429	5.006	5.007	0.001	163774350	740.539
Aroclor-1260 {2}	4.888	4.888	0.000	119129921	588.795	5.152	5.152	0.000	181580389	638.790
Aroclor-1260 {3}	5.058	5.058	0.000	107518238	490.351	5.467	5.466	-0.001	137832734	615.694
Aroclor-1260 {4}	5.272	5.270	-0.002	304468170	634.880	5.846	5.846	0.000	341359091	662.058
Aroclor-1260 {5}	5.466	5.466	0.000	168132946	761.409	6.103	6.103	0.000	252106525	706.233
Sum Aroclor-1260				854451822	3187.864				1076653088	3363.315
Average Aroclor-1260					637.573					672.663

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2046.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2046.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	594542616	108.816	2.589	2.590	0.001	562119324	98.086
DCB	6.216	6.214	-0.002	784571333	182.515	6.909	6.908	-0.001	857057916	185.167

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	54%	49%
DCB	200.000	No Limits	91%	93%
4CMX	200.000	No Limits	54%	49%
DCB	200.000	No Limits	91%	93%

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Target Compounds										
Aroclor-1016	2.817	2.819	0.002	99559136	559.360	3.658	3.658	0.000	162140436	619.118
Aroclor-1016 {2}	3.165	3.167	0.002	141475540	623.995	3.757	3.757	0.000	99485784	607.350
Aroclor-1016 {3}	3.261	3.262	0.001	91756486	587.900	3.834	3.834	0.000	60646013	613.122
Aroclor-1016 {4}	3.398	3.398	0.000	43212844	528.643	3.905	3.905	0.000	53267013	554.088
Aroclor-1016 {5}	3.558	3.559	0.001	65733117	559.812	4.102	4.102	0.000	75822015	586.040
Sum Aroclor-1016				441737123	2859.710				451361261	2979.718
Average Aroclor-1016					571.942					595.944
Aroclor-1221	2.406	2.408	0.002	11636573	196.296	2.828	2.829	0.001	8232803	144.545
Aroclor-1221 {2}	2.519	2.522	0.003	9992339	318.088	2.942	2.943	0.001	10740673	294.375
Aroclor-1221 {3}	2.549	2.567	0.018f	175721107	1337.014 A	2.990	2.983	-0.007	192632786	1483.659 A
Sum Aroclor-1221				197350019	1851.398				211606262	1922.580
Average Aroclor-1221					617.133					640.860
Aroclor-1232	2.817	2.819	0.002	99559136	1270.176 A	3.657	3.658	0.001	162140436	1583.998 A
Aroclor-1232 {2}	3.165	3.167	0.002	141475540	1407.560 A	3.756	3.757	0.001	99485784	1502.667 A
Aroclor-1232 {3}	3.261	3.262	0.001	91756486	1374.513 A	3.832	3.834	0.002	60646013	1460.209 A
Aroclor-1232 {4}	3.307	3.308	0.001	57653630	1334.774 A	3.904	3.905	0.001	53267013	1636.774 A
Aroclor-1232 {5}	3.557	3.559	0.002	65733117	1467.552 A	3.936	3.937	0.001	57291275	1589.951 A
Sum Aroclor-1232				456177909	6854.575				432830521	7773.600
Average Aroclor-1232					1370.915					1554.720
Aroclor-1242	2.817	2.819	0.002	99559136	660.882	3.657	3.658	0.001	162140436	707.215
Aroclor-1242 {2}	3.165	3.167	0.002	141475540	715.725	3.756	3.757	0.001	99485784	676.965
Aroclor-1242 {3}	3.261	3.262	0.001	91756486	694.702	3.833	3.834	0.001	60646013	673.684
Aroclor-1242 {4}	3.307	3.308	0.001	57653630	678.198	3.904	3.905	0.001	53267013	665.735
Aroclor-1242 {5}	3.397	3.398	0.001	43212844	654.475	3.937	3.937	0.000	57291275	651.599
Sum Aroclor-1242				433657637	3403.981				432830521	3375.199
Average Aroclor-1242					680.796					675.040
Aroclor-1248	3.165	3.167	0.002	141475540	1275.468	3.657	3.658	0.001	162140436	1253.032
Aroclor-1248 {2}	3.397	3.398	0.001	43212844	365.163	3.905	3.905	0.000	53267013	386.424
Aroclor-1248 {3}	3.557	3.559	0.002	65733117	403.672	4.102	4.102	0.000	75822015	415.312
Aroclor-1248 {4}	3.861	3.862	0.001	12315394	69.309	4.376	4.376	0.000	13673002	68.975
Aroclor-1248 {5}	3.880	3.881	0.001	8307541	47.420	4.409	4.405	-0.004	62629245	260.235
Sum Aroclor-1248				271044435	2161.033				367531711	2383.977
Average Aroclor-1248					432.207					476.795

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.831	3.831	0.000	45568246	242.681	4.406	4.405	-0.001	62629245	257.946	
Aroclor-1254 {2}	4.015	4.016	0.001	50461370	206.481	4.541	4.541	0.000	59177419	231.845	
Aroclor-1254 {3}	4.294	4.295	0.001	30864128	93.103	4.788	4.787	-0.001	15364122	71.757	
Aroclor-1254 {4}	4.422	4.422	0.000	155202546	1324.734	5.029	5.028	-0.001	16424266	58.218	
Aroclor-1254 {5}	4.488	4.490	0.002	20307240	88.300	5.152	5.152	0.000	181580389	953.789	
Sum Aroclor-1254				302403532	1955.300				335175441	1573.555	
Average Aroclor-1254					391.060					314.711	
Aroclor-1260	4.422	4.422	0.000	155202546	712.429	5.006	5.007	0.001	163774350	740.539	
Aroclor-1260 {2}	4.888	4.888	0.000	119129921	588.795	5.152	5.152	0.000	181580389	638.790	
Aroclor-1260 {3}	5.058	5.058	0.000	107518238	490.351	5.467	5.466	-0.001	137832734	615.694	
Aroclor-1260 {4}	5.272	5.270	-0.002	304468170	634.880	5.846	5.846	0.000	341359091	662.058	
Aroclor-1260 {5}	5.466	5.466	0.000	168132946	761.409	6.103	6.103	0.000	252106525	706.233	
Sum Aroclor-1260				854451822	3187.864				1076653088	3363.315	
Average Aroclor-1260					637.573					672.663	
Aroclor-1262	4.615	4.615	0.000	196325323	963.923	5.152	5.152	0.000	181580389	805.468	
Aroclor-1262 {2}	4.887	4.888	0.001	119129921	449.855	5.466	5.466	0.000	137832734	453.510	
Aroclor-1262 {3}	5.058	5.058	0.000	107518238	426.943	5.674	5.673	-0.001	158757973	520.088	
Aroclor-1262 {4}	5.271	5.270	-0.001	304468170	595.020	5.846	5.846	0.000	341359091	594.442	
Aroclor-1262 {5}	5.490	5.489	-0.001	68554272	318.199	6.097	6.103	0.006	252106525	627.695	
Sum Aroclor-1262				795995924	2753.941				1071636712	3001.203	
Average Aroclor-1262					550.788					600.241	
Aroclor-1268	5.490	5.489	-0.001	68554272	96.240	6.096	6.103	0.007	252106525	322.178	
Aroclor-1268 {2}	5.516	5.520	0.004	89137866	120.231	6.129	6.129	0.000	52650309	61.946	
Aroclor-1268 {3}	5.649	5.649	0.000	6250775	10.308	6.306	6.306	0.000	13253202	19.826	
Aroclor-1268 {4}	5.892	5.891	-0.001	75314166	291.158	6.501	6.500	-0.001	84556266	301.328	
Aroclor-1268 {5}	6.088	6.086	-0.002	24814515	13.299	6.729	6.728	-0.001	30182389	14.474	
Sum Aroclor-1268				264071594	531.235				432748690	719.753	
Average Aroclor-1268					106.247					143.951	
4,4' DDT	4.830	4.825	-0.005	60460598	55.444	5.402	5.404	0.002	222464049	127.975	#
4,4' DDD	4.638	4.644	0.006	48102909	<MDL	5.183	0.000	-5.183	0	N.D.	#
4,4' DDE	4.220	4.202	-0.018	35395400	<MDL	4.773	4.787	0.014	15364122	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2046.D

Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD		-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**10/29/2020 12:04**	**Matrix:**	**WG**
Lab Sample ID:	**1204699394**	**Date Received:**	**10/30/2020 10:00**		
Client Sample:	**QC for batch 2065081**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**400RIS208WA075MS**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 16:17**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2048.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2048.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		0.677	ug/L	0.0333	0.100	1
11104-28-2	Aroclor-1221	U	0.0333	ug/L	0.0333	0.100	1
11141-16-5	Aroclor-1232	U	0.0333	ug/L	0.0333	0.100	1
53469-21-9	Aroclor-1242		0.792	ug/L	0.0333	0.100	1
12672-29-6	Aroclor-1248	U	0.0333	ug/L	0.0333	0.100	1
11097-69-1	Aroclor-1254	U	0.0333	ug/L	0.0333	0.100	1
11096-82-5	Aroclor-1260		0.688	ug/L	0.0333	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.0977	0.200	ug/L	49	(30%-113%)
Decachlorobiphenyl	0.166	0.200	ug/L	83	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

11/21/2020

11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2048.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 16:17 (#1); 20 Nov 2020 16:17 (#2)
Operator : YS1 InstName : ECD2
Sample : |1204699394|2065082|1|SVA|1|MS|||
Misc : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 0 (Sig #1); 46 (Sig #2) Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:56:59 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	533710325	97.682	2.589	2.591	0.002	602472519	105.128
DCB	6.216	6.213	-0.003	714354082	166.180m	6.909	6.906	-0.003	824512353	178.136m

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	49%	53%
DCB	200.000	No Limits	83%	89%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.818	0.001	121744899	684.008	3.658	3.658	0.000	198059029	756.269
Aroclor-1016 {2}	3.165	3.165	0.000	169420245	747.249	3.757	3.757	0.000	119903655	731.999
Aroclor-1016 {3}	3.261	3.261	0.000	91222020	584.476	3.834	3.833	-0.001	75599963	764.305
Aroclor-1016 {4}	3.398	3.397	-0.001	53852324	658.800	3.905	3.904	-0.001	66669904	693.506
Aroclor-1016 {5}	3.558	3.557	-0.001	83584565	711.843	4.102	4.102	0.000	96213800	743.651
Sum Aroclor-1016				519824052	3386.375				556446351	3689.730
Average Aroclor-1016					677.275					737.946
Aroclor-1242	2.817	2.818	0.001	121744899	808.153	3.657	3.658	0.001	198059029	863.883
Aroclor-1242 {2}	3.165	3.165	0.000	169420245	857.097	3.756	3.757	0.001	119903655	815.902
Aroclor-1242 {3}	3.261	3.261	0.000	91222020	690.655	3.833	3.833	0.000	75599963	839.799
Aroclor-1242 {4}	3.307	3.306	-0.001	66965583	787.737	3.904	3.904	0.000	66669904	833.246
Aroclor-1242 {5}	3.397	3.397	0.000	53852324	815.614	3.937	3.937	0.000	71107180	808.734
Sum Aroclor-1242				503205070	3959.256				531339731	4161.563
Average Aroclor-1242					791.851					832.313
Aroclor-1260	4.422	4.419	-0.003	157965038	725.110	5.006	5.005	-0.001	171742535	776.568
Aroclor-1260 {2}	4.888	4.885	-0.003	124871848	617.174	5.152	5.150	-0.002	203632537	716.368
Aroclor-1260 {3}	5.058	5.055	-0.003	124875714	569.512	5.467	5.465	-0.002	142548792	636.761
Aroclor-1260 {4}	5.272	5.268	-0.004	331977603	692.243	5.846	5.845	-0.001	386906966	750.397

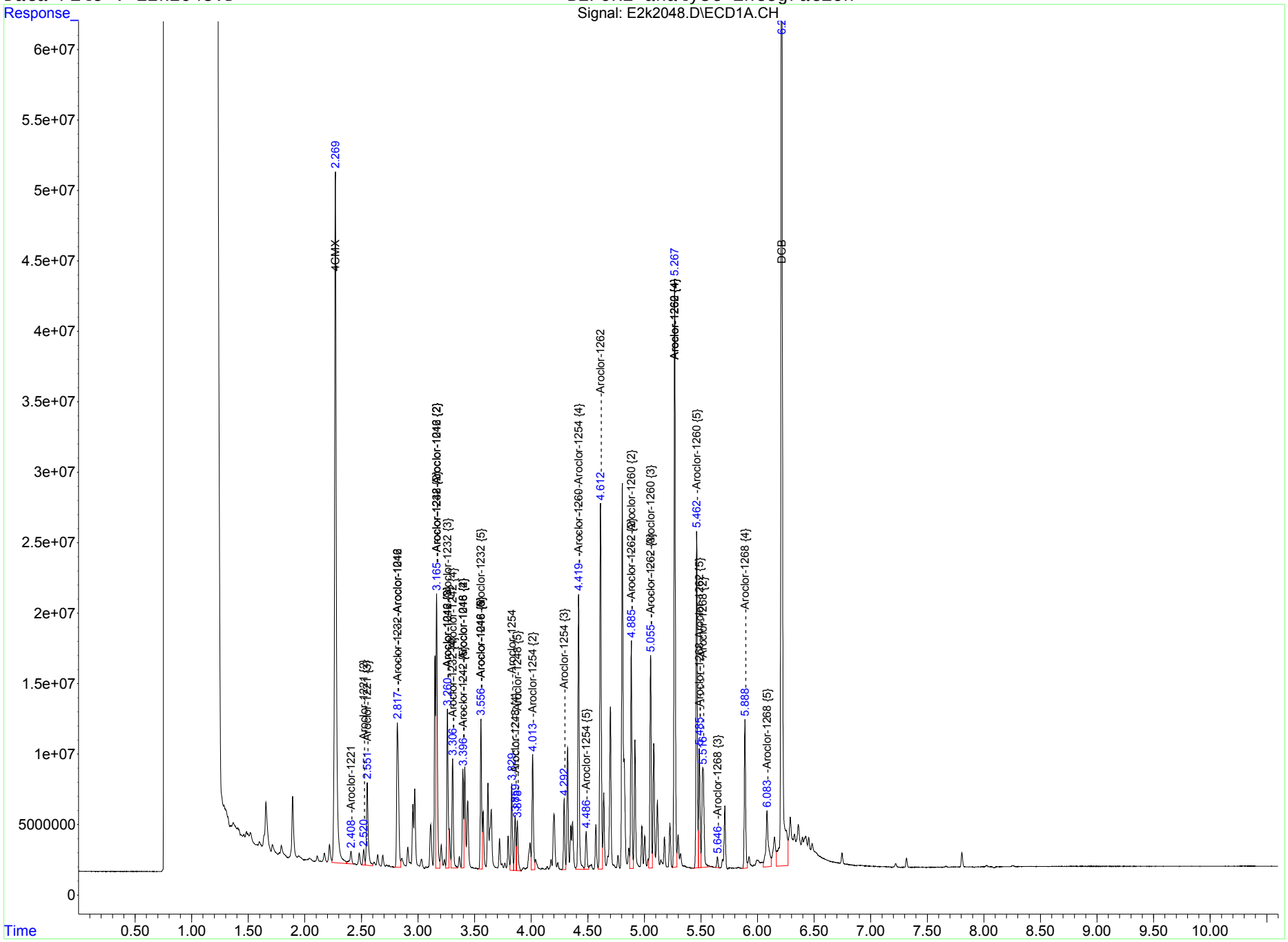
Quantitation Report
GEL Laboratories, LLC

Aroclor-1260 {5}	5.466	5.463	-0.003	184797661	836.877	6.103	6.102	-0.001	280538611	785.881
Sum Aroclor-1260				924487864	3440.916				1185369440	3665.976
Average Aroclor-1260					688.183					733.195

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2048.D

BEFORE analyst integration



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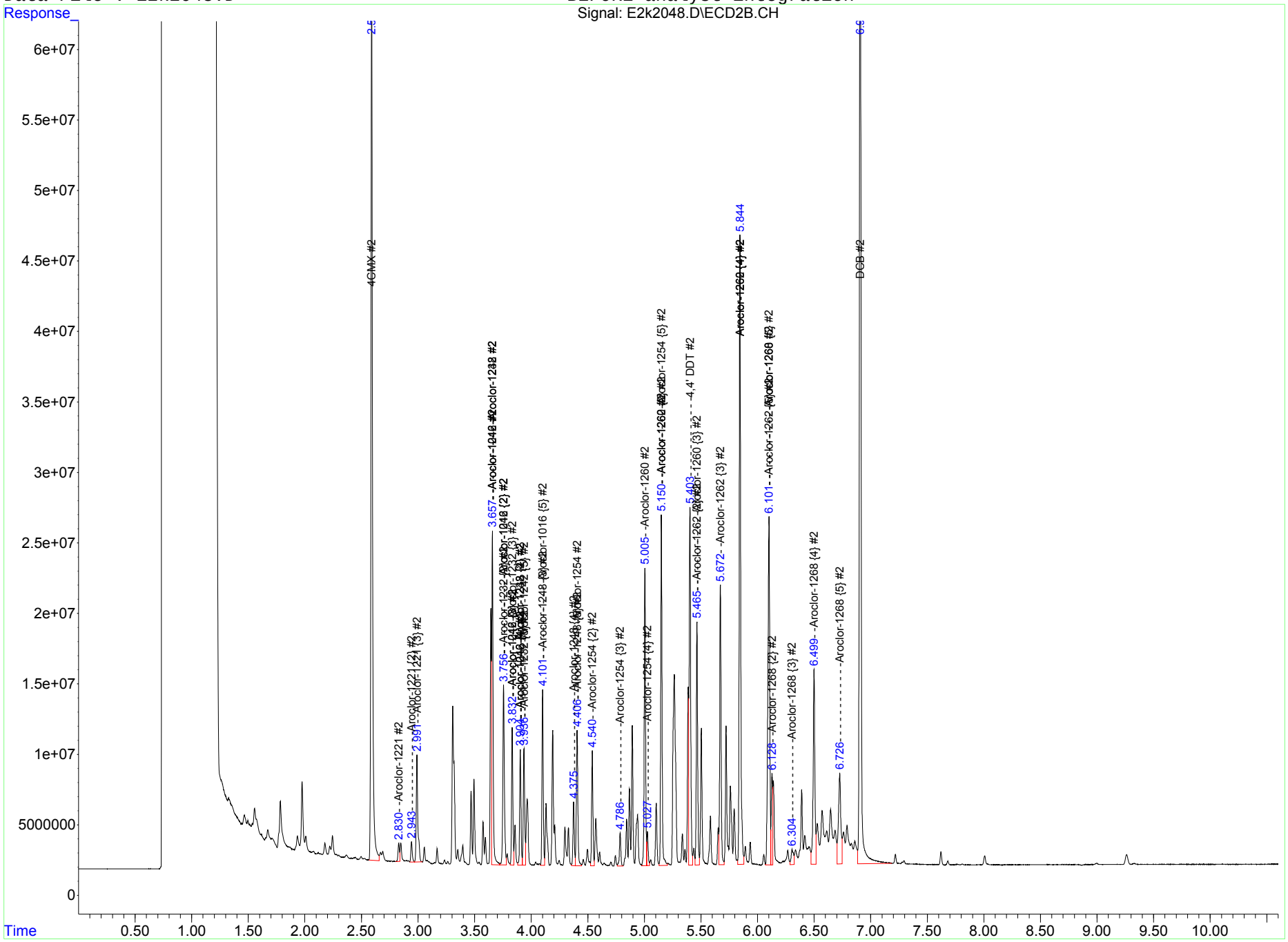
Data File : E2k2048.D

BEFORE analyst integration



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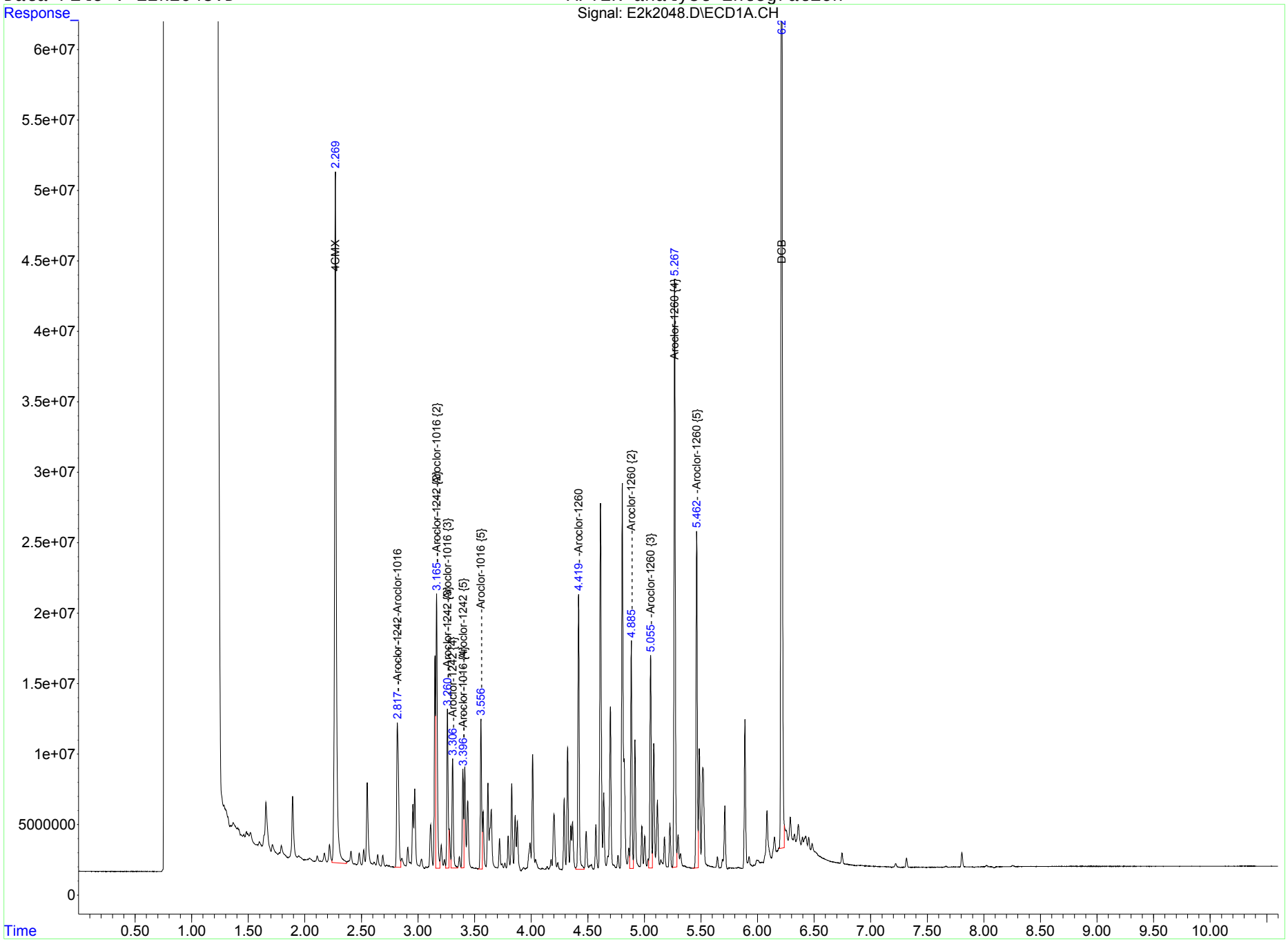
Data File : E2k2048.D

AFTER analyst integration



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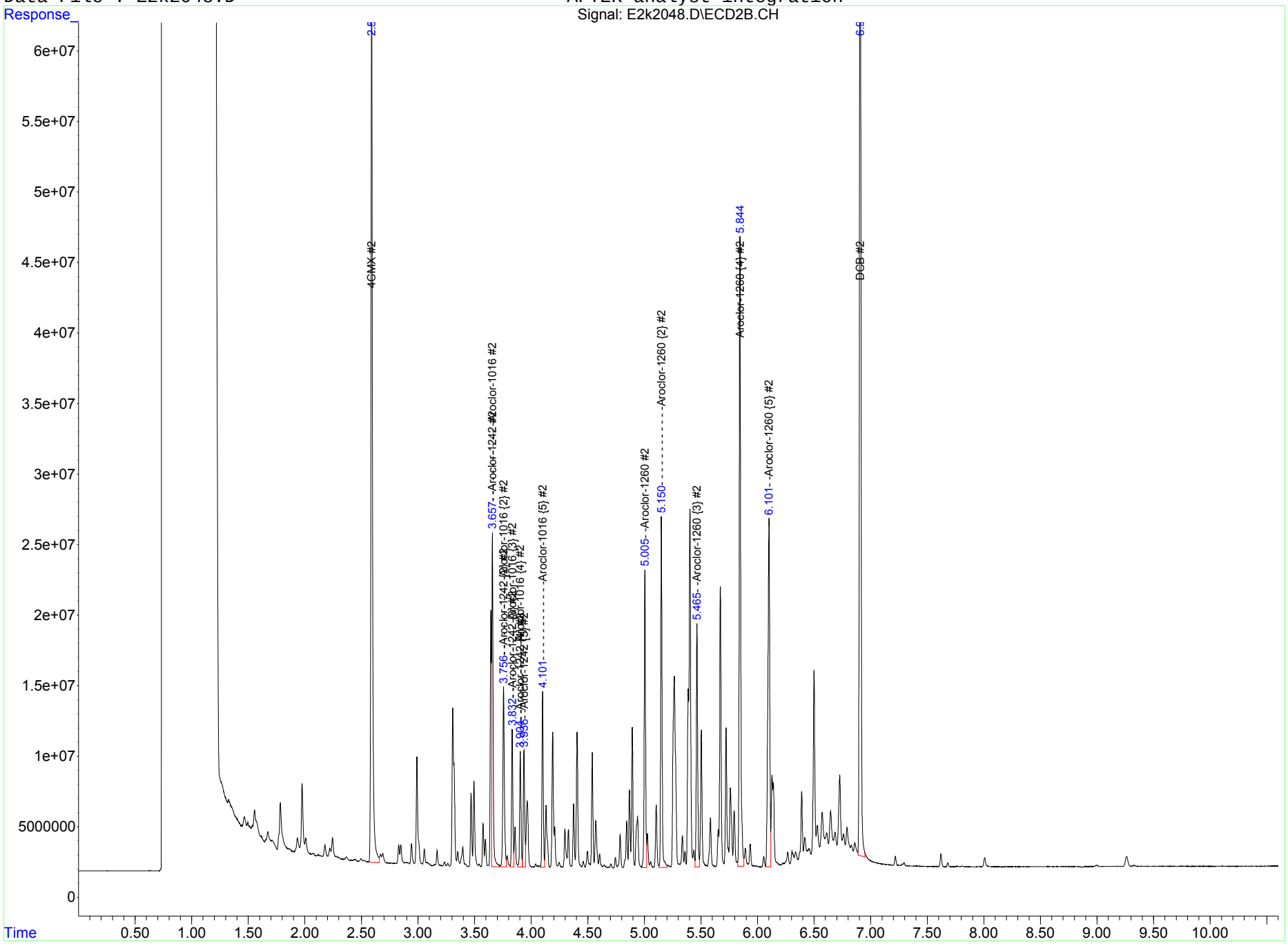
Data File : E2k2048.D

AFTER analyst integration



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	533710325	97.682	2.589	2.591	0.002	602472519	105.128
DCB	6.216	6.213	-0.003	811759707	188.840	6.909	6.907	-0.002	881963813	190.548

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	49%	53%
DCB	200.000	No Limits	83%	89%
4CMX	200.000	No Limits	49%	53%
DCB	200.000	No Limits	94%	95%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.818	0.001	121744899	684.008	3.658	3.658	0.000	198059029	756.269
Aroclor-1016 {2}	3.165	3.165	0.000	169420245	747.249	3.757	3.757	0.000	119903655	731.999
Aroclor-1016 {3}	3.261	3.261	0.000	91222020	584.476	3.834	3.833	-0.001	75599963	764.305
Aroclor-1016 {4}	3.398	3.397	-0.001	53852324	658.800	3.905	3.904	-0.001	66669904	693.506
Aroclor-1016 {5}	3.558	3.557	-0.001	83584565	711.843	4.102	4.102	0.000	96213800	743.651
Sum Aroclor-1016				519824052	3386.375				556446351	3689.730
Average Aroclor-1016					677.275					737.946
Aroclor-1221	2.406	2.408	0.002	10825729	182.618	2.828	2.830	0.002	10847998	190.461
Aroclor-1221 {2}	2.519	2.521	0.002	9529649	303.359	2.942	2.943	0.001	12470026	341.772
Aroclor-1221 {3}	2.549	2.552	0.003	61084085	464.772	2.990	2.991	0.001	74466959	573.545
Sum Aroclor-1221				81439463	950.749				97784983	1105.778
Average Aroclor-1221					316.916					368.593
Aroclor-1232	2.817	2.818	0.001	121744899	1553.222 A	3.657	3.658	0.001	198059029	1934.897 A
Aroclor-1232 {2}	3.165	3.165	0.000	169420245	1685.585 A	3.756	3.757	0.001	119903655	1811.066 A
Aroclor-1232 {3}	3.261	3.261	0.000	91222020	1366.507 A	3.832	3.833	0.001	75599963	1820.264 A
Aroclor-1232 {4}	3.307	3.306	-0.001	66965583	1550.361 A	3.904	3.904	0.000	66669904	2048.615 A
Aroclor-1232 {5}	3.557	3.557	0.000	83584565	1866.102 A	3.936	3.937	0.001	71107180	1973.371 A
Sum Aroclor-1232				532937311	8021.777				531339731	9588.213
Average Aroclor-1232					1604.355					1917.643
Aroclor-1242	2.817	2.818	0.001	121744899	808.153	3.657	3.658	0.001	198059029	863.883
Aroclor-1242 {2}	3.165	3.165	0.000	169420245	857.097	3.756	3.757	0.001	119903655	815.902
Aroclor-1242 {3}	3.261	3.261	0.000	91222020	690.655	3.833	3.833	0.000	75599963	839.799
Aroclor-1242 {4}	3.307	3.306	-0.001	66965583	787.737	3.904	3.904	0.000	66669904	833.246
Aroclor-1242 {5}	3.397	3.397	0.000	53852324	815.614	3.937	3.937	0.000	71107180	808.734
Sum Aroclor-1242				503205070	3959.256				531339731	4161.563
Average Aroclor-1242					791.851					832.313
Aroclor-1248	3.165	3.165	0.000	169420245	1527.403	3.657	3.658	0.001	198059029	1530.613
Aroclor-1248 {2}	3.397	3.397	0.000	53852324	455.071	3.905	3.904	-0.001	66669904	483.655
Aroclor-1248 {3}	3.557	3.557	0.000	83584565	513.299	4.102	4.102	0.000	96213800	527.007
Aroclor-1248 {4}	3.861	3.859	-0.002	33515385	188.619	4.376	4.376	0.000	36880417	186.047
Aroclor-1248 {5}	3.880	3.878	-0.002	31672839	180.790	4.409	4.406	-0.003	87364601	363.015
Sum Aroclor-1248				372045358	2865.182				485187751	3090.336
Average Aroclor-1248					573.036					618.067

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
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Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.831	3.829	-0.002	50828083	270.693	4.406	4.406	0.000	87364601	359.822	
Aroclor-1254 {2}	4.015	4.013	-0.002	70237535	287.402	4.541	4.540	-0.001	64637448	253.236	
Aroclor-1254 {3}	4.294	4.292	-0.002	38310851	115.566	4.788	4.786	-0.002	20832180	97.295	
Aroclor-1254 {4}	4.422	4.419	-0.003	157965038	1348.314	5.029	5.027	-0.002	20014645	70.945	
Aroclor-1254 {5}	4.488	4.487	-0.001	24571182	106.841	5.152	5.150	-0.002	203632537	1069.623	
Sum Aroclor-1254				341912688	2128.816				396481411	1850.921	
Average Aroclor-1254					425.763					370.184	
Aroclor-1260	4.422	4.419	-0.003	157965038	725.110	5.006	5.005	-0.001	171742535	776.568	
Aroclor-1260 {2}	4.888	4.885	-0.003	124871848	617.174	5.152	5.150	-0.002	203632537	716.368	
Aroclor-1260 {3}	5.058	5.055	-0.003	124875714	569.512	5.467	5.465	-0.002	142548792	636.761	
Aroclor-1260 {4}	5.272	5.268	-0.004	331977603	692.243	5.846	5.845	-0.001	386906966	750.397	
Aroclor-1260 {5}	5.466	5.463	-0.003	184797661	836.877	6.103	6.102	-0.001	280538611	785.881	
Sum Aroclor-1260				924487864	3440.916				1185369440	3665.976	
Average Aroclor-1260					688.183					733.195	
Aroclor-1262	4.615	4.613	-0.002	228538901	1122.086	5.152	5.150	-0.002	203632537	903.288	
Aroclor-1262 {2}	4.887	4.885	-0.002	124871848	471.538	5.466	5.465	-0.001	142548792	469.027	
Aroclor-1262 {3}	5.058	5.055	-0.003	124875714	495.868	5.674	5.672	-0.002	167477591	548.654	
Aroclor-1262 {4}	5.271	5.268	-0.003	331977603	648.782	5.846	5.845	-0.001	386906966	673.759	
Aroclor-1262 {5}	5.490	5.486	-0.004	70587382	327.636	6.097	6.102	0.005	280538611	698.486	
Sum Aroclor-1262				880851449	3065.909				1181104496	3293.213	
Average Aroclor-1262					613.182					658.643	
Aroclor-1268	5.490	5.486	-0.004	70587382	99.094	6.096	6.102	0.006	280538611	358.513	
Aroclor-1268 {2}	5.516	5.517	0.001	94190667	127.046	6.129	6.128	-0.001	53053985	62.421	
Aroclor-1268 {3}	5.649	5.646	-0.003	5956990	9.823	6.306	6.305	-0.001	15358441	22.975	
Aroclor-1268 {4}	5.892	5.889	-0.003	85312754	329.811	6.501	6.499	-0.002	143975300	513.076	
Aroclor-1268 {5}	6.088	6.084	-0.004	62331263	33.405	6.729	6.726	-0.003	96108449	46.090	
Sum Aroclor-1268				318379056	599.180				589034785	1003.075	#
Average Aroclor-1268					119.836					200.615	#
4,4' DDT	4.830	4.821	-0.009	59809728	54.847	5.402	5.403	0.001	233457453	134.299	#
4,4' DDD	4.638	4.641	0.003	45031326	<MDL	5.183	0.000	-5.183	0	N.D.	#
4,4' DDE	4.220	4.236	0.016	4129657	<MDL	4.773	4.786	0.013	20832180	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2048.D

DCB - Manual Integration == AB/AP

DCB #2 - Manual Integration == AB/AP

Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD		-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-129**	**Date Collected:**	**10/29/2020 12:04**	**Matrix:**	**WG**
Lab Sample ID:	**1204699395**	**Date Received:**	**10/30/2020 10:00**		
Client Sample:	**QC for batch 2065081**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**400RIS208WA075MSD**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 16:31**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2049.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2049.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		0.635	ug/L	0.0333	0.100	1
11104-28-2	Aroclor-1221	U	0.0333	ug/L	0.0333	0.100	1
11141-16-5	Aroclor-1232	U	0.0333	ug/L	0.0333	0.100	1
53469-21-9	Aroclor-1242		0.756	ug/L	0.0333	0.100	1
12672-29-6	Aroclor-1248	U	0.0333	ug/L	0.0333	0.100	1
11097-69-1	Aroclor-1254	U	0.0333	ug/L	0.0333	0.100	1
11096-82-5	Aroclor-1260		0.720	ug/L	0.0333	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.114	0.200	ug/L	57	(30%-113%)
Decachlorobiphenyl	0.176	0.200	ug/L	88	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

11/21/2020

11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2049.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 16:31 (#1); 20 Nov 2020 16:31 (#2)
Operator : YS1 InstName : ECD2
Sample : |1204699395|2065082|1|SVA|1|MSD|||
Misc : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 0 (Sig #1); 47 (Sig #2) Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:57:01 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	623617702	114.138	2.589	2.591	0.002	620675198	108.304
DCB	6.216	6.214	-0.002	754668440	175.559	6.909	6.907	-0.002	892692598	192.866

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	57%	54%
DCB	200.000	No Limits	88%	96%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.819	0.002	108947617	612.108	3.658	3.658	0.000	176951041	675.670
Aroclor-1016 {2}	3.165	3.166	0.001	155085261	684.022	3.757	3.757	0.000	113113125	690.543
Aroclor-1016 {3}	3.261	3.262	0.001	102263171	655.218	3.834	3.833	-0.001	70520833	712.955
Aroclor-1016 {4}	3.398	3.398	0.000	48908788	598.324	3.905	3.905	0.000	62820699	653.466
Aroclor-1016 {5}	3.558	3.558	0.000	73596168	626.777	4.102	4.102	0.000	88372957	683.048
Sum Aroclor-1016				488801005	3176.449				511778654	3415.684
Average Aroclor-1016					635.290					683.137
Aroclor-1242	2.817	2.819	0.002	108947617	723.203	3.657	3.658	0.001	176951041	771.815
Aroclor-1242 {2}	3.165	3.166	0.001	155085261	784.576	3.756	3.757	0.001	113113125	769.695
Aroclor-1242 {3}	3.261	3.262	0.001	102263171	774.249	3.833	3.833	0.000	70520833	783.378
Aroclor-1242 {4}	3.307	3.307	0.000	64301334	756.397	3.904	3.905	0.001	62820699	785.138
Aroclor-1242 {5}	3.397	3.398	0.001	48908788	740.742	3.937	3.937	0.000	67455312	767.199
Sum Aroclor-1242				479506171	3779.168				490861010	3877.225
Average Aroclor-1242					755.834					775.445
Aroclor-1260	4.422	4.420	-0.002	178182712	817.915	5.006	5.006	0.000	184287765	833.294
Aroclor-1260 {2}	4.888	4.886	-0.002	136096997	672.654	5.152	5.152	0.000	180866668	636.279
Aroclor-1260 {3}	5.058	5.058	0.000	104164601	475.056	5.467	5.466	-0.001	158900600	709.804
Aroclor-1260 {4}	5.272	5.270	-0.002	356093487	742.530	5.846	5.845	-0.001	408169558	791.636

Quantitation Report
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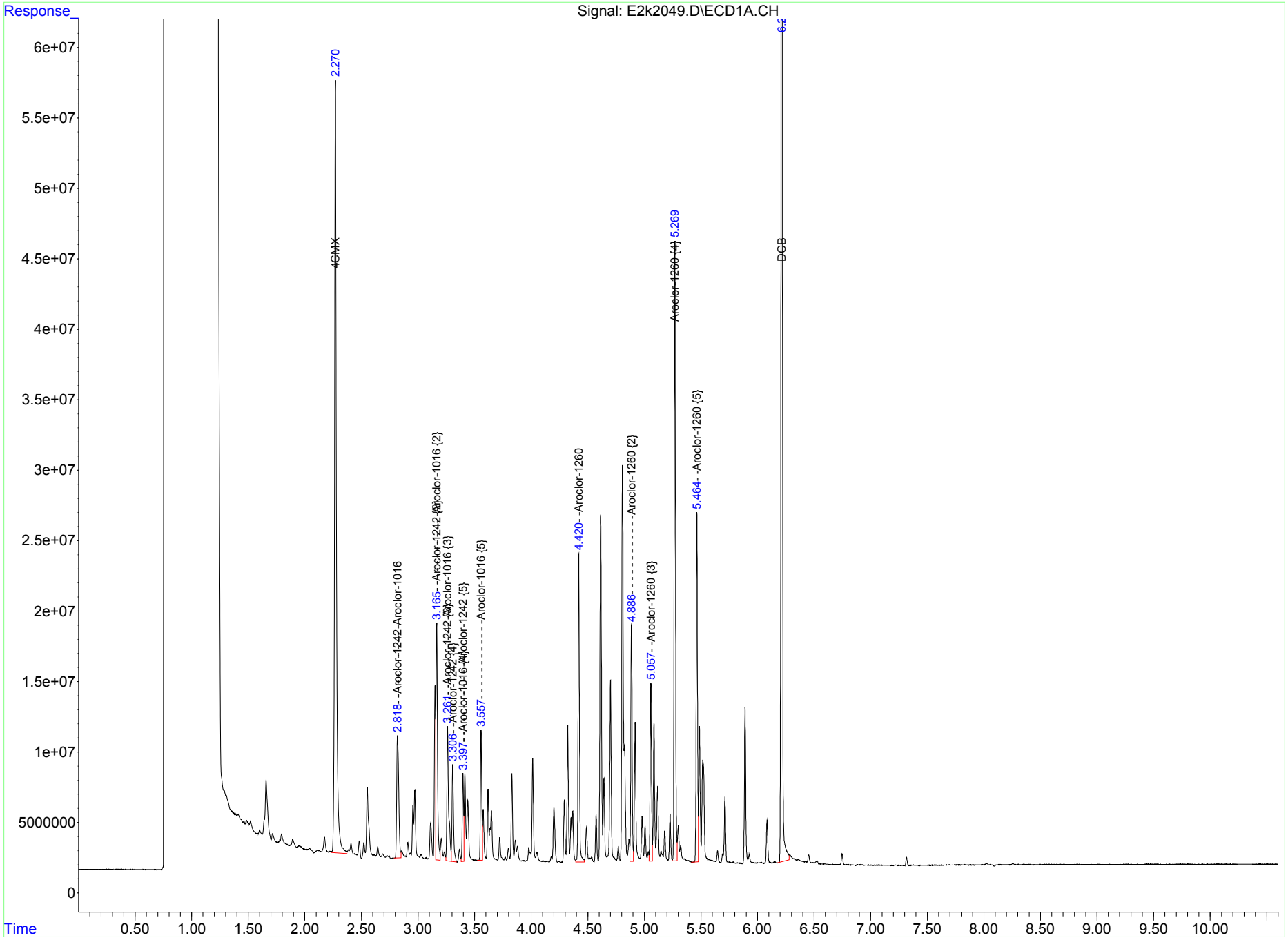
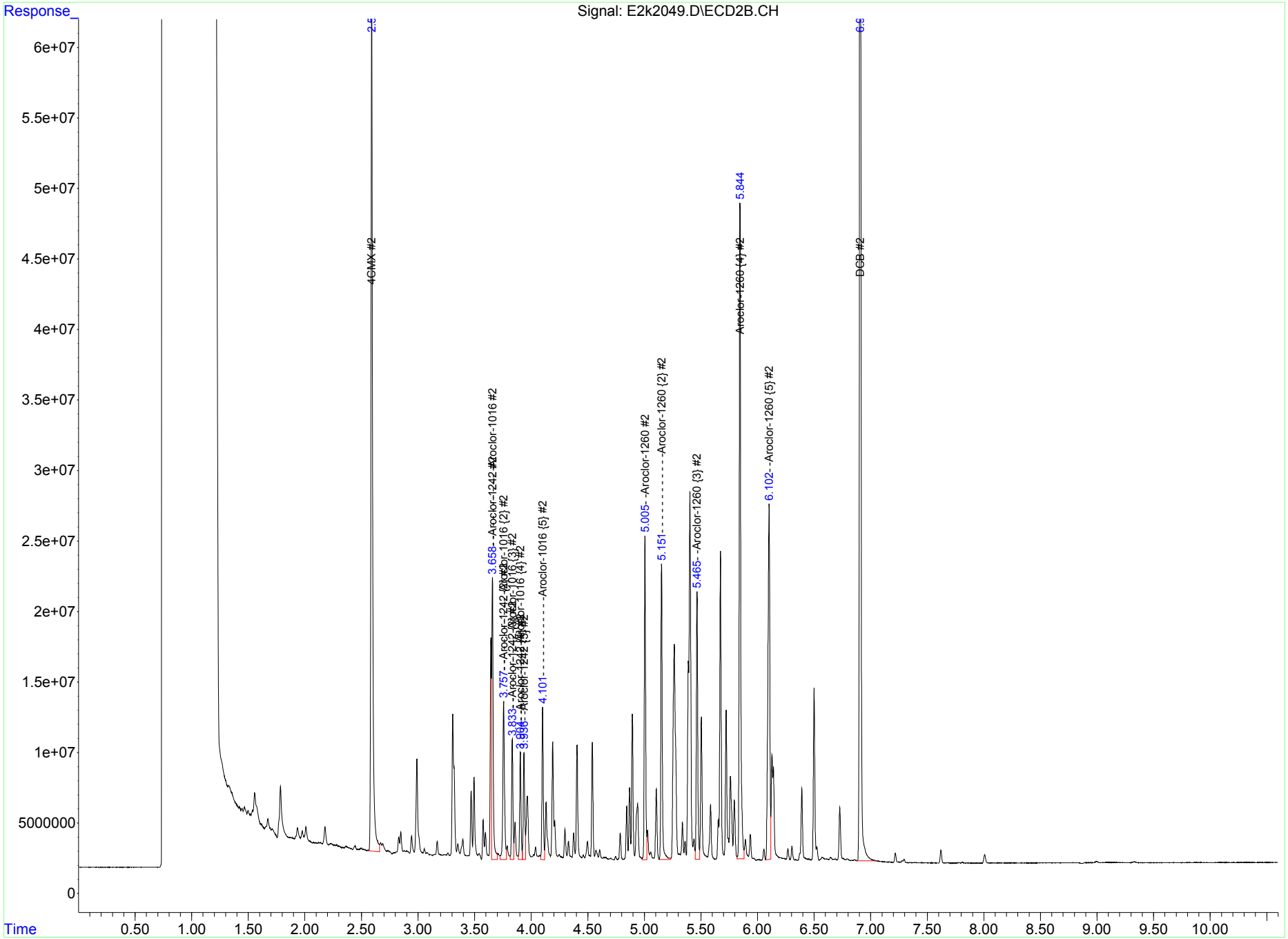
Aroclor-1260 {5}	5.466	5.464	-0.002	196716659	890.854	6.103	6.102	-0.001	293086123	821.031
Sum Aroclor-1260				971254456	3599.009				1225310714	3792.044
Average Aroclor-1260					719.802					758.409

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2049.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2049.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	623617702	114.138	2.589	2.591	0.002	620675198	108.304
DCB	6.216	6.214	-0.002	754668440	175.559	6.909	6.907	-0.002	892692598	192.866

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	57%	54%
DCB	200.000	No Limits	88%	96%
4CMX	200.000	No Limits	57%	54%
DCB	200.000	No Limits	88%	96%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.819	0.002	108947617	612.108	3.658	3.658	0.000	176951041	675.670
Aroclor-1016 {2}	3.165	3.166	0.001	155085261	684.022	3.757	3.757	0.000	113113125	690.543
Aroclor-1016 {3}	3.261	3.262	0.001	102263171	655.218	3.834	3.833	-0.001	70520833	712.955
Aroclor-1016 {4}	3.398	3.398	0.000	48908788	598.324	3.905	3.905	0.000	62820699	653.466
Aroclor-1016 {5}	3.558	3.558	0.000	73596168	626.777	4.102	4.102	0.000	88372957	683.048
Sum Aroclor-1016				488801005	3176.449				511778654	3415.684
Average Aroclor-1016					635.290					683.137
Aroclor-1221	2.406	2.408	0.002	7308700	123.290	2.828	2.830	0.002	10288889	180.644
Aroclor-1221 {2}	2.519	2.522	0.003	11134357	354.442	2.942	2.943	0.001	12315617	337.540
Aroclor-1221 {3}	2.549	2.552	0.003	70451772	536.049	2.990	2.990	0.000	77098010	593.810
Sum Aroclor-1221				88894828	1013.780				99702517	1111.994
Average Aroclor-1221					337.927					370.665
Aroclor-1232	2.817	2.819	0.002	108947617	1389.954 A	3.657	3.658	0.001	176951041	1728.687 A
Aroclor-1232 {2}	3.165	3.166	0.001	155085261	1542.965 A	3.756	3.757	0.001	113113125	1708.499 A
Aroclor-1232 {3}	3.261	3.262	0.001	102263171	1531.904 A	3.832	3.833	0.001	70520833	1697.971 A
Aroclor-1232 {4}	3.307	3.307	0.000	64301334	1488.680 A	3.904	3.905	0.001	62820699	1930.337 A
Aroclor-1232 {5}	3.557	3.558	0.001	73596168	1643.102 A	3.936	3.937	0.001	67455312	1872.024 A
Sum Aroclor-1232				504193551	7596.604				490861010	8937.519
Average Aroclor-1232					1519.321					1787.504
Aroclor-1242	2.817	2.819	0.002	108947617	723.203	3.657	3.658	0.001	176951041	771.815
Aroclor-1242 {2}	3.165	3.166	0.001	155085261	784.576	3.756	3.757	0.001	113113125	769.695
Aroclor-1242 {3}	3.261	3.262	0.001	102263171	774.249	3.833	3.833	0.000	70520833	783.378
Aroclor-1242 {4}	3.307	3.307	0.000	64301334	756.397	3.904	3.905	0.001	62820699	785.138
Aroclor-1242 {5}	3.397	3.398	0.001	48908788	740.742	3.937	3.937	0.000	67455312	767.199
Sum Aroclor-1242				479506171	3779.168				490861010	3877.225
Average Aroclor-1242					755.834					775.445
Aroclor-1248	3.165	3.166	0.001	155085261	1398.166	3.657	3.658	0.001	176951041	1367.489
Aroclor-1248 {2}	3.397	3.398	0.001	48908788	413.296	3.905	3.905	0.000	62820699	455.731
Aroclor-1248 {3}	3.557	3.558	0.001	73596168	451.960	4.102	4.102	0.000	88372957	484.059
Aroclor-1248 {4}	3.861	3.861	0.000	13942405	78.465	4.376	4.376	0.000	16659675	84.041
Aroclor-1248 {5}	3.880	3.880	0.000	9918838	56.617	4.409	4.405	-0.004	73246435	304.351
Sum Aroclor-1248				301451460	2398.505				418050807	2695.672
Average Aroclor-1248					479.701					539.134

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.831	3.830	-0.001	52001846	276.944	4.406	4.405	-0.001	73246435	301.674	
Aroclor-1254 {2}	4.015	4.014	-0.001	62639678	256.313	4.541	4.541	0.000	67746068	265.415	
Aroclor-1254 {3}	4.294	4.293	-0.001	35367044	106.686	4.788	4.787	-0.001	15944680	74.469	
Aroclor-1254 {4}	4.422	4.420	-0.002	178182712	1520.882	5.029	5.028	-0.001	18136731	64.288	
Aroclor-1254 {5}	4.488	4.489	0.001	23066047	100.296	5.152	5.152	0.000	180866668	950.040	
Sum Aroclor-1254				351257327	2261.122				355940582	1655.886	
Average Aroclor-1254					452.224					331.177	
Aroclor-1260	4.422	4.420	-0.002	178182712	817.915	5.006	5.006	0.000	184287765	833.294	
Aroclor-1260 {2}	4.888	4.886	-0.002	136096997	672.654	5.152	5.152	0.000	180866668	636.279	
Aroclor-1260 {3}	5.058	5.058	0.000	104164601	475.056	5.467	5.466	-0.001	158900600	709.804	
Aroclor-1260 {4}	5.272	5.270	-0.002	356093487	742.530	5.846	5.845	-0.001	408169558	791.636	
Aroclor-1260 {5}	5.466	5.464	-0.002	196716659	890.854	6.103	6.102	-0.001	293086123	821.031	
Sum Aroclor-1260				971254456	3599.009				1225310714	3792.044	
Average Aroclor-1260					719.802					758.409	
Aroclor-1262	4.615	4.614	-0.001	231494844	1136.599	5.152	5.152	0.000	180866668	802.302	
Aroclor-1262 {2}	4.887	4.886	-0.001	136096997	513.926	5.466	5.466	0.000	158900600	522.829	
Aroclor-1262 {3}	5.058	5.058	0.000	104164601	413.626	5.674	5.673	-0.001	182351443	597.380	
Aroclor-1262 {4}	5.271	5.270	-0.001	356093487	695.911	5.846	5.845	-0.001	408169558	710.785	
Aroclor-1262 {5}	5.490	5.487	-0.003	78670902	365.156	6.097	6.102	0.005	293086123	729.727	
Sum Aroclor-1262				906520831	3125.219				1223374392	3363.023	
Average Aroclor-1262					625.044					672.605	
Aroclor-1268	5.490	5.487	-0.003	78670902	110.442	6.096	6.102	0.006	293086123	374.548	
Aroclor-1268 {2}	5.516	5.516	0.000	101646867	137.103	6.129	6.128	-0.001	59935137	70.517	
Aroclor-1268 {3}	5.649	5.647	-0.002	5961313	9.830	6.306	6.304	-0.002	7852818	11.747	
Aroclor-1268 {4}	5.892	5.889	-0.003	89505336	346.019	6.501	6.500	-0.001	102334859	364.685	
Aroclor-1268 {5}	6.088	6.084	-0.004	26590536	14.251	6.729	6.727	-0.002	37671287	18.066	
Sum Aroclor-1268				302374953	617.646				500880223	839.562	
Average Aroclor-1268					123.529					167.912	
4,4' DDT	4.830	4.824	-0.006	66009458	60.532	5.402	5.403	0.001	253466278	145.810	#
4,4' DDD	4.638	4.643	0.005	52545254	<MDL	5.183	0.000	-5.183	0	N.D.	#
4,4' DDE	4.220	4.202	-0.018	40986917	<MDL	4.773	4.787	0.014	15944680	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2049.D

Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD		-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

Miscellaneous

Prep Logbook

Solid-Phase Extraction

Batch ID: 2065081 **Verified by:** _____
Analyst: Sanquetta Coakley
Method: SW846 3535A

Lab SOP: GL-OA-E-070 REV# 11
Instrument: Semi-Volatiles Manual

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Ph 1	Ph 2	Clean Up	Final Volume (mL)	Prepped Factor (mL/mL)
1204699392 MB	20-NOV-2020 05:50:00			1000	7	1	H2SO4/KMnO4	1	0.001
1204683090 FLTB	20-NOV-2020 05:50:00	1564.1	501.59	1062.51	7	1	H2SO4/KMnO4	1	0.00094
1204685276 FLTB	20-NOV-2020 05:50:00	1556.47	498.71	1057.76	7	1	H2SO4/KMnO4	1	0.00095
1204699393 LCS	20-NOV-2020 05:50:00			1000	7	1	H2SO4/KMnO4	1	0.001
525871007	20-NOV-2020 05:50:00			1000	7	1	H2SO4/KMnO4	1	0.001
1204699394 MS (525871007)	20-NOV-2020 05:50:00			1000	7	1	H2SO4/KMnO4	1	0.001
1204699395 MSD (525871007)	20-NOV-2020 05:50:00			1000	7	1	H2SO4/KMnO4	1	0.001
525871008	20-NOV-2020 05:50:00	1521.85	501.39	1020.46	7	1	H2SO4/KMnO4	1	0.00098
526153008	20-NOV-2020 05:50:00	1506.82	498.34	1008.48	7	1	H2SO4/KMnO4	1	0.00099
526258001	20-NOV-2020 05:50:00			720	7	1	H2SO4/KMnO4	1	0.00139
526258003	20-NOV-2020 05:50:00	1418.32	499.18	919.14	7	1	H2SO4/KMnO4	1	0.00109
526270013	20-NOV-2020 05:50:00	1530.32	501.93	1028.39	7	1	H2SO4/KMnO4	1	0.00097
526270014	20-NOV-2020 05:50:00	1552.28	501.73	1050.55	7	1	H2SO4/KMnO4	1	0.00095
527509004	20-NOV-2020 05:50:00			1000	10	1	H2SO4/KMnO4	1	0.001
1204699396 MS (527509004)	20-NOV-2020 05:50:00			945	10	1	H2SO4/KMnO4	1	0.00106
1204699397 MSD (527509004)	20-NOV-2020 05:50:00			945	10	1	H2SO4/KMnO4	1	0.00106
527509006	20-NOV-2020 05:50:00	1317.55	410.66	906.89	7	1	H2SO4/KMnO4	1	0.0011
527509013	20-NOV-2020 05:50:00	1407.25	412.08	995.17	10	1	H2SO4/KMnO4	1	0.001
527509015	20-NOV-2020 05:50:00	1387.42	410.75	976.67	10	1	H2SO4/KMnO4	1	0.00102
527510004	20-NOV-2020 05:50:00	1434.18	412.62	1021.56	10	1	H2SO4/KMnO4	1	0.00098
527510010	20-NOV-2020 05:50:00	1510.46	441.18	1069.28	10	1	H2SO4/KMnO4	1	0.00094
527510016	20-NOV-2020 05:50:00	1450.19	439.84	1010.35	10	1	H2SO4/KMnO4	1	0.00099
527731002	20-NOV-2020 05:50:00	1448.97	438.79	1010.18	7	1	H2SO4/KMnO4	1	0.00099

Type	Sample Id	Description	Serial Number	Spike Amt	Units

Comments:

Prep Logbook

Batch ID: 2065081 **Verified by:** _____
Analyst: Sanquetta Coakley
Method: SW846 3535A

Lab SOP: GL-OA-E-070 REV# 11
Instrument: Semi-Volatiles Manual

Sample ID		Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Ph 1	Ph 2	Clean Up	Final Volume (mL)	Prepped Factor (mL/mL)
LCS	1204699393	PCB Laboratory Control			WE201002-06	1	mL			
MS	1204699394	PCB Laboratory Control			WE201002-06	1	mL			
MS	1204699396	PCB Laboratory Control			WE201002-06	1	mL			
MSD	1204699395	PCB Laboratory Control			WE201002-06	1	mL			
MSD	1204699397	PCB Laboratory Control			WE201002-06	1	mL			
SURR	All	PEST LOW LEVEL SURROGATE 200 UG/L			WE201030-12	1	mL			
REGNT	All	5% Potassium Permanganate			3126559	5	mL			
REGNT	All	Hexane			3133107	10	mL			
REGNT	All	Methylene Chloride			3138096	100	mL			
REGNT	All	Acetone			3140994-B4	5	mL			
REGNT	All	1:1 sulfuric acid			3145032	15	mL			
SOURC	All	SODIUM SULFATE			3129846	30	g			

Turbovap #: 1,2
Cartridge lot #: 054893-CI
Final Solvent: Hexane
Clean up SOP: GL-OA-E-037
Verified by: DPF

ORGANIC RUN LOG - INSTRUMENT ID#ECD2

GEL ORGANIC RUN LOG 102620.S

DATE: 26-Oct-20 METHOD: See Data OPERATOR: YS1

Solvent ID
Alumina ID
Copper ID

Calibration & QC Information:
Initial Calibration Dates: See Calibration History and Standards Log
Initial Calibration Std ID's: See Calibration History and Standards Log
Sequence Number: 102620.S
GEL SOP: GL-OA-E-040
GL-OA-E-041

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
10/26/2020	04:27	E2J2601.D	WAR200710-99	IB	BLANK	1	1	YS1	
10/26/2020	04:39	E2J2602.D	WAR201016-DDT	DDT	ICS	1	2	YS1	
10/26/2020	04:51	E2J2603.D	WAR200707-32	AR1232	CCV	1	3	YS1	
10/26/2020	05:03	E2J2604.D	WAR200701-21	AR1221	CCV	1	4	YS1	
10/26/2020	05:15	E2J2605.D	WAR200605-60	AR1660	DUSE	1	5	YS1	
10/26/2020	05:27	E2J2606.D	WAR200825-54	AR1254	DUSE	1	6	YS1	
10/26/2020	05:39	E2J2607.D	WAR200612-42	AR1242	CCV	1	7	YS1	
10/26/2020	05:51	E2J2608.D	WAR200916-48	AR1248	DUSE	1	8	YS1	
10/26/2020	06:03	E2J2609.D	WAR200707-68	AR1268	CCV	1	9	YS1	
10/26/2020	06:15	E2J2610.D	WAR200604-62	AR1262	CCV	1	10	YS1	
10/26/2020	06:27	E2J2611.D	WAR200605-60	AR1660	DUSE	1	11	YS1	
10/26/2020	06:39	E2J2612.D	WAR200825-54	AR1254	CCV	1	12	YS1	
10/26/2020	06:51	E2J2613.D	WAR200916-48	AR1248	CCV	1	13	YS1	
10/26/2020	07:03	E2J2614.D	WAR201009-01	AR1660-1	ICAL	1	14	YS1	
10/26/2020	07:15	E2J2615.D	WAR201009-02	AR1660-2	ICAL	1	15	YS1	
10/26/2020	07:27	E2J2616.D	WAR201009-03	AR1660-3	ICAL	1	16	YS1	
10/26/2020	07:39	E2J2617.D	WAR201009-04	AR1660-4	ICAL	1	17	YS1	
10/26/2020	07:51	E2J2618.D	IAR200730-01	AR1660-5	ICAL	1	18	YS1	
10/26/2020	08:03	E2J2619.D	WAR200605-60	AR1660	ICV	1	19	YS1	
10/26/2020	08:15	E2J2620.D	WAR200710-99	IB	BLANK	1	20	YS1	
10/26/2020	08:27	E2J2621.D	1204675765	MB	2054523	1	21	YS1	
10/26/2020	08:39	E2J2622.D	1204675766	LCS	2054523	1	22	YS1	
10/26/2020	08:51	E2J2623.D	523982005	CPRC	2054523	1	23	YS1	
10/26/2020	09:03	E2J2624.D	1204675767	MS	2054523	1	24	YS1	
10/26/2020	09:15	E2J2625.D	1204675768	MSD	2054523	1	25	YS1	
10/26/2020	09:27	E2J2626.D	523982010	CPRC	2054523	1	26	YS1	
10/26/2020	09:39	E2J2627.D	523982011	CPRC	2054523	1	27	YS1	
10/26/2020	09:51	E2J2628.D	524084012	CPRC	2054523	1	28	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD2

GEL ORGANIC RUN LOG 102620.S

10/26/2020 10:04	E2J2629.D	524084013	CPRC	2054523	1	29	YS1	
10/26/2020 10:15	E2J2630.D	WAR200605-60	AR1660	CCV	1	30	YS1	
10/26/2020 10:28	E2J2631.D	WAR200710-99	IB	BLANK	1	31	YS1	
10/26/2020 10:42	E2J2632.D	1204676828	MB	2055002	1	32	YS1	
10/26/2020 10:54	E2J2633.D	1204676829	LCS	2055002	1	33	YS1	
10/26/2020 11:06	E2J2634.D	524558007	RSIE	2055002	1	34	YS1	
10/26/2020 11:18	E2J2635.D	1204676830	MS	2055002	1	35	YS1	
10/26/2020 11:30	E2J2636.D	1204676831	MSD	2055002	1	36	YS1	
10/26/2020 11:42	E2J2637.D	524558008	RSIE	2055002	1	37	YS1	
10/26/2020 11:54	E2J2638.D	WAR200605-60	AR1660	CCV	1	38	YS1	
10/26/2020 12:06	E2J2639.D	WAR200710-99	IB	BLANK	1	39	YS1	
10/26/2020 12:18	E2J2640.D	524125001	WSRB	2054523	1	40	YS1	
10/26/2020 12:30	E2J2641.D	524125018	WSRB	2054523	1	41	YS1	
10/26/2020 12:42	E2J2642.D	524438005	WSRB	2054523	1	42	YS1	DUSE
10/26/2020 12:54	E2J2643.D	1204675769	MS	2054523	1	43	YS1	DUSE
10/26/2020 13:06	E2J2644.D	1204675770	MSD	2054523	1	44	YS1	DUSE
10/26/2020 13:18	E2J2645.D	524438007	WSRB	2054523	1	45	YS1	DUSE
10/26/2020 13:30	E2J2646.D	524438008	WSRB	2054523	1	46	YS1	DUSE
10/26/2020 13:42	E2J2647.D	524438010	WSRB	2054523	1	47	YS1	DUSE
10/26/2020 13:54	E2J2648.D	524948001	GEEL	2054523	1	48	YS1	
10/26/2020 14:06	E2J2649.D	WAR200605-60	AR1660	CCV	1	49	YS1	
10/26/2020 14:18	E2J2650.D	WAR200710-99	IB	BLANK	1	50	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD2

GEL ORGANIC RUN LOG 112020.S

DATE: 20-Nov-20 METHOD: See Data OPERATOR: YS1

Solvent ID
Alumina ID
Copper ID

Calibration & QC Information:
Initial Calibration Dates: See Calibration History and Standards Log
Initial Calibration Std ID's: See Calibration History and Standards Log
GEL SOP: GL-OA-E-040
GL-OA-E-041

Sequence Number: 112020.S

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
11/20/2020	04:59	E2k2001.D	WAR201102-99	IB	BLANK	1	1	YS1	
11/20/2020	05:11	E2k2002.D	WAR201016-DDT	DDT	ICS	1	2	YS1	
11/20/2020	05:23	E2k2003.D	WAR200707-32	AR1232	CCV	1	3	YS1	
11/20/2020	05:35	E2k2004.D	WAR200701-21	AR1221	CCV	1	4	YS1	
11/20/2020	05:47	E2k2005.D	WAR200922-60	AR12660	CCV	1	5	YS1	
11/20/2020	05:59	E2k2006.D	WAR200825-54	AR1254	CCV	1	6	YS1	
11/20/2020	06:11	E2k2007.D	WAR200612-42	AR1242	CCV	1	7	YS1	
11/20/2020	06:23	E2k2008.D	WAR200916-48	AR1248	CCV	1	8	YS1	
11/20/2020	06:35	E2k2009.D	WAR201112-68	AR1268	CCV	1	9	YS1	
11/20/2020	06:47	E2k2010.D	WAR201104-62	AR1262	CCV	1	10	YS1	
11/20/2020	07:01	E2k2011.D	WAR201102-99	IB	BLANK	1	11	YS1	
11/20/2020	07:13	E2k2012.D	1204697226	MB	2064081	1	12	YS1	
11/20/2020	07:25	E2k2013.D	1204677039	FLTB	2064081	1	13	YS1	
11/20/2020	07:37	E2k2014.D	1204679781	FLTB	2064081	1	14	YS1	
11/20/2020	07:49	E2k2015.D	1204697227	LCS	2064081	1	15	YS1	
11/20/2020	08:01	E2k2016.D	525182001	FRNP	2064081	1	16	YS1	
11/20/2020	08:13	E2k2017.D	1204697228	MS	2064081	1	17	YS1	
11/20/2020	08:25	E2k2018.D	1204697229	MSD	2064081	1	18	YS1	
11/20/2020	08:37	E2k2019.D	525182002	FRNP	2064081	1	19	YS1	
11/20/2020	08:49	E2k2020.D	525182004	FRNP	2064081	1	20	YS1	
11/20/2020	09:01	E2k2021.D	525182005	FRNP	2064081	1	21	YS1	
11/20/2020	09:13	E2k2022.D	WAR200922-60	AR12660	CCV	1	22	YS1	
11/20/2020	09:25	E2k2023.D	WAR201102-99	IB	BLANK	1	23	YS1	
11/20/2020	09:37	E2k2024.D	525470007	FRNP	2064081	1	24	YS1	
11/20/2020	09:49	E2k2025.D	525470008	FRNP	2064081	1	25	YS1	
11/20/2020	10:01	E2k2026.D	525475017	FRNP	2064081	1	26	YS1	
11/20/2020	10:13	E2k2027.D	525475018	FRNP	2064081	1	27	YS1	
11/20/2020	10:25	E2k2028.D	525527014	ORNL	2064081	1	28	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD2

GEL ORGANIC RUN LOG 112020.S

11/20/2020 10:37	E2k2029.D	525527015	ORNL	2064081	1	29	YS1	
11/20/2020 10:49	E2k2030.D	525475018	FRNP	2064081	1	27	YS1	
11/20/2020 11:03	E2k2031.D	WAR200922-60	AR12660	CCV	1	30	YS1	
11/20/2020 11:15	E2k2032.D	WAR201102-99	IB	BLANK	1	31	YS1	
11/20/2020 11:27	E2k2033.D	1204699003	MB	2064866	1	32	YS1	
11/20/2020 11:40	E2k2034.D	1204699004	LCS	2064866	1	33	YS1	
11/20/2020 11:52	E2k2035.D	1204699005	LCSD	2064866	1	34	YS1	
11/20/2020 12:04	E2k2036.D	526537004	MCLI	2064866	1	35	YS1	
11/20/2020 12:16	E2k2037.D	WAR200922-60	AR12660	CCV	1	36	YS1	
11/20/2020 12:28	E2k2038.D	WAR201102-99	IB	BLANK	1	37	YS1	
11/20/2020 12:40	E2k2039.D	WAR200922-60	AR12660	CCV	1	38	YS1	
11/20/2020 14:39	E2k2040.D	WAR201102-99	IB	BLANK	1	40	YS1	
11/20/2020 14:51	E2k2041.D	WAR200922-60	AR12660	CCV	1	39	YS1	
11/20/2020 15:03	E2k2042.D	WAR201102-99	IB	BLANK	1	40	YS1	
11/20/2020 15:15	E2k2043.D	1204699392	MB	2065082	1	41	YS1	
11/20/2020 15:27	E2k2044.D	1204683090	FLTB	2065082	1	42	YS1	
11/20/2020 15:39	E2k2045.D	1204685276	FLTB	2065082	1	43	YS1	
11/20/2020 15:51	E2k2046.D	1204699393	LCS	2065082	1	44	YS1	
11/20/2020 16:03	E2k2047.D	525871007	FRNP	2065082	1	45	YS1	
11/20/2020 16:17	E2k2048.D	1204699394	MS	2065082	1	46	YS1	
11/20/2020 16:31	E2k2049.D	1204699395	MSD	2065082	1	47	YS1	
11/20/2020 16:46	E2k2050.D	525871008	FRNP	2065082	1	48	YS1	
11/20/2020 17:00	E2k2051.D	526153008	FRNP	2065082	1	49	YS1	
11/20/2020 17:14	E2k2052.D	526258001	FRNP	2065082	1	50	YS1	
11/20/2020 17:28	E2k2053.D	WAR200922-60	AR12660	CCV	1	51	YS1	
11/20/2020 17:40	E2k2054.D	WAR201102-99	IB	BLANK	1	52	YS1	
11/20/2020 17:52	E2k2055.D	526258003	FRNP	2065082	1	53	YS1	
11/20/2020 18:06	E2k2056.D	526270013	FRNP	2065082	1	54	YS1	
11/20/2020 18:21	E2k2057.D	526270014	FRNP	2065082	1	55	YS1	
11/20/2020 18:35	E2k2058.D	WAR200922-60	AR12660	CCV	1	56	YS1	
11/20/2020 18:47	E2k2059.D	WAR201102-99	IB	BLANK	1	57	YS1	
11/20/2020 18:59	E2k2060.D	527509004	ARSL	2065082	1	58	YS1	
11/20/2020 19:13	E2k2061.D	1204699396	MS	2065082	1	59	YS1	
11/20/2020 19:27	E2k2062.D	1204699397	MSD	2065082	1	60	YS1	
11/20/2020 19:41	E2k2063.D	527509006	ARSL	2065082	1	61	YS1	
11/20/2020 19:55	E2k2064.D	527509013	ARSL	2065082	1	62	YS1	
11/20/2020 20:09	E2k2065.D	527509015	ARSL	2065082	1	63	YS1	
11/20/2020 20:23	E2k2066.D	527510004	ARSL	2065082	1	64	YS1	
11/20/2020 20:37	E2k2067.D	527510010	ARSL	2065082	1	65	YS1	
11/20/2020 20:51	E2k2068.D	527510016	ARSL	2065082	1	66	YS1	
11/20/2020 21:05	E2k2069.D	527731002	ARSL	2065082	1	67	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD2

GEL ORGANIC RUN LOG 112020.S

11/20/2020 21:19	E2k2070.D	WAR200922-60	AR12660	CCV	1	68	YS1	
11/20/2020 21:31	E2k2071.D	WAR201102-99	IB	BLANK	1	69	YS1	

Quantitation Report
GEL Laboratories, LLC

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2515.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On   : 25 Nov 2020 06:48 (#1); 25 Nov 2020 06:48 (#2)
Operator : JXM   InstName : ECD8
Sample   : |527509013|2066216|1|SVA|2|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB02-20-209976|||
ALS Vial : 15   Sample Multiplier: 1

Quant Time: Nov 25 08:20:21 2020
Quant Method : D:\MSDCHEM\1\DATA\112520.b\ECD8_8082_112420.m
Quant Title : ECD8   SubList :
QLast Update : Tue Nov 24 07:09:11 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.400	2.403	0.003	334546570	53.826m	2.767	2.769	0.002	983693377	78.092m
DCB	6.411	6.409	-0.002	270679377	45.752m	7.134	7.133	-0.001	587623183	56.551m

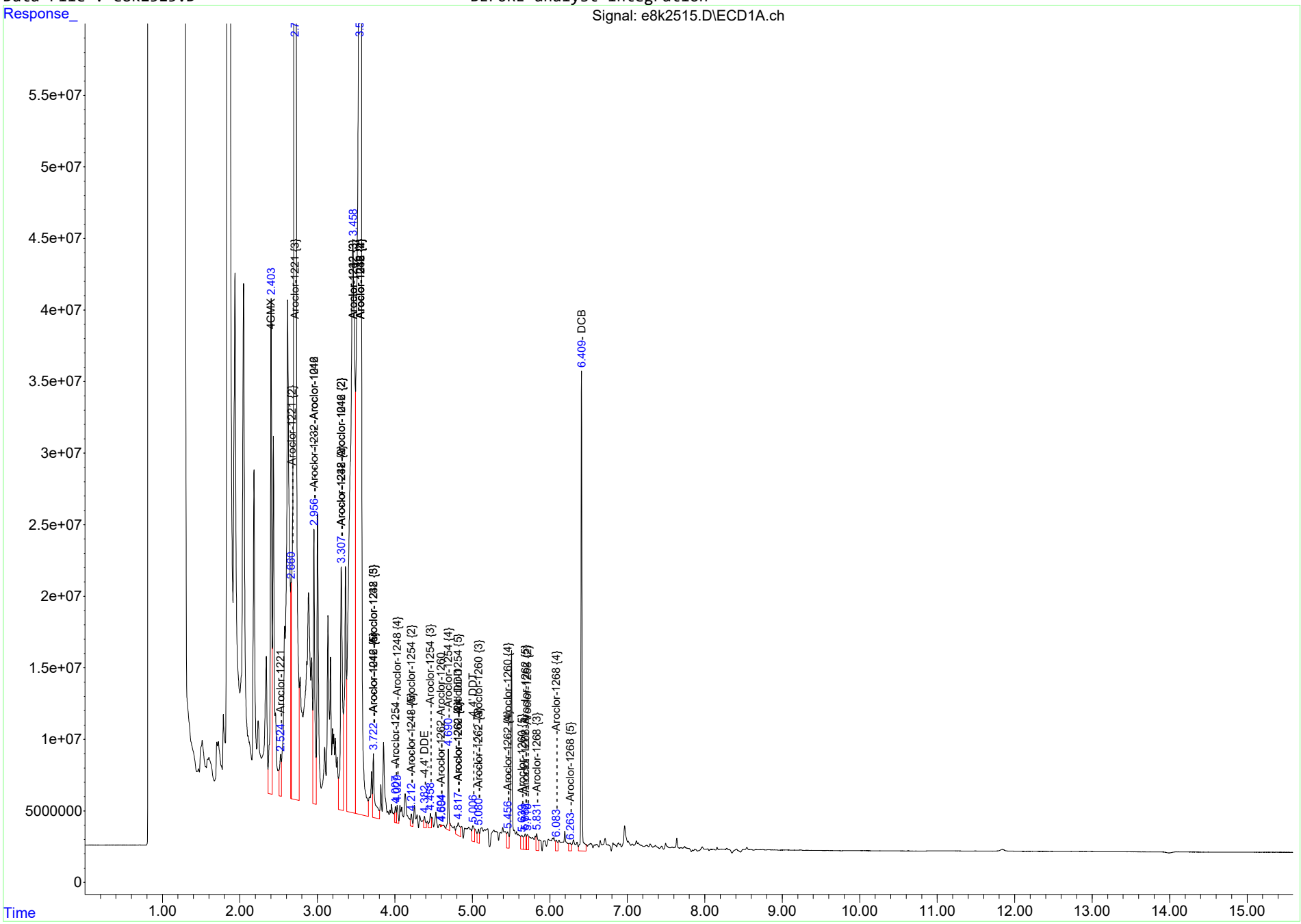
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	27%	39%
DCB	200.000	No Limits	23%	28%

Target Compounds

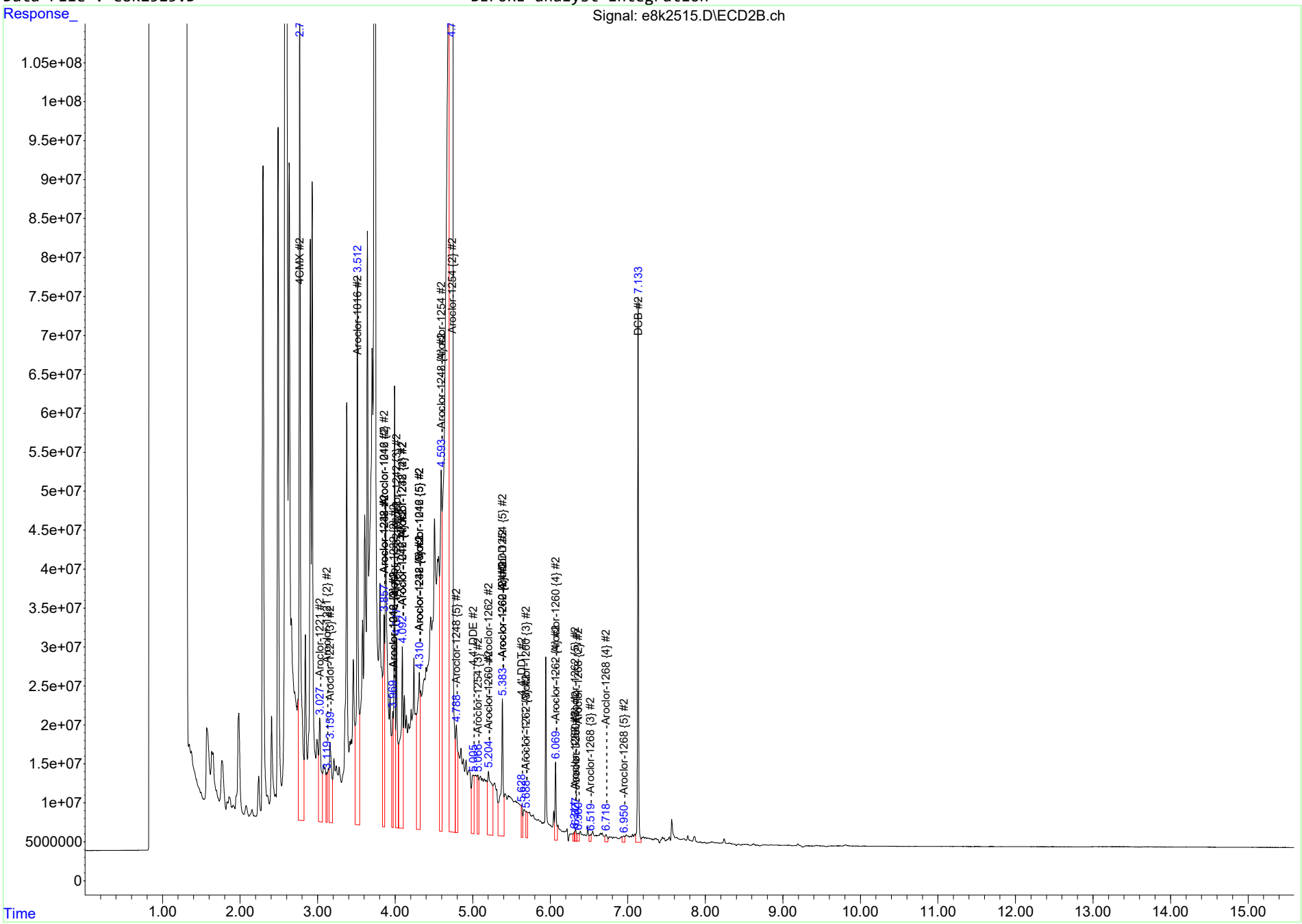
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

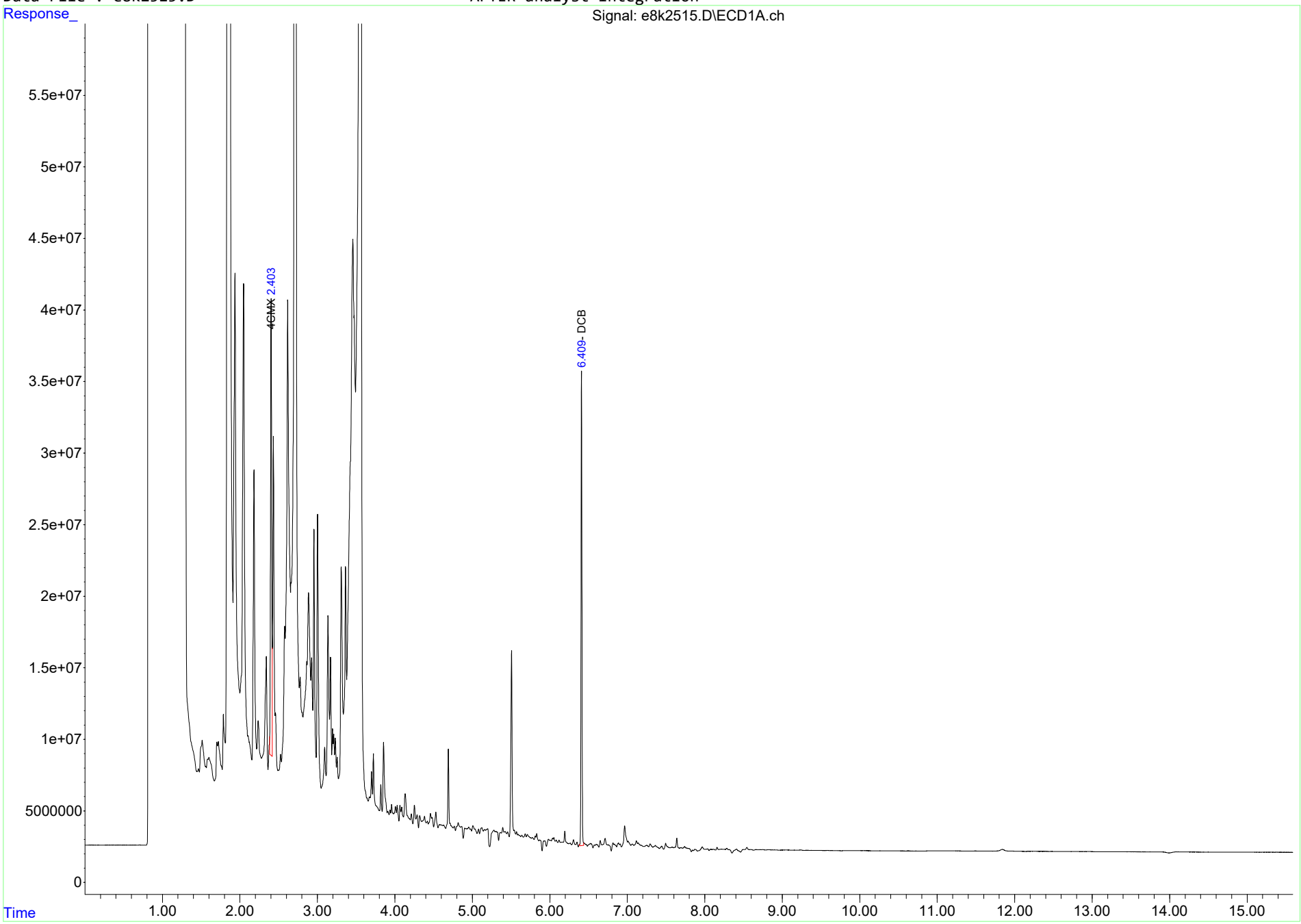
Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2515.D BEFORE analyst integration



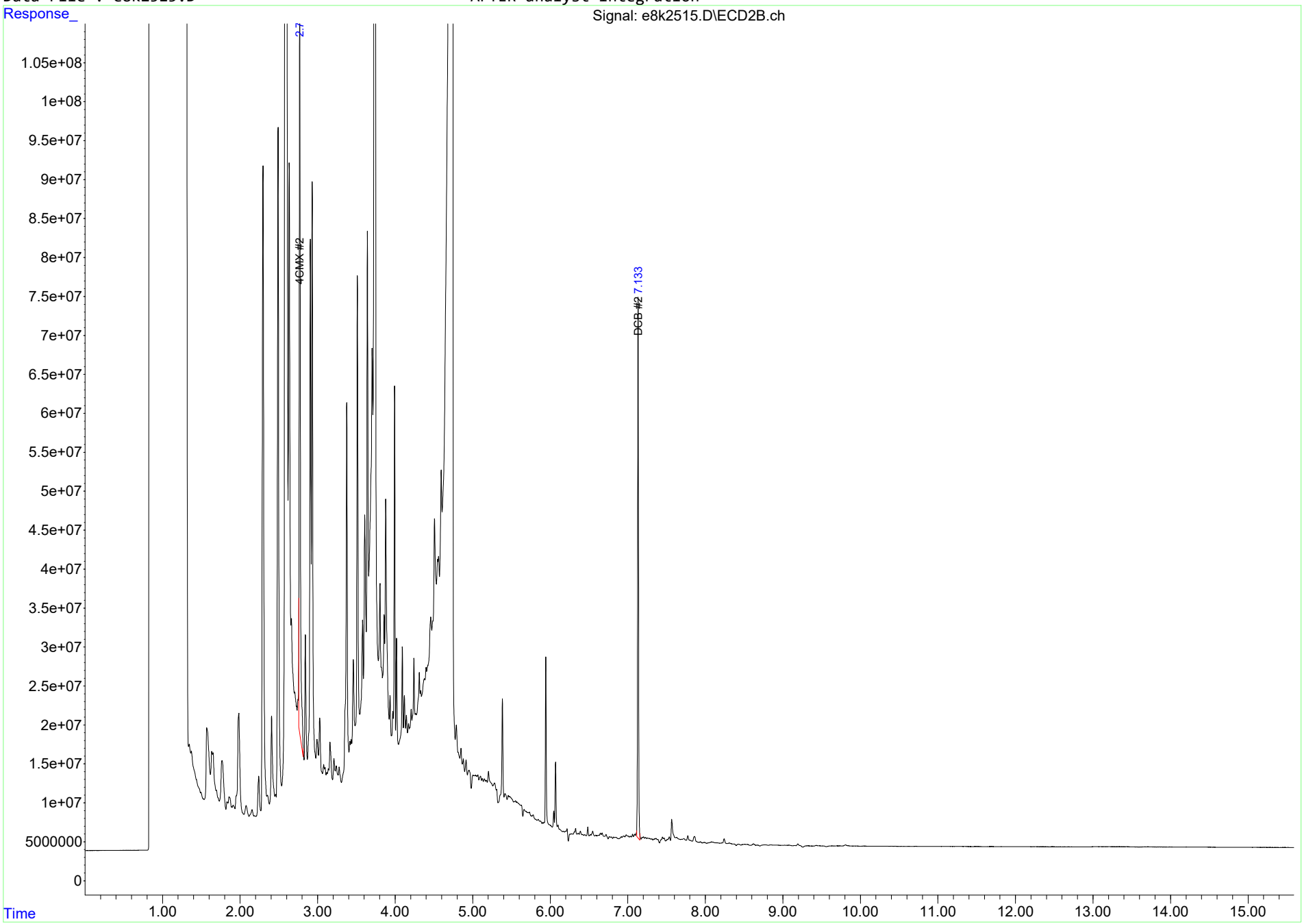
Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2515.D BEFORE analyst integration



Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2515.D AFTER analyst integration



Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2515.D AFTER analyst integration



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1		Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
System Monitoring Compounds												
4CMX	2.400	2.403	0.003	426690221	68.651		2.767	2.770	0.003	1460493586	115.943	#
DCB	6.411	6.409	-0.002	295441045	49.937		7.134	7.133	-0.001	617338596	59.410	

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	27%	39%
DCB	200.000	No Limits	23%	28%
4CMX	200.000	No Limits	34%	58%
DCB	200.000	No Limits	25%	30%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1		Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1016	2.965	2.956	-0.009	247277002	1048.489		3.496	3.513	0.017f	991575684	3178.318	
Aroclor-1016 {2}	3.320	3.308	-0.012	310693323	1078.807		3.852	3.858	0.006	409829665	762.618	
Aroclor-1016 {3}	3.418	0.000	-3.418	0	N.D.		3.953	3.970	0.017f	163339463	458.000	
Aroclor-1016 {4}	3.557	3.560	0.003	29419606619	256604.210	A	4.101	4.092	-0.009	521455669	2347.482	
Aroclor-1016 {5}	3.721	3.723	0.002	76393823	491.669		4.302	4.311	0.009	494113864	1678.804	
Sum Aroclor-1016				30053970768	259223.175					2580314345	8425.223	#
Average Aroclor-1016					64805.794						1685.045	#
Aroclor-1221	2.542	2.525	-0.017f	45243629	632.476		3.010	3.027	0.017f	275046880	2048.000	A
Aroclor-1221 {2}	2.658	2.660	0.002	78003303	1941.058	A	3.125	3.119	-0.006	61527984	735.778	
Aroclor-1221 {3}	2.690	2.711	0.021f	11873408862	76704.205	A	3.174	3.159	-0.015f	215608066	704.230	
Sum Aroclor-1221				11996655795	79277.738					552182930	3488.007	#
Average Aroclor-1221					26425.913						1162.669	#
Aroclor-1232	2.966	2.956	-0.010	247277002	2055.692		3.852	3.858	0.006	409829665	1557.045	
Aroclor-1232 {2}	3.320	3.308	-0.012	310693323	2091.223		3.953	3.970	0.017f	163339463	919.080	
Aroclor-1232 {3}	3.465	3.457	-0.008	1808539441	27369.993	A	4.030	4.017	-0.013	349818692	3182.615	
Aroclor-1232 {4}	3.557	3.560	0.003	29419606619	601633.789	A	4.102	4.092	-0.010	521455669	5680.558	A
Aroclor-1232 {5}	3.721	3.723	0.002	76393823	1050.508		4.302	4.311	0.009	494113864	3698.470	
Sum Aroclor-1232				31862510209	634201.206					1938557353	15037.767	#
Average Aroclor-1232					126840.241						3007.553	#
Aroclor-1242	2.965	2.956	-0.009	247277002	1223.217		3.853	3.858	0.005	409829665	898.352	
Aroclor-1242 {2}	3.320	3.308	-0.012	310693323	1309.681		3.953	3.970	0.017f	163339463	533.798	
Aroclor-1242 {3}	3.465	3.457	-0.008	1808539441	17583.274	A	4.031	4.017	-0.014	349818692	1872.654	
Aroclor-1242 {4}	3.557	3.560	0.003	29419606619	323555.115	A	4.102	4.092	-0.010	521455669	2948.738	
Aroclor-1242 {5}	3.721	3.723	0.002	76393823	580.339		4.302	4.311	0.009	494113864	1992.740	
Sum Aroclor-1242				31862510209	344251.626					1938557353	8246.282	#
Average Aroclor-1242					68850.325						1649.256	#
Aroclor-1248	3.320	3.308	-0.012	310693323	2380.346		3.853	3.858	0.005	409829665	1682.268	
Aroclor-1248 {2}	3.558	3.560	0.002	29419606619	192885.813	A	4.102	4.092	-0.010	521455669	1711.079	
Aroclor-1248 {3}	3.722	3.723	0.001	76393823	393.126		4.303	4.311	0.008	494113864	1299.066	
Aroclor-1248 {4}	4.028	4.030	0.002	15039155	66.631		4.579	4.593	0.014	811446370	1905.008	

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1248 {5}	4.189	4.212	0.023f	11221163	60.951	4.780	4.788	0.008	258209064	580.313	
Sum Aroclor-1248				29832954083	195786.866				2495054631	7177.734	#
Average Aroclor-1248					39157.373					1435.547	#
Aroclor-1254	3.998	4.007	0.009	13399473	57.358	4.610	4.593	-0.017f	811446370	1593.107	
Aroclor-1254 {2}	4.186	4.212	0.026f	11221163	35.743	4.746	4.741	-0.005	29367433233	53455.126	A
Aroclor-1254 {3}	4.470	4.458	-0.012	15933962	39.974	5.078	5.067	-0.011	101626849	135.706	
Aroclor-1254 {4}	4.665	4.690	0.025f	51900619	168.523	5.238	0.000	-5.238	0	N.D.	
Aroclor-1254 {5}	4.796	4.817	0.021f	26083765	88.338	5.362	5.383	0.021f	338950501	899.568	
Sum Aroclor-1254				118538982	389.936				30619456953	56083.507	#
Average Aroclor-1254					77.987					14020.877	#
Aroclor-1260	4.599	4.605	0.006	363535	1.253	5.216	5.204	-0.012	301984179	553.228	
Aroclor-1260 {2}	4.793	4.817	0.024f	26083765	59.167	5.361	5.383	0.022f	338950501	494.856	
Aroclor-1260 {3}	5.071	5.080	0.009	15941679	56.676	5.680	5.688	0.008	44165361	81.186	
Aroclor-1260 {4}	5.457	5.456	-0.001	20918392	31.869	6.062	6.069	0.007	103731794	80.274	
Aroclor-1260 {5}	5.655	5.639	-0.016f	18511350	54.799	6.321	6.327	0.006	21355010	23.956	
Sum Aroclor-1260				81818721	203.764				810186846	1233.500	#
Average Aroclor-1260					40.753					246.700	#
Aroclor-1262	4.598	4.593	-0.005	942932	3.738	5.216	5.204	-0.012	301984179	602.863	
Aroclor-1262 {2}	4.793	4.817	0.024f	26083765	78.832	5.361	5.383	0.022f	338950501	581.376	
Aroclor-1262 {3}	5.070	5.080	0.010	15941679	38.322	5.679	5.688	0.009	44165361	52.484	
Aroclor-1262 {4}	5.457	5.456	-0.001	20918392	27.302	6.061	6.069	0.008	103731794	66.237	
Aroclor-1262 {5}	5.678	5.682	0.004	22325830	68.774	6.315	6.311	-0.004	14564466	13.126	
Sum Aroclor-1262				86212598	216.968				803396302	1316.086	#
Average Aroclor-1262					43.394					263.217	#
Aroclor-1268	5.679	5.682	0.003	22325830	21.815	6.315	6.311	-0.004	14564466	6.832	
Aroclor-1268 {2}	5.705	5.710	0.005	18445376	18.643	6.347	6.361	0.014	16977535	8.394	
Aroclor-1268 {3}	5.840	5.831	-0.009	20682802	24.917	6.527	6.519	-0.008	13100051	7.781	
Aroclor-1268 {4}	6.084	6.084	0.000	13710694	36.169	6.721	6.719	-0.002	18938188	26.561	
Aroclor-1268 {5}	6.280	6.263	-0.017f	11379124	4.658	6.952	6.950	-0.002	15536622	3.006	
Sum Aroclor-1268				86543827	106.201				79116863	52.573	#
Average Aroclor-1268					<MDL					<MDL	
4,4' DDT	5.014	5.006	-0.008	22741242	<MDL	5.615	5.629	0.014	47879452	5.101	
4,4' DDD	4.818	4.817	-0.001	26083765	4.376	5.393	5.383	-0.010	338950501	32.633	#
4,4' DDE	4.393	4.382	-0.011	11938771	1.618	4.979	5.006	0.027	159044711	10.357	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2515.D

		4CMX - Manual Integration ==	AB/AP	4CMX #2 - Manual Integration ==	AB/AP
		DCB - Manual Integration ==	AB/AP	DCB #2 - Manual Integration ==	AB/AP
Aroclor-1016	Multi	- Deletion ==	DMP		
Aroclor-1221	Multi	- Deletion ==	DMP		
Aroclor-1232	Multi	- Deletion ==	DMP		
Aroclor-1242	Multi	- Deletion ==	DMP		
Aroclor-1248	Multi	- Deletion ==	DMP		
Aroclor-1254	Multi	- Deletion ==	DMP		
Aroclor-1260	Multi	- Deletion ==	DMP		
Aroclor-1262	Multi	- Deletion ==	DMP		
Aroclor-1268	Multi	- Deletion ==	DMP		
4,4' DDT	Both	- Deletion ==	DMP		
4,4' DDD	Both	- Deletion ==	DMP		
4,4' DDE	Both	- Deletion ==	DMP		

Quantitation Report
GEL Laboratories, LLC

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2516.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On   : 25 Nov 2020 07:08 (#1); 25 Nov 2020 07:08 (#2)
Operator : JXM   InstName : ECD8
Sample   : |527509015|2066216|1|SVA|2|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB02-20-209996|||
ALS Vial : 16   Sample Multiplier: 1

Quant Time: Nov 25 08:20:24 2020
Quant Method : D:\MSDCHEM\1\DATA\112520.b\ECD8_8082_112420.m
Quant Title : ECD8   SubList :
QLast Update : Tue Nov 24 07:09:11 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.400	2.403	0.003	381116572	61.319	2.767	2.769	0.002	1042513630	82.761m
DCB	6.411	6.407	-0.004	171601205	29.005	7.134	7.132	-0.002	476647949	45.871m #

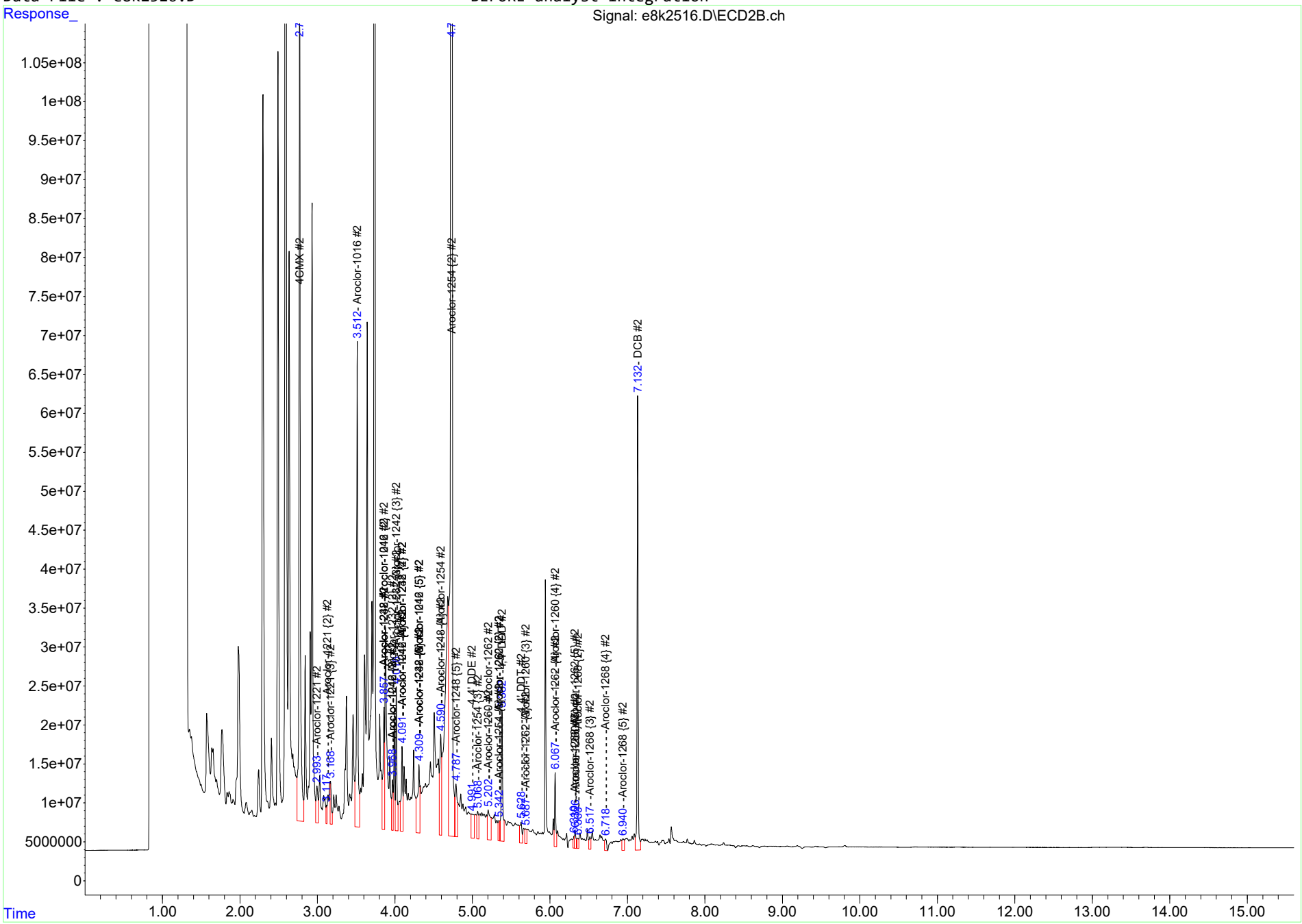
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	31%	41%
DCB	200.000	No Limits	15%	23%

Target Compounds

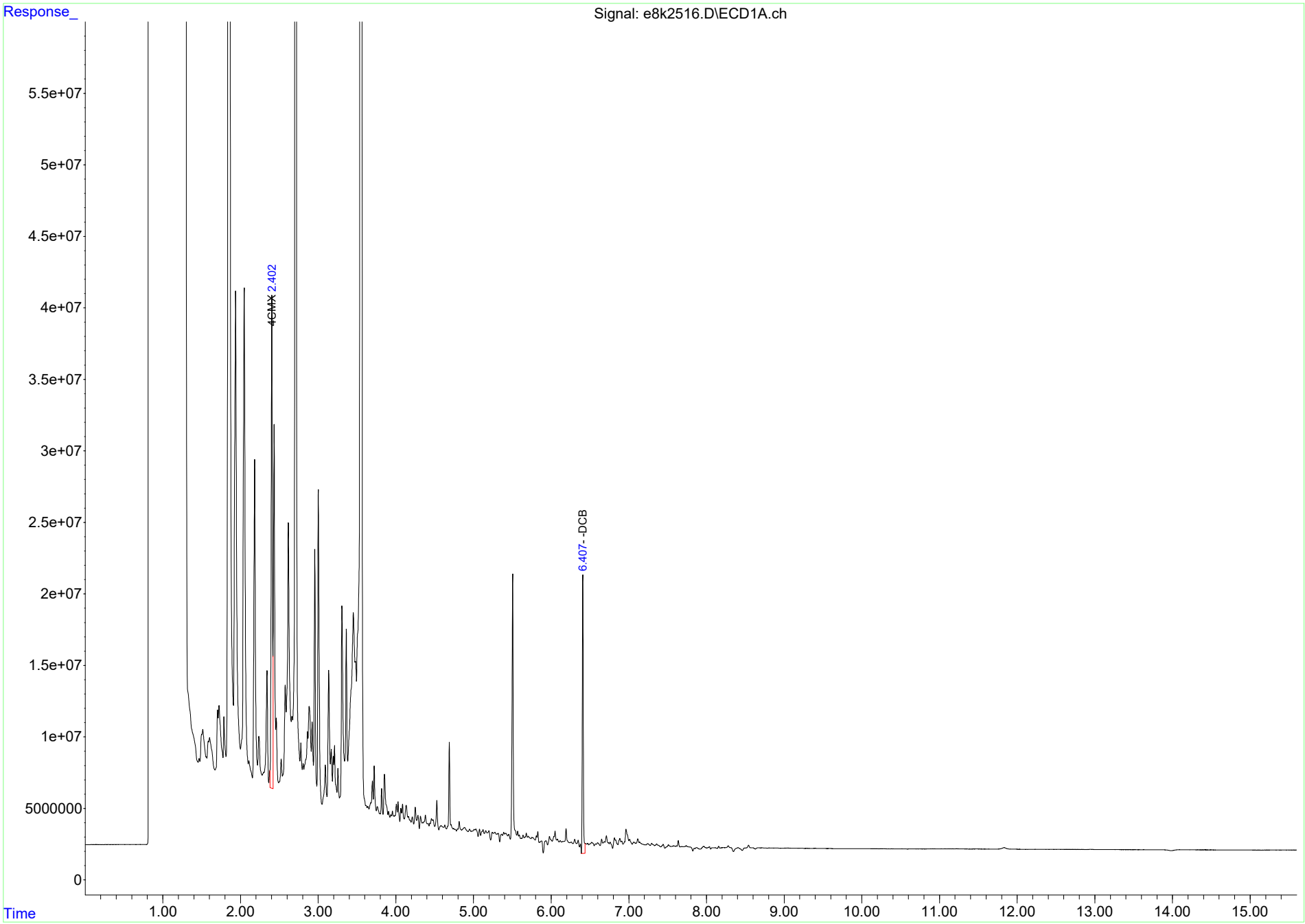
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

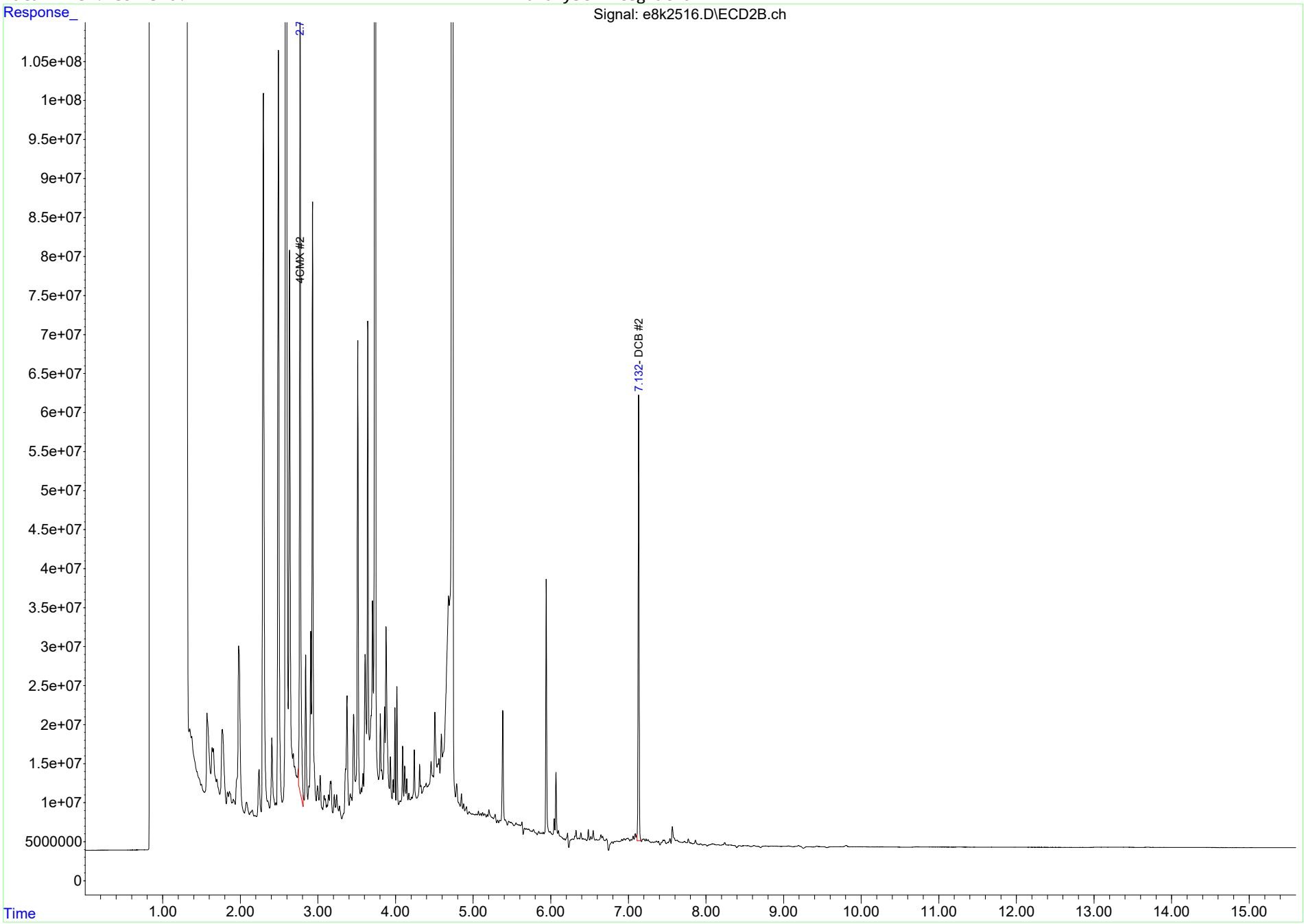
Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2516.D BEFORE analyst integration



Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2516.D



Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2516.D AFTER analyst integration



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1		Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
System Monitoring Compounds												
4CMX	2.400	2.403	0.003	381116572	61.319		2.767	2.770	0.003	1240705817	98.495	#
DCB	6.411	6.407	-0.004	171601205	29.005		7.134	7.132	-0.002	529755636	50.982	#

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	31%	41%
DCB	200.000	No Limits	15%	23%
4CMX	200.000	No Limits	31%	49%
DCB	200.000	No Limits	15%	25%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1		Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1016	2.965	2.956	-0.009	187066531	793.189		3.496	3.513	0.017f	665879175	2134.356	
Aroclor-1016 {2}	3.320	3.305	-0.015	225469989	782.890		3.852	3.858	0.006	195399348	363.603	
Aroclor-1016 {3}	3.418	0.000	-3.418	0	N.D.		3.953	3.969	0.016f	70905018	198.816	
Aroclor-1016 {4}	3.557	3.552	-0.005	17583925917	153370.828	A	4.101	4.092	-0.009	142518396	641.587	
Aroclor-1016 {5}	3.721	3.721	0.000	40307540	259.418		4.302	4.310	0.008	172570287	586.326	
Sum Aroclor-1016				18036769977	155206.324					1247272224	3924.688	#
Average Aroclor-1016					38801.581						784.938	#
Aroclor-1221	2.542	2.523	-0.019f	35302382	493.504		3.010	2.993	-0.017f	80240248	597.469	
Aroclor-1221 {2}	2.658	2.662	0.004	60510862	1505.770	A	3.125	3.118	-0.007	20665579	247.128	
Aroclor-1221 {3}	2.690	2.709	0.019f	3500131220	22611.432	A	3.174	3.169	-0.005	55160176	180.167	
Sum Aroclor-1221				3595944464	24610.707					156066002	1024.764	#
Average Aroclor-1221					8203.569						341.588	#
Aroclor-1232	2.966	2.956	-0.010	187066531	1555.143		3.852	3.858	0.006	195399348	742.371	
Aroclor-1232 {2}	3.320	3.305	-0.015	225469989	1517.600		3.953	3.969	0.016f	70905018	398.969	
Aroclor-1232 {3}	3.465	3.477	0.012	114055908	1726.094		4.030	4.017	-0.013	183857196	1672.714	
Aroclor-1232 {4}	3.557	3.552	-0.005	17583925917	359592.979	A	4.102	4.092	-0.010	142518396	1552.546	
Aroclor-1232 {5}	3.721	3.721	0.000	40307540	554.278		4.302	4.310	0.008	172570287	1291.698	
Sum Aroclor-1232				18150825886	364946.094					765250245	5658.298	#
Average Aroclor-1232					72989.219						1131.660	#
Aroclor-1242	2.965	2.956	-0.009	187066531	925.371		3.853	3.858	0.005	195399348	428.318	
Aroclor-1242 {2}	3.320	3.305	-0.015	225469989	950.435		3.953	3.969	0.016f	70905018	231.720	
Aroclor-1242 {3}	3.465	3.477	0.012	114055908	1108.893		4.031	4.017	-0.014	183857196	984.227	
Aroclor-1242 {4}	3.557	3.552	-0.005	17583925917	193386.990	A	4.102	4.092	-0.010	142518396	805.916	
Aroclor-1242 {5}	3.721	3.721	0.000	40307540	306.203		4.302	4.310	0.008	172570287	695.968	
Sum Aroclor-1242				18150825886	196677.892					765250245	3146.149	#
Average Aroclor-1242					39335.578						629.230	#
Aroclor-1248	3.320	3.305	-0.015f	225469989	1727.416		3.853	3.858	0.005	195399348	802.075	
Aroclor-1248 {2}	3.558	3.552	-0.006	17583925917	115286.716	A	4.102	4.092	-0.010	142518396	467.653	
Aroclor-1248 {3}	3.722	3.721	-0.001	40307540	207.424		4.303	4.310	0.007	172570287	453.701	
Aroclor-1248 {4}	4.028	4.028	0.000	16825667	74.547		4.579	4.590	0.011	205481636	482.403	

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1248 {5}	4.189	4.211	0.022f	9413613	51.132	4.780	4.787	0.007	124796641	280.475	
Sum Aroclor-1248				17875942726	117347.235				840766308	2486.307	#
Average Aroclor-1248					23469.447					497.261	#
Aroclor-1254	3.998	4.006	0.008	14337279	61.372	4.610	4.590	-0.020f	205481636	403.421	
Aroclor-1254 {2}	4.186	4.162	-0.024f	11609002	36.979	4.746	4.734	-0.012	18995558051	34576.053	A
Aroclor-1254 {3}	4.470	4.479	0.009	10722605	26.900	5.078	5.068	-0.010	55402505	73.981	
Aroclor-1254 {4}	4.665	4.667	0.002	5127404	16.649	5.238	0.000	-5.238	0	N.D.	
Aroclor-1254 {5}	4.796	4.794	-0.002	5729346	19.404	5.362	5.343	-0.019f	38618315	102.492	
Sum Aroclor-1254				47525636	161.304				19295060508	35155.947	#
Average Aroclor-1254					<MDL					8788.987	
Aroclor-1260	4.599	4.612	0.013	1344484	4.635	5.216	5.203	-0.013	103267614	189.184	
Aroclor-1260 {2}	4.793	4.794	0.001	5729346	12.996	5.361	5.343	-0.018f	38618315	56.381	
Aroclor-1260 {3}	5.071	5.077	0.006	10583034	37.625	5.680	5.687	0.007	30160365	55.441	
Aroclor-1260 {4}	5.457	5.453	-0.004	14124256	21.518	6.062	6.067	0.005	96540297	74.709	
Aroclor-1260 {5}	5.655	5.663	0.008	7806391	23.109	6.321	6.326	0.005	29505991	33.099	
Sum Aroclor-1260				39587511	99.883				298092582	408.815	#
Average Aroclor-1260					<MDL					81.763	
Aroclor-1262	4.598	4.612	0.014	1344484	5.329	5.216	5.203	-0.013	103267614	206.157	
Aroclor-1262 {2}	4.793	4.794	0.001	5729346	17.316	5.361	5.343	-0.018f	38618315	66.239	
Aroclor-1262 {3}	5.070	5.077	0.007	10583034	25.440	5.679	5.687	0.008	30160365	35.841	
Aroclor-1262 {4}	5.457	5.453	-0.004	14124256	18.435	6.061	6.067	0.006	96540297	61.645	
Aroclor-1262 {5}	5.678	5.680	0.002	15605815	48.073	6.315	6.311	-0.004	15159710	13.662	
Sum Aroclor-1262				47386935	114.593				283746301	383.545	#
Average Aroclor-1262					<MDL					76.709	
Aroclor-1268	5.679	5.680	0.001	15605815	15.248	6.315	6.311	-0.004	15159710	7.111	
Aroclor-1268 {2}	5.705	5.705	0.000	23960142	24.217	6.347	6.360	0.013	22110185	10.932	
Aroclor-1268 {3}	5.840	5.828	-0.012	17137785	20.646	6.527	6.517	-0.010	23351216	13.869	
Aroclor-1268 {4}	6.084	6.080	-0.004	17557328	46.316	6.721	6.719	-0.002	25636391	35.955	
Aroclor-1268 {5}	6.280	6.303	0.023f	20531732	8.404	6.952	6.945	-0.007	27957110	5.409	
Sum Aroclor-1268				94792801	114.832				114214612	73.276	#
Average Aroclor-1268					<MDL					<MDL	
4,4' DDT	5.014	5.008	-0.006	12952485	<MDL	5.615	5.629	0.014	49743398	5.299	#
4,4' DDD	4.818	4.815	-0.003	18236501	3.060	5.393	5.382	-0.011	217712620	20.960	#
4,4' DDE	4.393	4.380	-0.013	19622241	2.659	4.979	4.991	0.012	77270240	5.032	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2516.D

4CMX #2 - Manual Integration == AB/AP
DCB #2 - Manual Integration == AB/AP

Aroclor-1016	Multi	-	Deletion ==	DMP
Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1260	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD	Both	-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

Metals Analysis

Case Narrative

Metals
Technical Case Narrative
ARS International, LLC
SDG #: 2021-129
Work Order #: 527509

Product: **Determination of Metals by ICP**
Analytical Method: EPA 200.7 4.4 1994
Analytical Procedure: GL-MA-E-013 REV# 31
Analytical Batch: 2063261

Product: **Determination of Metals by ICP-MS**
Analytical Method: EPA 200.8 5.4 1994
Analytical Procedure: GL-MA-E-014 REV# 34
Analytical Batches: 2063263 and 2065860

Product: **Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer**
Analytical Method: EPA 245.2 1974
Analytical Procedure: GL-MA-E-010 REV# 38
Analytical Batch: 2063264

Preparation Method: EPA 245.1/245.2 Prep
Preparation Procedure: GL-MA-E-010 REV# 38
Preparation Batch: 2063258

Preparation Method: EPA 200.2
Preparation Procedure: GL-MA-E-016 REV# 18
Preparation Batches: 2063260, 2063262 and 2065859

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509001	SMEB01-20-209970
527509002	SMEB01-20-209971
527509005	SMEB01-20-209986
527509007	SMEB01-20-209987
527509010	SMEB02-20-209973
527509011	SMEB02-20-209975
1204695446	Method Blank (MB)**ICP**
1204695447	Laboratory Control Sample (LCS)
1204695450	527509002(SMEB01-20-209971L) Serial Dilution (SD)
1204695448	527509002(SMEB01-20-209971D) Sample Duplicate (DUP)
1204695449	527509002(SMEB01-20-209971S) Matrix Spike (MS)
1204695451	Method Blank (MB)**ICP-MS**
1204700944	Method Blank (MB)**ICP-MS**
1204695452	Laboratory Control Sample (LCS)
1204700945	Laboratory Control Sample (LCS)
1204695455	527509002(SMEB01-20-209971L) Serial Dilution (SD)
1204700948	527509007(SMEB01-20-209987L) Serial Dilution (SD)
1204695453	527509002(SMEB01-20-209971D) Sample Duplicate (DUP)

1204700946	527509007(SMEB01-20-209987D) Sample Duplicate (DUP)
1204695454	527509002(SMEB01-20-209971S) Matrix Spike (MS)
1204700947	527509007(SMEB01-20-209987S) Matrix Spike (MS)
1204695456	Method Blank (MB)**CVAA**
1204695457	Laboratory Control Sample (LCS)
1204695463	527509001(SMEB01-20-209970L) Serial Dilution (SD)
1204695461	527509001(SMEB01-20-209970D) Sample Duplicate (DUP)
1204695462	527509001(SMEB01-20-209970S) Matrix Spike (MS)
1204695468	527509001(SMEB01-20-209970PS) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

CRDL/PQL Requirements
The initial PQL standard recoveries for EPA 200.7/SW846 6010B met the advisory control limits with the exception of boron. The methods do not require qualifying the data, only narrating the recoveries outside the criteria. 527509002 (SMEB01-20-209971), 527509007 (SMEB01-20-209987) and 527509011 (SMEB02-20-209975)-ICP.

ICSA/ICSAB Statement
For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

Quality Control (QC) Information

Method Blank (MB) Statement
The samples in this SDG did not contain the above noted analytes at concentrations higher than the RDL, therefore the data was not adversely affected.

Sample	Analyte	Value
1204695451 (MB)	Aluminum	61.1 * 10 > 25.2

Matrix Spike (MS/MSD) Recovery Statement
The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analytes.

Sample	Analyte	Value
1204695454 (SMEB01-20-209971MS)	Arsenic, Chromium	0* (75%-125%)
	Copper	73.3* (75%-125%)
	Selenium	0* (75%-125%)
	Thallium	74* (75%-125%)

The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analyte. The post spike also did not meet the required control limits; thus, confirming matrix interferences and/or sample non-homogeneity.

Sample	Analyte	Value
1204695462 (SMEB01-20-209970MS)	Mercury	34.7* (75%-125%)

Post Spike (PS) Recovery Statement
The percent recoveries (%R) obtained from the PS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The PS did not meet the recommended quality control acceptance criteria for percent recoveries for all applicable analytes and verifies the presence of matrix interferences.

Sample	Analyte	Value
1204695468 (SMEB01-20-209970PS)	Mercury	36.7* (80%-120%)

Technical Information

Sample Dilutions
Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range. Per the SOP, samples 527509002 (SMEB01-20-209971) and 527509011 (SMEB02-20-209975)-ICP-MS were diluted due to internal standard recoveries outside the acceptable control limits.

Analyte	527509	
	002	011
Aluminum	25X	25X
Antimony	25X	50X
Arsenic	50X	50X
Barium	25X	25X
Beryllium	25X	25X
Cadmium	25X	50X
Chromium	25X	25X
Cobalt	25X	25X
Copper	25X	25X
Lead	25X	25X
Molybdenum	25X	50X
Nickel	25X	25X
Selenium	50X	50X
Silver	25X	50X
Thallium	25X	25X
Uranium	25X	25X

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-129 GEL Work Order: 527509

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
J Value is estimated
N Metals--The Matrix spike sample recovery is not within specified control limits
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Jamie Johnson**

Date: 24 NOV 2020 **Title: Group Leader**

Sample Data Summary

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−129 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527509001 **BASIS:** As Received **DATE COLLECTED** 10−NOV−20

CLIENT ID: SMEB01−20−209970 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439−97−6	Mercury	0.169	ug/L	JN	0.0670	0.200	0.200	1	AV	AXS5	11/17/20 11:31	111720W1−7	2063264

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2063264	2063258	EPA 245.1/245.2 Prep	20	mL	20	mL	11/16/20	CW2

***Analytical Methods:**

AV **EPA 245.2 1974**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−129 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527509002 **BASIS:** As Received **DATE COLLECTED** 10−NOV−20

CLIENT ID: SMEB01−20−209971 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	483	ug/L	U	483	1250	1250	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7440−36−0	Antimony	25.0	ug/L	U	25.0	75.0	75.0	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7440−38−2	Arsenic	100	ug/L	UN	100	250	250	50	MS	BAJ	11/20/20 17:28	201120−2	2063263
7440−39−3	Barium	132	ug/L		16.8	100	100	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7440−41−7	Beryllium	5.00	ug/L	U	5.00	12.5	12.5	25	MS	BAJ	11/20/20 19:21	201120−5	2063263
7440−42−8	Boron	3270	ug/L		15.0	50.0	50.0	1	P	HSC	11/19/20 05:30	111920−1	2063261
7440−43−9	Cadmium	7.50	ug/L	U	7.50	25.0	25.0	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7440−47−3	Chromium	75.0	ug/L	UN	75.0	250	250	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7440−48−4	Cobalt	7.50	ug/L	U	7.50	25.0	25.0	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7440−50−8	Copper	9.80	ug/L	JN	7.50	50.0	50.0	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7439−89−6	Iron	30.0	ug/L	U	30.0	100	100	1	P	HSC	11/19/20 05:30	111920−1	2063261
7439−92−1	Lead	12.5	ug/L	U	12.5	50.0	50.0	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7439−96−5	Manganese	2.00	ug/L	U	2.00	10.0	10.0	1	P	HSC	11/19/20 05:30	111920−1	2063261
7439−97−6	Mercury	0.0670	ug/L	UN	0.0670	0.200	0.200	1	AV	AXS5	11/17/20 11:43	111720W1−7	2063264
7439−98−7	Molybdenum	285	ug/L		5.00	25.0	25.0	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7440−02−0	Nickel	19.9	ug/L	J	15.0	50.0	50.0	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7782−49−2	Selenium	100	ug/L	UN	100	250	250	50	MS	BAJ	11/20/20 17:28	201120−2	2063263
7440−22−4	Silver	7.50	ug/L	U	7.50	25.0	25.0	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7440−28−0	Thallium	15.0	ug/L	UN	15.0	50.0	50.0	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7440−61−1	Uranium	2.03	ug/L	J	1.68	5.00	5.00	25	MS	BAJ	11/20/20 16:29	201120−2	2063263
7440−66−6	Zinc	8.74	ug/L	J	3.30	20.0	20.0	1	P	HSC	11/19/20 05:30	111920−1	2063261

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2063264	2063258	EPA 245.1/245.2 Prep	20	mL	20	mL	11/16/20	CW2
2063261	2063260	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2063263	2063262	EPA 200.2	50	mL	50	mL	11/18/20	RG1

***Analytical Methods:**

MS **EPA 200.8 5.4 1994**
P **EPA 200.7 4.4 1994**
AV **EPA 245.2 1974**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−129 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527509005 **BASIS:** As Received **DATE COLLECTED** 10−NOV−20

CLIENT ID: SMEB01−20−209986 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439−97−6	Mercury	0.0670	ug/L	UN	0.0670	0.200	0.200	1	AV	AXS5	11/17/20 11:45	111720W1−7	2063264

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2063264	2063258	EPA 245.1/245.2 Prep	20	mL	20	mL	11/16/20	CW2

***Analytical Methods:**

AV EPA 245.2 1974

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−129 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527509007 **BASIS:** As Received **DATE COLLECTED** 10−NOV−20

CLIENT ID: SMEB01−20−209987 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	19.3	ug/L	U	19.3	50.0	50.0	1	MS	SKJ	11/24/20 08:35	201123−6	2065860
7440−36−0	Antimony	1.00	ug/L	U	1.00	3.00	3.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−38−2	Arsenic	2.00	ug/L	UN	2.00	5.00	5.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−39−3	Barium	0.670	ug/L	U	0.670	4.00	4.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−41−7	Beryllium	0.200	ug/L	U	0.200	0.500	0.500	1	MS	BAJ	11/20/20 19:31	201120−5	2063263
7440−42−8	Boron	19.3	ug/L	J	15.0	50.0	50.0	1	P	HSC	11/19/20 05:51	111920−1	2063261
7440−43−9	Cadmium	0.300	ug/L	U	0.300	1.00	1.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−47−3	Chromium	3.00	ug/L	UN	3.00	10.0	10.0	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−48−4	Cobalt	0.300	ug/L	U	0.300	1.00	1.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−50−8	Copper	0.300	ug/L	UN	0.300	2.00	2.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7439−89−6	Iron	30.0	ug/L	U	30.0	100	100	1	P	HSC	11/19/20 05:51	111920−1	2063261
7439−92−1	Lead	0.500	ug/L	U	0.500	2.00	2.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7439−96−5	Manganese	2.00	ug/L	U	2.00	10.0	10.0	1	P	HSC	11/19/20 05:51	111920−1	2063261
7439−97−6	Mercury	0.0670	ug/L	UN	0.0670	0.200	0.200	1	AV	AXS5	11/17/20 11:46	111720W1−7	2063264
7439−98−7	Molybdenum	0.200	ug/L	U	0.200	1.00	1.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−02−0	Nickel	0.600	ug/L	U	0.600	2.00	2.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7782−49−2	Selenium	2.00	ug/L	UN	2.00	5.00	5.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−22−4	Silver	0.300	ug/L	U	0.300	1.00	1.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−28−0	Thallium	0.600	ug/L	UN	0.600	2.00	2.00	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−61−1	Uranium	0.0670	ug/L	U	0.0670	0.200	0.200	1	MS	BAJ	11/20/20 16:47	201120−2	2063263
7440−66−6	Zinc	3.30	ug/L	U	3.30	20.0	20.0	1	P	HSC	11/19/20 05:51	111920−1	2063261

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2063264	2063258	EPA 245.1/245.2 Prep	20	mL	20	mL	11/16/20	CW2
2063261	2063260	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2063263	2063262	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2065860	2065859	EPA 200.2	50	mL	50	mL	11/23/20	HH1

***Analytical Methods:**

MS **EPA 200.8 5.4 1994**
P **EPA 200.7 4.4 1994**
AV **EPA 245.2 1974**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−129 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527509010 **BASIS:** As Received **DATE COLLECTED** 10−NOV−20

CLIENT ID: SMEB02−20−209973 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439−97−6	Mercury	0.104	ug/L	JN	0.0670	0.200	0.200	1	AV	AXS5	11/17/20 11:48	111720W1−7	2063264

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2063264	2063258	EPA 245.1/245.2 Prep	20	mL	20	mL	11/16/20	CW2

***Analytical Methods:**

AV EPA 245.2 1974

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−129 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527509011 **BASIS:** As Received **DATE COLLECTED** 10−NOV−20

CLIENT ID: SMEB02−20−209975 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	483	ug/L	U	483	1250	1250	25	MS	BAJ	11/20/20 16:49	201120−2	2063263
7440−36−0	Antimony	50.0	ug/L	U	50.0	150	150	50	MS	BAJ	11/20/20 17:51	201120−2	2063263
7440−38−2	Arsenic	100	ug/L	UN	100	250	250	50	MS	BAJ	11/20/20 17:51	201120−2	2063263
7440−39−3	Barium	131	ug/L		16.8	100	100	25	MS	BAJ	11/20/20 16:49	201120−2	2063263
7440−41−7	Beryllium	5.00	ug/L	U	5.00	12.5	12.5	25	MS	BAJ	11/20/20 19:33	201120−5	2063263
7440−42−8	Boron	3890	ug/L		15.0	50.0	50.0	1	P	HSC	11/19/20 05:54	111920−1	2063261
7440−43−9	Cadmium	15.0	ug/L	U	15.0	50.0	50.0	50	MS	BAJ	11/20/20 17:51	201120−2	2063263
7440−47−3	Chromium	75.0	ug/L	UN	75.0	250	250	25	MS	BAJ	11/20/20 16:49	201120−2	2063263
7440−48−4	Cobalt	7.50	ug/L	U	7.50	25.0	25.0	25	MS	BAJ	11/20/20 16:49	201120−2	2063263
7440−50−8	Copper	7.50	ug/L	UN	7.50	50.0	50.0	25	MS	BAJ	11/20/20 16:49	201120−2	2063263
7439−89−6	Iron	30.0	ug/L	U	30.0	100	100	1	P	HSC	11/19/20 05:54	111920−1	2063261
7439−92−1	Lead	12.5	ug/L	U	12.5	50.0	50.0	25	MS	BAJ	11/20/20 16:49	201120−2	2063263
7439−96−5	Manganese	2.00	ug/L	U	2.00	10.0	10.0	1	P	HSC	11/19/20 05:54	111920−1	2063261
7439−97−6	Mercury	0.0730	ug/L	JN	0.0670	0.200	0.200	1	AV	AXS5	11/17/20 11:50	111720W1−7	2063264
7439−98−7	Molybdenum	435	ug/L		10.0	50.0	50.0	50	MS	BAJ	11/20/20 17:51	201120−2	2063263
7440−02−0	Nickel	23.5	ug/L	J	15.0	50.0	50.0	25	MS	BAJ	11/20/20 16:49	201120−2	2063263
7782−49−2	Selenium	100	ug/L	UN	100	250	250	50	MS	BAJ	11/20/20 17:51	201120−2	2063263
7440−22−4	Silver	15.0	ug/L	U	15.0	50.0	50.0	50	MS	BAJ	11/20/20 17:51	201120−2	2063263
7440−28−0	Thallium	15.0	ug/L	UN	15.0	50.0	50.0	25	MS	BAJ	11/20/20 16:49	201120−2	2063263
7440−61−1	Uranium	1.68	ug/L	U	1.68	5.00	5.00	25	MS	BAJ	11/20/20 16:49	201120−2	2063263
7440−66−6	Zinc	6.25	ug/L	J	3.30	20.0	20.0	1	P	HSC	11/19/20 05:54	111920−1	2063261

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2063264	2063258	EPA 245.1/245.2 Prep	20	mL	20	mL	11/16/20	CW2
2063261	2063260	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2063263	2063262	EPA 200.2	50	mL	50	mL	11/18/20	RG1

***Analytical Methods:**

MS **EPA 200.8 5.4 1994**
P **EPA 200.7 4.4 1994**
AV **EPA 245.2 1974**

Quality Control Summary

METALS
−2a−
Initial and Continuing Calibration Verification

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M*	Analysis Date/Time	Run Number
ICV01										
	Mercury	5.02	ug/L	5	ug/L	100.3	95.0 − 105.0	AV	17−NOV−20 11:08	111720W1−7
	Boron	518	ug/L	500	ug/L	103.6	95.0 − 105.0	P	19−NOV−20 04:45	111920−1
	Iron	5260	ug/L	5000	ug/L	105.2	95.0 − 105.0 *	P	19−NOV−20 04:45	111920−1
	Manganese	485	ug/L	500	ug/L	97.1	95.0 − 105.0	P	19−NOV−20 04:45	111920−1
	Zinc	481	ug/L	500	ug/L	96.2	95.0 − 105.0	P	19−NOV−20 04:45	111920−1
	Aluminum	5390	ug/L	5050	ug/L	106.7	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Antimony	48.7	ug/L	50	ug/L	97.3	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Arsenic	49.3	ug/L	50	ug/L	98.7	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Barium	49.6	ug/L	50	ug/L	99.1	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Cadmium	53	ug/L	50	ug/L	105.9	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Chromium	52.5	ug/L	50	ug/L	105	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Cobalt	52.8	ug/L	50	ug/L	105.7	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Copper	51.9	ug/L	50	ug/L	103.8	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Lead	50.8	ug/L	50	ug/L	101.5	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Molybdenum	49.2	ug/L	50	ug/L	98.5	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Nickel	52.8	ug/L	50	ug/L	105.7	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Selenium	52	ug/L	50	ug/L	104	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Silver	51.1	ug/L	50	ug/L	102.2	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Thallium	47.9	ug/L	50	ug/L	95.9	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Uranium	50.9	ug/L	50	ug/L	101.9	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Beryllium	51.3	ug/L	50	ug/L	102.7	90.0 − 110.0	MS	20−NOV−20 19:05	201120−5
	Aluminum	5320	ug/L	5050	ug/L	105.4	90.0 − 110.0	MS	24−NOV−20 08:19	201123−6
CCV01										
	Mercury	5.04	ug/L	5	ug/L	100.7	90.0 − 110.0	AV	17−NOV−20 11:14	111720W1−7
	Boron	596	ug/L	500	ug/L	119.2	90.0 − 110.0 *	P	19−NOV−20 05:07	111920−1
	Iron	5200	ug/L	5000	ug/L	104.1	90.0 − 110.0	P	19−NOV−20 05:07	111920−1
	Manganese	486	ug/L	500	ug/L	97.3	90.0 − 110.0	P	19−NOV−20 05:07	111920−1
	Zinc	484	ug/L	500	ug/L	96.8	90.0 − 110.0	P	19−NOV−20 05:07	111920−1
	Aluminum	5400	ug/L	5050	ug/L	106.9	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Antimony	49.9	ug/L	50	ug/L	99.7	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Arsenic	49.9	ug/L	50	ug/L	99.7	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2

METALS
−2a−
Initial and Continuing Calibration Verification

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M*	Analysis Date/Time	Run Number
	Barium	49.1	ug/L	50	ug/L	98.1	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Cadmium	52.1	ug/L	50	ug/L	104.2	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Chromium	52.8	ug/L	50	ug/L	105.6	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Cobalt	53.2	ug/L	50	ug/L	106.4	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Copper	52.9	ug/L	50	ug/L	105.9	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Lead	50.8	ug/L	50	ug/L	101.6	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Molybdenum	50.5	ug/L	50	ug/L	101	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Nickel	52.8	ug/L	50	ug/L	105.6	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Selenium	50.8	ug/L	50	ug/L	101.5	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Silver	51.2	ug/L	50	ug/L	102.3	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Thallium	49.1	ug/L	50	ug/L	98.1	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Uranium	51.4	ug/L	50	ug/L	102.7	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Beryllium	54.3	ug/L	50	ug/L	108.6	90.0 − 110.0	MS	20−NOV−20 19:14	201120−5
	Aluminum	5250	ug/L	5050	ug/L	103.9	90.0 − 110.0	MS	24−NOV−20 08:28	201123−6
CCV02										
	Mercury	5.01	ug/L	5	ug/L	100.2	90.0 − 110.0	AV	17−NOV−20 11:34	111720W1−7
	Boron	523	ug/L	500	ug/L	104.5	90.0 − 110.0	P	19−NOV−20 05:18	111920−1
	Iron	5230	ug/L	5000	ug/L	104.7	90.0 − 110.0	P	19−NOV−20 05:18	111920−1
	Manganese	487	ug/L	500	ug/L	97.5	90.0 − 110.0	P	19−NOV−20 05:18	111920−1
	Zinc	485	ug/L	500	ug/L	97	90.0 − 110.0	P	19−NOV−20 05:18	111920−1
	Aluminum	5440	ug/L	5050	ug/L	107.8	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Antimony	49.6	ug/L	50	ug/L	99.1	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Arsenic	49.4	ug/L	50	ug/L	98.8	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Barium	48.8	ug/L	50	ug/L	97.6	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Cadmium	52	ug/L	50	ug/L	104.1	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Chromium	52	ug/L	50	ug/L	103.9	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Cobalt	51.7	ug/L	50	ug/L	103.4	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Copper	53.4	ug/L	50	ug/L	106.9	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Lead	50.4	ug/L	50	ug/L	100.8	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Molybdenum	51.1	ug/L	50	ug/L	102.1	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Nickel	52.2	ug/L	50	ug/L	104.4	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2

METALS
−2a−
Initial and Continuing Calibration Verification

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M*	Analysis Date/Time	Run Number
	Selenium	50.9	ug/L	50	ug/L	101.7	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Silver	51.3	ug/L	50	ug/L	102.6	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Thallium	48.8	ug/L	50	ug/L	97.5	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Uranium	51.4	ug/L	50	ug/L	102.7	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Beryllium	51.7	ug/L	50	ug/L	103.4	90.0 − 110.0	MS	20−NOV−20 19:28	201120−5
	Aluminum	5170	ug/L	5050	ug/L	102.5	90.0 − 110.0	MS	24−NOV−20 08:42	201123−6
CCV03										
	Mercury	5.07	ug/L	5	ug/L	101.3	90.0 − 110.0	AV	17−NOV−20 11:55	111720W1−7
	Boron	524	ug/L	500	ug/L	104.7	90.0 − 110.0	P	19−NOV−20 05:45	111920−1
	Iron	5140	ug/L	5000	ug/L	102.8	90.0 − 110.0	P	19−NOV−20 05:45	111920−1
	Manganese	485	ug/L	500	ug/L	97.1	90.0 − 110.0	P	19−NOV−20 05:45	111920−1
	Zinc	480	ug/L	500	ug/L	96.1	90.0 − 110.0	P	19−NOV−20 05:45	111920−1
	Aluminum	5220	ug/L	5050	ug/L	103.4	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Antimony	50.1	ug/L	50	ug/L	100.2	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Arsenic	50.2	ug/L	50	ug/L	100.4	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Barium	49.3	ug/L	50	ug/L	98.6	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Cadmium	52.6	ug/L	50	ug/L	105.3	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Chromium	51.2	ug/L	50	ug/L	102.4	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Cobalt	50.5	ug/L	50	ug/L	100.9	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Copper	51.9	ug/L	50	ug/L	103.8	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Lead	50.5	ug/L	50	ug/L	101	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Molybdenum	50.2	ug/L	50	ug/L	100.4	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Nickel	51	ug/L	50	ug/L	101.9	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Selenium	50.7	ug/L	50	ug/L	101.4	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Silver	51.6	ug/L	50	ug/L	103.1	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Thallium	49	ug/L	50	ug/L	98	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Uranium	50.8	ug/L	50	ug/L	101.5	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Beryllium	49.6	ug/L	50	ug/L	99.2	90.0 − 110.0	MS	20−NOV−20 19:42	201120−5
CCV04										
	Boron	530	ug/L	500	ug/L	105.9	90.0 − 110.0	P	19−NOV−20 06:20	111920−1
	Iron	4700	ug/L	5000	ug/L	93.9	90.0 − 110.0	P	19−NOV−20 06:20	111920−1

METALS
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Initial and Continuing Calibration Verification

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M*	Analysis Date/Time	Run Number
	Manganese	481	ug/L	500	ug/L	96.2	90.0 − 110.0	P	19−NOV−20 06:20	111920−1
	Zinc	479	ug/L	500	ug/L	95.7	90.0 − 110.0	P	19−NOV−20 06:20	111920−1
	Aluminum	5090	ug/L	5050	ug/L	100.8	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Antimony	48.7	ug/L	50	ug/L	97.5	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Arsenic	49.4	ug/L	50	ug/L	98.9	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Barium	52.5	ug/L	50	ug/L	104.9	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Cadmium	50.4	ug/L	50	ug/L	100.9	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Chromium	50.9	ug/L	50	ug/L	101.7	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Cobalt	52.2	ug/L	50	ug/L	104.4	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Copper	52.7	ug/L	50	ug/L	105.4	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Lead	50.1	ug/L	50	ug/L	100.2	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Molybdenum	49.3	ug/L	50	ug/L	98.6	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Nickel	52.1	ug/L	50	ug/L	104.3	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Selenium	52	ug/L	50	ug/L	104.1	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Silver	50.1	ug/L	50	ug/L	100.2	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Thallium	48.5	ug/L	50	ug/L	97.1	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Uranium	50.5	ug/L	50	ug/L	101	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
CCV05										
	Aluminum	4760	ug/L	5050	ug/L	94.2	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Antimony	49.1	ug/L	50	ug/L	98.2	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Arsenic	51	ug/L	50	ug/L	102	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Barium	52.5	ug/L	50	ug/L	105	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Cadmium	51.7	ug/L	50	ug/L	103.4	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Chromium	49.8	ug/L	50	ug/L	99.6	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Cobalt	50.8	ug/L	50	ug/L	101.7	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Copper	51.5	ug/L	50	ug/L	103.1	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Lead	50.7	ug/L	50	ug/L	101.3	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Molybdenum	49.4	ug/L	50	ug/L	98.8	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Nickel	51.5	ug/L	50	ug/L	102.9	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Selenium	54	ug/L	50	ug/L	107.9	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Silver	50.5	ug/L	50	ug/L	101	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2

METALS
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Initial and Continuing Calibration Verification

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M*	Analysis Date/Time	Run Number
	Thallium	48.3	ug/L	50	ug/L	96.6	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Uranium	50.9	ug/L	50	ug/L	101.8	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2

***Analytical Methods:**

MS EPA 200.8 DOE−AL
P EPA 200.7
AV EPA 245.1/245.2

METALS
−2b−
CRDL Standard for ICP & ICPMS

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Advisory Limits (%R)	M*	Analysis Date/Time	Run Number
CRDL01										
	Mercury	.19	ug/L	.2	ug/L	95	70.0 − 130.0	AV	17−NOV−20 11:12	111720W1−7
	Aluminum	52.3	ug/L	50	ug/L	104.5	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Arsenic	4.76	ug/L	5	ug/L	95.2	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Barium	4.03	ug/L	4	ug/L	100.9	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Antimony	2.94	ug/L	3	ug/L	97.9	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Cadmium	1.08	ug/L	1	ug/L	108.3	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Cobalt	1.04	ug/L	1	ug/L	103.7	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Lead	2.08	ug/L	2	ug/L	103.8	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Nickel	2.14	ug/L	2	ug/L	106.8	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Uranium	.246	ug/L	.2	ug/L	123	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Thallium	1.94	ug/L	2	ug/L	96.9	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Silver	1.05	ug/L	1	ug/L	105.4	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Selenium	4.92	ug/L	5	ug/L	98.3	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Molybdenum	1.05	ug/L	1	ug/L	104.7	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Copper	2.08	ug/L	2	ug/L	104	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Chromium	10.3	ug/L	10	ug/L	102.6	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Beryllium	.537	ug/L	.5	ug/L	107.4	70.0 − 130.0	MS	20−NOV−20 19:08	201120−5
	Aluminum	52.9	ug/L	50	ug/L	105.8	70.0 − 130.0	MS	24−NOV−20 08:23	201123−6
PQL01										
	Boron	70.1	ug/L	50	ug/L	140.1	70.0 − 130.0	P	19−NOV−20 04:51	111920−1
	Iron	98.2	ug/L	100	ug/L	98.2	70.0 − 130.0	P	19−NOV−20 04:51	111920−1
	Manganese	11.2	ug/L	10	ug/L	112.1	70.0 − 130.0	P	19−NOV−20 04:51	111920−1
	Zinc	23.7	ug/L	20	ug/L	118.3	70.0 − 130.0	P	19−NOV−20 04:51	111920−1

***Analytical Methods:**

MS	**EPA 200.8 DOE−AL**
P	**EPA 200.7**
AV	**EPA 245.1/245.2**

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 2021−129

Contract: ESHL00118

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
ICB01										
	Mercury	0.067	+/−.2	U	0.067	0.2	LIQ	AV	17−NOV−20 11:10	111720W1−7
	Boron	15.0	+/−50	U	15.0	50.0	LIQ	P	19−NOV−20 04:47	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 04:47	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 04:47	111920−1
	Zinc	3.3	+/−20	U	3.3	20.0	LIQ	P	19−NOV−20 04:47	111920−1
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Molybdenum	0.2	+/−1	U	0.2	1.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Uranium	0.067	+/−.2	U	0.067	0.2	LIQ	MS	20−NOV−20 15:57	201120−2
	Beryllium	0.2	+/−.5	U	0.2	0.5	LIQ	MS	20−NOV−20 19:07	201120−5
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	24−NOV−20 08:21	201123−6
CCB01										
	Mercury	0.067	+/−.2	U	0.067	0.2	LIQ	AV	17−NOV−20 11:15	111720W1−7
	Boron	63.66	+/−50		15.0	50.0	LIQ	P	19−NOV−20 05:09	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 05:09	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 05:09	111920−1
	Zinc	4.03	+/−20	J	3.3	20.0	LIQ	P	19−NOV−20 05:09	111920−1
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:12	201120−2

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 2021−129

Contract: ESHL00118

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Molybdenum	0.387	+/−1	J	0.2	1.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Uranium	0.067	+/−.2	U	0.067	0.2	LIQ	MS	20−NOV−20 16:12	201120−2
	Beryllium	0.2	+/−.5	U	0.2	0.5	LIQ	MS	20−NOV−20 19:15	201120−5
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	24−NOV−20 08:30	201123−6
CCB02										
	Mercury	0.067	+/−.2	U	0.067	0.2	LIQ	AV	17−NOV−20 11:36	111720W1−7
	Boron	27.46	+/−50	J	15.0	50.0	LIQ	P	19−NOV−20 05:21	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 05:21	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 05:21	111920−1
	Zinc	3.3	+/−20	U	3.3	20.0	LIQ	P	19−NOV−20 05:21	111920−1
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Molybdenum	0.316	+/−1	J	0.2	1.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:20	201120−2

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 2021−129

Contract: ESHL00118

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Uranium	0.153	+/−.2	J	0.067	0.2	LIQ	MS	20−NOV−20 16:20	201120−2
	Beryllium	0.2	+/−.5	U	0.2	0.5	LIQ	MS	20−NOV−20 19:29	201120−5
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	24−NOV−20 08:44	201123−6
CCB03										
	Mercury	0.067	+/−.2	U	0.067	0.2	LIQ	AV	17−NOV−20 11:57	111720W1−7
	Boron	24.71	+/−50	J	15.0	50.0	LIQ	P	19−NOV−20 05:47	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 05:47	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 05:47	111920−1
	Zinc	3.3	+/−20	U	3.3	20.0	LIQ	P	19−NOV−20 05:47	111920−1
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Molybdenum	0.2	+/−1	U	0.2	1.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Uranium	0.067	+/−.2	U	0.067	0.2	LIQ	MS	20−NOV−20 16:44	201120−2
	Beryllium	0.2	+/−.5	U	0.2	0.5	LIQ	MS	20−NOV−20 19:43	201120−5
CCB04										
	Boron	30.49	+/−50	J	15.0	50.0	LIQ	P	19−NOV−20 06:23	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 06:23	111920−1

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 2021−129

Contract: ESHL00118

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 06:23	111920−1
	Zinc	3.3	+/−20	U	3.3	20.0	LIQ	P	19−NOV−20 06:23	111920−1
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Molybdenum	0.2	+/−1	U	0.2	1.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Uranium	0.067	+/−.2	U	0.067	0.2	LIQ	MS	20−NOV−20 17:07	201120−2
CCB05										
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Molybdenum	0.2	+/−1	U	0.2	1.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:57	201120−2

Metals
−3a−
Initial and Continuing Calibration Blank Summary

SDG No.: 2021−129

Contract: ESHL00118

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Uranium	0.067	+/−.2	U	0.067	0.2	LIQ	MS	20−NOV−20 17:57	201120−2

***Analytical Methods:**

MS	**EPA 200.8 DOE−AL**
P	**EPA 200.7**
AV	**EPA 245.1/245.2**

METALS
−3b−
PREPARATION BLANK SUMMARY

SDG NO. 2021−129
Contract: ESHL00118
Matrix: W

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M*	MDL	RDL
1204695446								
	Boron	20.9	ug/L	+/−50	J	P	15.0	50.0
	Iron	30.0	ug/L	+/−100	U	P	30.0	100
	Manganese	2.00	ug/L	+/−10	U	P	2.00	10.0
	Zinc	3.30	ug/L	+/−20	U	P	3.30	20.0
1204695451								
	Aluminum	61.1	ug/L	+/−50		MS	19.3	50.0
	Antimony	1.00	ug/L	+/−3	U	MS	1.00	3.00
	Arsenic	2.00	ug/L	+/−5	U	MS	2.00	5.00
	Barium	0.670	ug/L	+/−4	U	MS	0.670	4.00
	Beryllium	0.200	ug/L	+/−0.5	U	MS	0.200	0.500
	Cadmium	0.300	ug/L	+/−1	U	MS	0.300	1.00
	Chromium	3.00	ug/L	+/−10	U	MS	3.00	10.0
	Cobalt	0.300	ug/L	+/−1	U	MS	0.300	1.00
	Copper	0.300	ug/L	+/−2	U	MS	0.300	2.00
	Lead	0.500	ug/L	+/−2	U	MS	0.500	2.00
	Molybdenum	0.200	ug/L	+/−1	U	MS	0.200	1.00
	Nickel	0.600	ug/L	+/−2	U	MS	0.600	2.00
	Selenium	2.00	ug/L	+/−5	U	MS	2.00	5.00
	Silver	0.300	ug/L	+/−1	U	MS	0.300	1.00
	Thallium	0.600	ug/L	+/−2	U	MS	0.600	2.00
	Uranium	0.0700	ug/L	+/−0.2	J	MS	0.0670	0.200
1204695456								
	Mercury	0.0670	ug/L	+/−0.2	U	AV	0.0670	0.200
1204700944								
	Aluminum	19.3	ug/L	+/−50	U	MS	19.3	50.0

***Analytical Methods:**

MS	**EPA 200.8 DOE−AL**
P	**EPA 200.7**
AV	**EPA 245.1/245.2**

METALS
−4−
Interference Check Sample

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Instrument: AVIO1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Boron	32.0	ug/L					19−NOV−20 04:54	111920−1
	Iron	200000	ug/L	200000	ug/L	99.8	80.0 − 120.0	19−NOV−20 04:54	111920−1
	Manganese	−2.89	ug/L					19−NOV−20 04:54	111920−1
	Zinc	1.56	ug/L					19−NOV−20 04:54	111920−1
ICSAB01									
	Boron	519	ug/L	500	ug/L	104	80.0 − 120.0	19−NOV−20 04:57	111920−1
	Iron	200000	ug/L	200000	ug/L	100	80.0 − 120.0	19−NOV−20 04:57	111920−1
	Manganese	455	ug/L	500	ug/L	91	80.0 − 120.0	19−NOV−20 04:57	111920−1
	Zinc	482	ug/L	500	ug/L	96.4	80.0 − 120.0	19−NOV−20 04:57	111920−1
ICSA02									
	Boron	39.7	ug/L					19−NOV−20 06:14	111920−1
	Iron	195000	ug/L	200000	ug/L	97.7	80.0 − 120.0	19−NOV−20 06:14	111920−1
	Manganese	−2.57	ug/L					19−NOV−20 06:14	111920−1
	Zinc	1.13	ug/L					19−NOV−20 06:14	111920−1
ICSAB02									
	Boron	509	ug/L	500	ug/L	102	80.0 − 120.0	19−NOV−20 06:17	111920−1
	Iron	192000	ug/L	200000	ug/L	96.2	80.0 − 120.0	19−NOV−20 06:17	111920−1
	Manganese	449	ug/L	500	ug/L	89.9	80.0 − 120.0	19−NOV−20 06:17	111920−1
	Zinc	474	ug/L	500	ug/L	94.9	80.0 − 120.0	19−NOV−20 06:17	111920−1

METALS
−4−
Interference Check Sample

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Instrument: ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Aluminum	97000	ug/L	100000	ug/L	97	80.0 − 120.0	20−NOV−20 16:03	201120−2
	Antimony	0.048	ug/L					20−NOV−20 16:03	201120−2
	Arsenic	0.261	ug/L					20−NOV−20 16:03	201120−2
	Barium	2.68	ug/L					20−NOV−20 16:03	201120−2
	Cadmium	0.514	ug/L					20−NOV−20 16:03	201120−2
	Chromium	0.75	ug/L					20−NOV−20 16:03	201120−2
	Cobalt	0.471	ug/L					20−NOV−20 16:03	201120−2
	Copper	0.183	ug/L					20−NOV−20 16:03	201120−2
	Lead	0.212	ug/L					20−NOV−20 16:03	201120−2
	Molybdenum	2060	ug/L	2000	ug/L	103	80.0 − 120.0	20−NOV−20 16:03	201120−2
	Nickel	0.352	ug/L					20−NOV−20 16:03	201120−2
	Selenium	0.328	ug/L					20−NOV−20 16:03	201120−2
	Silver	0.127	ug/L					20−NOV−20 16:03	201120−2
	Thallium	0.049	ug/L					20−NOV−20 16:03	201120−2
	Uranium	0.028	ug/L					20−NOV−20 16:03	201120−2
ICSAB01									
	Aluminum	100000	ug/L	100000	ug/L	100	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Antimony	18.6	ug/L	20	ug/L	93.2	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Arsenic	20.2	ug/L	20	ug/L	101	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Barium	22.7	ug/L	22.35	ug/L	102	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Cadmium	19.8	ug/L	20.72	ug/L	95.5	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Chromium	20.7	ug/L	20	ug/L	103	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Cobalt	19.3	ug/L	20.65	ug/L	93.4	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Copper	17.7	ug/L	20	ug/L	88.3	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Lead	19.4	ug/L	20	ug/L	97.2	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Molybdenum	2080	ug/L	2000	ug/L	104	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Nickel	18.1	ug/L	20	ug/L	90.6	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Selenium	19.8	ug/L	20	ug/L	99	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Silver	18.7	ug/L	20	ug/L	93.3	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Thallium	19.0	ug/L	20	ug/L	95.2	80.0 − 120.0	20−NOV−20 16:06	201120−2

METALS
−4−
Interference Check Sample

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
	Uranium	21.8	ug/L	20	ug/L	109	80.0 − 120.0	20−NOV−20 16:06	201120−2

METALS
−4−
Interference Check Sample

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Instrument: ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Beryllium	0.004	ug/L					20−NOV−20 19:10	201120−5
ICSAB01									
	Beryllium	19.3	ug/L	20	ug/L	96.5	80.0 − 120.0	20−NOV−20 19:12	201120−5

METALS
−4−
Interference Check Sample

SDG No: 2021−129

Contract: ESHL00118 **Lab Code:** GEL

Instrument: ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Aluminum	95000	ug/L	100000	ug/L	95	80.0 − 120.0	24−NOV−20 08:25	201123−6
ICSAB01									
	Aluminum	96500	ug/L	100000	ug/L	96.5	80.0 − 120.0	24−NOV−20 08:26	201123−6

METALS
−5a−

Matrix Spike Summary

SDG NO. 2021−129 **Client ID** SMEB01−20−209971S

Contract: ESHL00118 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 527509002 **Spike ID:** 1204695449

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Boron	ug/L		3590		3270		500	64.3	N/A	P
Iron	ug/L	75−125	3960		30.0	U	5000	78.7		P
Manganese	ug/L	75−125	419		2.00	U	500	83.5		P
Zinc	ug/L	75−125	630		8.74	J	500	124		P

***Analytical Methods:**

P **EPA 200.7**

METALS
−5a−

Matrix Spike Summary

SDG NO. 2021−129 **Client ID** SMEB01−20−209971S

Contract: ESHL00118 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 527509002 **Spike ID:** 1204695454

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Aluminum	ug/L	75−125	1920		483	U	2000	91.3		MS
Antimony	ug/L	75−125	53.2	J	25.0	U	50.0	85.4		MS
Arsenic	ug/L	75−125	100	U	100	U	50.0	0	N	MS
Barium	ug/L	75−125	179		132		50.0	94.6		MS
Beryllium	ug/L	75−125	42.3		5.00	U	50.0	84.1		MS
Cadmium	ug/L	75−125	40.5		7.50	U	50.0	80.9		MS
Chromium	ug/L	75−125	75.0	U	75.0	U	50.0	0	N	MS
Cobalt	ug/L	75−125	44.1		7.50	U	50.0	85.2		MS
Copper	ug/L	75−125	46.4	J	9.80	J	50.0	73.3	N	MS
Lead	ug/L	75−125	40.3	J	12.5	U	50.0	79.2		MS
Molybdenum	ug/L		326		285		50.0	83.2	N/A	MS
Nickel	ug/L	75−125	59.2		19.9	J	50.0	78.7		MS
Selenium	ug/L	75−125	100	U	100	U	50.0	0	N	MS
Silver	ug/L	75−125	41.6		7.50	U	50.0	83.1		MS
Thallium	ug/L	75−125	39.2	J	15.0	U	50.0	74	N	MS
Uranium	ug/L	75−125	48.8		2.03	J	50.0	93.5		MS

***Analytical Methods:**

MS EPA 200.8 DOE−AL

METALS
−5a−

Matrix Spike Summary

SDG NO. 2021−129 **Client ID** SMEB01−20−209970S

Contract: ESHL00118 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 527509001 **Spike ID:** 1204695462

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Mercury	ug/L	75−125	0.862		0.169	J	2.00	34.7	N	AV

***Analytical Methods:**

AV **EPA 245.1/245.2**

METALS
−5a−

Spike Summary

SDG NO. 2021−129 **Client ID** SMEB01−20−209970PS

Contract: ESHL00118 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 527509001 **Spike ID:** 1204695468

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Mercury	ug/L	80−120	0.903		0.169	J	2.00	36.7	N	AV

***Analytical Methods:**

AV **EPA 245.1/245.2**

METALS
−5a−

Matrix Spike Summary

SDG NO. 2021−129 **Client ID** SMEB01−20−209987S

Contract: ESHL00118 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 527509007 **Spike ID:** 1204700947

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Aluminum	ug/L	75−125	2000		19.3	U	2000	100		MS

***Analytical Methods:**

MS EPA 200.8 DOE−AL

Metals
−6−
Duplicate Sample Summary

SDG No.: 2021−129 **Lab Code:** GEL

Contract: ESHL00118 **Client ID:** SMEB01−20−209971D

Matrix: WATER **Level:** Low

Sample ID: 527509002 **Duplicate ID:** 1204695448 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Boron	ug/L	+/−20%	3270		3310		1.29		P
Iron	ug/L		30.0	U	30.0	U			P
Manganese	ug/L		2.00	U	2.00	U			P
Zinc	ug/L	+/−20	8.74	J	7.40	J	16.5		P

***Analytical Methods:**
P EPA 200.7

Metals
−6−
Duplicate Sample Summary

SDG No.: 2021−129 **Lab Code:** GEL

Contract: ESHL00118 **Client ID:** SMEB01−20−209971D

Matrix: WATER **Level:** Low

Sample ID: 527509002 **Duplicate ID:** 1204695453 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Aluminum	ug/L		483	U	483	U			MS
Antimony	ug/L		25.0	U	25.0	U			MS
Arsenic	ug/L		100	U	100	U			MS
Barium	ug/L	+/−100	132		131		.684		MS
Beryllium	ug/L		5.00	U	5.00	U			MS
Cadmium	ug/L		7.50	U	7.50	U			MS
Chromium	ug/L		75.0	U	75.0	U			MS
Cobalt	ug/L		7.50	U	7.50	U			MS
Copper	ug/L	+/−50	9.80	J	9.40	J	4.17		MS
Lead	ug/L		12.5	U	12.5	U			MS
Molybdenum	ug/L	+/−20%	285		285		.0615		MS
Nickel	ug/L	+/−50	19.9	J	19.7	J	.884		MS
Selenium	ug/L		100	U	100	U			MS
Silver	ug/L		7.50	U	7.50	U			MS
Thallium	ug/L		15.0	U	15.0	U			MS
Uranium	ug/L		2.03	J	1.68	U	200		MS

***Analytical Methods:**
MS EPA 200.8 DOE−AL

Metals
−6−
Duplicate Sample Summary

SDG No.: 2021−129 **Lab Code:** GEL

Contract: ESHL00118 **Client ID:** SMEB01−20−209970D

Matrix: WATER **Level:** Low

Sample ID: 527509001 **Duplicate ID:** 1204695461 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Mercury	ug/L	+/−.2	0.169	J	0.176	J	4.06		AV

***Analytical Methods:**
AV EPA 245.1/245.2

Metals
−6−
Duplicate Sample Summary

SDG No.: 2021−129 **Lab Code:** GEL

Contract: ESHL00118 **Client ID:** SMEB01−20−209987D

Matrix: WATER **Level:** Low

Sample ID: 527509007 **Duplicate ID:** 1204700946 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Aluminum	ug/L		19.3	U	19.3	U			MS

***Analytical Methods:**
MS EPA 200.8 DOE−AL

METALS
−7−
Laboratory Control Sample Summary

SDG NO. 2021−129

Contract: ESHL00118

Aqueous LCS Source: Inorganic Ventures **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M*
1204695447								
	Boron	ug/L	500	518		104	85−115	P
	Iron	ug/L	5000	5120		102	85−115	P
	Manganese	ug/L	500	475		95.1	85−115	P
	Zinc	ug/L	500	466		93.2	85−115	P

***Analytical Methods:**

P **EPA 200.7**

METALS
−7−
Laboratory Control Sample Summary

SDG NO. 2021−129

Contract: ESHL00118

Aqueous LCS Source: Inorganic Ventures **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M*
1204695452								
	Aluminum	ug/L	2000	2180		109	85−115	MS
	Antimony	ug/L	50.0	49.0		98.1	85−115	MS
	Arsenic	ug/L	50.0	49.0		97.9	85−115	MS
	Barium	ug/L	50.0	49.5		98.9	85−115	MS
	Beryllium	ug/L	50.0	54.3		109	85−115	MS
	Cadmium	ug/L	50.0	51.8		104	85−115	MS
	Chromium	ug/L	50.0	52.7		105	85−115	MS
	Cobalt	ug/L	50.0	52.1		104	85−115	MS
	Copper	ug/L	50.0	52.5		105	85−115	MS
	Lead	ug/L	50.0	51.1		102	85−115	MS
	Molybdenum	ug/L	50.0	50.2		100	85−115	MS
	Nickel	ug/L	50.0	53.3		107	85−115	MS
	Selenium	ug/L	50.0	51.0		102	85−115	MS
	Silver	ug/L	50.0	51.9		104	85−115	MS
	Thallium	ug/L	50.0	48.8		97.6	85−115	MS
	Uranium	ug/L	50.0	51.2		102	85−115	MS

***Analytical Methods:**

MS **EPA 200.8 DOE−AL**

METALS
−7−
Laboratory Control Sample Summary

SDG NO. 2021−129

Contract: ESHL00118

Aqueous LCS Source: GEL **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M*
1204695457								
	Mercury	ug/L	2.00	2.00		99.9	85−115	AV

***Analytical Methods:**

AV **EPA 245.1/245.2**

METALS
−7−
Laboratory Control Sample Summary

SDG NO. 2021−129

Contract: ESHL00118

Aqueous LCS Source: Inorganic Ventures **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M*
1204700945								
	Aluminum	ug/L	2000	2040		102	85−115	MS

***Analytical Methods:**

MS **EPA 200.8 DOE−AL**

METALS
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Serial Dilution Sample Summary

SDG NO. 2021−129 **Client ID** SMEB01−20−209971L

Contract: ESHL00118

Matrix: LIQUID **Level:** Low

Sample ID: 527509002 **Serial Dilution ID:** 1204695450

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Boron	3270		2980		8.893		10	P
Iron	30	U	150	U				P
Manganese	2	U	10	U				P
Zinc	8.74	J	27.1	J	209.649			P

***Analytical Methods:**

P **EPA 200.7**

METALS
−9−
Serial Dilution Sample Summary

SDG NO. 2021−129 **Client ID** SMEB01−20−209971L

Contract: ESHL00118

Matrix: LIQUID **Level:** Low

Sample ID: 527509002 **Serial Dilution ID:** 1204695455

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Aluminum	19.3	U	96.5	U				MS
Antimony	1	U	5	U				MS
Arsenic	2	U	10	U				MS
Barium	5.28		5.64	J	6.838			MS
Beryllium	.2	U	1	U				MS
Cadmium	.3	U	1.5	U				MS
Chromium	3	U	15	U				MS
Cobalt	.3	U	1.5	U				MS
Copper	.392	J	1.5	U	33.929			MS
Lead	.5	U	2.5	U				MS
Molybdenum	11.4		11.5		.571			MS
Nickel	.795	J	3	U	2.516			MS
Selenium	2	U	10	U				MS
Silver	.3	U	1.5	U				MS
Thallium	.6	U	3	U				MS
Uranium	.081	J	.335	U	48.148			MS

***Analytical Methods:**

MS **EPA 200.8 DOE−AL**

METALS
−9−
Serial Dilution Sample Summary

SDG NO. 2021−129 **Client ID** SMEB01−20−209970L

Contract: ESHL00118

Matrix: LIQUID **Level:** Low

Sample ID: 527509001 **Serial Dilution ID:** 1204695463

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Mercury	.169	J	.335	U	68.639			AV

***Analytical Methods:**

AV **EPA 245.1/245.2**

METALS
−9−
Serial Dilution Sample Summary

SDG NO. 2021−129 **Client ID** SMEB01−20−209987L

Contract: ESHL00118

Matrix: LIQUID **Level:** Low

Sample ID: 527509007 **Serial Dilution ID:** 1204700948

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Aluminum	19.3	U	96.5	U				MS

***Analytical Methods:**

MS **EPA 200.8 DOE−AL**

METALS
−13−
SAMPLE PREPARATION SUMMARY

SDG No: 2021−129 **Method Type:** P

Contract: ESHL00118 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 2063260							
1204695446	MB for batch 2063260	MB	W	18−NOV−20	50mL	50mL	
1204695447	LCS for batch 2063260	LCS	W	18−NOV−20	50mL	50mL	
1204695449	SMEB01−20−209971S	MS	W	18−NOV−20	50mL	50mL	
1204695448	SMEB01−20−209971D	DUP	W	18−NOV−20	50mL	50mL	
527509002	SMEB01−20−209971	SAMPLE	W	18−NOV−20	50mL	50mL	
527509007	SMEB01−20−209987	SAMPLE	W	18−NOV−20	50mL	50mL	
527509011	SMEB02−20−209975	SAMPLE	W	18−NOV−20	50mL	50mL	

METALS
−13−
SAMPLE PREPARATION SUMMARY

SDG No: 2021−129 **Method Type:** MS

Contract: ESHL00118 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 2063262							
1204695451	MB for batch 2063262	MB	W	18−NOV−20	50mL	50mL	
1204695452	LCS for batch 2063262	LCS	W	18−NOV−20	50mL	50mL	
1204695454	SMEB01−20−209971S	MS	W	18−NOV−20	50mL	50mL	
1204695453	SMEB01−20−209971D	DUP	W	18−NOV−20	50mL	50mL	
527509002	SMEB01−20−209971	SAMPLE	W	18−NOV−20	50mL	50mL	
527509007	SMEB01−20−209987	SAMPLE	W	18−NOV−20	50mL	50mL	
527509011	SMEB02−20−209975	SAMPLE	W	18−NOV−20	50mL	50mL	
Batch Number 2065859							
1204700944	MB for batch 2065860	MB	W	23−NOV−20	50mL	50mL	
1204700945	LCS for batch 2065860	LCS	W	23−NOV−20	50mL	50mL	
1204700947	SMEB01−20−209987S	MS	W	23−NOV−20	50mL	50mL	
1204700946	SMEB01−20−209987D	DUP	W	23−NOV−20	50mL	50mL	
527509007	SMEB01−20−209987	SAMPLE	W	23−NOV−20	50mL	50mL	

METALS
−13−
SAMPLE PREPARATION SUMMARY

SDG No: 2021−129 **Method Type:** AV

Contract: ESHL00118 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 2063258							
1204695456	MB for batch 2063258	MB	W	16−NOV−20	20mL	20mL	
1204695457	LCS for batch 2063258	LCS	W	16−NOV−20	20mL	20mL	
1204695462	SMEB01−20−209970S	MS	W	16−NOV−20	20mL	20mL	
1204695461	SMEB01−20−209970D	DUP	W	16−NOV−20	20mL	20mL	
527509001	SMEB01−20−209970	SAMPLE	W	16−NOV−20	20mL	20mL	
527509002	SMEB01−20−209971	SAMPLE	W	16−NOV−20	20mL	20mL	
527509005	SMEB01−20−209986	SAMPLE	W	16−NOV−20	20mL	20mL	
527509007	SMEB01−20−209987	SAMPLE	W	16−NOV−20	20mL	20mL	
527509010	SMEB02−20−209973	SAMPLE	W	16−NOV−20	20mL	20mL	
527509011	SMEB02−20−209975	SAMPLE	W	16−NOV−20	20mL	20mL	

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-129

Inst Name: HG4 **Instrument Type:** AV

Start Date: 17-NOV-20 **End Date:** 17-NOV-20 **Data File:** 111720W1-7

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
S0.0	1	10:58:00														X							
S0.2	1	11:00:00														X							
S0.5	1	11:01:00														X							
S2.0	1	11:03:00														X							
S5.0	1	11:05:00														X							
S10.0	1	11:07:00														X							
ICV01	1	11:08:00														X							
ICB01	1	11:10:00														X							
CRDL01	1	11:12:00														X							
CCV01	1	11:14:00														X							
CCB01	1	11:15:00														X							
1204695456	1	11:17:00														X							
1204695457	1	11:19:00														X							
ZZZZZZ	1	11:21:00																					
ZZZZZZ	1	11:22:00																					
ZZZZZZ	1	11:24:00																					
ZZZZZZ	5	11:26:00																					
ZZZZZZ	1	11:27:00																					
ZZZZZZ	1	11:29:00																					
527509001	1	11:31:00														X							
1204695461	1	11:33:00														X							
CCV02	1	11:34:00														X							
CCB02	1	11:36:00														X							
1204695462	1	11:38:00														X							
1204695463	5	11:39:00														X							
1204695468	1	11:41:00														X							
527509002	1	11:43:00														X							
527509005	1	11:45:00														X							
527509007	1	11:46:00														X							
527509010	1	11:48:00														X							
527509011	1	11:50:00														X							
ZZZZZZ	1	11:51:00																					
ZZZZZZ	1	11:53:00																					
CCV03	1	11:55:00														X							
CCB03	1	11:57:00														X							

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-129

Inst Name: AVIO1 **Instrument Type:** P

Start Date: 19-NOV-20 **End Date:** 19-NOV-20 **Data File:** 111920-1

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
S0.0	1	04:32:35						X					X		X								X
S0.1	1	04:36:50						X							X								X
S0.5	1	04:39:08						X							X								X
SCAL	1	04:41:32						X					X		X								X
S10	1	04:44:05											X										
ICV01	1	04:45:26						X					X		X								X
ICB01	1	04:47:59						X					X		X								X
PQL01	1	04:51:26						X					X		X								X
ICSA01	1	04:54:55						X					X		X								X
ICSAB01	1	04:57:58						X					X		X								X
LR01	1	05:00:53						X					X		X								X
LR02	1	05:04:00						X					X		X								X
CCV01	1	05:07:26						X					X		X								X
CCB01	1	05:09:59						X					X		X								X
CCV02	1	05:18:46						X					X		X								X
CCB02	1	05:21:18						X					X		X								X
1204695446	1	05:24:38						X					X		X								X
1204695447	1	05:28:01						X					X		X								X
527509002	1	05:30:32						X					X		X								X
1204695448	1	05:34:34						X					X		X								X
1204695449	1	05:38:29						X					X		X								X
1204695450	5	05:41:24						X					X		X								X
CCV03	1	05:45:12						X					X		X								X
CCB03	1	05:47:40						X					X		X								X
527509007	1	05:51:00						X					X		X								X
527509011	1	05:54:22						X					X		X								X
ZZZZZZ	1	05:58:24																					
ZZZZZZ	1	06:02:26																					
ZZZZZZ	1	06:06:28																					
ZZZZZZ	1	06:10:30																					
ICSA02	1	06:14:24						X					X		X								X
ICSAB02	1	06:17:22						X					X		X								X
CCV04	1	06:20:17						X					X		X								X
CCB04	1	06:23:14						X					X		X								X

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-129

Inst Name: ICPMS14 **Instrument Type:** MS

Start Date: 20-NOV-20 **End Date:** 20-NOV-20 **Data File:** 201120-2

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
S0.0	1	15:46:07	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
S10	1	15:49:02	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
S100	1	15:51:56	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ICV01	1	15:54:49	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ICB01	1	15:57:43	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CRDL01	1	16:00:38	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ICSA01	1	16:03:32	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ICSAB01	1	16:06:26	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCV01	1	16:09:20	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCB01	1	16:12:15	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
LR01	1	16:15:09	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCV02	1	16:18:03	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCB02	1	16:20:57	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
1204695451	1	16:23:52	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
1204695452	1	16:26:46	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
527509002	25	16:29:40	X	X		X			X	X	X	X		X			X	X		X	X	X	
1204695453	25	16:32:33	X	X		X			X	X	X	X		X			X	X		X	X	X	
1204695454	25	16:35:26	X	X		X			X	X	X	X		X			X	X		X	X	X	
1204695455	125	16:38:19	X	X		X			X	X	X	X		X			X	X		X	X	X	
CCV03	1	16:41:15	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCB03	1	16:44:09	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
527509007	1	16:47:04		X	X	X			X	X	X	X		X			X	X	X	X	X	X	
527509011	25	16:49:58	X			X				X	X	X		X				X			X	X	
ZZZZZZ	25	16:52:51																					
ZZZZZZ	25	16:55:45																					
ZZZZZZ	25	16:58:38																					
ZZZZZZ	25	17:01:31																					
CCV04	1	17:04:27	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCB04	1	17:07:21	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
527509002	50	17:28:16			X														X				
1204695453	50	17:31:10			X														X				
1204695454	50	17:34:03			X														X				
1204695455	250	17:36:56			X														X				
ZZZZZZ	50	17:39:50																					
ZZZZZZ	125	17:42:44																					
ZZZZZZ	125	17:45:37																					
ZZZZZZ	125	17:48:30																					
527509011	50	17:51:43		X	X				X								X		X	X			
CCV05	1	17:54:38	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCB05	1	17:57:31	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-129

Inst Name: ICPMS14 **Instrument Type:** MS

Start Date: 20-NOV-20 **End Date:** 20-NOV-20 **Data File:** 201120-5

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
S0.0	1	19:00:00					X																
S10	1	19:01:46					X																
S100	1	19:03:31					X																
ICV01	1	19:05:16					X																
ICB01	1	19:07:02					X																
CRDL01	1	19:08:47					X																
ICSA01	1	19:10:33					X																
ICSAB01	1	19:12:18					X																
CCV01	1	19:14:04					X																
CCB01	1	19:15:49					X																
1204695451	1	19:17:36					X																
1204695452	1	19:19:20					X																
527509002	25	19:21:05					X																
1204695453	25	19:22:51					X																
1204695454	25	19:24:36					X																
1204695455	125	19:26:21					X																
CCV02	1	19:28:07					X																
CCB02	1	19:29:53					X																
527509007	1	19:31:39					X																
527509011	25	19:33:24					X																
ZZZZZZ	125	19:35:10																					
ZZZZZZ	125	19:36:56																					
ZZZZZZ	125	19:38:40																					
ZZZZZZ	25	19:40:27																					
CCV03	1	19:42:14					X																
CCB03	1	19:43:59					X																

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-129

Inst Name: ICPMS14 **Instrument Type:** MS

Start Date: 24-NOV-20 **End Date:** 24-NOV-20 **Data File:** 201123-6

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
S0.0	1	08:14:35	X																				
S10	1	08:16:20	X																				
S100	1	08:18:05	X																				
ICV01	1	08:19:50	X																				
ICB01	1	08:21:35	X																				
CRDL01	1	08:23:20	X																				
ICSA01	1	08:25:05	X																				
ICSAB01	1	08:26:50	X																				
CCV01	1	08:28:35	X																				
CCB01	1	08:30:20	X																				
1204700944	1	08:32:06	X																				
1204700945	1	08:33:52	X																				
527509007	1	08:35:37	X																				
1204700946	1	08:37:22	X																				
1204700947	1	08:39:07	X																				
1204700948	5	08:40:52	X																				
CCV02	1	08:42:38	X																				
CCB02	1	08:44:23	X																				

Standards

METALS
−10−
Instrument Detection Limits

SDG NO. 2021−129

Contract: ESHL00118 **Lab Code: GEL** **MDL** **Effective Date:** 16−APR−17

Instrument(s): ICPMS14 **Verified on:** 30−OCT−2020

ICP/MS	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
LIQUID	Aluminum		19.3	50.0
	Antimony		1.0	3.0
	Arsenic		2.0	5.0
	Barium		0.67	4.0
	Beryllium		0.2	0.5
	Boron		5.2	15.0
	Cadmium		0.3	1.0
	Chromium		3.0	10.0
	Cobalt		0.3	1.0
	Copper		0.3	2.0
	Iron		33.0	100
	Lead		0.5	2.0
	Manganese		1.0	5.0
	Molybdenum		0.2	1.0
	Nickel		0.6	2.0
	Selenium		2.0	5.0
	Silver		0.3	1.0
	Thallium		0.6	2.0
	Uranium		0.067	0.2
	Zinc		3.3	20.0

METALS
−10−
Instrument Detection Limits

SDG NO. 2021−129

Contract: ESHL00118 **Lab Code: GEL** **MDL** **Hg Effective Date:** 01−MAY−12

Instrument(s): HG4 **Verified on:** 25−SEP−2020

	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
MERCURY				
LIQUID	Mercury	253.7	0.067	0.2

METALS
−10−
Instrument Detection Limits

SDG NO. 2021−129

Contract: ESHL00118 **Lab Code: GEL** **MDL** **Effective Date:** 23−JAN−11

Instrument(s): AVIO1 **Verified on:** 09−OCT−2020

ICP	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
LIQUID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.5	20.0
	Arsenic	188.979	5.0	30.0
	Barium	233.527	1.0	5.0
	Beryllium	313.107	1.0	5.0
	Boron	249.677	15.0	50.0
	Cadmium	226.502	1.0	5.0
	Chromium	267.716	1.0	10.0
	Cobalt	228.616	1.0	5.0
	Copper	324.752	3.0	20.0
	Iron	238.204	30.0	100
	Lead	220.353	3.3	20.0
	Manganese	257.61	2.0	10.0
	Molybdenum	202.031	2.0	10.0
	Nickel	231.604	1.5	5.0
	Selenium	196.026	6.0	30.0
	Silver	328.068	1.0	5.0
	Thallium	190.801	5.0	20.0
	Uranium	367.007	10.0	50.0
	Zinc	213.857	3.3	20.0

METALS
−11−
Interelement Correction Factors

Lab Code: GEL
GEL Job No: 2021−129
Contract: ESHL00118
Instrument: AVIO1
Effective Dates: 15−AUG−20
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Aluminum	Antimony	Arsenic	Barium	Beryllium
Aluminum	**396.153**	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	**188.979**	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	**233.527**	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	**313.107**	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	**249.677**	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.00000	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.00000	0.00000	−1.29991	0.00000
Copper	**324.752**	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	**220.353**	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	**279.077**	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	**202.031**	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	−1.01874	0.00000	13.9826	0.00000	0.00000
Potassium	**766.49**	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	**251.611**	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	0.00000	0.00000	0.00000	0.00000
Sodium	**589.592**	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	**190.801**	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	**189.927**	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	**367.007**	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	**292.402**	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	**213.857**	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
−11−
Interelement Correction Factors

Lab Code: GEL
GEL Job No: **2021−129**
Contract: **ESHL00118**
Instrument: **AVIO1**
Effective Dates: **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Boron	Cadmium	Calcium	Chromium	Cobalt
Aluminum	**396.153**	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	0.00000	0.00000	0.00000	−0.04326	0.00000
Arsenic	**188.979**	0.00000	0.00000	0.00000	−9.76288	0.00000
Barium	**233.527**	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	**313.107**	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	**249.677**	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.00000	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	**324.752**	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	−10.6640
Lead	**220.353**	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	**279.077**	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	**202.031**	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	**766.49**	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	**251.611**	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	0.00000	0.00000	0.00000	0.00000
Sodium	**589.592**	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	**190.801**	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	**189.927**	0.00000	0.00000	−0.07096	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	−0.00190	0.25469	0.00000
Uranium	**367.007**	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	**292.402**	0.00000	0.00000	0.00000	−2.08103	0.00000
Zinc	**213.857**	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
−11−
Interelement Correction Factors

Lab Code: GEL
GEL Job No: **2021−129**
Contract: **ESHL00118**
Instrument: **AVIO1**
Effective Dates: **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Copper	Iron	Lead	Magnesium	Manganese
Aluminum	**396.153**	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	0.00000	−0.02780	0.00000	0.00000	0.00000
Arsenic	**188.979**	0.00000	−0.06802	0.00000	0.00000	0.00000
Barium	**233.527**	0.00000	0.04431	0.00000	0.00000	0.00000
Beryllium	**313.107**	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	**249.677**	0.00000	−2.91763	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.14328	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00266	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.01395	0.00000	0.00000	0.00000
Copper	**324.752**	0.00000	−0.07460	0.00000	0.00000	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	**220.353**	0.00000	−0.02163	0.00000	0.00000	0.00000
Magnesium	**279.077**	0.00000	−0.46794	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	−0.00349	0.00000	0.00099	0.00000
Molybdenum	**202.031**	0.00000	−0.01611	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	23.5326	1.50400	6.11276	0.00000	0.00000
Potassium	**766.49**	0.00000	−0.26359	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	−0.55734	0.00000	0.00000	0.00000
Silicon	**251.611**	0.00000	−0.40554	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	−0.02027	0.00000	0.00000	0.00000
Sodium	**589.592**	0.00000	0.17928	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.13326	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.11339	0.00000	0.00000	0.00000
Thallium	**190.801**	0.00000	−0.05485	0.00000	0.00000	0.00000
Tin	**189.927**	0.00000	0.21596	0.00000	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	**367.007**	0.00000	2.75777	0.00000	0.00000	0.00000
Vanadium	**292.402**	0.00000	0.00182	0.00000	0.00000	0.00000
Zinc	**213.857**	1.07974	0.15952	0.00000	0.00000	0.00000

METALS
−11−
Interelement Correction Factors

Lab Code: GEL **GEL Job No:** **2021−129**
Contract: **ESHL00118**
Instrument: **AVIO1** **Effective Dates:** **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Molybdenum	Nickel	Phosphorous	Potassium	Selenium
Aluminum	**396.153**	42.7749	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	−14.5830	0.00000	0.00000	0.00000	0.00000
Arsenic	**188.979**	−4.00340	0.00000	0.00000	0.00000	0.00000
Barium	**233.527**	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	**313.107**	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	**249.677**	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.00000	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	**324.752**	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	**220.353**	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	**279.077**	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	**202.031**	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	19.5682	0.00000	0.00000	0.00000	0.00000
Potassium	**766.49**	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	**251.611**	24.8171	0.00000	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	0.00000	0.00000	0.00000	0.00000
Sodium	**589.592**	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	**190.801**	−1.51986	0.00000	0.00000	0.00000	0.00000
Tin	**189.927**	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	**367.007**	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	**292.402**	−0.59203	0.00000	0.00000	0.00000	0.00000
Zinc	**213.857**	0.00000	6.02565	0.00000	0.00000	0.00000

METALS
−11−
Interelement Correction Factors

Lab Code: GEL **GEL Job No:** **2021−129**
Contract: **ESHL00118**
Instrument: **AVIO1** **Effective Dates:** **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Silicon	Silver	Sodium	Strontium	Sulfur
Aluminum	**396.153**	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	**188.979**	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	**233.527**	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	**313.107**	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	**249.677**	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.00000	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	**324.752**	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	**220.353**	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	**279.077**	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	**202.031**	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	**766.49**	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	**251.611**	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	0.00000	0.00000	0.00000	0.00000
Sodium	**589.592**	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	**190.801**	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	**189.927**	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	**367.007**	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	**292.402**	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	**213.857**	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
−11−
Interelement Correction Factors

Lab Code: GEL **GEL Job No:** **2021−129**
Contract: **ESHL00118**
Instrument: **AVIO1** **Effective Dates:** **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Thallium	Tin	Titanium	Uranium	Vanadium
Aluminum	**396.153**	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	0.00000	0.00000	0.00000	0.00000	−0.35644
Arsenic	**188.979**	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	**233.527**	0.00000	0.00000	0.00000	0.00000	−1.38836
Beryllium	**313.107**	0.00000	0.00000	−3.56559	0.00000	0.00000
Boron	**249.677**	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.00000	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	**324.752**	0.00000	0.00000	0.00000	−1.32322	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	**220.353**	0.00000	0.00000	0.00000	1.13486	0.00000
Magnesium	**279.077**	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	**202.031**	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	**766.49**	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	**251.611**	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	0.00000	0.00000	1.00741	−2.44324
Sodium	**589.592**	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	**190.801**	0.00000	0.00000	−2.73345	0.00000	0.00000
Tin	**189.927**	0.00000	0.00000	−7.92379	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	**367.007**	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	**292.402**	0.00000	0.00000	0.68914	−0.68086	0.00000
Zinc	**213.857**	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
−11−
Interelement Correction Factors

Lab Code: GEL
GEL Job No: 2021−129
Contract: ESHL00118
Instrument: AVIO1
Effective Dates: 15−AUG−20
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Zinc
Parmname	**Wavelength**	
Aluminum	**396.153**	0.00000
Antimony	**206.836**	0.00000
Arsenic	**188.979**	0.00000
Barium	**233.527**	0.00000
Beryllium	**313.107**	0.00000
Boron	**249.677**	0.00000
Cadmium	**226.502**	0.00000
Calcium	**317.933**	0.00000
Chromium	**267.716**	0.00000
Cobalt	**228.616**	0.00000
Copper	**324.752**	0.00000
Iron	**238.204**	0.00000
Lead	**220.353**	0.00000
Magnesium	**279.077**	0.00000
Manganese	**257.61**	0.00000
Molybdenum	**202.031**	0.00000
Nickel	**231.604**	0.00000
Phosphorous	**214.914**	0.00000
Potassium	**766.49**	0.00000
Selenium	**196.026**	0.00000
Silicon	**251.611**	0.00000
Silver	**328.068**	0.00000
Sodium	**589.592**	0.00000
Strontium	**421.552**	0.00000
Sulfur	**181.975**	0.00000
Thallium	**190.801**	0.00000
Tin	**189.927**	0.00000
Titanium	**334.94**	0.00000
Uranium	**367.007**	0.00000
Vanadium	**292.402**	0.00000
Zinc	**213.857**	0.00000

METALS
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Linear Ranges

SDG NO. 2021−129

Contract: ESHL00118 **Lab Code: GEL**

Instrument ID AVIO1

Analyte	Integration Time (sec)	LDR	Units	Effective Date
Aluminum		500000	ug/L	15−AUG−18
Antimony		1000	ug/L	15−AUG−18
Arsenic		10000	ug/L	15−AUG−18
Barium		15000	ug/L	15−AUG−18
Beryllium		1000	ug/L	15−AUG−18
Boron		50000	ug/L	15−AUG−18
Cadmium		10000	ug/L	15−AUG−18
Chromium		25000	ug/L	15−AUG−18
Cobalt		10000	ug/L	15−AUG−18
Copper		20000	ug/L	15−AUG−18
Iron		500000	ug/L	15−AUG−18
Lead		25000	ug/L	15−AUG−18
Manganese		10000	ug/L	15−AUG−18
Molybdenum		10000	ug/L	15−AUG−18
Nickel		10000	ug/L	15−AUG−18
Selenium		1000	ug/L	15−AUG−18
Silver		1000	ug/L	15−AUG−18
Thallium		1000	ug/L	15−AUG−18
Uranium		15000	ug/L	15−AUG−18
Zinc		15000	ug/L	15−AUG−18

METALS
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Linear Ranges

SDG NO. 2021−129

Contract: ESHL00118 **Lab Code: GEL**

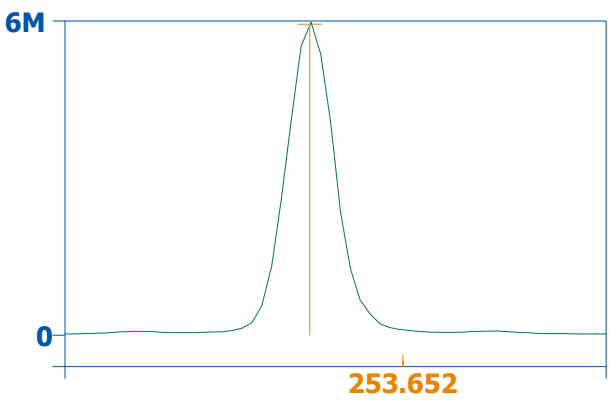
Instrument ID ICPMS14

Analyte	Integration Time (msec)	LDR	Units	Effective Date
Aluminum	1	50000	ug/L	01−AUG−17
Antimony	1000	250	ug/L	01−AUG−17
Arsenic	1000	1000	ug/L	01−AUG−17
Barium	1000	1000	ug/L	01−AUG−17
Beryllium	1000	1000	ug/L	01−AUG−17
Boron	1000	200	ug/L	01−AUG−17
Cadmium	1000	1000	ug/L	01−AUG−17
Chromium	1000	1000	ug/L	01−AUG−17
Cobalt	1000	1000	ug/L	01−AUG−17
Copper	1000	1000	ug/L	01−AUG−17
Iron	500	50000	ug/L	01−AUG−17
Lead	1000	5000	ug/L	01−AUG−17
Manganese	1000	1000	ug/L	01−AUG−17
Molybdenum	1000	1000	ug/L	01−AUG−17
Nickel	1000	1000	ug/L	01−AUG−17
Selenium	1000	500	ug/L	01−AUG−17
Silver	1000	250	ug/L	01−AUG−17
Thallium	1000	500	ug/L	01−AUG−17
Uranium	1000	5000	ug/L	01−AUG−17
Zinc	1000	2500	ug/L	01−AUG−17

Raw Data

Method: Hg_ReAlign **Sample ID: Hg_ReAlign**
Result: 111920

Hg 253.652 **Rep: 1**



Intensity: 6137088.1
1 **Conc:**

```
================================================================================================
11/19/2020 04:31:47 Hg ReAlign...  Actual peak offset (nm): -0.002
                    Drift (nm): 0.000      Slit adjustment:     0
================================================================================================

================================================================================================
```

Analysis Begun

Start Time: 11/19/2020 04:32:24 **Plasma On Time: 11/16/2020 04:42:02**
Originator: Avio1 **Technique: ICP Continuous**
Spectrometer: Avio 500, S/N 081S1711281 **Autosampler: ESI**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Sample Information\ 111920.sifx
Results Data Set: 111920
Results Library: C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Results\Results.mdb

```
================================================================================================
```

Batch ID:
Sequence No.: 1 **Autosampler Location: 8**
Sample ID: S0 **Date Collected: 11/19/2020 04:32:35**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample):

```
------------------------------------------------------------------------------------------------
```

Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Al 396.153Radial	-16.1	-16.1	[0.00]	µg/L	04:33:18
1	Ca 317.933Radial	238.0	238.0	[0.00]	µg/L	04:33:38
1	Fe 238.204 Radial	50.7	50.7	[0.00]	µg/L	04:33:38
1	K 766.490 Radial	-192.3	-192.3	[0.00]	µg/L	04:33:18
1	Mg 279.077 IEC	4.6	4.6	[0.00]	µg/L	04:33:38
1	Na 589.592 Radial	1447.6	1447.6	[0.00]	µg/L	04:33:18
1	Sr 421.552	-564.3	-564.3	[0.00]	µg/L	04:33:18
1	Ag 328.068	-158.9	-158.9	[0.00]	µg/L	04:35:04
1	As 188.979	0.4	0.4	[0.00]	µg/L	04:35:04
1	B 249.677	94.0	94.0	[0.00]	µg/L	04:35:04
1	Ba 233.527	-35.2	-35.2	[0.00]	µg/L	04:35:04
1	Be 313.107	-243.0	-243.0	[0.00]	µg/L	04:34:44
1	Cd 226.502	-59.8	-59.8	[0.00]	µg/L	04:35:04
1	Co 228.616	-15.1	-15.1	[0.00]	µg/L	04:35:04
1	Cr 267.716	51.1	51.1	[0.00]	µg/L	04:35:04
1	Cu 324.752	307.1	307.1	[0.00]	µg/L	04:35:04
1	Mn 257.610	-25.0	-25.0	[0.00]	µg/L	04:35:04
1	Mo 202.031	29.4	29.4	[0.00]	µg/L	04:35:04
1	Ni 231.604	-61.5	-61.5	[0.00]	µg/L	04:35:04
1	P 214.914	46.5	46.5	[0.00]	µg/L	04:35:04
1	Pb 220.353	4.2	4.2	[0.00]	µg/L	04:35:04
1	S 181.975 Axial	0.5	0.5	[0.00]	µg/L	04:35:04
1	Sb 206.836	30.9	30.9	[0.00]	µg/L	04:35:04
1	Se 196.026	28.1	28.1	[0.00]	µg/L	04:35:04
1	SiO2	167.1	167.1	[0.00]	µg/L	04:35:04
1	Si 251.611	125.5	125.5	[0.00]	µg/L	04:35:04
1	Sn 189.927	13.5	13.5	[0.00]	µg/L	04:35:04
1	Ti 334.940	14.3	14.3	[0.00]	µg/L	04:35:04
1	Tl 190.801	-12.4	-12.4	[0.00]	µg/L	04:35:04
1	U 367.007	-28.7	-28.7	[0.00]	µg/L	04:34:44
1	V 292.402	-14.3	-14.3	[0.00]	µg/L	04:35:04
1	Zn 213.857	-23.3	-23.3	[0.00]	µg/L	04:35:04
2	Al 396.153Radial	-10.3	-10.3	[0.00]	µg/L	04:33:40
2	Ca 317.933Radial	233.2	233.2	[0.00]	µg/L	04:34:00
2	Fe 238.204 Radial	53.8	53.8	[0.00]	µg/L	04:34:00
2	K 766.490 Radial	-123.9	-123.9	[0.00]	µg/L	04:33:40
2	Mg 279.077 IEC	7.3	7.3	[0.00]	µg/L	04:34:00
2	Na 589.592 Radial	1525.5	1525.5	[0.00]	µg/L	04:33:40
2	Sr 421.552	-375.1	-375.1	[0.00]	µg/L	04:33:40
2	Ag 328.068	-145.4	-145.4	[0.00]	µg/L	04:35:44
2	As 188.979	0.9	0.9	[0.00]	µg/L	04:35:44

2	B 249.677	94.6	94.6	[0.00] µg/L	04:35:44
2	Ba 233.527	-32.7	-32.7	[0.00] µg/L	04:35:44
2	Be 313.107	-243.2	-243.2	[0.00] µg/L	04:35:24
2	Cd 226.502	-61.1	-61.1	[0.00] µg/L	04:35:44
2	Co 228.616	-17.0	-17.0	[0.00] µg/L	04:35:44
2	Cr 267.716	64.3	64.3	[0.00] µg/L	04:35:44
2	Cu 324.752	291.1	291.1	[0.00] µg/L	04:35:44
2	Mn 257.610	-18.4	-18.4	[0.00] µg/L	04:35:44
2	Mo 202.031	28.1	28.1	[0.00] µg/L	04:35:44
2	Ni 231.604	-48.4	-48.4	[0.00] µg/L	04:35:44
2	P 214.914	46.4	46.4	[0.00] µg/L	04:35:44
2	Pb 220.353	13.2	13.2	[0.00] µg/L	04:35:44
2	S 181.975 Axial	6.5	6.5	[0.00] µg/L	04:35:44
2	Sb 206.836	29.8	29.8	[0.00] µg/L	04:35:44
2	Se 196.026	30.6	30.6	[0.00] µg/L	04:35:44
2	SiO2	164.5	164.5	[0.00] µg/L	04:35:44
2	Si 251.611	120.4	120.4	[0.00] µg/L	04:35:44
2	Sn 189.927	12.4	12.4	[0.00] µg/L	04:35:44
2	Ti 334.940	25.5	25.5	[0.00] µg/L	04:35:44
2	Tl 190.801	-7.3	-7.3	[0.00] µg/L	04:35:44
2	U 367.007	-23.7	-23.7	[0.00] µg/L	04:35:24
2	V 292.402	-4.9	-4.9	[0.00] µg/L	04:35:44
2	Zn 213.857	-28.0	-28.0	[0.00] µg/L	04:35:44
3	Al 396.153Radial	19.8	19.8	[0.00] µg/L	04:34:02
3	Ca 317.933Radial	230.1	230.1	[0.00] µg/L	04:34:22
3	Fe 238.204 Radial	50.4	50.4	[0.00] µg/L	04:34:22
3	K 766.490 Radial	-342.2	-342.2	[0.00] µg/L	04:34:02
3	Mg 279.077 IEC	3.5	3.5	[0.00] µg/L	04:34:22
3	Na 589.592 Radial	1442.6	1442.6	[0.00] µg/L	04:34:02
3	Sr 421.552	-427.7	-427.7	[0.00] µg/L	04:34:02
3	Ag 328.068	-157.1	-157.1	[0.00] µg/L	04:36:24
3	As 188.979	-3.1	-3.1	[0.00] µg/L	04:36:24
3	B 249.677	102.1	102.1	[0.00] µg/L	04:36:24
3	Ba 233.527	-29.9	-29.9	[0.00] µg/L	04:36:24
3	Be 313.107	-232.6	-232.6	[0.00] µg/L	04:36:04
3	Cd 226.502	-59.9	-59.9	[0.00] µg/L	04:36:24
3	Co 228.616	-16.5	-16.5	[0.00] µg/L	04:36:24
3	Cr 267.716	53.5	53.5	[0.00] µg/L	04:36:24
3	Cu 324.752	288.4	288.4	[0.00] µg/L	04:36:24
3	Mn 257.610	-20.8	-20.8	[0.00] µg/L	04:36:24
3	Mo 202.031	26.1	26.1	[0.00] µg/L	04:36:24
3	Ni 231.604	-49.4	-49.4	[0.00] µg/L	04:36:24
3	P 214.914	41.9	41.9	[0.00] µg/L	04:36:24
3	Pb 220.353	11.1	11.1	[0.00] µg/L	04:36:24
3	S 181.975 Axial	0.5	0.5	[0.00] µg/L	04:36:24
3	Sb 206.836	30.8	30.8	[0.00] µg/L	04:36:24
3	Se 196.026	24.3	24.3	[0.00] µg/L	04:36:24
3	SiO2	163.4	163.4	[0.00] µg/L	04:36:24
3	Si 251.611	133.5	133.5	[0.00] µg/L	04:36:24
3	Sn 189.927	7.0	7.0	[0.00] µg/L	04:36:24
3	Ti 334.940	7.3	7.3	[0.00] µg/L	04:36:24
3	Tl 190.801	-11.2	-11.2	[0.00] µg/L	04:36:24
3	U 367.007	-23.2	-23.2	[0.00] µg/L	04:36:04
3	V 292.402	-12.5	-12.5	[0.00] µg/L	04:36:24
3	Zn 213.857	-21.9	-21.9	[0.00] µg/L	04:36:24

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ag 328.068	-153.8	7.34	4.77%	[0.00]	µg/L
Al 396.153Radial	-2.2	19.23	874.56%	[0.00]	µg/L
As 188.979	-0.6	2.16	363.97%	[0.00]	µg/L
B 249.677	96.9	4.51	4.66%	[0.00]	µg/L
Ba 233.527	-32.6	2.64	8.10%	[0.00]	µg/L
Be 313.107	-239.6	6.03	2.52%	[0.00]	µg/L
Ca 317.933Radial	233.8	3.96	1.70%	[0.00]	µg/L
Cd 226.502	-60.3	0.74	1.23%	[0.00]	µg/L
Co 228.616	-16.2	0.97	5.96%	[0.00]	µg/L
Cr 267.716	56.3	7.04	12.50%	[0.00]	µg/L
Cu 324.752	295.5	10.10	3.42%	[0.00]	µg/L

Fe 238.204 Radial	51.6	1.91	3.69%	[0.00]	µg/L
K 766.490 Radial	-219.5	111.64	50.87%	[0.00]	µg/L
Mg 279.077 IEC	5.1	1.96	38.19%	[0.00]	µg/L
Mn 257.610	-21.4	3.38	15.82%	[0.00]	µg/L
Mo 202.031	27.9	1.63	5.85%	[0.00]	µg/L
Na 589.592 Radial	1471.9	46.48	3.16%	[0.00]	µg/L
Ni 231.604	-53.1	7.26	13.67%	[0.00]	µg/L
P 214.914	44.9	2.65	5.90%	[0.00]	µg/L
Pb 220.353	9.5	4.67	49.19%	[0.00]	µg/L
S 181.975 Axial	2.5	3.46	138.58%	[0.00]	µg/L
Sb 206.836	30.5	0.60	1.97%	[0.00]	µg/L
Se 196.026	27.6	3.19	11.53%	[0.00]	µg/L
SiO2	165.0	1.89	1.14%	[0.00]	µg/L
Si 251.611	126.5	6.59	5.21%	[0.00]	µg/L
Sn 189.927	11.0	3.52	32.02%	[0.00]	µg/L
Sr 421.552	-455.7	97.64	21.43%	[0.00]	µg/L
Ti 334.940	15.7	9.15	58.29%	[0.00]	µg/L
Tl 190.801	-10.3	2.65	25.66%	[0.00]	µg/L
U 367.007	-25.2	3.02	11.99%	[0.00]	µg/L
V 292.402	-10.6	4.99	47.10%	[0.00]	µg/L
Zn 213.857	-24.4	3.18	13.05%	[0.00]	µg/L

Batch ID:
Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S0.1 **Date Collected: 11/19/2020 04:36:50**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	63073.3	63073.3	98.985	%	04:37:29
1	K 766.490 Radial†	1903.5	2142.5	[1000]	µg/L	04:37:29
1	Sr 421.552†	73535.5	74745.2	[100]	µg/L	04:37:29
1	Sc 361.383	213816.7	213816.7	100.06	%	04:37:38
1	Y 371.029	124771.7	124771.7	100.14	%	04:37:38
1	Ag 328.068†	2343.7	2496.1	[100]	µg/L	04:37:38
1	As 188.979†	35.8	36.4	[100]	µg/L	04:37:58
1	B 249.677†	1022.4	925.0	[100]	µg/L	04:37:58
1	Ba 233.527†	2102.7	2134.0	[100]	µg/L	04:37:58
1	Be 313.107†	37615.7	37833.4	[100]	µg/L	04:37:38
1	Cd 226.502†	2113.5	2172.6	[100]	µg/L	04:37:58
1	Co 228.616†	475.6	491.5	[100]	µg/L	04:37:58
1	Cr 267.716†	2201.5	2143.9	[100]	µg/L	04:37:58
1	Cu 324.752†	3231.4	2934.0	[100]	µg/L	04:37:38
1	Mn 257.610†	6616.2	6633.7	[100]	µg/L	04:37:38
1	Mo 202.031†	486.4	458.3	[100]	µg/L	04:37:58
1	Ni 231.604†	873.7	926.3	[100]	µg/L	04:37:58
1	P 214.914†	124.8	79.8	[500]	µg/L	04:37:58
1	Pb 220.353†	149.4	139.9	[100]	µg/L	04:37:58
1	S 181.975 Axial†	33.2	30.6	[200]	µg/L	04:37:58
1	Sb 206.836†	87.2	56.7	[100]	µg/L	04:37:58
1	Se 196.026†	71.9	44.2	[100]	µg/L	04:37:58
1	SiO2†	1158.4	992.7	[1069.5]	µg/L	04:37:58
1	Si 251.611†	2648.3	2520.3	[500]	µg/L	04:37:58
1	Sn 189.927†	123.2	112.1	[100]	µg/L	04:37:58
1	Ti 334.940†	9930.4	9908.9	[100]	µg/L	04:37:38
1	Tl 190.801†	37.1	47.4	[100]	µg/L	04:37:58
1	U 367.007†	159.3	184.4	[100]	µg/L	04:37:38
1	V 292.402†	2014.2	2023.6	[100]	µg/L	04:37:58
1	Zn 213.857†	2054.7	2077.9	[100]	µg/L	04:37:58
2	Sc RADIAL	63967.6	63967.6	100.39	%	04:37:32
2	K 766.490 Radial†	1945.7	2157.6	[1000]	µg/L	04:37:32
2	Sr 421.552†	74524.3	74691.6	[100]	µg/L	04:37:32
2	Sc 361.383	220387.0	220387.0	103.13	%	04:38:00
2	Y 371.029	128400.2	128400.2	103.06	%	04:38:00
2	Ag 328.068†	2429.4	2509.4	[100]	µg/L	04:38:00
2	As 188.979†	40.0	39.4	[100]	µg/L	04:38:20
2	B 249.677†	1024.5	896.5	[100]	µg/L	04:38:20
2	Ba 233.527†	2054.5	2024.7	[100]	µg/L	04:38:20
2	Be 313.107†	39055.4	38108.5	[100]	µg/L	04:38:00
2	Cd 226.502†	2081.1	2078.2	[100]	µg/L	04:38:20
2	Co 228.616†	465.3	467.4	[100]	µg/L	04:38:20
2	Cr 267.716†	2177.6	2055.1	[100]	µg/L	04:38:20
2	Cu 324.752†	3357.2	2959.7	[100]	µg/L	04:38:00
2	Mn 257.610†	6874.8	6687.3	[100]	µg/L	04:38:00
2	Mo 202.031†	475.2	432.9	[100]	µg/L	04:38:20
2	Ni 231.604†	866.2	893.0	[100]	µg/L	04:38:20
2	P 214.914†	124.2	75.5	[500]	µg/L	04:38:20
2	Pb 220.353†	155.8	141.5	[100]	µg/L	04:38:20
2	S 181.975 Axial†	29.6	26.2	[200]	µg/L	04:38:20
2	Sb 206.836†	83.0	50.0	[100]	µg/L	04:38:20
2	Se 196.026†	68.9	39.1	[100]	µg/L	04:38:20
2	SiO2†	1125.0	925.8	[1069.5]	µg/L	04:38:20
2	Si 251.611†	2611.1	2405.4	[500]	µg/L	04:38:20
2	Sn 189.927†	118.4	103.8	[100]	µg/L	04:38:20
2	Ti 334.940†	10325.2	9995.8	[100]	µg/L	04:38:00
2	Tl 190.801†	39.2	48.3	[100]	µg/L	04:38:20

2	U 367.007†	126.3	147.6	[100]	µg/L	04:38:00
2	V 292.402†	1997.8	1947.7	[100]	µg/L	04:38:20
2	Zn 213.857†	2024.5	1987.4	[100]	µg/L	04:38:20
3	Sc RADIAL	64119.3	64119.3	100.63	%	04:37:34
3	K 766.490 Radial†	1937.6	2145.0	[1000]	µg/L	04:37:34
3	Sr 421.552†	74592.4	74583.7	[100]	µg/L	04:37:34
3	Sc 361.383	206871.7	206871.7	96.808	%	04:38:22
3	Y 371.029	120606.6	120606.6	96.801	%	04:38:22
3	Ag 328.068†	2308.3	2538.2	[100]	µg/L	04:38:22
3	As 188.979†	41.7	43.7	[100]	µg/L	04:38:42
3	B 249.677†	1030.2	967.3	[100]	µg/L	04:38:42
3	Ba 233.527†	2080.9	2182.1	[100]	µg/L	04:38:42
3	Be 313.107†	36737.4	38188.2	[100]	µg/L	04:38:22
3	Cd 226.502†	2130.5	2261.0	[100]	µg/L	04:38:42
3	Co 228.616†	481.3	513.3	[100]	µg/L	04:38:42
3	Cr 267.716†	2211.9	2228.5	[100]	µg/L	04:38:42
3	Cu 324.752†	3218.1	3028.7	[100]	µg/L	04:38:22
3	Mn 257.610†	6468.7	6703.4	[100]	µg/L	04:38:22
3	Mo 202.031†	471.1	458.8	[100]	µg/L	04:38:42
3	Ni 231.604†	876.4	958.4	[100]	µg/L	04:38:42
3	P 214.914†	120.2	79.2	[500]	µg/L	04:38:42
3	Pb 220.353†	152.5	148.0	[100]	µg/L	04:38:42
3	S 181.975 Axial†	31.8	30.4	[200]	µg/L	04:38:42
3	Sb 206.836†	91.4	63.9	[100]	µg/L	04:38:42
3	Se 196.026†	75.2	50.1	[100]	µg/L	04:38:42
3	SiO2†	1151.5	1024.4	[1069.5]	µg/L	04:38:42
3	Si 251.611†	2641.6	2602.3	[500]	µg/L	04:38:42
3	Sn 189.927†	121.5	114.5	[100]	µg/L	04:38:42
3	Ti 334.940†	9774.6	10081.1	[100]	µg/L	04:38:22
3	Tl 190.801†	41.4	53.1	[100]	µg/L	04:38:42
3	U 367.007†	111.6	140.5	[100]	µg/L	04:38:22
3	V 292.402†	2031.8	2109.4	[100]	µg/L	04:38:42
3	Zn 213.857†	2050.9	2142.9	[100]	µg/L	04:38:42

Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	213691.8	6758.52	3.16%	100.00	%
Sc RADIAL	63720.0	565.22	0.89%	100.00	%
Y 371.029	124592.8	3899.87	3.13%	100.00	%
Ag 328.068†	2514.6	21.52	0.86%	[100]	µg/L
As 188.979†	39.8	3.67	9.23%	[100]	µg/L
B 249.677†	929.6	35.64	3.83%	[100]	µg/L
Ba 233.527†	2113.6	80.66	3.82%	[100]	µg/L
Be 313.107†	38043.3	186.15	0.49%	[100]	µg/L
Cd 226.502†	2170.6	91.45	4.21%	[100]	µg/L
Co 228.616†	490.7	22.97	4.68%	[100]	µg/L
Cr 267.716†	2142.5	86.69	4.05%	[100]	µg/L
Cu 324.752†	2974.2	48.97	1.65%	[100]	µg/L
K 766.490 Radial†	2148.4	8.11	0.38%	[1000]	µg/L
Mn 257.610†	6674.8	36.48	0.55%	[100]	µg/L
Mo 202.031†	450.0	14.79	3.29%	[100]	µg/L
Ni 231.604†	925.9	32.68	3.53%	[100]	µg/L
P 214.914†	78.2	2.32	2.97%	[500]	µg/L
Pb 220.353†	143.1	4.31	3.01%	[100]	µg/L
S 181.975 Axial†	29.1	2.48	8.54%	[200]	µg/L
Sb 206.836†	56.9	6.97	12.26%	[100]	µg/L
Se 196.026†	44.5	5.48	12.32%	[100]	µg/L
SiO2†	981.0	50.33	5.13%	[1069.5]	µg/L
Si 251.611†	2509.3	98.92	3.94%	[500]	µg/L
Sn 189.927†	110.1	5.60	5.09%	[100]	µg/L
Sr 421.552†	74673.5	82.27	0.11%	[100]	µg/L
Ti 334.940†	9995.3	86.11	0.86%	[100]	µg/L
Tl 190.801†	49.6	3.06	6.16%	[100]	µg/L
U 367.007†	157.5	23.55	14.95%	[100]	µg/L
V 292.402†	2026.9	80.89	3.99%	[100]	µg/L
Zn 213.857†	2069.4	78.11	3.77%	[100]	µg/L

Batch ID:
Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S0.5 **Date Collected: 11/19/2020 04:39:08**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	66005.2	66005.2	103.59	%	04:39:45
1	Al 396.153Radial†	16660.8	16086.1	[5000]	µg/L	04:39:48
1	Ca 317.933Radial†	32096.9	30751.9	[5000]	µg/L	04:39:48
1	K 766.490 Radial†	11977.3	11782.1	[5000]	µg/L	04:39:48
1	Mg 279.077 IEC†	3401.0	3278.2	[5000]	µg/L	04:39:48
1	Sr 421.552†	389905.1	376861.9	[500]	µg/L	04:39:45
1	Sc 361.383	222615.4	222615.4	104.18	%	04:40:00
1	Y 371.029	129539.0	129539.0	103.97	%	04:40:00
1	Ag 328.068†	12668.4	12314.4	[500]	µg/L	04:40:00
1	As 188.979†	196.4	189.1	[500]	µg/L	04:40:20
1	B 249.677†	4286.2	4017.5	[500]	µg/L	04:40:00
1	Ba 233.527†	10103.1	9730.7	[500]	µg/L	04:40:00
1	Be 313.107†	203966.9	196030.4	[500]	µg/L	04:40:00
1	Cd 226.502†	9907.6	9570.7	[500]	µg/L	04:40:00
1	Co 228.616†	2574.0	2487.1	[500]	µg/L	04:40:20
1	Cr 267.716†	9723.6	9277.5	[500]	µg/L	04:40:00
1	Cu 324.752†	15786.6	14858.3	[500]	µg/L	04:40:00
1	Mn 257.610†	34301.1	32947.5	[500]	µg/L	04:40:00
1	Mo 202.031†	2392.7	2268.9	[500]	µg/L	04:40:20
1	Ni 231.604†	4293.2	4174.2	[500]	µg/L	04:40:00
1	P 214.914†	439.7	377.1	[2500]	µg/L	04:40:20
1	Pb 220.353†	770.5	730.1	[500]	µg/L	04:40:20
1	S 181.975 Axial†	149.2	140.7	[1000]	µg/L	04:40:20
1	Sb 206.836†	310.5	267.5	[500]	µg/L	04:40:20
1	Se 196.026†	264.7	226.5	[500]	µg/L	04:40:20
1	SiO2†	4852.4	4492.9	[5347.5]	µg/L	04:40:00
1	Si 251.611†	12041.9	11432.7	[2500]	µg/L	04:40:00
1	Sn 189.927†	537.2	504.7	[500]	µg/L	04:40:20
1	Ti 334.940†	51599.9	49515.8	[500]	µg/L	04:40:00
1	Tl 190.801†	241.4	242.1	[500]	µg/L	04:40:20
1	U 367.007†	719.2	715.6	[500]	µg/L	04:40:00
1	V 292.402†	9088.7	8734.9	[500]	µg/L	04:40:00
1	Zn 213.857†	9138.4	8796.5	[500]	µg/L	04:40:00
2	Sc RADIAL	68254.5	68254.5	107.12	%	04:39:50
2	Al 396.153Radial†	16158.2	15087.0	[5000]	µg/L	04:39:52
2	Ca 317.933Radial†	30633.8	28364.8	[5000]	µg/L	04:39:52
2	K 766.490 Radial†	11621.2	11068.6	[5000]	µg/L	04:39:52
2	Mg 279.077 IEC†	3216.1	2997.3	[5000]	µg/L	04:39:52
2	Sr 421.552†	403410.2	377065.6	[500]	µg/L	04:39:50
2	Sc 361.383	222517.2	222517.2	104.13	%	04:40:22
2	Y 371.029	129314.3	129314.3	103.79	%	04:40:22
2	Ag 328.068†	12723.8	12373.0	[500]	µg/L	04:40:22
2	As 188.979†	191.5	184.5	[500]	µg/L	04:40:42
2	B 249.677†	4309.9	4042.1	[500]	µg/L	04:40:22
2	Ba 233.527†	10036.3	9670.8	[500]	µg/L	04:40:22
2	Be 313.107†	204090.7	196235.7	[500]	µg/L	04:40:22
2	Cd 226.502†	9935.1	9601.3	[500]	µg/L	04:40:22
2	Co 228.616†	2503.7	2420.6	[500]	µg/L	04:40:42
2	Cr 267.716†	9744.0	9301.2	[500]	µg/L	04:40:22
2	Cu 324.752†	15756.2	14835.8	[500]	µg/L	04:40:22
2	Mn 257.610†	34375.6	33033.6	[500]	µg/L	04:40:22
2	Mo 202.031†	2340.8	2220.1	[500]	µg/L	04:40:42
2	Ni 231.604†	4233.7	4118.9	[500]	µg/L	04:40:22
2	P 214.914†	442.1	379.6	[2500]	µg/L	04:40:42
2	Pb 220.353†	752.7	713.4	[500]	µg/L	04:40:42
2	S 181.975 Axial†	151.9	143.4	[1000]	µg/L	04:40:42
2	Sb 206.836†	307.1	264.4	[500]	µg/L	04:40:42

2	Se 196.026†	246.4	209.0	[500]	µg/L	04:40:42
2	SiO2†	4840.2	4483.2	[5347.5]	µg/L	04:40:22
2	Si 251.611†	12038.7	11434.7	[2500]	µg/L	04:40:22
2	Sn 189.927†	525.8	493.9	[500]	µg/L	04:40:42
2	Ti 334.940†	51416.8	49361.9	[500]	µg/L	04:40:22
2	Tl 190.801†	235.0	236.0	[500]	µg/L	04:40:42
2	U 367.007†	757.6	752.8	[500]	µg/L	04:40:22
2	V 292.402†	9159.0	8806.3	[500]	µg/L	04:40:22
2	Zn 213.857†	9184.6	8844.7	[500]	µg/L	04:40:22
3	Sc RADIAL	65719.7	65719.7	103.14	%	04:39:54
3	Al 396.153Radial†	16201.4	15710.6	[5000]	µg/L	04:39:56
3	Ca 317.933Radial†	30757.1	29587.5	[5000]	µg/L	04:39:56
3	K 766.490 Radial†	11434.9	11306.5	[5000]	µg/L	04:39:56
3	Mg 279.077 IEC†	3224.4	3121.2	[5000]	µg/L	04:39:56
3	Sr 421.552†	390661.4	379230.2	[500]	µg/L	04:39:54
3	Sc 361.383	215204.9	215204.9	100.71	%	04:40:44
3	Y 371.029	125260.1	125260.1	100.54	%	04:40:44
3	Ag 328.068†	12421.8	12488.3	[500]	µg/L	04:40:44
3	As 188.979†	193.6	192.9	[500]	µg/L	04:41:04
3	B 249.677†	4294.7	4167.6	[500]	µg/L	04:40:44
3	Ba 233.527†	9775.4	9739.3	[500]	µg/L	04:40:44
3	Be 313.107†	198934.8	197775.7	[500]	µg/L	04:40:44
3	Cd 226.502†	9695.1	9687.2	[500]	µg/L	04:40:44
3	Co 228.616†	2579.2	2577.2	[500]	µg/L	04:41:04
3	Cr 267.716†	9415.4	9292.9	[500]	µg/L	04:40:44
3	Cu 324.752†	15478.3	15073.9	[500]	µg/L	04:40:44
3	Mn 257.610†	33462.2	33248.3	[500]	µg/L	04:40:44
3	Mo 202.031†	2400.6	2355.9	[500]	µg/L	04:41:04
3	Ni 231.604†	4156.2	4180.1	[500]	µg/L	04:40:44
3	P 214.914†	445.2	397.1	[2500]	µg/L	04:41:04
3	Pb 220.353†	762.0	747.1	[500]	µg/L	04:41:04
3	S 181.975 Axial†	157.4	153.8	[1000]	µg/L	04:41:04
3	Sb 206.836†	315.6	282.8	[500]	µg/L	04:41:04
3	Se 196.026†	261.1	231.7	[500]	µg/L	04:41:04
3	SiO2†	4796.2	4597.4	[5347.5]	µg/L	04:40:44
3	Si 251.611†	11752.1	11543.0	[2500]	µg/L	04:40:44
3	Sn 189.927†	547.9	533.1	[500]	µg/L	04:41:04
3	Ti 334.940†	50300.6	49931.3	[500]	µg/L	04:40:44
3	Tl 190.801†	245.6	254.2	[500]	µg/L	04:41:04
3	U 367.007†	777.5	797.2	[500]	µg/L	04:40:44
3	V 292.402†	8882.9	8831.0	[500]	µg/L	04:40:44
3	Zn 213.857†	8971.4	8932.7	[500]	µg/L	04:40:44

Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	220112.5	4250.42	1.93%	103.00	%
Sc RADIAL	66659.8	1388.38	2.08%	104.61	%
Y 371.029	128037.8	2408.21	1.88%	102.76	%
Ag 328.068†	12391.9	88.49	0.71%	[500]	µg/L
Al 396.153Radial†	15627.9	504.71	3.23%	[5000]	µg/L
As 188.979†	188.8	4.18	2.21%	[500]	µg/L
B 249.677†	4075.7	80.51	1.98%	[500]	µg/L
Ba 233.527†	9713.6	37.31	0.38%	[500]	µg/L
Be 313.107†	196680.6	953.95	0.49%	[500]	µg/L
Ca 317.933Radial†	29568.1	1193.65	4.04%	[5000]	µg/L
Cd 226.502†	9619.7	60.38	0.63%	[500]	µg/L
Co 228.616†	2495.0	78.59	3.15%	[500]	µg/L
Cr 267.716†	9290.5	12.03	0.13%	[500]	µg/L
Cu 324.752†	14922.7	131.48	0.88%	[500]	µg/L
K 766.490 Radial†	11385.7	363.28	3.19%	[5000]	µg/L
Mg 279.077 IEC†	3132.2	140.73	4.49%	[5000]	µg/L
Mn 257.610†	33076.5	154.91	0.47%	[500]	µg/L
Mo 202.031†	2281.6	68.80	3.02%	[500]	µg/L
Ni 231.604†	4157.7	33.76	0.81%	[500]	µg/L
P 214.914†	384.6	10.89	2.83%	[2500]	µg/L
Pb 220.353†	730.2	16.86	2.31%	[500]	µg/L
S 181.975 Axial†	145.9	6.90	4.73%	[1000]	µg/L
Sb 206.836†	271.6	9.84	3.62%	[500]	µg/L
Se 196.026†	222.4	11.89	5.35%	[500]	µg/L

SiO2†	4524.5	63.32	1.40%	[5347.5]	µg/L
Si 251.611†	11470.1	63.09	0.55%	[2500]	µg/L
Sn 189.927†	510.5	20.23	3.96%	[500]	µg/L
Sr 421.552†	377719.2	1312.51	0.35%	[500]	µg/L
Ti 334.940†	49603.0	294.55	0.59%	[500]	µg/L
Tl 190.801†	244.1	9.24	3.79%	[500]	µg/L
U 367.007†	755.2	40.85	5.41%	[500]	µg/L
V 292.402†	8790.8	49.90	0.57%	[500]	µg/L
Zn 213.857†	8858.0	69.07	0.78%	[500]	µg/L

Batch ID:
Sequence No.: 4 **Autosampler Location: 4**
Sample ID: SCAL **Date Collected: 11/19/2020 04:41:32**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	69314.7	69314.7	108.78	%	04:42:19
1	Al 396.153Radial†	33988.2	31247.1	[10000]	µg/L	04:42:19
1	Ca 317.933Radial†	64390.0	58959.1	[10000]	µg/L	04:42:19
1	Fe 238.204 Radial†	31589.4	28988.0	[10000]	µg/L	04:42:19
1	K 766.490 Radial†	24268.7	22529.3	[10000]	µg/L	04:42:19
1	Mg 279.077 IEC†	6872.4	6312.6	[10000]	µg/L	04:42:19
1	Na 589.592 Radial†	88569.5	79948.9	[10000]	µg/L	04:42:17
1	Sr 421.552†	803982.8	739546.2	[1000]	µg/L	04:42:17
1	Sc 361.383	212920.1	212920.1	99.639	%	04:42:31
1	Y 371.029	124643.4	124643.4	100.04	%	04:42:31
1	Ag 328.068†	26109.8	26358.2	[1000]	µg/L	04:42:31
1	As 188.979†	400.9	402.9	[1000]	µg/L	04:42:51
1	B 249.677†	8400.8	8334.4	[1000]	µg/L	04:42:31
1	Ba 233.527†	20230.6	20336.5	[1000]	µg/L	04:42:31
1	Be 313.107†	409586.0	411310.0	[1000]	µg/L	04:42:31
1	Cd 226.502†	19793.8	19925.8	[1000]	µg/L	04:42:31
1	Co 228.616†	5253.8	5289.0	[1000]	µg/L	04:42:51
1	Cr 267.716†	19426.9	19441.0	[1000]	µg/L	04:42:31
1	Cu 324.752†	31540.8	31359.6	[1000]	µg/L	04:42:31
1	Mn 257.610†	68685.6	68956.0	[1000]	µg/L	04:42:31
1	Mo 202.031†	4939.1	4929.1	[1000]	µg/L	04:42:51
1	Ni 231.604†	8498.5	8582.4	[1000]	µg/L	04:42:31
1	P 214.914†	856.4	814.6	[5000]	µg/L	04:42:51
1	Pb 220.353†	1527.2	1523.3	[1000]	µg/L	04:42:51
1	S 181.975 Axial†	316.9	315.6	[2000]	µg/L	04:42:51
1	Sb 206.836†	638.1	609.9	[1000]	µg/L	04:42:51
1	Se 196.026†	503.6	477.8	[1000]	µg/L	04:42:51
1	SiO2†	9512.7	9382.2	[10695]	µg/L	04:42:31
1	Si 251.611†	23669.5	23628.9	[5000]	µg/L	04:42:31
1	Sn 189.927†	1131.2	1124.3	[1000]	µg/L	04:42:51
1	Ti 334.940†	105530.1	105896.9	[1000]	µg/L	04:42:31
1	Tl 190.801†	500.6	512.7	[1000]	µg/L	04:42:51
1	U 367.007†	1538.2	1568.9	[1000]	µg/L	04:42:31
1	V 292.402†	18529.8	18607.6	[1000]	µg/L	04:42:31
1	Zn 213.857†	18347.9	18438.8	[1000]	µg/L	04:42:31
2	Sc RADIAL	66344.9	66344.9	104.12	%	04:42:23
2	Al 396.153Radial†	32565.3	31279.1	[10000]	µg/L	04:42:23
2	Ca 317.933Radial†	61356.2	58695.0	[10000]	µg/L	04:42:23
2	Fe 238.204 Radial†	30089.8	28847.7	[10000]	µg/L	04:42:23
2	K 766.490 Radial†	23064.3	22371.3	[10000]	µg/L	04:42:23
2	Mg 279.077 IEC†	6508.1	6245.5	[10000]	µg/L	04:42:23
2	Na 589.592 Radial†	87509.7	82575.7	[10000]	µg/L	04:42:21
2	Sr 421.552†	792780.9	761871.5	[1000]	µg/L	04:42:21
2	Sc 361.383	210042.7	210042.7	98.292	%	04:42:54
2	Y 371.029	123531.8	123531.8	99.148	%	04:42:54
2	Ag 328.068†	25643.5	26242.8	[1000]	µg/L	04:42:54
2	As 188.979†	404.5	412.1	[1000]	µg/L	04:43:14
2	B 249.677†	8312.1	8359.6	[1000]	µg/L	04:42:54
2	Ba 233.527†	19948.8	20328.0	[1000]	µg/L	04:42:54
2	Be 313.107†	403537.9	410788.2	[1000]	µg/L	04:42:54
2	Cd 226.502†	19549.9	19949.8	[1000]	µg/L	04:42:54
2	Co 228.616†	5286.2	5394.2	[1000]	µg/L	04:43:14
2	Cr 267.716†	19232.2	19510.0	[1000]	µg/L	04:42:54
2	Cu 324.752†	31218.4	31465.2	[1000]	µg/L	04:42:54
2	Mn 257.610†	67816.2	69015.8	[1000]	µg/L	04:42:54
2	Mo 202.031†	4959.5	5017.8	[1000]	µg/L	04:43:14
2	Ni 231.604†	8353.1	8551.3	[1000]	µg/L	04:42:54

2	P 214.914†	859.7	829.7	[5000]	µg/L	04:43:14
2	Pb 220.353†	1547.8	1565.2	[1000]	µg/L	04:43:14
2	S 181.975 Axial†	317.4	320.4	[2000]	µg/L	04:43:14
2	Sb 206.836†	645.7	626.4	[1000]	µg/L	04:43:14
2	Se 196.026†	499.0	480.0	[1000]	µg/L	04:43:14
2	SiO2†	9391.0	9389.2	[10695]	µg/L	04:42:54
2	Si 251.611†	23335.5	23614.4	[5000]	µg/L	04:42:54
2	Sn 189.927†	1148.3	1157.2	[1000]	µg/L	04:43:14
2	Ti 334.940†	104022.5	105814.0	[1000]	µg/L	04:42:54
2	Tl 190.801†	508.4	527.6	[1000]	µg/L	04:43:14
2	U 367.007†	1480.1	1531.0	[1000]	µg/L	04:42:54
2	V 292.402†	18238.3	18565.7	[1000]	µg/L	04:42:54
2	Zn 213.857†	18135.0	18474.5	[1000]	µg/L	04:42:54
3	Sc RADIAL	69389.0	69389.0	108.90	%	04:42:28
3	Al 396.153Radial†	34078.1	31296.2	[10000]	µg/L	04:42:28
3	Ca 317.933Radial†	64697.2	59177.8	[10000]	µg/L	04:42:28
3	Fe 238.204 Radial†	31605.8	28972.1	[10000]	µg/L	04:42:28
3	K 766.490 Radial†	24188.9	22432.2	[10000]	µg/L	04:42:28
3	Mg 279.077 IEC†	6833.5	6270.0	[10000]	µg/L	04:42:28
3	Na 589.592 Radial†	86171.1	77659.3	[10000]	µg/L	04:42:25
3	Sr 421.552†	780177.1	716894.2	[1000]	µg/L	04:42:25
3	Sc 361.383	206576.2	206576.2	96.670	%	04:43:16
3	Y 371.029	121156.6	121156.6	97.242	%	04:43:16
3	Ag 328.068†	25354.8	26382.0	[1000]	µg/L	04:43:16
3	As 188.979†	396.6	410.9	[1000]	µg/L	04:43:36
3	B 249.677†	8308.0	8497.3	[1000]	µg/L	04:43:16
3	Ba 233.527†	19708.0	20419.4	[1000]	µg/L	04:43:16
3	Be 313.107†	396124.7	410008.9	[1000]	µg/L	04:43:16
3	Cd 226.502†	19160.8	19881.1	[1000]	µg/L	04:43:16
3	Co 228.616†	5191.1	5386.1	[1000]	µg/L	04:43:36
3	Cr 267.716†	18870.7	19464.4	[1000]	µg/L	04:43:16
3	Cu 324.752†	30685.0	31446.4	[1000]	µg/L	04:43:16
3	Mn 257.610†	66587.1	68902.1	[1000]	µg/L	04:43:16
3	Mo 202.031†	4870.1	5010.0	[1000]	µg/L	04:43:36
3	Ni 231.604†	8238.3	8575.1	[1000]	µg/L	04:43:16
3	P 214.914†	847.9	832.1	[5000]	µg/L	04:43:36
3	Pb 220.353†	1521.6	1564.5	[1000]	µg/L	04:43:36
3	S 181.975 Axial†	311.3	319.6	[2000]	µg/L	04:43:36
3	Sb 206.836†	627.9	619.0	[1000]	µg/L	04:43:36
3	Se 196.026†	500.0	489.6	[1000]	µg/L	04:43:36
3	SiO2†	9235.3	9388.4	[10695]	µg/L	04:43:16
3	Si 251.611†	22962.6	23627.0	[5000]	µg/L	04:43:16
3	Sn 189.927†	1124.8	1152.6	[1000]	µg/L	04:43:36
3	Ti 334.940†	102316.8	105825.5	[1000]	µg/L	04:43:16
3	Tl 190.801†	496.8	524.2	[1000]	µg/L	04:43:36
3	U 367.007†	1510.3	1587.5	[1000]	µg/L	04:43:16
3	V 292.402†	17933.6	18561.9	[1000]	µg/L	04:43:16
3	Zn 213.857†	17820.5	18458.7	[1000]	µg/L	04:43:16

Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	209846.4	3176.51	1.51%	98.200	%
Sc RADIAL	68349.5	1736.46	2.54%	107.27	%
Y 371.029	123110.6	1781.14	1.45%	98.810	%
Ag 328.068†	26327.7	74.44	0.28%	[1000]	µg/L
Al 396.153Radial†	31274.1	24.94	0.08%	[10000]	µg/L
As 188.979†	408.6	4.96	1.21%	[1000]	µg/L
B 249.677†	8397.1	87.71	1.04%	[1000]	µg/L
Ba 233.527†	20361.3	50.51	0.25%	[1000]	µg/L
Be 313.107†	410702.4	654.77	0.16%	[1000]	µg/L
Ca 317.933Radial†	58944.0	241.76	0.41%	[10000]	µg/L
Cd 226.502†	19918.9	34.86	0.18%	[1000]	µg/L
Co 228.616†	5356.4	58.52	1.09%	[1000]	µg/L
Cr 267.716†	19471.8	35.08	0.18%	[1000]	µg/L
Cu 324.752†	31423.7	56.34	0.18%	[1000]	µg/L
Fe 238.204 Radial†	28935.9	76.83	0.27%	[10000]	µg/L
K 766.490 Radial†	22444.3	79.72	0.36%	[10000]	µg/L
Mg 279.077 IEC†	6276.0	33.95	0.54%	[10000]	µg/L
Mn 257.610†	68958.0	56.85	0.08%	[1000]	µg/L

Mo 202.031†	4985.6	49.11	0.98%	[1000]	µg/L
Na 589.592 Radial†	80061.3	2460.13	3.07%	[10000]	µg/L
Ni 231.604†	8569.6	16.23	0.19%	[1000]	µg/L
P 214.914†	825.5	9.52	1.15%	[5000]	µg/L
Pb 220.353†	1551.0	24.00	1.55%	[1000]	µg/L
S 181.975 Axial†	318.5	2.58	0.81%	[2000]	µg/L
Sb 206.836†	618.4	8.27	1.34%	[1000]	µg/L
Se 196.026†	482.5	6.27	1.30%	[1000]	µg/L
SiO2†	9386.6	3.85	0.04%	[10695]	µg/L
Si 251.611†	23623.4	7.85	0.03%	[5000]	µg/L
Sn 189.927†	1144.7	17.83	1.56%	[1000]	µg/L
Sr 421.552†	739437.3	22488.88	3.04%	[1000]	µg/L
Ti 334.940†	105845.4	44.91	0.04%	[1000]	µg/L
Tl 190.801†	521.5	7.80	1.49%	[1000]	µg/L
U 367.007†	1562.5	28.80	1.84%	[1000]	µg/L
V 292.402†	18578.4	25.32	0.14%	[1000]	µg/L
Zn 213.857†	18457.3	17.88	0.10%	[1000]	µg/L

Batch ID:
Sequence No.: 5 **Autosampler Location: 5**
Sample ID: S10 **Date Collected: 11/19/2020 04:44:05**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	68978.0	68978.0	108.25	%	04:44:49
1	Al 396.153Radial†	173469.9	160249.0	[50000]	µg/L	04:44:49
1	Ca 317.933Radial†	330953.0	305491.7	[50000]	µg/L	04:44:49
1	Fe 238.204 Radial†	62999.7	58145.7	[20000]	µg/L	04:44:49
1	Mg 279.077 IEC†	34713.6	32062.3	[50000]	µg/L	04:44:49
1	Na 589.592 Radial†	188395.5	172562.8	[20000]	µg/L	04:44:49
1	Sc 361.383	221852.2	221852.2	103.82	%	04:44:57
1	Y 371.029	130759.9	130759.9	104.95	%	04:44:57
2	Sc RADIAL	67240.2	67240.2	105.52	%	04:44:51
2	Al 396.153Radial†	169230.4	160373.0	[50000]	µg/L	04:44:51
2	Ca 317.933Radial†	320307.4	303304.8	[50000]	µg/L	04:44:51
2	Fe 238.204 Radial†	61285.1	58025.1	[20000]	µg/L	04:44:51
2	Mg 279.077 IEC†	33635.3	31869.2	[50000]	µg/L	04:44:51
2	Na 589.592 Radial†	183824.9	172729.4	[20000]	µg/L	04:44:51
2	Sc 361.383	218916.4	218916.4	102.44	%	04:44:59
2	Y 371.029	129148.8	129148.8	103.66	%	04:44:59
3	Sc RADIAL	69288.1	69288.1	108.74	%	04:44:53
3	Al 396.153Radial†	174225.0	160226.4	[50000]	µg/L	04:44:53
3	Ca 317.933Radial†	332317.2	305378.3	[50000]	µg/L	04:44:53
3	Fe 238.204 Radial†	63392.1	58246.3	[20000]	µg/L	04:44:53
3	Mg 279.077 IEC†	34773.2	31973.6	[50000]	µg/L	04:44:53
3	Na 589.592 Radial†	189097.7	172429.9	[20000]	µg/L	04:44:53
3	Sc 361.383	214718.6	214718.6	100.48	%	04:45:01
3	Y 371.029	126439.4	126439.4	101.48	%	04:45:01

Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	218495.7	3585.32	1.64%	102.25	%
Sc RADIAL	68502.1	1103.76	1.61%	107.50	%
Y 371.029	128782.7	2183.38	1.70%	103.36	%
Al 396.153Radial†	160282.8	78.91	0.05%	[50000]	µg/L
Ca 317.933Radial†	304724.9	1231.18	0.40%	[50000]	µg/L
Fe 238.204 Radial†	58139.0	110.75	0.19%	[20000]	µg/L
Mg 279.077 IEC†	31968.4	96.66	0.30%	[50000]	µg/L
Na 589.592 Radial†	172574.0	150.05	0.09%	[20000]	µg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	26.01	0.00000	0.999716	
Al 396.153Radial	3	Lin Thru 0	0.0	3.202	0.00000	0.999986	
As 188.979	3	Lin Thru 0	0.0	0.4024	0.00000	0.999531	
B 249.677	3	Lin Thru 0	0.0	8.356	0.00000	0.999881	
Ba 233.527	3	Lin Thru 0	0.0	20.18	0.00000	0.999821	
Be 313.107	3	Lin Thru 0	0.0	407.0	0.00000	0.999839	
Ca 317.933Radial	3	Lin Thru 0	0.0	6.085	0.00000	0.999976	
Cd 226.502	3	Lin Thru 0	0.0	19.80	0.00000	0.999869	
Co 228.616	3	Lin Thru 0	0.0	5.280	0.00000	0.999598	
Cr 267.716	3	Lin Thru 0	0.0	19.31	0.00000	0.999783	
Cu 324.752	3	Lin Thru 0	0.0	31.10	0.00000	0.999788	
Fe 238.204 Radia	2	Lin Thru 0	0.0	2.904	0.00000	0.999998	
K 766.490 Radial	3	Lin Thru 0	0.0	2.250	0.00000	0.999975	
Mg 279.077 IEC	3	Lin Thru 0	0.0	0.6388	0.00000	0.999992	
Mn 257.610	3	Lin Thru 0	0.0	68.38	0.00000	0.999864	

Mo 202.031	3	Lin Thru 0	0.0	4.898	0.00000	0.999384
Na 589.592 Radia	2	Lin Thru 0	0.0	8.504	0.00000	0.999572
Ni 231.604	3	Lin Thru 0	0.0	8.525	0.00000	0.999900
P 214.914	3	Lin Thru 0	0.0	0.1628	0.00000	0.999615
Pb 220.353	3	Lin Thru 0	0.0	1.532	0.00000	0.999705
S 181.975 Axial	3	Lin Thru 0	0.0	0.1565	0.00000	0.999406
Sb 206.836	3	Lin Thru 0	0.0	0.6031	0.00000	0.998755
Se 196.026	3	Lin Thru 0	0.0	0.4747	0.00000	0.999482
SiO2	3	Lin Thru 0	0.0	0.8717	0.00000	0.999885
Si 251.611	3	Lin Thru 0	0.0	4.700	0.00000	0.999915
Sn 189.927	3	Lin Thru 0	0.0	1.120	0.00000	0.999033
Sr 421.552	3	Lin Thru 0	0.0	742.7	0.00000	0.999963
Ti 334.940	3	Lin Thru 0	0.0	104.5	0.00000	0.999672
Tl 190.801	3	Lin Thru 0	0.0	0.5147	0.00000	0.999662
U 367.007	3	Lin Thru 0	0.0	1.552	0.00000	0.999910
V 292.402	3	Lin Thru 0	0.0	18.39	0.00000	0.999725
Zn 213.857	3	Lin Thru 0	0.0	18.33	0.00000	0.999804

Batch ID:
Sequence No.: 6 **Autosampler Location: 9**
Sample ID: ICV **Date Collected: 11/19/2020 04:45:26**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	66809.0	66809.0	104.85	%	104.85	%	04:46:10
1	Al 396.153Radial†	17360.9	16560.4	5152.7	µg/L	5152.7	ppb	04:46:12
1	Ca 317.933Radial†	33884.7	32084.3	5272.5	µg/L	5272.5	ppb	04:46:12
1	Fe 238.204 Radial†	16312.0	15506.1	5344.0	µg/L	5344.0	ppb	04:46:12
1	K 766.490 Radial†	6098.4	6035.9	2683.9	µg/L	2683.9	ppb	04:46:12
1	Mg 279.077 IEC†	3528.9	3360.6	5263.4	µg/L	5263.4	ppb	04:46:12
1	Na 589.592 Radial†	23293.7	20744.8	2438.4	µg/L	2438.4	ppb	04:46:10
1	Sr 421.552†	399207.6	381205.4	512.65	µg/L	512.65	ppb	04:46:10
1	Sc 361.383	226260.1	226260.1	105.88	%	105.88	%	04:46:24
1	Y 371.029	131730.4	131730.4	105.73	%	105.73	%	04:46:24
1	Ag 328.068†	6466.7	6261.3	241.55	µg/L	241.55	ppb	04:46:24
1	As 188.979†	200.3	189.8	478.43	µg/L	478.43	ppb	04:46:44
1	B 249.677†	4449.8	4105.8	507.94	µg/L	507.94	ppb	04:46:24
1	Ba 233.527†	10322.7	9781.9	484.92	µg/L	484.92	ppb	04:46:24
1	Be 313.107†	101135.9	95757.6	236.99	µg/L	236.99	ppb	04:46:24
1	Cd 226.502†	10260.6	9751.0	491.89	µg/L	491.89	ppb	04:46:24
1	Co 228.616†	2586.2	2458.7	466.19	µg/L	466.19	ppb	04:46:44
1	Cr 267.716†	9977.9	9367.3	485.08	µg/L	485.08	ppb	04:46:24
1	Cu 324.752†	16210.3	15014.3	483.78	µg/L	483.78	ppb	04:46:24
1	Mn 257.610†	34798.9	32887.3	480.87	µg/L	480.87	ppb	04:46:24
1	Mo 202.031†	2378.4	2218.4	452.86	µg/L	452.86	ppb	04:46:44
1	Ni 231.604†	4727.9	4518.3	530.07	µg/L	530.07	ppb	04:46:44
1	P 214.914†	441.9	372.4	2255.1	µg/L	2255.1	ppb	04:46:44
1	Pb 220.353†	777.7	725.0	473.68	µg/L	473.68	ppb	04:46:44
1	S 181.975 Axial†	388.6	364.5	2329.9	µg/L	2329.9	ppb	04:46:44
1	Sb 206.836†	326.6	277.9	468.03	µg/L	468.03	ppb	04:46:44
1	Se 196.026†	1252.0	1154.8	2435.2	µg/L	2435.2	ppb	04:46:44
1	SiO2†	10038.0	9315.4	10683	µg/L	10683	ppb	04:46:24
1	Si 251.611†	24841.9	23335.6	4952.1	µg/L	4952.1	ppb	04:46:24
1	Sn 189.927†	586.9	543.3	487.79	µg/L	487.79	ppb	04:46:44
1	Ti 334.940†	53615.7	50621.8	484.81	µg/L	484.81	ppb	04:46:24
1	Tl 190.801†	253.0	249.2	486.44	µg/L	486.44	ppb	04:46:44
1	U 367.007†	678.5	666.0	411.19	µg/L	411.19	ppb	04:46:24
1	V 292.402†	9266.4	8762.3	477.64	µg/L	477.64	ppb	04:46:24
1	Zn 213.857†	9298.4	8806.3	476.02	µg/L	476.02	ppb	04:46:24
2	Sc RADIAL	65684.0	65684.0	103.08	%	103.08	%	04:46:14
2	Al 396.153Radial†	17099.3	16590.2	5161.4	µg/L	5161.4	ppb	04:46:16
2	Ca 317.933Radial†	33078.1	31855.2	5234.9	µg/L	5234.9	ppb	04:46:16
2	Fe 238.204 Radial†	15912.3	15384.9	5302.4	µg/L	5302.4	ppb	04:46:16
2	K 766.490 Radial†	6091.1	6128.4	2724.9	µg/L	2724.9	ppb	04:46:16
2	Mg 279.077 IEC†	3444.9	3336.8	5226.0	µg/L	5226.0	ppb	04:46:16
2	Na 589.592 Radial†	22981.4	20822.4	2447.5	µg/L	2447.5	ppb	04:46:14
2	Sr 421.552†	393430.2	382122.4	513.89	µg/L	513.89	ppb	04:46:14
2	Sc 361.383	224612.7	224612.7	105.11	%	105.11	%	04:46:46
2	Y 371.029	130481.8	130481.8	104.73	%	104.73	%	04:46:46
2	Ag 328.068†	6442.4	6282.9	242.33	µg/L	242.33	ppb	04:46:46
2	As 188.979†	206.1	196.7	495.54	µg/L	495.54	ppb	04:47:06
2	B 249.677†	4565.4	4246.6	524.66	µg/L	524.66	ppb	04:46:46
2	Ba 233.527†	10372.1	9900.4	490.80	µg/L	490.80	ppb	04:46:46
2	Be 313.107†	101457.0	96763.7	239.48	µg/L	239.48	ppb	04:46:46
2	Cd 226.502†	10272.5	9833.3	496.05	µg/L	496.05	ppb	04:46:46
2	Co 228.616†	2630.9	2519.2	477.65	µg/L	477.65	ppb	04:47:06
2	Cr 267.716†	9973.8	9432.5	488.46	µg/L	488.46	ppb	04:46:46
2	Cu 324.752†	16380.7	15288.8	492.69	µg/L	492.69	ppb	04:46:46
2	Mn 257.610†	35018.0	33336.7	487.44	µg/L	487.44	ppb	04:46:46
2	Mo 202.031†	2424.6	2278.9	465.20	µg/L	465.20	ppb	04:47:06
2	Ni 231.604†	4781.8	4602.4	539.93	µg/L	539.93	ppb	04:47:06

2	P 214.914†	445.8	379.2	2296.1 µg/L	2296.1 ppb	04:47:06
2	Pb 220.353†	781.2	733.7	479.29 µg/L	479.29 ppb	04:47:06
2	S 181.975 Axial†	392.7	371.1	2372.0 µg/L	2372.0 ppb	04:47:06
2	Sb 206.836†	325.9	279.5	470.78 µg/L	470.78 ppb	04:47:06
2	Se 196.026†	1257.0	1168.2	2463.4 µg/L	2463.4 ppb	04:47:06
2	SiO2†	10110.1	9453.6	10842 µg/L	10842 ppb	04:46:46
2	Si 251.611†	25032.4	23688.9	5027.0 µg/L	5027.0 ppb	04:46:46
2	Sn 189.927†	593.2	553.3	496.80 µg/L	496.80 ppb	04:47:06
2	Ti 334.940†	53872.9	51237.8	490.70 µg/L	490.70 ppb	04:46:46
2	Tl 190.801†	255.3	253.2	494.20 µg/L	494.20 ppb	04:47:06
2	U 367.007†	781.7	768.9	477.61 µg/L	477.61 ppb	04:46:46
2	V 292.402†	9330.0	8886.9	484.47 µg/L	484.47 ppb	04:46:46
2	Zn 213.857†	9420.5	8986.8	485.80 µg/L	485.80 ppb	04:46:46
3	Sc RADIAL	64514.5	64514.5	101.25 %	101.25 %	04:46:18
3	Al 396.153Radial†	16311.6	16112.9	5012.6 µg/L	5012.6 ppb	04:46:20
3	Ca 317.933Radial†	31399.7	30779.3	5058.1 µg/L	5058.1 ppb	04:46:20
3	Fe 238.204 Radial†	15135.5	14897.4	5134.5 µg/L	5134.5 ppb	04:46:20
3	K 766.490 Radial†	5860.5	6007.8	2671.3 µg/L	2671.3 ppb	04:46:20
3	Mg 279.077 IEC†	3267.7	3222.3	5046.8 µg/L	5046.8 ppb	04:46:20
3	Na 589.592 Radial†	22539.0	20789.6	2443.7 µg/L	2443.7 ppb	04:46:18
3	Sr 421.552†	386879.5	382571.1	514.51 µg/L	514.51 ppb	04:46:18
3	Sc 361.383	223863.6	223863.6	104.76 %	104.76 %	04:47:09
3	Y 371.029	130300.7	130300.7	104.58 %	104.58 %	04:47:09
3	Ag 328.068†	6515.9	6373.6	245.83 µg/L	245.83 ppb	04:47:09
3	As 188.979†	201.5	192.9	486.23 µg/L	486.23 ppb	04:47:29
3	B 249.677†	4522.0	4219.6	520.92 µg/L	520.92 ppb	04:47:09
3	Ba 233.527†	10380.4	9941.4	492.85 µg/L	492.85 ppb	04:47:09
3	Be 313.107†	101053.6	96701.5	239.33 µg/L	239.33 ppb	04:47:09
3	Cd 226.502†	10241.0	9836.0	496.20 µg/L	496.20 ppb	04:47:09
3	Co 228.616†	2590.0	2488.5	471.84 µg/L	471.84 ppb	04:47:29
3	Cr 267.716†	10002.4	9491.6	491.52 µg/L	491.52 ppb	04:47:09
3	Cu 324.752†	16322.4	15285.3	492.55 µg/L	492.55 ppb	04:47:09
3	Mn 257.610†	34953.0	33386.3	488.16 µg/L	488.16 ppb	04:47:09
3	Mo 202.031†	2389.9	2253.5	460.01 µg/L	460.01 ppb	04:47:29
3	Ni 231.604†	4717.0	4555.8	534.46 µg/L	534.46 ppb	04:47:29
3	P 214.914†	441.6	376.6	2280.8 µg/L	2280.8 ppb	04:47:29
3	Pb 220.353†	777.8	732.9	478.78 µg/L	478.78 ppb	04:47:29
3	S 181.975 Axial†	384.5	364.6	2330.2 µg/L	2330.2 ppb	04:47:29
3	Sb 206.836†	334.2	288.5	485.55 µg/L	485.55 ppb	04:47:29
3	Se 196.026†	1256.9	1172.2	2471.6 µg/L	2471.6 ppb	04:47:29
3	SiO2†	10013.2	9393.3	10773 µg/L	10773 ppb	04:47:09
3	Si 251.611†	24970.9	23709.8	5031.6 µg/L	5031.6 ppb	04:47:09
3	Sn 189.927†	591.2	553.3	496.82 µg/L	496.82 ppb	04:47:29
3	Ti 334.940†	53671.5	51217.1	490.49 µg/L	490.49 ppb	04:47:09
3	Tl 190.801†	248.6	247.6	483.31 µg/L	483.31 ppb	04:47:29
3	U 367.007†	750.2	741.3	460.42 µg/L	460.42 ppb	04:47:09
3	V 292.402†	9327.6	8914.4	485.96 µg/L	485.96 ppb	04:47:09
3	Zn 213.857†	9309.2	8910.6	481.70 µg/L	481.70 ppb	04:47:09

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	224912.1	105.25	%	0.574	105.25	%	0.574	0.55%
Sc RADIAL	65669.2	103.06	%	1.801	103.06	%	1.801	1.75%
Y 371.029	130837.6	105.01	%	0.625	105.01	%	0.625	0.59%
Ag 328.068†	6305.9	243.24	µg/L	2.282	243.24	ppb	2.282	0.94%
QC value within limits for Ag 328.068 Recovery = 97.29%								
Al 396.153Radial†	16421.2	5108.9	µg/L	83.52	5108.9	ppb	83.52	1.63%
QC value within limits for Al 396.153Radial Recovery = 102.18%								
As 188.979†	193.1	486.73	µg/L	8.562	486.73	ppb	8.562	1.76%
QC value within limits for As 188.979 Recovery = 97.35%								
B 249.677†	4190.7	517.84	µg/L	8.774	517.84	ppb	8.774	1.69%
QC value within limits for B 249.677 Recovery = 103.57%								
Ba 233.527†	9874.6	489.53	µg/L	4.116	489.53	ppb	4.116	0.84%
QC value within limits for Ba 233.527 Recovery = 97.91%								
Be 313.107†	96407.6	238.60	µg/L	1.397	238.60	ppb	1.397	0.59%
QC value within limits for Be 313.107 Recovery = 95.44%								
Ca 317.933Radial†	31572.9	5188.5	µg/L	114.51	5188.5	ppb	114.51	2.21%
QC value within limits for Ca 317.933Radial Recovery = 103.77%								
Cd 226.502†	9806.7	494.71	µg/L	2.450	494.71	ppb	2.450	0.50%

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   QC value within limits for Cd 226.502  Recovery = 98.94%
Co 228.616†          2488.8      471.89 µg/L         5.730      471.89 ppb          5.730   1.21%
   QC value within limits for Co 228.616  Recovery = 94.38%
Cr 267.716†          9430.5      488.36 µg/L         3.220      488.36 ppb          3.220   0.66%
   QC value within limits for Cr 267.716  Recovery = 97.67%
Cu 324.752†         15196.1      489.67 µg/L         5.102      489.67 ppb          5.102   1.04%
   QC value within limits for Cu 324.752  Recovery = 97.93%
Fe 238.204 Radial†  15262.8      5260.3 µg/L        110.92      5260.3 ppb         110.92   2.11%
   QC value within limits for Fe 238.204 Radial  Recovery = 105.21%
K 766.490 Radial†    6057.4      2693.4 µg/L         28.05      2693.4 ppb          28.05   1.04%
   QC value within limits for K 766.490 Radial  Recovery = 107.73%
Mg 279.077 IEC†      3306.6      5178.7 µg/L        115.78      5178.7 ppb         115.78   2.24%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.57%
Mn 257.610†         33203.4      485.49 µg/L         4.021      485.49 ppb          4.021   0.83%
   QC value within limits for Mn 257.610  Recovery = 97.10%
Mo 202.031†          2250.2      459.36 µg/L         6.197      459.36 ppb          6.197   1.35%
   QC value within limits for Mo 202.031  Recovery = 91.87%
Na 589.592 Radial†  20785.6      2443.2 µg/L          4.58      2443.2 ppb           4.58   0.19%
   QC value within limits for Na 589.592 Radial  Recovery = 97.73%
Ni 231.604†          4558.8      534.82 µg/L         4.940      534.82 ppb          4.940   0.92%
   QC value within limits for Ni 231.604  Recovery = 106.96%
P 214.914†            376.1      2277.3 µg/L         20.72      2277.3 ppb          20.72   0.91%
   QC value within limits for P 214.914  Recovery = 91.09%
Pb 220.353†           730.5      477.25 µg/L         3.098      477.25 ppb          3.098   0.65%
   QC value within limits for Pb 220.353  Recovery = 95.45%
S 181.975 Axial†      366.7      2344.0 µg/L         24.20      2344.0 ppb          24.20   1.03%
   QC value within limits for S 181.975 Axial  Recovery = 93.76%
Sb 206.836†           282.0      474.78 µg/L         9.422      474.78 ppb          9.422   1.98%
   QC value within limits for Sb 206.836  Recovery = 94.96%
Se 196.026†          1165.1      2456.7 µg/L         19.10      2456.7 ppb          19.10   0.78%
   QC value within limits for Se 196.026  Recovery = 98.27%
SiO2†                9387.4       10766 µg/L         79.36       10766 ppb          79.36   0.74%
   QC value within limits for SiO2  Recovery = 100.66%
Si 251.611†         23578.1      5003.6 µg/L         44.63      5003.6 ppb          44.63   0.89%
   QC value within limits for Si 251.611  Recovery = 100.07%
Sn 189.927†           550.0      493.80 µg/L         5.205      493.80 ppb          5.205   1.05%
   QC value within limits for Sn 189.927  Recovery = 98.76%
Sr 421.552†        381966.3      513.68 µg/L         0.949      513.68 ppb          0.949   0.18%
   QC value within limits for Sr 421.552  Recovery = 102.74%
Ti 334.940†         51025.6      488.67 µg/L         3.342      488.67 ppb          3.342   0.68%
   QC value within limits for Ti 334.940  Recovery = 97.73%
Tl 190.801†           250.0      487.98 µg/L         5.605      487.98 ppb          5.605   1.15%
   QC value within limits for Tl 190.801  Recovery = 97.60%
U 367.007†            725.4      449.74 µg/L        34.474      449.74 ppb         34.474   7.67%
   QC value less than the lower limit for U 367.007  Recovery = 89.95%
V 292.402†            8854.5      482.69 µg/L         4.436      482.69 ppb          4.436   0.92%
   QC value within limits for V 292.402  Recovery = 96.54%
Zn 213.857†           8901.3      481.17 µg/L         4.914      481.17 ppb          4.914   1.02%
   QC value within limits for Zn 213.857  Recovery = 96.23%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 7 **Autosampler Location: 10**
Sample ID: ICB **Date Collected: 11/19/2020 04:47:59**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	63233.4	63233.4	99.236	%	99.236	%	04:48:43
1	Al 396.153Radial†	40.9	43.5	13.587	µg/L	13.587	ppb	04:48:43
1	Ca 317.933Radial†	279.7	48.1	7.8970	µg/L	7.8970	ppb	04:49:03
1	Fe 238.204 Radial†	66.0	14.8	5.0991	µg/L	5.0991	ppb	04:49:03
1	K 766.490 Radial†	-245.1	-27.6	-12.251	µg/L	-12.251	ppb	04:48:43
1	Mg 279.077 IEC†	10.2	5.1	8.0628	µg/L	8.0628	ppb	04:49:03
1	Na 589.592 Radial†	1493.4	33.1	3.8872	µg/L	3.8872	ppb	04:48:43
1	Sr 421.552†	-334.1	119.1	0.1597	µg/L	0.1597	ppb	04:48:43
1	Sc 361.383	207215.2	207215.2	96.969	%	96.969	%	04:49:51
1	Y 371.029	120391.5	120391.5	96.628	%	96.628	%	04:49:51
1	Ag 328.068†	-143.6	5.7	0.2405	µg/L	0.2405	ppb	04:50:11
1	As 188.979†	-1.2	-0.7	-1.7258	µg/L	-1.7258	ppb	04:50:11
1	B 249.677†	170.0	78.4	9.4002	µg/L	9.4002	ppb	04:50:11
1	Ba 233.527†	-36.6	-5.1	-0.2529	µg/L	-0.2529	ppb	04:50:11
1	Be 313.107†	90.2	332.7	0.8174	µg/L	0.8174	ppb	04:49:51
1	Cd 226.502†	-49.9	8.8	0.4445	µg/L	0.4445	ppb	04:50:11
1	Co 228.616†	-18.5	-2.9	-0.5500	µg/L	-0.5500	ppb	04:50:11
1	Cr 267.716†	56.6	2.1	0.1065	µg/L	0.1065	ppb	04:50:11
1	Cu 324.752†	317.9	32.3	1.0145	µg/L	1.0145	ppb	04:50:11
1	Mn 257.610†	-14.5	6.4	0.0938	µg/L	0.0938	ppb	04:50:11
1	Mo 202.031†	25.6	-1.5	-0.3061	µg/L	-0.3061	ppb	04:50:11
1	Ni 231.604†	-54.1	-2.7	-0.3152	µg/L	-0.3152	ppb	04:50:11
1	P 214.914†	41.2	-2.4	-14.815	µg/L	-14.815	ppb	04:50:11
1	Pb 220.353†	12.5	3.3	2.2063	µg/L	2.2063	ppb	04:50:11
1	S 181.975 Axial†	1.5	-0.9	-5.8706	µg/L	-5.8706	ppb	04:50:11
1	Sb 206.836†	34.6	5.2	8.6219	µg/L	8.6219	ppb	04:50:11
1	Se 196.026†	25.9	-1.0	-2.0246	µg/L	-2.0246	ppb	04:50:11
1	SiO2†	163.8	3.9	4.4955	µg/L	4.4955	ppb	04:50:11
1	Si 251.611†	118.7	-4.0	-0.8508	µg/L	-0.8508	ppb	04:50:11
1	Sn 189.927†	16.8	6.3	5.6254	µg/L	5.6254	ppb	04:50:11
1	Ti 334.940†	19.8	4.7	0.0453	µg/L	0.0453	ppb	04:50:11
1	Tl 190.801†	-11.2	-1.2	-2.3050	µg/L	-2.3050	ppb	04:50:11
1	U 367.007†	-54.1	-30.6	-19.743	µg/L	-19.743	ppb	04:49:51
1	V 292.402†	-9.7	0.6	0.0173	µg/L	0.0173	ppb	04:50:11
1	Zn 213.857†	-21.5	2.3	0.1246	µg/L	0.1246	ppb	04:50:11
2	Sc RADIAL	62364.6	62364.6	97.873	%	97.873	%	04:49:06
2	Al 396.153Radial†	-32.5	-31.0	-9.7240	µg/L	-9.7240	ppb	04:49:06
2	Ca 317.933Radial†	241.0	12.5	2.0547	µg/L	2.0547	ppb	04:49:26
2	Fe 238.204 Radial†	55.4	5.0	1.7112	µg/L	1.7112	ppb	04:49:26
2	K 766.490 Radial†	-137.6	78.8	35.033	µg/L	35.033	ppb	04:49:06
2	Mg 279.077 IEC†	-0.5	-5.7	-8.8698	µg/L	-8.8698	ppb	04:49:26
2	Na 589.592 Radial†	1455.7	15.4	1.8148	µg/L	1.8148	ppb	04:49:06
2	Sr 421.552†	-451.4	-5.5	-0.0076	µg/L	-0.0076	ppb	04:49:06
2	Sc 361.383	195348.1	195348.1	91.416	%	91.416	%	04:50:14
2	Y 371.029	114113.1	114113.1	91.589	%	91.589	%	04:50:14
2	Ag 328.068†	-144.5	-4.2	-0.1486	µg/L	-0.1486	ppb	04:50:34
2	As 188.979†	-1.8	-1.3	-3.3298	µg/L	-3.3298	ppb	04:50:34
2	B 249.677†	173.1	92.4	11.067	µg/L	11.067	ppb	04:50:34
2	Ba 233.527†	-34.8	-5.5	-0.2714	µg/L	-0.2714	ppb	04:50:34
2	Be 313.107†	-222.2	-3.5	-0.0080	µg/L	-0.0080	ppb	04:50:14
2	Cd 226.502†	-55.7	-0.7	-0.0352	µg/L	-0.0352	ppb	04:50:34
2	Co 228.616†	-12.9	2.1	0.3974	µg/L	0.3974	ppb	04:50:34
2	Cr 267.716†	62.9	12.5	0.6452	µg/L	0.6452	ppb	04:50:34
2	Cu 324.752†	314.3	48.3	1.5343	µg/L	1.5343	ppb	04:50:34
2	Mn 257.610†	-15.8	4.1	0.0601	µg/L	0.0601	ppb	04:50:34
2	Mo 202.031†	28.4	3.2	0.6603	µg/L	0.6603	ppb	04:50:34
2	Ni 231.604†	-54.6	-6.6	-0.7775	µg/L	-0.7775	ppb	04:50:34

2	P 214.914†	48.0	7.5	46.298 µg/L	46.298 ppb	04:50:34
2	Pb 220.353†	12.0	3.6	2.3968 µg/L	2.3968 ppb	04:50:34
2	S 181.975 Axial†	2.4	0.2	1.0746 µg/L	1.0746 ppb	04:50:34
2	Sb 206.836†	34.7	7.4	12.309 µg/L	12.309 ppb	04:50:34
2	Se 196.026†	34.8	10.4	21.937 µg/L	21.937 ppb	04:50:34
2	SiO2†	170.2	21.2	24.316 µg/L	24.316 ppb	04:50:34
2	Si 251.611†	137.9	24.4	5.1799 µg/L	5.1799 ppb	04:50:34
2	Sn 189.927†	18.2	9.0	8.0117 µg/L	8.0117 ppb	04:50:34
2	Ti 334.940†	28.0	14.9	0.1424 µg/L	0.1424 ppb	04:50:34
2	Tl 190.801†	-8.6	0.9	1.7025 µg/L	1.7025 ppb	04:50:34
2	U 367.007†	-42.3	-21.0	-13.565 µg/L	-13.565 ppb	04:50:14
2	V 292.402†	-2.6	7.7	0.4125 µg/L	0.4125 ppb	04:50:34
2	Zn 213.857†	-17.0	5.8	0.3177 µg/L	0.3177 ppb	04:50:34
3	Sc RADIAL	61094.3	61094.3	95.879 %	95.879 %	04:49:28
3	Al 396.153Radial†	-53.5	-53.6	-16.784 µg/L	-16.784 ppb	04:49:28
3	Ca 317.933Radial†	234.5	10.8	1.7724 µg/L	1.7724 ppb	04:49:48
3	Fe 238.204 Radial†	48.5	-1.1	-0.3765 µg/L	-0.3765 ppb	04:49:48
3	K 766.490 Radial†	-465.0	-265.5	-118.01 µg/L	-118.01 ppb	04:49:28
3	Mg 279.077 IEC†	10.6	5.9	9.2700 µg/L	9.2700 ppb	04:49:48
3	Na 589.592 Radial†	1428.5	18.1	2.1249 µg/L	2.1249 ppb	04:49:28
3	Sr 421.552†	-381.4	57.9	0.0780 µg/L	0.0780 ppb	04:49:28
3	Sc 361.383	194795.9	194795.9	91.157 %	91.157 %	04:50:36
3	Y 371.029	113735.3	113735.3	91.286 %	91.286 %	04:50:36
3	Ag 328.068†	-141.1	-1.1	-0.0516 µg/L	-0.0516 ppb	04:50:56
3	As 188.979†	-2.2	-1.8	-4.5408 µg/L	-4.5408 ppb	04:50:56
3	B 249.677†	153.7	71.8	8.5863 µg/L	8.5863 ppb	04:50:56
3	Ba 233.527†	-26.1	4.0	0.1957 µg/L	0.1957 ppb	04:50:56
3	Be 313.107†	-205.8	13.9	0.0342 µg/L	0.0342 ppb	04:50:36
3	Cd 226.502†	-53.5	1.7	0.0835 µg/L	0.0835 ppb	04:50:56
3	Co 228.616†	-18.4	-4.0	-0.7634 µg/L	-0.7634 ppb	04:50:56
3	Cr 267.716†	51.9	0.6	0.0328 µg/L	0.0328 ppb	04:50:56
3	Cu 324.752†	299.9	33.5	1.0920 µg/L	1.0920 ppb	04:50:56
3	Mn 257.610†	-21.9	-2.6	-0.0382 µg/L	-0.0382 ppb	04:50:56
3	Mo 202.031†	29.4	4.4	0.9079 µg/L	0.9079 ppb	04:50:56
3	Ni 231.604†	-54.8	-7.0	-0.8269 µg/L	-0.8269 ppb	04:50:56
3	P 214.914†	47.8	7.5	46.298 µg/L	46.298 ppb	04:50:56
3	Pb 220.353†	1.4	-8.0	-5.2213 µg/L	-5.2213 ppb	04:50:56
3	S 181.975 Axial†	2.2	-0.1	-0.7179 µg/L	-0.7179 ppb	04:50:56
3	Sb 206.836†	35.7	8.6	14.258 µg/L	14.258 ppb	04:50:56
3	Se 196.026†	21.7	-3.8	-8.0635 µg/L	-8.0635 ppb	04:50:56
3	SiO2†	173.9	25.7	29.483 µg/L	29.483 ppb	04:50:56
3	Si 251.611†	135.6	22.3	4.7171 µg/L	4.7171 ppb	04:50:56
3	Sn 189.927†	20.6	11.6	10.351 µg/L	10.351 ppb	04:50:56
3	Ti 334.940†	18.9	5.1	0.0482 µg/L	0.0482 ppb	04:50:56
3	Tl 190.801†	-9.4	0.0	0.0690 µg/L	0.0690 ppb	04:50:56
3	U 367.007†	-8.2	16.2	10.469 µg/L	10.469 ppb	04:50:36
3	V 292.402†	-13.8	-4.5	-0.2370 µg/L	-0.2370 ppb	04:50:56
3	Zn 213.857†	-16.8	6.0	0.3323 µg/L	0.3323 ppb	04:50:56

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	199119.8	93.181	%	3.2834	93.181	%	3.2834	3.52%
Sc RADIAL	62230.8	97.663	%	1.6883	97.663	%	1.6883	1.73%
Y 371.029	116080.0	93.167	%	3.0007	93.167	%	3.0007	3.22%
Ag 328.068†	0.1	0.0134	µg/L	0.20251	0.0134	ppb	0.20251	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-13.7	-4.3070	µg/L	15.89325	-4.3070	ppb	15.89325	369.01%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-1.3	-3.1988	µg/L	1.41206	-3.1988	ppb	1.41206	44.14%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	80.9	9.6845	µg/L	1.26450	9.6845	ppb	1.26450	13.06%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-2.2	-0.1095	µg/L	0.26454	-0.1095	ppb	0.26454	241.51%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	114.3	0.2812	µg/L	0.46487	0.2812	ppb	0.46487	165.31%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	23.8	3.9080	µg/L	3.45738	3.9080	ppb	3.45738	88.47%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	3.3	0.1642	µg/L	0.24982	0.1642	ppb	0.24982	152.10%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              -1.6     -0.3053 µg/L       0.61785     -0.3053 ppb        0.61785 202.36%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               5.0      0.2615 µg/L       0.33435      0.2615 ppb        0.33435 127.86%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†              38.0      1.2136 µg/L       0.28039      1.2136 ppb        0.28039  23.10%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†        6.2      2.1446 µg/L       2.76339      2.1446 ppb        2.76339 128.85%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†       -71.4     -31.742 µg/L       78.3596     -31.742 ppb        78.3596 246.87%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           1.8      2.8210 µg/L      10.14252      2.8210 ppb       10.14252 359.53%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               2.6      0.0386 µg/L       0.06858      0.0386 ppb        0.06858 177.77%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               2.1      0.4207 µg/L       0.64150      0.4207 ppb        0.64150 152.49%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†       22.2      2.6090 µg/L       1.11783      2.6090 ppb        1.11783  42.85%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              -5.5     -0.6398 µg/L       0.28222     -0.6398 ppb        0.28222  44.11%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                4.2      25.927 µg/L       35.2839      25.927 ppb        35.2839 136.09%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†              -0.3     -0.2060 µg/L       4.34435     -0.2060 ppb        4.34435 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         -0.3     -1.8380 µg/L       3.60553     -1.8380 ppb        3.60553 196.17%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               7.1      11.730 µg/L        2.8623      11.730 ppb         2.8623  24.40%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               1.9      3.9497 µg/L      15.86750      3.9497 ppb       15.86750 401.74%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    16.9      19.432 µg/L       13.1906      19.432 ppb        13.1906  67.88%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              14.2      3.0154 µg/L       3.35624      3.0154 ppb        3.35624 111.30%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               9.0      7.9960 µg/L       2.36273      7.9960 ppb        2.36273  29.55%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†              57.2      0.0767 µg/L       0.08365      0.0767 ppb        0.08365 109.05%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               8.2      0.0786 µg/L       0.05523      0.0786 ppb        0.05523  70.23%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -0.1     -0.1778 µg/L       2.01514     -0.1778 ppb        2.01514 >999.9%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†              -11.8     -7.6131 µg/L      15.96138     -7.6131 ppb       15.96138 209.66%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†                1.3      0.0643 µg/L       0.32733      0.0643 ppb        0.32733 509.44%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               4.7      0.2582 µg/L       0.11592      0.2582 ppb        0.11592  44.90%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Batch ID:
Sequence No.: 8 **Autosampler Location: 101**
Sample ID: PQL **Date Collected: 11/19/2020 04:51:26**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	69829.7	69829.7	109.59	%	109.59	%	04:52:11
1	Al 396.153Radial†	649.0	594.4	185.20	µg/L	185.20	ppb	04:52:31
1	Ca 317.933Radial†	1493.6	1129.2	185.56	µg/L	185.56	ppb	04:52:31
1	Fe 238.204 Radial†	360.8	277.6	95.646	µg/L	95.646	ppb	04:52:31
1	K 766.490 Radial†	-7.1	213.0	94.668	µg/L	94.668	ppb	04:52:11
1	Mg 279.077 IEC†	197.1	174.8	273.61	µg/L	273.61	ppb	04:52:31
1	Na 589.592 Radial†	4212.6	2372.2	278.92	µg/L	278.92	ppb	04:52:11
1	Sr 421.552†	3645.5	3782.2	5.0812	µg/L	5.0812	ppb	04:52:11
1	Sc 361.383	192752.8	192752.8	90.201	%	90.201	%	04:53:19
1	Y 371.029	112635.3	112635.3	90.403	%	90.403	%	04:53:19
1	Ag 328.068†	-10.2	142.5	5.4602	µg/L	5.4602	ppb	04:53:39
1	As 188.979†	10.5	12.3	30.638	µg/L	30.638	ppb	04:53:39
1	B 249.677†	620.8	591.4	71.076	µg/L	71.076	ppb	04:53:39
1	Ba 233.527†	67.2	107.0	5.3042	µg/L	5.3042	ppb	04:53:39
1	Be 313.107†	1545.7	1953.2	4.8194	µg/L	4.8194	ppb	04:53:19
1	Cd 226.502†	39.9	104.5	5.2656	µg/L	5.2656	ppb	04:53:39
1	Co 228.616†	10.5	27.8	5.2706	µg/L	5.2706	ppb	04:53:39
1	Cr 267.716†	259.7	231.6	11.995	µg/L	11.995	ppb	04:53:39
1	Cu 324.752†	968.1	777.7	25.061	µg/L	25.061	ppb	04:53:39
1	Mn 257.610†	668.4	762.4	11.147	µg/L	11.147	ppb	04:53:39
1	Mo 202.031†	69.9	49.6	10.133	µg/L	10.133	ppb	04:53:39
1	Ni 231.604†	-8.7	43.5	5.1025	µg/L	5.1025	ppb	04:53:39
1	P 214.914†	66.9	29.3	178.57	µg/L	178.57	ppb	04:53:39
1	Pb 220.353†	30.4	24.2	15.796	µg/L	15.796	ppb	04:53:39
1	S 181.975 Axial†	20.9	20.7	132.38	µg/L	132.38	ppb	04:53:39
1	Sb 206.836†	44.4	18.7	31.148	µg/L	31.148	ppb	04:53:39
1	Se 196.026†	33.8	9.8	20.716	µg/L	20.716	ppb	04:53:39
1	SiO2†	352.5	225.8	258.96	µg/L	258.96	ppb	04:53:39
1	Si 251.611†	602.9	541.9	115.02	µg/L	115.02	ppb	04:53:39
1	Sn 189.927†	25.2	17.0	15.191	µg/L	15.191	ppb	04:53:39
1	Ti 334.940†	562.5	607.9	5.8193	µg/L	5.8193	ppb	04:53:39
1	Tl 190.801†	0.4	10.7	20.899	µg/L	20.899	ppb	04:53:39
1	U 367.007†	24.7	52.6	33.550	µg/L	33.550	ppb	04:53:19
1	V 292.402†	81.4	100.8	5.5313	µg/L	5.5313	ppb	04:53:39
1	Zn 213.857†	369.1	433.6	23.586	µg/L	23.586	ppb	04:53:39
2	Sc RADIAL	63761.5	63761.5	100.07	%	100.07	%	04:52:33
2	Al 396.153Radial†	627.7	629.5	196.21	µg/L	196.21	ppb	04:52:53
2	Ca 317.933Radial†	1467.8	1233.1	202.63	µg/L	202.63	ppb	04:52:53
2	Fe 238.204 Radial†	346.8	295.0	101.62	µg/L	101.62	ppb	04:52:53
2	K 766.490 Radial†	-42.4	177.0	78.708	µg/L	78.708	ppb	04:52:33
2	Mg 279.077 IEC†	210.0	204.7	320.52	µg/L	320.52	ppb	04:52:53
2	Na 589.592 Radial†	3880.6	2406.2	282.92	µg/L	282.92	ppb	04:52:33
2	Sr 421.552†	3329.8	3783.3	5.0820	µg/L	5.0820	ppb	04:52:33
2	Sc 361.383	190792.5	190792.5	89.284	%	89.284	%	04:53:41
2	Y 371.029	111305.4	111305.4	89.335	%	89.335	%	04:53:41
2	Ag 328.068†	-2.6	150.8	5.7501	µg/L	5.7501	ppb	04:54:01
2	As 188.979†	8.8	10.5	26.142	µg/L	26.142	ppb	04:54:01
2	B 249.677†	608.2	584.3	70.243	µg/L	70.243	ppb	04:54:01
2	Ba 233.527†	70.0	111.0	5.4998	µg/L	5.4998	ppb	04:54:01
2	Be 313.107†	1522.8	1945.2	4.8001	µg/L	4.8001	ppb	04:53:41
2	Cd 226.502†	37.3	102.0	5.1424	µg/L	5.1424	ppb	04:54:01
2	Co 228.616†	9.0	26.3	4.9898	µg/L	4.9898	ppb	04:54:01
2	Cr 267.716†	249.7	223.4	11.568	µg/L	11.568	ppb	04:54:01
2	Cu 324.752†	975.7	797.3	25.729	µg/L	25.729	ppb	04:54:01
2	Mn 257.610†	666.5	767.9	11.228	µg/L	11.228	ppb	04:54:01
2	Mo 202.031†	66.2	46.3	9.4550	µg/L	9.4550	ppb	04:54:01
2	Ni 231.604†	-16.6	34.5	4.0440	µg/L	4.0440	ppb	04:54:01

2	P 214.914†	68.9	32.2	196.81 µg/L	196.81 ppb	04:54:01
2	Pb 220.353†	33.7	28.2	18.355 µg/L	18.355 ppb	04:54:01
2	S 181.975 Axial†	16.4	15.9	101.50 µg/L	101.50 ppb	04:54:01
2	Sb 206.836†	46.1	21.2	35.233 µg/L	35.233 ppb	04:54:01
2	Se 196.026†	40.5	17.7	37.340 µg/L	37.340 ppb	04:54:01
2	SiO2†	357.5	235.4	269.96 µg/L	269.96 ppb	04:54:01
2	Si 251.611†	584.2	527.9	112.05 µg/L	112.05 ppb	04:54:01
2	Sn 189.927†	30.6	23.3	20.862 µg/L	20.862 ppb	04:54:01
2	Ti 334.940†	561.8	613.5	5.8730 µg/L	5.8730 ppb	04:54:01
2	Tl 190.801†	-5.2	4.5	8.7205 µg/L	8.7205 ppb	04:54:01
2	U 367.007†	65.9	99.0	63.449 µg/L	63.449 ppb	04:53:41
2	V 292.402†	84.1	104.8	5.7675 µg/L	5.7675 ppb	04:54:01
2	Zn 213.857†	364.8	433.0	23.556 µg/L	23.556 ppb	04:54:01
3	Sc RADIAL	64377.7	64377.7	101.03 %	101.03 %	04:52:55
3	Al 396.153Radial†	604.6	600.7	187.19 µg/L	187.19 ppb	04:53:15
3	Ca 317.933Radial†	1429.5	1181.1	194.10 µg/L	194.10 ppb	04:53:15
3	Fe 238.204 Radial†	337.4	282.4	97.257 µg/L	97.257 ppb	04:53:15
3	K 766.490 Radial†	106.9	325.3	144.57 µg/L	144.57 ppb	04:52:55
3	Mg 279.077 IEC†	196.1	189.0	295.84 µg/L	295.84 ppb	04:53:15
3	Na 589.592 Radial†	3968.2	2455.8	288.76 µg/L	288.76 ppb	04:52:55
3	Sr 421.552†	3401.1	3822.1	5.1347 µg/L	5.1347 ppb	04:52:55
3	Sc 361.383	195576.2	195576.2	91.523 %	91.523 %	04:54:03
3	Y 371.029	114364.9	114364.9	91.791 %	91.791 %	04:54:03
3	Ag 328.068†	-14.4	138.1	5.2692 µg/L	5.2692 ppb	04:54:23
3	As 188.979†	8.9	10.3	25.674 µg/L	25.674 ppb	04:54:23
3	B 249.677†	612.9	572.8	68.853 µg/L	68.853 ppb	04:54:23
3	Ba 233.527†	68.1	107.0	5.3003 µg/L	5.3003 ppb	04:54:23
3	Be 313.107†	1591.9	1979.0	4.8834 µg/L	4.8834 ppb	04:54:03
3	Cd 226.502†	37.4	101.2	5.1000 µg/L	5.1000 ppb	04:54:23
3	Co 228.616†	2.1	18.5	3.5171 µg/L	3.5171 ppb	04:54:23
3	Cr 267.716†	252.6	219.7	11.375 µg/L	11.375 ppb	04:54:23
3	Cu 324.752†	967.4	761.5	24.564 µg/L	24.564 ppb	04:54:23
3	Mn 257.610†	685.5	770.4	11.265 µg/L	11.265 ppb	04:54:23
3	Mo 202.031†	68.5	47.0	9.5963 µg/L	9.5963 ppb	04:54:23
3	Ni 231.604†	-9.8	42.4	4.9689 µg/L	4.9689 ppb	04:54:23
3	P 214.914†	69.3	30.7	187.55 µg/L	187.55 ppb	04:54:23
3	Pb 220.353†	36.9	30.8	20.094 µg/L	20.094 ppb	04:54:23
3	S 181.975 Axial†	16.5	15.5	98.986 µg/L	98.986 ppb	04:54:23
3	Sb 206.836†	43.9	17.4	29.049 µg/L	29.049 ppb	04:54:23
3	Se 196.026†	42.1	18.4	38.823 µg/L	38.823 ppb	04:54:23
3	SiO2†	363.8	232.6	266.73 µg/L	266.73 ppb	04:54:23
3	Si 251.611†	609.0	539.0	114.41 µg/L	114.41 ppb	04:54:23
3	Sn 189.927†	32.1	24.1	21.531 µg/L	21.531 ppb	04:54:23
3	Ti 334.940†	584.6	623.0	5.9642 µg/L	5.9642 ppb	04:54:23
3	Tl 190.801†	0.6	11.0	21.344 µg/L	21.344 ppb	04:54:23
3	U 367.007†	50.9	80.8	51.742 µg/L	51.742 ppb	04:54:03
3	V 292.402†	71.3	88.5	4.8731 µg/L	4.8731 ppb	04:54:23
3	Zn 213.857†	379.0	438.5	23.853 µg/L	23.853 ppb	04:54:23

Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	193040.5	90.336	%	1.1253	90.336	%	1.1253	1.25%
Sc RADIAL	65989.6	103.56	%	5.241	103.56	%	5.241	5.06%
Y 371.029	112768.5	90.510	%	1.2313	90.510	%	1.2313	1.36%
Ag 328.068†	143.8	5.4932	µg/L	0.24215	5.4932	ppb	0.24215	4.41%
QC value within limits for Ag 328.068 Recovery = 109.86%								
Al 396.153Radial†	608.2	189.53	µg/L	5.866	189.53	ppb	5.866	3.09%
QC value within limits for Al 396.153Radial Recovery = 94.77%								
As 188.979†	11.0	27.485	µg/L	2.7409	27.485	ppb	2.7409	9.97%
QC value within limits for As 188.979 Recovery = 91.62%								
B 249.677†	582.8	70.057	µg/L	1.1233	70.057	ppb	1.1233	1.60%
QC value greater than the upper limit for B 249.677 Recovery = 140.11%								
Ba 233.527†	108.3	5.3681	µg/L	0.11404	5.3681	ppb	0.11404	2.12%
QC value within limits for Ba 233.527 Recovery = 107.36%								
Be 313.107†	1959.1	4.8343	µg/L	0.04360	4.8343	ppb	0.04360	0.90%
QC value within limits for Be 313.107 Recovery = 96.69%								
Ca 317.933Radial†	1181.1	194.10	µg/L	8.538	194.10	ppb	8.538	4.40%
QC value within limits for Ca 317.933Radial Recovery = 97.05%								
Cd 226.502†	102.6	5.1693	µg/L	0.08605	5.1693	ppb	0.08605	1.66%

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   QC value within limits for Cd 226.502  Recovery = 103.39%
Co 228.616†              24.2      4.5925 µg/L       0.94183      4.5925 ppb        0.94183  20.51%
   QC value within limits for Co 228.616  Recovery = 91.85%
Cr 267.716†             224.9      11.646 µg/L        0.3169      11.646 ppb         0.3169   2.72%
   QC value within limits for Cr 267.716  Recovery = 116.46%
Cu 324.752†             778.8      25.118 µg/L        0.5849      25.118 ppb         0.5849   2.33%
   QC value within limits for Cu 324.752  Recovery = 125.59%
Fe 238.204 Radial†      285.0      98.174 µg/L        3.0897      98.174 ppb         3.0897   3.15%
   QC value within limits for Fe 238.204 Radial  Recovery = 98.17%
K 766.490 Radial†       238.4      105.98 µg/L        34.361      105.98 ppb         34.361  32.42%
   QC value within limits for K 766.490 Radial  Recovery = 70.66%
Mg 279.077 IEC†         189.5      296.66 µg/L        23.468      296.66 ppb         23.468   7.91%
   QC value within limits for Mg 279.077 IEC  Recovery = 98.89%
Mn 257.610†             766.9      11.214 µg/L        0.0602      11.214 ppb         0.0602   0.54%
   QC value within limits for Mn 257.610  Recovery = 112.14%
Mo 202.031†              47.7      9.7280 µg/L       0.35766      9.7280 ppb        0.35766   3.68%
   QC value within limits for Mo 202.031  Recovery = 97.28%
Na 589.592 Radial†     2411.4      283.53 µg/L         4.946      283.53 ppb          4.946   1.74%
   QC value within limits for Na 589.592 Radial  Recovery = 94.51%
Ni 231.604†              40.1      4.7051 µg/L       0.57644      4.7051 ppb        0.57644  12.25%
   QC value within limits for Ni 231.604  Recovery = 94.10%
P 214.914†               30.7      187.64 µg/L         9.119      187.64 ppb          9.119   4.86%
   QC value within limits for P 214.914  Recovery = 125.10%
Pb 220.353†              27.8      18.082 µg/L        2.1621      18.082 ppb         2.1621  11.96%
   QC value within limits for Pb 220.353  Recovery = 90.41%
S 181.975 Axial†         17.4      110.95 µg/L        18.600      110.95 ppb         18.600  16.76%
   QC value within limits for S 181.975 Axial  Recovery = 110.95%
Sb 206.836†              19.1      31.810 µg/L        3.1448      31.810 ppb         3.1448   9.89%
   QC value greater than the upper limit for Sb 206.836  Recovery = 159.05%
Se 196.026†              15.3      32.293 µg/L       10.0533      32.293 ppb        10.0533  31.13%
   QC value within limits for Se 196.026  Recovery = 107.64%
SiO2†                   231.2      265.21 µg/L         5.655      265.21 ppb          5.655   2.13%
   QC value within limits for SiO2  Recovery = 124.51%
Si 251.611†             536.3      113.83 µg/L         1.565      113.83 ppb          1.565   1.37%
   QC value within limits for Si 251.611  Recovery = 113.83%
Sn 189.927†              21.5      19.195 µg/L        3.4833      19.195 ppb         3.4833  18.15%
   QC value greater than the upper limit for Sn 189.927  Recovery = 191.95%
Sr 421.552†             3795.9      5.0993 µg/L       0.03066      5.0993 ppb        0.03066   0.60%
   QC value within limits for Sr 421.552  Recovery = 101.99%
Ti 334.940†             614.8      5.8855 µg/L       0.07324      5.8855 ppb        0.07324   1.24%
   QC value within limits for Ti 334.940  Recovery = 117.71%
Tl 190.801†               8.7      16.988 µg/L        7.1633      16.988 ppb         7.1633  42.17%
   QC value within limits for Tl 190.801  Recovery = 84.94%
U 367.007†               77.5      49.580 µg/L       15.0664      49.580 ppb        15.0664  30.39%
   QC value within limits for U 367.007  Recovery = 99.16%
V 292.402†               98.0      5.3907 µg/L       0.46350      5.3907 ppb        0.46350   8.60%
   QC value within limits for V 292.402  Recovery = 107.81%
Zn 213.857†             435.0      23.665 µg/L        0.1636      23.665 ppb         0.1636   0.69%
   QC value within limits for Zn 213.857  Recovery = 118.33%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 9 **Autosampler Location: 103**
Sample ID: ICSA **Date Collected: 11/19/2020 04:54:55**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	64986.1	64986.1	101.99	%	101.99	%	04:55:41
1	Al 396.153Radial†	1694590.5	1661579.0	518930	µg/L	518930	ppb	04:55:39
1	Ca 317.933Radial†	2992182.9	2933655.8	482100	µg/L	482100	ppb	04:55:39
1	Fe 238.204 Radial†	593074.4	581468.6	200210	µg/L	200210	ppb	04:55:41
1	K 766.490 Radial†	-431.6	-203.7	-37.765	µg/L	-37.765	ppb	04:55:41
1	Mg 279.077 IEC†	329607.7	323181.2	506020	µg/L	506020	ppb	04:55:41
1	Na 589.592 Radial†	2188.2	673.7	43.324	µg/L	43.324	ppb	04:55:41
1	Sr 421.552†	15222.2	15381.3	-3.3457	µg/L	-3.3457	ppb	04:55:41
1	Sc 361.383	199475.0	199475.0	93.347	%	93.347	%	04:55:53
1	Y 371.029	115698.1	115698.1	92.861	%	92.861	%	04:55:53
1	Ag 328.068†	-217.6	-79.3	0.3965	µg/L	0.3965	ppb	04:56:13
1	As 188.979†	-5.2	-4.9	-4.8032	µg/L	-4.8032	ppb	04:56:13
1	B 249.677†	-4549.1	-4970.2	25.927	µg/L	25.927	ppb	04:55:53
1	Ba 233.527†	265.8	317.3	-0.1453	µg/L	-0.1453	ppb	04:56:13
1	Be 313.107†	-272.1	-51.9	-0.1432	µg/L	-0.1432	ppb	04:56:13
1	Cd 226.502†	416.8	506.8	1.9702	µg/L	1.9702	ppb	04:56:13
1	Co 228.616†	6.7	23.4	0.8957	µg/L	0.8957	ppb	04:56:13
1	Cr 267.716†	60.5	8.5	0.3002	µg/L	0.3002	ppb	04:56:13
1	Cu 324.752†	-298.1	-614.9	-4.0504	µg/L	-4.0504	ppb	04:56:13
1	Mn 257.610†	-50.2	-32.4	-2.8910	µg/L	-2.8910	ppb	04:55:53
1	Mo 202.031†	-2.3	-30.4	-8.6737	µg/L	-8.6737	ppb	04:56:13
1	Ni 231.604†	-55.8	-6.7	0.7813	µg/L	0.7813	ppb	04:56:13
1	P 214.914†	3.9	-40.8	-21.921	µg/L	-21.921	ppb	04:56:13
1	Pb 220.353†	-36.9	-49.0	3.0075	µg/L	3.0075	ppb	04:56:13
1	S 181.975 Axial†	1.8	-0.6	25.566	µg/L	25.566	ppb	04:56:13
1	Sb 206.836†	22.3	-6.7	3.2347	µg/L	3.2347	ppb	04:56:13
1	Se 196.026†	-19.0	-48.0	-8.4629	µg/L	-8.4629	ppb	04:56:13
1	SiO2†	148.3	-6.2	-6.9240	µg/L	-6.9240	ppb	04:56:13
1	Si 251.611†	176.0	62.0	-53.251	µg/L	-53.251	ppb	04:56:13
1	Sn 189.927†	36.2	27.7	-0.6768	µg/L	-0.6768	ppb	04:56:13
1	Ti 334.940†	-411.2	-456.2	0.1873	µg/L	0.1873	ppb	04:55:53
1	Tl 190.801†	-18.5	-9.5	-11.082	µg/L	-11.082	ppb	04:56:13
1	U 367.007†	838.3	923.3	-75.294	µg/L	-75.294	ppb	04:55:53
1	V 292.402†	-93.8	-89.9	-3.0451	µg/L	-3.0451	ppb	04:56:13
1	Zn 213.857†	508.7	569.3	2.8631	µg/L	2.8631	ppb	04:56:13
2	Sc RADIAL	66378.6	66378.6	104.17	%	104.17	%	04:55:45
2	Al 396.153Radial†	1680826.9	1613509.7	503920	µg/L	503920	ppb	04:55:43
2	Ca 317.933Radial†	2964251.0	2845295.0	467580	µg/L	467580	ppb	04:55:43
2	Fe 238.204 Radial†	606191.5	581861.1	200350	µg/L	200350	ppb	04:55:45
2	K 766.490 Radial†	-296.5	-65.1	23.860	µg/L	23.860	ppb	04:55:45
2	Mg 279.077 IEC†	336681.9	323192.2	506030	µg/L	506030	ppb	04:55:45
2	Na 589.592 Radial†	2085.6	530.2	26.426	µg/L	26.426	ppb	04:55:45
2	Sr 421.552†	15376.6	15216.4	-3.5840	µg/L	-3.5840	ppb	04:55:45
2	Sc 361.383	205372.3	205372.3	96.107	%	96.107	%	04:56:16
2	Y 371.029	118946.3	118946.3	95.468	%	95.468	%	04:56:16
2	Ag 328.068†	-203.9	-58.3	1.2690	µg/L	1.2690	ppb	04:56:36
2	As 188.979†	-0.5	0.0	7.5922	µg/L	7.5922	ppb	04:56:36
2	B 249.677†	-4612.3	-4896.0	35.225	µg/L	35.225	ppb	04:56:16
2	Ba 233.527†	239.7	282.0	-1.9044	µg/L	-1.9044	ppb	04:56:36
2	Be 313.107†	-288.5	-60.6	-0.1668	µg/L	-0.1668	ppb	04:56:36
2	Cd 226.502†	400.8	477.3	0.4675	µg/L	0.4675	ppb	04:56:36
2	Co 228.616†	10.7	27.3	1.6344	µg/L	1.6344	ppb	04:56:36
2	Cr 267.716†	58.0	4.0	0.0678	µg/L	0.0678	ppb	04:56:36
2	Cu 324.752†	-306.3	-614.2	-4.0972	µg/L	-4.0972	ppb	04:56:36
2	Mn 257.610†	-37.9	-18.0	-2.6819	µg/L	-2.6819	ppb	04:56:16
2	Mo 202.031†	-2.9	-30.8	-8.7696	µg/L	-8.7696	ppb	04:56:36
2	Ni 231.604†	-56.5	-5.7	0.8957	µg/L	0.8957	ppb	04:56:36

2	P 214.914†	12.0	-32.5	13.284 µg/L	13.284 ppb	04:56:36
2	Pb 220.353†	-27.0	-37.6	10.563 µg/L	10.563 ppb	04:56:36
2	S 181.975 Axial†	-3.3	-6.0	-8.7137 µg/L	-8.7137 ppb	04:56:36
2	Sb 206.836†	29.5	0.2	14.597 µg/L	14.597 ppb	04:56:36
2	Se 196.026†	-21.8	-50.3	-13.229 µg/L	-13.229 ppb	04:56:36
2	SiO2†	162.9	4.5	5.3567 µg/L	5.3567 ppb	04:56:36
2	Si 251.611†	168.8	49.2	-56.031 µg/L	-56.031 ppb	04:56:36
2	Sn 189.927†	49.3	40.3	9.4251 µg/L	9.4251 ppb	04:56:36
2	Ti 334.940†	-486.5	-521.9	0.1623 µg/L	0.1623 ppb	04:56:16
2	Tl 190.801†	-6.9	3.1	13.506 µg/L	13.506 ppb	04:56:36
2	U 367.007†	774.5	831.1	-135.14 µg/L	-135.14 ppb	04:56:16
2	V 292.402†	-81.2	-73.9	-2.2150 µg/L	-2.2150 ppb	04:56:36
2	Zn 213.857†	477.5	521.2	0.2193 µg/L	0.2193 ppb	04:56:36
3	Sc RADIAL	64836.2	64836.2	101.75 %	101.75 %	04:55:50
3	Al 396.153Radial†	1680752.5	1651820.4	515890 µg/L	515890 ppb	04:55:48
3	Ca 317.933Radial†	2963574.9	2912322.8	478590 µg/L	478590 ppb	04:55:48
3	Fe 238.204 Radial†	585245.1	575118.4	198020 µg/L	198020 ppb	04:55:50
3	K 766.490 Radial†	-283.2	-58.8	26.055 µg/L	26.055 ppb	04:55:50
3	Mg 279.077 IEC†	325377.3	319770.8	500680 µg/L	500680 ppb	04:55:50
3	Na 589.592 Radial†	2192.2	682.6	44.759 µg/L	44.759 ppb	04:55:50
3	Sr 421.552†	15016.2	15213.4	-3.3091 µg/L	-3.3091 ppb	04:55:50
3	Sc 361.383	197979.6	197979.6	92.647 %	92.647 %	04:56:38
3	Y 371.029	115095.3	115095.3	92.377 %	92.377 %	04:56:38
3	Ag 328.068†	-204.3	-66.8	0.8474 µg/L	0.8474 ppb	04:56:58
3	As 188.979†	-8.3	-8.4	-13.511 µg/L	-13.511 ppb	04:56:58
3	B 249.677†	-4392.7	-4838.2	34.947 µg/L	34.947 ppb	04:56:38
3	Ba 233.527†	245.8	297.9	-0.9339 µg/L	-0.9339 ppb	04:56:58
3	Be 313.107†	-262.4	-43.6	-0.1224 µg/L	-0.1224 ppb	04:56:58
3	Cd 226.502†	413.2	506.3	2.2054 µg/L	2.2054 ppb	04:56:58
3	Co 228.616†	-0.2	16.0	-0.4797 µg/L	-0.4797 ppb	04:56:58
3	Cr 267.716†	34.4	-19.2	-1.1345 µg/L	-1.1345 ppb	04:56:58
3	Cu 324.752†	-279.7	-597.5	-3.6698 µg/L	-3.6698 ppb	04:56:58
3	Mn 257.610†	-64.6	-48.4	-3.0986 µg/L	-3.0986 ppb	04:56:38
3	Mo 202.031†	-10.0	-38.6	-10.337 µg/L	-10.337 ppb	04:56:58
3	Ni 231.604†	-47.9	1.4	1.7127 µg/L	1.7127 ppb	04:56:58
3	P 214.914†	-7.4	-52.9	-96.180 µg/L	-96.180 ppb	04:56:58
3	Pb 220.353†	-37.3	-49.7	2.1819 µg/L	2.1819 ppb	04:56:58
3	S 181.975 Axial†	0.4	-2.1	15.918 µg/L	15.918 ppb	04:56:58
3	Sb 206.836†	26.3	-2.1	10.588 µg/L	10.588 ppb	04:56:58
3	Se 196.026†	-15.4	-44.2	-1.5885 µg/L	-1.5885 ppb	04:56:58
3	SiO2†	145.9	-7.5	-8.4423 µg/L	-8.4423 ppb	04:56:58
3	Si 251.611†	174.4	61.8	-52.538 µg/L	-52.538 ppb	04:56:58
3	Sn 189.927†	40.4	32.6	4.0793 µg/L	4.0793 ppb	04:56:58
3	Ti 334.940†	-399.8	-447.2	0.1530 µg/L	0.1530 ppb	04:56:38
3	Tl 190.801†	-10.9	-1.4	4.6201 µg/L	4.6201 ppb	04:56:58
3	U 367.007†	814.8	904.7	-79.941 µg/L	-79.941 ppb	04:56:38
3	V 292.402†	-92.2	-88.9	-3.0186 µg/L	-3.0186 ppb	04:56:58
3	Zn 213.857†	478.4	540.8	1.6083 µg/L	1.6083 ppb	04:56:58

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	200942.3	94.034	%	1.8291	94.034	%	1.8291	1.95%
Sc RADIAL	65400.3	102.64	%	1.335	102.64	%	1.335	1.30%
Y 371.029	116579.9	93.569	%	1.6626	93.569	%	1.6626	1.78%
Ag 328.068†	-68.2	0.8376	µg/L	0.43633	0.8376	ppb	0.43633	52.09%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	1642303.0	512910	µg/L	7935.46	512910	ppb	7935.46	1.55%
QC value within limits for Al 396.153Radial Recovery = 102.58%								
As 188.979†	-4.4	-3.5740	µg/L	10.60516	-3.5740	ppb	10.60516	296.73%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-4901.5	32.033	µg/L	5.2897	32.033	ppb	5.2897	16.51%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	299.1	-0.9945	µg/L	0.88107	-0.9945	ppb	0.88107	88.59%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-52.1	-0.1441	µg/L	0.02222	-0.1441	ppb	0.02222	15.42%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	2897091.2	476090	µg/L	7577.07	476090	ppb	7577.07	1.59%
QC value within limits for Ca 317.933Radial Recovery = 95.22%								
Cd 226.502†	496.8	1.5477	µg/L	0.94284	1.5477	ppb	0.94284	60.92%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              22.2      0.6835 µg/L       1.07288      0.6835 ppb        1.07288 156.98%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -2.2     -0.2555 µg/L       0.77003     -0.2555 ppb        0.77003 301.39%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†            -608.8     -3.9391 µg/L       0.23442     -3.9391 ppb        0.23442   5.95%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†    579482.7      199530 µg/L       1303.14      199530 ppb        1303.14   0.65%
   QC value within limits for Fe 238.204 Radial  Recovery = 99.76%
K 766.490 Radial†      -109.2      4.0501 µg/L      36.22974      4.0501 ppb       36.22974 894.55%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†       322048.1      504240 µg/L       3088.00      504240 ppb        3088.00   0.61%
   QC value within limits for Mg 279.077 IEC  Recovery = 100.85%
Mn 257.610†             -32.9     -2.8905 µg/L       0.20835     -2.8905 ppb        0.20835   7.21%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†             -33.3     -9.2602 µg/L       0.93408     -9.2602 ppb        0.93408  10.09%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†       628.8      38.170 µg/L       10.1955      38.170 ppb        10.1955  26.71%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              -3.7      1.1299 µg/L       0.50797      1.1299 ppb        0.50797  44.96%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†              -42.0     -34.939 µg/L       55.8811     -34.939 ppb        55.8811 159.94%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†             -45.4      5.2507 µg/L       4.61875      5.2507 ppb        4.61875  87.96%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         -2.9      10.923 µg/L       17.6773      10.923 ppb        17.6773 161.83%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†              -2.9      9.4733 µg/L       5.76261      9.4733 ppb        5.76261  60.83%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†             -47.5     -7.7603 µg/L       5.85216     -7.7603 ppb        5.85216  75.41%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    -3.0     -3.3365 µg/L       7.56676     -3.3365 ppb        7.56676 226.79%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              57.7     -53.940 µg/L        1.8457     -53.940 ppb         1.8457   3.42%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              33.5      4.2758 µg/L       5.05380      4.2758 ppb        5.05380 118.19%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†           15270.4     -3.4129 µg/L       0.14926     -3.4129 ppb        0.14926   4.37%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†            -475.1      0.1676 µg/L       0.01775      0.1676 ppb        0.01775  10.59%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -2.6      2.3482 µg/L      12.45053      2.3482 ppb       12.45053 530.21%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†              886.3     -96.792 µg/L       33.2925     -96.792 ppb        33.2925  34.40%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†              -84.2     -2.7595 µg/L       0.47182     -2.7595 ppb        0.47182  17.10%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             543.8      1.5636 µg/L       1.32247      1.5636 ppb        1.32247  84.58%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Batch ID:
Sequence No.: 10 **Autosampler Location: 104**
Sample ID: ICSAB **Date Collected: 11/19/2020 04:57:58**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	66321.4	66321.4	104.08	%	104.08	%	04:58:36
1	Al 396.153Radial†	1684226.6	1618166.6	505360	µg/L	505360	ppb	04:58:34
1	Ca 317.933Radial†	2979993.3	2862872.2	470470	µg/L	470470	ppb	04:58:34
1	Fe 238.204 Radial†	603044.5	579339.0	199480	µg/L	199480	ppb	04:58:36
1	K 766.490 Radial†	11654.4	11416.7	5126.3	µg/L	5126.3	ppb	04:58:36
1	Mg 279.077 IEC†	334884.8	321744.1	503770	µg/L	503770	ppb	04:58:36
1	Na 589.592 Radial†	48001.9	44647.2	5214.3	µg/L	5214.3	ppb	04:58:36
1	Sr 421.552†	397067.1	381948.2	490.32	µg/L	490.32	ppb	04:58:34
1	Sc 361.383	205695.9	205695.9	96.258	%	96.258	%	04:58:48
1	Y 371.029	119452.0	119452.0	95.874	%	95.874	%	04:58:48
1	Ag 328.068†	6846.8	7266.7	283.56	µg/L	283.56	ppb	04:59:09
1	As 188.979†	171.3	178.6	457.98	µg/L	457.98	ppb	04:59:09
1	B 249.677†	-756.8	-883.1	512.81	µg/L	512.81	ppb	04:58:48
1	Ba 233.527†	9992.4	10413.5	500.90	µg/L	500.90	ppb	04:59:09
1	Be 313.107†	86772.0	90384.7	223.77	µg/L	223.77	ppb	04:58:48
1	Cd 226.502†	9247.9	9667.6	464.77	µg/L	464.77	ppb	04:59:09
1	Co 228.616†	2003.2	2097.3	394.32	µg/L	394.32	ppb	04:59:09
1	Cr 267.716†	9669.0	9988.6	517.12	µg/L	517.12	ppb	04:59:09
1	Cu 324.752†	14510.2	14778.7	491.61	µg/L	491.61	ppb	04:58:48
1	Mn 257.610†	30141.2	31334.3	455.80	µg/L	455.80	ppb	04:58:48
1	Mo 202.031†	2055.6	2107.7	427.85	µg/L	427.85	ppb	04:59:09
1	Ni 231.604†	3522.4	3712.5	437.06	µg/L	437.06	ppb	04:59:09
1	P 214.914†	357.7	326.7	2193.6	µg/L	2193.6	ppb	04:59:09
1	Pb 220.353†	582.7	595.8	423.18	µg/L	423.18	ppb	04:59:09
1	S 181.975 Axial†	364.3	376.0	2431.9	µg/L	2431.9	ppb	04:59:09
1	Sb 206.836†	295.6	276.6	479.37	µg/L	479.37	ppb	04:59:09
1	Se 196.026†	1019.0	1031.0	2264.1	µg/L	2264.1	ppb	04:59:09
1	SiO2†	9778.2	9993.3	11462	µg/L	11462	ppb	04:59:09
1	Si 251.611†	22887.3	23650.5	4955.1	µg/L	4955.1	ppb	04:58:48
1	Sn 189.927†	498.0	506.4	429.99	µg/L	429.99	ppb	04:59:09
1	Ti 334.940†	48205.8	50063.9	483.97	µg/L	483.97	ppb	04:58:48
1	Tl 190.801†	193.5	211.4	420.04	µg/L	420.04	ppb	04:59:09
1	U 367.007†	1657.2	1746.9	457.75	µg/L	457.75	ppb	04:59:09
1	V 292.402†	9309.1	9681.5	529.54	µg/L	529.54	ppb	04:59:09
1	Zn 213.857†	9104.8	9483.1	486.15	µg/L	486.15	ppb	04:59:09
2	Sc RADIAL	66021.6	66021.6	103.61	%	103.61	%	04:58:40
2	Al 396.153Radial†	1666143.2	1608063.6	502200	µg/L	502200	ppb	04:58:38
2	Ca 317.933Radial†	2943333.9	2840495.4	466790	µg/L	466790	ppb	04:58:38
2	Fe 238.204 Radial†	603772.0	582672.9	200630	µg/L	200630	ppb	04:58:40
2	K 766.490 Radial†	11717.9	11528.9	5176.5	µg/L	5176.5	ppb	04:58:40
2	Mg 279.077 IEC†	335878.2	324164.4	507550	µg/L	507550	ppb	04:58:40
2	Na 589.592 Radial†	47827.7	44688.6	5218.9	µg/L	5218.9	ppb	04:58:40
2	Sr 421.552†	393016.2	379771.3	487.25	µg/L	487.25	ppb	04:58:38
2	Sc 361.383	203681.6	203681.6	95.316	%	95.316	%	04:59:11
2	Y 371.029	118212.0	118212.0	94.879	%	94.879	%	04:59:11
2	Ag 328.068†	6693.4	7176.1	280.10	µg/L	280.10	ppb	04:59:31
2	As 188.979†	179.0	188.4	482.32	µg/L	482.32	ppb	04:59:31
2	B 249.677†	-720.8	-853.1	519.96	µg/L	519.96	ppb	04:59:11
2	Ba 233.527†	9800.4	10314.6	495.91	µg/L	495.91	ppb	04:59:31
2	Be 313.107†	85738.1	90191.4	223.30	µg/L	223.30	ppb	04:59:11
2	Cd 226.502†	9087.0	9593.9	460.91	µg/L	460.91	ppb	04:59:31
2	Co 228.616†	1971.7	2084.8	391.93	µg/L	391.93	ppb	04:59:31
2	Cr 267.716†	9515.3	9926.6	513.91	µg/L	513.91	ppb	04:59:31
2	Cu 324.752†	14337.1	14746.2	490.63	µg/L	490.63	ppb	04:59:11
2	Mn 257.610†	29718.7	31200.6	453.83	µg/L	453.83	ppb	04:59:11
2	Mo 202.031†	2011.6	2082.6	422.72	µg/L	422.72	ppb	04:59:31
2	Ni 231.604†	3452.4	3675.2	432.70	µg/L	432.70	ppb	04:59:31

2	P 214.914†	347.9	320.0	2147.4 µg/L	2147.4 ppb		04:59:31
2	Pb 220.353†	570.0	588.6	418.66 µg/L	418.66 ppb		04:59:31
2	S 181.975 Axial†	348.0	362.6	2346.7 µg/L	2346.7 ppb		04:59:31
2	Sb 206.836†	299.4	283.6	490.99 µg/L	490.99 ppb		04:59:31
2	Se 196.026†	995.3	1016.6	2234.3 µg/L	2234.3 ppb		04:59:31
2	SiO2†	9620.6	9928.4	11388 µg/L	11388 ppb		04:59:31
2	Si 251.611†	22622.5	23607.9	4945.8 µg/L	4945.8 ppb		04:59:11
2	Sn 189.927†	500.8	514.5	436.57 µg/L	436.57 ppb		04:59:31
2	Ti 334.940†	47705.4	50034.3	483.97 µg/L	483.97 ppb		04:59:11
2	Tl 190.801†	188.3	207.9	413.35 µg/L	413.35 ppb		04:59:31
2	U 367.007†	1618.2	1722.9	438.46 µg/L	438.46 ppb		04:59:31
2	V 292.402†	9150.8	9611.1	525.70 µg/L	525.70 ppb		04:59:31
2	Zn 213.857†	8960.5	9425.3	482.86 µg/L	482.86 ppb		04:59:31
3	Sc RADIAL	65583.0	65583.0	102.92 %	102.92 %		04:58:45
3	Al 396.153Radial†	1729892.5	1680755.1	524900 µg/L	524900 ppb		04:58:43
3	Ca 317.933Radial†	3073623.1	2986079.5	490720 µg/L	490720 ppb		04:58:43
3	Fe 238.204 Radial†	599158.9	582087.5	200430 µg/L	200430 ppb		04:58:45
3	K 766.490 Radial†	11599.3	11489.3	5158.8 µg/L	5158.8 ppb		04:58:45
3	Mg 279.077 IEC†	332922.2	323460.0	506450 µg/L	506450 ppb		04:58:45
3	Na 589.592 Radial†	47683.9	44857.5	5238.8 µg/L	5238.8 ppb		04:58:45
3	Sr 421.552†	408077.5	396941.3	510.40 µg/L	510.40 ppb		04:58:43
3	Sc 361.383	205192.2	205192.2	96.022 %	96.022 %		04:59:33
3	Y 371.029	119161.7	119161.7	95.641 %	95.641 %		04:59:33
3	Ag 328.068†	6719.3	7151.5	279.17 µg/L	279.17 ppb		04:59:53
3	As 188.979†	174.3	182.1	466.64 µg/L	466.64 ppb		04:59:53
3	B 249.677†	-679.9	-804.9	525.10 µg/L	525.10 ppb		04:59:33
3	Ba 233.527†	9797.9	10236.4	492.04 µg/L	492.04 ppb		04:59:53
3	Be 313.107†	86556.0	90381.0	223.76 µg/L	223.76 ppb		04:59:33
3	Cd 226.502†	9071.9	9508.0	456.59 µg/L	456.59 ppb		04:59:53
3	Co 228.616†	1966.8	2064.5	388.08 µg/L	388.08 ppb		04:59:53
3	Cr 267.716†	9458.6	9794.0	507.05 µg/L	507.05 ppb		04:59:53
3	Cu 324.752†	14469.0	14772.9	491.43 µg/L	491.43 ppb		04:59:33
3	Mn 257.610†	29985.7	31249.2	454.55 µg/L	454.55 ppb		04:59:33
3	Mo 202.031†	2011.4	2066.8	419.50 µg/L	419.50 ppb		04:59:53
3	Ni 231.604†	3425.8	3620.8	426.31 µg/L	426.31 ppb		04:59:53
3	P 214.914†	354.4	324.1	2196.2 µg/L	2196.2 ppb		04:59:53
3	Pb 220.353†	569.2	583.3	415.25 µg/L	415.25 ppb		04:59:53
3	S 181.975 Axial†	354.0	366.1	2369.0 µg/L	2369.0 ppb		04:59:53
3	Sb 206.836†	303.3	285.3	493.82 µg/L	493.82 ppb		04:59:53
3	Se 196.026†	992.3	1005.7	2211.3 µg/L	2211.3 ppb		04:59:53
3	SiO2†	9588.5	9820.7	11264 µg/L	11264 ppb		04:59:53
3	Si 251.611†	22819.7	23638.4	4952.4 µg/L	4952.4 ppb		04:59:33
3	Sn 189.927†	491.5	500.9	426.20 µg/L	426.20 ppb		04:59:53
3	Ti 334.940†	48026.2	49999.9	482.66 µg/L	482.66 ppb		04:59:33
3	Tl 190.801†	181.5	199.3	396.67 µg/L	396.67 ppb		04:59:53
3	U 367.007†	1578.8	1669.4	404.65 µg/L	404.65 ppb		04:59:53
3	V 292.402†	9083.6	9470.5	518.02 µg/L	518.02 ppb		04:59:53
3	Zn 213.857†	8933.5	9328.0	477.62 µg/L	477.62 ppb		04:59:53

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	204856.6	95.865	%	0.4905	95.865	%	0.4905	0.51%
Sc RADIAL	65975.3	103.54	%	0.583	103.54	%	0.583	0.56%
Y 371.029	118941.9	95.464	%	0.5206	95.464	%	0.5206	0.55%
Ag 328.068†	7198.1	280.94	µg/L	2.312	280.94	ppb	2.312	0.82%
QC value within limits for Ag 328.068 Recovery = 112.38%								
Al 396.153Radial†	1635661.8	510820	µg/L	12298.20	510820	ppb	12298.20	2.41%
QC value within limits for Al 396.153Radial Recovery = 102.16%								
As 188.979†	183.0	468.98	µg/L	12.336	468.98	ppb	12.336	2.63%
QC value within limits for As 188.979 Recovery = 93.80%								
B 249.677†	-847.0	519.29	µg/L	6.172	519.29	ppb	6.172	1.19%
QC value within limits for B 249.677 Recovery = 103.86%								
Ba 233.527†	10321.5	496.28	µg/L	4.445	496.28	ppb	4.445	0.90%
QC value within limits for Ba 233.527 Recovery = 99.26%								
Be 313.107†	90319.0	223.61	µg/L	0.272	223.61	ppb	0.272	0.12%
QC value within limits for Be 313.107 Recovery = 89.44%								
Ca 317.933Radial†	2896482.4	475990	µg/L	12883.15	475990	ppb	12883.15	2.71%
QC value within limits for Ca 317.933Radial Recovery = 95.20%								
Cd 226.502†	9589.8	460.75	µg/L	4.089	460.75	ppb	4.089	0.89%

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   QC value within limits for Cd 226.502  Recovery = 92.15%
Co 228.616†          2082.2      391.44 µg/L         3.148      391.44 ppb          3.148   0.80%
   QC value less than the lower limit for Co 228.616  Recovery = 78.29%
Cr 267.716†          9903.1      512.69 µg/L         5.146      512.69 ppb          5.146   1.00%
   QC value within limits for Cr 267.716  Recovery = 102.54%
Cu 324.752†         14765.9      491.22 µg/L         0.522      491.22 ppb          0.522   0.11%
   QC value within limits for Cu 324.752  Recovery = 98.24%
Fe 238.204 Radial†    581366.4      200180 µg/L        612.88      200180 ppb         612.88   0.31%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.09%
K 766.490 Radial†      11478.3      5153.9 µg/L         25.44      5153.9 ppb          25.44   0.49%
   QC value within limits for K 766.490 Radial  Recovery = 103.08%
Mg 279.077 IEC†       323122.8      505920 µg/L        1949.04     505920 ppb         1949.04   0.39%
   QC value within limits for Mg 279.077 IEC  Recovery = 101.18%
Mn 257.610†          31261.4      454.73 µg/L         0.997      454.73 ppb          0.997   0.22%
   QC value within limits for Mn 257.610  Recovery = 90.95%
Mo 202.031†          2085.7      423.36 µg/L         4.209      423.36 ppb          4.209   0.99%
   QC value within limits for Mo 202.031  Recovery = 84.67%
Na 589.592 Radial†     44731.1      5224.0 µg/L         13.04      5224.0 ppb          13.04   0.25%
   QC value within limits for Na 589.592 Radial  Recovery = 104.48%
Ni 231.604†          3669.5      432.02 µg/L         5.406      432.02 ppb          5.406   1.25%
   QC value within limits for Ni 231.604  Recovery = 86.40%
P 214.914†            323.6      2179.1 µg/L         27.48      2179.1 ppb          27.48   1.26%
   QC value within limits for P 214.914  Recovery = 87.16%
Pb 220.353†           589.2      419.03 µg/L         3.980      419.03 ppb          3.980   0.95%
   QC value within limits for Pb 220.353  Recovery = 83.81%
S 181.975 Axial†      368.3      2382.5 µg/L         44.20      2382.5 ppb          44.20   1.86%
   QC value within limits for S 181.975 Axial  Recovery = 95.30%
Sb 206.836†           281.8      488.06 µg/L         7.658      488.06 ppb          7.658   1.57%
   QC value within limits for Sb 206.836  Recovery = 97.61%
Se 196.026†          1017.8      2236.6 µg/L         26.48      2236.6 ppb          26.48   1.18%
   QC value within limits for Se 196.026  Recovery = 89.46%
SiO2†                9914.1       11371 µg/L        100.03       11371 ppb         100.03   0.88%
   QC value within limits for SiO2  Recovery = 106.32%
Si 251.611†         23632.3      4951.1 µg/L          4.80      4951.1 ppb           4.80   0.10%
   QC value within limits for Si 251.611  Recovery = 99.02%
Sn 189.927†           507.3      430.92 µg/L         5.245      430.92 ppb          5.245   1.22%
   QC value within limits for Sn 189.927  Recovery = 86.18%
Sr 421.552†         386220.3      495.99 µg/L        12.570      495.99 ppb         12.570   2.53%
   QC value within limits for Sr 421.552  Recovery = 99.20%
Ti 334.940†          50032.7      483.53 µg/L         0.760      483.53 ppb          0.760   0.16%
   QC value within limits for Ti 334.940  Recovery = 96.71%
Tl 190.801†           206.2      410.02 µg/L        12.036      410.02 ppb         12.036   2.94%
   QC value within limits for Tl 190.801  Recovery = 82.00%
U 367.007†           1713.0      433.62 µg/L        26.879      433.62 ppb         26.879   6.20%
   QC value within limits for U 367.007  Recovery = 86.72%
V 292.402†           9587.7      524.42 µg/L         5.868      524.42 ppb          5.868   1.12%
   QC value within limits for V 292.402  Recovery = 104.88%
Zn 213.857†          9412.1      482.21 µg/L         4.304      482.21 ppb          4.304   0.89%
   QC value within limits for Zn 213.857  Recovery = 96.44%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 11 **Autosampler Location: 105**
Sample ID: LR1 **Date Collected: 11/19/2020 05:00:53**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	64716.7	64716.7	101.56	%	101.56	%	05:01:34
1	Al 396.153Radial†	1714770.1	1688365.5	526920	µg/L	526920	ppb	05:01:32
1	Ca 317.933Radial†	3122539.0	3074219.3	505200	µg/L	505200	ppb	05:01:32
1	Fe 238.204 Radial†	1434546.9	1412403.8	486410	µg/L	486410	ppb	05:01:32
1	K 766.490 Radial†	472894.3	465831.4	207150	µg/L	207150	ppb	05:01:32
1	Mg 279.077 IEC†	328687.8	323621.0	506840	µg/L	506840	ppb	05:01:34
1	Na 589.592 Radial†	4193562.1	4127510.9	485260	µg/L	485260	ppb	05:01:30
1	Sr 421.552†	7767631.9	7648469.0	10240	µg/L	10240	ppb	05:01:30
1	Sc 361.383	192183.8	192183.8	89.935	%	89.935	%	05:01:55
1	Y 371.029	113089.0	113089.0	90.767	%	90.767	%	05:01:55
1	Ag 328.068†	-282.3	-160.1	12.974	µg/L	12.974	ppb	05:02:15
1	As 188.979†	3478.8	3868.8	9903.8	µg/L	9903.8	ppb	05:02:15
1	B 249.677†	379984.6	422413.2	52063	µg/L	52063	ppb	05:01:55
1	Ba 233.527†	261208.5	290473.8	14368	µg/L	14368	ppb	05:01:55
1	Be 313.107†	-11856.1	-12943.4	4.9195	µg/L	4.9195	ppb	05:01:55
1	Cd 226.502†	157334.0	175002.1	8781.9	µg/L	8781.9	ppb	05:01:55
1	Co 228.616†	38751.6	43104.6	8173.6	µg/L	8173.6	ppb	05:01:55
1	Cr 267.716†	420738.1	467768.0	24223	µg/L	24223	ppb	05:01:55
1	Cu 324.752†	595854.0	662242.6	21352	µg/L	21352	ppb	05:01:55
1	Mn 257.610†	588528.5	654414.2	9564.6	µg/L	9564.6	ppb	05:01:55
1	Mo 202.031†	38612.9	42906.4	8754.0	µg/L	8754.0	ppb	05:01:55
1	Ni 231.604†	66572.8	74076.3	8693.5	µg/L	8693.5	ppb	05:01:55
1	P 214.914†	85.5	50.2	-824.62	µg/L	-824.62	ppb	05:02:15
1	Pb 220.353†	29669.8	32980.7	21597	µg/L	21597	ppb	05:01:55
1	S 181.975 Axial†	7234.6	8041.8	51456	µg/L	51456	ppb	05:02:15
1	Sb 206.836†	192.8	183.9	472.17	µg/L	472.17	ppb	05:02:15
1	Se 196.026†	-137.3	-180.3	-154.85	µg/L	-154.85	ppb	05:02:15
1	SiO2†	87965.5	97645.0	112180	µg/L	112180	ppb	05:01:55
1	Si 251.611†	222449.0	247217.6	52221	µg/L	52221	ppb	05:01:55
1	Sn 189.927†	-47.2	-63.4	-84.055	µg/L	-84.055	ppb	05:02:15
1	Ti 334.940†	967703.8	1075987.2	10330	µg/L	10330	ppb	05:01:55
1	Tl 190.801†	-47.2	-42.2	-22.326	µg/L	-22.326	ppb	05:02:15
1	U 367.007†	20855.0	23214.1	13328	µg/L	13328	ppb	05:01:55
1	V 292.402†	164774.6	183225.7	10023	µg/L	10023	ppb	05:01:55
1	Zn 213.857†	240155.1	267056.1	14427	µg/L	14427	ppb	05:01:55
2	Sc RADIAL	64347.2	64347.2	100.98	%	100.98	%	05:01:42
2	Al 396.153Radial†	1681409.4	1665023.6	519630	µg/L	519630	ppb	05:01:40
2	Ca 317.933Radial†	3059674.6	3029619.4	497870	µg/L	497870	ppb	05:01:40
2	Fe 238.204 Radial†	1405771.3	1392018.2	479390	µg/L	479390	ppb	05:01:40
2	K 766.490 Radial†	463520.5	459222.2	204210	µg/L	204210	ppb	05:01:40
2	Mg 279.077 IEC†	326690.7	323501.4	506650	µg/L	506650	ppb	05:01:42
2	Na 589.592 Radial†	4273317.4	4230195.3	497340	µg/L	497340	ppb	05:01:38
2	Sr 421.552†	7921612.0	7844858.9	10505	µg/L	10505	ppb	05:01:38
2	Sc 361.383	190317.4	190317.4	89.062	%	89.062	%	05:02:17
2	Y 371.029	111929.5	111929.5	89.836	%	89.836	%	05:02:17
2	Ag 328.068†	-271.0	-150.5	13.132	µg/L	13.132	ppb	05:02:37
2	As 188.979†	3383.7	3799.9	9731.7	µg/L	9731.7	ppb	05:02:37
2	B 249.677†	380003.1	426577.4	52540	µg/L	52540	ppb	05:02:17
2	Ba 233.527†	258433.3	290206.1	14355	µg/L	14355	ppb	05:02:17
2	Be 313.107†	-11562.7	-12743.3	5.3656	µg/L	5.3656	ppb	05:02:17
2	Cd 226.502†	155541.9	174705.5	8767.7	µg/L	8767.7	ppb	05:02:17
2	Co 228.616†	38377.7	43107.4	8174.2	µg/L	8174.2	ppb	05:02:17
2	Cr 267.716†	415620.3	466609.5	24163	µg/L	24163	ppb	05:02:17
2	Cu 324.752†	590854.4	663126.4	21380	µg/L	21380	ppb	05:02:17
2	Mn 257.610†	582034.9	653540.6	9551.9	µg/L	9551.9	ppb	05:02:17
2	Mo 202.031†	38253.9	42924.3	8757.8	µg/L	8757.8	ppb	05:02:17
2	Ni 231.604†	65628.6	73742.1	8654.2	µg/L	8654.2	ppb	05:02:17

2	P 214.914†	82.2	47.4	-836.42 µg/L	-836.42 ppb		05:02:37
2	Pb 220.353†	29268.6	32853.8	21513 µg/L	21513 ppb		05:02:17
2	S 181.975 Axial†	7041.6	7903.9	50574 µg/L	50574 ppb		05:02:37
2	Sb 206.836†	182.9	174.9	456.79 µg/L	456.79 ppb		05:02:37
2	Se 196.026†	-121.6	-164.2	-124.11 µg/L	-124.11 ppb		05:02:37
2	SiO2†	87071.0	97599.8	112130 µg/L	112130 ppb		05:02:17
2	Si 251.611†	220068.8	246970.7	52171 µg/L	52171 ppb		05:02:17
2	Sn 189.927†	-60.1	-78.5	-95.984 µg/L	-95.984 ppb		05:02:37
2	Ti 334.940†	957116.5	1074651.8	10317 µg/L	10317 ppb		05:02:17
2	Tl 190.801†	-44.1	-39.2	-16.848 µg/L	-16.848 ppb		05:02:37
2	U 367.007†	20694.1	23260.9	13381 µg/L	13381 ppb		05:02:17
2	V 292.402†	162909.9	182928.8	10007 µg/L	10007 ppb		05:02:17
2	Zn 213.857†	237448.1	266635.4	14405 µg/L	14405 ppb		05:02:17
3	Sc RADIAL	63805.0	63805.0	100.13 %	100.13 %		05:01:50
3	Al 396.153Radial†	1677219.6	1674988.0	522740 µg/L	522740 ppb		05:01:48
3	Ca 317.933Radial†	3045619.7	3041329.6	499800 µg/L	499800 ppb		05:01:48
3	Fe 238.204 Radial†	1399949.3	1398033.2	481460 µg/L	481460 ppb		05:01:48
3	K 766.490 Radial†	463467.2	463069.4	205920 µg/L	205920 ppb		05:01:48
3	Mg 279.077 IEC†	324461.7	324024.4	507470 µg/L	507470 ppb		05:01:50
3	Na 589.592 Radial†	4159359.7	4152348.2	488180 µg/L	488180 ppb		05:01:46
3	Sr 421.552†	7692318.9	7682529.6	10287 µg/L	10287 ppb		05:01:46
3	Sc 361.383	186930.9	186930.9	87.477 %	87.477 %		05:02:40
3	Y 371.029	110173.3	110173.3	88.427 %	88.427 %		05:02:40
3	Ag 328.068†	-273.9	-159.3	12.746 µg/L	12.746 ppb		05:03:00
3	As 188.979†	3408.9	3897.5	9975.0 µg/L	9975.0 ppb		05:03:00
3	B 249.677†	374641.7	428178.3	52738 µg/L	52738 ppb		05:02:40
3	Ba 233.527†	254482.5	290946.7	14392 µg/L	14392 ppb		05:02:40
3	Be 313.107†	-11440.3	-12838.5	5.2556 µg/L	5.2556 ppb		05:02:40
3	Cd 226.502†	152742.6	174669.4	8765.6 µg/L	8765.6 ppb		05:02:40
3	Co 228.616†	37828.0	43259.6	8203.0 µg/L	8203.0 ppb		05:02:40
3	Cr 267.716†	409089.8	467598.5	24214 µg/L	24214 ppb		05:02:40
3	Cu 324.752†	583008.8	666176.5	21478 µg/L	21478 ppb		05:02:40
3	Mn 257.610†	572964.0	655010.6	9573.3 µg/L	9573.3 ppb		05:02:40
3	Mo 202.031†	37708.3	43078.8	8789.3 µg/L	8789.3 ppb		05:02:40
3	Ni 231.604†	64492.0	73777.7	8658.4 µg/L	8658.4 ppb		05:02:40
3	P 214.914†	87.3	54.8	-796.88 µg/L	-796.88 ppb		05:03:00
3	Pb 220.353†	28737.7	32842.3	21505 µg/L	21505 ppb		05:02:40
3	S 181.975 Axial†	7107.3	8122.2	51969 µg/L	51969 ppb		05:03:00
3	Sb 206.836†	183.8	179.6	465.17 µg/L	465.17 ppb		05:03:00
3	Se 196.026†	-111.5	-155.1	-104.11 µg/L	-104.11 ppb		05:03:00
3	SiO2†	85393.3	97453.2	111960 µg/L	111960 ppb		05:02:40
3	Si 251.611†	216445.3	247305.1	52241 µg/L	52241 ppb		05:02:40
3	Sn 189.927†	-57.9	-77.2	-95.094 µg/L	-95.094 ppb		05:03:00
3	Ti 334.940†	943263.6	1078285.0	10352 µg/L	10352 ppb		05:02:40
3	Tl 190.801†	-45.2	-41.4	-20.924 µg/L	-20.924 ppb		05:03:00
3	U 367.007†	20521.1	23484.0	13518 µg/L	13518 ppb		05:02:40
3	V 292.402†	160391.9	183364.1	10031 µg/L	10031 ppb		05:02:40
3	Zn 213.857†	233745.5	267232.7	14437 µg/L	14437 ppb		05:02:40

Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	189810.7	88.825	%	1.2461	88.825	%	1.2461	1.40%
Sc RADIAL	64289.6	100.89	%	0.720	100.89	%	0.720	0.71%
Y 371.029	111730.6	89.677	%	1.1782	89.677	%	1.1782	1.31%
Ag 328.068†	-156.6	12.951	µg/L	0.1939	12.951	ppb	0.1939	1.50%
Al 396.153Radial†	1676125.7	523100	µg/L	3658.11	523100	ppb	3658.11	0.70%
QC value within limits for Al 396.153Radial Recovery = 104.62%								
As 188.979†	3855.4	9870.2	µg/L	125.04	9870.2	ppb	125.04	1.27%
QC value within limits for As 188.979 Recovery = 98.70%								
B 249.677†	425723.0	52447	µg/L	346.77	52447	ppb	346.77	0.66%
QC value within limits for B 249.677 Recovery = 104.89%								
Ba 233.527†	290542.2	14372	µg/L	18.56	14372	ppb	18.56	0.13%
Be 313.107†	-12841.7	5.1803	µg/L	0.23241	5.1803	ppb	0.23241	4.49%
Ca 317.933Radial†	3048389.5	500960	µg/L	3799.89	500960	ppb	3799.89	0.76%
QC value within limits for Ca 317.933Radial Recovery = 100.19%								
Cd 226.502†	174792.3	8771.7	µg/L	8.83	8771.7	ppb	8.83	0.10%
Co 228.616†	43157.2	8183.6	µg/L	16.83	8183.6	ppb	16.83	0.21%
Cr 267.716†	467325.4	24200	µg/L	32.40	24200	ppb	32.40	0.13%
QC value within limits for Cr 267.716 Recovery = 96.80%								

Cu 324.752†	663848.5	21403 µg/L	66.38	21403 ppb	66.38	0.31%
QC value within limits for Cu 324.752 Recovery = 107.02%						
Fe 238.204 Radial†	1400818.4	482420 µg/L	3606.47	482420 ppb	3606.47	0.75%
QC value within limits for Fe 238.204 Radial Recovery = 96.48%						
K 766.490 Radial†	462707.7	205760 µg/L	1476.08	205760 ppb	1476.08	0.72%
QC value within limits for K 766.490 Radial Recovery = 102.88%						
Mg 279.077 IEC†	323715.6	506980 µg/L	428.99	506980 ppb	428.99	0.08%
QC value within limits for Mg 279.077 IEC Recovery = 101.40%						
Mn 257.610†	654321.8	9563.2 µg/L	10.80	9563.2 ppb	10.80	0.11%
Mo 202.031†	42969.8	8767.0 µg/L	19.37	8767.0 ppb	19.37	0.22%
QC value less than the lower limit for Mo 202.031 Recovery = 87.67%						
Na 589.592 Radial†	4170018.1	490260 µg/L	6300.30	490260 ppb	6300.30	1.29%
QC value within limits for Na 589.592 Radial Recovery = 98.05%						
Ni 231.604†	73865.4	8668.7 µg/L	21.56	8668.7 ppb	21.56	0.25%
P 214.914†	50.8	-819.30 µg/L	20.298	-819.30 ppb	20.298	2.48%
Pb 220.353†	32892.3	21538 µg/L	50.82	21538 ppb	50.82	0.24%
S 181.975 Axial†	8022.6	51333 µg/L	705.70	51333 ppb	705.70	1.37%
QC value within limits for S 181.975 Axial Recovery = 102.67%						
Sb 206.836†	179.5	464.71 µg/L	7.701	464.71 ppb	7.701	1.66%
Se 196.026†	-166.5	-127.69 µg/L	25.559	-127.69 ppb	25.559	20.02%
SiO2†	97566.0	112090 µg/L	115.42	112090 ppb	115.42	0.10%
QC value within limits for SiO2 Recovery = 104.76%						
Si 251.611†	247164.5	52211 µg/L	35.96	52211 ppb	35.96	0.07%
QC value within limits for Si 251.611 Recovery = 104.42%						
Sn 189.927†	-73.0	-91.711 µg/L	6.6452	-91.711 ppb	6.6452	7.25%
Sr 421.552†	7725285.8	10344 µg/L	141.67	10344 ppb	141.67	1.37%
QC value within limits for Sr 421.552 Recovery = 103.44%						
Ti 334.940†	1076308.0	10333 µg/L	17.63	10333 ppb	17.63	0.17%
QC value within limits for Ti 334.940 Recovery = 103.33%						
Tl 190.801†	-40.9	-20.033 µg/L	2.8454	-20.033 ppb	2.8454	14.20%
U 367.007†	23319.7	13409 µg/L	98.21	13409 ppb	98.21	0.73%
V 292.402†	183172.9	10020 µg/L	12.20	10020 ppb	12.20	0.12%
QC value within limits for V 292.402 Recovery = 100.20%						
Zn 213.857†	266974.7	14423 µg/L	16.42	14423 ppb	16.42	0.11%
QC value within limits for Zn 213.857 Recovery = 96.15%						

QC Failed. Continue with analysis.

Batch ID:
Sequence No.: 12 **Autosampler Location: 108**
Sample ID: LR2 **Date Collected: 11/19/2020 05:04:00**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	69957.9	69957.9	109.79	%	109.79	%	05:04:37
1	Al 396.153Radial†	283.3	260.3	81.144	µg/L	81.144	ppb	05:04:57
1	Ca 317.933Radial†	981.4	660.1	108.48	µg/L	108.48	ppb	05:04:57
1	Fe 238.204 Radial†	106.9	45.8	119.58	µg/L	119.58	ppb	05:04:57
1	K 766.490 Radial†	-169.8	64.8	28.820	µg/L	28.820	ppb	05:04:37
1	Mg 279.077 IEC†	133.2	116.2	181.92	µg/L	181.92	ppb	05:04:57
1	Na 589.592 Radial†	2854.1	1127.7	132.60	µg/L	132.60	ppb	05:04:37
1	Sr 421.552†	993.0	1360.1	1.8295	µg/L	1.8295	ppb	05:04:37
1	Sc 361.383	215536.6	215536.6	100.86	%	100.86	%	05:05:46
1	Y 371.029	126775.9	126775.9	101.75	%	101.75	%	05:05:46
1	Ag 328.068†	73.7	226.8	-6.7401	µg/L	-6.7401	ppb	05:05:48
1	As 188.979†	-70.2	-69.1	103.39	µg/L	103.39	ppb	05:06:08
1	B 249.677†	2883.2	2761.7	330.57	µg/L	330.57	ppb	05:05:48
1	Ba 233.527†	309824.5	307205.3	15222	µg/L	15222	ppb	05:05:46
1	Be 313.107†	-1888.2	-1632.5	-3.9464	µg/L	-3.9464	ppb	05:05:46
1	Cd 226.502†	202571.7	200898.2	10147	µg/L	10147	ppb	05:05:46
1	Co 228.616†	51835.4	51407.9	9755.8	µg/L	9755.8	ppb	05:05:48
1	Cr 267.716†	548624.9	543872.8	28165	µg/L	28165	ppb	05:05:46
1	Cu 324.752†	204.8	-92.5	17.129	µg/L	17.129	ppb	05:05:48
1	Mn 257.610†	710133.5	704076.8	10296	µg/L	10296	ppb	05:05:46
1	Mo 202.031†	44.4	16.2	3.3083	µg/L	3.3083	ppb	05:06:08
1	Ni 231.604†	86760.1	86070.7	10097	µg/L	10097	ppb	05:05:46
1	P 214.914†	53.5	8.1	-98.288	µg/L	-98.288	ppb	05:06:08
1	Pb 220.353†	38134.7	37798.8	24655	µg/L	24655	ppb	05:05:48
1	S 181.975 Axial†	6.1	3.5	22.497	µg/L	22.497	ppb	05:06:08
1	Sb 206.836†	367.5	333.8	554.69	µg/L	554.69	ppb	05:06:08
1	Se 196.026†	2.9	-24.7	-52.103	µg/L	-52.103	ppb	05:06:08
1	SiO2†	69.8	-95.8	313.18	µg/L	313.18	ppb	05:06:08
1	Si 251.611†	225.1	96.7	20.485	µg/L	20.485	ppb	05:06:08
1	Sn 189.927†	22.6	11.4	10.364	µg/L	10.364	ppb	05:06:08
1	Ti 334.940†	1921.3	1889.1	10.906	µg/L	10.906	ppb	05:05:48
1	Tl 190.801†	-19.4	-8.9	-17.247	µg/L	-17.247	ppb	05:06:08
1	U 367.007†	23758.9	23580.8	15191	µg/L	15191	ppb	05:05:48
1	V 292.402†	-1196.9	-1176.0	5.0090	µg/L	5.0090	ppb	05:05:48
1	Zn 213.857†	1377.2	1389.8	14.991	µg/L	14.991	ppb	05:06:08
2	Sc RADIAL	70222.7	70222.7	110.21	%	110.21	%	05:05:00
2	Al 396.153Radial†	262.0	240.0	74.837	µg/L	74.837	ppb	05:05:20
2	Ca 317.933Radial†	916.7	598.0	98.274	µg/L	98.274	ppb	05:05:20
2	Fe 238.204 Radial†	85.9	26.3	113.07	µg/L	113.07	ppb	05:05:20
2	K 766.490 Radial†	-220.6	19.2	8.5550	µg/L	8.5550	ppb	05:05:00
2	Mg 279.077 IEC†	121.5	105.1	164.56	µg/L	164.56	ppb	05:05:20
2	Na 589.592 Radial†	2535.3	828.7	97.443	µg/L	97.443	ppb	05:05:00
2	Sr 421.552†	898.2	1270.7	1.7099	µg/L	1.7099	ppb	05:05:00
2	Sc 361.383	213068.0	213068.0	99.708	%	99.708	%	05:06:10
2	Y 371.029	125226.8	125226.8	100.51	%	100.51	%	05:06:10
2	Ag 328.068†	142.4	296.6	-4.1026	µg/L	-4.1026	ppb	05:06:12
2	As 188.979†	-67.9	-67.5	107.47	µg/L	107.47	ppb	05:06:32
2	B 249.677†	2430.7	2340.9	280.19	µg/L	280.19	ppb	05:06:12
2	Ba 233.527†	306263.7	307192.9	15221	µg/L	15221	ppb	05:06:10
2	Be 313.107†	-1812.2	-1577.9	-3.8138	µg/L	-3.8138	ppb	05:06:10
2	Cd 226.502†	199838.3	200483.7	10126	µg/L	10126	ppb	05:06:10
2	Co 228.616†	51331.1	51497.6	9772.8	µg/L	9772.8	ppb	05:06:12
2	Cr 267.716†	543030.6	544564.1	28200	µg/L	28200	ppb	05:06:10
2	Cu 324.752†	129.5	-165.6	14.821	µg/L	14.821	ppb	05:06:12
2	Mn 257.610†	703392.5	705473.3	10316	µg/L	10316	ppb	05:06:10
2	Mo 202.031†	39.8	12.1	2.4641	µg/L	2.4641	ppb	05:06:32
2	Ni 231.604†	85732.5	86036.7	10093	µg/L	10093	ppb	05:06:10

2	P 214.914†	64.5	19.8	-27.161 µg/L	-27.161 ppb	05:06:32
2	Pb 220.353†	37772.2	37873.3	24703 µg/L	24703 ppb	05:06:12
2	S 181.975 Axial†	9.8	7.3	46.786 µg/L	46.786 ppb	05:06:32
2	Sb 206.836†	373.7	344.3	572.13 µg/L	572.13 ppb	05:06:32
2	Se 196.026†	3.5	-24.2	-50.876 µg/L	-50.876 ppb	05:06:32
2	SiO2†	72.4	-92.4	317.62 µg/L	317.62 ppb	05:06:32
2	Si 251.611†	225.8	100.0	21.205 µg/L	21.205 ppb	05:06:32
2	Sn 189.927†	18.1	7.2	6.5545 µg/L	6.5545 ppb	05:06:32
2	Ti 334.940†	1853.5	1843.3	10.457 µg/L	10.457 ppb	05:06:12
2	Tl 190.801†	-20.5	-10.3	-19.884 µg/L	-19.884 ppb	05:06:32
2	U 367.007†	23538.5	23632.6	15225 µg/L	15225 ppb	05:06:12
2	V 292.402†	-1274.6	-1267.7	0.1218 µg/L	0.1218 ppb	05:06:12
2	Zn 213.857†	1375.2	1403.6	15.772 µg/L	15.772 ppb	05:06:32
3	Sc RADIAL	71929.2	71929.2	112.88 %	112.88 %	05:05:22
3	Al 396.153Radial†	250.0	223.6	69.706 µg/L	69.706 ppb	05:05:42
3	Ca 317.933Radial†	874.0	540.5	88.821 µg/L	88.821 ppb	05:05:42
3	Fe 238.204 Radial†	80.2	19.4	104.89 µg/L	104.89 ppb	05:05:42
3	K 766.490 Radial†	-172.3	66.8	29.692 µg/L	29.692 ppb	05:05:22
3	Mg 279.077 IEC†	117.4	98.9	154.80 µg/L	154.80 ppb	05:05:42
3	Na 589.592 Radial†	2518.6	759.3	89.280 µg/L	89.280 ppb	05:05:22
3	Sr 421.552†	907.7	1259.8	1.6955 µg/L	1.6955 ppb	05:05:22
3	Sc 361.383	219603.7	219603.7	102.77 %	102.77 %	05:06:34
3	Y 371.029	128890.1	128890.1	103.45 %	103.45 %	05:06:34
3	Ag 328.068†	120.0	270.5	-4.3712 µg/L	-4.3712 ppb	05:06:36
3	As 188.979†	-63.0	-60.7	124.72 µg/L	124.72 ppb	05:06:56
3	B 249.677†	2029.0	1877.5	224.72 µg/L	224.72 ppb	05:06:36
3	Ba 233.527†	316477.8	307990.5	15260 µg/L	15260 ppb	05:06:34
3	Be 313.107†	-1887.3	-1596.9	-3.8631 µg/L	-3.8631 ppb	05:06:34
3	Cd 226.502†	206787.1	201280.5	10167 µg/L	10167 ppb	05:06:34
3	Co 228.616†	49952.4	48623.8	9228.6 µg/L	9228.6 ppb	05:06:36
3	Cr 267.716†	560323.7	545182.9	28232 µg/L	28232 ppb	05:06:34
3	Cu 324.752†	143.7	-155.7	14.188 µg/L	14.188 ppb	05:06:36
3	Mn 257.610†	725901.5	706380.9	10330 µg/L	10330 ppb	05:06:34
3	Mo 202.031†	44.7	15.6	3.1848 µg/L	3.1848 ppb	05:06:56
3	Ni 231.604†	88562.0	86230.9	10115 µg/L	10115 ppb	05:06:34
3	P 214.914†	60.0	13.4	-57.781 µg/L	-57.781 ppb	05:06:56
3	Pb 220.353†	36695.3	35697.9	23284 µg/L	23284 ppb	05:06:36
3	S 181.975 Axial†	9.4	6.7	42.763 µg/L	42.763 ppb	05:06:56
3	Sb 206.836†	378.0	337.3	560.50 µg/L	560.50 ppb	05:06:56
3	Se 196.026†	15.7	-12.4	-26.069 µg/L	-26.069 ppb	05:06:56
3	SiO2†	97.6	-70.0	343.78 µg/L	343.78 ppb	05:06:56
3	Si 251.611†	223.9	91.4	19.360 µg/L	19.360 ppb	05:06:56
3	Sn 189.927†	21.1	9.5	8.6215 µg/L	8.6215 ppb	05:06:56
3	Ti 334.940†	1831.5	1766.5	9.7139 µg/L	9.7139 ppb	05:06:36
3	Tl 190.801†	-19.6	-8.7	-16.927 µg/L	-16.927 ppb	05:06:56
3	U 367.007†	23113.6	22516.5	14506 µg/L	14506 ppb	05:06:36
3	V 292.402†	-1233.4	-1189.6	3.9434 µg/L	3.9434 ppb	05:06:36
3	Zn 213.857†	1372.2	1359.7	13.237 µg/L	13.237 ppb	05:06:56

Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	216069.4	101.11	%	1.544	101.11	%	1.544	1.53%
Sc RADIAL	70703.3	110.96	%	1.679	110.96	%	1.679	1.51%
Y 371.029	126964.3	101.90	%	1.476	101.90	%	1.476	1.45%
Ag 328.068†	264.7	-5.0713	µg/L	1.45149	-5.0713	ppb	1.45149	28.62%
Al 396.153Radial†	241.3	75.229	µg/L	5.7290	75.229	ppb	5.7290	7.62%
As 188.979†	-65.8	111.86	µg/L	11.325	111.86	ppb	11.325	10.12%
B 249.677†	2326.7	278.49	µg/L	52.948	278.49	ppb	52.948	19.01%
Ba 233.527†	307462.9	15234	µg/L	22.64	15234	ppb	22.64	0.15%
QC value within limits for Ba 233.527 Recovery = 101.56%								
Be 313.107†	-1602.4	-3.8744	µg/L	0.06700	-3.8744	ppb	0.06700	1.73%
Ca 317.933Radial†	599.5	98.525	µg/L	9.8314	98.525	ppb	9.8314	9.98%
Cd 226.502†	200887.4	10147	µg/L	20.13	10147	ppb	20.13	0.20%
QC value within limits for Cd 226.502 Recovery = 101.47%								
Co 228.616†	50509.8	9585.7	µg/L	309.41	9585.7	ppb	309.41	3.23%
QC value within limits for Co 228.616 Recovery = 95.86%								
Cr 267.716†	544539.9	28199	µg/L	33.94	28199	ppb	33.94	0.12%
Cu 324.752†	-137.9	15.379	µg/L	1.5481	15.379	ppb	1.5481	10.07%
Fe 238.204 Radial†	30.5	112.51	µg/L	7.361	112.51	ppb	7.361	6.54%

K 766.490 Radial†	50.3	22.356 µg/L	11.9595	22.356 ppb	11.9595	53.50%
Mg 279.077 IEC†	106.7	167.09 µg/L	13.732	167.09 ppb	13.732	8.22%
Mn 257.610†	705310.3	10314 µg/L	16.97	10314 ppb	16.97	0.16%
QC value within limits for Mn 257.610 Recovery = 103.14%						
Mo 202.031†	14.6	2.9857 µg/L	0.45592	2.9857 ppb	0.45592	15.27%
Na 589.592 Radial†	905.2	106.44 µg/L	23.021	106.44 ppb	23.021	21.63%
Ni 231.604†	86112.7	10102 µg/L	12.17	10102 ppb	12.17	0.12%
QC value within limits for Ni 231.604 Recovery = 101.02%						
P 214.914†	13.8	-61.077 µg/L	35.6783	-61.077 ppb	35.6783	58.42%
Pb 220.353†	37123.3	24214 µg/L	805.66	24214 ppb	805.66	3.33%
QC value within limits for Pb 220.353 Recovery = 96.86%						
S 181.975 Axial†	5.8	37.349 µg/L	13.0182	37.349 ppb	13.0182	34.86%
Sb 206.836†	338.5	562.44 µg/L	8.881	562.44 ppb	8.881	1.58%
Se 196.026†	-20.4	-43.016 µg/L	14.6892	-43.016 ppb	14.6892	34.15%
SiO2†	-86.1	324.86 µg/L	16.539	324.86 ppb	16.539	5.09%
Si 251.611†	96.0	20.350 µg/L	0.9297	20.350 ppb	0.9297	4.57%
Sn 189.927†	9.4	8.5134 µg/L	1.90712	8.5134 ppb	1.90712	22.40%
Sr 421.552†	1296.9	1.7450 µg/L	0.07357	1.7450 ppb	0.07357	4.22%
Ti 334.940†	1833.0	10.359 µg/L	0.6019	10.359 ppb	0.6019	5.81%
Tl 190.801†	-9.3	-18.019 µg/L	1.6229	-18.019 ppb	1.6229	9.01%
U 367.007†	23243.3	14974 µg/L	405.82	14974 ppb	405.82	2.71%
QC value within limits for U 367.007 Recovery = 99.83%						
V 292.402†	-1211.1	3.0248 µg/L	2.56984	3.0248 ppb	2.56984	84.96%
Zn 213.857†	1384.3	14.666 µg/L	1.2983	14.666 ppb	1.2983	8.85%

All analyte(s) passed QC.

Batch ID:
Sequence No.: 13 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/19/2020 05:07:26**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	69829.5	69829.5	109.59	%	109.59	%	05:08:10
1	Al 396.153Radial†	17512.4	15982.5	4970.8	µg/L	4970.8	ppb	05:08:12
1	Ca 317.933Radial†	33975.1	30768.8	5056.4	µg/L	5056.4	ppb	05:08:12
1	Fe 238.204 Radial†	16565.4	15064.4	5192.2	µg/L	5192.2	ppb	05:08:12
1	K 766.490 Radial†	12592.8	11710.5	5205.7	µg/L	5205.7	ppb	05:08:12
1	Mg 279.077 IEC†	3623.8	3301.6	5171.0	µg/L	5171.0	ppb	05:08:12
1	Na 589.592 Radial†	94125.7	84418.7	9925.8	µg/L	9925.8	ppb	05:08:10
1	Sr 421.552†	418824.4	382636.7	514.59	µg/L	514.59	ppb	05:08:10
1	Sc 361.383	227085.6	227085.6	106.27	%	106.27	%	05:08:24
1	Y 371.029	131782.6	131782.6	105.77	%	105.77	%	05:08:24
1	Ag 328.068†	13056.0	12439.8	479.06	µg/L	479.06	ppb	05:08:24
1	As 188.979†	215.0	202.9	511.12	µg/L	511.12	ppb	05:08:44
1	B 249.677†	5347.6	4935.4	606.75	µg/L	606.75	ppb	05:08:24
1	Ba 233.527†	10452.3	9868.4	489.23	µg/L	489.23	ppb	05:08:24
1	Be 313.107†	210528.5	198350.8	489.02	µg/L	489.02	ppb	05:08:24
1	Cd 226.502†	10333.1	9783.9	493.57	µg/L	493.57	ppb	05:08:24
1	Co 228.616†	2755.0	2608.7	494.60	µg/L	494.60	ppb	05:08:44
1	Cr 267.716†	10107.8	9455.3	489.64	µg/L	489.64	ppb	05:08:24
1	Cu 324.752†	16203.5	14952.2	481.81	µg/L	481.81	ppb	05:08:24
1	Mn 257.610†	35504.2	33431.6	488.83	µg/L	488.83	ppb	05:08:24
1	Mo 202.031†	2552.7	2374.3	484.68	µg/L	484.68	ppb	05:08:44
1	Ni 231.604†	4438.9	4230.2	496.27	µg/L	496.27	ppb	05:08:24
1	P 214.914†	468.1	395.5	2395.9	µg/L	2395.9	ppb	05:08:44
1	Pb 220.353†	848.9	789.4	515.65	µg/L	515.65	ppb	05:08:44
1	S 181.975 Axial†	163.7	151.5	968.91	µg/L	968.91	ppb	05:08:44
1	Sb 206.836†	337.3	286.9	483.36	µg/L	483.36	ppb	05:08:44
1	Se 196.026†	274.6	230.8	488.56	µg/L	488.56	ppb	05:08:44
1	SiO2†	5051.4	4588.5	5260.1	µg/L	5260.1	ppb	05:08:24
1	Si 251.611†	12456.4	11595.3	2453.4	µg/L	2453.4	ppb	05:08:24
1	Sn 189.927†	579.7	534.5	479.91	µg/L	479.91	ppb	05:08:44
1	Ti 334.940†	52982.9	49842.2	477.34	µg/L	477.34	ppb	05:08:24
1	Tl 190.801†	261.1	256.0	499.64	µg/L	499.64	ppb	05:08:44
1	U 367.007†	723.9	706.4	437.72	µg/L	437.72	ppb	05:08:24
1	V 292.402†	9400.4	8856.6	482.81	µg/L	482.81	ppb	05:08:24
1	Zn 213.857†	9526.9	8989.4	486.23	µg/L	486.23	ppb	05:08:24
2	Sc RADIAL	69179.4	69179.4	108.57	%	108.57	%	05:08:14
2	Al 396.153Radial†	17578.6	16193.5	5036.5	µg/L	5036.5	ppb	05:08:16
2	Ca 317.933Radial†	34376.8	31430.2	5165.1	µg/L	5165.1	ppb	05:08:16
2	Fe 238.204 Radial†	16713.9	15343.3	5288.3	µg/L	5288.3	ppb	05:08:16
2	K 766.490 Radial†	12654.6	11875.4	5279.0	µg/L	5279.0	ppb	05:08:16
2	Mg 279.077 IEC†	3605.3	3315.7	5193.0	µg/L	5193.0	ppb	05:08:16
2	Na 589.592 Radial†	92978.9	84169.6	9896.5	µg/L	9896.5	ppb	05:08:14
2	Sr 421.552†	412533.7	380434.0	511.62	µg/L	511.62	ppb	05:08:14
2	Sc 361.383	218330.2	218330.2	102.17	%	102.17	%	05:08:47
2	Y 371.029	126804.1	126804.1	101.77	%	101.77	%	05:08:47
2	Ag 328.068†	12533.0	12420.5	478.30	µg/L	478.30	ppb	05:08:47
2	As 188.979†	205.2	201.4	507.50	µg/L	507.50	ppb	05:09:07
2	B 249.677†	5046.0	4842.0	595.87	µg/L	595.87	ppb	05:08:47
2	Ba 233.527†	9946.5	9767.8	484.23	µg/L	484.23	ppb	05:08:47
2	Be 313.107†	200978.1	196948.0	485.57	µg/L	485.57	ppb	05:08:47
2	Cd 226.502†	9862.2	9713.0	489.97	µg/L	489.97	ppb	05:08:47
2	Co 228.616†	2663.1	2622.8	497.26	µg/L	497.26	ppb	05:09:07
2	Cr 267.716†	9619.9	9359.2	484.66	µg/L	484.66	ppb	05:08:47
2	Cu 324.752†	15509.9	14884.8	479.67	µg/L	479.67	ppb	05:08:47
2	Mn 257.610†	33890.2	33191.6	485.32	µg/L	485.32	ppb	05:08:47
2	Mo 202.031†	2481.7	2401.1	490.16	µg/L	490.16	ppb	05:09:07
2	Ni 231.604†	4163.7	4128.3	484.32	µg/L	484.32	ppb	05:08:47

2	P 214.914†	457.2	402.5	2438.8 µg/L	2438.8 ppb	05:09:07
2	Pb 220.353†	821.4	794.5	518.98 µg/L	518.98 ppb	05:09:07
2	S 181.975 Axial†	160.3	154.4	987.55 µg/L	987.55 ppb	05:09:07
2	Sb 206.836†	327.3	289.8	488.26 µg/L	488.26 ppb	05:09:07
2	Se 196.026†	275.0	241.5	511.13 µg/L	511.13 ppb	05:09:07
2	SiO2†	4830.9	4563.2	5231.0 µg/L	5231.0 ppb	05:08:47
2	Si 251.611†	11921.7	11542.0	2441.9 µg/L	2441.9 ppb	05:08:47
2	Sn 189.927†	564.7	541.7	486.32 µg/L	486.32 ppb	05:09:07
2	Ti 334.940†	50801.5	49706.5	476.05 µg/L	476.05 ppb	05:08:47
2	Tl 190.801†	248.6	253.6	495.00 µg/L	495.00 ppb	05:09:07
2	U 367.007†	722.9	732.7	454.37 µg/L	454.37 ppb	05:08:47
2	V 292.402†	8998.2	8817.6	480.70 µg/L	480.70 ppb	05:08:47
2	Zn 213.857†	9105.7	8936.6	483.42 µg/L	483.42 ppb	05:08:47
3	Sc RADIAL	70342.4	70342.4	110.39 %	110.39 %	05:08:18
3	Al 396.153Radial†	17394.2	15758.9	4901.2 µg/L	4901.2 ppb	05:08:20
3	Ca 317.933Radial†	33812.5	30395.5	4995.0 µg/L	4995.0 ppb	05:08:20
3	Fe 238.204 Radial†	16501.0	14895.9	5134.2 µg/L	5134.2 ppb	05:08:20
3	K 766.490 Radial†	12483.6	11527.8	5124.5 µg/L	5124.5 ppb	05:08:20
3	Mg 279.077 IEC†	3617.4	3271.7	5124.1 µg/L	5124.1 ppb	05:08:20
3	Na 589.592 Radial†	94603.8	84225.5	9903.1 µg/L	9903.1 ppb	05:08:18
3	Sr 421.552†	420138.4	381040.5	512.45 µg/L	512.45 ppb	05:08:18
3	Sc 361.383	223989.4	223989.4	104.82 %	104.82 %	05:09:09
3	Y 371.029	129898.0	129898.0	104.26 %	104.26 %	05:09:09
3	Ag 328.068†	12773.9	12340.4	475.21 µg/L	475.21 ppb	05:09:09
3	As 188.979†	204.9	196.1	494.14 µg/L	494.14 ppb	05:09:29
3	B 249.677†	5094.9	4763.8	586.04 µg/L	586.04 ppb	05:09:09
3	Ba 233.527†	10223.3	9785.9	485.14 µg/L	485.14 ppb	05:09:09
3	Be 313.107†	206641.8	197381.4	486.64 µg/L	486.64 ppb	05:09:09
3	Cd 226.502†	10205.0	9796.1	494.19 µg/L	494.19 ppb	05:09:09
3	Co 228.616†	2690.6	2583.1	489.75 µg/L	489.75 ppb	05:09:29
3	Cr 267.716†	9944.0	9430.5	488.36 µg/L	488.36 ppb	05:09:09
3	Cu 324.752†	15931.0	14903.1	480.26 µg/L	480.26 ppb	05:09:09
3	Mn 257.610†	34767.5	33190.5	485.30 µg/L	485.30 ppb	05:09:09
3	Mo 202.031†	2494.0	2351.5	480.03 µg/L	480.03 ppb	05:09:29
3	Ni 231.604†	4285.7	4141.8	485.90 µg/L	485.90 ppb	05:09:09
3	P 214.914†	464.5	398.2	2412.7 µg/L	2412.7 ppb	05:09:29
3	Pb 220.353†	825.1	777.6	507.95 µg/L	507.95 ppb	05:09:29
3	S 181.975 Axial†	164.2	154.2	985.98 µg/L	985.98 ppb	05:09:29
3	Sb 206.836†	321.3	276.0	465.19 µg/L	465.19 ppb	05:09:29
3	Se 196.026†	279.7	239.2	506.27 µg/L	506.27 ppb	05:09:29
3	SiO2†	4992.7	4598.1	5271.3 µg/L	5271.3 ppb	05:09:09
3	Si 251.611†	12226.7	11538.2	2441.4 µg/L	2441.4 ppb	05:09:09
3	Sn 189.927†	572.2	534.9	480.28 µg/L	480.28 ppb	05:09:29
3	Ti 334.940†	52087.1	49676.8	475.75 µg/L	475.75 ppb	05:09:09
3	Tl 190.801†	249.2	248.0	484.09 µg/L	484.09 ppb	05:09:29
3	U 367.007†	750.7	741.4	460.46 µg/L	460.46 ppb	05:09:09
3	V 292.402†	9282.3	8866.1	483.35 µg/L	483.35 ppb	05:09:09
3	Zn 213.857†	9332.7	8928.0	482.96 µg/L	482.96 ppb	05:09:09

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	223135.1	104.42	%	2.078	104.42	%	2.078	1.99%
Sc RADIAL	69783.8	109.52	%	0.915	109.52	%	0.915	0.84%
Y 371.029	129494.9	103.93	%	2.017	103.93	%	2.017	1.94%
Ag 328.068†	12400.2	477.52	µg/L	2.035	477.52	ppb	2.035	0.43%
QC value within limits for Ag 328.068 Recovery = 95.50%								
Al 396.153Radial†	15978.3	4969.5	µg/L	67.67	4969.5	ppb	67.67	1.36%
QC value within limits for Al 396.153Radial Recovery = 99.39%								
As 188.979†	200.1	504.25	µg/L	8.947	504.25	ppb	8.947	1.77%
QC value within limits for As 188.979 Recovery = 100.85%								
B 249.677†	4847.0	596.22	µg/L	10.360	596.22	ppb	10.360	1.74%
QC value greater than the upper limit for B 249.677 Recovery = 119.24%								
Ba 233.527†	9807.4	486.20	µg/L	2.662	486.20	ppb	2.662	0.55%
QC value within limits for Ba 233.527 Recovery = 97.24%								
Be 313.107†	197560.1	487.08	µg/L	1.767	487.08	ppb	1.767	0.36%
QC value within limits for Be 313.107 Recovery = 97.42%								
Ca 317.933Radial†	30864.8	5072.2	µg/L	86.11	5072.2	ppb	86.11	1.70%
QC value within limits for Ca 317.933Radial Recovery = 101.44%								
Cd 226.502†	9764.4	492.58	µg/L	2.276	492.58	ppb	2.276	0.46%

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   QC value within limits for Cd 226.502  Recovery = 98.52%
Co 228.616†          2604.9      493.87 µg/L         3.804      493.87 ppb          3.804   0.77%
   QC value within limits for Co 228.616  Recovery = 98.77%
Cr 267.716†          9415.0      487.55 µg/L         2.584      487.55 ppb          2.584   0.53%
   QC value within limits for Cr 267.716  Recovery = 97.51%
Cu 324.752†         14913.4      480.58 µg/L         1.105      480.58 ppb          1.105   0.23%
   QC value within limits for Cu 324.752  Recovery = 96.12%
Fe 238.204 Radial†  15101.2      5204.9 µg/L         77.83      5204.9 ppb          77.83   1.50%
   QC value within limits for Fe 238.204 Radial  Recovery = 104.10%
K 766.490 Radial†   11704.6      5203.0 µg/L         77.29      5203.0 ppb          77.29   1.49%
   QC value within limits for K 766.490 Radial  Recovery = 104.06%
Mg 279.077 IEC†      3296.4      5162.7 µg/L         35.16      5162.7 ppb          35.16   0.68%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.25%
Mn 257.610†         33271.2      486.48 µg/L         2.030      486.48 ppb          2.030   0.42%
   QC value within limits for Mn 257.610  Recovery = 97.30%
Mo 202.031†          2375.6      484.96 µg/L         5.070      484.96 ppb          5.070   1.05%
   QC value within limits for Mo 202.031  Recovery = 96.99%
Na 589.592 Radial†  84271.3      9908.5 µg/L         15.38      9908.5 ppb          15.38   0.16%
   QC value within limits for Na 589.592 Radial  Recovery = 99.08%
Ni 231.604†          4166.8      488.83 µg/L         6.492      488.83 ppb          6.492   1.33%
   QC value within limits for Ni 231.604  Recovery = 97.77%
P 214.914†            398.7      2415.8 µg/L         21.62      2415.8 ppb          21.62   0.89%
   QC value within limits for P 214.914  Recovery = 96.63%
Pb 220.353†           787.2      514.19 µg/L         5.657      514.19 ppb          5.657   1.10%
   QC value within limits for Pb 220.353  Recovery = 102.84%
S 181.975 Axial†      153.4      980.81 µg/L        10.340      980.81 ppb         10.340   1.05%
   QC value within limits for S 181.975 Axial  Recovery = 98.08%
Sb 206.836†           284.2      478.94 µg/L        12.159      478.94 ppb         12.159   2.54%
   QC value within limits for Sb 206.836  Recovery = 95.79%
Se 196.026†           237.2      501.99 µg/L        11.881      501.99 ppb         11.881   2.37%
   QC value within limits for Se 196.026  Recovery = 100.40%
SiO2†                4583.3      5254.1 µg/L         20.82      5254.1 ppb          20.82   0.40%
   QC value within limits for SiO2  Recovery = 98.25%
Si 251.611†         11558.5      2445.5 µg/L          6.80      2445.5 ppb           6.80   0.28%
   QC value within limits for Si 251.611  Recovery = 97.82%
Sn 189.927†           537.1      482.17 µg/L         3.594      482.17 ppb          3.594   0.75%
   QC value within limits for Sn 189.927  Recovery = 96.43%
Sr 421.552†         381370.4      512.89 µg/L         1.536      512.89 ppb          1.536   0.30%
   QC value within limits for Sr 421.552  Recovery = 102.58%
Ti 334.940†          49741.8      476.38 µg/L         0.844      476.38 ppb          0.844   0.18%
   QC value within limits for Ti 334.940  Recovery = 95.28%
Tl 190.801†           252.5      492.91 µg/L         7.986      492.91 ppb          7.986   1.62%
   QC value within limits for Tl 190.801  Recovery = 98.58%
U 367.007†            726.8      450.85 µg/L        11.769      450.85 ppb         11.769   2.61%
   QC value within limits for U 367.007  Recovery = 90.17%
V 292.402†           8846.8      482.29 µg/L         1.397      482.29 ppb          1.397   0.29%
   QC value within limits for V 292.402  Recovery = 96.46%
Zn 213.857†          8951.4      484.20 µg/L         1.775      484.20 ppb          1.775   0.37%
   QC value within limits for Zn 213.857  Recovery = 96.84%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 14 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/19/2020 05:09:59**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	70881.3	70881.3	111.24	%	111.24	%	05:10:43
1	Al 396.153Radial†	25.9	25.4	7.9139	µg/L	7.9139	ppb	05:10:43
1	Ca 317.933Radial†	359.0	89.0	14.620	µg/L	14.620	ppb	05:11:03
1	Fe 238.204 Radial†	96.0	34.7	11.970	µg/L	11.970	ppb	05:11:03
1	K 766.490 Radial†	-257.4	-12.0	-5.3091	µg/L	-5.3091	ppb	05:10:43
1	Mg 279.077 IEC†	11.5	5.2	8.1335	µg/L	8.1335	ppb	05:11:03
1	Na 589.592 Radial†	2006.1	331.6	38.989	µg/L	38.989	ppb	05:10:43
1	Sr 421.552†	-423.9	74.6	0.0990	µg/L	0.0990	ppb	05:10:43
1	Sc 361.383	201895.9	201895.9	94.480	%	94.480	%	05:11:51
1	Y 371.029	117896.6	117896.6	94.626	%	94.626	%	05:11:51
1	Ag 328.068†	-157.4	-12.8	-0.4970	µg/L	-0.4970	ppb	05:12:11
1	As 188.979†	3.0	3.8	9.4643	µg/L	9.4643	ppb	05:12:11
1	B 249.677†	620.0	559.3	66.977	µg/L	66.977	ppb	05:12:11
1	Ba 233.527†	-16.2	15.5	0.7663	µg/L	0.7663	ppb	05:12:11
1	Be 313.107†	-212.1	15.1	0.0388	µg/L	0.0388	ppb	05:11:51
1	Cd 226.502†	-17.9	41.4	2.0885	µg/L	2.0885	ppb	05:12:11
1	Co 228.616†	-5.7	10.2	1.9283	µg/L	1.9283	ppb	05:12:11
1	Cr 267.716†	73.9	21.9	1.1356	µg/L	1.1356	ppb	05:12:11
1	Cu 324.752†	346.3	71.0	2.2958	µg/L	2.2958	ppb	05:12:11
1	Mn 257.610†	18.5	41.0	0.5998	µg/L	0.5998	ppb	05:12:11
1	Mo 202.031†	29.9	3.8	0.7745	µg/L	0.7745	ppb	05:12:11
1	Ni 231.604†	-55.6	-5.8	-0.6747	µg/L	-0.6747	ppb	05:12:11
1	P 214.914†	42.9	0.4	2.4739	µg/L	2.4739	ppb	05:12:11
1	Pb 220.353†	27.7	19.8	12.918	µg/L	12.918	ppb	05:12:11
1	S 181.975 Axial†	1.2	-1.2	-7.5957	µg/L	-7.5957	ppb	05:12:11
1	Sb 206.836†	36.1	7.7	12.762	µg/L	12.762	ppb	05:12:11
1	Se 196.026†	21.1	-5.3	-11.141	µg/L	-11.141	ppb	05:12:11
1	SiO2†	178.9	24.3	27.922	µg/L	27.922	ppb	05:12:11
1	Si 251.611†	130.7	11.8	2.4946	µg/L	2.4946	ppb	05:12:11
1	Sn 189.927†	22.8	13.2	11.768	µg/L	11.768	ppb	05:12:11
1	Ti 334.940†	61.7	49.7	0.4758	µg/L	0.4758	ppb	05:12:11
1	Tl 190.801†	-6.6	3.3	6.4895	µg/L	6.4895	ppb	05:12:11
1	U 367.007†	-11.1	13.5	8.6308	µg/L	8.6308	ppb	05:11:51
1	V 292.402†	9.7	20.8	1.1401	µg/L	1.1401	ppb	05:12:11
1	Zn 213.857†	58.8	86.6	4.7244	µg/L	4.7244	ppb	05:12:11
2	Sc RADIAL	64721.6	64721.6	101.57	%	101.57	%	05:11:05
2	Al 396.153Radial†	56.2	57.6	17.973	µg/L	17.973	ppb	05:11:05
2	Ca 317.933Radial†	320.0	81.3	13.353	µg/L	13.353	ppb	05:11:25
2	Fe 238.204 Radial†	91.3	38.3	13.197	µg/L	13.197	ppb	05:11:25
2	K 766.490 Radial†	-225.6	-2.6	-1.1649	µg/L	-1.1649	ppb	05:11:05
2	Mg 279.077 IEC†	9.5	4.2	6.6419	µg/L	6.6419	ppb	05:11:25
2	Na 589.592 Radial†	1844.3	343.9	40.431	µg/L	40.431	ppb	05:11:05
2	Sr 421.552†	-329.4	131.4	0.1754	µg/L	0.1754	ppb	05:11:05
2	Sc 361.383	196569.1	196569.1	91.987	%	91.987	%	05:12:13
2	Y 371.029	114771.6	114771.6	92.117	%	92.117	%	05:12:13
2	Ag 328.068†	-171.0	-32.1	-1.2371	µg/L	-1.2371	ppb	05:12:33
2	As 188.979†	-1.9	-1.4	-3.5223	µg/L	-3.5223	ppb	05:12:33
2	B 249.677†	584.7	538.8	64.520	µg/L	64.520	ppb	05:12:33
2	Ba 233.527†	-17.4	13.7	0.6782	µg/L	0.6782	ppb	05:12:33
2	Be 313.107†	-232.2	-12.9	-0.0302	µg/L	-0.0302	ppb	05:12:13
2	Cd 226.502†	-30.3	27.3	1.3780	µg/L	1.3780	ppb	05:12:33
2	Co 228.616†	-7.1	8.5	1.6117	µg/L	1.6117	ppb	05:12:33
2	Cr 267.716†	83.7	34.7	1.7949	µg/L	1.7949	ppb	05:12:33
2	Cu 324.752†	346.3	81.0	2.6109	µg/L	2.6109	ppb	05:12:33
2	Mn 257.610†	7.8	29.9	0.4368	µg/L	0.4368	ppb	05:12:33
2	Mo 202.031†	26.6	1.0	0.2139	µg/L	0.2139	ppb	05:12:33
2	Ni 231.604†	-52.8	-4.3	-0.5012	µg/L	-0.5012	ppb	05:12:33

2	P 214.914†	39.7	-1.8	-11.240 µg/L	-11.240 ppb	05:12:33
2	Pb 220.353†	14.5	6.3	4.0948 µg/L	4.0948 ppb	05:12:33
2	S 181.975 Axial†	3.9	1.7	10.915 µg/L	10.915 ppb	05:12:33
2	Sb 206.836†	36.2	8.8	14.655 µg/L	14.655 ppb	05:12:33
2	Se 196.026†	33.3	8.6	18.077 µg/L	18.077 ppb	05:12:33
2	SiO2†	175.6	25.9	29.695 µg/L	29.695 ppb	05:12:33
2	Si 251.611†	140.6	26.4	5.6021 µg/L	5.6021 ppb	05:12:33
2	Sn 189.927†	17.9	8.5	7.6056 µg/L	7.6056 ppb	05:12:33
2	Ti 334.940†	54.2	43.2	0.4140 µg/L	0.4140 ppb	05:12:33
2	Tl 190.801†	-11.7	-2.5	-4.7714 µg/L	-4.7714 ppb	05:12:33
2	U 367.007†	-17.6	6.1	3.8638 µg/L	3.8638 ppb	05:12:13
2	V 292.402†	-14.1	-4.8	-0.2524 µg/L	-0.2524 ppb	05:12:33
2	Zn 213.857†	42.1	70.2	3.8294 µg/L	3.8294 ppb	05:12:33
3	Sc RADIAL	62314.1	62314.1	97.794 %	97.794 %	05:11:27
3	Al 396.153Radial†	13.2	15.7	4.8436 µg/L	4.8436 ppb	05:11:27
3	Ca 317.933Radial†	340.9	114.8	18.863 µg/L	18.863 ppb	05:11:47
3	Fe 238.204 Radial†	98.0	48.5	16.713 µg/L	16.713 ppb	05:11:47
3	K 766.490 Radial†	-160.4	55.5	24.647 µg/L	24.647 ppb	05:11:27
3	Mg 279.077 IEC†	5.5	0.5	0.7502 µg/L	0.7502 ppb	05:11:47
3	Na 589.592 Radial†	1775.2	343.4	40.380 µg/L	40.380 ppb	05:11:27
3	Sr 421.552†	-419.4	26.9	0.0342 µg/L	0.0342 ppb	05:11:27
3	Sc 361.383	199665.5	199665.5	93.436 %	93.436 %	05:12:35
3	Y 371.029	116795.6	116795.6	93.742 %	93.742 %	05:12:35
3	Ag 328.068†	-155.8	-13.0	-0.5072 µg/L	-0.5072 ppb	05:12:55
3	As 188.979†	-1.4	-0.9	-2.1385 µg/L	-2.1385 ppb	05:12:55
3	B 249.677†	554.6	496.6	59.490 µg/L	59.490 ppb	05:12:55
3	Ba 233.527†	-7.5	24.6	1.2202 µg/L	1.2202 ppb	05:12:55
3	Be 313.107†	-207.8	17.2	0.0441 µg/L	0.0441 ppb	05:12:35
3	Cd 226.502†	-27.4	31.0	1.5618 µg/L	1.5618 ppb	05:12:55
3	Co 228.616†	-14.1	1.1	0.2059 µg/L	0.2059 ppb	05:12:55
3	Cr 267.716†	59.9	7.8	0.4018 µg/L	0.4018 ppb	05:12:55
3	Cu 324.752†	346.3	75.1	2.4333 µg/L	2.4333 ppb	05:12:55
3	Mn 257.610†	9.1	31.1	0.4551 µg/L	0.4551 ppb	05:12:55
3	Mo 202.031†	33.6	8.1	1.6592 µg/L	1.6592 ppb	05:12:55
3	Ni 231.604†	-48.9	0.8	0.0930 µg/L	0.0930 ppb	05:12:55
3	P 214.914†	47.9	6.3	38.730 µg/L	38.730 ppb	05:12:55
3	Pb 220.353†	19.4	11.2	7.3178 µg/L	7.3178 ppb	05:12:55
3	S 181.975 Axial†	2.0	-0.3	-2.0412 µg/L	-2.0412 ppb	05:12:55
3	Sb 206.836†	28.6	0.1	0.2209 µg/L	0.2209 ppb	05:12:55
3	Se 196.026†	20.2	-6.0	-12.697 µg/L	-12.697 ppb	05:12:55
3	SiO2†	177.8	25.3	29.036 µg/L	29.036 ppb	05:12:55
3	Si 251.611†	144.9	28.6	6.0468 µg/L	6.0468 ppb	05:12:55
3	Sn 189.927†	16.8	7.0	6.2541 µg/L	6.2541 ppb	05:12:55
3	Ti 334.940†	63.6	52.4	0.5025 µg/L	0.5025 ppb	05:12:55
3	Tl 190.801†	-6.6	3.2	6.2200 µg/L	6.2200 ppb	05:12:55
3	U 367.007†	-6.3	18.5	11.837 µg/L	11.837 ppb	05:12:35
3	V 292.402†	15.7	27.4	1.5002 µg/L	1.5002 ppb	05:12:55
3	Zn 213.857†	37.9	65.0	3.5418 µg/L	3.5418 ppb	05:12:55

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	199376.8	93.301	%	1.2519	93.301	%	1.2519	1.34%
Sc RADIAL	65972.4	103.53	%	6.934	103.53	%	6.934	6.70%
Y 371.029	116488.0	93.495	%	1.2722	93.495	%	1.2722	1.36%
Ag 328.068†	-19.3	-0.7471	µg/L	0.42436	-0.7471	ppb	0.42436	56.80%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	32.9	10.244	µg/L	6.8679	10.244	ppb	6.8679	67.05%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	0.5	1.2679	µg/L	7.13201	1.2679	ppb	7.13201	562.53%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	531.6	63.663	µg/L	3.8167	63.663	ppb	3.8167	6.00%
QC value greater than the upper limit for B 249.677 Recovery = Not calculated								
Ba 233.527†	17.9	0.8882	µg/L	0.29086	0.8882	ppb	0.29086	32.75%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	6.5	0.0176	µg/L	0.04144	0.0176	ppb	0.04144	235.65%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	95.0	15.612	µg/L	2.8855	15.612	ppb	2.8855	18.48%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	33.2	1.6761	µg/L	0.36881	1.6761	ppb	0.36881	22.00%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              6.6      1.2486 µg/L       0.91680      1.2486 ppb        0.91680  73.42%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†             21.4      1.1107 µg/L       0.69689      1.1107 ppb        0.69689  62.74%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             75.7      2.4467 µg/L       0.15799      2.4467 ppb        0.15799   6.46%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†      40.5      13.960 µg/L        2.4617      13.960 ppb         2.4617  17.63%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†       13.6      6.0578 µg/L      16.23182      6.0578 ppb       16.23182 267.95%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†          3.3      5.1752 µg/L       3.90408      5.1752 ppb        3.90408  75.44%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†             34.0      0.4972 µg/L       0.08927      0.4972 ppb        0.08927  17.95%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              4.3      0.8826 µg/L       0.72869      0.8826 ppb        0.72869  82.56%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†     339.6      39.933 µg/L        0.8184      39.933 ppb         0.8184   2.05%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†             -3.1     -0.3610 µg/L       0.40262     -0.3610 ppb        0.40262 111.54%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†               1.7      9.9880 µg/L      25.81869      9.9880 ppb       25.81869 258.50%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†             12.4      8.1103 µg/L       4.46489      8.1103 ppb        4.46489  55.05%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         0.1      0.4260 µg/L       9.49878      0.4260 ppb        9.49878 >999.9%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†              5.5      9.2125 µg/L       7.84424      9.2125 ppb        7.84424  85.15%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†             -0.9     -1.9202 µg/L      17.33564     -1.9202 ppb       17.33564 902.81%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                   25.2      28.884 µg/L        0.8960      28.884 ppb         0.8960   3.10%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†             22.3      4.7145 µg/L       1.93528      4.7145 ppb        1.93528  41.05%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              9.6      8.5426 µg/L       2.87395      8.5426 ppb        2.87395  33.64%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†             77.6      0.1029 µg/L       0.07068      0.1029 ppb        0.07068  68.72%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†             48.4      0.4641 µg/L       0.04541      0.4641 ppb        0.04541   9.78%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              1.4      2.6460 µg/L       6.42510      2.6460 ppb        6.42510 242.82%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†              12.7      8.1105 µg/L       4.01185      8.1105 ppb        4.01185  49.47%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†              14.5      0.7959 µg/L       0.92558      0.7959 ppb        0.92558 116.29%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             73.9      4.0319 µg/L       0.61675      4.0319 ppb        0.61675  15.30%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
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Analysis Begun

Start Time: 11/19/2020 05:18:35 **Plasma On Time: 11/16/2020 04:42:02**
Originator: Avio1 **Technique: ICP Continuous**
Spectrometer: Avio 500, S/N 081S1711281 **Autosampler: ESI**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Sample Information\ 111920.SIF
Results Data Set: 111920
Results Library: C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Results\Results.mdb

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Batch ID:
Sequence No.: 1 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/19/2020 05:18:46**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample):

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	67228.6	67228.6	105.51	%	105.51	%	05:19:29
1	Al 396.153Radial†	17135.1	16243.0	5053.4	µg/L	5053.4	ppb	05:19:31
1	Ca 317.933Radial†	33205.2	31238.5	5133.6	µg/L	5133.6	ppb	05:19:31
1	Fe 238.204 Radial†	16159.9	15264.9	5261.0	µg/L	5261.0	ppb	05:19:31
1	K 766.490 Radial†	12286.5	11864.8	5274.2	µg/L	5274.2	ppb	05:19:31
1	Mg 279.077 IEC†	3497.6	3309.9	5183.9	µg/L	5183.9	ppb	05:19:31
1	Na 589.592 Radial†	90014.2	83844.5	9858.3	µg/L	9858.3	ppb	05:19:29
1	Sr 421.552†	400470.6	380026.1	511.07	µg/L	511.07	ppb	05:19:29
1	Sc 361.383	231799.1	231799.1	108.47	%	108.47	%	05:19:43
1	Y 371.029	134477.4	134477.4	107.93	%	107.93	%	05:19:43
1	Ag 328.068†	13216.3	12337.7	475.10	µg/L	475.10	ppb	05:19:43
1	As 188.979†	203.8	188.4	475.06	µg/L	475.06	ppb	05:20:03
1	B 249.677†	4606.3	4149.6	512.92	µg/L	512.92	ppb	05:19:43
1	Ba 233.527†	10635.6	9837.4	487.69	µg/L	487.69	ppb	05:19:43
1	Be 313.107†	215413.3	198825.5	490.19	µg/L	490.19	ppb	05:19:43
1	Cd 226.502†	10543.8	9780.5	493.39	µg/L	493.39	ppb	05:19:43
1	Co 228.616†	2642.1	2451.9	464.91	µg/L	464.91	ppb	05:20:03
1	Cr 267.716†	10285.6	9425.8	488.11	µg/L	488.11	ppb	05:19:43
1	Cu 324.752†	16515.6	14930.0	481.15	µg/L	481.15	ppb	05:19:43
1	Mn 257.610†	36134.3	33333.0	487.38	µg/L	487.38	ppb	05:19:43
1	Mo 202.031†	2459.0	2239.1	457.08	µg/L	457.08	ppb	05:20:03
1	Ni 231.604†	4434.6	4141.3	485.85	µg/L	485.85	ppb	05:19:43
1	P 214.914†	456.1	375.5	2274.5	µg/L	2274.5	ppb	05:20:03
1	Pb 220.353†	799.1	727.2	475.03	µg/L	475.03	ppb	05:20:03
1	S 181.975 Axial†	159.1	144.1	921.76	µg/L	921.76	ppb	05:20:03
1	Sb 206.836†	324.3	268.5	452.37	µg/L	452.37	ppb	05:20:03
1	Se 196.026†	264.9	216.6	458.67	µg/L	458.67	ppb	05:20:03
1	SiO2†	5160.0	4591.9	5264.7	µg/L	5264.7	ppb	05:19:43
1	Si 251.611†	12657.5	11542.3	2442.8	µg/L	2442.8	ppb	05:19:43
1	Sn 189.927†	560.6	505.8	454.30	µg/L	454.30	ppb	05:20:03
1	Ti 334.940†	54089.0	49848.1	477.40	µg/L	477.40	ppb	05:19:43
1	Tl 190.801†	244.1	235.3	459.46	µg/L	459.46	ppb	05:20:03
1	U 367.007†	799.4	762.2	473.43	µg/L	473.43	ppb	05:19:43
1	V 292.402†	9619.8	8879.0	484.04	µg/L	484.04	ppb	05:19:43
1	Zn 213.857†	9666.6	8935.9	483.37	µg/L	483.37	ppb	05:19:43
2	Sc RADIAL	68964.9	68964.9	108.23	%	108.23	%	05:19:33
2	Al 396.153Radial†	17227.1	15919.1	4952.1	µg/L	4952.1	ppb	05:19:35
2	Ca 317.933Radial†	33536.5	30752.2	5053.7	µg/L	5053.7	ppb	05:19:35
2	Fe 238.204 Radial†	16316.0	15023.5	5177.9	µg/L	5177.9	ppb	05:19:35
2	K 766.490 Radial†	12446.9	11719.8	5209.8	µg/L	5209.8	ppb	05:19:35
2	Mg 279.077 IEC†	3585.7	3307.9	5180.7	µg/L	5180.7	ppb	05:19:35
2	Na 589.592 Radial†	92316.4	83823.8	9855.8	µg/L	9855.8	ppb	05:19:33
2	Sr 421.552†	411493.1	380654.5	511.93	µg/L	511.93	ppb	05:19:33
2	Sc 361.383	228393.4	228393.4	106.88	%	106.88	%	05:20:06
2	Y 371.029	132423.6	132423.6	106.29	%	106.29	%	05:20:06

2	Ag 328.068†	13165.0	12471.4	480.27 µg/L	480.27 ppb	05:20:06
2	As 188.979†	206.1	193.4	487.41 µg/L	487.41 ppb	05:20:26
2	B 249.677†	4637.1	4241.8	523.70 µg/L	523.70 ppb	05:20:06
2	Ba 233.527†	10579.5	9931.1	492.34 µg/L	492.34 ppb	05:20:06
2	Be 313.107†	213343.0	199849.8	492.71 µg/L	492.71 ppb	05:20:06
2	Cd 226.502†	10402.0	9792.7	494.01 µg/L	494.01 ppb	05:20:06
2	Co 228.616†	2621.1	2468.6	468.07 µg/L	468.07 ppb	05:20:26
2	Cr 267.716†	10162.0	9451.5	489.45 µg/L	489.45 ppb	05:20:06
2	Cu 324.752†	16359.3	15010.7	483.71 µg/L	483.71 ppb	05:20:06
2	Mn 257.610†	35722.0	33444.0	489.01 µg/L	489.01 ppb	05:20:06
2	Mo 202.031†	2430.3	2246.0	458.49 µg/L	458.49 ppb	05:20:26
2	Ni 231.604†	4397.5	4167.6	488.93 µg/L	488.93 ppb	05:20:06
2	P 214.914†	448.6	374.8	2269.6 µg/L	2269.6 ppb	05:20:26
2	Pb 220.353†	791.7	731.2	477.66 µg/L	477.66 ppb	05:20:26
2	S 181.975 Axial†	154.7	142.2	909.39 µg/L	909.39 ppb	05:20:26
2	Sb 206.836†	319.1	268.1	451.73 µg/L	451.73 ppb	05:20:26
2	Se 196.026†	258.5	214.2	453.58 µg/L	453.58 ppb	05:20:26
2	SiO2†	5113.9	4619.7	5296.6 µg/L	5296.6 ppb	05:20:06
2	Si 251.611†	12622.4	11683.4	2472.8 µg/L	2472.8 ppb	05:20:06
2	Sn 189.927†	555.6	508.9	457.04 µg/L	457.04 ppb	05:20:26
2	Ti 334.940†	53361.2	49910.6	477.99 µg/L	477.99 ppb	05:20:06
2	Tl 190.801†	248.4	242.7	473.71 µg/L	473.71 ppb	05:20:26
2	U 367.007†	746.3	723.5	448.78 µg/L	448.78 ppb	05:20:06
2	V 292.402†	9550.0	8945.9	487.66 µg/L	487.66 ppb	05:20:06
2	Zn 213.857†	9575.5	8983.5	485.96 µg/L	485.96 ppb	05:20:06
3	Sc RADIAL	67505.9	67505.9	105.94 %	105.94 %	05:19:38
3	Al 396.153Radial†	17230.5	16266.4	5059.7 µg/L	5059.7 ppb	05:19:40
3	Ca 317.933Radial†	33326.5	31223.7	5131.1 µg/L	5131.1 ppb	05:19:40
3	Fe 238.204 Radial†	16236.3	15274.1	5264.4 µg/L	5264.4 ppb	05:19:40
3	K 766.490 Radial†	12206.8	11741.7	5219.5 µg/L	5219.5 ppb	05:19:40
3	Mg 279.077 IEC†	3516.8	3314.4	5191.0 µg/L	5191.0 ppb	05:19:40
3	Na 589.592 Radial†	91304.3	84712.0	9960.3 µg/L	9960.3 ppb	05:19:38
3	Sr 421.552†	407069.7	384696.4	517.36 µg/L	517.36 ppb	05:19:38
3	Sc 361.383	216351.0	216351.0	101.24 %	101.24 %	05:20:28
3	Y 371.029	125747.1	125747.1	100.93 %	100.93 %	05:20:28
3	Ag 328.068†	12395.7	12397.1	477.40 µg/L	477.40 ppb	05:20:28
3	As 188.979†	197.2	195.4	492.37 µg/L	492.37 ppb	05:20:48
3	B 249.677†	4454.7	4303.0	531.30 µg/L	531.30 ppb	05:20:28
3	Ba 233.527†	9905.2	9816.1	486.63 µg/L	486.63 ppb	05:20:28
3	Be 313.107†	199570.1	197356.8	486.58 µg/L	486.58 ppb	05:20:28
3	Cd 226.502†	9719.2	9660.0	487.30 µg/L	487.30 ppb	05:20:28
3	Co 228.616†	2593.5	2577.8	488.74 µg/L	488.74 ppb	05:20:48
3	Cr 267.716†	9499.5	9326.4	482.97 µg/L	482.97 ppb	05:20:28
3	Cu 324.752†	15476.1	14990.4	483.07 µg/L	483.07 ppb	05:20:28
3	Mn 257.610†	33622.3	33230.4	485.88 µg/L	485.88 ppb	05:20:28
3	Mo 202.031†	2406.7	2349.2	479.57 µg/L	479.57 ppb	05:20:48
3	Ni 231.604†	4151.1	4153.2	487.24 µg/L	487.24 ppb	05:20:28
3	P 214.914†	447.5	397.0	2405.7 µg/L	2405.7 ppb	05:20:48
3	Pb 220.353†	769.2	750.2	490.10 µg/L	490.10 ppb	05:20:48
3	S 181.975 Axial†	155.8	151.4	968.28 µg/L	968.28 ppb	05:20:48
3	Sb 206.836†	318.7	284.3	478.90 µg/L	478.90 ppb	05:20:48
3	Se 196.026†	253.7	222.9	472.01 µg/L	472.01 ppb	05:20:48
3	SiO2†	4797.8	4573.8	5243.3 µg/L	5243.3 ppb	05:20:28
3	Si 251.611†	11825.8	11554.0	2444.7 µg/L	2444.7 ppb	05:20:28
3	Sn 189.927†	554.5	536.7	481.84 µg/L	481.84 ppb	05:20:48
3	Ti 334.940†	50392.1	49757.0	476.53 µg/L	476.53 ppb	05:20:28
3	Tl 190.801†	244.4	251.7	491.27 µg/L	491.27 ppb	05:20:48
3	U 367.007†	717.6	734.0	455.24 µg/L	455.24 ppb	05:20:28
3	V 292.402†	8936.1	8836.9	481.74 µg/L	481.74 ppb	05:20:28
3	Zn 213.857†	9056.6	8969.7	485.20 µg/L	485.20 ppb	05:20:28

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	225514.5	105.53	%	3.798	105.53	%	3.798	3.60%
Sc RADIAL	67899.8	106.56	%	1.464	106.56	%	1.464	1.37%
Y 371.029	130882.7	105.05	%	3.664	105.05	%	3.664	3.49%
Ag 328.068†	12402.0	477.59	µg/L	2.591	477.59	ppb	2.591	0.54%
QC value within limits for Ag 328.068 Recovery = 95.52%								
Al 396.153Radial†	16142.8	5021.7	µg/L	60.35	5021.7	ppb	60.35	1.20%

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   QC value within limits for Al 396.153Radial  Recovery = 100.43%
As 188.979†             192.4      484.95 µg/L         8.918      484.95 ppb          8.918   1.84%
   QC value within limits for As 188.979  Recovery = 96.99%
B 249.677†             4231.5      522.64 µg/L         9.236      522.64 ppb          9.236   1.77%
   QC value within limits for B 249.677  Recovery = 104.53%
Ba 233.527†            9861.5      488.88 µg/L         3.039      488.88 ppb          3.039   0.62%
   QC value within limits for Ba 233.527  Recovery = 97.78%
Be 313.107†          198677.4      489.83 µg/L         3.081      489.83 ppb          3.081   0.63%
   QC value within limits for Be 313.107  Recovery = 97.97%
Ca 317.933Radial†     31071.5      5106.1 µg/L         45.45      5106.1 ppb          45.45   0.89%
   QC value within limits for Ca 317.933Radial  Recovery = 102.12%
Cd 226.502†            9744.4      491.57 µg/L         3.708      491.57 ppb          3.708   0.75%
   QC value within limits for Cd 226.502  Recovery = 98.31%
Co 228.616†            2499.4      473.90 µg/L        12.945      473.90 ppb         12.945   2.73%
   QC value within limits for Co 228.616  Recovery = 94.78%
Cr 267.716†            9401.2      486.84 µg/L         3.421      486.84 ppb          3.421   0.70%
   QC value within limits for Cr 267.716  Recovery = 97.37%
Cu 324.752†           14977.0      482.64 µg/L         1.332      482.64 ppb          1.332   0.28%
   QC value within limits for Cu 324.752  Recovery = 96.53%
Fe 238.204 Radial†    15187.5      5234.4 µg/L         48.99      5234.4 ppb          48.99   0.94%
   QC value within limits for Fe 238.204 Radial  Recovery = 104.69%
K 766.490 Radial†     11775.4      5234.5 µg/L         34.74      5234.5 ppb          34.74   0.66%
   QC value within limits for K 766.490 Radial  Recovery = 104.69%
Mg 279.077 IEC†        3310.7      5185.2 µg/L          5.28      5185.2 ppb           5.28   0.10%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.70%
Mn 257.610†           33335.8      487.43 µg/L         1.562      487.43 ppb          1.562   0.32%
   QC value within limits for Mn 257.610  Recovery = 97.49%
Mo 202.031†            2278.1      465.05 µg/L        12.598      465.05 ppb         12.598   2.71%
   QC value within limits for Mo 202.031  Recovery = 93.01%
Na 589.592 Radial†    84126.8      9891.5 µg/L         59.60      9891.5 ppb          59.60   0.60%
   QC value within limits for Na 589.592 Radial  Recovery = 98.91%
Ni 231.604†            4154.0      487.34 µg/L         1.542      487.34 ppb          1.542   0.32%
   QC value within limits for Ni 231.604  Recovery = 97.47%
P 214.914†              382.5      2316.6 µg/L         77.21      2316.6 ppb          77.21   3.33%
   QC value within limits for P 214.914  Recovery = 92.66%
Pb 220.353†             736.2      480.93 µg/L         8.052      480.93 ppb          8.052   1.67%
   QC value within limits for Pb 220.353  Recovery = 96.19%
S 181.975 Axial†        145.9      933.14 µg/L        31.053      933.14 ppb         31.053   3.33%
   QC value within limits for S 181.975 Axial  Recovery = 93.31%
Sb 206.836†             273.6      461.00 µg/L        15.503      461.00 ppb         15.503   3.36%
   QC value within limits for Sb 206.836  Recovery = 92.20%
Se 196.026†             217.9      461.42 µg/L         9.522      461.42 ppb          9.522   2.06%
   QC value within limits for Se 196.026  Recovery = 92.28%
SiO2†                  4595.2      5268.2 µg/L         26.81      5268.2 ppb          26.81   0.51%
   QC value within limits for SiO2  Recovery = 98.52%
Si 251.611†           11593.2      2453.4 µg/L         16.80      2453.4 ppb          16.80   0.68%
   QC value within limits for Si 251.611  Recovery = 98.14%
Sn 189.927†             517.1      464.39 µg/L        15.172      464.39 ppb         15.172   3.27%
   QC value within limits for Sn 189.927  Recovery = 92.88%
Sr 421.552†          381792.3      513.45 µg/L         3.410      513.45 ppb          3.410   0.66%
   QC value within limits for Sr 421.552  Recovery = 102.69%
Ti 334.940†           49838.6      477.31 µg/L         0.735      477.31 ppb          0.735   0.15%
   QC value within limits for Ti 334.940  Recovery = 95.46%
Tl 190.801†             243.2      474.81 µg/L        15.934      474.81 ppb         15.934   3.36%
   QC value within limits for Tl 190.801  Recovery = 94.96%
U 367.007†              739.9      459.15 µg/L        12.785      459.15 ppb         12.785   2.78%
   QC value within limits for U 367.007  Recovery = 91.83%
V 292.402†             8887.2      484.48 µg/L         2.985      484.48 ppb          2.985   0.62%
   QC value within limits for V 292.402  Recovery = 96.90%
Zn 213.857†            8963.0      484.84 µg/L         1.331      484.84 ppb          1.331   0.27%
   QC value within limits for Zn 213.857  Recovery = 96.97%
All analyte(s) passed QC.
```

Batch ID:
Sequence No.: 2 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/19/2020 05:21:18**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	67817.8	67817.8	106.43	%	106.43	%	05:21:55
1	Al 396.153Radial†	-15.8	-12.6	-4.0274	µg/L	-4.0274	ppb	05:21:55
1	Ca 317.933Radial†	295.2	43.6	7.1655	µg/L	7.1655	ppb	05:22:15
1	Fe 238.204 Radial†	84.5	27.8	9.5687	µg/L	9.5687	ppb	05:22:15
1	K 766.490 Radial†	-224.7	8.3	3.7130	µg/L	3.7130	ppb	05:21:55
1	Mg 279.077 IEC†	7.5	1.9	3.0098	µg/L	3.0098	ppb	05:22:15
1	Na 589.592 Radial†	1728.7	152.4	17.920	µg/L	17.920	ppb	05:21:55
1	Sr 421.552†	-417.9	63.1	0.0838	µg/L	0.0838	ppb	05:21:55
1	Sc 361.383	197700.4	197700.4	92.517	%	92.517	%	05:23:03
1	Y 371.029	115352.9	115352.9	92.584	%	92.584	%	05:23:03
1	Ag 328.068†	-146.5	-4.6	-0.1577	µg/L	-0.1577	ppb	05:23:23
1	As 188.979†	-3.9	-3.7	-9.0929	µg/L	-9.0929	ppb	05:23:23
1	B 249.677†	308.4	236.4	28.325	µg/L	28.325	ppb	05:23:23
1	Ba 233.527†	-18.5	12.6	0.6261	µg/L	0.6261	ppb	05:23:23
1	Be 313.107†	-211.1	11.4	0.0288	µg/L	0.0288	ppb	05:23:03
1	Cd 226.502†	-48.8	7.5	0.3778	µg/L	0.3778	ppb	05:23:23
1	Co 228.616†	-13.5	1.6	0.3125	µg/L	0.3125	ppb	05:23:23
1	Cr 267.716†	72.3	21.8	1.1288	µg/L	1.1288	ppb	05:23:23
1	Cu 324.752†	337.9	69.7	2.2190	µg/L	2.2190	ppb	05:23:23
1	Mn 257.610†	-10.0	10.6	0.1550	µg/L	0.1550	ppb	05:23:23
1	Mo 202.031†	34.0	8.9	1.8113	µg/L	1.8113	ppb	05:23:23
1	Ni 231.604†	-55.5	-6.9	-0.8107	µg/L	-0.8107	ppb	05:23:23
1	P 214.914†	41.1	-0.5	-3.1379	µg/L	-3.1379	ppb	05:23:23
1	Pb 220.353†	17.7	9.6	6.3050	µg/L	6.3050	ppb	05:23:23
1	S 181.975 Axial†	1.4	-1.0	-6.5177	µg/L	-6.5177	ppb	05:23:23
1	Sb 206.836†	40.8	13.6	22.602	µg/L	22.602	ppb	05:23:23
1	Se 196.026†	30.0	4.8	10.176	µg/L	10.176	ppb	05:23:23
1	SiO2†	173.0	21.9	25.155	µg/L	25.155	ppb	05:23:23
1	Si 251.611†	137.2	21.8	4.5859	µg/L	4.5859	ppb	05:23:23
1	Sn 189.927†	23.4	14.3	12.764	µg/L	12.764	ppb	05:23:23
1	Ti 334.940†	32.6	19.5	0.1874	µg/L	0.1874	ppb	05:23:23
1	Tl 190.801†	-10.0	-0.5	-0.9523	µg/L	-0.9523	ppb	05:23:23
1	U 367.007†	-48.0	-26.7	-17.230	µg/L	-17.230	ppb	05:23:03
1	V 292.402†	-3.2	7.1	0.3798	µg/L	0.3798	ppb	05:23:23
1	Zn 213.857†	9.6	34.8	1.8974	µg/L	1.8974	ppb	05:23:23
2	Sc RADIAL	64997.2	64997.2	102.00	%	102.00	%	05:22:17
2	Al 396.153Radial†	-1.5	0.7	0.1980	µg/L	0.1980	ppb	05:22:17
2	Ca 317.933Radial†	311.8	71.9	11.818	µg/L	11.818	ppb	05:22:37
2	Fe 238.204 Radial†	79.7	26.5	9.1225	µg/L	9.1225	ppb	05:22:37
2	K 766.490 Radial†	-228.0	-4.1	-1.8183	µg/L	-1.8183	ppb	05:22:17
2	Mg 279.077 IEC†	3.2	-2.0	-3.1979	µg/L	-3.1979	ppb	05:22:37
2	Na 589.592 Radial†	1709.5	204.0	23.988	µg/L	23.988	ppb	05:22:17
2	Sr 421.552†	-334.4	127.8	0.1710	µg/L	0.1710	ppb	05:22:17
2	Sc 361.383	202150.2	202150.2	94.599	%	94.599	%	05:23:26
2	Y 371.029	118015.7	118015.7	94.721	%	94.721	%	05:23:26
2	Ag 328.068†	-164.2	-19.8	-0.7271	µg/L	-0.7271	ppb	05:23:46
2	As 188.979†	-3.0	-2.6	-6.4598	µg/L	-6.4598	ppb	05:23:46
2	B 249.677†	299.0	219.2	26.268	µg/L	26.268	ppb	05:23:46
2	Ba 233.527†	-21.0	10.4	0.5171	µg/L	0.5171	ppb	05:23:46
2	Be 313.107†	-198.8	29.5	0.0738	µg/L	0.0738	ppb	05:23:26
2	Cd 226.502†	-51.5	5.9	0.2946	µg/L	0.2946	ppb	05:23:46
2	Co 228.616†	-12.9	2.5	0.4826	µg/L	0.4826	ppb	05:23:46
2	Cr 267.716†	70.5	18.2	0.9412	µg/L	0.9412	ppb	05:23:46
2	Cu 324.752†	332.6	56.0	1.7600	µg/L	1.7600	ppb	05:23:46
2	Mn 257.610†	6.0	27.7	0.4050	µg/L	0.4050	ppb	05:23:46
2	Mo 202.031†	28.1	1.9	0.3871	µg/L	0.3871	ppb	05:23:46
2	Ni 231.604†	-51.8	-1.7	-0.1945	µg/L	-0.1945	ppb	05:23:46

2	P 214.914†	44.0	1.6	9.5675 µg/L	9.5675 ppb	05:23:46
2	Pb 220.353†	14.3	5.6	3.6993 µg/L	3.6993 ppb	05:23:46
2	S 181.975 Axial†	5.3	3.2	20.158 µg/L	20.158 ppb	05:23:46
2	Sb 206.836†	37.0	8.6	14.185 µg/L	14.185 ppb	05:23:46
2	Se 196.026†	28.7	2.7	5.6549 µg/L	5.6549 ppb	05:23:46
2	SiO2†	183.8	29.3	33.593 µg/L	33.593 ppb	05:23:46
2	Si 251.611†	135.0	16.3	3.4525 µg/L	3.4525 ppb	05:23:46
2	Sn 189.927†	14.7	4.5	4.0460 µg/L	4.0460 ppb	05:23:46
2	Ti 334.940†	54.1	41.4	0.3970 µg/L	0.3970 ppb	05:23:46
2	Tl 190.801†	-10.9	-1.2	-2.3035 µg/L	-2.3035 ppb	05:23:46
2	U 367.007†	-71.4	-50.3	-32.454 µg/L	-32.454 ppb	05:23:26
2	V 292.402†	2.5	13.2	0.6995 µg/L	0.6995 ppb	05:23:46
2	Zn 213.857†	10.5	35.5	1.9368 µg/L	1.9368 ppb	05:23:46
3	Sc RADIAL	62442.8	62442.8	97.996 %	97.996 %	05:22:39
3	Al 396.153Radial†	46.9	50.0	15.590 µg/L	15.590 ppb	05:22:39
3	Ca 317.933Radial†	281.9	53.9	8.8588 µg/L	8.8588 ppb	05:23:00
3	Fe 238.204 Radial†	77.0	27.0	9.3011 µg/L	9.3011 ppb	05:23:00
3	K 766.490 Radial†	-221.4	-6.5	-2.8948 µg/L	-2.8948 ppb	05:22:39
3	Mg 279.077 IEC†	15.6	10.7	16.824 µg/L	16.824 ppb	05:23:00
3	Na 589.592 Radial†	1704.7	267.7	31.477 µg/L	31.477 ppb	05:22:39
3	Sr 421.552†	-451.5	-5.1	-0.0079 µg/L	-0.0079 ppb	05:22:39
3	Sc 361.383	187209.5	187209.5	87.607 %	87.607 %	05:23:48
3	Y 371.029	109320.1	109320.1	87.742 %	87.742 %	05:23:48
3	Ag 328.068†	-157.1	-25.5	-0.9260 µg/L	-0.9260 ppb	05:24:08
3	As 188.979†	-1.2	-0.8	-2.0097 µg/L	-2.0097 ppb	05:24:08
3	B 249.677†	288.1	231.9	27.787 µg/L	27.787 ppb	05:24:08
3	Ba 233.527†	-24.1	5.1	0.2539 µg/L	0.2539 ppb	05:24:08
3	Be 313.107†	-268.9	-67.3	-0.1647 µg/L	-0.1647 ppb	05:23:48
3	Cd 226.502†	-48.9	4.5	0.2239 µg/L	0.2239 ppb	05:24:08
3	Co 228.616†	-8.2	6.8	1.2867 µg/L	1.2867 ppb	05:24:08
3	Cr 267.716†	69.6	23.1	1.1975 µg/L	1.1975 ppb	05:24:08
3	Cu 324.752†	334.9	86.8	2.7213 µg/L	2.7213 ppb	05:24:08
3	Mn 257.610†	-3.1	17.9	0.2613 µg/L	0.2613 ppb	05:24:08
3	Mo 202.031†	27.3	3.3	0.6806 µg/L	0.6806 ppb	05:24:08
3	Ni 231.604†	-52.7	-7.1	-0.8315 µg/L	-0.8315 ppb	05:24:08
3	P 214.914†	43.4	4.6	28.091 µg/L	28.091 ppb	05:24:08
3	Pb 220.353†	11.5	3.6	2.4396 µg/L	2.4396 ppb	05:24:08
3	S 181.975 Axial†	1.3	-1.0	-6.5678 µg/L	-6.5678 ppb	05:24:08
3	Sb 206.836†	28.2	1.6	2.7026 µg/L	2.7026 ppb	05:24:08
3	Se 196.026†	24.6	0.4	0.8911 µg/L	0.8911 ppb	05:24:08
3	SiO2†	173.1	32.6	37.371 µg/L	37.371 ppb	05:24:08
3	Si 251.611†	127.0	18.5	3.9211 µg/L	3.9211 ppb	05:24:08
3	Sn 189.927†	13.5	4.4	3.9309 µg/L	3.9309 ppb	05:24:08
3	Ti 334.940†	31.3	20.0	0.1923 µg/L	0.1923 ppb	05:24:08
3	Tl 190.801†	-13.0	-4.5	-8.7978 µg/L	-8.7978 ppb	05:24:08
3	U 367.007†	-94.4	-82.5	-53.195 µg/L	-53.195 ppb	05:23:48
3	V 292.402†	-0.2	10.4	0.5333 µg/L	0.5333 ppb	05:24:08
3	Zn 213.857†	3.6	28.5	1.5538 µg/L	1.5538 ppb	05:24:08

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	195686.7	91.574	%	3.5899	91.574	%	3.5899	3.92%
Sc RADIAL	65086.0	102.14	%	4.219	102.14	%	4.219	4.13%
Y 371.029	114229.6	91.682	%	3.5759	91.682	%	3.5759	3.90%
Ag 328.068†	-16.6	-0.6036	µg/L	0.39878	-0.6036	ppb	0.39878	66.07%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	12.7	3.9201	µg/L	10.32463	3.9201	ppb	10.32463	263.38%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-2.4	-5.8541	µg/L	3.58024	-5.8541	ppb	3.58024	61.16%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	229.2	27.460	µg/L	1.0670	27.460	ppb	1.0670	3.89%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	9.4	0.4657	µg/L	0.19133	0.4657	ppb	0.19133	41.09%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-8.8	-0.0207	µg/L	0.12672	-0.0207	ppb	0.12672	611.71%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	56.5	9.2807	µg/L	2.35459	9.2807	ppb	2.35459	25.37%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	5.9	0.2988	µg/L	0.07700	0.2988	ppb	0.07700	25.77%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              3.7      0.6939 µg/L       0.52038      0.6939 ppb        0.52038  74.99%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†             21.0      1.0892 µg/L       0.13264      1.0892 ppb        0.13264  12.18%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             70.8      2.2335 µg/L       0.48083      2.2335 ppb        0.48083  21.53%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†      27.1      9.3308 µg/L       0.22459      9.3308 ppb        0.22459   2.41%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†       -0.8     -0.3334 µg/L       3.54537     -0.3334 ppb        3.54537 >999.9%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†          3.5      5.5452 µg/L      10.24868      5.5452 ppb       10.24868 184.82%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†             18.7      0.2737 µg/L       0.12547      0.2737 ppb        0.12547  45.84%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              4.7      0.9597 µg/L       0.75196      0.9597 ppb        0.75196  78.36%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†     208.0      24.462 µg/L        6.7909      24.462 ppb         6.7909  27.76%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†             -5.2     -0.6122 µg/L       0.36196     -0.6122 ppb        0.36196  59.12%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†               1.9      11.507 µg/L       15.7047      11.507 ppb        15.7047 136.48%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†              6.3      4.1480 µg/L       1.97138      4.1480 ppb        1.97138  47.53%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         0.4      2.3574 µg/L      15.41563      2.3574 ppb       15.41563 653.91%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†              7.9      13.163 µg/L        9.9889      13.163 ppb         9.9889  75.88%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              2.6      5.5739 µg/L       4.64273      5.5739 ppb        4.64273  83.29%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                   27.9      32.040 µg/L        6.2543      32.040 ppb         6.2543  19.52%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†             18.9      3.9865 µg/L       0.56954      3.9865 ppb        0.56954  14.29%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              7.7      6.9135 µg/L       5.06669      6.9135 ppb        5.06669  73.29%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†             61.9      0.0823 µg/L       0.08948      0.0823 ppb        0.08948 108.75%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†             27.0      0.2589 µg/L       0.11963      0.2589 ppb        0.11963  46.20%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†             -2.1     -4.0179 µg/L       4.19432     -4.0179 ppb        4.19432 104.39%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†             -53.2     -34.293 µg/L       18.0530     -34.293 ppb        18.0530  52.64%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†              10.3      0.5375 µg/L       0.15992      0.5375 ppb        0.15992  29.75%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             32.9      1.7960 µg/L       0.21068      1.7960 ppb        0.21068  11.73%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Batch ID:
Sequence No.: 3 **Autosampler Location: 301**
Sample ID: 1204695446|2063261|1| **Date Collected: 11/19/2020 05:24:38**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: 1204695446|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	67306.5	67306.5	105.63	%	105.63	%	05:25:17
1	Al 396.153Radial†	91.3	88.6	27.700	µg/L	27.700	ppb	05:25:17
1	Ca 317.933Radial†	351.6	99.1	16.286	µg/L	16.286	ppb	05:25:37
1	Fe 238.204 Radial†	73.8	18.2	6.2979	µg/L	6.2979	ppb	05:25:37
1	K 766.490 Radial†	-212.6	18.2	8.0815	µg/L	8.0815	ppb	05:25:17
1	Mg 279.077 IEC†	21.2	15.0	23.428	µg/L	23.428	ppb	05:25:37
1	Na 589.592 Radial†	1739.9	175.3	20.611	µg/L	20.611	ppb	05:25:17
1	Sr 421.552†	-432.6	46.2	0.0614	µg/L	0.0614	ppb	05:25:17
1	Sc 361.383	201923.7	201923.7	94.493	%	94.493	%	05:26:25
1	Y 371.029	117924.9	117924.9	94.648	%	94.648	%	05:26:25
1	Ag 328.068†	-163.7	-19.5	-0.7511	µg/L	-0.7511	ppb	05:26:45
1	As 188.979†	-3.5	-3.1	-7.6964	µg/L	-7.6964	ppb	05:26:45
1	B 249.677†	269.8	188.6	22.595	µg/L	22.595	ppb	05:26:45
1	Ba 233.527†	-22.4	8.9	0.4418	µg/L	0.4418	ppb	05:26:45
1	Be 313.107†	-210.9	16.4	0.0414	µg/L	0.0414	ppb	05:26:25
1	Cd 226.502†	-43.4	14.3	0.7226	µg/L	0.7226	ppb	05:26:45
1	Co 228.616†	-8.3	7.4	1.4075	µg/L	1.4075	ppb	05:26:45
1	Cr 267.716†	64.2	11.6	0.5993	µg/L	0.5993	ppb	05:26:45
1	Cu 324.752†	338.0	62.2	2.0059	µg/L	2.0059	ppb	05:26:45
1	Mn 257.610†	-15.1	5.4	0.0795	µg/L	0.0795	ppb	05:26:45
1	Mo 202.031†	23.7	-2.7	-0.5587	µg/L	-0.5587	ppb	05:26:45
1	Ni 231.604†	-49.3	1.0	0.1145	µg/L	0.1145	ppb	05:26:45
1	P 214.914†	45.4	3.1	18.954	µg/L	18.954	ppb	05:26:45
1	Pb 220.353†	9.1	0.1	0.0518	µg/L	0.0518	ppb	05:26:45
1	S 181.975 Axial†	4.6	2.4	15.193	µg/L	15.193	ppb	05:26:45
1	Sb 206.836†	34.4	5.9	9.6972	µg/L	9.6972	ppb	05:26:45
1	Se 196.026†	23.0	-3.3	-6.8626	µg/L	-6.8626	ppb	05:26:45
1	SiO2†	174.6	19.8	22.755	µg/L	22.755	ppb	05:26:45
1	Si 251.611†	127.6	8.6	1.8452	µg/L	1.8452	ppb	05:26:45
1	Sn 189.927†	13.7	3.5	3.1557	µg/L	3.1557	ppb	05:26:45
1	Ti 334.940†	45.5	32.4	0.3103	µg/L	0.3103	ppb	05:26:45
1	Tl 190.801†	-14.1	-4.6	-9.0288	µg/L	-9.0288	ppb	05:26:45
1	U 367.007†	-18.6	5.5	3.5284	µg/L	3.5284	ppb	05:26:25
1	V 292.402†	1.2	11.8	0.6469	µg/L	0.6469	ppb	05:26:45
1	Zn 213.857†	23.3	49.1	2.6737	µg/L	2.6737	ppb	05:26:45
2	Sc RADIAL	62542.4	62542.4	98.152	%	98.152	%	05:25:39
2	Al 396.153Radial†	-20.3	-18.5	-5.7804	µg/L	-5.7804	ppb	05:25:39
2	Ca 317.933Radial†	305.4	77.4	12.721	µg/L	12.721	ppb	05:25:59
2	Fe 238.204 Radial†	71.2	20.9	7.2262	µg/L	7.2262	ppb	05:25:59
2	K 766.490 Radial†	-276.4	-62.1	-27.597	µg/L	-27.597	ppb	05:25:39
2	Mg 279.077 IEC†	4.9	-0.2	-0.2553	µg/L	-0.2553	ppb	05:25:59
2	Na 589.592 Radial†	1674.3	233.9	27.507	µg/L	27.507	ppb	05:25:39
2	Sr 421.552†	-307.9	142.0	0.1903	µg/L	0.1903	ppb	05:25:39
2	Sc 361.383	195095.8	195095.8	91.298	%	91.298	%	05:26:47
2	Y 371.029	113994.2	113994.2	91.493	%	91.493	%	05:26:47
2	Ag 328.068†	-146.3	-6.4	-0.2405	µg/L	-0.2405	ppb	05:27:07
2	As 188.979†	-0.5	0.0	0.0797	µg/L	0.0797	ppb	05:27:07
2	B 249.677†	239.1	165.0	19.776	µg/L	19.776	ppb	05:27:07
2	Ba 233.527†	-14.8	16.4	0.8112	µg/L	0.8112	ppb	05:27:07
2	Be 313.107†	-259.4	-44.5	-0.1083	µg/L	-0.1083	ppb	05:26:47
2	Cd 226.502†	-51.2	4.2	0.2119	µg/L	0.2119	ppb	05:27:07
2	Co 228.616†	-6.7	8.9	1.6808	µg/L	1.6808	ppb	05:27:07
2	Cr 267.716†	67.4	17.5	0.9041	µg/L	0.9041	ppb	05:27:07
2	Cu 324.752†	342.8	79.9	2.5629	µg/L	2.5629	ppb	05:27:07
2	Mn 257.610†	-4.0	17.0	0.2480	µg/L	0.2480	ppb	05:27:07
2	Mo 202.031†	26.1	0.8	0.1531	µg/L	0.1531	ppb	05:27:07
2	Ni 231.604†	-41.6	7.5	0.8857	µg/L	0.8857	ppb	05:27:07

2	P 214.914†	48.3	8.0	49.085 µg/L	49.085 ppb	05:27:07
2	Pb 220.353†	11.7	3.4	2.1986 µg/L	2.1986 ppb	05:27:07
2	S 181.975 Axial†	2.6	0.3	2.0016 µg/L	2.0016 ppb	05:27:07
2	Sb 206.836†	39.8	13.0	21.613 µg/L	21.613 ppb	05:27:07
2	Se 196.026†	30.4	5.7	11.925 µg/L	11.925 ppb	05:27:07
2	SiO2†	174.5	26.2	30.020 µg/L	30.020 ppb	05:27:07
2	Si 251.611†	139.9	26.8	5.6922 µg/L	5.6922 ppb	05:27:07
2	Sn 189.927†	18.7	9.5	8.5085 µg/L	8.5085 ppb	05:27:07
2	Ti 334.940†	42.3	30.7	0.2935 µg/L	0.2935 ppb	05:27:07
2	Tl 190.801†	-7.1	2.5	4.8258 µg/L	4.8258 ppb	05:27:07
2	U 367.007†	-31.2	-8.9	-5.7816 µg/L	-5.7816 ppb	05:26:47
2	V 292.402†	-7.4	2.5	0.1341 µg/L	0.1341 ppb	05:27:07
2	Zn 213.857†	29.6	56.8	3.0907 µg/L	3.0907 ppb	05:27:07
3	Sc RADIAL	63591.8	63591.8	99.799 %	99.799 %	05:26:01
3	Al 396.153Radial†	20.8	23.0	7.1878 µg/L	7.1878 ppb	05:26:01
3	Ca 317.933Radial†	320.4	87.3	14.348 µg/L	14.348 ppb	05:26:21
3	Fe 238.204 Radial†	71.5	20.0	6.8739 µg/L	6.8739 ppb	05:26:21
3	K 766.490 Radial†	-179.2	39.9	17.713 µg/L	17.713 ppb	05:26:01
3	Mg 279.077 IEC†	5.0	-0.2	-0.2627 µg/L	-0.2627 ppb	05:26:21
3	Na 589.592 Radial†	1700.4	231.9	27.270 µg/L	27.270 ppb	05:26:01
3	Sr 421.552†	-467.8	-13.1	-0.0184 µg/L	-0.0184 ppb	05:26:01
3	Sc 361.383	201395.0	201395.0	94.246 %	94.246 %	05:27:10
3	Y 371.029	117685.5	117685.5	94.456 %	94.456 %	05:27:10
3	Ag 328.068†	-157.9	-13.8	-0.5264 µg/L	-0.5264 ppb	05:27:30
3	As 188.979†	-2.8	-2.4	-5.9554 µg/L	-5.9554 ppb	05:27:30
3	B 249.677†	250.7	169.1	20.262 µg/L	20.262 ppb	05:27:30
3	Ba 233.527†	-15.9	15.7	0.7777 µg/L	0.7777 ppb	05:27:30
3	Be 313.107†	-259.9	-36.1	-0.0877 µg/L	-0.0877 ppb	05:27:10
3	Cd 226.502†	-40.3	17.5	0.8839 µg/L	0.8839 ppb	05:27:30
3	Co 228.616†	-14.8	0.5	0.0881 µg/L	0.0881 ppb	05:27:30
3	Cr 267.716†	67.0	14.8	0.7647 µg/L	0.7647 ppb	05:27:30
3	Cu 324.752†	316.3	40.1	1.2879 µg/L	1.2879 ppb	05:27:30
3	Mn 257.610†	2.0	23.5	0.3431 µg/L	0.3431 ppb	05:27:30
3	Mo 202.031†	26.4	0.1	0.0296 µg/L	0.0296 ppb	05:27:30
3	Ni 231.604†	-50.0	0.0	0.0053 µg/L	0.0053 ppb	05:27:30
3	P 214.914†	43.7	1.4	8.8277 µg/L	8.8277 ppb	05:27:30
3	Pb 220.353†	6.2	-2.9	-1.9176 µg/L	-1.9176 ppb	05:27:30
3	S 181.975 Axial†	2.0	-0.3	-2.2161 µg/L	-2.2161 ppb	05:27:30
3	Sb 206.836†	35.0	6.6	10.901 µg/L	10.901 ppb	05:27:30
3	Se 196.026†	29.6	3.8	7.9441 µg/L	7.9441 ppb	05:27:30
3	SiO2†	170.9	16.4	18.804 µg/L	18.804 ppb	05:27:30
3	Si 251.611†	140.3	22.4	4.7632 µg/L	4.7632 ppb	05:27:30
3	Sn 189.927†	20.1	10.4	9.2445 µg/L	9.2445 ppb	05:27:30
3	Ti 334.940†	45.0	32.1	0.3072 µg/L	0.3072 ppb	05:27:30
3	Tl 190.801†	-8.8	1.0	1.9626 µg/L	1.9626 ppb	05:27:30
3	U 367.007†	-27.7	-4.2	-2.6971 µg/L	-2.6971 ppb	05:27:10
3	V 292.402†	-6.3	3.9	0.2129 µg/L	0.2129 ppb	05:27:30
3	Zn 213.857†	25.4	51.3	2.7973 µg/L	2.7973 ppb	05:27:30

Mean Data: 1204695446|2063261|1|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	199471.5	93.345	%	1.7776	93.345	%	1.7776	1.90%
Sc RADIAL	64480.2	101.19	%	3.928	101.19	%	3.928	3.88%
Y 371.029	116534.9	93.533	%	1.7686	93.533	%	1.7686	1.89%
Ag 328.068†	-13.2	-0.5060	µg/L	0.25592	-0.5060	ppb	0.25592	50.58%
Al 396.153Radial†	31.0	9.7024	µg/L	16.88124	9.7024	ppb	16.88124	173.99%
As 188.979†	-1.8	-4.5240	µg/L	4.08091	-4.5240	ppb	4.08091	90.20%
B 249.677†	174.3	20.877	µg/L	1.5071	20.877	ppb	1.5071	7.22%
Ba 233.527†	13.7	0.6769	µg/L	0.20429	0.6769	ppb	0.20429	30.18%
Be 313.107†	-21.4	-0.0515	µg/L	0.08112	-0.0515	ppb	0.08112	157.48%
Ca 317.933Radial†	87.9	14.452	µg/L	1.7849	14.452	ppb	1.7849	12.35%
Cd 226.502†	12.0	0.6061	µg/L	0.35080	0.6061	ppb	0.35080	57.88%
Co 228.616†	5.6	1.0588	µg/L	0.85171	1.0588	ppb	0.85171	80.44%
Cr 267.716†	14.6	0.7560	µg/L	0.15262	0.7560	ppb	0.15262	20.19%
Cu 324.752†	60.8	1.9522	µg/L	0.63919	1.9522	ppb	0.63919	32.74%
Fe 238.204 Radial†	19.7	6.7993	µg/L	0.46864	6.7993	ppb	0.46864	6.89%
K 766.490 Radial†	-1.4	-0.6009	µg/L	23.87008	-0.6009	ppb	23.87008	>999.9%
Mg 279.077 IEC†	4.9	7.6365	µg/L	13.67549	7.6365	ppb	13.67549	179.08%
Mn 257.610†	15.3	0.2235	µg/L	0.13345	0.2235	ppb	0.13345	59.70%

Mo 202.031†	-0.6	-0.1254 µg/L	0.38033	-0.1254 ppb	0.38033	303.40%
Na 589.592 Radial†	213.7	25.130 µg/L	3.9146	25.130 ppb	3.9146	15.58%
Ni 231.604†	2.9	0.3352 µg/L	0.47986	0.3352 ppb	0.47986	143.18%
P 214.914†	4.2	25.622 µg/L	20.9409	25.622 ppb	20.9409	81.73%
Pb 220.353†	0.2	0.1109 µg/L	2.05874	0.1109 ppb	2.05874	>999.9%
S 181.975 Axial†	0.8	4.9929 µg/L	9.08194	4.9929 ppb	9.08194	181.90%
Sb 206.836†	8.5	14.070 µg/L	6.5597	14.070 ppb	6.5597	46.62%
Se 196.026†	2.1	4.3354 µg/L	9.89992	4.3354 ppb	9.89992	228.35%
SiO2†	20.8	23.860 µg/L	5.6887	23.860 ppb	5.6887	23.84%
Si 251.611†	19.3	4.1002 µg/L	2.00735	4.1002 ppb	2.00735	48.96%
Sn 189.927†	7.8	6.9696 µg/L	3.32334	6.9696 ppb	3.32334	47.68%
Sr 421.552†	58.4	0.0778 µg/L	0.10533	0.0778 ppb	0.10533	135.45%
Ti 334.940†	31.7	0.3037 µg/L	0.00897	0.3037 ppb	0.00897	2.95%
Tl 190.801†	-0.4	-0.7468 µg/L	7.31393	-0.7468 ppb	7.31393	979.39%
U 367.007†	-2.5	-1.6501 µg/L	4.74245	-1.6501 ppb	4.74245	287.40%
V 292.402†	6.1	0.3313 µg/L	0.27613	0.3313 ppb	0.27613	83.35%
Zn 213.857†	52.4	2.8539 µg/L	0.21417	2.8539 ppb	0.21417	7.50%

Batch ID:
Sequence No.: 4 **Autosampler Location: 302**
Sample ID: 1204695447|2063261|1| **Date Collected: 11/19/2020 05:28:01**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: 1204695447|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	69250.2	69250.2	108.68	%	108.68	%	05:28:44
1	Al 396.153Radial†	16641.7	15315.0	4762.7	µg/L	4762.7	ppb	05:28:46
1	Ca 317.933Radial†	31993.2	29204.5	4799.3	µg/L	4799.3	ppb	05:28:46
1	Fe 238.204 Radial†	15595.2	14298.1	4928.3	µg/L	4928.3	ppb	05:28:46
1	K 766.490 Radial†	12005.4	11266.1	5008.1	µg/L	5008.1	ppb	05:28:46
1	Mg 279.077 IEC†	3414.9	3137.0	4913.1	µg/L	4913.1	ppb	05:28:46
1	Na 589.592 Radial†	44776.5	39728.9	4670.8	µg/L	4670.8	ppb	05:28:44
1	Sr 421.552†	391557.7	360744.7	485.15	µg/L	485.15	ppb	05:28:44
1	Sc 361.383	225762.1	225762.1	105.65	%	105.65	%	05:28:58
1	Y 371.029	131274.3	131274.3	105.36	%	105.36	%	05:28:58
1	Ag 328.068†	2515.7	2535.0	98.245	µg/L	98.245	ppb	05:28:58
1	As 188.979†	198.1	188.1	474.08	µg/L	474.08	ppb	05:29:18
1	B 249.677†	4495.8	4158.6	512.97	µg/L	512.97	ppb	05:28:58
1	Ba 233.527†	10432.9	9907.7	491.19	µg/L	491.19	ppb	05:28:58
1	Be 313.107†	208880.5	197952.4	488.04	µg/L	488.04	ppb	05:28:58
1	Cd 226.502†	10238.3	9751.2	491.95	µg/L	491.95	ppb	05:28:58
1	Co 228.616†	2701.5	2573.3	487.90	µg/L	487.90	ppb	05:29:18
1	Cr 267.716†	9766.7	9188.2	475.81	µg/L	475.81	ppb	05:28:58
1	Cu 324.752†	15596.3	14466.9	466.21	µg/L	466.21	ppb	05:28:58
1	Mn 257.610†	34469.2	32647.7	477.37	µg/L	477.37	ppb	05:28:58
1	Mo 202.031†	2498.1	2336.7	477.00	µg/L	477.00	ppb	05:29:18
1	Ni 231.604†	4265.3	4090.4	479.87	µg/L	479.87	ppb	05:28:58
1	P 214.914†	129.5	77.6	444.58	µg/L	444.58	ppb	05:29:18
1	Pb 220.353†	801.3	749.0	489.21	µg/L	489.21	ppb	05:29:18
1	S 181.975 Axial†	776.0	732.0	4678.3	µg/L	4678.3	ppb	05:29:18
1	Sb 206.836†	336.6	288.0	485.10	µg/L	485.10	ppb	05:29:18
1	Se 196.026†	267.2	225.2	476.74	µg/L	476.74	ppb	05:29:18
1	SiO2†	9272.5	8611.7	9875.4	µg/L	9875.4	ppb	05:28:58
1	Si 251.611†	22940.8	21587.8	4579.8	µg/L	4579.8	ppb	05:28:58
1	Sn 189.927†	612.3	568.6	510.37	µg/L	510.37	ppb	05:29:18
1	Ti 334.940†	52397.2	49580.1	474.81	µg/L	474.81	ppb	05:28:58
1	Tl 190.801†	242.3	239.6	467.81	µg/L	467.81	ppb	05:29:18
1	U 367.007†	753.5	738.4	459.23	µg/L	459.23	ppb	05:28:58
1	V 292.402†	9287.5	8801.6	479.81	µg/L	479.81	ppb	05:28:58
1	Zn 213.857†	9168.1	8702.3	470.72	µg/L	470.72	ppb	05:28:58
2	Sc RADIAL	66111.4	66111.4	103.75	%	103.75	%	05:28:48
2	Al 396.153Radial†	17236.6	16615.3	5169.0	µg/L	5169.0	ppb	05:28:50
2	Ca 317.933Radial†	33310.4	31871.7	5237.6	µg/L	5237.6	ppb	05:28:50
2	Fe 238.204 Radial†	16183.0	15546.0	5357.9	µg/L	5357.9	ppb	05:28:50
2	K 766.490 Radial†	12372.6	12144.5	5398.6	µg/L	5398.6	ppb	05:28:50
2	Mg 279.077 IEC†	3508.8	3376.7	5288.6	µg/L	5288.6	ppb	05:28:50
2	Na 589.592 Radial†	45258.3	42149.4	4955.3	µg/L	4955.3	ppb	05:28:48
2	Sr 421.552†	397252.8	383339.2	515.52	µg/L	515.52	ppb	05:28:48
2	Sc 361.383	225382.7	225382.7	105.47	%	105.47	%	05:29:20
2	Y 371.029	130873.4	130873.4	105.04	%	105.04	%	05:29:20
2	Ag 328.068†	2465.9	2491.7	96.594	µg/L	96.594	ppb	05:29:20
2	As 188.979†	195.6	186.0	468.93	µg/L	468.93	ppb	05:29:40
2	B 249.677†	4470.6	4141.8	512.29	µg/L	512.29	ppb	05:29:20
2	Ba 233.527†	10331.8	9828.5	487.22	µg/L	487.22	ppb	05:29:20
2	Be 313.107†	205438.4	195021.7	480.81	µg/L	480.81	ppb	05:29:20
2	Cd 226.502†	10105.8	9641.9	486.38	µg/L	486.38	ppb	05:29:20
2	Co 228.616†	2675.6	2553.0	484.05	µg/L	484.05	ppb	05:29:40
2	Cr 267.716†	9586.4	9032.8	467.76	µg/L	467.76	ppb	05:29:20
2	Cu 324.752†	15394.5	14300.5	460.86	µg/L	460.86	ppb	05:29:20
2	Mn 257.610†	34008.5	32265.8	471.78	µg/L	471.78	ppb	05:29:20
2	Mo 202.031†	2472.5	2316.4	472.85	µg/L	472.85	ppb	05:29:40
2	Ni 231.604†	4202.5	4037.6	473.69	µg/L	473.69	ppb	05:29:20

2	P 214.914†	129.5	77.8	445.87 µg/L	445.87 ppb	05:29:40
2	Pb 220.353†	808.8	757.3	494.75 µg/L	494.75 ppb	05:29:40
2	S 181.975 Axial†	765.4	723.2	4621.9 µg/L	4621.9 ppb	05:29:40
2	Sb 206.836†	338.4	290.3	488.82 µg/L	488.82 ppb	05:29:40
2	Se 196.026†	255.5	214.6	454.63 µg/L	454.63 ppb	05:29:40
2	SiO2†	9142.5	8503.3	9751.0 µg/L	9751.0 ppb	05:29:20
2	Si 251.611†	22586.0	21288.0	4515.9 µg/L	4515.9 ppb	05:29:20
2	Sn 189.927†	619.2	576.1	516.92 µg/L	516.92 ppb	05:29:40
2	Ti 334.940†	51587.9	48896.3	468.30 µg/L	468.30 ppb	05:29:20
2	Tl 190.801†	239.3	237.2	462.97 µg/L	462.97 ppb	05:29:40
2	U 367.007†	711.0	699.3	432.60 µg/L	432.60 ppb	05:29:20
2	V 292.402†	9100.9	8639.4	470.96 µg/L	470.96 ppb	05:29:20
2	Zn 213.857†	8941.0	8501.6	459.75 µg/L	459.75 ppb	05:29:20
3	Sc RADIAL	68615.0	68615.0	107.68 %	107.68 %	05:28:52
3	Al 396.153Radial†	16902.8	15699.2	4882.3 µg/L	4882.3 ppb	05:28:54
3	Ca 317.933Radial†	32644.6	30082.0	4943.5 µg/L	4943.5 ppb	05:28:54
3	Fe 238.204 Radial†	15894.7	14709.1	5069.9 µg/L	5069.9 ppb	05:28:54
3	K 766.490 Radial†	12289.1	11631.9	5170.7 µg/L	5170.7 ppb	05:28:54
3	Mg 279.077 IEC†	3428.1	3178.4	4978.0 µg/L	4978.0 ppb	05:28:54
3	Na 589.592 Radial†	46574.3	41779.8	4911.9 µg/L	4911.9 ppb	05:28:52
3	Sr 421.552†	409372.0	380623.1	511.90 µg/L	511.90 ppb	05:28:52
3	Sc 361.383	214972.2	214972.2	100.60 %	100.60 %	05:29:42
3	Y 371.029	125111.2	125111.2	100.42 %	100.42 %	05:29:42
3	Ag 328.068†	2373.4	2513.0	97.387 µg/L	97.387 ppb	05:29:42
3	As 188.979†	191.1	190.5	480.16 µg/L	480.16 ppb	05:30:02
3	B 249.677†	4406.1	4283.0	528.30 µg/L	528.30 ppb	05:29:42
3	Ba 233.527†	9922.6	9896.2	490.60 µg/L	490.60 ppb	05:29:42
3	Be 313.107†	198158.6	197217.9	486.23 µg/L	486.23 ppb	05:29:42
3	Cd 226.502†	9691.1	9693.7	489.03 µg/L	489.03 ppb	05:29:42
3	Co 228.616†	2620.5	2621.1	496.95 µg/L	496.95 ppb	05:30:02
3	Cr 267.716†	9231.0	9119.7	472.26 µg/L	472.26 ppb	05:29:42
3	Cu 324.752†	14893.4	14509.2	467.58 µg/L	467.58 ppb	05:29:42
3	Mn 257.610†	32799.4	32625.5	477.04 µg/L	477.04 ppb	05:29:42
3	Mo 202.031†	2416.2	2374.0	484.62 µg/L	484.62 ppb	05:30:02
3	Ni 231.604†	3988.0	4017.3	471.30 µg/L	471.30 ppb	05:29:42
3	P 214.914†	126.9	81.2	465.92 µg/L	465.92 ppb	05:30:02
3	Pb 220.353†	788.6	774.4	505.80 µg/L	505.80 ppb	05:30:02
3	S 181.975 Axial†	754.8	747.8	4778.9 µg/L	4778.9 ppb	05:30:02
3	Sb 206.836†	338.4	305.9	514.76 µg/L	514.76 ppb	05:30:02
3	Se 196.026†	248.9	219.7	465.24 µg/L	465.24 ppb	05:30:02
3	SiO2†	8795.7	8578.3	9836.9 µg/L	9836.9 ppb	05:29:42
3	Si 251.611†	21831.2	21574.7	4576.7 µg/L	4576.7 ppb	05:29:42
3	Sn 189.927†	600.9	586.3	526.20 µg/L	526.20 ppb	05:30:02
3	Ti 334.940†	49795.6	49483.3	473.90 µg/L	473.90 ppb	05:29:42
3	Tl 190.801†	235.9	244.8	477.81 µg/L	477.81 ppb	05:30:02
3	U 367.007†	717.0	737.9	458.43 µg/L	458.43 ppb	05:29:42
3	V 292.402†	8720.2	8678.8	473.13 µg/L	473.13 ppb	05:29:42
3	Zn 213.857†	8673.3	8646.0	467.68 µg/L	467.68 ppb	05:29:42

Mean Data: 1204695447|2063261|1|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	222039.0	103.91	%	2.865	103.91	%	2.865	2.76%
Sc RADIAL	67992.2	106.70	%	2.604	106.70	%	2.604	2.44%
Y 371.029	129086.3	103.61	%	2.768	103.61	%	2.768	2.67%
Ag 328.068†	2513.2	97.408	µg/L	0.8256	97.408	ppb	0.8256	0.85%
Al 396.153Radial†	15876.5	4938.0	µg/L	208.79	4938.0	ppb	208.79	4.23%
As 188.979†	188.2	474.39	µg/L	5.621	474.39	ppb	5.621	1.18%
B 249.677†	4194.5	517.85	µg/L	9.055	517.85	ppb	9.055	1.75%
Ba 233.527†	9877.5	489.67	µg/L	2.143	489.67	ppb	2.143	0.44%
Be 313.107†	196730.7	485.03	µg/L	3.759	485.03	ppb	3.759	0.78%
Ca 317.933Radial†	30386.1	4993.5	µg/L	223.39	4993.5	ppb	223.39	4.47%
Cd 226.502†	9695.6	489.12	µg/L	2.787	489.12	ppb	2.787	0.57%
Co 228.616†	2582.5	489.63	µg/L	6.627	489.63	ppb	6.627	1.35%
Cr 267.716†	9113.6	471.94	µg/L	4.032	471.94	ppb	4.032	0.85%
Cu 324.752†	14425.5	464.89	µg/L	3.553	464.89	ppb	3.553	0.76%
Fe 238.204 Radial†	14851.1	5118.7	µg/L	218.92	5118.7	ppb	218.92	4.28%
K 766.490 Radial†	11680.8	5192.5	µg/L	196.16	5192.5	ppb	196.16	3.78%
Mg 279.077 IEC†	3230.7	5059.9	µg/L	200.66	5059.9	ppb	200.66	3.97%
Mn 257.610†	32513.0	475.39	µg/L	3.137	475.39	ppb	3.137	0.66%

Mo 202.031†	2342.3	478.16 µg/L	5.968	478.16 ppb	5.968	1.25%
Na 589.592 Radial†	41219.4	4846.0 µg/L	153.30	4846.0 ppb	153.30	3.16%
Ni 231.604†	4048.5	474.95 µg/L	4.423	474.95 ppb	4.423	0.93%
P 214.914†	78.9	452.12 µg/L	11.964	452.12 ppb	11.964	2.65%
Pb 220.353†	760.2	496.59 µg/L	8.448	496.59 ppb	8.448	1.70%
S 181.975 Axial†	734.4	4693.0 µg/L	79.55	4693.0 ppb	79.55	1.70%
Sb 206.836†	294.7	496.23 µg/L	16.155	496.23 ppb	16.155	3.26%
Se 196.026†	219.9	465.54 µg/L	11.056	465.54 ppb	11.056	2.37%
SiO2†	8564.4	9821.1 µg/L	63.71	9821.1 ppb	63.71	0.65%
Si 251.611†	21483.5	4557.5 µg/L	36.01	4557.5 ppb	36.01	0.79%
Sn 189.927†	577.0	517.83 µg/L	7.956	517.83 ppb	7.956	1.54%
Sr 421.552†	374902.4	504.19 µg/L	16.589	504.19 ppb	16.589	3.29%
Ti 334.940†	49319.9	472.34 µg/L	3.524	472.34 ppb	3.524	0.75%
Tl 190.801†	240.5	469.53 µg/L	7.570	469.53 ppb	7.570	1.61%
U 367.007†	725.2	450.09 µg/L	15.151	450.09 ppb	15.151	3.37%
V 292.402†	8706.6	474.63 µg/L	4.610	474.63 ppb	4.610	0.97%
Zn 213.857†	8616.7	466.05 µg/L	5.663	466.05 ppb	5.663	1.22%

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Batch ID:
Sequence No.: 5 **Autosampler Location: 303**
Sample ID: 527509002|2063261|1| **Date Collected: 11/19/2020 05:30:32**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: 527509002|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	54061.9	54061.9	84.843	%	84.843	%	05:31:18
1	Al 396.153Radial†	89.0	107.1	23.426	µg/L	23.426	ppb	05:31:18
1	Ca 317.933Radial†	734082.1	864992.6	142150	µg/L	142150	ppb	05:31:16
1	Fe 238.204 Radial†	100.3	66.6	22.925	µg/L	22.925	ppb	05:31:38
1	K 766.490 Radial†	2064849.0	2433955.0	1081700	µg/L	1081700	ppb	05:31:16
1	Mg 279.077 IEC†	38770.4	45691.7	71528	µg/L	71528	ppb	05:31:18
1	Na 589.592 Radial†	Saturated3	Saturated3					05:31:38
	Saturated in preshot (code 3)							
1	Sr 421.552†	531098.1	626434.8	843.49	µg/L	843.49	ppb	05:31:16
1	Sc 361.383	134260.4	134260.4	62.829	%	62.829	%	05:32:30
1	Y 371.029	78042.5	78042.5	62.638	%	62.638	%	05:32:30
1	Ag 328.068†	-103.4	-10.7	-0.2872	µg/L	-0.2872	ppb	05:32:50
1	As 188.979†	8.1	13.4	34.337	µg/L	34.337	ppb	05:32:50
1	B 249.677†	17115.5	27144.6	3248.8	µg/L	3248.8	ppb	05:32:30
1	Ba 233.527†	1875.8	3018.1	149.59	µg/L	149.59	ppb	05:32:50
1	Be 313.107†	-189.7	-62.4	-0.1608	µg/L	-0.1608	ppb	05:32:50
1	Cd 226.502†	-31.3	10.4	0.5226	µg/L	0.5226	ppb	05:32:50
1	Co 228.616†	-9.0	1.9	0.5624	µg/L	0.5624	ppb	05:32:50
1	Cr 267.716†	114.3	125.6	6.5049	µg/L	6.5049	ppb	05:32:50
1	Cu 324.752†	534.3	554.9	17.795	µg/L	17.795	ppb	05:32:50
1	Mn 257.610†	54.0	107.4	1.4994	µg/L	1.4994	ppb	05:32:50
1	Mo 202.031†	738.7	1147.8	234.34	µg/L	234.34	ppb	05:32:50
1	Ni 231.604†	86.4	190.7	22.367	µg/L	22.367	ppb	05:32:50
1	P 214.914†	798.3	1225.7	7523.6	µg/L	7523.6	ppb	05:32:50
1	Pb 220.353†	9.0	4.8	3.1757	µg/L	3.1757	ppb	05:32:50
1	S 181.975 Axial†	149238.8	237529.3	1517700	µg/L	1517700	ppb	05:32:30
1	Sb 206.836†	33.8	23.3	42.013	µg/L	42.013	ppb	05:32:50
1	Se 196.026†	32.8	24.6	51.814	µg/L	51.814	ppb	05:32:50
1	SiO2†	85224.5	135480.2	155410	µg/L	155410	ppb	05:32:30
1	Si 251.611†	222834.4	354541.8	75430	µg/L	75430	ppb	05:32:30
1	Sn 189.927†	21.6	23.5	31.014	µg/L	31.014	ppb	05:32:50
1	Ti 334.940†	-130.3	-223.1	-7.8816	µg/L	-7.8816	ppb	05:32:50
1	Tl 190.801†	-14.6	-12.9	-24.749	µg/L	-24.749	ppb	05:32:50
1	U 367.007†	-52.1	-57.8	-37.289	µg/L	-37.289	ppb	05:32:30
1	V 292.402†	405.0	655.1	35.745	µg/L	35.745	ppb	05:32:50
1	Zn 213.857†	91.6	170.3	9.1319	µg/L	9.1319	ppb	05:32:50
2	Sc RADIAL	55324.3	55324.3	86.824	%	86.824	%	05:31:42
2	Al 396.153Radial†	83.1	97.9	20.985	µg/L	20.985	ppb	05:31:42
2	Ca 317.933Radial†	708433.1	815708.1	134050	µg/L	134050	ppb	05:31:40
2	Fe 238.204 Radial†	95.7	58.6	20.176	µg/L	20.176	ppb	05:32:02
2	K 766.490 Radial†	2004336.6	2308725.9	1026000	µg/L	1026000	ppb	05:31:40
2	Mg 279.077 IEC†	39752.6	45780.2	71666	µg/L	71666	ppb	05:31:42
2	Na 589.592 Radial†	Saturated3	Saturated3					05:32:02
	Saturated in preshot (code 3)							
2	Sr 421.552†	517232.4	596181.2	802.75	µg/L	802.75	ppb	05:31:40
2	Sc 361.383	138129.3	138129.3	64.640	%	64.640	%	05:32:52
2	Y 371.029	80090.4	80090.4	64.282	%	64.282	%	05:32:52
2	Ag 328.068†	-94.0	8.3	0.4829	µg/L	0.4829	ppb	05:33:13
2	As 188.979†	3.7	6.3	16.630	µg/L	16.630	ppb	05:33:13
2	B 249.677†	17807.4	27451.9	3285.5	µg/L	3285.5	ppb	05:32:52
2	Ba 233.527†	1850.4	2895.3	143.50	µg/L	143.50	ppb	05:33:13
2	Be 313.107†	-197.7	-66.3	-0.1700	µg/L	-0.1700	ppb	05:33:13
2	Cd 226.502†	-51.7	-19.6	-0.9940	µg/L	-0.9940	ppb	05:33:13
2	Co 228.616†	-11.6	-1.7	-0.1358	µg/L	-0.1358	ppb	05:33:13
2	Cr 267.716†	92.2	86.3	4.4690	µg/L	4.4690	ppb	05:33:13
2	Cu 324.752†	542.4	543.7	17.380	µg/L	17.380	ppb	05:33:13
2	Mn 257.610†	54.4	105.6	1.4727	µg/L	1.4727	ppb	05:33:13

2	Mo 202.031†	727.7	1097.9	224.15 µg/L	224.15 ppb	05:33:13
2	Ni 231.604†	81.7	179.4	21.049 µg/L	21.049 ppb	05:33:13
2	P 214.914†	795.0	1185.0	7274.1 µg/L	7274.1 ppb	05:33:13
2	Pb 220.353†	-1.9	-12.5	-8.0546 µg/L	-8.0546 ppb	05:33:13
2	S 181.975 Axial†	154983.4	239763.2	1532000 µg/L	1532000 ppb	05:32:52
2	Sb 206.836†	28.1	13.0	24.807 µg/L	24.807 ppb	05:33:13
2	Se 196.026†	32.1	22.0	46.306 µg/L	46.306 ppb	05:33:13
2	SiO2†	88668.6	137009.0	157170 µg/L	157170 ppb	05:32:52
2	Si 251.611†	231067.9	357345.1	76027 µg/L	76027 ppb	05:32:52
2	Sn 189.927†	24.0	26.2	32.891 µg/L	32.891 ppb	05:33:13
2	Ti 334.940†	-125.8	-210.3	-7.4314 µg/L	-7.4314 ppb	05:33:13
2	Tl 190.801†	-11.8	-7.9	-15.004 µg/L	-15.004 ppb	05:33:13
2	U 367.007†	-95.0	-121.8	-78.535 µg/L	-78.535 ppb	05:32:52
2	V 292.402†	395.8	622.9	33.952 µg/L	33.952 ppb	05:33:13
2	Zn 213.857†	84.0	154.3	8.2695 µg/L	8.2695 ppb	05:33:13
3	Sc RADIAL	54203.6	54203.6	85.065 %	85.065 %	05:32:06
3	Al 396.153Radial†	90.1	108.1	23.905 µg/L	23.905 ppb	05:32:06
3	Ca 317.933Radial†	703477.0	826751.7	135860 µg/L	135860 ppb	05:32:04
3	Fe 238.204 Radial†	98.0	63.6	21.885 µg/L	21.885 ppb	05:32:26
3	K 766.490 Radial†	2005195.9	2357464.8	1047700 µg/L	1047700 ppb	05:32:04
3	Mg 279.077 IEC†	38701.3	45490.8	71213 µg/L	71213 ppb	05:32:06
3	Na 589.592 Radial†	Saturated3	Saturated3			05:32:26
Saturated in preshot (code 3)						
3	Sr 421.552†	515658.2	606647.3	816.84 µg/L	816.84 ppb	05:32:04
3	Sc 361.383	135038.8	135038.8	63.193 %	63.193 %	05:33:15
3	Y 371.029	78366.7	78366.7	62.898 %	62.898 %	05:33:15
3	Ag 328.068†	-139.1	-66.4	-2.4295 µg/L	-2.4295 ppb	05:33:35
3	As 188.979†	8.9	14.7	37.411 µg/L	37.411 ppb	05:33:35
3	B 249.677†	17355.1	27366.7	3275.4 µg/L	3275.4 ppb	05:33:15
3	Ba 233.527†	1863.0	2980.7	147.74 µg/L	147.74 ppb	05:33:35
3	Be 313.107†	-189.0	-59.5	-0.1538 µg/L	-0.1538 ppb	05:33:35
3	Cd 226.502†	-41.4	-5.3	-0.2696 µg/L	-0.2696 ppb	05:33:35
3	Co 228.616†	-16.3	-9.6	-1.6210 µg/L	-1.6210 ppb	05:33:35
3	Cr 267.716†	94.9	93.9	4.8638 µg/L	4.8638 ppb	05:33:35
3	Cu 324.752†	538.2	556.1	17.833 µg/L	17.833 ppb	05:33:35
3	Mn 257.610†	46.2	94.6	1.3121 µg/L	1.3121 ppb	05:33:35
3	Mo 202.031†	731.5	1129.7	230.65 µg/L	230.65 ppb	05:33:35
3	Ni 231.604†	78.3	177.0	20.759 µg/L	20.759 ppb	05:33:35
3	P 214.914†	790.4	1205.8	7401.7 µg/L	7401.7 ppb	05:33:35
3	Pb 220.353†	6.9	1.4	0.9635 µg/L	0.9635 ppb	05:33:35
3	S 181.975 Axial†	149883.3	237179.9	1515500 µg/L	1515500 ppb	05:33:15
3	Sb 206.836†	30.0	16.9	31.425 µg/L	31.425 ppb	05:33:35
3	Se 196.026†	25.5	12.7	26.684 µg/L	26.684 ppb	05:33:35
3	SiO2†	86375.2	136519.2	156610 µg/L	156610 ppb	05:33:15
3	Si 251.611†	225345.4	356470.7	75841 µg/L	75841 ppb	05:33:15
3	Sn 189.927†	22.3	24.3	31.301 µg/L	31.301 ppb	05:33:35
3	Ti 334.940†	-130.7	-222.6	-7.6217 µg/L	-7.6217 ppb	05:33:35
3	Tl 190.801†	-15.5	-14.3	-27.356 µg/L	-27.356 ppb	05:33:35
3	U 367.007†	-54.1	-60.4	-38.994 µg/L	-38.994 ppb	05:33:15
3	V 292.402†	388.6	625.6	34.133 µg/L	34.133 ppb	05:33:35
3	Zn 213.857†	88.4	164.2	8.8142 µg/L	8.8142 ppb	05:33:35

Mean Data: 527509002|2063261|1|

	Mean Corrected	Calib.		Sample		
Analyte	**Intensity**	**Conc. Units**	**Std.Dev.**	**Conc. Units**	**Std.Dev.**	**RSD**
Sc 361.383	135809.5	63.554 %	0.9576	63.554 %	0.9576	1.51%
Sc RADIAL	54529.9	85.577 %	1.0853	85.577 %	1.0853	1.27%
Y 371.029	78833.2	63.273 %	0.8835	63.273 %	0.8835	1.40%
Ag 328.068†	-22.9	-0.7446 µg/L	1.50913	-0.7446 ppb	1.50913	202.69%
Al 396.153Radial†	104.4	22.772 µg/L	1.5657	22.772 ppb	1.5657	6.88%
As 188.979†	11.5	29.459 µg/L	11.2163	29.459 ppb	11.2163	38.07%
B 249.677†	27321.0	3269.9 µg/L	18.98	3269.9 ppb	18.98	0.58%
Ba 233.527†	2964.7	146.94 µg/L	3.120	146.94 ppb	3.120	2.12%
Be 313.107†	-62.7	-0.1616 µg/L	0.00813	-0.1616 ppb	0.00813	5.03%
Ca 317.933Radial†	835817.5	137350 µg/L	4250.13	137350 ppb	4250.13	3.09%
Cd 226.502†	-4.8	-0.2470 µg/L	0.75856	-0.2470 ppb	0.75856	307.07%
Co 228.616†	-3.1	-0.3981 µg/L	1.11511	-0.3981 ppb	1.11511	280.08%
Cr 267.716†	101.9	5.2792 µg/L	1.07967	5.2792 ppb	1.07967	20.45%
Cu 324.752†	551.5	17.669 µg/L	0.2512	17.669 ppb	0.2512	1.42%
Fe 238.204 Radial†	62.9	21.662 µg/L	1.3883	21.662 ppb	1.3883	6.41%

K 766.490 Radial†	2366715.2	1051800 µg/L	28053.59	1051800 ppb	28053.59	2.67%
Concentration greater than upper limit for K 766.490 Radial.						
Mg 279.077 IEC†	45654.2	71469 µg/L	232.09	71469 ppb	232.09	0.32%
Mn 257.610†	102.5	1.4281 µg/L	0.10133	1.4281 ppb	0.10133	7.10%
Mo 202.031†	1125.1	229.71 µg/L	5.162	229.71 ppb	5.162	2.25%
Na 589.592 Radial†	Saturated3					
Ni 231.604†	182.4	21.391 µg/L	0.8568	21.391 ppb	0.8568	4.01%
P 214.914†	1205.5	7399.8 µg/L	124.74	7399.8 ppb	124.74	1.69%
Concentration greater than upper limit for P 214.914.						
Pb 220.353†	-2.1	-1.3052 µg/L	5.94897	-1.3052 ppb	5.94897	455.81%
S 181.975 Axial†	238157.5	1521800 µg/L	8955.53	1521800 ppb	8955.53	0.59%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	17.7	32.748 µg/L	8.6792	32.748 ppb	8.6792	26.50%
Se 196.026†	19.7	41.601 µg/L	13.2094	41.601 ppb	13.2094	31.75%
SiO2†	136336.1	156400 µg/L	895.63	156400 ppb	895.63	0.57%
Concentration greater than upper limit for SiO2.						
Si 251.611†	356119.2	75766 µg/L	305.31	75766 ppb	305.31	0.40%
Concentration greater than upper limit for Si 251.611.						
Sn 189.927†	24.7	31.735 µg/L	1.0108	31.735 ppb	1.0108	3.19%
Sr 421.552†	609754.4	821.03 µg/L	20.688	821.03 ppb	20.688	2.52%
Ti 334.940†	-218.7	-7.6449 µg/L	0.22599	-7.6449 ppb	0.22599	2.96%
Concentration less than lower limit for Ti 334.940.						
Tl 190.801†	-11.7	-22.369 µg/L	6.5109	-22.369 ppb	6.5109	29.11%
Concentration less than lower limit for Tl 190.801.						
U 367.007†	-80.0	-51.606 µg/L	23.3368	-51.606 ppb	23.3368	45.22%
Concentration less than lower limit for U 367.007.						
V 292.402†	634.5	34.610 µg/L	0.9873	34.610 ppb	0.9873	2.85%
Zn 213.857†	162.9	8.7386 µg/L	0.43616	8.7386 ppb	0.43616	4.99%

Batch ID:
Sequence No.: 6 **Autosampler Location: 304**
Sample ID: 1204695448|2063261|1| **Date Collected: 11/19/2020 05:34:34**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: 1204695448|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	52802.6	52802.6	82.866	%	82.866	%	05:35:12
1	Al 396.153Radial†	64.3	79.8	15.006	µg/L	15.006	ppb	05:35:12
1	Ca 317.933Radial†	722563.9	871728.0	143250	µg/L	143250	ppb	05:35:10
1	Fe 238.204 Radial†	116.8	89.3	30.768	µg/L	30.768	ppb	05:35:32
1	K 766.490 Radial†	2074821.7	2504032.7	1112800	µg/L	1112800	ppb	05:35:10
1	Mg 279.077 IEC†	37989.0	45838.5	71758	µg/L	71758	ppb	05:35:12
1	Na 589.592 Radial†	Saturated3	Saturated3					05:35:32
Saturated in preshot (code 3)								
1	Sr 421.552†	525894.3	635084.2	855.13	µg/L	855.13	ppb	05:35:10
1	Sc 361.383	133505.6	133505.6	62.476	%	62.476	%	05:36:25
1	Y 371.029	77286.3	77286.3	62.031	%	62.031	%	05:36:25
1	Ag 328.068†	-96.5	-0.6	0.1131	µg/L	0.1131	ppb	05:36:45
1	As 188.979†	4.9	8.4	21.971	µg/L	21.971	ppb	05:36:45
1	B 249.677†	17353.9	27680.1	3312.9	µg/L	3312.9	ppb	05:36:25
1	Ba 233.527†	1824.7	2953.2	146.38	µg/L	146.38	ppb	05:36:45
1	Be 313.107†	-200.4	-81.2	-0.2085	µg/L	-0.2085	ppb	05:36:45
1	Cd 226.502†	-39.6	-3.1	-0.1586	µg/L	-0.1586	ppb	05:36:45
1	Co 228.616†	-5.6	7.2	1.5461	µg/L	1.5461	ppb	05:36:45
1	Cr 267.716†	94.2	94.5	4.8929	µg/L	4.8929	ppb	05:36:45
1	Cu 324.752†	500.1	504.9	16.172	µg/L	16.172	ppb	05:36:45
1	Mn 257.610†	45.1	93.5	1.2959	µg/L	1.2959	ppb	05:36:45
1	Mo 202.031†	727.0	1135.8	231.90	µg/L	231.90	ppb	05:36:45
1	Ni 231.604†	83.7	187.0	21.940	µg/L	21.940	ppb	05:36:45
1	P 214.914†	774.4	1194.6	7332.9	µg/L	7332.9	ppb	05:36:45
1	Pb 220.353†	4.1	-2.9	-1.8126	µg/L	-1.8126	ppb	05:36:45
1	S 181.975 Axial†	150674.1	241169.6	1541000	µg/L	1541000	ppb	05:36:25
1	Sb 206.836†	27.4	13.3	25.424	µg/L	25.424	ppb	05:36:45
1	Se 196.026†	42.8	40.8	85.950	µg/L	85.950	ppb	05:36:45
1	SiO2†	87277.3	139532.8	160060	µg/L	160060	ppb	05:36:25
1	Si 251.611†	228079.4	364942.1	77643	µg/L	77643	ppb	05:36:25
1	Sn 189.927†	18.6	18.8	26.901	µg/L	26.901	ppb	05:36:45
1	Ti 334.940†	-153.1	-260.8	-8.2855	µg/L	-8.2855	ppb	05:36:45
1	Tl 190.801†	-7.5	-1.8	-3.0724	µg/L	-3.0724	ppb	05:36:45
1	U 367.007†	-65.5	-79.7	-51.462	µg/L	-51.462	ppb	05:36:25
1	V 292.402†	396.4	645.0	35.181	µg/L	35.181	ppb	05:36:45
1	Zn 213.857†	71.3	138.5	7.4014	µg/L	7.4014	ppb	05:36:45
2	Sc RADIAL	54028.1	54028.1	84.790	%	84.790	%	05:35:37
2	Al 396.153Radial†	80.8	97.5	20.725	µg/L	20.725	ppb	05:35:37
2	Ca 317.933Radial†	729690.2	860353.9	141390	µg/L	141390	ppb	05:35:35
2	Fe 238.204 Radial†	78.3	40.7	14.039	µg/L	14.039	ppb	05:35:57
2	K 766.490 Radial†	2118560.5	2498824.0	1110500	µg/L	1110500	ppb	05:35:35
2	Mg 279.077 IEC†	39352.5	46406.7	72647	µg/L	72647	ppb	05:35:37
2	Na 589.592 Radial†	Saturated3	Saturated3					05:35:57
Saturated in preshot (code 3)								
2	Sr 421.552†	534366.1	630680.6	849.21	µg/L	849.21	ppb	05:35:35
2	Sc 361.383	138426.6	138426.6	64.779	%	64.779	%	05:36:47
2	Y 371.029	80180.5	80180.5	64.354	%	64.354	%	05:36:47
2	Ag 328.068†	-102.0	-3.6	-0.0176	µg/L	-0.0176	ppb	05:37:07
2	As 188.979†	3.7	6.3	16.603	µg/L	16.603	ppb	05:37:07
2	B 249.677†	17924.9	27574.1	3300.2	µg/L	3300.2	ppb	05:36:47
2	Ba 233.527†	1882.2	2938.3	145.64	µg/L	145.64	ppb	05:37:07
2	Be 313.107†	-197.4	-65.2	-0.1686	µg/L	-0.1686	ppb	05:37:07
2	Cd 226.502†	-36.1	4.6	0.2305	µg/L	0.2305	ppb	05:37:07
2	Co 228.616†	-5.6	7.6	1.6271	µg/L	1.6271	ppb	05:37:07
2	Cr 267.716†	95.8	91.5	4.7389	µg/L	4.7389	ppb	05:37:07
2	Cu 324.752†	542.6	542.1	17.389	µg/L	17.389	ppb	05:37:07
2	Mn 257.610†	50.2	98.9	1.3748	µg/L	1.3748	ppb	05:37:07

2	Mo 202.031†	739.2	1113.3	227.30 µg/L	227.30 ppb	05:37:07
2	Ni 231.604†	86.2	186.2	21.844 µg/L	21.844 ppb	05:37:07
2	P 214.914†	808.9	1203.8	7389.9 µg/L	7389.9 ppb	05:37:07
2	Pb 220.353†	7.6	2.2	1.4671 µg/L	1.4671 ppb	05:37:07
2	S 181.975 Axial†	156497.0	241585.0	1543700 µg/L	1543700 ppb	05:36:47
2	Sb 206.836†	28.9	14.1	26.780 µg/L	26.780 ppb	05:37:07
2	Se 196.026†	29.0	17.1	35.991 µg/L	35.991 ppb	05:37:07
2	SiO2†	90206.2	139088.0	159550 µg/L	159550 ppb	05:36:47
2	Si 251.611†	236310.2	364670.2	77585 µg/L	77585 ppb	05:36:47
2	Sn 189.927†	19.3	18.8	26.783 µg/L	26.783 ppb	05:37:07
2	Ti 334.940†	-150.8	-248.5	-8.0941 µg/L	-8.0941 ppb	05:37:07
2	Tl 190.801†	-6.6	0.2	0.6976 µg/L	0.6976 ppb	05:37:07
2	U 367.007†	-51.1	-53.7	-34.637 µg/L	-34.637 ppb	05:36:47
2	V 292.402†	411.2	645.4	35.209 µg/L	35.209 ppb	05:37:07
2	Zn 213.857†	77.1	143.4	7.6707 µg/L	7.6707 ppb	05:37:07
3	Sc RADIAL	52852.8	52852.8	82.945 %	82.945 %	05:36:01
3	Al 396.153Radial†	37.9	47.9	5.1331 µg/L	5.1331 ppb	05:36:01
3	Ca 317.933Radial†	722802.7	871187.4	143170 µg/L	143170 ppb	05:35:59
3	Fe 238.204 Radial†	92.2	59.5	20.478 µg/L	20.478 ppb	05:36:21
3	K 766.490 Radial†	2108620.5	2542402.1	1129900 µg/L	1129900 ppb	05:35:59
3	Mg 279.077 IEC†	38230.0	46085.5	72144 µg/L	72144 ppb	05:36:01
3	Na 589.592 Radial†	Saturated3	Saturated3			05:36:21
Saturated in preshot (code 3)						
3	Sr 421.552†	533054.5	643113.7	865.95 µg/L	865.95 ppb	05:35:59
3	Sc 361.383	135323.8	135323.8	63.327 %	63.327 %	05:37:09
3	Y 371.029	78354.8	78354.8	62.889 %	62.889 %	05:37:09
3	Ag 328.068†	-122.9	-40.3	-1.4589 µg/L	-1.4589 ppb	05:37:29
3	As 188.979†	6.5	10.9	27.939 µg/L	27.939 ppb	05:37:29
3	B 249.677†	17649.5	27773.8	3324.1 µg/L	3324.1 ppb	05:37:09
3	Ba 233.527†	1863.8	2975.8	147.49 µg/L	147.49 ppb	05:37:29
3	Be 313.107†	-189.1	-59.0	-0.1524 µg/L	-0.1524 ppb	05:37:29
3	Cd 226.502†	-43.5	-8.5	-0.4294 µg/L	-0.4294 ppb	05:37:29
3	Co 228.616†	-12.0	-2.8	-0.3356 µg/L	-0.3356 ppb	05:37:29
3	Cr 267.716†	101.5	104.0	5.3837 µg/L	5.3837 ppb	05:37:29
3	Cu 324.752†	519.6	525.0	16.875 µg/L	16.875 ppb	05:37:29
3	Mn 257.610†	38.9	82.8	1.1398 µg/L	1.1398 ppb	05:37:29
3	Mo 202.031†	730.9	1126.2	229.94 µg/L	229.94 ppb	05:37:29
3	Ni 231.604†	78.6	177.3	20.795 µg/L	20.795 ppb	05:37:29
3	P 214.914†	798.1	1215.4	7460.7 µg/L	7460.7 ppb	05:37:29
3	Pb 220.353†	-1.1	-11.3	-7.3409 µg/L	-7.3409 ppb	05:37:29
3	S 181.975 Axial†	152869.4	241395.7	1542400 µg/L	1542400 ppb	05:37:09
3	Sb 206.836†	26.5	11.3	22.104 µg/L	22.104 ppb	05:37:29
3	Se 196.026†	32.1	23.0	48.519 µg/L	48.519 ppb	05:37:29
3	SiO2†	88753.2	139986.4	160580 µg/L	160580 ppb	05:37:09
3	Si 251.611†	231179.3	364932.1	77641 µg/L	77641 ppb	05:37:09
3	Sn 189.927†	29.9	36.3	42.529 µg/L	42.529 ppb	05:37:29
3	Ti 334.940†	-129.1	-219.5	-7.8882 µg/L	-7.8882 ppb	05:37:29
3	Tl 190.801†	-10.3	-5.9	-11.119 µg/L	-11.119 ppb	05:37:29
3	U 367.007†	-23.3	-11.7	-7.5913 µg/L	-7.5913 ppb	05:37:09
3	V 292.402†	395.2	634.6	34.646 µg/L	34.646 ppb	05:37:29
3	Zn 213.857†	69.1	133.5	7.1372 µg/L	7.1372 ppb	05:37:29

Mean Data: 1204695448|2063261|1|

	Mean Corrected	Calib.		Sample		
Analyte	**Intensity**	**Conc. Units**	**Std.Dev.**	**Conc. Units**	**Std.Dev.**	**RSD**
Sc 361.383	135752.0	63.527 %	1.1644	63.527 %	1.1644	1.83%
Sc RADIAL	53227.8	83.534 %	1.0884	83.534 %	1.0884	1.30%
Y 371.029	78607.2	63.091 %	1.1746	63.091 %	1.1746	1.86%
Ag 328.068†	-14.9	-0.4545 µg/L	0.87233	-0.4545 ppb	0.87233	191.95%
Al 396.153Radial†	75.1	13.622 µg/L	7.8877	13.622 ppb	7.8877	57.91%
As 188.979†	8.5	22.171 µg/L	5.6706	22.171 ppb	5.6706	25.58%
B 249.677†	27676.0	3312.4 µg/L	11.97	3312.4 ppb	11.97	0.36%
Ba 233.527†	2955.8	146.50 µg/L	0.936	146.50 ppb	0.936	0.64%
Be 313.107†	-68.5	-0.1765 µg/L	0.02883	-0.1765 ppb	0.02883	16.34%
Ca 317.933Radial†	867756.4	142600 µg/L	1054.44	142600 ppb	1054.44	0.74%
Cd 226.502†	-2.3	-0.1192 µg/L	0.33172	-0.1192 ppb	0.33172	278.36%
Co 228.616†	4.0	0.9459 µg/L	1.11050	0.9459 ppb	1.11050	117.41%
Cr 267.716†	96.7	5.0052 µg/L	0.33675	5.0052 ppb	0.33675	6.73%
Cu 324.752†	524.0	16.812 µg/L	0.6110	16.812 ppb	0.6110	3.63%
Fe 238.204 Radial†	63.2	21.762 µg/L	8.4385	21.762 ppb	8.4385	38.78%

K 766.490 Radial†	2515086.3	1117700 µg/L	10576.65	1117700 ppb	10576.65	0.95%
Concentration greater than upper limit for K 766.490 Radial.							
Mg 279.077 IEC†	46110.2	72183 µg/L	446.00	72183 ppb	446.00	0.62%
Mn 257.610†	91.8	1.2702 µg/L	0.11961	1.2702 ppb	0.11961	9.42%
Mo 202.031†	1125.1	229.71 µg/L	2.307	229.71 ppb	2.307	1.00%
Na 589.592 Radial†	Saturated3					
Ni 231.604†	183.5	21.527 µg/L	0.6353	21.527 ppb	0.6353	2.95%
P 214.914†	1204.6	7394.5 µg/L	64.06	7394.5 ppb	64.06	0.87%
Concentration greater than upper limit for P 214.914.							
Pb 220.353†	-4.0	-2.5621 µg/L	4.45159	-2.5621 ppb	4.45159	173.75%
S 181.975 Axial†	241383.4	1542400 µg/L	1328.91	1542400 ppb	1328.91	0.09%
Concentration greater than upper limit for S 181.975 Axial.							
Sb 206.836†	12.9	24.769 µg/L	2.4055	24.769 ppb	2.4055	9.71%
Se 196.026†	27.0	56.820 µg/L	25.9933	56.820 ppb	25.9933	45.75%
SiO2†	139535.8	160070 µg/L	515.29	160070 ppb	515.29	0.32%
Concentration greater than upper limit for SiO2.							
Si 251.611†	364848.1	77623 µg/L	32.75	77623 ppb	32.75	0.04%
Concentration greater than upper limit for Si 251.611.							
Sn 189.927†	24.6	32.071 µg/L	9.0571	32.071 ppb	9.0571	28.24%
Sr 421.552†	636292.8	856.76 µg/L	8.488	856.76 ppb	8.488	0.99%
Ti 334.940†	-242.9	-8.0893 µg/L	0.19866	-8.0893 ppb	0.19866	2.46%
Concentration less than lower limit for Ti 334.940.							
Tl 190.801†	-2.5	-4.4978 µg/L	6.03575	-4.4978 ppb	6.03575	134.19%
U 367.007†	-48.4	-31.230 µg/L	22.1329	-31.230 ppb	22.1329	70.87%
V 292.402†	641.7	35.012 µg/L	0.3174	35.012 ppb	0.3174	0.91%
Zn 213.857†	138.5	7.4031 µg/L	0.26675	7.4031 ppb	0.26675	3.60%

Batch ID:
Sequence No.: 7 **Autosampler Location: 305**
Sample ID: 1204695449|2063261|1| **Date Collected: 11/19/2020 05:38:29**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: 1204695449|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	55031.4	55031.4	86.364	%	86.364	%	05:39:07
1	Al 396.153Radial†	12492.7	14467.3	4491.1	µg/L	4491.1	ppb	05:39:07
1	Ca 317.933Radial†	720923.9	834513.6	137140	µg/L	137140	ppb	05:39:05
1	Fe 238.204 Radial†	9904.9	11417.1	3935.1	µg/L	3935.1	ppb	05:39:07
1	K 766.490 Radial†	1988044.5	2302147.3	1023100	µg/L	1023100	ppb	05:39:05
1	Mg 279.077 IEC†	39244.4	45435.3	71128	µg/L	71128	ppb	05:39:07
1	Na 589.592 Radial†	Saturated3	Saturated3					05:39:07
	Saturated in preshot (code 3)							
1	Sr 421.552†	801551.1	928560.1	1249.8	µg/L	1249.8	ppb	05:39:05
1	Sc 361.383	141505.9	141505.9	66.220	%	66.220	%	05:39:19
1	Y 371.029	82051.6	82051.6	65.856	%	65.856	%	05:39:19
1	Ag 328.068†	2280.7	3597.9	139.37	µg/L	139.37	ppb	05:39:39
1	As 188.979†	152.6	231.1	580.89	µg/L	580.89	ppb	05:39:39
1	B 249.677†	19663.2	29597.1	3554.4	µg/L	3554.4	ppb	05:39:19
1	Ba 233.527†	8395.2	12710.4	630.22	µg/L	630.22	ppb	05:39:39
1	Be 313.107†	102150.1	154499.1	381.14	µg/L	381.14	ppb	05:39:19
1	Cd 226.502†	5947.2	9041.3	456.21	µg/L	456.21	ppb	05:39:39
1	Co 228.616†	1303.4	1984.4	376.58	µg/L	376.58	ppb	05:39:39
1	Cr 267.716†	5285.2	7925.0	410.40	µg/L	410.40	ppb	05:39:19
1	Cu 324.752†	11445.8	16989.0	547.07	µg/L	547.07	ppb	05:39:19
1	Mn 257.610†	18864.4	28509.1	416.79	µg/L	416.79	ppb	05:39:19
1	Mo 202.031†	2085.5	3121.5	637.26	µg/L	637.26	ppb	05:39:39
1	Ni 231.604†	2400.6	3678.3	431.53	µg/L	431.53	ppb	05:39:39
1	P 214.914†	851.0	1240.1	7580.9	µg/L	7580.9	ppb	05:39:39
1	Pb 220.353†	402.0	597.6	390.34	µg/L	390.34	ppb	05:39:39
1	S 181.975 Axial†	149403.5	225615.6	1441600	µg/L	1441600	ppb	05:39:19
1	Sb 206.836†	246.4	341.6	576.21	µg/L	576.21	ppb	05:39:39
1	Se 196.026†	186.9	254.6	538.23	µg/L	538.23	ppb	05:39:39
1	SiO2†	92586.3	139652.0	160200	µg/L	160200	ppb	05:39:19
1	Si 251.611†	241591.7	364707.6	77582	µg/L	77582	ppb	05:39:19
1	Sn 189.927†	348.0	514.5	471.50	µg/L	471.50	ppb	05:39:39
1	Ti 334.940†	30137.2	45495.3	430.26	µg/L	430.26	ppb	05:39:19
1	Tl 190.801†	108.5	174.1	340.59	µg/L	340.59	ppb	05:39:39
1	U 367.007†	337.7	535.2	331.66	µg/L	331.66	ppb	05:39:19
1	V 292.402†	6579.4	9946.4	541.93	µg/L	541.93	ppb	05:39:39
1	Zn 213.857†	7755.8	11736.6	636.62	µg/L	636.62	ppb	05:39:39
2	Sc RADIAL	54374.6	54374.6	85.334	%	85.334	%	05:39:11
2	Al 396.153Radial†	12593.8	14760.5	4583.7	µg/L	4583.7	ppb	05:39:11
2	Ca 317.933Radial†	705682.1	826734.4	135860	µg/L	135860	ppb	05:39:09
2	Fe 238.204 Radial†	9887.1	11534.8	3975.5	µg/L	3975.5	ppb	05:39:11
2	K 766.490 Radial†	1969341.2	2308032.8	1025700	µg/L	1025700	ppb	05:39:09
2	Mg 279.077 IEC†	39210.8	45944.9	71926	µg/L	71926	ppb	05:39:11
2	Na 589.592 Radial†	Saturated3	Saturated3					05:39:11
	Saturated in preshot (code 3)							
2	Sr 421.552†	787477.1	923277.0	1242.7	µg/L	1242.7	ppb	05:39:09
2	Sc 361.383	144865.1	144865.1	67.792	%	67.792	%	05:39:42
2	Y 371.029	83968.5	83968.5	67.394	%	67.394	%	05:39:42
2	Ag 328.068†	2265.3	3495.4	135.41	µg/L	135.41	ppb	05:40:02
2	As 188.979†	145.9	215.7	542.73	µg/L	542.73	ppb	05:40:02
2	B 249.677†	20631.1	30336.2	3643.0	µg/L	3643.0	ppb	05:39:42
2	Ba 233.527†	8306.2	12285.1	609.12	µg/L	609.12	ppb	05:40:02
2	Be 313.107†	105462.0	155807.5	384.37	µg/L	384.37	ppb	05:39:42
2	Cd 226.502†	5862.9	8708.7	439.40	µg/L	439.40	ppb	05:40:02
2	Co 228.616†	1288.1	1916.4	363.66	µg/L	363.66	ppb	05:40:02
2	Cr 267.716†	5390.1	7894.7	408.83	µg/L	408.83	ppb	05:39:42
2	Cu 324.752†	11763.2	17056.5	549.21	µg/L	549.21	ppb	05:39:42
2	Mn 257.610†	19428.9	28681.2	419.31	µg/L	419.31	ppb	05:39:42

2	Mo 202.031†	2054.6	3003.0	613.05 µg/L	613.05 ppb		05:40:02
2	Ni 231.604†	2386.7	3573.8	419.26 µg/L	419.26 ppb		05:40:02
2	P 214.914†	835.6	1187.6	7259.2 µg/L	7259.2 ppb		05:40:02
2	Pb 220.353†	403.9	586.3	383.06 µg/L	383.06 ppb		05:40:02
2	S 181.975 Axial†	156498.2	230849.4	1475100 µg/L	1475100 ppb		05:39:42
2	Sb 206.836†	241.1	325.1	548.52 µg/L	548.52 ppb		05:40:02
2	Se 196.026†	189.0	251.1	530.77 µg/L	530.77 ppb		05:40:02
2	SiO2†	96470.1	142138.9	163050 µg/L	163050 ppb		05:39:42
2	Si 251.611†	252253.1	371974.3	79128 µg/L	79128 ppb		05:39:42
2	Sn 189.927†	348.6	503.2	461.29 µg/L	461.29 ppb		05:40:02
2	Ti 334.940†	31259.9	46096.1	436.07 µg/L	436.07 ppb		05:39:42
2	Tl 190.801†	111.5	174.8	341.92 µg/L	341.92 ppb		05:40:02
2	U 367.007†	318.7	495.3	305.83 µg/L	305.83 ppb		05:39:42
2	V 292.402†	6487.1	9579.8	521.96 µg/L	521.96 ppb		05:40:02
2	Zn 213.857†	7626.5	11274.3	611.46 µg/L	611.46 ppb		05:40:02
3	Sc RADIAL	56273.0	56273.0	88.313 %	88.313 %		05:39:16
3	Al 396.153Radial†	12893.2	14601.7	4532.8 µg/L	4532.8 ppb		05:39:16
3	Ca 317.933Radial†	720297.3	815386.2	134000 µg/L	134000 ppb		05:39:14
3	Fe 238.204 Radial†	10205.9	11504.9	3965.4 µg/L	3965.4 ppb		05:39:16
3	K 766.490 Radial†	1996411.8	2260832.1	1004700 µg/L	1004700 ppb		05:39:14
3	Mg 279.077 IEC†	40363.8	45700.3	71543 µg/L	71543 ppb		05:39:16
3	Na 589.592 Radial†	Saturated3	Saturated3				05:39:16
Saturated in preshot (code 3)							
3	Sr 421.552†	804237.5	911124.3	1226.3 µg/L	1226.3 ppb		05:39:14
3	Sc 361.383	138570.6	138570.6	64.846 %	64.846 %		05:40:04
3	Y 371.029	80434.7	80434.7	64.558 %	64.558 %		05:40:04
3	Ag 328.068†	2272.5	3658.2	141.64 µg/L	141.64 ppb		05:40:24
3	As 188.979†	146.7	226.8	570.31 µg/L	570.31 ppb		05:40:24
3	B 249.677†	19376.1	29783.3	3576.8 µg/L	3576.8 ppb		05:40:04
3	Ba 233.527†	8322.4	12866.6	637.97 µg/L	637.97 ppb		05:40:24
3	Be 313.107†	100199.4	154758.5	381.79 µg/L	381.79 ppb		05:40:04
3	Cd 226.502†	5860.9	9098.4	459.09 µg/L	459.09 ppb		05:40:24
3	Co 228.616†	1286.5	2000.1	379.55 µg/L	379.55 ppb		05:40:24
3	Cr 267.716†	5138.7	7868.2	407.45 µg/L	407.45 ppb		05:40:04
3	Cu 324.752†	11242.7	17042.1	548.85 µg/L	548.85 ppb		05:40:04
3	Mn 257.610†	18620.0	28735.6	420.10 µg/L	420.10 ppb		05:40:04
3	Mo 202.031†	2059.6	3148.3	642.73 µg/L	642.73 ppb		05:40:24
3	Ni 231.604†	2378.0	3720.2	436.44 µg/L	436.44 ppb		05:40:24
3	P 214.914†	832.4	1238.8	7572.5 µg/L	7572.5 ppb		05:40:24
3	Pb 220.353†	391.0	593.5	387.62 µg/L	387.62 ppb		05:40:24
3	S 181.975 Axial†	145426.2	224261.5	1433000 µg/L	1433000 ppb		05:40:04
3	Sb 206.836†	242.8	343.9	580.12 µg/L	580.12 ppb		05:40:24
3	Se 196.026†	185.7	258.7	546.86 µg/L	546.86 ppb		05:40:24
3	SiO2†	90558.8	139487.2	160010 µg/L	160010 ppb		05:40:04
3	Si 251.611†	236512.5	364603.0	77559 µg/L	77559 ppb		05:40:04
3	Sn 189.927†	352.7	532.9	487.68 µg/L	487.68 ppb		05:40:24
3	Ti 334.940†	29712.8	45804.9	433.36 µg/L	433.36 ppb		05:40:04
3	Tl 190.801†	112.9	184.4	360.53 µg/L	360.53 ppb		05:40:24
3	U 367.007†	383.4	616.4	383.83 µg/L	383.83 ppb		05:40:04
3	V 292.402†	6466.7	9983.0	543.96 µg/L	543.96 ppb		05:40:24
3	Zn 213.857†	7663.2	11841.9	642.33 µg/L	642.33 ppb		05:40:24

Mean Data: 1204695449|2063261|1|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	141647.2	66.286	%	1.4739	66.286	%	1.4739	2.22%
Sc RADIAL	55226.3	86.670	%	1.5130	86.670	%	1.5130	1.75%
Y 371.029	82151.6	65.936	%	1.4198	65.936	%	1.4198	2.15%
Ag 328.068†	3583.8	138.81	µg/L	3.155	138.81	ppb	3.155	2.27%
Al 396.153Radial†	14609.8	4535.8	µg/L	46.38	4535.8	ppb	46.38	1.02%
As 188.979†	224.5	564.64	µg/L	19.702	564.64	ppb	19.702	3.49%
B 249.677†	29905.5	3591.4	µg/L	46.06	3591.4	ppb	46.06	1.28%
Ba 233.527†	12620.7	625.77	µg/L	14.929	625.77	ppb	14.929	2.39%
Be 313.107†	155021.7	382.43	µg/L	1.712	382.43	ppb	1.712	0.45%
Ca 317.933Radial†	825544.7	135670	µg/L	1580.74	135670	ppb	1580.74	1.17%
Cd 226.502†	8949.5	451.57	µg/L	10.632	451.57	ppb	10.632	2.35%
Co 228.616†	1967.0	373.26	µg/L	8.449	373.26	ppb	8.449	2.26%
Cr 267.716†	7896.0	408.89	µg/L	1.472	408.89	ppb	1.472	0.36%
Cu 324.752†	17029.2	548.38	µg/L	1.145	548.38	ppb	1.145	0.21%
Fe 238.204 Radial†	11485.6	3958.7	µg/L	21.02	3958.7	ppb	21.02	0.53%

K 766.490 Radial†	2290337.4	1017900 µg/L	11430.87	1017900 ppb	11430.87	1.12%
Concentration greater than upper limit for K 766.490 Radial.						
Mg 279.077 IEC†	45693.5	71532 µg/L	398.92	71532 ppb	398.92	0.56%
Mn 257.610†	28642.0	418.73 µg/L	1.729	418.73 ppb	1.729	0.41%
Mo 202.031†	3090.9	631.01 µg/L	15.792	631.01 ppb	15.792	2.50%
Na 589.592 Radial†	Saturated3					
Ni 231.604†	3657.5	429.08 µg/L	8.846	429.08 ppb	8.846	2.06%
P 214.914†	1222.2	7470.9 µg/L	183.33	7470.9 ppb	183.33	2.45%
Concentration greater than upper limit for P 214.914.						
Pb 220.353†	592.4	387.01 µg/L	3.682	387.01 ppb	3.682	0.95%
S 181.975 Axial†	226908.8	1449900 µg/L	22230.76	1449900 ppb	22230.76	1.53%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	336.9	568.28 µg/L	17.224	568.28 ppb	17.224	3.03%
Se 196.026†	254.8	538.62 µg/L	8.052	538.62 ppb	8.052	1.49%
SiO2†	140426.0	161080 µg/L	1704.72	161080 ppb	1704.72	1.06%
Concentration greater than upper limit for SiO2.						
Si 251.611†	367095.0	78090 µg/L	899.55	78090 ppb	899.55	1.15%
Concentration greater than upper limit for Si 251.611.						
Sn 189.927†	516.9	473.49 µg/L	13.306	473.49 ppb	13.306	2.81%
Sr 421.552†	920987.1	1239.6 µg/L	12.04	1239.6 ppb	12.04	0.97%
Ti 334.940†	45798.7	433.23 µg/L	2.905	433.23 ppb	2.905	0.67%
Tl 190.801†	177.8	347.68 µg/L	11.150	347.68 ppb	11.150	3.21%
U 367.007†	549.0	340.44 µg/L	39.736	340.44 ppb	39.736	11.67%
V 292.402†	9836.4	535.95 µg/L	12.157	535.95 ppb	12.157	2.27%
Zn 213.857†	11617.6	630.14 µg/L	16.424	630.14 ppb	16.424	2.61%

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Batch ID:
Sequence No.: 8 **Autosampler Location: 306**
Sample ID: 1204695450|2063261|5| **Date Collected: 11/19/2020 05:41:24**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: 1204695450|2063261|5|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	62977.5	62977.5	98.835	%	98.835	%	05:41:59
1	Al 396.153Radial†	56.0	58.8	16.449	µg/L	16.449	ppb	05:41:59
1	Ca 317.933Radial†	186445.1	188409.7	30962	µg/L	30962	ppb	05:41:59
1	Fe 238.204 Radial†	76.5	25.7	8.8595	µg/L	8.8595	ppb	05:42:19
1	K 766.490 Radial†	400671.0	405614.9	180260	µg/L	180260	ppb	05:41:59
1	Mg 279.077 IEC†	9837.8	9948.7	15574	µg/L	15574	ppb	05:41:59
1	Na 589.592 Radial†	Saturated2	Saturated2					05:42:19
	Saturated in preshot (code 2)							
1	Sr 421.552†	123718.0	125632.5	169.16	µg/L	169.16	ppb	05:41:59
1	Sc 361.383	195535.3	195535.3	91.503	%	91.503	%	05:43:07
1	Y 371.029	111703.2	111703.2	89.655	%	89.655	%	05:43:07
1	Ag 328.068†	-152.5	-12.8	-0.4539	µg/L	-0.4539	ppb	05:43:27
1	As 188.979†	-2.2	-1.9	-4.4385	µg/L	-4.4385	ppb	05:43:27
1	B 249.677†	4685.2	5023.4	601.24	µg/L	601.24	ppb	05:43:07
1	Ba 233.527†	505.9	585.5	29.018	µg/L	29.018	ppb	05:43:27
1	Be 313.107†	-282.2	-68.9	-0.1704	µg/L	-0.1704	ppb	05:43:07
1	Cd 226.502†	-38.3	18.5	0.9314	µg/L	0.9314	ppb	05:43:27
1	Co 228.616†	-13.9	1.0	0.2221	µg/L	0.2221	ppb	05:43:27
1	Cr 267.716†	73.1	23.6	1.2197	µg/L	1.2197	ppb	05:43:27
1	Cu 324.752†	423.7	167.5	5.3585	µg/L	5.3585	ppb	05:43:27
1	Mn 257.610†	-0.2	21.2	0.2947	µg/L	0.2947	ppb	05:43:27
1	Mo 202.031†	227.6	220.9	45.096	µg/L	45.096	ppb	05:43:27
1	Ni 231.604†	-12.4	39.6	4.6424	µg/L	4.6424	ppb	05:43:27
1	P 214.914†	227.7	203.9	1251.6	µg/L	1251.6	ppb	05:43:27
1	Pb 220.353†	9.0	0.3	0.2442	µg/L	0.2442	ppb	05:43:27
1	S 181.975 Axial†	37144.4	40590.9	259360	µg/L	259360	ppb	05:43:07
1	Sb 206.836†	30.5	2.8	5.3122	µg/L	5.3122	ppb	05:43:27
1	Se 196.026†	32.7	8.1	17.153	µg/L	17.153	ppb	05:43:27
1	SiO2†	20227.4	21940.7	25169	µg/L	25169	ppb	05:43:07
1	Si 251.611†	51304.7	55942.1	11902	µg/L	11902	ppb	05:43:07
1	Sn 189.927†	19.9	10.8	11.812	µg/L	11.812	ppb	05:43:27
1	Ti 334.940†	-17.1	-34.4	-1.5806	µg/L	-1.5806	ppb	05:43:27
1	Tl 190.801†	-9.2	0.2	0.5268	µg/L	0.5268	ppb	05:43:27
1	U 367.007†	-54.8	-34.7	-22.398	µg/L	-22.398	ppb	05:43:07
1	V 292.402†	108.8	129.5	7.0527	µg/L	7.0527	ppb	05:43:27
1	Zn 213.857†	72.5	103.6	5.6195	µg/L	5.6195	ppb	05:43:27
2	Sc RADIAL	62940.2	62940.2	98.776	%	98.776	%	05:42:21
2	Al 396.153Radial†	-29.5	-27.7	-10.581	µg/L	-10.581	ppb	05:42:21
2	Ca 317.933Radial†	186955.3	189038.0	31065	µg/L	31065	ppb	05:42:21
2	Fe 238.204 Radial†	75.0	24.3	8.3618	µg/L	8.3618	ppb	05:42:42
2	K 766.490 Radial†	401367.3	406559.9	180680	µg/L	180680	ppb	05:42:21
2	Mg 279.077 IEC†	9865.7	9982.8	15628	µg/L	15628	ppb	05:42:21
2	Na 589.592 Radial†	Saturated2	Saturated2					05:42:42
	Saturated in preshot (code 2)							
2	Sr 421.552†	124078.6	126071.7	169.75	µg/L	169.75	ppb	05:42:21
2	Sc 361.383	191309.1	191309.1	89.526	%	89.526	%	05:43:30
2	Y 371.029	109428.9	109428.9	87.829	%	87.829	%	05:43:30
2	Ag 328.068†	-146.4	-9.7	-0.3160	µg/L	-0.3160	ppb	05:43:50
2	As 188.979†	-1.4	-1.0	-2.3338	µg/L	-2.3338	ppb	05:43:50
2	B 249.677†	4502.7	4932.6	590.37	µg/L	590.37	ppb	05:43:30
2	Ba 233.527†	498.9	589.9	29.239	µg/L	29.239	ppb	05:43:50
2	Be 313.107†	-255.2	-45.4	-0.1130	µg/L	-0.1130	ppb	05:43:30
2	Cd 226.502†	-42.1	13.3	0.6691	µg/L	0.6691	ppb	05:43:50
2	Co 228.616†	-12.7	2.0	0.4246	µg/L	0.4246	ppb	05:43:50
2	Cr 267.716†	85.9	39.6	2.0499	µg/L	2.0499	ppb	05:43:50
2	Cu 324.752†	396.2	147.1	4.6780	µg/L	4.6780	ppb	05:43:50
2	Mn 257.610†	4.9	26.9	0.3773	µg/L	0.3773	ppb	05:43:50

2	Mo 202.031†	222.3	220.5	45.009 µg/L	45.009 ppb	05:43:50
2	Ni 231.604†	-16.1	35.2	4.1238 µg/L	4.1238 ppb	05:43:50
2	P 214.914†	219.1	199.8	1226.5 µg/L	1226.5 ppb	05:43:50
2	Pb 220.353†	-2.1	-11.9	-7.7181 µg/L	-7.7181 ppb	05:43:50
2	S 181.975 Axial†	36136.9	40362.3	257900 µg/L	257900 ppb	05:43:30
2	Sb 206.836†	30.7	3.8	6.8995 µg/L	6.8995 ppb	05:43:50
2	Se 196.026†	20.7	-4.5	-9.5306 µg/L	-9.5306 ppb	05:43:50
2	SiO2†	19700.4	21840.3	25053 µg/L	25053 ppb	05:43:30
2	Si 251.611†	49763.9	55459.7	11799 µg/L	11799 ppb	05:43:30
2	Sn 189.927†	27.0	19.2	19.300 µg/L	19.300 ppb	05:43:50
2	Ti 334.940†	-23.1	-41.5	-1.6525 µg/L	-1.6525 ppb	05:43:50
2	Tl 190.801†	-8.8	0.5	0.9520 µg/L	0.9520 ppb	05:43:50
2	U 367.007†	-76.6	-60.4	-38.950 µg/L	-38.950 ppb	05:43:30
2	V 292.402†	110.6	134.2	7.2987 µg/L	7.2987 ppb	05:43:50
2	Zn 213.857†	59.1	90.4	4.9032 µg/L	4.9032 ppb	05:43:50
3	Sc RADIAL	64966.3	64966.3	101.96 %	101.96 %	05:42:44
3	Al 396.153Radial†	-27.7	-24.9	-9.8166 µg/L	-9.8166 ppb	05:42:44
3	Ca 317.933Radial†	193570.2	189623.3	31162 µg/L	31162 ppb	05:42:44
3	Fe 238.204 Radial†	74.3	21.2	7.3211 µg/L	7.3211 ppb	05:43:04
3	K 766.490 Radial†	413236.5	405529.0	180220 µg/L	180220 ppb	05:42:44
3	Mg 279.077 IEC†	10049.8	9851.9	15423 µg/L	15423 ppb	05:42:44
3	Na 589.592 Radial†	Saturated2	Saturated2			05:43:04
Saturated in preshot (code 2)						
3	Sr 421.552†	127283.8	125297.8	168.71 µg/L	168.71 ppb	05:42:44
3	Sc 361.383	189759.9	189759.9	88.801 %	88.801 %	05:43:52
3	Y 371.029	108494.0	108494.0	87.079 %	87.079 %	05:43:52
3	Ag 328.068†	-159.6	-25.9	-0.9628 µg/L	-0.9628 ppb	05:44:12
3	As 188.979†	0.1	0.7	1.9696 µg/L	1.9696 ppb	05:44:12
3	B 249.677†	4507.1	4978.6	595.87 µg/L	595.87 ppb	05:43:52
3	Ba 233.527†	493.7	588.6	29.174 µg/L	29.174 ppb	05:44:12
3	Be 313.107†	-261.5	-54.9	-0.1356 µg/L	-0.1356 ppb	05:43:52
3	Cd 226.502†	-46.3	8.1	0.4102 µg/L	0.4102 ppb	05:44:12
3	Co 228.616†	-11.8	2.9	0.5835 µg/L	0.5835 ppb	05:44:12
3	Cr 267.716†	69.2	21.6	1.1160 µg/L	1.1160 ppb	05:44:12
3	Cu 324.752†	397.0	151.5	4.8489 µg/L	4.8489 ppb	05:44:12
3	Mn 257.610†	5.8	27.9	0.3926 µg/L	0.3926 ppb	05:44:12
3	Mo 202.031†	231.3	232.6	47.481 µg/L	47.481 ppb	05:44:12
3	Ni 231.604†	-18.5	32.3	3.7889 µg/L	3.7889 ppb	05:44:12
3	P 214.914†	222.0	205.1	1258.8 µg/L	1258.8 ppb	05:44:12
3	Pb 220.353†	3.1	-6.0	-3.9137 µg/L	-3.9137 ppb	05:44:12
3	S 181.975 Axial†	35669.7	40165.8	256650 µg/L	256650 ppb	05:43:52
3	Sb 206.836†	30.2	3.5	6.5511 µg/L	6.5511 ppb	05:44:12
3	Se 196.026†	37.8	14.9	31.428 µg/L	31.428 ppb	05:44:12
3	SiO2†	19652.9	21966.4	25198 µg/L	25198 ppb	05:43:52
3	Si 251.611†	49775.0	55926.0	11898 µg/L	11898 ppb	05:43:52
3	Sn 189.927†	18.2	9.5	10.701 µg/L	10.701 ppb	05:44:12
3	Ti 334.940†	-4.5	-20.8	-1.4579 µg/L	-1.4579 ppb	05:44:12
3	Tl 190.801†	-10.7	-1.7	-3.2628 µg/L	-3.2628 ppb	05:44:12
3	U 367.007†	-47.2	-27.9	-18.006 µg/L	-18.006 ppb	05:43:52
3	V 292.402†	100.9	124.3	6.7744 µg/L	6.7744 ppb	05:44:12
3	Zn 213.857†	71.8	105.2	5.7127 µg/L	5.7127 ppb	05:44:12

Mean Data: 1204695450|2063261|5|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	192201.5	89.943	%	1.3989	89.943	%	1.3989	1.56%
Sc RADIAL	63628.0	99.856	%	1.8191	99.856	%	1.8191	1.82%
Y 371.029	109875.4	88.188	%	1.3247	88.188	%	1.3247	1.50%
Ag 328.068†	-16.2	-0.5776	µg/L	0.34068	-0.5776	ppb	0.34068	58.99%
Al 396.153Radial†	2.1	-1.3162	µg/L	15.38967	-1.3162	ppb	15.38967	>999.9%
As 188.979†	-0.7	-1.6009	µg/L	3.26634	-1.6009	ppb	3.26634	204.03%
B 249.677†	4978.2	595.82	µg/L	5.433	595.82	ppb	5.433	0.91%
Ba 233.527†	588.0	29.144	µg/L	0.1133	29.144	ppb	0.1133	0.39%
Be 313.107†	-56.4	-0.1397	µg/L	0.02889	-0.1397	ppb	0.02889	20.69%
Ca 317.933Radial†	189023.7	31063	µg/L	99.73	31063	ppb	99.73	0.32%
Cd 226.502†	13.3	0.6702	µg/L	0.26061	0.6702	ppb	0.26061	38.88%
Co 228.616†	2.0	0.4101	µg/L	0.18116	0.4101	ppb	0.18116	44.18%
Cr 267.716†	28.2	1.4619	µg/L	0.51188	1.4619	ppb	0.51188	35.02%
Cu 324.752†	155.4	4.9618	µg/L	0.35401	4.9618	ppb	0.35401	7.13%
Fe 238.204 Radial†	23.7	8.1808	µg/L	0.78498	8.1808	ppb	0.78498	9.60%

K 766.490 Radial†	405901.3	180390 µg/L	254.19	180390 ppb	254.19	0.14%
Mg 279.077 IEC†	9927.8	15541 µg/L	106.30	15541 ppb	106.30	0.68%
Mn 257.610†	25.3	0.3549 µg/L	0.05267	0.3549 ppb	0.05267	14.84%
Mo 202.031†	224.6	45.862 µg/L	1.4030	45.862 ppb	1.4030	3.06%
Na 589.592 Radial†	Saturated2					
Ni 231.604†	35.7	4.1850 µg/L	0.43001	4.1850 ppb	0.43001	10.27%
P 214.914†	202.9	1245.6 µg/L	16.99	1245.6 ppb	16.99	1.36%
Pb 220.353†	-5.9	-3.7959 µg/L	3.98244	-3.7959 ppb	3.98244	104.91%
S 181.975 Axial†	40373.0	257970 µg/L	1359.52	257970 ppb	1359.52	0.53%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	3.4	6.2543 µg/L	0.83426	6.2543 ppb	0.83426	13.34%
Se 196.026†	6.2	13.017 µg/L	20.7904	13.017 ppb	20.7904	159.72%
SiO2†	21915.8	25140 µg/L	76.43	25140 ppb	76.43	0.30%
Si 251.611†	55775.9	11866 µg/L	58.28	11866 ppb	58.28	0.49%
Sn 189.927†	13.1	13.938 µg/L	4.6770	13.938 ppb	4.6770	33.56%
Sr 421.552†	125667.4	169.21 µg/L	0.523	169.21 ppb	0.523	0.31%
Ti 334.940†	-32.2	-1.5637 µg/L	0.09837	-1.5637 ppb	0.09837	6.29%
Tl 190.801†	-0.3	-0.5946 µg/L	2.32043	-0.5946 ppb	2.32043	390.23%
U 367.007†	-41.0	-26.451 µg/L	11.0450	-26.451 ppb	11.0450	41.76%
V 292.402†	129.3	7.0420 µg/L	0.26231	7.0420 ppb	0.26231	3.72%
Zn 213.857†	99.8	5.4118 µg/L	0.44292	5.4118 ppb	0.44292	8.18%

Batch ID:
Sequence No.: 9 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/19/2020 05:45:12**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	73392.1	73392.1	115.18	%	115.18	%	05:45:50
1	Al 396.153Radial†	18107.3	15723.2	4890.6	µg/L	4890.6	ppb	05:45:52
1	Ca 317.933Radial†	35372.1	30476.8	5008.4	µg/L	5008.4	ppb	05:45:52
1	Fe 238.204 Radial†	17137.1	14827.0	5110.3	µg/L	5110.3	ppb	05:45:52
1	K 766.490 Radial†	15159.6	13381.3	5948.2	µg/L	5948.2	ppb	05:45:50
1	Mg 279.077 IEC†	3701.1	3208.2	5024.6	µg/L	5024.6	ppb	05:45:52
1	Na 589.592 Radial†	249591.4	215226.9	25307	µg/L	25307	ppb	05:45:50
1	Sr 421.552†	439666.0	382179.9	513.99	µg/L	513.99	ppb	05:45:50
1	Sc 361.383	241778.2	241778.2	113.14	%	113.14	%	05:46:05
1	Y 371.029	139979.5	139979.5	112.35	%	112.35	%	05:46:05
1	Ag 328.068†	13821.0	12369.2	476.33	µg/L	476.33	ppb	05:46:05
1	As 188.979†	220.0	195.0	491.35	µg/L	491.35	ppb	05:46:25
1	B 249.677†	4839.7	4180.6	516.17	µg/L	516.17	ppb	05:46:05
1	Ba 233.527†	11132.6	9871.9	489.41	µg/L	489.41	ppb	05:46:05
1	Be 313.107†	224370.4	198545.8	489.50	µg/L	489.50	ppb	05:46:05
1	Cd 226.502†	11065.3	9840.2	496.42	µg/L	496.42	ppb	05:46:05
1	Co 228.616†	2821.8	2510.2	475.95	µg/L	475.95	ppb	05:46:25
1	Cr 267.716†	10642.5	9349.9	484.18	µg/L	484.18	ppb	05:46:05
1	Cu 324.752†	17063.0	14785.3	476.46	µg/L	476.46	ppb	05:46:05
1	Mn 257.610†	37439.6	33111.8	484.15	µg/L	484.15	ppb	05:46:05
1	Mo 202.031†	2621.5	2289.1	467.30	µg/L	467.30	ppb	05:46:25
1	Ni 231.604†	4678.4	4188.0	491.32	µg/L	491.32	ppb	05:46:05
1	P 214.914†	487.4	385.9	2337.7	µg/L	2337.7	ppb	05:46:25
1	Pb 220.353†	841.5	734.2	479.61	µg/L	479.61	ppb	05:46:25
1	S 181.975 Axial†	261.4	228.5	1460.8	µg/L	1460.8	ppb	05:46:25
1	Sb 206.836†	341.2	271.0	456.77	µg/L	456.77	ppb	05:46:25
1	Se 196.026†	286.0	225.1	476.56	µg/L	476.56	ppb	05:46:25
1	SiO2†	5469.7	4669.3	5353.2	µg/L	5353.2	ppb	05:46:05
1	Si 251.611†	13418.0	11732.8	2483.1	µg/L	2483.1	ppb	05:46:05
1	Sn 189.927†	601.8	520.9	467.74	µg/L	467.74	ppb	05:46:25
1	Ti 334.940†	56282.7	49728.8	476.25	µg/L	476.25	ppb	05:46:05
1	Tl 190.801†	260.5	240.6	469.57	µg/L	469.57	ppb	05:46:25
1	U 367.007†	794.8	727.7	451.72	µg/L	451.72	ppb	05:46:05
1	V 292.402†	9986.3	8836.8	481.73	µg/L	481.73	ppb	05:46:05
1	Zn 213.857†	10055.4	8911.7	482.04	µg/L	482.04	ppb	05:46:05
2	Sc RADIAL	69471.5	69471.5	109.03	%	109.03	%	05:45:55
2	Al 396.153Radial†	17478.2	16033.4	4987.7	µg/L	4987.7	ppb	05:45:57
2	Ca 317.933Radial†	34626.1	31525.6	5180.7	µg/L	5180.7	ppb	05:45:57
2	Fe 238.204 Radial†	16367.8	14961.1	5156.4	µg/L	5156.4	ppb	05:45:57
2	K 766.490 Radial†	17720.4	16472.8	7322.1	µg/L	7322.1	ppb	05:45:55
2	Mg 279.077 IEC†	3574.8	3273.7	5127.2	µg/L	5127.2	ppb	05:45:57
2	Na 589.592 Radial†	605893.6	554260.5	65174	µg/L	65174	ppb	05:45:55
2	Sr 421.552†	416207.7	382206.1	514.02	µg/L	514.02	ppb	05:45:55
2	Sc 361.383	239886.0	239886.0	112.26	%	112.26	%	05:46:27
2	Y 371.029	138721.0	138721.0	111.34	%	111.34	%	05:46:27
2	Ag 328.068†	13645.2	12309.0	474.00	µg/L	474.00	ppb	05:46:27
2	As 188.979†	211.2	188.8	475.84	µg/L	475.84	ppb	05:46:47
2	B 249.677†	4900.1	4268.2	526.79	µg/L	526.79	ppb	05:46:27
2	Ba 233.527†	10975.0	9809.2	486.29	µg/L	486.29	ppb	05:46:27
2	Be 313.107†	222698.3	198620.4	489.68	µg/L	489.68	ppb	05:46:27
2	Cd 226.502†	10950.3	9814.9	495.14	µg/L	495.14	ppb	05:46:27
2	Co 228.616†	2786.0	2498.0	473.63	µg/L	473.63	ppb	05:46:47
2	Cr 267.716†	10614.4	9399.0	486.73	µg/L	486.73	ppb	05:46:27
2	Cu 324.752†	16871.1	14733.4	474.79	µg/L	474.79	ppb	05:46:27
2	Mn 257.610†	37202.2	33161.3	484.87	µg/L	484.87	ppb	05:46:27
2	Mo 202.031†	2564.7	2256.8	460.69	µg/L	460.69	ppb	05:46:47
2	Ni 231.604†	4600.7	4151.4	487.03	µg/L	487.03	ppb	05:46:27

2	P 214.914†	480.2	382.9	2319.7 µg/L	2319.7 ppb	05:46:47
2	Pb 220.353†	826.1	726.4	474.51 µg/L	474.51 ppb	05:46:47
2	S 181.975 Axial†	228.3	200.9	1284.2 µg/L	1284.2 ppb	05:46:47
2	Sb 206.836†	331.0	264.4	445.64 µg/L	445.64 ppb	05:46:47
2	Se 196.026†	279.4	221.2	468.43 µg/L	468.43 ppb	05:46:47
2	SiO2†	5425.0	4667.6	5351.4 µg/L	5351.4 ppb	05:46:27
2	Si 251.611†	13270.8	11695.2	2475.2 µg/L	2475.2 ppb	05:46:27
2	Sn 189.927†	588.7	513.4	461.09 µg/L	461.09 ppb	05:46:47
2	Ti 334.940†	55644.1	49552.3	474.56 µg/L	474.56 ppb	05:46:27
2	Tl 190.801†	261.3	243.1	474.48 µg/L	474.48 ppb	05:46:47
2	U 367.007†	795.1	733.5	455.29 µg/L	455.29 ppb	05:46:27
2	V 292.402†	9880.1	8811.8	480.38 µg/L	480.38 ppb	05:46:27
2	Zn 213.857†	9931.5	8871.4	479.86 µg/L	479.86 ppb	05:46:27
3	Sc RADIAL	71587.1	71587.1	112.35 %	112.35 %	05:45:59
3	Al 396.153Radial†	17891.4	15927.4	4954.4 µg/L	4954.4 ppb	05:46:01
3	Ca 317.933Radial†	34937.4	30864.2	5072.1 µg/L	5072.1 ppb	05:46:01
3	Fe 238.204 Radial†	16854.9	14951.0	5153.0 µg/L	5153.0 ppb	05:46:01
3	K 766.490 Radial†	14833.1	13422.5	5966.5 µg/L	5966.5 ppb	05:45:59
3	Mg 279.077 IEC†	3665.4	3257.5	5101.8 µg/L	5101.8 ppb	05:46:01
3	Na 589.592 Radial†	240821.6	212884.8	25032 µg/L	25032 ppb	05:45:59
3	Sr 421.552†	429301.3	382579.3	514.52 µg/L	514.52 ppb	05:45:59
3	Sc 361.383	238360.0	238360.0	111.54 %	111.54 %	05:46:49
3	Y 371.029	138183.7	138183.7	110.91 %	110.91 %	05:46:49
3	Ag 328.068†	13555.7	12306.6	473.93 µg/L	473.93 ppb	05:46:49
3	As 188.979†	215.4	193.7	488.05 µg/L	488.05 ppb	05:47:09
3	B 249.677†	4878.1	4276.4	527.76 µg/L	527.76 ppb	05:46:49
3	Ba 233.527†	10937.6	9838.3	487.74 µg/L	487.74 ppb	05:46:49
3	Be 313.107†	221412.9	198738.1	489.98 µg/L	489.98 ppb	05:46:49
3	Cd 226.502†	10855.2	9792.1	493.98 µg/L	493.98 ppb	05:46:49
3	Co 228.616†	2777.1	2505.9	475.13 µg/L	475.13 ppb	05:47:09
3	Cr 267.716†	10493.5	9351.2	484.25 µg/L	484.25 ppb	05:46:49
3	Cu 324.752†	16994.6	14940.3	481.43 µg/L	481.43 ppb	05:46:49
3	Mn 257.610†	37137.8	33315.8	487.13 µg/L	487.13 ppb	05:46:49
3	Mo 202.031†	2573.9	2279.7	465.37 µg/L	465.37 ppb	05:47:09
3	Ni 231.604†	4590.6	4168.6	489.04 µg/L	489.04 ppb	05:46:49
3	P 214.914†	483.5	388.5	2354.0 µg/L	2354.0 ppb	05:47:09
3	Pb 220.353†	837.2	741.0	484.09 µg/L	484.09 ppb	05:47:09
3	S 181.975 Axial†	220.7	195.4	1249.2 µg/L	1249.2 ppb	05:47:09
3	Sb 206.836†	341.4	275.5	464.19 µg/L	464.19 ppb	05:47:09
3	Se 196.026†	285.4	228.2	483.11 µg/L	483.11 ppb	05:47:09
3	SiO2†	5316.0	4600.8	5274.6 µg/L	5274.6 ppb	05:46:49
3	Si 251.611†	13197.2	11704.9	2477.2 µg/L	2477.2 ppb	05:46:49
3	Sn 189.927†	588.4	516.5	463.83 µg/L	463.83 ppb	05:47:09
3	Ti 334.940†	55611.4	49840.4	477.32 µg/L	477.32 ppb	05:46:49
3	Tl 190.801†	258.3	241.9	472.17 µg/L	472.17 ppb	05:47:09
3	U 367.007†	768.0	713.7	442.57 µg/L	442.57 ppb	05:46:49
3	V 292.402†	9882.1	8870.0	483.52 µg/L	483.52 ppb	05:46:49
3	Zn 213.857†	9854.4	8858.9	479.16 µg/L	479.16 ppb	05:46:49

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	240008.1	112.32	%	0.801	112.32	%	0.801	0.71%
Sc RADIAL	71483.6	112.18	%	3.080	112.18	%	3.080	2.75%
Y 371.029	138961.4	111.53	%	0.740	111.53	%	0.740	0.66%
Ag 328.068†	12328.3	474.75	µg/L	1.362	474.75	ppb	1.362	0.29%
QC value within limits for Ag 328.068 Recovery = 94.95%								
Al 396.153Radial†	15894.7	4944.2	µg/L	49.38	4944.2	ppb	49.38	1.00%
QC value within limits for Al 396.153Radial Recovery = 98.88%								
As 188.979†	192.5	485.08	µg/L	8.172	485.08	ppb	8.172	1.68%
QC value within limits for As 188.979 Recovery = 97.02%								
B 249.677†	4241.7	523.57	µg/L	6.434	523.57	ppb	6.434	1.23%
QC value within limits for B 249.677 Recovery = 104.71%								
Ba 233.527†	9839.8	487.81	µg/L	1.558	487.81	ppb	1.558	0.32%
QC value within limits for Ba 233.527 Recovery = 97.56%								
Be 313.107†	198634.8	489.72	µg/L	0.241	489.72	ppb	0.241	0.05%
QC value within limits for Be 313.107 Recovery = 97.94%								
Ca 317.933Radial†	30955.5	5087.1	µg/L	87.15	5087.1	ppb	87.15	1.71%
QC value within limits for Ca 317.933Radial Recovery = 101.74%								
Cd 226.502†	9815.7	495.18	µg/L	1.219	495.18	ppb	1.219	0.25%

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   QC value within limits for Cd 226.502  Recovery = 99.04%
Co 228.616†            2504.7      474.90 µg/L         1.179      474.90 ppb          1.179   0.25%
   QC value within limits for Co 228.616  Recovery = 94.98%
Cr 267.716†            9366.7      485.05 µg/L         1.449      485.05 ppb          1.449   0.30%
   QC value within limits for Cr 267.716  Recovery = 97.01%
Cu 324.752†           14819.7      477.56 µg/L         3.453      477.56 ppb          3.453   0.72%
   QC value within limits for Cu 324.752  Recovery = 95.51%
Fe 238.204 Radial†    14913.0      5139.9 µg/L         25.70      5139.9 ppb          25.70   0.50%
   QC value within limits for Fe 238.204 Radial  Recovery = 102.80%
K 766.490 Radial†     14425.5      6412.2 µg/L        788.00      6412.2 ppb         788.00  12.29%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = 128.24%
Mg 279.077 IEC†        3246.5      5084.6 µg/L         53.44      5084.6 ppb          53.44   1.05%
   QC value within limits for Mg 279.077 IEC  Recovery = 101.69%
Mn 257.610†           33196.3      485.39 µg/L         1.556      485.39 ppb          1.556   0.32%
   QC value within limits for Mn 257.610  Recovery = 97.08%
Mo 202.031†            2275.2      464.45 µg/L         3.397      464.45 ppb          3.397   0.73%
   QC value within limits for Mo 202.031  Recovery = 92.89%
Na 589.592 Radial†   327457.4       38505 µg/L      23096.94       38505 ppb       23096.94  59.99%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = 385.05%
Ni 231.604†            4169.3      489.13 µg/L         2.145      489.13 ppb          2.145   0.44%
   QC value within limits for Ni 231.604  Recovery = 97.83%
P 214.914†              385.8      2337.1 µg/L         17.20      2337.1 ppb          17.20   0.74%
   QC value within limits for P 214.914  Recovery = 93.49%
Pb 220.353†             733.9      479.40 µg/L         4.796      479.40 ppb          4.796   1.00%
   QC value within limits for Pb 220.353  Recovery = 95.88%
S 181.975 Axial†        208.2      1331.4 µg/L        113.41      1331.4 ppb         113.41   8.52%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = 133.14%
Sb 206.836†             270.3      455.53 µg/L         9.334      455.53 ppb          9.334   2.05%
   QC value within limits for Sb 206.836  Recovery = 91.11%
Se 196.026†             224.8      476.03 µg/L         7.355      476.03 ppb          7.355   1.55%
   QC value within limits for Se 196.026  Recovery = 95.21%
SiO2†                  4645.9      5326.4 µg/L         44.86      5326.4 ppb          44.86   0.84%
   QC value within limits for SiO2  Recovery = 99.61%
Si 251.611†           11711.0      2478.5 µg/L          4.09      2478.5 ppb           4.09   0.16%
   QC value within limits for Si 251.611  Recovery = 99.14%
Sn 189.927†             516.9      464.22 µg/L         3.343      464.22 ppb          3.343   0.72%
   QC value within limits for Sn 189.927  Recovery = 92.84%
Sr 421.552†           382321.7      514.18 µg/L         0.299      514.18 ppb          0.299   0.06%
   QC value within limits for Sr 421.552  Recovery = 102.84%
Ti 334.940†            49707.2      476.04 µg/L         1.392      476.04 ppb          1.392   0.29%
   QC value within limits for Ti 334.940  Recovery = 95.21%
Tl 190.801†             241.8      472.07 µg/L         2.456      472.07 ppb          2.456   0.52%
   QC value within limits for Tl 190.801  Recovery = 94.41%
U 367.007†              725.0      449.86 µg/L         6.557      449.86 ppb          6.557   1.46%
   QC value less than the lower limit for U 367.007  Recovery = 89.97%
V 292.402†             8839.5      481.88 µg/L         1.578      481.88 ppb          1.578   0.33%
   QC value within limits for V 292.402  Recovery = 96.38%
Zn 213.857†            8880.7      480.36 µg/L         1.501      480.36 ppb          1.501   0.31%
   QC value within limits for Zn 213.857  Recovery = 96.07%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 10 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/19/2020 05:47:40**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	62037.5	62037.5	97.359	%	97.359	%	05:48:17
1	Al 396.153Radial†	83.5	88.0	27.488	µg/L	27.488	ppb	05:48:17
1	Ca 317.933Radial†	293.6	67.8	11.136	µg/L	11.136	ppb	05:48:37
1	Fe 238.204 Radial†	62.3	12.4	4.2671	µg/L	4.2671	ppb	05:48:37
1	K 766.490 Radial†	1738.5	2005.1	891.08	µg/L	891.08	ppb	05:48:17
1	Mg 279.077 IEC†	19.6	15.0	23.484	µg/L	23.484	ppb	05:48:37
1	Na 589.592 Radial†	94996.9	96101.6	11300	µg/L	11300	ppb	05:48:17
1	Sr 421.552†	-444.5	-0.9	-0.0017	µg/L	-0.0017	ppb	05:48:17
1	Sc 361.383	207077.3	207077.3	96.905	%	96.905	%	05:49:25
1	Y 371.029	120650.1	120650.1	96.835	%	96.835	%	05:49:25
1	Ag 328.068†	-159.1	-10.4	-0.4319	µg/L	-0.4319	ppb	05:49:45
1	As 188.979†	-3.3	-2.8	-6.9714	µg/L	-6.9714	ppb	05:49:45
1	B 249.677†	292.9	205.3	24.589	µg/L	24.589	ppb	05:49:45
1	Ba 233.527†	-25.3	6.4	0.3190	µg/L	0.3190	ppb	05:49:45
1	Be 313.107†	-245.7	-14.0	-0.0330	µg/L	-0.0330	ppb	05:49:25
1	Cd 226.502†	-54.1	4.4	0.2242	µg/L	0.2242	ppb	05:49:45
1	Co 228.616†	-15.5	0.2	0.0421	µg/L	0.0421	ppb	05:49:45
1	Cr 267.716†	52.9	-1.7	-0.0882	µg/L	-0.0882	ppb	05:49:45
1	Cu 324.752†	341.1	56.5	1.8618	µg/L	1.8618	ppb	05:49:45
1	Mn 257.610†	-19.3	1.5	0.0217	µg/L	0.0217	ppb	05:49:45
1	Mo 202.031†	26.3	-0.7	-0.1391	µg/L	-0.1391	ppb	05:49:45
1	Ni 231.604†	-48.0	3.6	0.4229	µg/L	0.4229	ppb	05:49:45
1	P 214.914†	42.8	-0.7	-4.5394	µg/L	-4.5394	ppb	05:49:45
1	Pb 220.353†	14.9	5.9	3.8235	µg/L	3.8235	ppb	05:49:45
1	S 181.975 Axial†	28.9	27.3	174.75	µg/L	174.75	ppb	05:49:45
1	Sb 206.836†	37.8	8.5	14.123	µg/L	14.123	ppb	05:49:45
1	Se 196.026†	21.0	-6.0	-12.586	µg/L	-12.586	ppb	05:49:45
1	SiO2†	201.6	43.0	49.378	µg/L	49.378	ppb	05:49:45
1	Si 251.611†	186.9	66.4	14.131	µg/L	14.131	ppb	05:49:45
1	Sn 189.927†	13.2	2.6	2.3180	µg/L	2.3180	ppb	05:49:45
1	Ti 334.940†	54.8	40.9	0.3913	µg/L	0.3913	ppb	05:49:45
1	Tl 190.801†	-10.2	-0.2	-0.3780	µg/L	-0.3780	ppb	05:49:45
1	U 367.007†	25.9	51.9	33.411	µg/L	33.411	ppb	05:49:25
1	V 292.402†	-11.0	-0.7	-0.0169	µg/L	-0.0169	ppb	05:49:45
1	Zn 213.857†	3.0	27.5	1.4934	µg/L	1.4934	ppb	05:49:45
2	Sc RADIAL	63686.0	63686.0	99.947	%	99.947	%	05:48:39
2	Al 396.153Radial†	12.8	15.0	4.7009	µg/L	4.7009	ppb	05:48:39
2	Ca 317.933Radial†	280.2	46.6	7.6533	µg/L	7.6533	ppb	05:48:59
2	Fe 238.204 Radial†	73.2	21.6	7.4355	µg/L	7.4355	ppb	05:48:59
2	K 766.490 Radial†	1719.1	1939.5	861.92	µg/L	861.92	ppb	05:48:39
2	Mg 279.077 IEC†	1.7	-3.4	-5.3791	µg/L	-5.3791	ppb	05:48:59
2	Na 589.592 Radial†	92919.5	91497.3	10759	µg/L	10759	ppb	05:48:39
2	Sr 421.552†	-564.7	-109.3	-0.1481	µg/L	-0.1481	ppb	05:48:39
2	Sc 361.383	197697.3	197697.3	92.515	%	92.515	%	05:49:47
2	Y 371.029	115224.0	115224.0	92.480	%	92.480	%	05:49:47
2	Ag 328.068†	-164.8	-24.3	-0.9299	µg/L	-0.9299	ppb	05:50:07
2	As 188.979†	-0.5	0.0	0.1013	µg/L	0.1013	ppb	05:50:07
2	B 249.677†	284.9	211.1	25.284	µg/L	25.284	ppb	05:50:07
2	Ba 233.527†	-28.9	1.4	0.0682	µg/L	0.0682	ppb	05:50:07
2	Be 313.107†	-193.2	30.7	0.0759	µg/L	0.0759	ppb	05:49:47
2	Cd 226.502†	-60.9	-5.5	-0.2810	µg/L	-0.2810	ppb	05:50:07
2	Co 228.616†	-17.6	-2.8	-0.5254	µg/L	-0.5254	ppb	05:50:07
2	Cr 267.716†	64.4	13.3	0.6888	µg/L	0.6888	ppb	05:50:07
2	Cu 324.752†	334.7	66.2	2.1272	µg/L	2.1272	ppb	05:50:07
2	Mn 257.610†	-6.9	14.0	0.2041	µg/L	0.2041	ppb	05:50:07
2	Mo 202.031†	23.0	-3.0	-0.6200	µg/L	-0.6200	ppb	05:50:07
2	Ni 231.604†	-44.9	4.6	0.5367	µg/L	0.5367	ppb	05:50:07

2	P 214.914†	43.6	2.2	13.276 µg/L	13.276 ppb	05:50:07
2	Pb 220.353†	7.7	-1.1	-0.7424 µg/L	-0.7424 ppb	05:50:07
2	S 181.975 Axial†	29.0	28.8	184.19 µg/L	184.19 ppb	05:50:07
2	Sb 206.836†	30.3	2.3	3.7670 µg/L	3.7670 ppb	05:50:07
2	Se 196.026†	19.2	-6.8	-14.403 µg/L	-14.403 ppb	05:50:07
2	SiO2†	192.5	43.1	49.419 µg/L	49.419 ppb	05:50:07
2	Si 251.611†	180.4	68.5	14.594 µg/L	14.594 ppb	05:50:07
2	Sn 189.927†	16.6	7.0	6.2189 µg/L	6.2189 ppb	05:50:07
2	Ti 334.940†	25.9	12.2	0.1176 µg/L	0.1176 ppb	05:50:07
2	Tl 190.801†	-12.3	-3.0	-5.8088 µg/L	-5.8088 ppb	05:50:07
2	U 367.007†	-27.0	-4.0	-2.6002 µg/L	-2.6002 ppb	05:49:47
2	V 292.402†	2.5	13.3	0.7226 µg/L	0.7226 ppb	05:50:07
2	Zn 213.857†	-1.5	22.8	1.2385 µg/L	1.2385 ppb	05:50:07
3	Sc RADIAL	63081.9	63081.9	98.999 %	98.999 %	05:49:01
3	Al 396.153Radial†	21.3	23.7	7.3902 µg/L	7.3902 ppb	05:49:01
3	Ca 317.933Radial†	279.2	48.2	7.9289 µg/L	7.9289 ppb	05:49:21
3	Fe 238.204 Radial†	66.2	15.3	5.2618 µg/L	5.2618 ppb	05:49:21
3	K 766.490 Radial†	1494.9	1729.5	768.62 µg/L	768.62 ppb	05:49:01
3	Mg 279.077 IEC†	4.1	-1.0	-1.4909 µg/L	-1.4909 ppb	05:49:21
3	Na 589.592 Radial†	90123.4	89563.2	10532 µg/L	10532 ppb	05:49:01
3	Sr 421.552†	-429.1	22.3	0.0294 µg/L	0.0294 ppb	05:49:01
3	Sc 361.383	198731.9	198731.9	92.999 %	92.999 %	05:50:10
3	Y 371.029	115999.9	115999.9	93.103 %	93.103 %	05:50:10
3	Ag 328.068†	-174.7	-34.0	-1.3224 µg/L	-1.3224 ppb	05:50:30
3	As 188.979†	-3.2	-2.8	-6.9662 µg/L	-6.9662 ppb	05:50:30
3	B 249.677†	278.5	202.6	24.261 µg/L	24.261 ppb	05:50:30
3	Ba 233.527†	-23.7	7.1	0.3505 µg/L	0.3505 ppb	05:50:30
3	Be 313.107†	-244.6	-23.5	-0.0574 µg/L	-0.0574 ppb	05:50:10
3	Cd 226.502†	-45.9	11.0	0.5539 µg/L	0.5539 ppb	05:50:30
3	Co 228.616†	-14.5	0.6	0.1135 µg/L	0.1135 ppb	05:50:30
3	Cr 267.716†	46.2	-6.7	-0.3449 µg/L	-0.3449 ppb	05:50:30
3	Cu 324.752†	316.9	45.2	1.4708 µg/L	1.4708 ppb	05:50:30
3	Mn 257.610†	-16.9	3.2	0.0471 µg/L	0.0471 ppb	05:50:30
3	Mo 202.031†	27.7	1.9	0.3955 µg/L	0.3955 ppb	05:50:30
3	Ni 231.604†	-53.2	-4.1	-0.4765 µg/L	-0.4765 ppb	05:50:30
3	P 214.914†	46.7	5.3	32.637 µg/L	32.637 ppb	05:50:30
3	Pb 220.353†	14.3	5.9	3.8333 µg/L	3.8333 ppb	05:50:30
3	S 181.975 Axial†	24.3	23.7	151.32 µg/L	151.32 ppb	05:50:30
3	Sb 206.836†	28.9	0.5	0.8791 µg/L	0.8791 ppb	05:50:30
3	Se 196.026†	27.8	2.3	4.8437 µg/L	4.8437 ppb	05:50:30
3	SiO2†	195.2	44.9	51.516 µg/L	51.516 ppb	05:50:30
3	Si 251.611†	178.4	65.4	13.903 µg/L	13.903 ppb	05:50:30
3	Sn 189.927†	16.1	6.3	5.6408 µg/L	5.6408 ppb	05:50:30
3	Ti 334.940†	20.5	6.3	0.0609 µg/L	0.0609 ppb	05:50:30
3	Tl 190.801†	-7.1	2.7	5.2732 µg/L	5.2732 ppb	05:50:30
3	U 367.007†	-4.8	20.0	12.863 µg/L	12.863 ppb	05:50:10
3	V 292.402†	-16.9	-7.5	-0.4016 µg/L	-0.4016 ppb	05:50:30
3	Zn 213.857†	9.1	34.2	1.8649 µg/L	1.8649 ppb	05:50:30

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	201168.8	94.140	%	2.4067	94.140	%	2.4067	2.56%
Sc RADIAL	62935.1	98.768	%	1.3089	98.768	%	1.3089	1.33%
Y 371.029	117291.3	94.140	%	2.3553	94.140	%	2.3553	2.50%
Ag 328.068†	-22.9	-0.8947	µg/L	0.44631	-0.8947	ppb	0.44631	49.88%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	42.2	13.193	µg/L	12.4526	13.193	ppb	12.4526	94.39%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-1.9	-4.6121	µg/L	4.08191	-4.6121	ppb	4.08191	88.50%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	206.3	24.711	µg/L	0.5223	24.711	ppb	0.5223	2.11%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	5.0	0.2459	µg/L	0.15467	0.2459	ppb	0.15467	62.90%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-2.2	-0.0048	µg/L	0.07096	-0.0048	ppb	0.07096	>999.9%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	54.2	8.9061	µg/L	1.93623	8.9061	ppb	1.93623	21.74%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	3.3	0.1657	µg/L	0.42054	0.1657	ppb	0.42054	253.79%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              -0.7     -0.1233 µg/L       0.35005     -0.1233 ppb        0.35005 283.98%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               1.6      0.0852 µg/L       0.53822      0.0852 ppb        0.53822 631.57%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†              56.0      1.8199 µg/L       0.33020      1.8199 ppb        0.33020  18.14%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†       16.4      5.6548 µg/L       1.62038      5.6548 ppb        1.62038  28.65%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†      1891.3      840.54 µg/L        63.970      840.54 ppb         63.970   7.61%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           3.5      5.5379 µg/L      15.66260      5.5379 ppb       15.66260 282.83%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               6.2      0.0910 µg/L       0.09880      0.0910 ppb        0.09880 108.58%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -0.6     -0.1212 µg/L       0.50797     -0.1212 ppb        0.50797 419.15%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†     92387.4       10864 µg/L        394.96       10864 ppb         394.96   3.64%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†               1.4      0.1610 µg/L       0.55503      0.1610 ppb        0.55503 344.68%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                2.2      13.791 µg/L       18.5935      13.791 ppb        18.5935 134.82%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†               3.6      2.3048 µg/L       2.63895      2.3048 ppb        2.63895 114.50%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         26.6      170.09 µg/L        16.928      170.09 ppb         16.928   9.95%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               3.8      6.2564 µg/L       6.96402      6.2564 ppb        6.96402 111.31%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -3.5     -7.3819 µg/L      10.62662     -7.3819 ppb       10.62662 143.95%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    43.7      50.104 µg/L        1.2227      50.104 ppb         1.2227   2.44%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              66.8      14.209 µg/L        0.3523      14.209 ppb         0.3523   2.48%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               5.3      4.7259 µg/L       2.10525      4.7259 ppb        2.10525  44.55%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†             -29.3     -0.0401 µg/L       0.09476     -0.0401 ppb        0.09476 236.04%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†              19.8      0.1899 µg/L       0.17670      0.1899 ppb        0.17670  93.02%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -0.2     -0.3045 µg/L       5.54139     -0.3045 ppb        5.54139 >999.9%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†               22.6      14.558 µg/L       18.0653      14.558 ppb        18.0653 124.09%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†                1.7      0.1014 µg/L       0.57136      0.1014 ppb        0.57136 563.70%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†              28.2      1.5323 µg/L       0.31503      1.5323 ppb        0.31503  20.56%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 11 **Autosampler Location: 307**
Sample ID: 527509007|2063261|1| **Date Collected: 11/19/2020 05:51:00**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: 527509007|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	60701.8	60701.8	95.263	%	95.263	%	05:51:40
1	Al 396.153Radial†	-6.4	-4.5	-1.4288	µg/L	-1.4288	ppb	05:51:40
1	Ca 317.933Radial†	375.4	160.2	26.332	µg/L	26.332	ppb	05:52:00
1	Fe 238.204 Radial†	59.3	10.6	3.6307	µg/L	3.6307	ppb	05:52:00
1	K 766.490 Radial†	1105.7	1380.1	613.36	µg/L	613.36	ppb	05:51:40
1	Mg 279.077 IEC†	-3.8	-9.1	-14.257	µg/L	-14.257	ppb	05:52:00
1	Na 589.592 Radial†	71058.2	73119.5	8598.1	µg/L	8598.1	ppb	05:51:40
1	Sr 421.552†	-490.1	-58.8	-0.0796	µg/L	-0.0796	ppb	05:51:40
1	Sc 361.383	197967.2	197967.2	92.641	%	92.641	%	05:52:48
1	Y 371.029	115452.9	115452.9	92.664	%	92.664	%	05:52:48
1	Ag 328.068†	-180.3	-40.8	-1.5699	µg/L	-1.5699	ppb	05:53:08
1	As 188.979†	-0.5	0.1	0.2018	µg/L	0.2018	ppb	05:53:08
1	B 249.677†	237.0	158.9	19.032	µg/L	19.032	ppb	05:53:08
1	Ba 233.527†	-30.7	-0.5	-0.0266	µg/L	-0.0266	ppb	05:53:08
1	Be 313.107†	-274.4	-56.6	-0.1387	µg/L	-0.1387	ppb	05:52:48
1	Cd 226.502†	-53.5	2.5	0.1282	µg/L	0.1282	ppb	05:53:08
1	Co 228.616†	-16.8	-2.0	-0.3716	µg/L	-0.3716	ppb	05:53:08
1	Cr 267.716†	64.1	12.9	0.6688	µg/L	0.6688	ppb	05:53:08
1	Cu 324.752†	312.5	41.8	1.3471	µg/L	1.3471	ppb	05:53:08
1	Mn 257.610†	-21.6	-2.0	-0.0288	µg/L	-0.0288	ppb	05:53:08
1	Mo 202.031†	28.8	3.2	0.6583	µg/L	0.6583	ppb	05:53:08
1	Ni 231.604†	-54.2	-5.4	-0.6379	µg/L	-0.6379	ppb	05:53:08
1	P 214.914†	44.6	3.2	19.774	µg/L	19.774	ppb	05:53:08
1	Pb 220.353†	12.6	4.1	2.6514	µg/L	2.6514	ppb	05:53:08
1	S 181.975 Axial†	15.9	14.6	93.516	µg/L	93.516	ppb	05:53:08
1	Sb 206.836†	31.9	4.0	6.5718	µg/L	6.5718	ppb	05:53:08
1	Se 196.026†	31.0	5.8	12.323	µg/L	12.323	ppb	05:53:08
1	SiO2†	260.3	116.0	133.06	µg/L	133.06	ppb	05:53:08
1	Si 251.611†	329.5	229.2	48.749	µg/L	48.749	ppb	05:53:08
1	Sn 189.927†	15.4	5.6	5.0139	µg/L	5.0139	ppb	05:53:08
1	Ti 334.940†	21.9	8.0	0.0753	µg/L	0.0753	ppb	05:53:08
1	Tl 190.801†	-14.4	-5.3	-10.201	µg/L	-10.201	ppb	05:53:08
1	U 367.007†	-22.0	1.4	0.8853	µg/L	0.8853	ppb	05:52:48
1	V 292.402†	-5.6	4.6	0.2522	µg/L	0.2522	ppb	05:53:08
1	Zn 213.857†	26.3	52.8	2.8854	µg/L	2.8854	ppb	05:53:08
2	Sc RADIAL	62659.3	62659.3	98.335	%	98.335	%	05:52:02
2	Al 396.153Radial†	-5.6	-3.5	-1.0801	µg/L	-1.0801	ppb	05:52:02
2	Ca 317.933Radial†	350.3	122.5	20.126	µg/L	20.126	ppb	05:52:22
2	Fe 238.204 Radial†	52.9	2.1	0.7279	µg/L	0.7279	ppb	05:52:22
2	K 766.490 Radial†	1425.2	1668.8	741.65	µg/L	741.65	ppb	05:52:02
2	Mg 279.077 IEC†	17.1	12.2	19.167	µg/L	19.167	ppb	05:52:22
2	Na 589.592 Radial†	74145.5	73928.8	8693.2	µg/L	8693.2	ppb	05:52:02
2	Sr 421.552†	-592.5	-146.8	-0.1977	µg/L	-0.1977	ppb	05:52:02
2	Sc 361.383	197018.0	197018.0	92.197	%	92.197	%	05:53:10
2	Y 371.029	114964.7	114964.7	92.272	%	92.272	%	05:53:10
2	Ag 328.068†	-132.4	10.1	0.3935	µg/L	0.3935	ppb	05:53:30
2	As 188.979†	0.2	0.8	1.9722	µg/L	1.9722	ppb	05:53:30
2	B 249.677†	237.2	160.4	19.203	µg/L	19.203	ppb	05:53:30
2	Ba 233.527†	-27.0	3.3	0.1655	µg/L	0.1655	ppb	05:53:30
2	Be 313.107†	-254.6	-36.5	-0.0888	µg/L	-0.0888	ppb	05:53:10
2	Cd 226.502†	-60.1	-4.9	-0.2490	µg/L	-0.2490	ppb	05:53:30
2	Co 228.616†	-14.4	0.6	0.1204	µg/L	0.1204	ppb	05:53:30
2	Cr 267.716†	71.4	21.1	1.0931	µg/L	1.0931	ppb	05:53:30
2	Cu 324.752†	334.8	67.7	2.1710	µg/L	2.1710	ppb	05:53:30
2	Mn 257.610†	-24.9	-5.6	-0.0823	µg/L	-0.0823	ppb	05:53:30
2	Mo 202.031†	24.1	-1.8	-0.3583	µg/L	-0.3583	ppb	05:53:30
2	Ni 231.604†	-63.1	-15.4	-1.8024	µg/L	-1.8024	ppb	05:53:30

2	P 214.914†	43.8	2.6	15.887 µg/L	15.887 ppb	05:53:30
2	Pb 220.353†	9.8	1.1	0.7340 µg/L	0.7340 ppb	05:53:30
2	S 181.975 Axial†	17.9	16.9	107.82 µg/L	107.82 ppb	05:53:30
2	Sb 206.836†	33.7	6.0	9.9264 µg/L	9.9264 ppb	05:53:30
2	Se 196.026†	25.4	-0.1	-0.1410 µg/L	-0.1410 ppb	05:53:30
2	SiO2†	242.4	97.9	112.38 µg/L	112.38 ppb	05:53:30
2	Si 251.611†	328.7	230.0	48.956 µg/L	48.956 ppb	05:53:30
2	Sn 189.927†	17.5	8.0	7.1166 µg/L	7.1166 ppb	05:53:30
2	Ti 334.940†	41.3	29.1	0.2771 µg/L	0.2771 ppb	05:53:30
2	Tl 190.801†	-9.5	-0.0	-0.0169 µg/L	-0.0169 ppb	05:53:30
2	U 367.007†	-28.8	-6.0	-3.8931 µg/L	-3.8931 ppb	05:53:10
2	V 292.402†	-9.7	0.1	0.0029 µg/L	0.0029 ppb	05:53:30
2	Zn 213.857†	29.3	56.1	3.0717 µg/L	3.0717 ppb	05:53:30
3	Sc RADIAL	61932.8	61932.8	97.195 %	97.195 %	05:52:24
3	Al 396.153Radial†	92.6	97.5	30.473 µg/L	30.473 ppb	05:52:24
3	Ca 317.933Radial†	356.1	132.6	21.793 µg/L	21.793 ppb	05:52:44
3	Fe 238.204 Radial†	55.6	5.5	1.8965 µg/L	1.8965 ppb	05:52:44
3	K 766.490 Radial†	1322.8	1580.5	702.38 µg/L	702.38 ppb	05:52:24
3	Mg 279.077 IEC†	13.6	8.8	13.791 µg/L	13.791 ppb	05:52:44
3	Na 589.592 Radial†	71436.4	72026.0	8469.5 µg/L	8469.5 ppb	05:52:24
3	Sr 421.552†	-478.8	-37.0	-0.0500 µg/L	-0.0500 ppb	05:52:24
3	Sc 361.383	194758.5	194758.5	91.140 %	91.140 %	05:53:32
3	Y 371.029	113444.8	113444.8	91.052 %	91.052 %	05:53:32
3	Ag 328.068†	-158.1	-19.7	-0.7419 µg/L	-0.7419 ppb	05:53:52
3	As 188.979†	-2.2	-1.9	-4.6556 µg/L	-4.6556 ppb	05:53:52
3	B 249.677†	237.5	163.7	19.603 µg/L	19.603 ppb	05:53:52
3	Ba 233.527†	-27.3	2.7	0.1310 µg/L	0.1310 ppb	05:53:52
3	Be 313.107†	-194.6	26.1	0.0643 µg/L	0.0643 ppb	05:53:32
3	Cd 226.502†	-60.1	-5.7	-0.2882 µg/L	-0.2882 ppb	05:53:52
3	Co 228.616†	-15.7	-1.0	-0.1943 µg/L	-0.1943 ppb	05:53:52
3	Cr 267.716†	52.9	1.7	0.0903 µg/L	0.0903 ppb	05:53:52
3	Cu 324.752†	306.6	40.9	1.2934 µg/L	1.2934 ppb	05:53:52
3	Mn 257.610†	-18.0	1.7	0.0241 µg/L	0.0241 ppb	05:53:52
3	Mo 202.031†	23.4	-2.1	-0.4343 µg/L	-0.4343 ppb	05:53:52
3	Ni 231.604†	-54.1	-6.3	-0.7404 µg/L	-0.7404 ppb	05:53:52
3	P 214.914†	43.4	2.6	16.320 µg/L	16.320 ppb	05:53:52
3	Pb 220.353†	-2.5	-12.2	-7.9548 µg/L	-7.9548 ppb	05:53:52
3	S 181.975 Axial†	11.3	9.9	63.108 µg/L	63.108 ppb	05:53:52
3	Sb 206.836†	32.8	5.4	9.0170 µg/L	9.0170 ppb	05:53:52
3	Se 196.026†	22.7	-2.8	-5.8566 µg/L	-5.8566 ppb	05:53:52
3	SiO2†	255.9	115.8	132.87 µg/L	132.87 ppb	05:53:52
3	Si 251.611†	333.9	239.9	51.054 µg/L	51.054 ppb	05:53:52
3	Sn 189.927†	8.7	-1.5	-1.3329 µg/L	-1.3329 ppb	05:53:52
3	Ti 334.940†	18.8	4.9	0.0460 µg/L	0.0460 ppb	05:53:52
3	Tl 190.801†	-14.2	-5.3	-10.231 µg/L	-10.231 ppb	05:53:52
3	U 367.007†	-44.7	-23.9	-15.384 µg/L	-15.384 ppb	05:53:32
3	V 292.402†	-12.3	-2.9	-0.1708 µg/L	-0.1708 ppb	05:53:52
3	Zn 213.857†	9.0	34.2	1.8713 µg/L	1.8713 ppb	05:53:52

Mean Data: 527509007|2063261|1|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	196581.2	91.993	%	0.7714	91.993	%	0.7714	0.84%
Sc RADIAL	61764.7	96.931	%	1.5530	96.931	%	1.5530	1.60%
Y 371.029	114620.8	91.996	%	0.8406	91.996	%	0.8406	0.91%
Ag 328.068†	-16.8	-0.6394	µg/L	0.98570	-0.6394	ppb	0.98570	154.16%
Al 396.153Radial†	29.8	9.3215	µg/L	18.31894	9.3215	ppb	18.31894	196.52%
As 188.979†	-0.3	-0.8272	µg/L	3.43160	-0.8272	ppb	3.43160	414.85%
B 249.677†	161.0	19.280	µg/L	0.2930	19.280	ppb	0.2930	1.52%
Ba 233.527†	1.8	0.0899	µg/L	0.10244	0.0899	ppb	0.10244	113.89%
Be 313.107†	-22.3	-0.0544	µg/L	0.10580	-0.0544	ppb	0.10580	194.45%
Ca 317.933Radial†	138.4	22.750	µg/L	3.2116	22.750	ppb	3.2116	14.12%
Cd 226.502†	-2.7	-0.1363	µg/L	0.22994	-0.1363	ppb	0.22994	168.69%
Co 228.616†	-0.8	-0.1485	µg/L	0.24915	-0.1485	ppb	0.24915	167.81%
Cr 267.716†	11.9	0.6174	µg/L	0.50334	0.6174	ppb	0.50334	81.53%
Cu 324.752†	50.1	1.6038	µg/L	0.49191	1.6038	ppb	0.49191	30.67%
Fe 238.204 Radial†	6.1	2.0851	µg/L	1.46056	2.0851	ppb	1.46056	70.05%
K 766.490 Radial†	1543.1	685.79	µg/L	65.733	685.79	ppb	65.733	9.58%
Mg 279.077 IEC†	4.0	6.2338	µg/L	17.94789	6.2338	ppb	17.94789	287.91%
Mn 257.610†	-2.0	-0.0290	µg/L	0.05321	-0.0290	ppb	0.05321	183.50%

Mo 202.031†	-0.2	-0.0448 µg/L	0.61008	-0.0448 ppb	0.61008	>999.9%
Na 589.592 Radial†	73024.7	8586.9 µg/L	112.29	8586.9 ppb	112.29	1.31%
Ni 231.604†	-9.0	-1.0602 µg/L	0.64480	-1.0602 ppb	0.64480	60.82%
P 214.914†	2.8	17.327 µg/L	2.1304	17.327 ppb	2.1304	12.30%
Pb 220.353†	-2.3	-1.5232 µg/L	5.65189	-1.5232 ppb	5.65189	371.06%
S 181.975 Axial†	13.8	88.148 µg/L	22.8343	88.148 ppb	22.8343	25.90%
Sb 206.836†	5.1	8.5051 µg/L	1.73491	8.5051 ppb	1.73491	20.40%
Se 196.026†	1.0	2.1086 µg/L	9.29643	2.1086 ppb	9.29643	440.88%
SiO2†	109.9	126.10 µg/L	11.883	126.10 ppb	11.883	9.42%
Si 251.611†	233.1	49.586 µg/L	1.2751	49.586 ppb	1.2751	2.57%
Sn 189.927†	4.0	3.5992 µg/L	4.39879	3.5992 ppb	4.39879	122.22%
Sr 421.552†	-80.8	-0.1091 µg/L	0.07816	-0.1091 ppb	0.07816	71.64%
Ti 334.940†	14.0	0.1328 µg/L	0.12582	0.1328 ppb	0.12582	94.73%
Tl 190.801†	-3.5	-6.8162 µg/L	5.88836	-6.8162 ppb	5.88836	86.39%
U 367.007†	-9.5	-6.1304 µg/L	8.36201	-6.1304 ppb	8.36201	136.40%
V 292.402†	0.6	0.0281 µg/L	0.21260	0.0281 ppb	0.21260	755.96%
Zn 213.857†	47.7	2.6095 µg/L	0.64603	2.6095 ppb	0.64603	24.76%

Batch ID:
Sequence No.: 12 **Autosampler Location: 308**
Sample ID: 527509011|2063261|1| **Date Collected: 11/19/2020 05:54:22**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: 527509011|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	50154.8	50154.8	78.711	%	78.711	%	05:55:07
1	Al 396.153Radial†	17.5	24.4	-8.0060	µg/L	-8.0060	ppb	05:55:07
1	Ca 317.933Radial†	530725.6	674035.7	110770	µg/L	110770	ppb	05:55:05
1	Fe 238.204 Radial†	44.1	4.4	1.5133	µg/L	1.5133	ppb	05:55:27
1	K 766.490 Radial†	2926960.6	3718827.3	1652700	µg/L	1652700	ppb	05:55:05
1	Mg 279.077 IEC†	53977.4	68571.4	107340	µg/L	107340	ppb	05:55:07
1	Na 589.592 Radial†	Saturated3	Saturated3					05:55:27
	Saturated in preshot (code 3)							
1	Sr 421.552†	433399.2	551075.2	742.02	µg/L	742.02	ppb	05:55:05
1	Sc 361.383	117763.8	117763.8	55.109	%	55.109	%	05:56:20
1	Y 371.029	68718.7	68718.7	55.155	%	55.155	%	05:56:20
1	Ag 328.068†	-91.7	-12.6	-0.3958	µg/L	-0.3958	ppb	05:56:40
1	As 188.979†	7.6	14.4	37.176	µg/L	37.176	ppb	05:56:40
1	B 249.677†	17977.6	32524.9	3892.6	µg/L	3892.6	ppb	05:56:20
1	Ba 233.527†	1628.4	2987.4	148.06	µg/L	148.06	ppb	05:56:40
1	Be 313.107†	-165.1	-60.0	-0.1555	µg/L	-0.1555	ppb	05:56:40
1	Cd 226.502†	-27.9	9.7	0.4906	µg/L	0.4906	ppb	05:56:40
1	Co 228.616†	-7.7	2.3	0.6267	µg/L	0.6267	ppb	05:56:40
1	Cr 267.716†	84.2	96.5	4.9954	µg/L	4.9954	ppb	05:56:40
1	Cu 324.752†	361.2	359.9	11.529	µg/L	11.529	ppb	05:56:40
1	Mn 257.610†	12.7	44.5	0.5441	µg/L	0.5441	ppb	05:56:40
1	Mo 202.031†	1001.3	1789.0	365.26	µg/L	365.26	ppb	05:56:40
1	Ni 231.604†	82.4	202.7	23.774	µg/L	23.774	ppb	05:56:40
1	P 214.914†	793.6	1395.2	8562.3	µg/L	8562.3	ppb	05:56:40
1	Pb 220.353†	7.0	3.2	2.1185	µg/L	2.1185	ppb	05:56:40
1	S 181.975 Axial†	198380.9	359975.3	2300100	µg/L	2300100	ppb	05:56:20
1	Sb 206.836†	24.1	13.1	27.116	µg/L	27.116	ppb	05:56:40
1	Se 196.026†	25.2	18.1	38.226	µg/L	38.226	ppb	05:56:40
1	SiO2†	57409.6	104009.2	119310	µg/L	119310	ppb	05:56:20
1	Si 251.611†	149229.0	270661.4	57580	µg/L	57580	ppb	05:56:20
1	Sn 189.927†	15.9	17.9	23.838	µg/L	23.838	ppb	05:56:40
1	Ti 334.940†	-122.5	-238.0	-6.7571	µg/L	-6.7571	ppb	05:56:40
1	Tl 190.801†	-11.2	-10.1	-19.010	µg/L	-19.010	ppb	05:56:40
1	U 367.007†	-43.2	-53.2	-34.281	µg/L	-34.281	ppb	05:56:20
1	V 292.402†	223.6	416.3	22.836	µg/L	22.836	ppb	05:56:40
1	Zn 213.857†	55.1	124.3	6.6273	µg/L	6.6273	ppb	05:56:40
2	Sc RADIAL	49745.3	49745.3	78.069	%	78.069	%	05:55:31
2	Al 396.153Radial†	22.4	30.9	-6.3470	µg/L	-6.3470	ppb	05:55:31
2	Ca 317.933Radial†	515472.9	660048.3	108470	µg/L	108470	ppb	05:55:29
2	Fe 238.204 Radial†	46.1	7.4	2.5909	µg/L	2.5909	ppb	05:55:51
2	K 766.490 Radial†	2865189.3	3670312.3	1631100	µg/L	1631100	ppb	05:55:29
2	Mg 279.077 IEC†	53660.2	68729.6	107590	µg/L	107590	ppb	05:55:31
2	Na 589.592 Radial†	Saturated3	Saturated3					05:55:51
	Saturated in preshot (code 3)							
2	Sr 421.552†	424837.6	544640.8	733.35	µg/L	733.35	ppb	05:55:29
2	Sc 361.383	117685.5	117685.5	55.073	%	55.073	%	05:56:42
2	Y 371.029	68686.7	68686.7	55.129	%	55.129	%	05:56:42
2	Ag 328.068†	-106.7	-40.0	-1.4789	µg/L	-1.4789	ppb	05:57:02
2	As 188.979†	5.4	10.3	27.261	µg/L	27.261	ppb	05:57:02
2	B 249.677†	17895.2	32397.0	3877.3	µg/L	3877.3	ppb	05:56:42
2	Ba 233.527†	1632.8	2997.5	148.55	µg/L	148.55	ppb	05:57:02
2	Be 313.107†	-161.9	-54.5	-0.1423	µg/L	-0.1423	ppb	05:57:02
2	Cd 226.502†	-49.9	-30.4	-1.5345	µg/L	-1.5345	ppb	05:57:02
2	Co 228.616†	0.2	16.5	3.3226	µg/L	3.3226	ppb	05:57:02
2	Cr 267.716†	81.9	92.4	4.7836	µg/L	4.7836	ppb	05:57:02
2	Cu 324.752†	364.7	366.6	11.786	µg/L	11.786	ppb	05:57:02
2	Mn 257.610†	22.2	61.8	0.7964	µg/L	0.7964	ppb	05:57:02

2	Mo 202.031†	1023.5	1830.5	373.73 µg/L	373.73 ppb	05:57:02
2	Ni 231.604†	85.9	209.1	24.534 µg/L	24.534 ppb	05:57:02
2	P 214.914†	787.7	1385.3	8501.7 µg/L	8501.7 ppb	05:57:02
2	Pb 220.353†	12.9	13.9	9.0829 µg/L	9.0829 ppb	05:57:02
2	S 181.975 Axial†	195549.3	355073.2	2268800 µg/L	2268800 ppb	05:56:42
2	Sb 206.836†	26.1	16.8	33.296 µg/L	33.296 ppb	05:57:02
2	Se 196.026†	37.2	40.0	84.258 µg/L	84.258 ppb	05:57:02
2	SiO2†	56703.0	102795.6	117920 µg/L	117920 ppb	05:56:42
2	Si 251.611†	147515.5	267730.2	56956 µg/L	56956 ppb	05:56:42
2	Sn 189.927†	21.7	28.3	32.977 µg/L	32.977 ppb	05:57:02
2	Ti 334.940†	-127.9	-247.9	-6.7587 µg/L	-6.7587 ppb	05:57:02
2	Tl 190.801†	-11.3	-10.2	-19.282 µg/L	-19.282 ppb	05:57:02
2	U 367.007†	-16.6	-5.0	-3.2054 µg/L	-3.2054 ppb	05:56:42
2	V 292.402†	222.0	413.7	22.722 µg/L	22.722 ppb	05:57:02
2	Zn 213.857†	42.5	101.7	5.3862 µg/L	5.3862 ppb	05:57:02
3	Sc RADIAL	47583.1	47583.1	74.675 %	74.675 %	05:55:56
3	Al 396.153Radial†	93.1	126.9	23.753 µg/L	23.753 ppb	05:55:56
3	Ca 317.933Radial†	503378.2	673855.8	110740 µg/L	110740 ppb	05:55:54
3	Fe 238.204 Radial†	42.9	5.8	2.0203 µg/L	2.0203 ppb	05:56:16
3	K 766.490 Radial†	2815593.3	3770669.1	1675700 µg/L	1675700 ppb	05:55:54
3	Mg 279.077 IEC†	51082.2	68400.7	107080 µg/L	107080 ppb	05:55:56
3	Na 589.592 Radial†	Saturated3	Saturated3			05:56:16
Saturated in preshot (code 3)						
3	Sr 421.552†	418537.2	560932.1	755.29 µg/L	755.29 ppb	05:55:54
3	Sc 361.383	118403.3	118403.3	55.408 %	55.408 %	05:57:04
3	Y 371.029	69276.4	69276.4	55.602 %	55.602 %	05:57:04
3	Ag 328.068†	-87.6	-4.3	-0.0824 µg/L	-0.0824 ppb	05:57:24
3	As 188.979†	7.9	14.8	38.418 µg/L	38.418 ppb	05:57:24
3	B 249.677†	18175.0	32705.0	3914.2 µg/L	3914.2 ppb	05:57:04
3	Ba 233.527†	1622.5	2960.8	146.73 µg/L	146.73 ppb	05:57:24
3	Be 313.107†	-205.3	-131.0	-0.3299 µg/L	-0.3299 ppb	05:57:24
3	Cd 226.502†	-53.3	-35.8	-1.8103 µg/L	-1.8103 ppb	05:57:24
3	Co 228.616†	-1.4	13.7	2.7791 µg/L	2.7791 ppb	05:57:24
3	Cr 267.716†	74.7	78.4	4.0601 µg/L	4.0601 ppb	05:57:24
3	Cu 324.752†	355.4	346.0	11.087 µg/L	11.087 ppb	05:57:24
3	Mn 257.610†	7.9	35.6	0.4150 µg/L	0.4150 ppb	05:57:24
3	Mo 202.031†	1022.3	1817.2	371.00 µg/L	371.00 ppb	05:57:24
3	Ni 231.604†	83.6	204.0	23.927 µg/L	23.927 ppb	05:57:24
3	P 214.914†	793.9	1387.9	8517.9 µg/L	8517.9 ppb	05:57:24
3	Pb 220.353†	11.6	11.4	7.4513 µg/L	7.4513 ppb	05:57:24
3	S 181.975 Axial†	199552.1	360145.1	2301200 µg/L	2301200 ppb	05:57:04
3	Sb 206.836†	31.6	26.5	49.293 µg/L	49.293 ppb	05:57:24
3	Se 196.026†	31.7	29.6	62.397 µg/L	62.397 ppb	05:57:24
3	SiO2†	57887.5	104309.2	119650 µg/L	119650 ppb	05:57:04
3	Si 251.611†	150371.4	271260.7	57707 µg/L	57707 ppb	05:57:04
3	Sn 189.927†	17.5	20.6	26.260 µg/L	26.260 ppb	05:57:24
3	Ti 334.940†	-121.4	-234.8	-6.7250 µg/L	-6.7250 ppb	05:57:24
3	Tl 190.801†	-9.6	-7.1	-13.239 µg/L	-13.239 ppb	05:57:24
3	U 367.007†	-38.6	-44.4	-28.614 µg/L	-28.614 ppb	05:57:04
3	V 292.402†	215.9	400.2	21.969 µg/L	21.969 ppb	05:57:24
3	Zn 213.857†	56.6	126.6	6.7496 µg/L	6.7496 ppb	05:57:24

Mean Data: 527509011|2063261|1|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	117950.9	55.197	%	0.1843	55.197	%	0.1843	0.33%
Sc RADIAL	49161.1	77.152	%	2.1686	77.152	%	2.1686	2.81%
Y 371.029	68893.9	55.295	%	0.2661	55.295	%	0.2661	0.48%
Ag 328.068†	-19.0	-0.6524	µg/L	0.73273	-0.6524	ppb	0.73273	112.32%
Al 396.153Radial†	60.7	3.1335	µg/L	17.87664	3.1335	ppb	17.87664	570.50%
As 188.979†	13.2	34.285	µg/L	6.1149	34.285	ppb	6.1149	17.84%
B 249.677†	32542.3	3894.7	µg/L	18.52	3894.7	ppb	18.52	0.48%
Ba 233.527†	2981.9	147.78	µg/L	0.940	147.78	ppb	0.940	0.64%
Be 313.107†	-81.8	-0.2092	µg/L	0.10470	-0.2092	ppb	0.10470	50.04%
Ca 317.933Radial†	669313.3	109990	µg/L	1318.65	109990	ppb	1318.65	1.20%
Cd 226.502†	-18.8	-0.9514	µg/L	1.25640	-0.9514	ppb	1.25640	132.06%
Co 228.616†	10.8	2.2428	µg/L	1.42574	2.2428	ppb	1.42574	63.57%
Cr 267.716†	89.1	4.6130	µg/L	0.49039	4.6130	ppb	0.49039	10.63%
Cu 324.752†	357.5	11.467	µg/L	0.3531	11.467	ppb	0.3531	3.08%
Fe 238.204 Radial†	5.9	2.0415	µg/L	0.53913	2.0415	ppb	0.53913	26.41%

K 766.490 Radial†	3719936.2	1653200 µg/L	22304.05	1653200 ppb	22304.05	1.35%
Concentration greater than upper limit for K 766.490 Radial.						
Mg 279.077 IEC†	68567.2	107340 µg/L	257.49	107340 ppb	257.49	0.24%
Mn 257.610†	47.3	0.5851 µg/L	0.19400	0.5851 ppb	0.19400	33.16%
Mo 202.031†	1812.2	370.00 µg/L	4.323	370.00 ppb	4.323	1.17%
Na 589.592 Radial†	Saturated3					
Ni 231.604†	205.3	24.078 µg/L	0.4020	24.078 ppb	0.4020	1.67%
P 214.914†	1389.5	8527.3 µg/L	31.40	8527.3 ppb	31.40	0.37%
Concentration greater than upper limit for P 214.914.						
Pb 220.353†	9.5	6.2176 µg/L	3.64243	6.2176 ppb	3.64243	58.58%
S 181.975 Axial†	358397.9	2290100 µg/L	18405.67	2290100 ppb	18405.67	0.80%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	18.8	36.568 µg/L	11.4451	36.568 ppb	11.4451	31.30%
Se 196.026†	29.3	61.627 µg/L	23.0258	61.627 ppb	23.0258	37.36%
SiO2†	103704.7	118960 µg/L	919.45	118960 ppb	919.45	0.77%
Concentration greater than upper limit for SiO2.						
Si 251.611†	269884.1	57414 µg/L	402.05	57414 ppb	402.05	0.70%
Concentration greater than upper limit for Si 251.611.						
Sn 189.927†	22.3	27.692 µg/L	4.7345	27.692 ppb	4.7345	17.10%
Sr 421.552†	552216.0	743.55 µg/L	11.048	743.55 ppb	11.048	1.49%
Ti 334.940†	-240.2	-6.7469 µg/L	0.01897	-6.7469 ppb	0.01897	0.28%
Concentration less than lower limit for Ti 334.940.						
Tl 190.801†	-9.1	-17.177 µg/L	3.4132	-17.177 ppb	3.4132	19.87%
U 367.007†	-34.2	-22.034 µg/L	16.5502	-22.034 ppb	16.5502	75.11%
V 292.402†	410.1	22.509 µg/L	0.4709	22.509 ppb	0.4709	2.09%
Zn 213.857†	117.5	6.2544 µg/L	0.75434	6.2544 ppb	0.75434	12.06%

Batch ID:
Sequence No.: 17 **Autosampler Location: 103**
Sample ID: ICSA **Date Collected: 11/19/2020 06:14:24**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	62336.7	62336.7	97.829	%	97.829	%	06:15:04
1	Al 396.153Radial†	1669026.9	1706067.0	532830	µg/L	532830	ppb	06:15:02
1	Ca 317.933Radial†	2861458.8	2924724.6	480630	µg/L	480630	ppb	06:15:02
1	Fe 238.204 Radial†	554483.7	566736.8	195140	µg/L	195140	ppb	06:15:04
1	K 766.490 Radial†	10661.4	11117.4	4992.2	µg/L	4992.2	ppb	06:15:04
1	Mg 279.077 IEC†	308266.8	315102.5	493370	µg/L	493370	ppb	06:15:04
1	Na 589.592 Radial†	766217.4	781749.0	91890	µg/L	91890	ppb	06:15:02
1	Sr 421.552†	14477.9	15254.8	-2.9065	µg/L	-2.9065	ppb	06:15:04
1	Sc 361.383	200320.8	200320.8	93.743	%	93.743	%	06:15:17
1	Y 371.029	116062.2	116062.2	93.153	%	93.153	%	06:15:17
1	Ag 328.068†	-235.3	-97.3	-0.3673	µg/L	-0.3673	ppb	06:15:37
1	As 188.979†	-1.3	-0.8	5.3113	µg/L	5.3113	ppb	06:15:37
1	B 249.677†	-4288.8	-4672.0	45.896	µg/L	45.896	ppb	06:15:17
1	Ba 233.527†	241.7	290.4	-1.0752	µg/L	-1.0752	ppb	06:15:37
1	Be 313.107†	-307.4	-88.3	-0.2307	µg/L	-0.2307	ppb	06:15:37
1	Cd 226.502†	438.6	528.2	3.6512	µg/L	3.6512	ppb	06:15:37
1	Co 228.616†	2.2	18.5	0.0526	µg/L	0.0526	ppb	06:15:37
1	Cr 267.716†	57.9	5.4	0.1453	µg/L	0.1453	ppb	06:15:37
1	Cu 324.752†	-284.6	-599.2	-3.9523	µg/L	-3.9523	ppb	06:15:37
1	Mn 257.610†	-25.0	-5.2	-2.4328	µg/L	-2.4328	ppb	06:15:17
1	Mo 202.031†	-7.4	-35.8	-9.7119	µg/L	-9.7119	ppb	06:15:37
1	Ni 231.604†	-53.9	-4.4	1.0122	µg/L	1.0122	ppb	06:15:37
1	P 214.914†	-0.5	-45.5	-29.128	µg/L	-29.128	ppb	06:15:37
1	Pb 220.353†	-34.6	-46.4	3.8616	µg/L	3.8616	ppb	06:15:37
1	S 181.975 Axial†	394.0	417.8	2698.0	µg/L	2698.0	ppb	06:15:37
1	Sb 206.836†	17.8	-11.5	-5.1964	µg/L	-5.1964	ppb	06:15:37
1	Se 196.026†	-19.2	-48.2	-11.171	µg/L	-11.171	ppb	06:15:37
1	SiO2†	210.9	60.0	69.027	µg/L	69.027	ppb	06:15:37
1	Si 251.611†	291.8	184.8	-25.412	µg/L	-25.412	ppb	06:15:37
1	Sn 189.927†	39.9	31.6	4.1535	µg/L	4.1535	ppb	06:15:37
1	Ti 334.940†	-364.4	-404.4	0.1332	µg/L	0.1332	ppb	06:15:17
1	Tl 190.801†	-20.3	-11.3	-14.740	µg/L	-14.740	ppb	06:15:37
1	U 367.007†	810.3	889.6	-80.002	µg/L	-80.002	ppb	06:15:17
1	V 292.402†	-54.6	-47.7	-0.8004	µg/L	-0.8004	ppb	06:15:37
1	Zn 213.857†	452.6	507.3	0.1891	µg/L	0.1891	ppb	06:15:37
2	Sc RADIAL	63480.1	63480.1	99.623	%	99.623	%	06:15:09
2	Al 396.153Radial†	1666417.0	1672718.5	522410	µg/L	522410	ppb	06:15:07
2	Ca 317.933Radial†	2860866.7	2871447.5	471880	µg/L	471880	ppb	06:15:07
2	Fe 238.204 Radial†	567769.1	569863.7	196220	µg/L	196220	ppb	06:15:09
2	K 766.490 Radial†	10705.0	10965.0	4924.7	µg/L	4924.7	ppb	06:15:09
2	Mg 279.077 IEC†	315441.5	316628.8	495760	µg/L	495760	ppb	06:15:09
2	Na 589.592 Radial†	758660.3	760056.3	89339	µg/L	89339	ppb	06:15:07
2	Sr 421.552†	14952.1	15464.3	-2.7539	µg/L	-2.7539	ppb	06:15:09
2	Sc 361.383	191224.4	191224.4	89.486	%	89.486	%	06:15:39
2	Y 371.029	110773.1	110773.1	88.908	%	88.908	%	06:15:39
2	Ag 328.068†	-202.2	-72.1	0.6691	µg/L	0.6691	ppb	06:15:59
2	As 188.979†	1.8	2.6	13.713	µg/L	13.713	ppb	06:15:59
2	B 249.677†	-4128.0	-4709.9	44.694	µg/L	44.694	ppb	06:15:39
2	Ba 233.527†	228.5	287.9	-1.2837	µg/L	-1.2837	ppb	06:15:59
2	Be 313.107†	-309.5	-106.3	-0.2764	µg/L	-0.2764	ppb	06:15:59
2	Cd 226.502†	428.0	538.6	4.0484	µg/L	4.0484	ppb	06:15:59
2	Co 228.616†	1.5	17.9	-0.0765	µg/L	-0.0765	ppb	06:15:59
2	Cr 267.716†	57.1	7.5	0.2526	µg/L	0.2526	ppb	06:15:59
2	Cu 324.752†	-281.9	-610.5	-4.3023	µg/L	-4.3023	ppb	06:15:59
2	Mn 257.610†	-29.2	-11.2	-2.5332	µg/L	-2.5332	ppb	06:15:39
2	Mo 202.031†	-11.8	-41.0	-10.803	µg/L	-10.803	ppb	06:15:59
2	Ni 231.604†	-67.7	-22.6	-1.1099	µg/L	-1.1099	ppb	06:15:59

2	P 214.914†	12.7	-30.7	49.111 µg/L	49.111 ppb	06:15:59
2	Pb 220.353†	-13.4	-24.5	18.404 µg/L	18.404 ppb	06:15:59
2	S 181.975 Axial†	379.7	421.8	2723.9 µg/L	2723.9 ppb	06:15:59
2	Sb 206.836†	18.8	-9.5	-1.7998 µg/L	-1.7998 ppb	06:15:59
2	Se 196.026†	-29.8	-61.0	-37.684 µg/L	-37.684 ppb	06:15:59
2	SiO2†	218.3	78.9	90.725 µg/L	90.725 ppb	06:15:59
2	Si 251.611†	257.2	161.0	-30.820 µg/L	-30.820 ppb	06:15:59
2	Sn 189.927†	35.0	28.2	0.1575 µg/L	0.1575 ppb	06:15:59
2	Ti 334.940†	-387.4	-448.7	0.1932 µg/L	0.1932 ppb	06:15:39
2	Tl 190.801†	-16.4	-8.0	-8.2091 µg/L	-8.2091 ppb	06:15:59
2	U 367.007†	705.8	813.9	-132.39 µg/L	-132.39 ppb	06:15:39
2	V 292.402†	-52.4	-47.9	-0.8395 µg/L	-0.8395 ppb	06:15:59
2	Zn 213.857†	462.4	541.1	1.8978 µg/L	1.8978 ppb	06:15:59
3	Sc RADIAL	61531.0	61531.0	96.565 %	96.565 %	06:15:13
3	Al 396.153Radial†	1598229.8	1655089.9	516910 µg/L	516910 ppb	06:15:11
3	Ca 317.933Radial†	2716776.4	2813193.4	462300 µg/L	462300 ppb	06:15:11
3	Fe 238.204 Radial†	546036.4	565410.3	194680 µg/L	194680 ppb	06:15:13
3	K 766.490 Radial†	10543.5	11138.1	5001.2 µg/L	5001.2 ppb	06:15:13
3	Mg 279.077 IEC†	303543.2	314336.7	492170 µg/L	492170 ppb	06:15:13
3	Na 589.592 Radial†	712254.9	736121.9	86525 µg/L	86525 ppb	06:15:11
3	Sr 421.552†	14365.6	15332.3	-2.7473 µg/L	-2.7473 ppb	06:15:13
3	Sc 361.383	194932.5	194932.5	91.221 %	91.221 %	06:16:01
3	Y 371.029	112902.4	112902.4	90.617 %	90.617 %	06:16:01
3	Ag 328.068†	-196.6	-61.7	0.9998 µg/L	0.9998 ppb	06:16:21
3	As 188.979†	-5.3	-5.2	-5.6030 µg/L	-5.6030 ppb	06:16:21
3	B 249.677†	-4294.2	-4804.3	28.637 µg/L	28.637 ppb	06:16:01
3	Ba 233.527†	242.0	297.9	-0.6670 µg/L	-0.6670 ppb	06:16:21
3	Be 313.107†	-307.0	-96.9	-0.2547 µg/L	-0.2547 ppb	06:16:21
3	Cd 226.502†	438.4	540.8	4.3425 µg/L	4.3425 ppb	06:16:21
3	Co 228.616†	-4.1	11.7	-1.2192 µg/L	-1.2192 ppb	06:16:21
3	Cr 267.716†	53.8	2.6	0.0010 µg/L	0.0010 ppb	06:16:21
3	Cu 324.752†	-277.3	-599.5	-4.0166 µg/L	-4.0166 ppb	06:16:21
3	Mn 257.610†	-43.4	-26.2	-2.7335 µg/L	-2.7335 ppb	06:16:01
3	Mo 202.031†	-4.5	-32.8	-9.1085 µg/L	-9.1085 ppb	06:16:21
3	Ni 231.604†	-52.2	-4.1	1.0413 µg/L	1.0413 ppb	06:16:21
3	P 214.914†	1.3	-43.5	-32.589 µg/L	-32.589 ppb	06:16:21
3	Pb 220.353†	-31.5	-44.0	5.3316 µg/L	5.3316 ppb	06:16:21
3	S 181.975 Axial†	352.8	384.2	2483.7 µg/L	2483.7 ppb	06:16:21
3	Sb 206.836†	5.2	-24.8	-27.229 µg/L	-27.229 ppb	06:16:21
3	Se 196.026†	-14.0	-43.0	-0.4817 µg/L	-0.4817 ppb	06:16:21
3	SiO2†	200.8	55.2	63.433 µg/L	63.433 ppb	06:16:21
3	Si 251.611†	253.1	151.0	-32.469 µg/L	-32.469 ppb	06:16:21
3	Sn 189.927†	34.5	26.8	-1.2821 µg/L	-1.2821 ppb	06:16:21
3	Ti 334.940†	-428.7	-485.6	0.0422 µg/L	0.0422 ppb	06:16:01
3	Tl 190.801†	-14.6	-5.7	-3.7784 µg/L	-3.7784 ppb	06:16:21
3	U 367.007†	769.4	868.6	-91.994 µg/L	-91.994 ppb	06:16:01
3	V 292.402†	-68.5	-64.5	-1.7287 µg/L	-1.7287 ppb	06:16:21
3	Zn 213.857†	457.8	526.2	1.2885 µg/L	1.2885 ppb	06:16:21

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	195492.6	91.483	%	2.1404	91.483	%	2.1404	2.34%
Sc RADIAL	62449.3	98.006	%	1.5370	98.006	%	1.5370	1.57%
Y 371.029	113245.9	90.893	%	2.1360	90.893	%	2.1360	2.35%
Ag 328.068†	-77.0	0.4338	µg/L	0.71328	0.4338	ppb	0.71328	164.41%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	1677958.5	524050	µg/L	8085.60	524050	ppb	8085.60	1.54%
QC value within limits for Al 396.153Radial Recovery = 104.81%								
As 188.979†	-1.1	4.4739	µg/L	9.68540	4.4739	ppb	9.68540	216.49%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-4728.7	39.742	µg/L	9.6363	39.742	ppb	9.6363	24.25%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	292.1	-1.0086	µg/L	0.31370	-1.0086	ppb	0.31370	31.10%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-97.2	-0.2539	µg/L	0.02285	-0.2539	ppb	0.02285	9.00%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	2869788.5	471600	µg/L	9167.25	471600	ppb	9167.25	1.94%
QC value within limits for Ca 317.933Radial Recovery = 94.32%								
Cd 226.502†	535.9	4.0140	µg/L	0.34693	4.0140	ppb	0.34693	8.64%

```
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              16.1     -0.4144 µg/L       0.69999     -0.4144 ppb        0.69999 168.92%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               5.2      0.1330 µg/L       0.12626      0.1330 ppb        0.12626  94.94%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†            -603.1     -4.0904 µg/L       0.18630     -4.0904 ppb        0.18630   4.55%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†    567336.9      195350 µg/L        787.32      195350 ppb         787.32   0.40%
   QC value within limits for Fe 238.204 Radial  Recovery = 97.67%
K 766.490 Radial†      11073.5      4972.7 µg/L         41.81      4972.7 ppb          41.81   0.84%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†       315356.0      493760 µg/L       1826.99      493760 ppb        1826.99   0.37%
   QC value within limits for Mg 279.077 IEC  Recovery = 98.75%
Mn 257.610†             -14.2     -2.5665 µg/L       0.15311     -2.5665 ppb        0.15311   5.97%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†             -36.5     -9.8746 µg/L       0.85904     -9.8746 ppb        0.85904   8.70%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†    759309.0       89251 µg/L       2683.66       89251 ppb        2683.66   3.01%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†             -10.4      0.3145 µg/L       1.23368      0.3145 ppb        1.23368 392.28%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†              -39.9     -4.2021 µg/L      46.20255     -4.2021 ppb       46.20255 >999.9%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†             -38.3      9.1989 µg/L       8.00532      9.1989 ppb        8.00532  87.02%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         407.9      2635.2 µg/L        131.86      2635.2 ppb         131.86   5.00%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†             -15.3     -11.408 µg/L       13.8056     -11.408 ppb        13.8056 121.01%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†             -50.7     -16.446 µg/L       19.1539     -16.446 ppb        19.1539 116.47%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    64.7      74.395 µg/L       14.4160      74.395 ppb        14.4160  19.38%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†             165.6     -29.567 µg/L        3.6917     -29.567 ppb         3.6917  12.49%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              28.8      1.0097 µg/L       2.81620      1.0097 ppb        2.81620 278.92%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†            15350.5     -2.8026 µg/L       0.09009     -2.8026 ppb        0.09009   3.21%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†            -446.2      0.1229 µg/L       0.07599      0.1229 ppb        0.07599  61.85%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -8.3     -8.9092 µg/L       5.51432     -8.9092 ppb        5.51432  61.89%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†              857.4     -101.46 µg/L        27.446     -101.46 ppb         27.446  27.05%
   QC value less than the lower limit for U 367.007  Recovery = Not calculated
V 292.402†              -53.4     -1.1229 µg/L       0.52503     -1.1229 ppb        0.52503  46.76%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             524.9      1.1251 µg/L       0.86599      1.1251 ppb        0.86599  76.97%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 18
Sample ID: ICSAB
Analyst: HSC
Initial Sample Wt:
Dilution:
Wash Time (before sample): 49

Autosampler Location: 104
Date Collected: 11/19/2020 06:17:22
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	66329.5	66329.5	104.10	%	104.10	%	06:18:00
1	Al 396.153Radial†	1733495.4	1665300.2	520080	µg/L	520080	ppb	06:17:57
1	Ca 317.933Radial†	3027136.5	2907812.2	477850	µg/L	477850	ppb	06:17:57
1	Fe 238.204 Radial†	580290.5	557409.6	191930	µg/L	191930	ppb	06:18:00
1	K 766.490 Radial†	20846.0	20245.4	9047.9	µg/L	9047.9	ppb	06:18:00
1	Mg 279.077 IEC†	324305.3	311541.6	487790	µg/L	487790	ppb	06:18:00
1	Na 589.592 Radial†	633853.4	607445.1	71395	µg/L	71395	ppb	06:18:00
1	Sr 421.552†	415487.9	399597.9	514.99	µg/L	514.99	ppb	06:18:00
1	Sc 361.383	207269.6	207269.6	96.995	%	96.995	%	06:18:12
1	Y 371.029	119826.2	119826.2	96.174	%	96.174	%	06:18:12
1	Ag 328.068†	6828.2	7193.6	280.59	µg/L	280.59	ppb	06:18:32
1	As 188.979†	173.3	179.3	459.37	µg/L	459.37	ppb	06:18:32
1	B 249.677†	-591.8	-707.0	510.47	µg/L	510.47	ppb	06:18:12
1	Ba 233.527†	9816.8	10153.5	488.61	µg/L	488.61	ppb	06:18:32
1	Be 313.107†	86446.7	89364.9	221.25	µg/L	221.25	ppb	06:18:12
1	Cd 226.502†	9098.7	9440.9	454.21	µg/L	454.21	ppb	06:18:32
1	Co 228.616†	1979.6	2057.2	386.84	µg/L	386.84	ppb	06:18:32
1	Cr 267.716†	9490.3	9728.1	503.64	µg/L	503.64	ppb	06:18:32
1	Cu 324.752†	14609.0	14766.1	490.62	µg/L	490.62	ppb	06:18:12
1	Mn 257.610†	29980.3	30930.6	449.99	µg/L	449.99	ppb	06:18:12
1	Mo 202.031†	2028.8	2063.8	418.98	µg/L	418.98	ppb	06:18:32
1	Ni 231.604†	3472.5	3633.2	427.70	µg/L	427.70	ppb	06:18:32
1	P 214.914†	339.7	305.3	2088.3	µg/L	2088.3	ppb	06:18:32
1	Pb 220.353†	585.5	594.2	420.79	µg/L	420.79	ppb	06:18:32
1	S 181.975 Axial†	733.1	753.3	4841.4	µg/L	4841.4	ppb	06:18:32
1	Sb 206.836†	308.6	287.7	497.12	µg/L	497.12	ppb	06:18:32
1	Se 196.026†	999.6	1002.9	2201.6	µg/L	2201.6	ppb	06:18:32
1	SiO2†	9781.3	9919.4	11377	µg/L	11377	ppb	06:18:32
1	Si 251.611†	23020.4	23607.2	4948.6	µg/L	4948.6	ppb	06:18:12
1	Sn 189.927†	485.8	489.9	417.96	µg/L	417.96	ppb	06:18:32
1	Ti 334.940†	48121.6	49596.9	478.30	µg/L	478.30	ppb	06:18:12
1	Tl 190.801†	180.5	196.4	390.74	µg/L	390.74	ppb	06:18:32
1	U 367.007†	1641.1	1717.2	463.89	µg/L	463.89	ppb	06:18:32
1	V 292.402†	9213.0	9509.0	520.07	µg/L	520.07	ppb	06:18:32
1	Zn 213.857†	8981.4	9284.1	476.42	µg/L	476.42	ppb	06:18:32
2	Sc RADIAL	67137.9	67137.9	105.36	%	105.36	%	06:18:04
2	Al 396.153Radial†	1693852.3	1607624.3	502060	µg/L	502060	ppb	06:18:02
2	Ca 317.933Radial†	2941706.0	2791716.6	458780	µg/L	458780	ppb	06:18:02
2	Fe 238.204 Radial†	588822.2	558795.0	192410	µg/L	192410	ppb	06:18:04
2	K 766.490 Radial†	20861.0	20018.5	8947.2	µg/L	8947.2	ppb	06:18:04
2	Mg 279.077 IEC†	328735.2	311994.9	488500	µg/L	488500	ppb	06:18:04
2	Na 589.592 Radial†	635711.0	601876.5	70740	µg/L	70740	ppb	06:18:04
2	Sr 421.552†	421553.3	400548.7	516.22	µg/L	516.22	ppb	06:18:04
2	Sc 361.383	207785.1	207785.1	97.236	%	97.236	%	06:18:35
2	Y 371.029	120528.6	120528.6	96.738	%	96.738	%	06:18:35
2	Ag 328.068†	6772.0	7118.3	277.70	µg/L	277.70	ppb	06:18:55
2	As 188.979†	171.7	177.2	454.04	µg/L	454.04	ppb	06:18:55
2	B 249.677†	-627.3	-742.0	507.76	µg/L	507.76	ppb	06:18:35
2	Ba 233.527†	9722.9	10031.9	482.53	µg/L	482.53	ppb	06:18:55
2	Be 313.107†	86729.1	89434.2	221.42	µg/L	221.42	ppb	06:18:35
2	Cd 226.502†	9026.8	9343.7	449.24	µg/L	449.24	ppb	06:18:55
2	Co 228.616†	1966.0	2038.1	383.21	µg/L	383.21	ppb	06:18:55
2	Cr 267.716†	9418.2	9629.6	498.54	µg/L	498.54	ppb	06:18:55
2	Cu 324.752†	14652.9	14773.9	490.88	µg/L	490.88	ppb	06:18:35
2	Mn 257.610†	30001.9	30876.2	449.19	µg/L	449.19	ppb	06:18:35
2	Mo 202.031†	2010.7	2040.0	414.12	µg/L	414.12	ppb	06:18:55
2	Ni 231.604†	3452.6	3603.9	424.26	µg/L	424.26	ppb	06:18:55

2	P 214.914†	345.5	310.4	2101.2 µg/L	2101.2 ppb	06:18:55
2	Pb 220.353†	566.4	573.0	407.04 µg/L	407.04 ppb	06:18:55
2	S 181.975 Axial†	716.9	734.8	4723.5 µg/L	4723.5 ppb	06:18:55
2	Sb 206.836†	292.4	270.2	468.16 µg/L	468.16 ppb	06:18:55
2	Se 196.026†	990.0	990.5	2175.5 µg/L	2175.5 ppb	06:18:55
2	SiO2†	9702.5	9813.4	11256 µg/L	11256 ppb	06:18:55
2	Si 251.611†	23190.6	23723.4	4973.3 µg/L	4973.3 ppb	06:18:35
2	Sn 189.927†	494.1	497.2	422.99 µg/L	422.99 ppb	06:18:55
2	Ti 334.940†	48091.5	49442.9	477.65 µg/L	477.65 ppb	06:18:35
2	Tl 190.801†	188.6	204.3	406.02 µg/L	406.02 ppb	06:18:55
2	U 367.007†	1620.2	1691.4	445.70 µg/L	445.70 ppb	06:18:55
2	V 292.402†	9125.8	9395.8	513.89 µg/L	513.89 ppb	06:18:55
2	Zn 213.857†	8902.9	9180.4	470.71 µg/L	470.71 ppb	06:18:55
3	Sc RADIAL	66185.3	66185.3	103.87 %	103.87 %	06:18:09
3	Al 396.153Radial†	1663275.2	1601323.6	500100 µg/L	500100 ppb	06:18:06
3	Ca 317.933Radial†	2880538.4	2773010.1	455700 µg/L	455700 ppb	06:18:06
3	Fe 238.204 Radial†	580944.3	559253.6	192570 µg/L	192570 ppb	06:18:09
3	K 766.490 Radial†	20517.4	19972.6	8926.9 µg/L	8926.9 ppb	06:18:09
3	Mg 279.077 IEC†	324379.3	312291.7	488970 µg/L	488970 ppb	06:18:09
3	Na 589.592 Radial†	624148.3	599428.1	70452 µg/L	70452 ppb	06:18:09
3	Sr 421.552†	416487.8	401430.1	517.39 µg/L	517.39 ppb	06:18:09
3	Sc 361.383	201713.3	201713.3	94.395 %	94.395 %	06:18:57
3	Y 371.029	117099.2	117099.2	93.985 %	93.985 %	06:18:57
3	Ag 328.068†	6655.9	7205.0	281.04 µg/L	281.04 ppb	06:19:17
3	As 188.979†	168.4	178.9	458.52 µg/L	458.52 ppb	06:19:17
3	B 249.677†	-609.2	-742.2	508.22 µg/L	508.22 ppb	06:18:57
3	Ba 233.527†	9559.7	10160.0	488.88 µg/L	488.88 ppb	06:19:17
3	Be 313.107†	84166.6	89404.3	221.34 µg/L	221.34 ppb	06:18:57
3	Cd 226.502†	8822.8	9407.0	452.42 µg/L	452.42 ppb	06:19:17
3	Co 228.616†	1946.5	2078.3	390.84 µg/L	390.84 ppb	06:19:17
3	Cr 267.716†	9280.8	9775.6	506.10 µg/L	506.10 ppb	06:19:17
3	Cu 324.752†	14242.0	14792.2	491.51 µg/L	491.51 ppb	06:18:57
3	Mn 257.610†	29098.1	30847.4	448.77 µg/L	448.77 ppb	06:18:57
3	Mo 202.031†	1976.3	2065.8	419.39 µg/L	419.39 ppb	06:19:17
3	Ni 231.604†	3359.9	3612.5	425.28 µg/L	425.28 ppb	06:19:17
3	P 214.914†	355.7	331.9	2230.5 µg/L	2230.5 ppb	06:19:17
3	Pb 220.353†	567.6	591.8	419.32 µg/L	419.32 ppb	06:19:17
3	S 181.975 Axial†	699.8	738.9	4749.6 µg/L	4749.6 ppb	06:19:17
3	Sb 206.836†	287.7	274.2	474.87 µg/L	474.87 ppb	06:19:17
3	Se 196.026†	971.7	1001.8	2199.4 µg/L	2199.4 ppb	06:19:17
3	SiO2†	9497.9	9896.9	11351 µg/L	11351 ppb	06:19:17
3	Si 251.611†	22314.2	23512.8	4928.3 µg/L	4928.3 ppb	06:18:57
3	Sn 189.927†	477.8	495.2	420.94 µg/L	420.94 ppb	06:19:17
3	Ti 334.940†	46733.8	49493.3	478.28 µg/L	478.28 ppb	06:18:57
3	Tl 190.801†	177.0	197.8	393.50 µg/L	393.50 ppb	06:19:17
3	U 367.007†	1602.9	1723.2	465.68 µg/L	465.68 ppb	06:19:17
3	V 292.402†	8978.4	9522.1	520.79 µg/L	520.79 ppb	06:19:17
3	Zn 213.857†	8739.5	9282.9	476.27 µg/L	476.27 ppb	06:19:17

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	205589.3	96.208	%	1.5755	96.208	%	1.5755	1.64%
Sc RADIAL	66550.9	104.44	%	0.806	104.44	%	0.806	0.77%
Y 371.029	119151.3	95.633	%	1.4540	95.633	%	1.4540	1.52%
Ag 328.068†	7172.3	279.78	µg/L	1.808	279.78	ppb	1.808	0.65%
QC value within limits for Ag 328.068 Recovery = 111.91%								
Al 396.153Radial†	1624749.4	507410	µg/L	11011.83	507410	ppb	11011.83	2.17%
QC value within limits for Al 396.153Radial Recovery = 101.48%								
As 188.979†	178.5	457.31	µg/L	2.860	457.31	ppb	2.860	0.63%
QC value within limits for As 188.979 Recovery = 91.46%								
B 249.677†	-730.4	508.81	µg/L	1.449	508.81	ppb	1.449	0.28%
QC value within limits for B 249.677 Recovery = 101.76%								
Ba 233.527†	10115.1	486.67	µg/L	3.589	486.67	ppb	3.589	0.74%
QC value within limits for Ba 233.527 Recovery = 97.33%								
Be 313.107†	89401.1	221.34	µg/L	0.083	221.34	ppb	0.083	0.04%
QC value within limits for Be 313.107 Recovery = 88.53%								
Ca 317.933Radial†	2824179.6	464110	µg/L	12001.24	464110	ppb	12001.24	2.59%
QC value within limits for Ca 317.933Radial Recovery = 92.82%								
Cd 226.502†	9397.2	451.95	µg/L	2.517	451.95	ppb	2.517	0.56%

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   QC value within limits for Cd 226.502  Recovery = 90.39%
Co 228.616†          2057.8      386.96 µg/L         3.813      386.96 ppb          3.813   0.99%
   QC value less than the lower limit for Co 228.616  Recovery = 77.39%
Cr 267.716†          9711.1      502.76 µg/L         3.856      502.76 ppb          3.856   0.77%
   QC value within limits for Cr 267.716  Recovery = 100.55%
Cu 324.752†         14777.4      491.00 µg/L         0.458      491.00 ppb          0.458   0.09%
   QC value within limits for Cu 324.752  Recovery = 98.20%
Fe 238.204 Radial†   558486.1      192300 µg/L        330.56      192300 ppb         330.56   0.17%
   QC value within limits for Fe 238.204 Radial  Recovery = 96.15%
K 766.490 Radial†    20078.8      8974.0 µg/L         64.82      8974.0 ppb          64.82   0.72%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = 179.48%
Mg 279.077 IEC†     311942.7      488420 µg/L        591.49      488420 ppb         591.49   0.12%
   QC value within limits for Mg 279.077 IEC  Recovery = 97.68%
Mn 257.610†          30884.7      449.31 µg/L         0.621      449.31 ppb          0.621   0.14%
   QC value within limits for Mn 257.610  Recovery = 89.86%
Mo 202.031†          2056.5      417.50 µg/L         2.931      417.50 ppb          2.931   0.70%
   QC value within limits for Mo 202.031  Recovery = 83.50%
Na 589.592 Radial†   602916.6       70862 µg/L        483.17       70862 ppb         483.17   0.68%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = 1417.24%
Ni 231.604†          3616.5      425.75 µg/L         1.768      425.75 ppb          1.768   0.42%
   QC value within limits for Ni 231.604  Recovery = 85.15%
P 214.914†            315.9      2140.0 µg/L         78.63      2140.0 ppb          78.63   3.67%
   QC value within limits for P 214.914  Recovery = 85.60%
Pb 220.353†           586.3      415.72 µg/L         7.549      415.72 ppb          7.549   1.82%
   QC value within limits for Pb 220.353  Recovery = 83.14%
S 181.975 Axial†      742.3      4771.5 µg/L         61.93      4771.5 ppb          61.93   1.30%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = 190.86%
Sb 206.836†           277.4      480.05 µg/L        15.160      480.05 ppb         15.160   3.16%
   QC value within limits for Sb 206.836  Recovery = 96.01%
Se 196.026†           998.4      2192.2 µg/L         14.46      2192.2 ppb          14.46   0.66%
   QC value within limits for Se 196.026  Recovery = 87.69%
SiO2†                9876.5       11328 µg/L         64.08       11328 ppb          64.08   0.57%
   QC value within limits for SiO2  Recovery = 105.92%
Si 251.611†         23614.5      4950.1 µg/L         22.53      4950.1 ppb          22.53   0.46%
   QC value within limits for Si 251.611  Recovery = 99.00%
Sn 189.927†           494.1      420.63 µg/L         2.531      420.63 ppb          2.531   0.60%
   QC value within limits for Sn 189.927  Recovery = 84.13%
Sr 421.552†         400525.6      516.20 µg/L         1.195      516.20 ppb          1.195   0.23%
   QC value within limits for Sr 421.552  Recovery = 103.24%
Ti 334.940†          49511.1      478.08 µg/L         0.366      478.08 ppb          0.366   0.08%
   QC value within limits for Ti 334.940  Recovery = 95.62%
Tl 190.801†           199.5      396.75 µg/L         8.140      396.75 ppb          8.140   2.05%
   QC value less than the lower limit for Tl 190.801  Recovery = 79.35%
U 367.007†           1710.6      458.42 µg/L        11.057      458.42 ppb         11.057   2.41%
   QC value within limits for U 367.007  Recovery = 91.68%
V 292.402†           9475.7      518.25 µg/L         3.791      518.25 ppb          3.791   0.73%
   QC value within limits for V 292.402  Recovery = 103.65%
Zn 213.857†          9249.1      474.46 µg/L         3.253      474.46 ppb          3.253   0.69%
   QC value within limits for Zn 213.857  Recovery = 94.89%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 19 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/19/2020 06:20:17**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	72903.9	72903.9	114.41	%	114.41	%	06:20:57
1	Al 396.153Radial†	17037.5	14893.5	4630.7	µg/L	4630.7	ppb	06:20:57
1	Ca 317.933Radial†	32013.6	27747.0	4559.8	µg/L	4559.8	ppb	06:20:57
1	Fe 238.204 Radial†	15564.4	13552.1	4671.5	µg/L	4671.5	ppb	06:20:57
1	K 766.490 Radial†	17710.9	15699.3	6978.2	µg/L	6978.2	ppb	06:20:55
1	Mg 279.077 IEC†	3386.5	2954.7	4627.7	µg/L	4627.7	ppb	06:20:57
1	Na 589.592 Radial†	500460.4	435944.8	51262	µg/L	51262	ppb	06:20:55
1	Sr 421.552†	394992.8	345690.6	464.91	µg/L	464.91	ppb	06:20:55
1	Sc 361.383	215572.6	215572.6	100.88	%	100.88	%	06:21:09
1	Y 371.029	125120.5	125120.5	100.42	%	100.42	%	06:21:09
1	Ag 328.068†	12400.9	12446.5	479.29	µg/L	479.29	ppb	06:21:09
1	As 188.979†	203.1	201.9	508.59	µg/L	508.59	ppb	06:21:29
1	B 249.677†	4374.0	4239.0	521.80	µg/L	521.80	ppb	06:21:09
1	Ba 233.527†	9766.2	9713.6	481.60	µg/L	481.60	ppb	06:21:09
1	Be 313.107†	198884.0	197388.4	486.66	µg/L	486.66	ppb	06:21:09
1	Cd 226.502†	9547.3	9524.3	480.52	µg/L	480.52	ppb	06:21:09
1	Co 228.616†	2589.8	2583.5	489.82	µg/L	489.82	ppb	06:21:29
1	Cr 267.716†	9438.3	9299.6	481.58	µg/L	481.58	ppb	06:21:09
1	Cu 324.752†	15410.0	14980.1	482.69	µg/L	482.69	ppb	06:21:09
1	Mn 257.610†	33078.4	32811.2	479.76	µg/L	479.76	ppb	06:21:09
1	Mo 202.031†	2424.5	2375.5	484.94	µg/L	484.94	ppb	06:21:29
1	Ni 231.604†	4067.9	4085.5	479.29	µg/L	479.29	ppb	06:21:09
1	P 214.914†	445.3	396.5	2402.4	µg/L	2402.4	ppb	06:21:29
1	Pb 220.353†	781.8	765.4	499.91	µg/L	499.91	ppb	06:21:29
1	S 181.975 Axial†	459.8	453.3	2897.0	µg/L	2897.0	ppb	06:21:29
1	Sb 206.836†	313.2	279.9	471.72	µg/L	471.72	ppb	06:21:29
1	Se 196.026†	269.1	239.1	505.90	µg/L	505.90	ppb	06:21:29
1	SiO2†	4803.6	4596.7	5269.4	µg/L	5269.4	ppb	06:21:09
1	Si 251.611†	11840.5	11610.7	2456.8	µg/L	2456.8	ppb	06:21:09
1	Sn 189.927†	530.0	514.4	462.05	µg/L	462.05	ppb	06:21:29
1	Ti 334.940†	50396.7	49941.3	478.25	µg/L	478.25	ppb	06:21:09
1	Tl 190.801†	243.6	251.8	491.51	µg/L	491.51	ppb	06:21:29
1	U 367.007†	708.4	727.5	453.03	µg/L	453.03	ppb	06:21:09
1	V 292.402†	8923.4	8856.2	482.78	µg/L	482.78	ppb	06:21:09
1	Zn 213.857†	8876.1	8823.1	477.33	µg/L	477.33	ppb	06:21:09
2	Sc RADIAL	75335.4	75335.4	118.23	%	118.23	%	06:21:01
2	Al 396.153Radial†	17579.0	14870.8	4624.0	µg/L	4624.0	ppb	06:21:01
2	Ca 317.933Radial†	33451.4	28060.0	4611.2	µg/L	4611.2	ppb	06:21:01
2	Fe 238.204 Radial†	16243.9	13687.7	4718.1	µg/L	4718.1	ppb	06:21:01
2	K 766.490 Radial†	18083.0	15514.4	6896.0	µg/L	6896.0	ppb	06:20:59
2	Mg 279.077 IEC†	3519.5	2971.7	4654.3	µg/L	4654.3	ppb	06:21:01
2	Na 589.592 Radial†	508665.9	428767.2	50418	µg/L	50418	ppb	06:20:59
2	Sr 421.552†	406908.9	344626.8	463.47	µg/L	463.47	ppb	06:20:59
2	Sc 361.383	218774.3	218774.3	102.38	%	102.38	%	06:21:31
2	Y 371.029	126932.4	126932.4	101.88	%	101.88	%	06:21:31
2	Ag 328.068†	12637.2	12497.4	481.24	µg/L	481.24	ppb	06:21:31
2	As 188.979†	200.5	196.5	495.05	µg/L	495.05	ppb	06:21:51
2	B 249.677†	4549.2	4346.6	534.83	µg/L	534.83	ppb	06:21:31
2	Ba 233.527†	9911.7	9714.0	481.61	µg/L	481.61	ppb	06:21:31
2	Be 313.107†	202076.3	197621.3	487.23	µg/L	487.23	ppb	06:21:31
2	Cd 226.502†	9698.7	9533.7	480.99	µg/L	480.99	ppb	06:21:31
2	Co 228.616†	2580.4	2536.7	480.96	µg/L	480.96	ppb	06:21:51
2	Cr 267.716†	9571.2	9292.5	481.21	µg/L	481.21	ppb	06:21:31
2	Cu 324.752†	15706.2	15045.8	484.81	µg/L	484.81	ppb	06:21:31
2	Mn 257.610†	33745.4	32982.9	482.27	µg/L	482.27	ppb	06:21:31
2	Mo 202.031†	2410.5	2326.7	474.97	µg/L	474.97	ppb	06:21:51
2	Ni 231.604†	4130.9	4088.0	479.59	µg/L	479.59	ppb	06:21:31

2	P 214.914†	447.4	392.0	2375.3 µg/L	2375.3 ppb	06:21:51
2	Pb 220.353†	778.8	751.2	490.63 µg/L	490.63 ppb	06:21:51
2	S 181.975 Axial†	435.9	423.3	2705.3 µg/L	2705.3 ppb	06:21:51
2	Sb 206.836†	318.9	280.9	473.30 µg/L	473.30 ppb	06:21:51
2	Se 196.026†	257.1	223.5	472.93 µg/L	472.93 ppb	06:21:51
2	SiO2†	4924.3	4644.9	5324.9 µg/L	5324.9 ppb	06:21:31
2	Si 251.611†	12047.5	11641.1	2463.5 µg/L	2463.5 ppb	06:21:31
2	Sn 189.927†	535.0	511.6	459.56 µg/L	459.56 ppb	06:21:51
2	Ti 334.940†	50971.1	49771.2	476.62 µg/L	476.62 ppb	06:21:31
2	Tl 190.801†	240.9	245.6	479.43 µg/L	479.43 ppb	06:21:51
2	U 367.007†	729.2	737.5	459.33 µg/L	459.33 ppb	06:21:31
2	V 292.402†	9057.9	8858.1	482.89 µg/L	482.89 ppb	06:21:31
2	Zn 213.857†	9011.6	8826.6	477.52 µg/L	477.52 ppb	06:21:31
3	Sc RADIAL	74556.9	74556.9	117.01 %	117.01 %	06:21:06
3	Al 396.153Radial†	17439.9	14907.2	4635.2 µg/L	4635.2 ppb	06:21:06
3	Ca 317.933Radial†	33061.3	28022.0	4605.0 µg/L	4605.0 ppb	06:21:06
3	Fe 238.204 Radial†	16001.1	13623.7	4696.1 µg/L	4696.1 ppb	06:21:06
3	K 766.490 Radial†	18252.6	15819.0	7031.4 µg/L	7031.4 ppb	06:21:03
3	Mg 279.077 IEC†	3512.5	2996.8	4693.6 µg/L	4693.6 ppb	06:21:06
3	Na 589.592 Radial†	515220.3	438861.1	51604 µg/L	51604 ppb	06:21:03
3	Sr 421.552†	410776.5	351525.7	472.76 µg/L	472.76 ppb	06:21:03
3	Sc 361.383	211324.7	211324.7	98.892 %	98.892 %	06:21:54
3	Y 371.029	122691.7	122691.7	98.474 %	98.474 %	06:21:54
3	Ag 328.068†	12116.7	12406.2	477.70 µg/L	477.70 ppb	06:21:54
3	As 188.979†	188.4	191.1	481.77 µg/L	481.77 ppb	06:22:14
3	B 249.677†	4371.3	4323.4	531.97 µg/L	531.97 ppb	06:21:54
3	Ba 233.527†	9524.1	9663.3	479.10 µg/L	479.10 ppb	06:21:54
3	Be 313.107†	194176.0	196590.6	484.69 µg/L	484.69 ppb	06:21:54
3	Cd 226.502†	9258.1	9422.1	475.35 µg/L	475.35 ppb	06:21:54
3	Co 228.616†	2507.7	2552.0	483.85 µg/L	483.85 ppb	06:22:14
3	Cr 267.716†	9178.4	9224.8	477.71 µg/L	477.71 ppb	06:21:54
3	Cu 324.752†	15271.4	15147.0	488.09 µg/L	488.09 ppb	06:21:54
3	Mn 257.610†	32502.3	32887.7	480.88 µg/L	480.88 ppb	06:21:54
3	Mo 202.031†	2353.9	2352.4	480.22 µg/L	480.22 ppb	06:22:14
3	Ni 231.604†	3959.2	4056.7	475.91 µg/L	475.91 ppb	06:21:54
3	P 214.914†	436.4	396.4	2402.1 µg/L	2402.1 ppb	06:22:14
3	Pb 220.353†	750.2	749.1	489.21 µg/L	489.21 ppb	06:22:14
3	S 181.975 Axial†	421.3	423.6	2707.2 µg/L	2707.2 ppb	06:22:14
3	Sb 206.836†	311.3	284.3	478.86 µg/L	478.86 ppb	06:22:14
3	Se 196.026†	259.5	234.8	496.75 µg/L	496.75 ppb	06:22:14
3	SiO2†	4706.2	4593.9	5266.3 µg/L	5266.3 ppb	06:21:54
3	Si 251.611†	11587.9	11591.2	2452.8 µg/L	2452.8 ppb	06:21:54
3	Sn 189.927†	516.5	511.3	459.30 µg/L	459.30 ppb	06:22:14
3	Ti 334.940†	49121.6	49656.1	475.52 µg/L	475.52 ppb	06:21:54
3	Tl 190.801†	239.9	252.9	493.51 µg/L	493.51 ppb	06:22:14
3	U 367.007†	740.1	773.6	482.66 µg/L	482.66 ppb	06:21:54
3	V 292.402†	8703.0	8811.1	480.34 µg/L	480.34 ppb	06:21:54
3	Zn 213.857†	8772.2	8894.8	481.26 µg/L	481.26 ppb	06:21:54

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	215223.9	100.72	%	1.749	100.72	%	1.749	1.74%
Sc RADIAL	74265.4	116.55	%	1.949	116.55	%	1.949	1.67%
Y 371.029	124914.9	100.26	%	1.708	100.26	%	1.708	1.70%
Ag 328.068†	12450.0	479.41	µg/L	1.772	479.41	ppb	1.772	0.37%
QC value within limits for Ag 328.068 Recovery = 95.88%								
Al 396.153Radial†	14890.5	4630.0	µg/L	5.60	4630.0	ppb	5.60	0.12%
QC value within limits for Al 396.153Radial Recovery = 92.60%								
As 188.979†	196.5	495.14	µg/L	13.410	495.14	ppb	13.410	2.71%
QC value within limits for As 188.979 Recovery = 99.03%								
B 249.677†	4303.0	529.53	µg/L	6.850	529.53	ppb	6.850	1.29%
QC value within limits for B 249.677 Recovery = 105.91%								
Ba 233.527†	9697.0	480.77	µg/L	1.445	480.77	ppb	1.445	0.30%
QC value within limits for Ba 233.527 Recovery = 96.15%								
Be 313.107†	197200.1	486.19	µg/L	1.331	486.19	ppb	1.331	0.27%
QC value within limits for Be 313.107 Recovery = 97.24%								
Ca 317.933Radial†	27943.0	4592.0	µg/L	28.07	4592.0	ppb	28.07	0.61%
QC value within limits for Ca 317.933Radial Recovery = 91.84%								
Cd 226.502†	9493.4	478.95	µg/L	3.126	478.95	ppb	3.126	0.65%

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   QC value within limits for Cd 226.502  Recovery = 95.79%
Co 228.616†          2557.4      484.88 µg/L         4.518      484.88 ppb          4.518   0.93%
   QC value within limits for Co 228.616  Recovery = 96.98%
Cr 267.716†          9272.3      480.16 µg/L         2.136      480.16 ppb          2.136   0.44%
   QC value within limits for Cr 267.716  Recovery = 96.03%
Cu 324.752†         15057.6      485.20 µg/L         2.724      485.20 ppb          2.724   0.56%
   QC value within limits for Cu 324.752  Recovery = 97.04%
Fe 238.204 Radial†  13621.2      4695.2 µg/L         23.32      4695.2 ppb          23.32   0.50%
   QC value within limits for Fe 238.204 Radial  Recovery = 93.90%
K 766.490 Radial†   15677.6      6968.6 µg/L         68.21      6968.6 ppb          68.21   0.98%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = 139.37%
Mg 279.077 IEC†      2974.4      4658.5 µg/L         33.17      4658.5 ppb          33.17   0.71%
   QC value within limits for Mg 279.077 IEC  Recovery = 93.17%
Mn 257.610†         32893.9      480.97 µg/L         1.257      480.97 ppb          1.257   0.26%
   QC value within limits for Mn 257.610  Recovery = 96.19%
Mo 202.031†          2351.5      480.04 µg/L         4.990      480.04 ppb          4.990   1.04%
   QC value within limits for Mo 202.031  Recovery = 96.01%
Na 589.592 Radial†  434524.4       51095 µg/L        610.84       51095 ppb         610.84   1.20%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = 510.95%
Ni 231.604†          4076.7      478.26 µg/L         2.041      478.26 ppb          2.041   0.43%
   QC value within limits for Ni 231.604  Recovery = 95.65%
P 214.914†            395.0      2393.3 µg/L         15.58      2393.3 ppb          15.58   0.65%
   QC value within limits for P 214.914  Recovery = 95.73%
Pb 220.353†           755.2      493.25 µg/L         5.812      493.25 ppb          5.812   1.18%
   QC value within limits for Pb 220.353  Recovery = 98.65%
S 181.975 Axial†      433.4      2769.8 µg/L        110.16      2769.8 ppb         110.16   3.98%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = 276.98%
Sb 206.836†           281.7      474.62 µg/L         3.753      474.62 ppb          3.753   0.79%
   QC value within limits for Sb 206.836  Recovery = 94.92%
Se 196.026†           232.5      491.86 µg/L        17.017      491.86 ppb         17.017   3.46%
   QC value within limits for Se 196.026  Recovery = 98.37%
SiO2†                4611.8      5286.9 µg/L         32.99      5286.9 ppb          32.99   0.62%
   QC value within limits for SiO2  Recovery = 98.87%
Si 251.611†         11614.4      2457.7 µg/L          5.42      2457.7 ppb           5.42   0.22%
   QC value within limits for Si 251.611  Recovery = 98.31%
Sn 189.927†           512.4      460.31 µg/L         1.517      460.31 ppb          1.517   0.33%
   QC value within limits for Sn 189.927  Recovery = 92.06%
Sr 421.552†         347281.1      467.05 µg/L         5.002      467.05 ppb          5.002   1.07%
   QC value within limits for Sr 421.552  Recovery = 93.41%
Ti 334.940†          49789.5      476.80 µg/L         1.372      476.80 ppb          1.372   0.29%
   QC value within limits for Ti 334.940  Recovery = 95.36%
Tl 190.801†           250.1      488.15 µg/L         7.622      488.15 ppb          7.622   1.56%
   QC value within limits for Tl 190.801  Recovery = 97.63%
U 367.007†            746.2      465.01 µg/L        15.610      465.01 ppb         15.610   3.36%
   QC value within limits for U 367.007  Recovery = 93.00%
V 292.402†           8841.8      482.00 µg/L         1.439      482.00 ppb          1.439   0.30%
   QC value within limits for V 292.402  Recovery = 96.40%
Zn 213.857†          8848.2      478.70 µg/L         2.216      478.70 ppb          2.216   0.46%
   QC value within limits for Zn 213.857  Recovery = 95.74%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 20 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/19/2020 06:23:14**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	58247.6	58247.6	91.412	%	91.412	%	06:23:50
1	Al 396.153Radial†	18.4	22.3	6.9574	µg/L	6.9574	ppb	06:23:50
1	Ca 317.933Radial†	332.7	130.2	21.397	µg/L	21.397	ppb	06:24:10
1	Fe 238.204 Radial†	79.2	35.0	12.036	µg/L	12.036	ppb	06:24:10
1	K 766.490 Radial†	5334.0	6054.6	2690.7	µg/L	2690.7	ppb	06:23:50
1	Mg 279.077 IEC†	10.6	6.4	10.091	µg/L	10.091	ppb	06:24:10
1	Na 589.592 Radial†	335439.8	365482.8	42977	µg/L	42977	ppb	06:23:50
1	Sr 421.552†	-441.5	-27.2	-0.0381	µg/L	-0.0381	ppb	06:23:50
1	Sc 361.383	183357.7	183357.7	85.805	%	85.805	%	06:24:58
1	Y 371.029	106652.5	106652.5	85.601	%	85.601	%	06:24:58
1	Ag 328.068†	-155.5	-27.4	-1.0838	µg/L	-1.0838	ppb	06:25:18
1	As 188.979†	-1.9	-1.6	-4.0331	µg/L	-4.0331	ppb	06:25:18
1	B 249.677†	296.0	248.1	29.732	µg/L	29.732	ppb	06:25:18
1	Ba 233.527†	-30.3	-2.7	-0.1334	µg/L	-0.1334	ppb	06:25:18
1	Be 313.107†	-234.8	-34.1	-0.0828	µg/L	-0.0828	ppb	06:24:58
1	Cd 226.502†	-42.9	10.3	0.5175	µg/L	0.5175	ppb	06:25:18
1	Co 228.616†	-15.9	-2.4	-0.4481	µg/L	-0.4481	ppb	06:25:18
1	Cr 267.716†	47.4	-1.1	-0.0550	µg/L	-0.0550	ppb	06:25:18
1	Cu 324.752†	306.0	61.1	2.0072	µg/L	2.0072	ppb	06:25:18
1	Mn 257.610†	-21.7	-3.9	-0.0566	µg/L	-0.0566	ppb	06:25:18
1	Mo 202.031†	25.5	1.8	0.3747	µg/L	0.3747	ppb	06:25:18
1	Ni 231.604†	-52.2	-7.7	-0.9072	µg/L	-0.9072	ppb	06:25:18
1	P 214.914†	49.0	12.1	74.581	µg/L	74.581	ppb	06:25:18
1	Pb 220.353†	9.0	1.0	0.6371	µg/L	0.6371	ppb	06:25:18
1	S 181.975 Axial†	180.8	208.2	1330.1	µg/L	1330.1	ppb	06:25:18
1	Sb 206.836†	30.2	4.7	7.7711	µg/L	7.7711	ppb	06:25:18
1	Se 196.026†	25.8	2.4	5.1515	µg/L	5.1515	ppb	06:25:18
1	SiO2†	184.0	49.4	56.680	µg/L	56.680	ppb	06:25:18
1	Si 251.611†	156.5	55.9	11.882	µg/L	11.882	ppb	06:25:18
1	Sn 189.927†	17.8	9.8	8.7169	µg/L	8.7169	ppb	06:25:18
1	Ti 334.940†	37.5	28.0	0.2681	µg/L	0.2681	ppb	06:25:18
1	Tl 190.801†	-8.3	0.6	1.2442	µg/L	1.2442	ppb	06:25:18
1	U 367.007†	20.1	48.6	31.247	µg/L	31.247	ppb	06:24:58
1	V 292.402†	0.6	11.3	0.6362	µg/L	0.6362	ppb	06:25:18
1	Zn 213.857†	-4.9	18.7	1.0230	µg/L	1.0230	ppb	06:25:18
2	Sc RADIAL	59125.0	59125.0	92.789	%	92.789	%	06:24:12
2	Al 396.153Radial†	41.6	47.0	14.626	µg/L	14.626	ppb	06:24:12
2	Ca 317.933Radial†	396.1	193.1	31.740	µg/L	31.740	ppb	06:24:32
2	Fe 238.204 Radial†	90.0	45.4	15.621	µg/L	15.621	ppb	06:24:32
2	K 766.490 Radial†	5165.0	5785.9	2571.3	µg/L	2571.3	ppb	06:24:12
2	Mg 279.077 IEC†	26.7	23.6	36.960	µg/L	36.960	ppb	06:24:32
2	Na 589.592 Radial†	332636.0	357015.7	41981	µg/L	41981	ppb	06:24:12
2	Sr 421.552†	-407.1	17.0	0.0210	µg/L	0.0210	ppb	06:24:12
2	Sc 361.383	181314.3	181314.3	84.848	%	84.848	%	06:25:20
2	Y 371.029	105714.7	105714.7	84.848	%	84.848	%	06:25:20
2	Ag 328.068†	-151.3	-24.5	-0.9492	µg/L	-0.9492	ppb	06:25:40
2	As 188.979†	0.0	0.6	1.5574	µg/L	1.5574	ppb	06:25:40
2	B 249.677†	315.3	274.8	32.935	µg/L	32.935	ppb	06:25:40
2	Ba 233.527†	-37.4	-11.4	-0.5666	µg/L	-0.5666	ppb	06:25:40
2	Be 313.107†	-209.7	-7.6	-0.0184	µg/L	-0.0184	ppb	06:25:20
2	Cd 226.502†	-56.1	-5.9	-0.2980	µg/L	-0.2980	ppb	06:25:40
2	Co 228.616†	-11.8	2.2	0.4238	µg/L	0.4238	ppb	06:25:40
2	Cr 267.716†	64.5	19.7	1.0201	µg/L	1.0201	ppb	06:25:40
2	Cu 324.752†	319.9	81.5	2.6334	µg/L	2.6334	ppb	06:25:40
2	Mn 257.610†	-19.2	-1.2	-0.0174	µg/L	-0.0174	ppb	06:25:40
2	Mo 202.031†	29.7	7.1	1.4585	µg/L	1.4585	ppb	06:25:40
2	Ni 231.604†	-46.5	-1.7	-0.2023	µg/L	-0.2023	ppb	06:25:40

2	P 214.914†	44.4	7.3	44.967 µg/L	44.967 ppb	06:25:40
2	Pb 220.353†	16.4	9.8	6.3874 µg/L	6.3874 ppb	06:25:40
2	S 181.975 Axial†	175.1	203.8	1302.4 µg/L	1302.4 ppb	06:25:40
2	Sb 206.836†	33.3	8.8	14.589 µg/L	14.589 ppb	06:25:40
2	Se 196.026†	26.2	3.3	6.9007 µg/L	6.9007 ppb	06:25:40
2	SiO2†	194.4	64.1	73.542 µg/L	73.542 ppb	06:25:40
2	Si 251.611†	168.4	72.0	15.281 µg/L	15.281 ppb	06:25:40
2	Sn 189.927†	22.1	15.0	13.411 µg/L	13.411 ppb	06:25:40
2	Ti 334.940†	22.2	10.4	0.1003 µg/L	0.1003 ppb	06:25:40
2	Tl 190.801†	-6.9	2.1	4.1684 µg/L	4.1684 ppb	06:25:40
2	U 367.007†	-11.3	11.9	7.6022 µg/L	7.6022 ppb	06:25:20
2	V 292.402†	-3.2	6.9	0.3812 µg/L	0.3812 ppb	06:25:40
2	Zn 213.857†	-1.1	23.2	1.2594 µg/L	1.2594 ppb	06:25:40
3	Sc RADIAL	59275.6	59275.6	93.025 %	93.025 %	06:24:34
3	Al 396.153Radial†	59.2	65.9	20.580 µg/L	20.580 ppb	06:24:34
3	Ca 317.933Radial†	371.4	165.5	27.192 µg/L	27.192 ppb	06:24:54
3	Fe 238.204 Radial†	90.4	45.5	15.671 µg/L	15.671 ppb	06:24:54
3	K 766.490 Radial†	5257.4	5871.1	2609.2 µg/L	2609.2 ppb	06:24:34
3	Mg 279.077 IEC†	30.2	27.3	42.811 µg/L	42.811 ppb	06:24:54
3	Na 589.592 Radial†	320585.8	343151.0	40351 µg/L	40351 ppb	06:24:34
3	Sr 421.552†	-510.4	-92.9	-0.1270 µg/L	-0.1270 ppb	06:24:34
3	Sc 361.383	187290.2	187290.2	87.645 %	87.645 %	06:25:43
3	Y 371.029	109039.7	109039.7	87.517 %	87.517 %	06:25:43
3	Ag 328.068†	-156.3	-24.6	-0.9506 µg/L	-0.9506 ppb	06:26:03
3	As 188.979†	-3.0	-2.9	-7.1527 µg/L	-7.1527 ppb	06:26:03
3	B 249.677†	295.4	240.1	28.787 µg/L	28.787 ppb	06:26:03
3	Ba 233.527†	-31.3	-3.1	-0.1564 µg/L	-0.1564 ppb	06:26:03
3	Be 313.107†	-188.3	24.7	0.0616 µg/L	0.0616 ppb	06:25:43
3	Cd 226.502†	-37.7	17.2	0.8693 µg/L	0.8693 ppb	06:26:03
3	Co 228.616†	-17.6	-3.9	-0.7324 µg/L	-0.7324 ppb	06:26:03
3	Cr 267.716†	66.3	19.3	0.9982 µg/L	0.9982 ppb	06:26:03
3	Cu 324.752†	301.4	48.3	1.5630 µg/L	1.5630 ppb	06:26:03
3	Mn 257.610†	-20.1	-1.6	-0.0233 µg/L	-0.0233 ppb	06:26:03
3	Mo 202.031†	23.5	-1.1	-0.2190 µg/L	-0.2190 ppb	06:26:03
3	Ni 231.604†	-58.5	-13.6	-1.5970 µg/L	-1.5970 ppb	06:26:03
3	P 214.914†	46.9	8.6	52.873 µg/L	52.873 ppb	06:26:03
3	Pb 220.353†	18.4	11.5	7.4753 µg/L	7.4753 ppb	06:26:03
3	S 181.975 Axial†	170.0	191.5	1223.5 µg/L	1223.5 ppb	06:26:03
3	Sb 206.836†	36.1	10.6	17.600 µg/L	17.600 ppb	06:26:03
3	Se 196.026†	19.0	-6.0	-12.531 µg/L	-12.531 ppb	06:26:03
3	SiO2†	187.2	48.5	55.704 µg/L	55.704 ppb	06:26:03
3	Si 251.611†	162.4	58.8	12.513 µg/L	12.513 ppb	06:26:03
3	Sn 189.927†	17.4	8.9	7.9418 µg/L	7.9418 ppb	06:26:03
3	Ti 334.940†	37.1	26.7	0.2556 µg/L	0.2556 ppb	06:26:03
3	Tl 190.801†	-9.9	-0.9	-1.8277 µg/L	-1.8277 ppb	06:26:03
3	U 367.007†	-14.8	8.3	5.3179 µg/L	5.3179 ppb	06:25:43
3	V 292.402†	-15.3	-6.9	-0.3692 µg/L	-0.3692 ppb	06:26:03
3	Zn 213.857†	-7.7	15.6	0.8562 µg/L	0.8562 ppb	06:26:03

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	183987.4	86.099	%	1.4214	86.099	%	1.4214	1.65%
Sc RADIAL	58882.8	92.409	%	0.8713	92.409	%	0.8713	0.94%
Y 371.029	107135.6	85.989	%	1.3760	85.989	%	1.3760	1.60%
Ag 328.068†	-25.5	-0.9945	µg/L	0.07731	-0.9945	ppb	0.07731	7.77%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	45.1	14.054	µg/L	6.8291	14.054	ppb	6.8291	48.59%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-1.3	-3.2094	µg/L	4.41307	-3.2094	ppb	4.41307	137.50%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	254.3	30.485	µg/L	2.1737	30.485	ppb	2.1737	7.13%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-5.7	-0.2855	µg/L	0.24374	-0.2855	ppb	0.24374	85.38%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-5.7	-0.0132	µg/L	0.07234	-0.0132	ppb	0.07234	548.47%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	162.9	26.776	µg/L	5.1841	26.776	ppb	5.1841	19.36%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	7.2	0.3629	µg/L	0.59884	0.3629	ppb	0.59884	165.00%

```
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              -1.3     -0.2522 µg/L       0.60248     -0.2522 ppb        0.60248 238.86%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              12.6      0.6544 µg/L       0.61445      0.6544 ppb        0.61445  93.89%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†              63.7      2.0679 µg/L       0.53778      2.0679 ppb        0.53778  26.01%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†       42.0      14.443 µg/L        2.0845      14.443 ppb         2.0845  14.43%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†       5903.8      2623.7 µg/L         61.03      2623.7 ppb          61.03   2.33%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†          19.1      29.954 µg/L       17.4485      29.954 ppb        17.4485  58.25%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†              -2.2     -0.0324 µg/L       0.02111     -0.0324 ppb        0.02111  65.09%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               2.6      0.5381 µg/L       0.85059      0.5381 ppb        0.85059 158.08%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†    355216.5       41770 µg/L       1325.71       41770 ppb        1325.71   3.17%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              -7.7     -0.9022 µg/L       0.69736     -0.9022 ppb        0.69736  77.30%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                9.4      57.474 µg/L       15.3340      57.474 ppb        15.3340  26.68%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†               7.4      4.8332 µg/L       3.67447      4.8332 ppb        3.67447  76.02%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         201.2      1285.3 µg/L         55.32      1285.3 ppb          55.32   4.30%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               8.0      13.320 µg/L        5.0356      13.320 ppb         5.0356  37.81%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -0.1     -0.1595 µg/L      10.74947     -0.1595 ppb       10.74947 >999.9%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    54.0      61.975 µg/L       10.0293      61.975 ppb        10.0293  16.18%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              62.2      13.225 µg/L        1.8078      13.225 ppb         1.8078  13.67%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              11.2      10.023 µg/L        2.9596      10.023 ppb         2.9596  29.53%
   QC value greater than the upper limit for Sn 189.927  Recovery = Not calculated
Sr 421.552†             -34.4     -0.0480 µg/L       0.07450     -0.0480 ppb        0.07450 155.06%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†              21.7      0.2080 µg/L       0.09353      0.2080 ppb        0.09353  44.96%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               0.6      1.1950 µg/L       2.99834      1.1950 ppb        2.99834 250.92%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†               22.9      14.722 µg/L       14.3564      14.722 ppb        14.3564  97.51%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†                3.8      0.2161 µg/L       0.52267      0.2161 ppb        0.52267 241.88%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†              19.2      1.0462 µg/L       0.20260      1.0462 ppb        0.20260  19.37%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

ICPMS #14 Daily Performance

Sample ID: Sample
Sample Date/Time: Friday, November 20, 2020 09:31:24
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\Daily 2.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\200501\Sample.579
Mass Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default1.tun
Dual Detector Mode: Pulse
Acquisition Date/Time&Time Zone: Friday, November 20, 2020 09:31:24 Eastern Standard Time
Number of Replicates: 5

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	35296.2	35296.154	400.358	1.1
	Mg	24.0	192704.8	192704.787	1541.694	0.8
	Co	58.9	172848.4	172848.378	1144.520	0.7
	Rh	102.9	269236.8	269236.771	2007.854	0.7
	In	114.9	427303.0	427302.959	5473.850	1.3
	Pb	208.0	247091.1	247091.112	1848.106	0.7
⌈>	Ba	137.9	274254.0	274254.013	1103.079	0.4
⌊	Ba++	69.0	7711.3	0.028	0.000	1.2
⌈>	Ce	139.9	317236.4	317236.361	2912.755	0.9
⌊	CeO	155.9	5812.0	0.018	0.000	1.0
	Bkgd	220.0	0.1	0.050	0.112	223.6

Current Conditions

C Val	Description
1.03	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-11.00	Deflector Voltage
1600.00	ICP RF Power
-1637.00	Analog Stage Voltage
1050.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-14.00	Cell Rod Offset STD [CRO]
11.00	Discriminator Threshold
-4.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
1.03	DRC Mode NEB
-8.50	DRC Mode QRO
-3.00	DRC Mode CRO
-13.00	DRC Mode Cell Entrance/Exit Voltage
0.10	Cell Gas A
375.00	Axial Field Voltage
-15.00	KED Mode CRO
-12.00	KED Mode QRO
-7.00	KED Mode Cell Entrance Voltage
-23.00	KED Mode Cell Exit Voltage
3.00	KED Cell Gas A
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9.012	41	-17.0	2732.3
Mg	23.985	41	-16.5	26530.6
In	114.904	41	-12.0	24048.2
Ce	139.905	41	-10.5	20542.8
Pb	207.977	41	-8.5	16635.7
U	238.050	41	-8.0	28785.0

ICPMS #14 Instrument Tuning Report

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res DAC	Meas. Pk. Width
Be	9.0	9.0	1622	2068	0.723
Mg	24.0	24.0	4603	2068	0.746
Mg	25.0	25.0	4805	2068	0.764
Mg	26.0	26.0	5004	2068	0.746
Co	58.9	59.0	11577	2068	0.785
Rh	102.9	102.9	20349	2070	0.823
In	114.9	114.9	22748	2080	0.754
Ce	139.9	139.9	27748	2080	0.790
Pb	206.0	206.0	40945	2085	0.842
Pb	207.0	207.0	41130	2080	0.831
Pb	208.0	208.0	41350	2085	0.830
U	238.1	238.1	47352	2090	0.784

ICPMS #14 - Summary Report

Sample ID: Cal Blank
Sample Date/Time: Friday, November 20, 2020 15:46:07
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Cal Blank.155
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Li	7		ug/L		10.667	
|	Be	9		ug/L		0.333	
|	B	11		ug/L		34.667	
|	Al	27		ug/L		178.668	
|	>Sc	45		ug/L		671465.792	
|	V	51		ug/L		4940.855	
|	Cr	52		ug/L		496.675	
|	Cr	53		ug/L		1954.800	
|	Mn	55		ug/L		95.334	
|	Fe	57		ug/L		139.334	
|	Co	59		ug/L		34.667	
|	Ni	60		ug/L		444.674	
|	Cu	63		ug/L		150.668	
⌊	Cu	65		ug/L		82.000	
⌈	Zn	66		ug/L		576.678	
|	Zn	67		ug/L		110.000	
|	Zn	68		ug/L		386.005	
|	>Ge	74		ug/L		486017.980	
|	As	75		ug/L		467.563	
|	Se	77		ug/L		182.001	
|	Se	78		ug/L		206.510	
|	Se	82		ug/L		22.000	
⌊	Kr	83		ug/L		10.667	
⌈	Mo	98		ug/L		66.000	
|	Ag	107		ug/L		5.333	
|	Cd	111		ug/L		6.667	
|	Cd	114		ug/L		18.667	
|	>In	115		ug/L		363033.148	
|	Sb	121		ug/L		44.667	
⌊	Sb	123		ug/L		34.667	
⌈	Ba	135		ug/L		5.333	
|	Ba	137		ug/L		8.667	
|	>Lu	175		ug/L		915286.835	
|	Tl	205		ug/L		110.667	
|	Pb	208		ug/L		153.334	
⌊	U	238		ug/L		74.000	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	
Be	9	Linear Thru Zero	
B	11	Linear Thru Zero	
Al	27	Linear Thru Zero	
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	
Cr	52	Linear Thru Zero	

	Cr	53Linear Thru Zero
	Mn	55Linear Thru Zero
	Fe	57Linear Thru Zero
	Co	59Linear Thru Zero
	Ni	60Linear Thru Zero
	Cu	63Linear Thru Zero
	Cu	65Linear Thru Zero
	Zn	66Linear Thru Zero
	Zn	67Linear Thru Zero
	Zn	68Linear Thru Zero
	Ge	74Linear Thru Zero
	As	75Linear Thru Zero
	Se	77Linear Thru Zero
	Se	78Linear Thru Zero
	Se	82Linear Thru Zero
	Kr	83Linear Thru Zero
	Mo	98Linear Thru Zero
	Ag	107Linear Thru Zero
	Cd	111Linear Thru Zero
	Cd	114Linear Thru Zero
	In	115Linear Thru Zero
	Sb	121Linear Thru Zero
	Sb	123Linear Thru Zero
	Ba	135Linear Thru Zero
	Ba	137Linear Thru Zero
	Lu	175Linear Thru Zero
	Tl	205Linear Thru Zero
	Pb	208Linear Thru Zero
	U	238Linear Thru Zero

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Li	7					
|	Be	9					
|	B	11					
|	Al	27					
| >	Sc	45					
|	V	51					
|	Cr	52					
|	Cr	53					
|	Mn	55					
|	Fe	57					
|	Co	59					
|	Ni	60					
|	Cu	63					
⌊	Cu	65					
⌈	Zn	66					
|	Zn	67					
|	Zn	68					
| >	Ge	74					
|	As	75					
|	Se	77					
|	Se	78					
|	Se	82					
⌊	Kr	83					
⌈	Mo	98					
|	Ag	107					
|	Cd	111					
|	Cd	114					
| >	In	115					
|	Sb	121					

⌊	Sb	123
⌈	Ba	135
|	Ba	137
|>	Lu	175
|	Tl	205
|	Pb	208
⌊	U	238

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Friday, November 20, 2020 15:49:02
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Standard 1.156
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Li	7	**10.000**	**ug/L**	0.822	7545.993	0.011
|	Be	9	**10.000**	**ug/L**	2.771	2287.850	0.003
|	B	11	**20.000**	**ug/L**	4.348	2103.488	0.003
|	Al	27	**1000.000**	**ug/L**	2.041	285860.461	0.420
|	>Sc	45		**ug/L**		679446.895	679446.895
|	V	51	**10.000**	**ug/L**	0.835	38100.746	0.049
|	Cr	52	**10.000**	**ug/L**	1.421	39907.001	0.058
|	Cr	53		**ug/L**		6748.261	0.007
|	Mn	55	**10.000**	**ug/L**	1.965	27910.578	0.041
|	Fe	57	**1000.000**	**ug/L**	3.474	91574.033	0.135
|	Co	59	**10.000**	**ug/L**	0.354	69384.766	0.102
|	Ni	60	**10.000**	**ug/L**	0.301	18776.332	0.027
|	Cu	63		**ug/L**		51999.817	0.076
⌊	Cu	65	**10.000**	**ug/L**	2.794	25858.053	0.038
⌈	Zn	66	**10.000**	**ug/L**	2.611	8451.166	0.016
|	Zn	67		**ug/L**		1412.070	0.003
|	Zn	68		**ug/L**		6680.895	0.013
|	>Ge	74		**ug/L**		487554.204	487554.204
|	As	75	**10.000**	**ug/L**	1.133	4323.099	0.008
|	Se	77		**ug/L**		346.004	0.000
|	Se	78	**10.000**	**ug/L**	1.577	692.369	0.001
|	Se	82		**ug/L**		280.669	0.001
⌊	Kr	83		**ug/L**		10.333	-0.000
⌈	Mo	98	**10.000**	**ug/L**	1.883	29475.714	0.081
|	Ag	107	**10.000**	**ug/L**	1.052	73362.583	0.201
|	Cd	111	**10.000**	**ug/L**	1.122	9272.342	0.025
|	Cd	114		**ug/L**		22530.420	0.062
|	>In	115		**ug/L**		364756.898	364756.898
|	Sb	121	**10.000**	**ug/L**	1.048	19320.390	0.053
⌊	Sb	123		**ug/L**		15308.865	0.042
⌈	Ba	135		**ug/L**		6360.083	0.007
|	Ba	137	**10.000**	**ug/L**	2.639	11269.778	0.012
|	>Lu	175		**ug/L**		930487.297	930487.297
|	Tl	205	**10.000**	**ug/L**	2.641	162378.538	0.174
|	Pb	208	**10.000**	**ug/L**	1.897	217289.608	0.233
⌊	U	238	**10.000**	**ug/L**	1.648	232829.421	0.250

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sb	121					

⌊	Sb	123
⌈	Ba	135
|	Ba	137
|>	Lu	175
|	Tl	205
|	Pb	208
⌊	U	238

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Friday, November 20, 2020 15:51:56
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Standard 2.157
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Li	7	**99.938**	**ug/L**	2.655	68258.115	0.104
|	Be	9	**99.872**	**ug/L**	2.622	19491.958	0.030
|	B	11	**199.942**	**ug/L**	3.549	19381.815	0.030
|	Al	27	**9994.201**	**ug/L**	1.647	2598184.981	3.972
|	>Sc	45		**ug/L**		654095.630	654095.630
|	V	51	**99.934**	**ug/L**	1.074	303567.495	0.457
|	Cr	52	**99.944**	**ug/L**	2.471	359552.311	0.549
|	Cr	53		**ug/L**		44564.088	0.065
|	Mn	55	**99.954**	**ug/L**	1.485	255934.291	0.391
|	Fe	57	**9995.107**	**ug/L**	0.422	839044.280	1.283
|	Co	59	**99.948**	**ug/L**	0.411	634134.866	0.969
|	Ni	60	**99.941**	**ug/L**	0.339	166883.106	0.254
|	Cu	63		**ug/L**		467712.533	0.715
⌊	Cu	65	**99.929**	**ug/L**	0.534	231608.577	0.354
⌈	Zn	66	**99.894**	**ug/L**	1.919	66088.541	0.146
|	Zn	67		**ug/L**		11001.568	0.024
|	Zn	68		**ug/L**		51615.093	0.114
|	>Ge	74		**ug/L**		449243.739	449243.739
|	As	75	**99.999**	**ug/L**	0.501	35919.992	0.079
|	Se	77		**ug/L**		1557.418	0.003
|	Se	78	**100.014**	**ug/L**	1.617	4725.684	0.010
|	Se	82		**ug/L**		2288.183	0.005
⌊	Kr	83		**ug/L**		8.667	-0.000
⌈	Mo	98	**100.007**	**ug/L**	0.338	279989.954	0.812
|	Ag	107	**99.944**	**ug/L**	0.277	656562.855	1.904
|	Cd	111	**99.966**	**ug/L**	2.263	84684.302	0.246
|	Cd	114		**ug/L**		206452.542	0.599
|	>In	115		**ug/L**		344801.614	344801.614
|	Sb	121	**100.003**	**ug/L**	0.359	182781.240	0.530
⌊	Sb	123		**ug/L**		143853.997	0.417
⌈	Ba	135		**ug/L**		58678.304	0.066
|	Ba	137	**100.007**	**ug/L**	0.794	108664.412	0.122
|	>Lu	175		**ug/L**		891894.941	891894.941
|	Tl	205	**99.995**	**ug/L**	0.193	1548370.975	1.736
|	Pb	208	**99.971**	**ug/L**	2.416	2022731.774	2.268
⌊	U	238	**99.973**	**ug/L**	2.165	2172203.888	2.436

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

	Cr	53	Linear Thru Zero	
	Mn	55	Linear Thru Zero	1.0000
	Fe	57	Linear Thru Zero	1.0000
	Co	59	Linear Thru Zero	1.0000
	Ni	60	Linear Thru Zero	1.0000
	Cu	63	Linear Thru Zero	
	Cu	65	Linear Thru Zero	1.0000
	Zn	66	Linear Thru Zero	0.9999
	Zn	67	Linear Thru Zero	
	Zn	68	Linear Thru Zero	
	Ge	74	Linear Thru Zero	
	As	75	Linear Thru Zero	1.0000
	Se	77	Linear Thru Zero	
	Se	78	Linear Thru Zero	1.0000
	Se	82	Linear Thru Zero	
	Kr	83	Linear Thru Zero	
	Mo	98	Linear Thru Zero	1.0000
	Ag	107	Linear Thru Zero	1.0000
	Cd	111	Linear Thru Zero	1.0000
	Cd	114	Linear Thru Zero	
	In	115	Linear Thru Zero	
	Sb	121	Linear Thru Zero	1.0000
	Sb	123	Linear Thru Zero	
	Ba	135	Linear Thru Zero	
	Ba	137	Linear Thru Zero	1.0000
	Lu	175	Linear Thru Zero	
	Tl	205	Linear Thru Zero	1.0000
	Pb	208	Linear Thru Zero	1.0000
	U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sb	121					

⌊	Sb	123
⌈	Ba	135
|	Ba	137
|>	Lu	175
|	Tl	205
|	Pb	208
⌊	U	238

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Friday, November 20, 2020 15:54:49
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 1.158
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**53.233**	**ug/L**	1.494	35941.840	0.056
Be	9	**54.865**	**ug/L**	0.027	10587.590	0.016
B	11	**107.138**	**ug/L**	1.009	10283.035	0.016
Al	27	**5387.392**	**ug/L**	1.607	1384414.446	2.141
>Sc	45		**ug/L**		646631.307	646631.307
V	51	**52.207**	**ug/L**	1.328	159033.895	0.239
Cr	52	**52.476**	**ug/L**	0.745	186850.496	0.288
Cr	53		**ug/L**		23487.303	0.033
Mn	55	**52.092**	**ug/L**	1.014	131900.995	0.204
Fe	57	**5165.213**	**ug/L**	2.229	428570.982	0.663
Co	59	**52.838**	**ug/L**	2.081	331303.181	0.512
Ni	60	**52.835**	**ug/L**	2.551	87394.585	0.135
Cu	63		**ug/L**		245540.402	0.380
Cu	65	**51.911**	**ug/L**	1.557	118952.617	0.184
Zn	66	**50.679**	**ug/L**	1.467	34713.459	0.074
Zn	67		**ug/L**		5872.540	0.012
Zn	68		**ug/L**		27175.173	0.058
>Ge	74		**ug/L**		461523.583	461523.583
As	75	**49.343**	**ug/L**	0.700	18433.441	0.039
Se	77		**ug/L**		825.357	0.001
Se	78	**51.988**	**ug/L**	0.759	2617.627	0.005
Se	82		**ug/L**		1226.053	0.003
Kr	83		**ug/L**		9.167	-0.000
Mo	98	**49.235**	**ug/L**	1.010	140212.071	0.400
Ag	107	**51.074**	**ug/L**	2.998	341142.657	0.973
Cd	111	**52.951**	**ug/L**	0.351	45628.096	0.130
Cd	114		**ug/L**		108771.209	0.310
>In	115		**ug/L**		350665.385	350665.385
Sb	121	**48.658**	**ug/L**	0.790	90465.547	0.258
Sb	123		**ug/L**		72541.770	0.207
Ba	135		**ug/L**		29873.871	0.033
Ba	137	**49.549**	**ug/L**	1.638	54665.750	0.060
>Lu	175		**ug/L**		905445.866	905445.866
Tl	205	**47.944**	**ug/L**	0.582	753745.298	0.832
Pb	208	**50.771**	**ug/L**	1.529	1043256.818	1.152
U	238	**50.944**	**ug/L**	1.147	1123977.179	1.241

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	106.465				
	Be	9	109.731				
	B	11	107.138				
	Al	27	106.681				
>	Sc	45		96.30			
	V	51	104.413				
	Cr	52	104.953				
	Cr	53					
	Mn	55	104.184				
	Fe	57	103.304				
	Co	59	105.675				
	Ni	60	105.670				
	Cu	63					
	Cu	65	103.822				
	Zn	66	101.357				
	Zn	67					
	Zn	68					
>	Ge	74		94.96			
	As	75	98.686				
	Se	77					
	Se	78	103.975				
	Se	82					
	Kr	83					
	Mo	98	98.471				
	Ag	107	102.148				
	Cd	111	105.902				
	Cd	114					
>	In	115		96.59			
	Sb	121	97.315				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	99.098	
|>	Lu	175		98.92
|	Tl	205	95.888	
|	Pb	208	101.543	
⌊	U	238	101.888	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Friday, November 20, 2020 15:57:43
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 2.159
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.008**	**ug/L**	123.774	16.000	0.000
Be	9	**0.005**	**ug/L**	229.847	1.333	0.000
B	11	**3.770**	**ug/L**	15.927	403.339	0.001
Al	27	**-0.069**	**ug/L**	87.576	158.001	-0.000
>Sc	45		**ug/L**		662589.955	662589.955
V	51	**0.132**	**ug/L**	38.963	5276.309	0.001
Cr	52	**0.017**	**ug/L**	65.591	550.011	0.000
Cr	53		**ug/L**		1998.806	0.000
Mn	55	**-0.006**	**ug/L**	32.829	78.667	-0.000
Fe	57	**3.387**	**ug/L**	10.982	425.340	0.000
Co	59	**0.001**	**ug/L**	240.973	38.000	0.000
Ni	60	**-0.021**	**ug/L**	57.182	402.672	-0.000
Cu	63		**ug/L**		152.667	0.000
Cu	65	**-0.001**	**ug/L**	996.677	78.667	-0.000
Zn	66	**-0.061**	**ug/L**	106.497	524.676	-0.000
Zn	67		**ug/L**		72.000	-0.000
Zn	68		**ug/L**		385.339	0.000
>Ge	74		**ug/L**		478320.704	478320.704
As	75	**-0.013**	**ug/L**	391.639	455.341	-0.000
Se	77		**ug/L**		170.668	-0.000
Se	78	**0.140**	**ug/L**	321.541	210.081	0.000
Se	82		**ug/L**		24.667	0.000
Kr	83		**ug/L**		8.333	-0.000
Mo	98	**0.097**	**ug/L**	12.498	343.337	0.001
Ag	107	**0.002**	**ug/L**	12.368	16.667	0.000
Cd	111	**-0.001**	**ug/L**	457.970	6.000	-0.000
Cd	114		**ug/L**		28.000	0.000
>In	115		**ug/L**		353246.324	353246.324
Sb	121	**0.009**	**ug/L**	123.930	61.333	0.000
Sb	123		**ug/L**		51.333	0.000
Ba	135		**ug/L**		8.000	0.000
Ba	137	**0.004**	**ug/L**	197.213	12.667	0.000
>Lu	175		**ug/L**		903305.243	903305.243
Tl	205	**0.112**	**ug/L**	17.102	1861.456	0.002
Pb	208	**0.010**	**ug/L**	20.972	360.669	0.000
U	238	**0.030**	**ug/L**	4.373	728.019	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		98.68			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		98.42			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.30			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	98.69
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Friday, November 20, 2020 16:00:38
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 3.160
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**10.192**	**ug/L**	2.055	7271.185	0.011
Be	9	**0.567**	**ug/L**	4.167	115.667	0.000
B	11	**17.504**	**ug/L**	4.938	1800.780	0.003
Al	27	**52.259**	**ug/L**	2.725	14346.534	0.021
>Sc	45		**ug/L**		682327.971	682327.971
V	51	**20.295**	**ug/L**	2.503	68300.954	0.093
Cr	52	**10.258**	**ug/L**	0.277	38947.038	0.056
Cr	53		**ug/L**		6586.852	0.007
Mn	55	**5.125**	**ug/L**	2.821	13775.972	0.020
Fe	57	**101.593**	**ug/L**	2.230	9033.522	0.013
Co	59	**1.037**	**ug/L**	3.081	6892.997	0.010
Ni	60	**2.136**	**ug/L**	2.869	4162.607	0.005
Cu	63		**ug/L**		10557.901	0.015
Cu	65	**2.080**	**ug/L**	2.719	5112.249	0.007
Zn	66	**20.988**	**ug/L**	1.876	15296.855	0.031
Zn	67		**ug/L**		2380.198	0.005
Zn	68		**ug/L**		11327.156	0.023
>Ge	74		**ug/L**		480322.477	480322.477
As	75	**4.758**	**ug/L**	3.609	2267.513	0.004
Se	77		**ug/L**		252.669	0.000
Se	78	**4.915**	**ug/L**	6.852	442.450	0.000
Se	82		**ug/L**		152.667	0.000
Kr	83		**ug/L**		7.333	-0.000
Mo	98	**1.047**	**ug/L**	2.624	3122.341	0.008
Ag	107	**1.054**	**ug/L**	0.892	7230.496	0.020
Cd	111	**1.083**	**ug/L**	6.499	964.033	0.003
Cd	114		**ug/L**		2464.880	0.007
>In	115		**ug/L**		359804.947	359804.947
Sb	121	**2.937**	**ug/L**	3.612	5643.782	0.016
Sb	123		**ug/L**		4402.012	0.012
Ba	135		**ug/L**		2446.876	0.003
Ba	137	**4.034**	**ug/L**	3.898	4456.696	0.005
>Lu	175		**ug/L**		905120.982	905120.982
Tl	205	**1.937**	**ug/L**	0.990	30544.632	0.034
Pb	208	**2.075**	**ug/L**	1.242	42770.531	0.047
U	238	**0.246**	**ug/L**	2.415	5495.057	0.006

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	101.921				
	Be	9	113.339				
	B	11	116.692				
	Al	27	104.519				
>	Sc	45		101.62			
	V	51	101.474				
	Cr	52	102.577				
	Cr	53					
	Mn	55	102.505				
	Fe	57	101.593				
	Co	59	103.659				
	Ni	60	106.822				
	Cu	63					
	Cu	65	104.017				
	Zn	66	104.938				
	Zn	67					
	Zn	68					
>	Ge	74		98.83			
	As	75	95.163				
	Se	77					
	Se	78	98.296				
	Se	82					
	Kr	83					
	Mo	98	104.673				
	Ag	107	105.405				
	Cd	111	108.344				
	Cd	114					
>	In	115		99.11			
	Sb	121	97.902				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	100.862	
>	Lu	175		98.89
|	Tl	205	96.837	
|	Pb	208	103.772	
⌊	U	238	122.936	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, November 20, 2020 16:03:32
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 4.161
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.035**	**ug/L**	53.284	29.333	0.000
Be	9	**0.004**	**ug/L**	137.718	1.000	0.000
B	11	**2.518**	**ug/L**	5.082	235.335	0.000
Al	27	**96978.076**	**ug/L**	2.571	21370951.508	38.542
>Sc	45		**ug/L**		554632.655	554632.655
V	51	**-0.569**	**ug/L**	5.372	2638.244	-0.003
Cr	52	**0.750**	**ug/L**	2.623	2694.921	0.004
Cr	53		**ug/L**		1608.757	-0.000
Mn	55	**3.997**	**ug/L**	1.156	8752.681	0.016
Fe	57	**90886.212**	**ug/L**	2.160	6466869.943	11.662
Co	59	**0.471**	**ug/L**	4.792	2560.230	0.005
Ni	60	**0.352**	**ug/L**	6.858	864.693	0.001
Cu	63		**ug/L**		701.351	0.001
Cu	65	**0.183**	**ug/L**	10.130	428.006	0.001
Zn	66	**1.444**	**ug/L**	0.769	1130.045	0.002
Zn	67		**ug/L**		189.335	0.000
Zn	68		**ug/L**		886.694	0.002
>Ge	74		**ug/L**		342800.204	342800.204
As	75	**0.261**	**ug/L**	17.076	400.450	0.000
Se	77		**ug/L**		147.334	0.000
Se	78	**0.328**	**ug/L**	2.581	157.014	0.000
Se	82		**ug/L**		24.000	0.000
Kr	83		**ug/L**		10.500	0.000
Mo	98	**2058.078**	**ug/L**	0.933	4570765.708	16.707
Ag	107	**0.127**	**ug/L**	3.364	664.682	0.002
Cd	111	**0.514**	**ug/L**	10.530	350.671	0.001
Cd	114		**ug/L**		652.015	0.002
>In	115		**ug/L**		273582.200	273582.200
Sb	121	**0.048**	**ug/L**	14.293	102.667	0.000
Sb	123		**ug/L**		81.334	0.000
Ba	135		**ug/L**		1310.727	0.002
Ba	137	**2.682**	**ug/L**	2.228	2408.203	0.003
>Lu	175		**ug/L**		734904.143	734904.143
Tl	205	**0.049**	**ug/L**	27.381	711.352	0.001
Pb	208	**0.212**	**ug/L**	2.009	3662.850	0.005
U	238	**0.028**	**ug/L**	11.881	570.011	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27	96.978				
>	Sc	45		82.60			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55	69.836				
	Fe	57	90.886				
	Co	59	72.328				
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		70.53			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98	102.904				
	Ag	107					
	Cd	111	71.447				
	Cd	114					
>	In	115		75.36			
	Sb	121					

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	114.186	
>	Lu	175		80.29
|	Tl	205		
|	Pb	208		
⌊	U	238		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, November 20, 2020 16:06:26
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 5.162
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**22.497**	**ug/L**	1.237	12692.970	0.023
Be	9	**19.338**	**ug/L**	2.694	3116.673	0.006
B	11	**21.876**	**ug/L**	3.295	1776.111	0.003
Al	27	**100155.268**	**ug/L**	2.051	21496064.659	39.805
>Sc	45		**ug/L**		540072.982	540072.982
V	51	**20.157**	**ug/L**	2.077	53728.863	0.092
Cr	52	**20.650**	**ug/L**	1.951	61655.461	0.113
Cr	53		**ug/L**		8549.225	0.013
Mn	55	**23.101**	**ug/L**	1.773	48900.230	0.090
Fe	57	**91686.990**	**ug/L**	1.240	6353836.286	11.765
Co	59	**19.284**	**ug/L**	2.071	101031.378	0.187
Ni	60	**18.110**	**ug/L**	0.771	25262.987	0.046
Cu	63		**ug/L**		67450.202	0.125
Cu	65	**17.657**	**ug/L**	0.476	33844.043	0.063
Zn	66	**21.696**	**ug/L**	0.122	10991.560	0.032
Zn	67		**ug/L**		1782.778	0.005
Zn	68		**ug/L**		8291.072	0.024
>Ge	74		**ug/L**		334284.743	334284.743
As	75	**20.149**	**ug/L**	0.876	5642.225	0.016
Se	77		**ug/L**		318.004	0.001
Se	78	**19.791**	**ug/L**	1.162	809.718	0.002
Se	82		**ug/L**		338.671	0.001
Kr	83		**ug/L**		10.000	0.000
Mo	98	**2084.412**	**ug/L**	1.317	4507750.667	16.921
Ag	107	**18.652**	**ug/L**	1.778	94661.261	0.355
Cd	111	**19.778**	**ug/L**	1.754	12948.532	0.049
Cd	114		**ug/L**		30879.338	0.116
>In	115		**ug/L**		266410.828	266410.828
Sb	121	**18.629**	**ug/L**	2.080	26330.244	0.099
Sb	123		**ug/L**		20807.819	0.078
Ba	135		**ug/L**		11229.746	0.015
Ba	137	**22.730**	**ug/L**	1.320	20359.165	0.028
>Lu	175		**ug/L**		734965.352	734965.352
Tl	205	**19.043**	**ug/L**	1.021	243063.861	0.331
Pb	208	**19.432**	**ug/L**	1.685	324180.894	0.441
U	238	**21.757**	**ug/L**	1.216	389702.942	0.530

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	112.487				
	Be	9	96.692				
	B	11	109.382				
	Al	27	100.155				
>	Sc	45		80.43			
	V	51	100.786				
	Cr	52	103.250				
	Cr	53					
	Mn	55	89.806				
	Fe	57	91.687				
	Co	59	93.379				
	Ni	60	90.550				
	Cu	63					
	Cu	65	88.286				
	Zn	66	108.479				
	Zn	67					
	Zn	68					
>	Ge	74		68.78			
	As	75	100.743				
	Se	77					
	Se	78	98.956				
	Se	82					
	Kr	83					
	Mo	98	104.221				
	Ag	107	93.262				
	Cd	111	95.454				
	Cd	114					
>	In	115		73.38			
	Sb	121	93.144				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	101.705	
|>	Lu	175		80.30
|	Tl	205	95.215	
|	Pb	208	97.159	
⌊	U	238	108.787	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 16:09:20
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.163
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**57.353**	**ug/L**	0.919	36547.365	0.060
Be	9	**57.261**	**ug/L**	1.165	10426.804	0.017
B	11	**106.842**	**ug/L**	6.434	9682.626	0.016
Al	27	**5395.939**	**ug/L**	1.119	1308719.357	2.145
>Sc	45		**ug/L**		610223.589	610223.589
V	51	**51.659**	**ug/L**	1.043	148589.056	0.236
Cr	52	**52.812**	**ug/L**	0.833	177462.947	0.290
Cr	53		**ug/L**		22321.429	0.034
Mn	55	**52.251**	**ug/L**	2.174	124845.206	0.204
Fe	57	**5199.017**	**ug/L**	1.284	407181.500	0.667
Co	59	**53.187**	**ug/L**	1.075	314810.612	0.516
Ni	60	**52.777**	**ug/L**	0.536	82407.696	0.134
Cu	63		**ug/L**		233905.409	0.383
Cu	65	**52.923**	**ug/L**	1.133	114479.051	0.187
Zn	66	**50.946**	**ug/L**	2.782	32917.224	0.074
Zn	67		**ug/L**		5560.416	0.013
Zn	68		**ug/L**		25461.345	0.058
>Ge	74		**ug/L**		435410.823	435410.823
As	75	**49.852**	**ug/L**	1.218	17565.906	0.039
Se	77		**ug/L**		785.355	0.001
Se	78	**50.752**	**ug/L**	2.760	2415.071	0.005
Se	82		**ug/L**		1118.710	0.003
Kr	83		**ug/L**		9.833	0.000
Mo	98	**50.505**	**ug/L**	1.233	137485.235	0.410
Ag	107	**51.153**	**ug/L**	1.205	326684.930	0.975
Cd	111	**52.095**	**ug/L**	0.641	42904.332	0.128
Cd	114		**ug/L**		103802.527	0.310
>In	115		**ug/L**		335174.664	335174.664
Sb	121	**49.848**	**ug/L**	1.497	88592.603	0.264
Sb	123		**ug/L**		70296.539	0.210
Ba	135		**ug/L**		29301.354	0.033
Ba	137	**49.054**	**ug/L**	1.540	52951.292	0.060
>Lu	175		**ug/L**		885960.909	885960.909
Tl	205	**49.055**	**ug/L**	0.988	754615.340	0.852
Pb	208	**50.820**	**ug/L**	1.047	1021743.762	1.153
U	238	**51.361**	**ug/L**	3.233	1108786.835	1.252

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	114.706				
	Be	9	114.522				
	B	11	106.842				
	Al	27	106.850				
>	Sc	45		90.88			
	V	51	103.318				
	Cr	52	105.625				
	Cr	53					
	Mn	55	104.501				
	Fe	57	103.980				
	Co	59	106.374				
	Ni	60	105.554				
	Cu	63					
	Cu	65	105.846				
	Zn	66	101.892				
	Zn	67					
	Zn	68					
>	Ge	74		89.59			
	As	75	99.705				
	Se	77					
	Se	78	101.503				
	Se	82					
	Kr	83					
	Mo	98	101.009				
	Ag	107	102.307				
	Cd	111	104.189				
	Cd	114					
>	In	115		92.33			
	Sb	121	99.697				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	98.107	
|>	Lu	175		96.80
|	Tl	205	98.110	
|	Pb	208	101.641	
⌊	U	238	102.723	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	CCV is out of limits (+/- 10%)
QC Std 6	Be	9	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 16:12:15
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.164
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**-0.001**	**ug/L**	841.957	9.333	-0.000
Be	9	**0.004**	**ug/L**	144.703	1.000	0.000
B	11	**3.876**	**ug/L**	15.903	393.339	0.001
Al	27	**0.541**	**ug/L**	15.994	303.337	0.000
>Sc	45		**ug/L**		630881.604	630881.604
V	51	**0.038**	**ug/L**	192.930	4746.789	0.000
Cr	52	**0.011**	**ug/L**	214.256	506.009	0.000
Cr	53		**ug/L**		1876.123	0.000
Mn	55	**-0.003**	**ug/L**	65.049	82.667	-0.000
Fe	57	**10.880**	**ug/L**	15.147	1009.369	0.001
Co	59	**0.002**	**ug/L**	95.575	44.000	0.000
Ni	60	**-0.024**	**ug/L**	66.803	378.672	-0.000
Cu	63		**ug/L**		171.334	0.000
Cu	65	**0.004**	**ug/L**	224.242	86.000	0.000
Zn	66	**-0.039**	**ug/L**	32.644	510.676	-0.000
Zn	67		**ug/L**		78.000	-0.000
Zn	68		**ug/L**		408.673	0.000
>Ge	74		**ug/L**		451843.264	451843.264
As	75	**-0.024**	**ug/L**	103.230	426.006	-0.000
Se	77		**ug/L**		168.668	-0.000
Se	78	**0.075**	**ug/L**	213.823	195.424	0.000
Se	82		**ug/L**		16.667	-0.000
Kr	83		**ug/L**		8.000	-0.000
Mo	98	**0.387**	**ug/L**	9.429	1132.045	0.003
Ag	107	**0.000**	**ug/L**	69.855	8.000	0.000
Cd	111	**-0.002**	**ug/L**	143.817	4.667	-0.000
Cd	114		**ug/L**		21.333	0.000
>In	115		**ug/L**		341069.259	341069.259
Sb	121	**0.009**	**ug/L**	18.402	58.667	0.000
Sb	123		**ug/L**		45.333	0.000
Ba	135		**ug/L**		12.667	0.000
Ba	137	**-0.002**	**ug/L**	138.729	6.667	-0.000
>Lu	175		**ug/L**		871690.849	871690.849
Tl	205	**0.105**	**ug/L**	23.431	1688.102	0.002
Pb	208	**0.009**	**ug/L**	7.875	327.335	0.000
U	238	**0.021**	**ug/L**	3.920	514.676	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		93.96			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		92.97			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		93.95			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	95.24
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 10
Sample Date/Time: Friday, November 20, 2020 16:15:09
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 10.165
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Li	7	**1075.129**	**ug/L**	1.748	629121.671	1.122
|	Be	9	**1034.017**	**ug/L**	0.511	172943.603	0.309
|	B	11	**1.896**	**ug/L**	22.369	186.001	0.000
|	Al	27	**50924.352**	**ug/L**	0.697	11342910.777	20.239
|	> Sc	45		**ug/L**		560457.752	560457.752
|	V	51	**1015.978**	**ug/L**	0.865	2606663.998	4.644
|	Cr	52	**1012.960**	**ug/L**	0.783	3118637.571	5.564
|	Cr	53		**ug/L**		366034.497	0.650
|	Mn	55	**962.128**	**ug/L**	1.179	2110285.583	3.765
|	Fe	57	**48050.183**	**ug/L**	1.528	3455802.150	6.166
|	Co	59	**970.665**	**ug/L**	1.529	5276503.217	9.415
|	Ni	60	**932.333**	**ug/L**	0.819	1330844.648	2.374
|	Cu	63		**ug/L**		3665017.053	6.539
⌊	Cu	65	**919.084**	**ug/L**	0.342	1824644.514	3.256
⌈	Zn	66	**2427.248**	**ug/L**	1.460	1270721.970	3.546
|	Zn	67		**ug/L**		202910.897	0.566
|	Zn	68		**ug/L**		946404.523	2.641
|	> Ge	74		**ug/L**		358307.247	358307.247
|	As	75	**1021.016**	**ug/L**	1.814	289280.449	0.807
|	Se	77		**ug/L**		5786.505	0.016
|	Se	78	**507.216**	**ug/L**	1.131	18492.506	0.051
|	Se	82		**ug/L**		9355.063	0.026
⌊	Kr	83		**ug/L**		9.500	0.000
⌈	Mo	98	**983.867**	**ug/L**	0.415	2398498.744	7.987
|	Ag	107	**225.396**	**ug/L**	0.764	1289512.993	4.294
|	Cd	111	**934.056**	**ug/L**	0.848	689154.010	2.295
|	Cd	114		**ug/L**		1696474.966	5.649
|	> In	115		**ug/L**		300296.823	300296.823
|	Sb	121	**228.770**	**ug/L**	0.116	364121.478	1.212
⌊	Sb	123		**ug/L**		293305.298	0.977
⌈	Ba	135		**ug/L**		512237.331	0.653
|	Ba	137	**982.675**	**ug/L**	1.612	939414.731	1.197
|	> Lu	175		**ug/L**		784733.240	784733.240
|	Tl	205	**465.814**	**ug/L**	0.771	6345601.170	8.087
|	Pb	208	**4706.100**	**ug/L**	0.773	83791611.234	106.783
⌊	U	238	**5216.003**	**ug/L**	1.658	99724690.079	127.097

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	107.513				
	Be	9	103.402				
	B	11					
	Al	27	101.849				
>	Sc	45		83.47			
	V	51	101.598				
	Cr	52	101.296				
	Cr	53					
	Mn	55	96.213				
	Fe	57	96.100				
	Co	59	97.067				
	Ni	60	93.233				
	Cu	63					
	Cu	65	91.908				
	Zn	66	97.090				
	Zn	67					
	Zn	68					
>	Ge	74		73.72			
	As	75	102.102				
	Se	77					
	Se	78	101.443				
	Se	82					
	Kr	83					
	Mo	98	98.387				
	Ag	107	90.158				
	Cd	111	93.406				
	Cd	114					
>	In	115		82.72			
	Sb	121	91.508				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	98.267	
|>	Lu	175		85.74
|	Tl	205	93.163	
|	Pb	208	94.122	
⌊	U	238	104.320	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 11
Sample Date/Time: Friday, November 20, 2020 16:18:03
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 11.166
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**54.919**	**ug/L**	1.927	35830.909	0.057
Be	9	**56.762**	**ug/L**	2.472	10579.583	0.017
B	11	**104.705**	**ug/L**	0.907	9708.631	0.015
Al	27	**5441.776**	**ug/L**	3.113	1350874.210	2.163
>Sc	45		**ug/L**		624666.068	624666.068
V	51	**52.042**	**ug/L**	0.439	153188.420	0.238
Cr	52	**51.961**	**ug/L**	1.941	178717.665	0.285
Cr	53		**ug/L**		22498.371	0.033
Mn	55	**51.627**	**ug/L**	0.760	126293.170	0.202
Fe	57	**5108.571**	**ug/L**	1.081	409593.950	0.656
Co	59	**51.679**	**ug/L**	1.844	313091.821	0.501
Ni	60	**52.204**	**ug/L**	1.239	83455.817	0.133
Cu	63		**ug/L**		238631.095	0.382
Cu	65	**53.435**	**ug/L**	3.188	118298.076	0.189
Zn	66	**51.071**	**ug/L**	2.568	33399.010	0.075
Zn	67		**ug/L**		5502.394	0.012
Zn	68		**ug/L**		25878.755	0.058
>Ge	74		**ug/L**		440696.729	440696.729
As	75	**49.383**	**ug/L**	0.954	17614.408	0.039
Se	77		**ug/L**		847.359	0.002
Se	78	**50.862**	**ug/L**	2.570	2449.471	0.005
Se	82		**ug/L**		1157.380	0.003
Kr	83		**ug/L**		7.833	-0.000
Mo	98	**51.061**	**ug/L**	3.172	139019.845	0.415
Ag	107	**51.275**	**ug/L**	2.565	327532.372	0.977
Cd	111	**52.033**	**ug/L**	2.069	42870.900	0.128
Cd	114		**ug/L**		105273.808	0.314
>In	115		**ug/L**		335402.434	335402.434
Sb	121	**49.552**	**ug/L**	1.453	88106.909	0.263
Sb	123		**ug/L**		70036.597	0.209
Ba	135		**ug/L**		28887.851	0.033
Ba	137	**48.795**	**ug/L**	3.411	52500.328	0.059
>Lu	175		**ug/L**		883332.296	883332.296
Tl	205	**48.748**	**ug/L**	1.471	747543.258	0.846
Pb	208	**50.394**	**ug/L**	2.298	1009867.375	1.143
U	238	**51.360**	**ug/L**	3.017	1105124.096	1.251

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	109.838				
	Be	9	113.524				
	B	11	104.705				
	Al	27	107.758				
>	Sc	45		93.03			
	V	51	104.084				
	Cr	52	103.922				
	Cr	53					
	Mn	55	103.253				
	Fe	57	102.171				
	Co	59	103.357				
	Ni	60	104.409				
	Cu	63					
	Cu	65	106.869				
	Zn	66	102.141				
	Zn	67					
	Zn	68					
>	Ge	74		90.67			
	As	75	98.766				
	Se	77					
	Se	78	101.725				
	Se	82					
	Kr	83					
	Mo	98	102.123				
	Ag	107	102.550				
	Cd	111	104.066				
	Cd	114					
>	In	115		92.39			
	Sb	121	99.105				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	97.590	
|>	Lu	175		96.51
|	Tl	205	97.496	
|	Pb	208	100.788	
⌊	U	238	102.720	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 11	Be	9	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 12
Sample Date/Time: Friday, November 20, 2020 16:20:57
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 12.167
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.032**	**ug/L**	25.611	32.000	0.000
Be	9	**0.007**	**ug/L**	44.101	1.667	0.000
B	11	**2.889**	**ug/L**	20.222	308.670	0.000
Al	27	**0.220**	**ug/L**	15.090	228.002	0.000
>Sc	45		**ug/L**		645363.469	645363.469
V	51	**-0.114**	**ug/L**	42.451	4412.015	-0.001
Cr	52	**0.009**	**ug/L**	120.500	508.009	0.000
Cr	53		**ug/L**		1698.768	-0.000
Mn	55	**-0.005**	**ug/L**	106.398	78.000	-0.000
Fe	57	**6.452**	**ug/L**	15.238	668.016	0.001
Co	59	**0.006**	**ug/L**	9.117	68.000	0.000
Ni	60	**-0.008**	**ug/L**	367.781	413.339	-0.000
Cu	63		**ug/L**		194.001	0.000
Cu	65	**0.008**	**ug/L**	32.748	96.667	0.000
Zn	66	**-0.065**	**ug/L**	98.033	496.675	-0.000
Zn	67		**ug/L**		86.000	-0.000
Zn	68		**ug/L**		389.339	0.000
>Ge	74		**ug/L**		455006.033	455006.033
As	75	**-0.014**	**ug/L**	384.118	432.451	-0.000
Se	77		**ug/L**		180.001	0.000
Se	78	**-0.261**	**ug/L**	161.608	181.162	-0.000
Se	82		**ug/L**		28.667	0.000
Kr	83		**ug/L**		5.667	-0.000
Mo	98	**0.316**	**ug/L**	7.076	940.698	0.003
Ag	107	**0.002**	**ug/L**	18.871	17.333	0.000
Cd	111	**0.004**	**ug/L**	151.732	9.333	0.000
Cd	114		**ug/L**		48.667	0.000
>In	115		**ug/L**		342451.661	342451.661
Sb	121	**0.029**	**ug/L**	31.144	94.667	0.000
Sb	123		**ug/L**		70.667	0.000
Ba	135		**ug/L**		12.000	0.000
Ba	137	**0.009**	**ug/L**	93.814	18.000	0.000
>Lu	175		**ug/L**		879060.733	879060.733
Tl	205	**0.127**	**ug/L**	16.460	2040.148	0.002
Pb	208	**0.036**	**ug/L**	2.941	860.677	0.001
U	238	**0.153**	**ug/L**	1.876	3347.726	0.004

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		96.11			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		93.62			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		94.33			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	96.04
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695451
Sample Date/Time: Friday, November 20, 2020 16:23:52
Sample Type: Sample
Sample Description: ARSL 200.8 MB
Number of Replicates: 3
Batch ID: 2063263|1|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695451.168
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.040**	**ug/L**	42.480	37.333	0.000
Be	9	**0.000**	**ug/L**	5703.295	0.333	0.000
B	11	**1.640**	**ug/L**	3.625	192.668	0.000
Al	27	**61.100**	**ug/L**	3.140	16073.707	0.024
>Sc	45		**ug/L**		654907.069	654907.069
V	51	**-0.073**	**ug/L**	107.257	4599.408	-0.000
Cr	52	**0.080**	**ug/L**	19.940	770.688	0.000
Cr	53		**ug/L**		1804.114	-0.000
Mn	55	**0.037**	**ug/L**	13.817	187.335	0.000
Fe	57	**4.633**	**ug/L**	2.999	525.343	0.001
Co	59	**0.004**	**ug/L**	45.685	62.000	0.000
Ni	60	**-0.013**	**ug/L**	66.433	412.673	-0.000
Cu	63		**ug/L**		454.007	0.000
Cu	65	**0.068**	**ug/L**	6.030	238.002	0.000
Zn	66	**4.314**	**ug/L**	6.365	3448.417	0.006
Zn	67		**ug/L**		533.343	0.001
Zn	68		**ug/L**		2605.572	0.005
>Ge	74		**ug/L**		460743.710	460743.710
As	75	**-0.098**	**ug/L**	8.689	407.784	-0.000
Se	77		**ug/L**		144.001	-0.000
Se	78	**-0.069**	**ug/L**	31.835	192.555	-0.000
Se	82		**ug/L**		25.333	0.000
Kr	83		**ug/L**		9.167	-0.000
Mo	98	**0.157**	**ug/L**	12.594	508.676	0.001
Ag	107	**0.000**	**ug/L**	231.272	7.333	0.000
Cd	111	**0.003**	**ug/L**	286.014	8.667	0.000
Cd	114		**ug/L**		37.333	0.000
>In	115		**ug/L**		349976.161	349976.161
Sb	121	**-0.003**	**ug/L**	170.268	38.000	-0.000
Sb	123		**ug/L**		50.000	0.000
Ba	135		**ug/L**		31.333	0.000
Ba	137	**0.044**	**ug/L**	16.747	56.000	0.000
>Lu	175		**ug/L**		884970.454	884970.454
Tl	205	**0.042**	**ug/L**	6.225	752.020	0.001
Pb	208	**0.023**	**ug/L**	4.173	616.005	0.001
U	238	**0.070**	**ug/L**	5.748	1582.755	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		97.53			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		94.80			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		96.40			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	96.69
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695452
Sample Date/Time: Friday, November 20, 2020 16:26:46
Sample Type: Sample
Sample Description: ARSL 200.8 LCS
Number of Replicates: 3
Batch ID: 2063263|1|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695452.169
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**54.381**	**ug/L**	3.085	37138.895	0.057
Be	9	**56.024**	**ug/L**	2.223	10934.851	0.017
B	11	**106.100**	**ug/L**	1.813	10301.046	0.016
Al	27	**2182.191**	**ug/L**	0.432	567477.835	0.867
>Sc	45		**ug/L**		654116.873	654116.873
V	51	**51.315**	**ug/L**	2.555	158201.231	0.235
Cr	52	**52.737**	**ug/L**	2.583	189927.794	0.290
Cr	53		**ug/L**		24249.903	0.034
Mn	55	**51.598**	**ug/L**	3.178	132167.627	0.202
Fe	57	**2053.532**	**ug/L**	2.586	172464.268	0.264
Co	59	**52.080**	**ug/L**	1.863	330400.577	0.505
Ni	60	**53.271**	**ug/L**	1.608	89148.640	0.136
Cu	63		**ug/L**		246936.701	0.377
Cu	65	**52.452**	**ug/L**	0.695	121612.874	0.186
Zn	66	**56.872**	**ug/L**	1.602	38631.502	0.083
Zn	67		**ug/L**		6390.096	0.014
Zn	68		**ug/L**		29919.305	0.064
>Ge	74		**ug/L**		458447.294	458447.294
As	75	**48.970**	**ug/L**	1.512	18174.888	0.039
Se	77		**ug/L**		873.360	0.002
Se	78	**51.049**	**ug/L**	0.652	2556.803	0.005
Se	82		**ug/L**		1185.383	0.003
Kr	83		**ug/L**		8.500	-0.000
Mo	98	**50.205**	**ug/L**	2.094	142604.898	0.408
Ag	107	**51.933**	**ug/L**	3.664	345983.747	0.989
Cd	111	**51.840**	**ug/L**	2.789	44548.021	0.127
Cd	114		**ug/L**		108475.052	0.310
>In	115		**ug/L**		349836.770	349836.770
Sb	121	**49.038**	**ug/L**	2.470	90933.174	0.260
Sb	123		**ug/L**		71940.038	0.206
Ba	135		**ug/L**		29277.305	0.033
Ba	137	**49.465**	**ug/L**	1.943	54286.326	0.060
>Lu	175		**ug/L**		900650.958	900650.958
Tl	205	**48.815**	**ug/L**	0.268	763352.260	0.847
Pb	208	**51.057**	**ug/L**	0.998	1043474.459	1.158
U	238	**51.248**	**ug/L**	1.136	1124677.119	1.249

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		97.42			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		94.33			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		96.36			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	98.40
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527509002
Sample Date/Time: Friday, November 20, 2020 16:29:40
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527509002.170
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**3715.743**	**ug/L**	1.485	1817992.680	3.879
Be	9	**0.013**	**ug/L**	56.089	2.000	0.000
B	11	**106.951**	**ug/L**	1.195	7439.937	0.016
Al	27	**3.540**	**ug/L**	2.757	784.022	0.001
>Sc	45		**ug/L**		468621.026	468621.026
V	51	**0.617**	**ug/L**	6.738	4769.463	0.003
Cr	52	**0.065**	**ug/L**	11.959	514.009	0.000
Cr	53		**ug/L**		702.017	-0.001
Mn	55	**0.062**	**ug/L**	9.770	180.001	0.000
Fe	57	**3.904**	**ug/L**	1.988	332.004	0.001
Co	59	**0.060**	**ug/L**	3.952	295.336	0.001
Ni	60	**0.795**	**ug/L**	3.514	1258.722	0.002
Cu	63		**ug/L**		2228.841	0.005
Cu	65	**0.392**	**ug/L**	5.189	708.684	0.001
Zn	66	**1.978**	**ug/L**	10.922	1152.713	0.003
Zn	67		**ug/L**		195.335	0.000
Zn	68		**ug/L**		920.696	0.002
>Ge	74		**ug/L**		282884.049	282884.049
As	75	**1.281**	**ug/L**	2.527	558.455	0.001
Se	77		**ug/L**		132.667	0.000
Se	78	**0.786**	**ug/L**	6.314	142.628	0.000
Se	82		**ug/L**		136.001	0.000
Kr	83		**ug/L**		23.167	0.000
Mo	98	**11.385**	**ug/L**	1.033	20946.681	0.092
Ag	107	**0.002**	**ug/L**	30.073	10.667	0.000
Cd	111	**0.003**	**ug/L**	189.941	6.000	0.000
Cd	114		**ug/L**		24.000	0.000
>In	115		**ug/L**		226210.629	226210.629
Sb	121	**0.418**	**ug/L**	3.581	528.676	0.002
Sb	123		**ug/L**		376.672	0.002
Ba	135		**ug/L**		2466.880	0.004
Ba	137	**5.279**	**ug/L**	2.135	4376.004	0.006
>Lu	175		**ug/L**		679499.557	679499.557
Tl	205	**0.088**	**ug/L**	21.929	1114.044	0.002
Pb	208	**0.028**	**ug/L**	20.942	539.337	0.001
U	238	**0.081**	**ug/L**	1.887	1402.069	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		69.79			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		58.20			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		62.31			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	74.24
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)
Ge 74 Int Std for sa	Ge	74	

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 1204695453
Sample Date/Time: Friday, November 20, 2020 16:32:33
Sample Type: Sample
Sample Description: ARSL 200.8 DUP
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695453.171
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**3602.844**	**ug/L**	1.020	1754314.366	3.761
Be	9	**0.006**	**ug/L**	130.525	1.000	0.000
B	11	**104.648**	**ug/L**	1.452	7245.170	0.015
Al	27	**4.789**	**ug/L**	0.572	1012.036	0.002
>Sc	45		**ug/L**		466451.987	466451.987
V	51	**0.690**	**ug/L**	8.536	4902.174	0.003
Cr	52	**0.060**	**ug/L**	5.937	498.675	0.000
Cr	53		**ug/L**		694.684	-0.001
Mn	55	**0.062**	**ug/L**	21.985	180.001	0.000
Fe	57	**2.807**	**ug/L**	14.625	264.669	0.000
Co	59	**0.058**	**ug/L**	10.461	286.670	0.001
Ni	60	**0.788**	**ug/L**	10.158	1244.721	0.002
Cu	63		**ug/L**		2133.493	0.004
Cu	65	**0.376**	**ug/L**	3.552	677.349	0.001
Zn	66	**0.131**	**ug/L**	10.407	390.672	0.000
Zn	67		**ug/L**		112.000	0.000
Zn	68		**ug/L**		391.339	0.001
>Ge	74		**ug/L**		283649.013	283649.013
As	75	**1.315**	**ug/L**	1.357	567.567	0.001
Se	77		**ug/L**		100.000	-0.000
Se	78	**1.204**	**ug/L**	36.689	155.037	0.000
Se	82		**ug/L**		123.334	0.000
Kr	83		**ug/L**		26.167	0.000
Mo	98	**11.392**	**ug/L**	0.478	20840.525	0.092
Ag	107	**0.001**	**ug/L**	114.293	8.667	0.000
Cd	111	**0.002**	**ug/L**	94.376	5.333	0.000
Cd	114		**ug/L**		23.333	0.000
>In	115		**ug/L**		224897.128	224897.128
Sb	121	**0.401**	**ug/L**	12.793	505.342	0.002
Sb	123		**ug/L**		388.672	0.002
Ba	135		**ug/L**		2468.880	0.004
Ba	137	**5.243**	**ug/L**	3.172	4296.646	0.006
>Lu	175		**ug/L**		671916.811	671916.811
Tl	205	**0.026**	**ug/L**	8.015	388.672	0.000
Pb	208	**0.022**	**ug/L**	10.374	442.669	0.000
U	238	**0.059**	**ug/L**	8.420	1020.703	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		69.47			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		58.36			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		61.95			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	73.41
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)
Ge 74 Int Std for sa	Ge	74	

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 1204695454
Sample Date/Time: Friday, November 20, 2020 16:35:26
Sample Type: Sample
Sample Description: ARSL 200.8 MS
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695454.172
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**3488.762**	**ug/L**	2.162	1744423.130	3.642
Be	9	**1.859**	**ug/L**	12.790	265.669	0.001
B	11	**107.199**	**ug/L**	2.843	7621.367	0.016
Al	27	**76.608**	**ug/L**	1.458	14710.904	0.030
>Sc	45		**ug/L**		479040.998	479040.998
V	51	**2.703**	**ug/L**	4.457	9441.787	0.012
Cr	52	**1.863**	**ug/L**	1.990	5254.299	0.010
Cr	53		**ug/L**		1394.735	0.000
Mn	55	**1.725**	**ug/L**	3.102	3301.715	0.007
Fe	57	**68.766**	**ug/L**	4.146	4324.655	0.009
Co	59	**1.763**	**ug/L**	2.683	8215.695	0.017
Ni	60	**2.368**	**ug/L**	1.484	3205.693	0.006
Cu	63		**ug/L**		7306.535	0.015
Cu	65	**1.857**	**ug/L**	0.958	3209.027	0.007
Zn	66	**1.896**	**ug/L**	11.246	1161.381	0.003
Zn	67		**ug/L**		224.002	0.001
Zn	68		**ug/L**		996.035	0.003
>Ge	74		**ug/L**		293585.565	293585.565
As	75	**3.102**	**ug/L**	2.462	1002.035	0.002
Se	77		**ug/L**		152.001	0.000
Se	78	**2.521**	**ug/L**	2.727	199.457	0.000
Se	82		**ug/L**		175.334	0.001
Kr	83		**ug/L**		23.333	0.000
Mo	98	**13.048**	**ug/L**	1.779	24563.105	0.106
Ag	107	**1.663**	**ug/L**	1.365	7339.885	0.032
Cd	111	**1.621**	**ug/L**	7.543	926.030	0.004
Cd	114		**ug/L**		2286.850	0.010
>In	115		**ug/L**		231483.062	231483.062
Sb	121	**2.126**	**ug/L**	2.997	2636.910	0.011
Sb	123		**ug/L**		2154.829	0.009
Ba	135		**ug/L**		3253.704	0.005
Ba	137	**7.170**	**ug/L**	1.069	6009.931	0.009
>Lu	175		**ug/L**		687320.205	687320.205
Tl	205	**1.567**	**ug/L**	1.606	18783.008	0.027
Pb	208	**1.612**	**ug/L**	0.324	25255.380	0.037
U	238	**1.950**	**ug/L**	1.253	32716.087	0.048

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		71.34			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		60.41			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		63.76			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	75.09
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 1204695455
Sample Date/Time: Friday, November 20, 2020 16:38:19
Sample Type: Sample
Sample Description: ARSL 200.8 SDILT
Number of Replicates: 3
Batch ID: 2063263|125|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695455.173
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**731.397**	**ug/L**	1.597	472108.070	0.764
Be	9	**0.004**	**ug/L**	144.206	1.000	0.000
B	11	**26.079**	**ug/L**	0.468	2417.538	0.004
Al	27	**1.012**	**ug/L**	3.767	413.339	0.000
>Sc	45		**ug/L**		618284.540	618284.540
V	51	**0.098**	**ug/L**	38.945	4826.816	0.000
Cr	52	**0.012**	**ug/L**	58.413	498.675	0.000
Cr	53		**ug/L**		1511.414	-0.000
Mn	55	**0.020**	**ug/L**	18.555	135.334	0.000
Fe	57	**1.467**	**ug/L**	10.717	244.669	0.000
Co	59	**0.016**	**ug/L**	3.947	128.667	0.000
Ni	60	**0.163**	**ug/L**	5.586	666.016	0.000
Cu	63		**ug/L**		709.351	0.001
Cu	65	**0.105**	**ug/L**	2.823	305.337	0.000
Zn	66	**2.132**	**ug/L**	3.162	1754.108	0.003
Zn	67		**ug/L**		291.336	0.000
Zn	68		**ug/L**		1339.396	0.002
>Ge	74		**ug/L**		407835.114	407835.114
As	75	**0.344**	**ug/L**	4.176	503.120	0.000
Se	77		**ug/L**		166.668	0.000
Se	78	**0.182**	**ug/L**	116.757	180.691	0.000
Se	82		**ug/L**		70.667	0.000
Kr	83		**ug/L**		10.167	0.000
Mo	98	**2.290**	**ug/L**	1.537	5727.148	0.019
Ag	107	**0.003**	**ug/L**	23.131	19.333	0.000
Cd	111	**0.003**	**ug/L**	145.911	8.000	0.000
Cd	114		**ug/L**		24.667	0.000
>In	115		**ug/L**		305184.250	305184.250
Sb	121	**0.088**	**ug/L**	10.270	180.001	0.000
Sb	123		**ug/L**		141.334	0.000
Ba	135		**ug/L**		620.014	0.001
Ba	137	**1.128**	**ug/L**	1.996	1184.049	0.001
>Lu	175		**ug/L**		856038.991	856038.991
Tl	205	**0.009**	**ug/L**	10.443	236.002	0.000
Pb	208	**0.013**	**ug/L**	8.810	394.002	0.000
U	238	**0.024**	**ug/L**	6.237	567.345	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		92.08			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		83.91			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		84.07			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	93.53
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 16:41:15
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.174
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**51.196**	**ug/L**	0.781	35093.053	0.053
Be	9	**53.387**	**ug/L**	1.146	10457.159	0.016
B	11	**103.471**	**ug/L**	2.717	10082.892	0.015
Al	27	**5219.689**	**ug/L**	0.674	1361815.889	2.074
>Sc	45		**ug/L**		656403.911	656403.911
V	51	**50.671**	**ug/L**	0.658	156853.147	0.232
Cr	52	**51.204**	**ug/L**	0.855	185085.947	0.281
Cr	53		**ug/L**		23524.688	0.033
Mn	55	**51.084**	**ug/L**	1.983	131300.661	0.200
Fe	57	**5108.563**	**ug/L**	2.670	430353.359	0.656
Co	59	**50.446**	**ug/L**	1.093	321175.600	0.489
Ni	60	**50.949**	**ug/L**	1.844	85578.910	0.130
Cu	63		**ug/L**		240641.920	0.366
Cu	65	**51.913**	**ug/L**	1.940	120768.395	0.184
Zn	66	**51.405**	**ug/L**	2.327	34206.910	0.075
Zn	67		**ug/L**		5692.468	0.012
Zn	68		**ug/L**		26343.610	0.058
>Ge	74		**ug/L**		448494.459	448494.459
As	75	**50.177**	**ug/L**	2.198	18206.039	0.040
Se	77		**ug/L**		880.027	0.002
Se	78	**50.710**	**ug/L**	2.425	2486.003	0.005
Se	82		**ug/L**		1245.388	0.003
Kr	83		**ug/L**		7.000	-0.000
Mo	98	**50.203**	**ug/L**	0.560	139452.028	0.408
Ag	107	**51.552**	**ug/L**	0.816	335921.704	0.982
Cd	111	**52.625**	**ug/L**	1.553	44227.699	0.129
Cd	114		**ug/L**		107014.668	0.313
>In	115		**ug/L**		342021.165	342021.165
Sb	121	**50.112**	**ug/L**	1.096	90878.177	0.266
Sb	123		**ug/L**		72307.893	0.211
Ba	135		**ug/L**		29327.417	0.032
Ba	137	**49.285**	**ug/L**	1.830	54187.250	0.060
>Lu	175		**ug/L**		902437.374	902437.374
Tl	205	**49.013**	**ug/L**	0.245	767967.980	0.851
Pb	208	**50.483**	**ug/L**	1.642	1033728.274	1.145
U	238	**50.755**	**ug/L**	0.839	1116069.917	1.237

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	102.392				
	Be	9	106.774				
	B	11	103.471				
	Al	27	103.360				
>	Sc	45		97.76			
	V	51	101.342				
	Cr	52	102.408				
	Cr	53					
	Mn	55	102.169				
	Fe	57	102.171				
	Co	59	100.892				
	Ni	60	101.898				
	Cu	63					
	Cu	65	103.825				
	Zn	66	102.810				
	Zn	67					
	Zn	68					
>	Ge	74		92.28			
	As	75	100.354				
	Se	77					
	Se	78	101.420				
	Se	82					
	Kr	83					
	Mo	98	100.405				
	Ag	107	103.103				
	Cd	111	105.251				
	Cd	114					
>	In	115		94.21			
	Sb	121	100.224				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	98.570	
>	Lu	175		98.60
|	Tl	205	98.026	
|	Pb	208	100.965	
⌊	U	238	101.509	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 16:44:09
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.175
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Li	7	**0.254**	**ug/L**	4.909	178.668	0.000
|	Be	9	**0.004**	**ug/L**	146.165	1.000	0.000
|	B	11	**3.874**	**ug/L**	18.890	397.339	0.001
|	Al	27	**0.126**	**ug/L**	8.892	201.335	0.000
|	> Sc	45		**ug/L**		636666.734	636666.734
|	V	51	**-0.111**	**ug/L**	5.246	4361.999	-0.001
|	Cr	52	**-0.018**	**ug/L**	70.362	407.339	-0.000
|	Cr	53		**ug/L**		1646.762	-0.000
|	Mn	55	**-0.010**	**ug/L**	34.255	66.000	-0.000
|	Fe	57	**3.479**	**ug/L**	16.309	416.006	0.000
|	Co	59	**0.002**	**ug/L**	68.318	46.000	0.000
|	Ni	60	**-0.027**	**ug/L**	65.579	378.005	-0.000
|	Cu	63		**ug/L**		192.001	0.000
⌊	Cu	65	**0.009**	**ug/L**	96.202	98.000	0.000
⌈	Zn	66	**-0.006**	**ug/L**	733.658	533.343	-0.000
|	Zn	67		**ug/L**		92.000	-0.000
|	Zn	68		**ug/L**		386.672	0.000
|	> Ge	74		**ug/L**		452886.347	452886.347
|	As	75	**0.019**	**ug/L**	149.545	442.674	0.000
|	Se	77		**ug/L**		166.001	-0.000
|	Se	78	**0.085**	**ug/L**	592.860	196.132	0.000
|	Se	82		**ug/L**		24.000	0.000
⌊	Kr	83		**ug/L**		6.667	-0.000
⌈	Mo	98	**0.096**	**ug/L**	4.706	328.004	0.001
|	Ag	107	**0.001**	**ug/L**	139.100	10.000	0.000
|	Cd	111	**0.004**	**ug/L**	76.020	9.333	0.000
|	Cd	114		**ug/L**		24.000	0.000
|	> In	115		**ug/L**		341611.572	341611.572
|	Sb	121	**0.012**	**ug/L**	92.815	63.333	0.000
⌊	Sb	123		**ug/L**		39.333	0.000
⌈	Ba	135		**ug/L**		6.000	0.000
|	Ba	137	**0.004**	**ug/L**	142.335	12.667	0.000
|	> Lu	175		**ug/L**		880235.763	880235.763
|	Tl	205	**0.101**	**ug/L**	20.086	1652.097	0.002
|	Pb	208	**0.010**	**ug/L**	24.880	344.002	0.000
⌊	U	238	**0.029**	**ug/L**	10.805	687.350	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		94.82			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		93.18			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		94.10			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	96.17
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527509007
Sample Date/Time: Friday, November 20, 2020 16:47:04
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|1|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527509007.176
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.250**	**ug/L**	10.237	182.668	0.000
Be	9	**0.002**	**ug/L**	333.547	0.667	0.000
B	11	**2.583**	**ug/L**	9.953	286.003	0.000
Al	27	**25.249**	**ug/L**	3.361	6792.950	0.010
>Sc	45		**ug/L**		659436.178	659436.178
V	51	**-0.111**	**ug/L**	7.150	4518.048	-0.001
Cr	52	**0.094**	**ug/L**	11.125	826.691	0.001
Cr	53		**ug/L**		1814.115	-0.000
Mn	55	**0.037**	**ug/L**	12.522	190.001	0.000
Fe	57	**2.608**	**ug/L**	8.360	357.338	0.000
Co	59	**0.003**	**ug/L**	34.564	52.000	0.000
Ni	60	**-0.013**	**ug/L**	55.090	414.673	-0.000
Cu	63		**ug/L**		415.339	0.000
Cu	65	**0.049**	**ug/L**	35.078	193.335	0.000
Zn	66	**1.115**	**ug/L**	3.916	1304.726	0.002
Zn	67		**ug/L**		220.668	0.000
Zn	68		**ug/L**		990.701	0.001
>Ge	74		**ug/L**		463517.348	463517.348
As	75	**-0.025**	**ug/L**	76.554	436.896	-0.000
Se	77		**ug/L**		170.001	-0.000
Se	78	**0.164**	**ug/L**	26.269	204.606	0.000
Se	82		**ug/L**		22.000	0.000
Kr	83		**ug/L**		7.500	-0.000
Mo	98	**0.058**	**ug/L**	18.135	232.669	0.000
Ag	107	**0.002**	**ug/L**	65.230	17.333	0.000
Cd	111	**0.000**	**ug/L**	6235.114	6.667	0.000
Cd	114		**ug/L**		36.667	0.000
>In	115		**ug/L**		357138.449	357138.449
Sb	121	**-0.001**	**ug/L**	451.478	41.333	-0.000
Sb	123		**ug/L**		38.000	0.000
Ba	135		**ug/L**		60.667	0.000
Ba	137	**0.079**	**ug/L**	36.315	94.000	0.000
>Lu	175		**ug/L**		890491.400	890491.400
Tl	205	**0.027**	**ug/L**	11.530	523.343	0.000
Pb	208	**0.009**	**ug/L**	17.264	326.002	0.000
U	238	**0.013**	**ug/L**	2.700	345.338	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		98.21			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		95.37			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		98.38			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	97.29
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527509011
Sample Date/Time: Friday, November 20, 2020 16:49:58
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527509011.177
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**5026.616**	**ug/L**	0.960	2345565.362	5.248
Be	9	**0.003**	**ug/L**	257.148	0.667	0.000
B	11	**108.951**	**ug/L**	2.929	7226.494	0.016
Al	27	**1.933**	**ug/L**	13.517	462.674	0.001
>Sc	45		**ug/L**		447010.541	447010.541
V	51	**0.135**	**ug/L**	2.973	3564.445	0.001
Cr	52	**0.016**	**ug/L**	21.634	370.671	0.000
Cr	53		**ug/L**		624.680	-0.002
Mn	55	**0.031**	**ug/L**	35.695	116.667	0.000
Fe	57	**1.706**	**ug/L**	9.537	190.668	0.000
Co	59	**0.059**	**ug/L**	10.072	278.003	0.001
Ni	60	**0.938**	**ug/L**	5.094	1362.732	0.002
Cu	63		**ug/L**		1887.458	0.004
Cu	65	**0.198**	**ug/L**	4.649	368.671	0.001
Zn	66	**1.077**	**ug/L**	11.342	727.352	0.002
Zn	67		**ug/L**		143.334	0.000
Zn	68		**ug/L**		568.678	0.001
>Ge	74		**ug/L**		263540.786	263540.786
As	75	**1.658**	**ug/L**	8.925	598.457	0.001
Se	77		**ug/L**		134.667	0.000
Se	78	**1.317**	**ug/L**	26.089	147.062	0.000
Se	82		**ug/L**		184.668	0.001
Kr	83		**ug/L**		30.833	0.000
Mo	98	**17.527**	**ug/L**	0.466	30728.353	0.142
Ag	107	**0.002**	**ug/L**	1.834	12.000	0.000
Cd	111	**0.004**	**ug/L**	197.758	6.000	0.000
Cd	114		**ug/L**		16.000	0.000
>In	115		**ug/L**		215686.891	215686.891
Sb	121	**0.425**	**ug/L**	4.853	512.009	0.002
Sb	123		**ug/L**		438.007	0.002
Ba	135		**ug/L**		2178.166	0.003
Ba	137	**5.223**	**ug/L**	3.465	4035.237	0.006
>Lu	175		**ug/L**		633196.661	633196.661
Tl	205	**0.014**	**ug/L**	7.582	229.335	0.000
Pb	208	**0.008**	**ug/L**	20.986	228.001	0.000
U	238	**0.040**	**ug/L**	2.001	664.682	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		66.57			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		54.22			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		59.41			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	69.18
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)
Ge 74 Int Std for sa	Ge	74	
In 115 Int Std for sa	In	115	

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 17:04:27
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.182
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**37.524**	**ug/L**	2.789	26226.066	0.039
Be	9	**40.695**	**ug/L**	0.708	8126.978	0.012
B	11	**87.254**	**ug/L**	0.865	8673.299	0.013
Al	27	**5088.373**	**ug/L**	1.447	1353458.004	2.022
>Sc	45		**ug/L**		669163.819	669163.819
V	51	**52.218**	**ug/L**	2.832	164639.131	0.239
Cr	52	**50.868**	**ug/L**	0.774	187457.912	0.279
Cr	53		**ug/L**		24299.988	0.033
Mn	55	**52.122**	**ug/L**	1.640	136586.586	0.204
Fe	57	**5225.327**	**ug/L**	0.943	448829.027	0.671
Co	59	**52.201**	**ug/L**	0.454	338840.204	0.506
Ni	60	**52.130**	**ug/L**	0.438	89267.379	0.133
Cu	63		**ug/L**		247800.029	0.370
Cu	65	**52.693**	**ug/L**	0.968	124978.347	0.187
Zn	66	**47.966**	**ug/L**	1.325	35469.312	0.070
Zn	67		**ug/L**		6236.696	0.012
Zn	68		**ug/L**		28557.182	0.057
>Ge	74		**ug/L**		497831.797	497831.797
As	75	**49.432**	**ug/L**	0.874	19918.546	0.039
Se	77		**ug/L**		994.701	0.002
Se	78	**52.039**	**ug/L**	2.966	2825.419	0.005
Se	82		**ug/L**		1297.392	0.003
Kr	83		**ug/L**		11.833	0.000
Mo	98	**49.295**	**ug/L**	1.272	149678.795	0.400
Ag	107	**50.118**	**ug/L**	0.779	356990.913	0.955
Cd	111	**50.440**	**ug/L**	2.296	46341.746	0.124
Cd	114		**ug/L**		113334.535	0.303
>In	115		**ug/L**		373865.685	373865.685
Sb	121	**48.726**	**ug/L**	0.814	96589.446	0.258
Sb	123		**ug/L**		76334.747	0.204
Ba	135		**ug/L**		31906.263	0.035
Ba	137	**52.451**	**ug/L**	1.128	58573.842	0.064
>Lu	175		**ug/L**		916537.006	916537.006
Tl	205	**48.544**	**ug/L**	1.537	772457.415	0.843
Pb	208	**50.103**	**ug/L**	1.295	1042055.810	1.137
U	238	**50.502**	**ug/L**	0.551	1127912.989	1.231

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	75.047				
	Be	9	81.390				
	B	11	87.254				
	Al	27	100.760				
>	Sc	45		99.66			
	V	51	104.436				
	Cr	52	101.736				
	Cr	53					
	Mn	55	104.245				
	Fe	57	104.507				
	Co	59	104.402				
	Ni	60	104.260				
	Cu	63					
	Cu	65	105.386				
	Zn	66	95.931				
	Zn	67					
	Zn	68					
>	Ge	74		102.43			
	As	75	98.865				
	Se	77					
	Se	78	104.078				
	Se	82					
	Kr	83					
	Mo	98	98.590				
	Ag	107	100.237				
	Cd	111	100.879				
	Cd	114					
>	In	115		102.98			
	Sb	121	97.451				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	104.902	
>	Lu	175		100.14
|	Tl	205	97.087	
|	Pb	208	100.206	
⌊	U	238	101.004	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	CCV is out of limits (+/- 10%)
QC Std 6	Be	9	CCV is out of limits (+/- 10%)
QC Std 6	B	11	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 17:07:21
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.183
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1.041**	**ug/L**	8.011	744.686	0.001
Be	9	**0.003**	**ug/L**	149.315	1.000	0.000
B	11	**3.462**	**ug/L**	19.170	380.005	0.001
Al	27	**0.063**	**ug/L**	218.099	197.335	0.000
>Sc	45		**ug/L**		676039.103	676039.103
V	51	**0.448**	**ug/L**	4.979	6358.082	0.002
Cr	52	**0.010**	**ug/L**	129.566	536.010	0.000
Cr	53		**ug/L**		2457.545	0.001
Mn	55	**-0.005**	**ug/L**	18.110	82.000	-0.000
Fe	57	**3.040**	**ug/L**	30.121	402.672	0.000
Co	59	**0.000**	**ug/L**	210.613	37.333	0.000
Ni	60	**-0.028**	**ug/L**	3.581	399.339	-0.000
Cu	63		**ug/L**		220.668	0.000
Cu	65	**0.002**	**ug/L**	195.802	88.667	0.000
Zn	66	**-0.029**	**ug/L**	109.396	558.678	-0.000
Zn	67		**ug/L**		108.667	-0.000
Zn	68		**ug/L**		467.341	0.000
>Ge	74		**ug/L**		488163.414	488163.414
As	75	**0.175**	**ug/L**	33.961	536.677	0.000
Se	77		**ug/L**		209.335	0.000
Se	78	**0.340**	**ug/L**	92.141	224.187	0.000
Se	82		**ug/L**		38.667	0.000
Kr	83		**ug/L**		10.333	-0.000
Mo	98	**0.112**	**ug/L**	23.736	404.673	0.001
Ag	107	**0.001**	**ug/L**	28.683	13.333	0.000
Cd	111	**0.003**	**ug/L**	230.571	9.333	0.000
Cd	114		**ug/L**		20.667	0.000
>In	115		**ug/L**		371802.866	371802.866
Sb	121	**0.002**	**ug/L**	244.711	50.667	0.000
Sb	123		**ug/L**		42.667	0.000
Ba	135		**ug/L**		7.333	0.000
Ba	137	**0.011**	**ug/L**	90.802	20.667	0.000
>Lu	175		**ug/L**		889707.713	889707.713
Tl	205	**0.100**	**ug/L**	23.408	1648.098	0.002
Pb	208	**0.008**	**ug/L**	42.764	320.001	0.000
U	238	**0.025**	**ug/L**	8.037	606.013	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		100.68			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		100.44			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		102.42			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	97.21
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527509002
Sample Date/Time: Friday, November 20, 2020 17:28:16
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|50|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527509002.184
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Li	7	**1247.569**	**ug/L**	1.067	770171.922	1.302
|	Be	9	**0.004**	**ug/L**	140.987	1.000	0.000
|	B	11	**43.478**	**ug/L**	4.579	3833.848	0.006
|	Al	27	**1.518**	**ug/L**	1.351	514.009	0.001
|	>Sc	45		**ug/L**		591327.254	591327.254
|	V	51	**0.955**	**ug/L**	4.496	6931.682	0.004
|	Cr	52	**0.046**	**ug/L**	7.648	588.012	0.000
|	Cr	53		**ug/L**		1988.805	0.000
|	Mn	55	**0.019**	**ug/L**	57.031	127.334	0.000
|	Fe	57	**0.668**	**ug/L**	68.515	173.334	0.000
|	Co	59	**0.025**	**ug/L**	7.915	174.668	0.000
|	Ni	60	**0.356**	**ug/L**	3.310	928.030	0.001
|	Cu	63		**ug/L**		1100.709	0.002
⌊	Cu	65	**0.173**	**ug/L**	3.195	435.340	0.001
⌈	Zn	66	**3.416**	**ug/L**	6.777	2313.521	0.005
|	Zn	67		**ug/L**		400.006	0.001
|	Zn	68		**ug/L**		1794.779	0.004
|	>Ge	74		**ug/L**		374793.137	374793.137
|	As	75	**0.964**	**ug/L**	6.994	645.570	0.001
|	Se	77		**ug/L**		172.668	0.000
|	Se	78	**0.680**	**ug/L**	53.380	184.823	0.000
|	Se	82		**ug/L**		118.667	0.000
⌊	Kr	83		**ug/L**		11.333	0.000
⌈	Mo	98	**5.098**	**ug/L**	1.478	12133.819	0.041
|	Ag	107	**0.001**	**ug/L**	58.579	11.333	0.000
|	Cd	111	**-0.004**	**ug/L**	43.575	2.667	-0.000
|	Cd	114		**ug/L**		16.667	0.000
|	>In	115		**ug/L**		291881.042	291881.042
|	Sb	121	**0.166**	**ug/L**	7.274	293.336	0.001
⌊	Sb	123		**ug/L**		241.335	0.001
⌈	Ba	135		**ug/L**		1416.737	0.002
|	Ba	137	**2.680**	**ug/L**	3.584	2600.237	0.003
|	>Lu	175		**ug/L**		794171.855	794171.855
|	Tl	205	**0.007**	**ug/L**	23.841	196.001	0.000
|	Pb	208	**0.005**	**ug/L**	17.273	220.001	0.000
⌊	U	238	**0.018**	**ug/L**	9.520	408.673	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		88.07			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		77.12			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		80.40			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	86.77
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 1204695453
Sample Date/Time: Friday, November 20, 2020 17:31:10
Sample Type: Sample
Sample Description: ARSL 200.8 DUP
Number of Replicates: 3
Batch ID: 2063263|50|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695453.185
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1292.904**	**ug/L**	1.407	815086.233	1.350
Be	9	**0.002**	**ug/L**	316.414	0.667	0.000
B	11	**46.250**	**ug/L**	2.391	4165.275	0.007
Al	27	**2.274**	**ug/L**	11.483	705.351	0.001
>Sc	45		**ug/L**		603882.385	603882.385
V	51	**0.861**	**ug/L**	1.691	6819.628	0.004
Cr	52	**0.044**	**ug/L**	38.367	593.346	0.000
Cr	53		**ug/L**		1909.461	0.000
Mn	55	**0.033**	**ug/L**	9.758	162.668	0.000
Fe	57	**0.519**	**ug/L**	23.592	165.334	0.000
Co	59	**0.029**	**ug/L**	10.979	198.668	0.000
Ni	60	**0.383**	**ug/L**	11.015	988.034	0.001
Cu	63		**ug/L**		1214.718	0.002
Cu	65	**0.203**	**ug/L**	7.706	508.009	0.001
Zn	66	**0.648**	**ug/L**	15.506	830.024	0.001
Zn	67		**ug/L**		168.668	0.000
Zn	68		**ug/L**		693.350	0.001
>Ge	74		**ug/L**		389547.953	389547.953
As	75	**0.925**	**ug/L**	10.479	660.015	0.001
Se	77		**ug/L**		174.001	0.000
Se	78	**0.860**	**ug/L**	31.650	199.313	0.000
Se	82		**ug/L**		128.667	0.000
Kr	83		**ug/L**		11.667	0.000
Mo	98	**5.400**	**ug/L**	1.908	13162.730	0.044
Ag	107	**0.000**	**ug/L**	182.175	6.667	0.000
Cd	111	**0.004**	**ug/L**	35.382	8.667	0.000
Cd	114		**ug/L**		16.667	0.000
>In	115		**ug/L**		299039.197	299039.197
Sb	121	**0.180**	**ug/L**	7.980	322.670	0.001
Sb	123		**ug/L**		256.669	0.001
Ba	135		**ug/L**		1502.079	0.002
Ba	137	**2.814**	**ug/L**	3.842	2765.601	0.003
>Lu	175		**ug/L**		804839.933	804839.933
Tl	205	**0.000**	**ug/L**	121.705	104.000	0.000
Pb	208	**0.005**	**ug/L**	19.081	232.001	0.000
U	238	**0.015**	**ug/L**	15.717	362.671	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		89.93			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		80.15			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		82.37			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	87.93
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 1204695454
Sample Date/Time: Friday, November 20, 2020 17:34:03
Sample Type: Sample
Sample Description: ARSL 200.8 MS
Number of Replicates: 3
Batch ID: 2063263|50|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695454.186
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1277.616**	**ug/L**	0.289	822648.289	1.334
Be	9	**0.662**	**ug/L**	4.142	122.001	0.000
B	11	**47.145**	**ug/L**	1.565	4334.658	0.007
Al	27	**35.683**	**ug/L**	2.879	8913.450	0.014
>Sc	45		**ug/L**		616742.452	616742.452
V	51	**1.878**	**ug/L**	2.347	9834.720	0.009
Cr	52	**0.911**	**ug/L**	3.078	3541.106	0.005
Cr	53		**ug/L**		2432.207	0.001
Mn	55	**0.869**	**ug/L**	1.751	2184.167	0.003
Fe	57	**33.827**	**ug/L**	2.468	2804.275	0.004
Co	59	**0.898**	**ug/L**	3.141	5405.690	0.009
Ni	60	**1.200**	**ug/L**	3.912	2292.851	0.003
Cu	63		**ug/L**		4811.477	0.008
Cu	65	**0.997**	**ug/L**	3.477	2253.511	0.004
Zn	66	**1.581**	**ug/L**	3.497	1389.401	0.002
Zn	67		**ug/L**		246.002	0.000
Zn	68		**ug/L**		1157.380	0.002
>Ge	74		**ug/L**		397265.140	397265.140
As	75	**1.863**	**ug/L**	4.775	966.922	0.001
Se	77		**ug/L**		218.002	0.000
Se	78	**1.684**	**ug/L**	6.122	236.278	0.000
Se	82		**ug/L**		143.334	0.000
Kr	83		**ug/L**		12.833	0.000
Mo	98	**6.304**	**ug/L**	1.508	15842.780	0.051
Ag	107	**0.829**	**ug/L**	1.819	4880.167	0.016
Cd	111	**0.860**	**ug/L**	1.417	657.348	0.002
Cd	114		**ug/L**		1546.084	0.005
>In	115		**ug/L**		308501.063	308501.063
Sb	121	**1.034**	**ug/L**	5.444	1729.438	0.005
Sb	123		**ug/L**		1401.402	0.004
Ba	135		**ug/L**		2055.481	0.003
Ba	137	**3.712**	**ug/L**	0.805	3717.817	0.005
>Lu	175		**ug/L**		820542.011	820542.011
Tl	205	**0.764**	**ug/L**	1.969	10982.888	0.013
Pb	208	**0.807**	**ug/L**	0.856	15163.188	0.018
U	238	**0.943**	**ug/L**	3.214	18915.185	0.023

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		91.85			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		81.74			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		84.98			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	89.65
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 1204695455
Sample Date/Time: Friday, November 20, 2020 17:36:56
Sample Type: Sample
Sample Description: ARSL 200.8 SDILT
Number of Replicates: 3
Batch ID: 2063263|250|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695455.187
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**236.560**	**ug/L**	1.415	161614.719	0.247
Be	9	**0.002**	**ug/L**	338.001	0.667	0.000
B	11	**10.021**	**ug/L**	5.837	1003.369	0.001
Al	27	**0.335**	**ug/L**	34.730	261.336	0.000
>Sc	45		**ug/L**		654307.604	654307.604
V	51	**0.832**	**ug/L**	2.724	7302.533	0.004
Cr	52	**0.002**	**ug/L**	708.954	490.008	0.000
Cr	53		**ug/L**		2670.917	0.001
Mn	55	**0.002**	**ug/L**	455.885	97.334	0.000
Fe	57	**-0.267**	**ug/L**	14.711	113.334	-0.000
Co	59	**0.006**	**ug/L**	7.313	72.667	0.000
Ni	60	**0.061**	**ug/L**	35.506	534.677	0.000
Cu	63		**ug/L**		492.675	0.001
Cu	65	**0.063**	**ug/L**	6.436	225.335	0.000
Zn	66	**2.453**	**ug/L**	7.236	2212.172	0.004
Zn	67		**ug/L**		334.004	0.000
Zn	68		**ug/L**		1595.422	0.003
>Ge	74		**ug/L**		463666.780	463666.780
As	75	**0.330**	**ug/L**	15.228	567.122	0.000
Se	77		**ug/L**		209.335	0.000
Se	78	**0.407**	**ug/L**	29.789	216.005	0.000
Se	82		**ug/L**		44.667	0.000
Kr	83		**ug/L**		10.833	0.000
Mo	98	**0.936**	**ug/L**	1.595	2710.257	0.008
Ag	107	**0.001**	**ug/L**	115.652	8.667	0.000
Cd	111	**0.003**	**ug/L**	208.680	9.333	0.000
Cd	114		**ug/L**		14.667	-0.000
>In	115		**ug/L**		348453.919	348453.919
Sb	121	**0.022**	**ug/L**	43.549	84.000	0.000
Sb	123		**ug/L**		70.000	0.000
Ba	135		**ug/L**		294.670	0.000
Ba	137	**0.485**	**ug/L**	13.113	524.010	0.001
>Lu	175		**ug/L**		871744.608	871744.608
Tl	205	**-0.001**	**ug/L**	208.275	94.000	-0.000
Pb	208	**0.002**	**ug/L**	30.982	182.000	0.000
U	238	**0.005**	**ug/L**	16.173	173.334	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		97.44			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		95.40			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		95.98			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	95.24
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527509011
Sample Date/Time: Friday, November 20, 2020 17:51:43
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|50|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527509011.192
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1751.896**	**ug/L**	0.876	1088684.601	1.829
Be	9	**0.000**	**ug/L**	1997.370	0.333	0.000
B	11	**48.001**	**ug/L**	0.990	4257.968	0.007
Al	27	**0.823**	**ug/L**	10.821	352.671	0.000
>Sc	45		**ug/L**		595283.031	595283.031
V	51	**0.562**	**ug/L**	12.319	5910.557	0.003
Cr	52	**0.046**	**ug/L**	20.452	590.679	0.000
Cr	53		**ug/L**		1840.786	0.000
Mn	55	**0.003**	**ug/L**	202.288	91.334	0.000
Fe	57	**0.290**	**ug/L**	76.976	145.334	0.000
Co	59	**0.027**	**ug/L**	19.578	185.335	0.000
Ni	60	**0.487**	**ug/L**	4.645	1132.045	0.001
Cu	63		**ug/L**		963.366	0.001
Cu	65	**0.096**	**ug/L**	5.748	276.003	0.000
Zn	66	**1.411**	**ug/L**	11.039	1209.385	0.002
Zn	67		**ug/L**		225.335	0.000
Zn	68		**ug/L**		950.698	0.002
>Ge	74		**ug/L**		372877.343	372877.343
As	75	**1.130**	**ug/L**	4.723	692.017	0.001
Se	77		**ug/L**		178.668	0.000
Se	78	**1.032**	**ug/L**	19.499	197.382	0.000
Se	82		**ug/L**		147.334	0.000
Kr	83		**ug/L**		20.333	0.000
Mo	98	**8.698**	**ug/L**	0.420	20521.400	0.071
Ag	107	**0.001**	**ug/L**	58.347	11.333	0.000
Cd	111	**-0.001**	**ug/L**	170.779	4.667	-0.000
Cd	114		**ug/L**		11.333	-0.000
>In	115		**ug/L**		289893.646	289893.646
Sb	121	**0.203**	**ug/L**	3.999	347.338	0.001
Sb	123		**ug/L**		272.669	0.001
Ba	135		**ug/L**		1499.412	0.002
Ba	137	**2.726**	**ug/L**	2.893	2594.236	0.003
>Lu	175		**ug/L**		779279.945	779279.945
Tl	205	**-0.003**	**ug/L**	13.974	58.000	-0.000
Pb	208	**0.002**	**ug/L**	36.850	170.667	0.000
U	238	**0.016**	**ug/L**	7.134	359.338	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		88.65			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		76.72			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		79.85			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	85.14
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 17:54:38
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.193
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**35.105**	**ug/L**	0.792	22500.372	0.037
Be	9	**37.986**	**ug/L**	1.160	6956.694	0.011
B	11	**78.055**	**ug/L**	3.414	7118.441	0.012
Al	27	**4756.498**	**ug/L**	1.004	1160230.747	1.890
>Sc	45		**ug/L**		613689.601	613689.601
V	51	**50.806**	**ug/L**	0.849	147023.354	0.232
Cr	52	**49.795**	**ug/L**	0.701	168303.666	0.274
Cr	53		**ug/L**		22509.722	0.034
Mn	55	**51.416**	**ug/L**	2.305	123562.178	0.201
Fe	57	**5039.541**	**ug/L**	0.685	396984.638	0.647
Co	59	**50.837**	**ug/L**	1.703	302639.676	0.493
Ni	60	**51.450**	**ug/L**	0.746	80802.547	0.131
Cu	63		**ug/L**		226314.789	0.369
Cu	65	**51.529**	**ug/L**	0.439	112086.003	0.183
Zn	66	**49.654**	**ug/L**	1.633	33264.692	0.073
Zn	67		**ug/L**		5754.493	0.013
Zn	68		**ug/L**		26288.168	0.057
>Ge	74		**ug/L**		451202.009	451202.009
As	75	**50.997**	**ug/L**	0.563	18611.004	0.040
Se	77		**ug/L**		905.362	0.002
Se	78	**53.945**	**ug/L**	1.685	2648.254	0.005
Se	82		**ug/L**		1274.724	0.003
Kr	83		**ug/L**		10.667	0.000
Mo	98	**49.419**	**ug/L**	0.793	136801.998	0.401
Ag	107	**50.521**	**ug/L**	1.004	328051.309	0.963
Cd	111	**51.677**	**ug/L**	1.703	43276.119	0.127
Cd	114		**ug/L**		102969.799	0.302
>In	115		**ug/L**		340834.187	340834.187
Sb	121	**49.075**	**ug/L**	0.637	88684.425	0.260
Sb	123		**ug/L**		70145.142	0.206
Ba	135		**ug/L**		28621.985	0.034
Ba	137	**52.507**	**ug/L**	2.021	53292.574	0.064
>Lu	175		**ug/L**		833026.556	833026.556
Tl	205	**48.282**	**ug/L**	0.693	698355.259	0.838
Pb	208	**50.668**	**ug/L**	0.476	957828.047	1.150
U	238	**50.906**	**ug/L**	0.911	1033367.677	1.240

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	70.210				
	Be	9	75.971				
	B	11	78.055				
	Al	27	94.188				
>	Sc	45		91.40			
	V	51	101.613				
	Cr	52	99.590				
	Cr	53					
	Mn	55	102.832				
	Fe	57	100.791				
	Co	59	101.674				
	Ni	60	102.899				
	Cu	63					
	Cu	65	103.058				
	Zn	66	99.308				
	Zn	67					
	Zn	68					
>	Ge	74		92.84			
	As	75	101.995				
	Se	77					
	Se	78	107.889				
	Se	82					
	Kr	83					
	Mo	98	98.838				
	Ag	107	101.042				
	Cd	111	103.354				
	Cd	114					
>	In	115		93.89			
	Sb	121	98.150				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	105.013	
|>	Lu	175		91.01
|	Tl	205	96.563	
|	Pb	208	101.335	
⌊	U	238	101.813	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	CCV is out of limits (+/- 10%)
QC Std 6	Be	9	CCV is out of limits (+/- 10%)
QC Std 6	B	11	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 17:57:31
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.194
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.526**	**ug/L**	11.208	338.004	0.001
Be	9	**0.002**	**ug/L**	156.747	0.667	0.000
B	11	**2.825**	**ug/L**	9.631	280.669	0.000
Al	27	**0.001**	**ug/L**	2874.328	159.334	0.000
>Sc	45		**ug/L**		597840.412	597840.412
V	51	**0.753**	**ug/L**	2.831	6457.459	0.003
Cr	52	**0.004**	**ug/L**	299.002	456.674	0.000
Cr	53		**ug/L**		2458.878	0.001
Mn	55	**-0.006**	**ug/L**	40.172	72.000	-0.000
Fe	57	**2.200**	**ug/L**	31.495	292.670	0.000
Co	59	**0.002**	**ug/L**	69.675	40.667	0.000
Ni	60	**-0.030**	**ug/L**	56.529	350.671	-0.000
Cu	63		**ug/L**		201.335	0.000
Cu	65	**-0.002**	**ug/L**	156.650	68.000	-0.000
Zn	66	**-0.058**	**ug/L**	110.415	497.342	-0.000
Zn	67		**ug/L**		89.334	-0.000
Zn	68		**ug/L**		369.338	0.000
>Ge	74		**ug/L**		451789.350	451789.350
As	75	**0.148**	**ug/L**	34.171	487.564	0.000
Se	77		**ug/L**		221.335	0.000
Se	78	**0.996**	**ug/L**	26.965	237.521	0.000
Se	82		**ug/L**		21.333	0.000
Kr	83		**ug/L**		10.333	0.000
Mo	98	**0.082**	**ug/L**	11.541	288.003	0.001
Ag	107	**0.001**	**ug/L**	94.717	11.333	0.000
Cd	111	**0.003**	**ug/L**	120.418	8.667	0.000
Cd	114		**ug/L**		24.667	0.000
>In	115		**ug/L**		341652.294	341652.294
Sb	121	**0.002**	**ug/L**	72.610	46.000	0.000
Sb	123		**ug/L**		37.333	0.000
Ba	135		**ug/L**		11.333	0.000
Ba	137	**0.002**	**ug/L**	277.948	9.333	0.000
>Lu	175		**ug/L**		809357.831	809357.831
Tl	205	**0.098**	**ug/L**	17.814	1472.744	0.002
Pb	208	**0.008**	**ug/L**	5.257	279.334	0.000
U	238	**0.023**	**ug/L**	14.425	522.676	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		89.04			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		92.96			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		94.11			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	88.43
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Cal Blank
Sample Date/Time: Friday, November 20, 2020 19:00:00
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Cal Blank.215
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9		**ug/L**		0.333	
Al	27		**ug/L**		192.668	
Sc	45		**ug/L**		710775.180	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	
Al	27	Linear Thru Zero	
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45					

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Friday, November 20, 2020 19:01:46
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Standard 1.216
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**10.000**	**ug/L**	0.698	1845.119	0.003
|	Al	27	**1000.000**	**ug/L**	2.227	293536.338	0.415
⌊>	Sc	45		**ug/L**		706486.880	706486.880

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45					

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Friday, November 20, 2020 19:03:31
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Standard 2.217
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**99.900**	**ug/L**	2.248	17268.444	0.024
Al	27	**9991.569**	**ug/L**	1.760	2784600.640	3.825
Sc	45		**ug/L**		727984.811	727984.811

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45					

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Friday, November 20, 2020 19:05:16
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 1.218
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**51.344**	**ug/L**	0.736	9157.269	0.012
|	Al	27	**5014.336**	**ug/L**	1.768	1442492.822	1.919
⌊>	Sc	45		**ug/L**		751266.555	751266.555

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	102.688				
|	Al	27	99.294				
⌊>	Sc	45		105.70			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Friday, November 20, 2020 19:07:02
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 2.219
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.000**	**ug/L**	6463.131	0.333	0.000
Al	27	**-0.131**	**ug/L**	13.290	158.001	-0.000
Sc	45		**ug/L**		716178.604	716178.604

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		100.76			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Friday, November 20, 2020 19:08:47
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 3.220
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.537**	**ug/L**	10.782	92.667	0.000
|	Al	27	**51.236**	**ug/L**	3.604	14417.283	0.020
⌊>	Sc	45		**ug/L**		724839.189	724839.189

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	107.431				
|	Al	27	102.473				
⌊>	Sc	45		101.98			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, November 20, 2020 19:10:33
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 4.221
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.004**	**ug/L**	145.894	1.000	0.000
Al	27	**93576.805**	**ug/L**	2.685	24791680.906	35.821
Sc	45		**ug/L**		691871.575	691871.575

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27	93.577				
>	Sc	45		97.34			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, November 20, 2020 19:12:18
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 5.222
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**19.296**	**ug/L**	3.129	3136.678	0.005
|	Al	27	**94613.577**	**ug/L**	1.448	24816957.954	36.218
⌊>	Sc	45		**ug/L**		685297.171	685297.171

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	96.479				
|	Al	27	94.614				
⌊>	Sc	45		96.42			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 19:14:04
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.223
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**54.278**	**ug/L**	1.180	9154.267	0.013
Al	27	**5179.897**	**ug/L**	2.254	1409122.343	1.983
Sc	45		**ug/L**		710416.628	710416.628

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
Be	9	108.556				
Al	27	102.572				
Sc	45		99.95			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 19:15:49
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.224
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.004**	**ug/L**	257.159	1.000	0.000
|	Al	27	**0.068**	**ug/L**	154.175	204.001	0.000
⌊>	Sc	45		**ug/L**		687720.051	687720.051

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		96.76			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695451
Sample Date/Time: Friday, November 20, 2020 19:17:36
Sample Type: Sample
Sample Description: ARSL 200.8 MB
Number of Replicates: 3
Batch ID: 2063263|1|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695451.225
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.004**	**ug/L**	150.459	1.000	0.000
|	Al	27	**59.874**	**ug/L**	3.255	16341.356	0.023
⌊>	Sc	45		**ug/L**		704386.932	704386.932

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		99.10			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695452
Sample Date/Time: Friday, November 20, 2020 19:19:20
Sample Type: Sample
Sample Description: ARSL 200.8 LCS
Number of Replicates: 3
Batch ID: 2063263|1|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695452.226
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**54.314**	**ug/L**	2.098	9264.670	0.013
Al	27	**2098.539**	**ug/L**	0.244	577646.597	0.803
Sc	45		**ug/L**		718858.608	718858.608

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		101.14			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527509002
Sample Date/Time: Friday, November 20, 2020 19:21:05
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527509002.227
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.009**	**ug/L**	39.761	1.667	0.000
Al	27	**4.018**	**ug/L**	0.568	1112.043	0.002
Sc	45		**ug/L**		614594.313	614594.313

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		86.47			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695453
Sample Date/Time: Friday, November 20, 2020 19:22:51
Sample Type: Sample
Sample Description: ARSL 200.8 DUP
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695453.228
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.005**	**ug/L**	243.096	1.000	0.000
Al	27	**4.780**	**ug/L**	5.439	1259.389	0.002
Sc	45		**ug/L**		599661.143	599661.143

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		84.37			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695454
Sample Date/Time: Friday, November 20, 2020 19:24:36
Sample Type: Sample
Sample Description: ARSL 200.8 MS
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695454.229
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**1.690**	**ug/L**	4.670	256.669	0.000
Al	27	**72.651**	**ug/L**	2.542	17945.948	0.028
Sc	45		**ug/L**		638824.746	638824.746

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		89.88			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695455
Sample Date/Time: Friday, November 20, 2020 19:26:21
Sample Type: Sample
Sample Description: ARSL 200.8 SDILT
Number of Replicates: 3
Batch ID: 2063263|125|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695455.230
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**-0.002**	**ug/L**	0.000	0.000	-0.000
Al	27	**1.122**	**ug/L**	13.449	466.674	0.000
Sc	45		**ug/L**		665108.876	665108.876

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		93.58			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 19:28:07
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.231
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**51.708**	**ug/L**	0.139	8574.907	0.012
|	Al	27	**5104.496**	**ug/L**	0.169	1365257.067	1.954
⌊>	Sc	45		**ug/L**		698601.022	698601.022

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	103.416				
|	Al	27	101.079				
⌊>	Sc	45		98.29			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 19:29:53
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.232
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.006**	**ug/L**	148.642	1.333	0.000
|	Al	27	**-0.118**	**ug/L**	81.288	156.001	-0.000
⌊>	Sc	45		**ug/L**		687935.597	687935.597

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		96.79			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527509007
Sample Date/Time: Friday, November 20, 2020 19:31:39
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|1|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527509007.233
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.010**	**ug/L**	56.967	2.000	0.000
Al	27	**25.427**	**ug/L**	2.057	6915.675	0.010
Sc	45		**ug/L**		691242.121	691242.121

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		97.25			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527509011
Sample Date/Time: Friday, November 20, 2020 19:33:24
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527509011.234
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**-0.002**	**ug/L**	0.000	0.000	-0.000
|	Al	27	**1.836**	**ug/L**	0.782	552.011	0.001
⌊>	Sc	45		**ug/L**		566922.350	566922.350

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		79.76			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 19:42:14
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.239
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**49.615**	**ug/L**	2.975	8545.891	0.012
|	Al	27	**4907.185**	**ug/L**	2.297	1363376.945	1.878
⌊>	Sc	45		**ug/L**		725664.662	725664.662

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	99.229				
|	Al	27	97.172				
⌊>	Sc	45		102.09			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 19:43:59
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.240
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.002**	**ug/L**	170.526	0.667	0.000
|	Al	27	**-0.171**	**ug/L**	81.049	144.667	-0.000
⌊>	Sc	45		**ug/L**		703462.827	703462.827

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		98.97			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 Daily Performance

Sample ID: Sample
Sample Date/Time: Monday, November 23, 2020 09:05:39
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\Daily 2.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\200501\Sample.584
Mass Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default1.tun
Dual Detector Mode: Pulse
Acquisition Date/Time&Time Zone: Monday, November 23, 2020 09:05:39 Eastern Standard Time
Number of Replicates: 5

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	18714.2	18714.204	392.728	2.1
	Mg	24.0	87234.5	87234.538	1382.249	1.6
	Co	58.9	135862.9	135862.867	2479.324	1.8
	Rh	102.9	202140.8	202140.794	3621.225	1.8
	In	114.9	304527.0	304527.012	4924.088	1.6
	Pb	208.0	165261.1	165261.119	2505.200	1.5
⌈>	Ba	137.9	194443.7	194443.708	3149.060	1.6
⌊	Ba++	69.0	7856.5	0.040	0.000	1.2
⌈>	Ce	139.9	230542.1	230542.139	4015.226	1.7
⌊	CeO	155.9	4079.7	0.018	0.001	3.3
	Bkgd	220.0	0.1	0.100	0.224	223.6

Current Conditions

C Val	Description
1.01	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-11.00	Deflector Voltage
1600.00	ICP RF Power
-1637.00	Analog Stage Voltage
1050.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-14.00	Cell Rod Offset STD [CRO]
11.00	Discriminator Threshold
-4.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
1.03	DRC Mode NEB
-8.50	DRC Mode QRO
-3.00	DRC Mode CRO
-13.00	DRC Mode Cell Entrance/Exit Voltage
0.10	Cell Gas A
375.00	Axial Field Voltage
-15.00	KED Mode CRO
-12.00	KED Mode QRO
-7.00	KED Mode Cell Entrance Voltage
-23.00	KED Mode Cell Exit Voltage
3.00	KED Cell Gas A
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9.012	41	-17.0	2732.3
Mg	23.985	41	-16.5	26530.6
In	114.904	41	-12.0	24048.2
Ce	139.905	41	-10.5	20542.8
Pb	207.977	41	-8.5	16635.7
U	238.050	41	-8.0	28785.0

ICPMS #14 Instrument Tuning Report

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res DAC	Meas. Pk. Width
Be	9.0	9.0	1619	2068	0.730
Mg	24.0	24.0	4606	2068	0.729
Mg	25.0	25.0	4796	2068	0.729
Mg	26.0	26.0	4998	2068	0.738
Co	58.9	58.9	11571	2068	0.811
Rh	102.9	102.9	20349	2070	0.833
In	114.9	114.9	22750	2080	0.757
Ce	139.9	139.9	27739	2080	0.794
Pb	206.0	206.0	40945	2085	0.825
Pb	207.0	207.0	41137	2080	0.831
Pb	208.0	208.0	41347	2085	0.827
U	238.1	238.0	47345	2090	0.786

ICPMS #14 - Summary Report

Sample ID: Cal Blank
Sample Date/Time: Tuesday, November 24, 2020 08:14:35
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\Cal Blank.333
Analyst: SKJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9		**ug/L**		1.000	
Al	27		**ug/L**		143.334	
Sc	45		**ug/L**		632829.596	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	
Al	27	Linear Thru Zero	
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45					

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Tuesday, November 24, 2020 08:16:20
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\Standard 1.334
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**10.000**	**ug/L**	1.901	1508.080	0.002
|	Al	27	**1000.000**	**ug/L**	2.522	218153.407	0.340
⌊>	Sc	45		**ug/L**		641744.450	641744.450

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45					

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Tuesday, November 24, 2020 08:18:05
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\Standard 2.335
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**99.930**	**ug/L**	4.037	13726.603	0.022
|	Al	27	**9996.908**	**ug/L**	1.921	2063030.514	3.295
⌊>	Sc	45		**ug/L**		626067.508	626067.508

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45					

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Tuesday, November 24, 2020 08:19:50
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\QC Std 1.336
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**53.387**	**ug/L**	2.511	7336.550	0.012
|	Al	27	**5321.347**	**ug/L**	1.507	1099254.609	1.754
⌊>	Sc	45		**ug/L**		626657.314	626657.314

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	106.773				
|	Al	27	105.373				
⌊>	Sc	45		99.02			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Tuesday, November 24, 2020 08:21:35
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\QC Std 2.337
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**-0.005**	**ug/L**	90.172	0.333	-0.000
|	Al	27	**0.040**	**ug/L**	60.241	151.334	0.000
⌊>	Sc	45		**ug/L**		631466.255	631466.255

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		99.78			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Tuesday, November 24, 2020 08:23:20
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\QC Std 3.338
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.532**	**ug/L**	11.576	78.334	0.000
|	Al	27	**52.885**	**ug/L**	3.714	11724.815	0.017
⌊>	Sc	45		**ug/L**		664057.725	664057.725

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	106.333				
|	Al	27	105.770				
⌊>	Sc	45		104.93			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Tuesday, November 24, 2020 08:25:05
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\QC Std 4.339
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.003**	**ug/L**	145.268	1.333	0.000
|	Al	27	**94987.647**	**ug/L**	1.007	18632553.069	31.310
⌊>	Sc	45		**ug/L**		595011.347	595011.347

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27	94.988				
⌊>	Sc	45		94.02			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Tuesday, November 24, 2020 08:26:50
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\QC Std 5.340
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**19.003**	**ug/L**	2.135	2446.543	0.004
|	Al	27	**96468.948**	**ug/L**	0.297	18647122.908	31.798
⌊>	Sc	45		**ug/L**		586444.565	586444.565

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	95.017				
|	Al	27	96.469				
⌊>	Sc	45		92.67			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 24, 2020 08:28:35
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\QC Std 6.341
Analyst: SKJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**55.968**	**ug/L**	0.977	7545.993	0.012
Al	27	**5247.011**	**ug/L**	2.471	1063352.097	1.730
Sc	45		**ug/L**		614614.326	614614.326

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
Be	9	111.936				
Al	27	103.901				
Sc	45		97.12			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Be	9	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 24, 2020 08:30:20
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\QC Std 7.342
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.000**	**ug/L**	27564.136	1.000	0.000
|	Al	27	**0.316**	**ug/L**	14.911	206.001	0.000
⌊>	Sc	45		**ug/L**		623301.229	623301.229

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		98.49			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204700944
Sample Date/Time: Tuesday, November 24, 2020 08:32:06
Sample Type: Sample
Sample Description: QC A 2008 MB
Number of Replicates: 3
Batch ID: 2065860|1|skj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\1204700944.343
Analyst: SKJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**-0.005**	**ug/L**	86.578	0.333	-0.000
Al	27	**0.839**	**ug/L**	1.666	316.003	0.000
Sc	45		**ug/L**		628415.011	628415.011

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		99.30			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204700945
Sample Date/Time: Tuesday, November 24, 2020 08:33:52
Sample Type: Sample
Sample Description: QC A 2008 LCS
Number of Replicates: 3
Batch ID: 2065860|1|skj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\1204700945.344
Analyst: SKJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**54.539**	**ug/L**	1.648	7624.035	0.012
Al	27	**2044.125**	**ug/L**	1.843	429502.369	0.674
> Sc	45		**ug/L**		637095.026	637095.026

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		100.67			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527509007
Sample Date/Time: Tuesday, November 24, 2020 08:35:37
Sample Type: Sample
Sample Description: ARSL 2008
Number of Replicates: 3
Batch ID: 2065860|1|skj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\527509007.345
Analyst: SKJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.009**	**ug/L**	47.663	2.333	0.000
Al	27	**1.464**	**ug/L**	2.696	460.007	0.000
> Sc	45		**ug/L**		648814.037	648814.037

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		102.53			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204700946
Sample Date/Time: Tuesday, November 24, 2020 08:37:22
Sample Type: Sample
Sample Description: QC A 2008 DUP
Number of Replicates: 3
Batch ID: 2065860|1|skj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\1204700946.346
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**-0.007**	**ug/L**	0.000	0.000	-0.000
|	Al	27	**0.810**	**ug/L**	12.893	321.337	0.000
⌊>	Sc	45		**ug/L**		651157.970	651157.970

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		102.90			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204700947
Sample Date/Time: Tuesday, November 24, 2020 08:39:07
Sample Type: Sample
Sample Description: QC A 2008 MS
Number of Replicates: 3
Batch ID: 2065860|1|skj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\1204700947.347
Analyst: SKJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**51.552**	**ug/L**	1.718	7514.311	0.011
Al	27	**2000.878**	**ug/L**	1.078	438369.190	0.660
Sc	45		**ug/L**		664385.931	664385.931

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		104.99			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204700948
Sample Date/Time: Tuesday, November 24, 2020 08:40:52
Sample Type: Sample
Sample Description: QC A 2008 SDILT
Number of Replicates: 3
Batch ID: 2065860|5|skj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\1204700948.348
Analyst: SKJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**-0.000**	**ug/L**	2392.094	1.000	-0.000
Al	27	**0.279**	**ug/L**	38.263	207.335	0.000
Sc	45		**ug/L**		649946.201	649946.201

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		102.70			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 24, 2020 08:42:38
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\QC Std 6.349
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**52.395**	**ug/L**	0.833	7449.610	0.011
|	Al	27	**5174.967**	**ug/L**	1.695	1105678.399	1.706
⌊>	Sc	45		**ug/L**		648007.510	648007.510

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	104.790				
|	Al	27	102.475				
⌊>	Sc	45		102.40			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 24, 2020 08:44:23
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201123\QC Std 7.350
Analyst: SKJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**-0.002**	**ug/L**	168.299	0.667	-0.000
|	Al	27	**-0.026**	**ug/L**	316.136	139.334	-0.000
⌊>	Sc	45		**ug/L**		640006.047	640006.047

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		101.13			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

==========

Analysis Begun

Logged In Analyst: Hg4 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-100, S/N B050-9550 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 111720W1.SIFX
Batch ID:
Results Data Set: 111720W1
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: WATER* **Method Last Saved: 11/16/2020 14:50:33**
Method Description: SW-846 7470A, EPA 245.1 ANALYST MTM - Hg4

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: Calib Blank **Date Collected: 11/17/2020 10:57:07**
Analyst: AXS5 **Data Type: Original**

Replicate Data: Calib Blank **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0006	0.0023	0.0006	10:57:58	Yes
2		[0.00]	0.0006	0.0029	0.0006	10:58:30	Yes
Mean:		[0.00]	0.0006				
SD:		0.0000	0.0000				
%RSD:		0.00%	5.01%				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S0.2 **Date Collected: 11/17/2020 10:58:51**
Analyst: AXS5 **Data Type: Original**

Replicate Data: S0.2 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.2]	0.0024	0.0153	0.0030	10:59:41	Yes
2		[0.2]	0.0025	0.0159	0.0031	11:00:12	Yes
Mean:		[0.2]	0.0025				
SD:		0.000	0.0000				
%RSD:		0.00%	1.50%				

Standard number 1 applied. [0.2]
Correlation Coef.: 1.000000 Slope: 0.01226 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S0.5 **Date Collected: 11/17/2020 11:00:34**
Analyst: AXS5 **Data Type: Original**

Replicate Data: S0.5 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.5]	0.0062	0.0346	0.0068	11:01:24	Yes
2		[0.5]	0.0062	0.0344	0.0068	11:01:55	Yes
Mean:		[0.5]	0.0062				
SD:		0.000	0.0000				
%RSD:		0.00%	0.19%				

Standard number 2 applied. [0.5]
Correlation Coef.: 0.999992 Slope: 0.01237 Intercept: -0.00001

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S2.0 **Date Collected: 11/17/2020 11:02:17**

Analyst: AXS5 **Data Type: Original**

Replicate Data: S2.0 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.0]	0.0241	0.1260	0.0247	11:03:09	Yes
2		[2.0]	0.0241	0.1256	0.0247	11:03:40	Yes
Mean:		[2.0]	0.0241				
SD:		0.000	0.0000				
%RSD:		0.00%	0.14%				

Standard number 3 applied. [2.0]
Correlation Coef.: 0.999978 Slope: 0.01204 Intercept: 0.00006

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: S5.0 **Date Collected: 11/17/2020 11:04:03**
Analyst: AXS5 **Data Type: Original**

Replicate Data: S5.0 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.0]	0.0604	0.3107	0.0610	11:04:54	Yes
2		[5.0]	0.0598	0.3077	0.0604	11:05:26	Yes
Mean:		[5.0]	0.0601				
SD:		0.000	0.0004				
%RSD:		0.00%	0.73%				

Standard number 4 applied. [5.0]
Correlation Coef.: 0.999996 Slope: 0.01200 Intercept: 0.00008

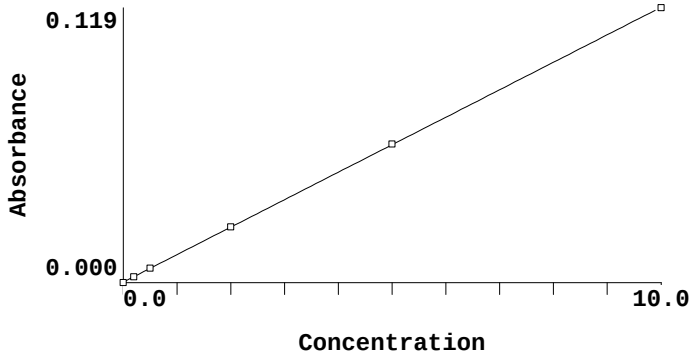
==========

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: S10.0 **Date Collected: 11/17/2020 11:05:48**
Analyst: AXS5 **Data Type: Original**

Replicate Data: S10.0 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.0]	0.1198	0.6199	0.1204	11:06:39	Yes
2		[10.0]	0.1188	0.6147	0.1194	11:07:10	Yes
Mean:		[10.0]	0.1193				
SD:		0.000	0.0007				
%RSD:		0.00%	0.60%				

Standard number 5 applied. [10.0]
Correlation Coef.: 0.999994 Slope: 0.01193 Intercept: 0.00016



Calibration data for Hg 253.7 **Equation: Linear, Calculated Intercept**

ID	Mean Signal (Abs)	Entered Conc. µg/L	Calculated Conc. µg/L	Standard Deviation	%RSD
Calib Blank	0.0000	0	-0.014	0.00	5.01
S0.2	0.0025	0.2	0.192	0.00	1.50
S0.5	0.0062	0.5	0.505	0.00	0.19

S2.0	0.0241	2.0	2.007	0.00	0.14
S5.0	0.0601	5.0	5.022	0.00	0.73
S10.0	0.1193	10.0	9.987	0.00	0.60

Correlation Coef.: 0.999994 Slope: 0.01193 Intercept: 0.00016

==========

Sequence No.: 7 **Autosampler Location: 9**
Sample ID: ICV **Date Collected: 11/17/2020 11:07:32**
Analyst: AXS5 **Data Type: Original**

Replicate Data: ICV **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.024	5.024	0.0601	0.3098	0.0607	11:08:23	Yes
2	5.009	5.009	0.0599	0.3077	0.0605	11:08:54	Yes
Mean:	5.016	5.016	0.0600				
SD:	0.0105	0.0105	0.0001				
%RSD:	0.21%	0.21%	0.21%				

QC value within limits for Hg 253.7 Recovery = 100.32%
All analyte(s) passed QC.

==========

Sequence No.: 8 **Autosampler Location: 10**
Sample ID: ICB **Date Collected: 11/17/2020 11:09:17**
Analyst: AXS5 **Data Type: Original**

Replicate Data: ICB **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.012	-0.012	0.0000	0.0029	0.0006	11:10:08	Yes
2	-0.010	-0.010	0.0000	0.0027	0.0006	11:10:39	Yes
Mean:	-0.011	-0.011	0.0000				
SD:	0.0011	0.0011	0.0000				
%RSD:	10.18%	10.18%	38.41%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 9 **Autosampler Location: 11**
Sample ID: CRDL **Date Collected: 11/17/2020 11:11:02**
Analyst: AXS5 **Data Type: Original**

Replicate Data: CRDL **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.189	0.189	0.0024	0.0149	0.0030	11:11:53	Yes
2	0.191	0.191	0.0024	0.0150	0.0030	11:12:25	Yes
Mean:	0.190	0.190	0.0024				
SD:	0.0019	0.0019	0.0000				
%RSD:	1.02%	1.02%	0.95%				

QC value within limits for Hg 253.7 Recovery = 95.04%
All analyte(s) passed QC.

==========

Sequence No.: 10 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/17/2020 11:12:48**
Analyst: AXS5 **Data Type: Original**

Replicate Data: CCV **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.024	5.024	0.0601	0.3107	0.0607	11:13:38	Yes
2	5.050	5.050	0.0604	0.3102	0.0610	11:14:09	Yes
Mean:	5.037	5.037	0.0603				
SD:	0.0183	0.0183	0.0002				
%RSD:	0.36%	0.36%	0.36%				

QC value within limits for Hg 253.7 Recovery = 100.74%

All analyte(s) passed QC.

==========

Sequence No.: 11 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/17/2020 11:14:31**
Analyst: AXS5 **Data Type: Original**

Replicate Data: CCB **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	-0.0000	0.0025	0.0005	11:15:22	Yes
2	-0.022	-0.022	-0.0001	0.0015	0.0005	11:15:53	Yes
Mean:	-0.020	-0.020	-0.0001				
SD:	0.0032	0.0032	0.0000				
%RSD:	15.96%	15.96%	51.46%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 12**
Sample ID: 1204695456|2063264|1 **Date Collected: 11/17/2020 11:16:15**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695456|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.020	-0.020	-0.0001	0.0025	0.0005	11:17:07	Yes
2	-0.017	-0.017	-0.0000	0.0024	0.0006	11:17:38	Yes
Mean:	-0.018	-0.018	-0.0001				
SD:	0.0027	0.0027	0.0000				
%RSD:	14.68%	14.68%	56.15%				

==========

Sequence No.: 13 **Autosampler Location: 13**
Sample ID: 1204695457|2063264|1 **Date Collected: 11/17/2020 11:18:00**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695457|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.985	1.985	0.0238	0.1249	0.0244	11:18:52	Yes
2	2.010	2.010	0.0241	0.1256	0.0247	11:19:22	Yes
Mean:	1.998	1.998	0.0240				
SD:	0.0180	0.0180	0.0002				
%RSD:	0.90%	0.90%	0.89%				

==========

Sequence No.: 14 **Autosampler Location: 14**
Sample ID: 527457001|2063264|1 **Date Collected: 11/17/2020 11:19:45**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 527457001|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.747	0.747	0.0091	0.0486	0.0097	11:20:35	Yes
2	0.728	0.728	0.0088	0.0467	0.0094	11:21:06	Yes
Mean:	0.738	0.738	0.0090				
SD:	0.0139	0.0139	0.0002				
%RSD:	1.89%	1.89%	1.85%				

==========

Sequence No.: 15 **Autosampler Location: 15**
Sample ID: 1204695458|2063264|1 **Date Collected: 11/17/2020 11:21:27**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695458|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.304	1.304	0.0157	0.0822	0.0163	11:22:17	Yes
2	1.311	1.311	0.0158	0.0827	0.0164	11:22:48	Yes
Mean:	1.308	1.308	0.0158				
SD:	0.0050	0.0050	0.0001				
%RSD:	0.38%	0.38%	0.38%				

==========

Sequence No.: 16 **Autosampler Location: 16**
Sample ID: 1204695459|2063264|1 **Date Collected: 11/17/2020 11:23:09**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695459|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	3.369	3.369	0.0404	0.2100	0.0409	11:23:59	Yes
2	3.425	3.425	0.0410	0.2106	0.0416	11:24:30	Yes
Mean:	3.397	3.397	0.0407				
SD:	0.0397	0.0397	0.0005				
%RSD:	1.17%	1.17%	1.17%				

==========

Sequence No.: 17 **Autosampler Location: 17**
Sample ID: 1204695460|2063264|5 **Date Collected: 11/17/2020 11:24:51**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695460|2063264|5 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.127	0.127	0.0017	0.0109	0.0023	11:25:41	Yes
2	0.128	0.128	0.0017	0.0110	0.0023	11:26:11	Yes
Mean:	0.127	0.127	0.0017				
SD:	0.0007	0.0007	0.0000				
%RSD:	0.57%	0.57%	0.51%				

==========

Sequence No.: 18 **Autosampler Location: 18**
Sample ID: 1204695467|2063264|1 **Date Collected: 11/17/2020 11:26:33**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695467|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.910	2.910	0.0349	0.1789	0.0355	11:27:23	Yes
2	2.903	2.903	0.0348	0.1782	0.0354	11:27:54	Yes
Mean:	2.907	2.907	0.0348				
SD:	0.0047	0.0047	0.0001				
%RSD:	0.16%	0.16%	0.16%				

==========

Sequence No.: 19 **Autosampler Location: 19**
Sample ID: 527457002|2063264|1 **Date Collected: 11/17/2020 11:28:15**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 527457002|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.987	0.987	0.0119	0.0639	0.0125	11:29:05	Yes
2	0.981	0.981	0.0119	0.0631	0.0125	11:29:36	Yes
Mean:	0.984	0.984	0.0119				
SD:	0.0044	0.0044	0.0001				
%RSD:	0.45%	0.45%	0.45%				

==========

Sequence No.: 20 **Autosampler Location: 20**
Sample ID: 527509001|2063264|1 **Date Collected: 11/17/2020 11:29:57**

Analyst: AXS5 **Data Type: Original**

Replicate Data: 527509001|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.170	0.170	0.0022	0.0164	0.0028	11:30:48	Yes
2	0.167	0.167	0.0022	0.0159	0.0027	11:31:19	Yes
Mean:	0.169	0.169	0.0022				
SD:	0.0023	0.0023	0.0000				
%RSD:	1.36%	1.36%	1.26%				

==========

Sequence No.: 21 **Autosampler Location: 21**
Sample ID: 1204695461|2063264|1 **Date Collected: 11/17/2020 11:31:40**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695461|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.177	0.177	0.0023	0.0171	0.0029	11:32:31	Yes
2	0.174	0.174	0.0022	0.0165	0.0028	11:33:02	Yes
Mean:	0.176	0.176	0.0023				
SD:	0.0021	0.0021	0.0000				
%RSD:	1.18%	1.18%	1.09%				

==========

Sequence No.: 22 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/17/2020 11:33:24**
Analyst: AXS5 **Data Type: Original**

Replicate Data: CCV **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.019	5.019	0.0600	0.3090	0.0606	11:34:14	Yes
2	5.003	5.003	0.0598	0.3081	0.0604	11:34:45	Yes
Mean:	5.011	5.011	0.0599				
SD:	0.0115	0.0115	0.0001				
%RSD:	0.23%	0.23%	0.23%				

QC value within limits for Hg 253.7 Recovery = 100.22%
All analyte(s) passed QC.

==========

Sequence No.: 23 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/17/2020 11:35:06**
Analyst: AXS5 **Data Type: Original**

Replicate Data: CCB **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.011	-0.011	0.0000	0.0029	0.0006	11:35:57	Yes
2	-0.012	-0.012	0.0000	0.0026	0.0006	11:36:28	Yes
Mean:	-0.011	-0.011	0.0000				
SD:	0.0011	0.0011	0.0000				
%RSD:	9.44%	9.44%	46.67%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 24 **Autosampler Location: 22**
Sample ID: 1204695462|2063264|1 **Date Collected: 11/17/2020 11:36:50**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695462|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.865	0.865	0.0105	0.0677	0.0111	11:37:40	Yes

2	0.859	0.859	0.0104	0.0667	0.0110	11:38:11	Yes
Mean:	0.862	0.862	0.0104				
SD:	0.0043	0.0043	0.0001				
%RSD:	0.50%	0.50%	0.49%				

Sequence No.: 25 **Autosampler Location: 23**
Sample ID: 1204695463|2063264|5 **Date Collected: 11/17/2020 11:38:33**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695463|2063264|5 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.057	0.057	0.0008	0.0073	0.0014	11:39:24	Yes
2	0.058	0.058	0.0009	0.0073	0.0014	11:39:54	Yes
Mean:	0.057	0.057	0.0008				
SD:	0.0009	0.0009	0.0000				
%RSD:	1.58%	1.58%	1.27%				

Sequence No.: 26 **Autosampler Location: 24**
Sample ID: 1204695468|2063264|1 **Date Collected: 11/17/2020 11:40:17**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695468|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.902	0.902	0.0109	0.0698	0.0115	11:41:08	Yes
2	0.905	0.905	0.0110	0.0701	0.0115	11:41:39	Yes
Mean:	0.903	0.903	0.0109				
SD:	0.0022	0.0022	0.0000				
%RSD:	0.24%	0.24%	0.24%				

Sequence No.: 27 **Autosampler Location: 25**
Sample ID: 527509002|2063264|1 **Date Collected: 11/17/2020 11:42:01**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 527509002|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.036	0.036	0.0006	0.0067	0.0012	11:42:52	Yes
2	0.038	0.038	0.0006	0.0071	0.0012	11:43:23	Yes
Mean:	0.037	0.037	0.0006				
SD:	0.0017	0.0017	0.0000				
%RSD:	4.57%	4.57%	3.35%				

Sequence No.: 28 **Autosampler Location: 26**
Sample ID: 527509005|2063264|1 **Date Collected: 11/17/2020 11:43:46**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 527509005|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.017	-0.017	-0.0000	0.0027	0.0006	11:44:36	Yes
2	-0.014	-0.014	-0.0000	0.0027	0.0006	11:45:07	Yes
Mean:	-0.015	-0.015	-0.0000				
SD:	0.0024	0.0024	0.0000				
%RSD:	15.29%	15.29%	131.51%				

Sequence No.: 29 **Autosampler Location: 27**
Sample ID: 527509007|2063264|1 **Date Collected: 11/17/2020 11:45:29**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 527509007|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.023	-0.023	-0.0001	0.0020	0.0005	11:46:19	Yes
2	-0.015	-0.015	-0.0000	0.0029	0.0006	11:46:50	Yes
Mean:	-0.019	-0.019	-0.0001				
SD:	0.0057	0.0057	0.0001				
%RSD:	30.58%	30.58%	113.82%				

Sequence No.: 30 **Autosampler Location: 28**
Sample ID: 527509010|2063264|1 **Date Collected: 11/17/2020 11:47:12**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 527509010|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.103	0.103	0.0014	0.0121	0.0020	11:48:02	Yes
2	0.104	0.104	0.0014	0.0120	0.0020	11:48:33	Yes
Mean:	0.104	0.104	0.0014				
SD:	0.0008	0.0008	0.0000				
%RSD:	0.76%	0.76%	0.68%				

Sequence No.: 31 **Autosampler Location: 29**
Sample ID: 527509011|2063264|1 **Date Collected: 11/17/2020 11:48:54**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 527509011|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.073	0.073	0.0010	0.0088	0.0016	11:49:45	Yes
2	0.073	0.073	0.0010	0.0090	0.0016	11:50:15	Yes
Mean:	0.073	0.073	0.0010				
SD:	0.0002	0.0002	0.0000				
%RSD:	0.32%	0.32%	0.27%				

Sequence No.: 32 **Autosampler Location: 30**
Sample ID: 527518001|2063264|1 **Date Collected: 11/17/2020 11:50:36**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 527518001|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.035	-0.035	-0.0003	0.0013	0.0003	11:51:27	Yes
2	-0.027	-0.027	-0.0002	0.0020	0.0004	11:51:58	Yes
Mean:	-0.031	-0.031	-0.0002				
SD:	0.0058	0.0058	0.0001				
%RSD:	18.65%	18.65%	33.08%				

Sequence No.: 33 **Autosampler Location: 31**
Sample ID: 1204695464|2063264|1 **Date Collected: 11/17/2020 11:52:19**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695464|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.022	2.022	0.0243	0.1261	0.0249	11:53:10	Yes
2	2.012	2.012	0.0242	0.1253	0.0248	11:53:41	Yes
Mean:	2.017	2.017	0.0242				
SD:	0.0071	0.0071	0.0001				
%RSD:	0.35%	0.35%	0.35%				

Sequence No.: 34 **Autosampler Location: 7**

Sample ID: CCV **Date Collected: 11/17/2020 11:54:02**
Analyst: AXS5 **Data Type: Original**

Replicate Data: CCV **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.067	5.067	0.0606	0.3125	0.0612	11:54:53	Yes
2	5.068	5.068	0.0606	0.3110	0.0612	11:55:24	Yes
Mean:	5.067	5.067	0.0606				
SD:	0.0003	0.0003	0.0000				
%RSD:	0.01%	0.01%	0.01%				

QC value within limits for Hg 253.7 Recovery = 101.35%
All analyte(s) passed QC.

==========

Sequence No.: 35 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/17/2020 11:55:46**
Analyst: AXS5 **Data Type: Original**

Replicate Data: CCB **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.007	-0.007	0.0001	0.0030	0.0007	11:56:36	Yes
2	-0.004	-0.004	0.0001	0.0036	0.0007	11:57:07	Yes
Mean:	-0.006	-0.006	0.0001				
SD:	0.0020	0.0020	0.0000				
%RSD:	35.07%	35.07%	25.88%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 36 **Autosampler Location: 32**
Sample ID: 1204695465|2063264|1 **Date Collected: 11/17/2020 11:57:28**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695465|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.029	2.029	0.0244	0.1265	0.0250	11:58:19	Yes
2	2.027	2.027	0.0243	0.1265	0.0249	11:58:49	Yes
Mean:	2.028	2.028	0.0244				
SD:	0.0017	0.0017	0.0000				
%RSD:	0.08%	0.08%	0.08%				

==========

Sequence No.: 37 **Autosampler Location: 33**
Sample ID: 1204695466|2063264|5 **Date Collected: 11/17/2020 11:59:10**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695466|2063264|5 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	-0.0000	0.0027	0.0005	11:59:59	Yes
2	-0.015	-0.015	-0.0000	0.0026	0.0006	12:00:30	Yes
Mean:	-0.016	-0.016	-0.0000				
SD:	0.0020	0.0020	0.0000				
%RSD:	12.04%	12.04%	74.68%				

==========

Sequence No.: 38 **Autosampler Location: 34**
Sample ID: 1204695469|2063264|1 **Date Collected: 11/17/2020 12:00:51**
Analyst: AXS5 **Data Type: Original**

Replicate Data: 1204695469|2063264|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored

Miscellaneous

Prep Logbook

Sample Preparation for Total Recoverable Elements by EPA Method 200.2

Batch ID: **2063260**
Analyst: Ridge Gleaton
Method: EPA 200.2
Lab SOP: GL-MA-E-016 REV# 18
Instrument: Metals Manual Instrument

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695447	Metals Spike Mix I	UI200911-01	.25	mL
LCS	1204695447	Metals Spike Mix II	UI200911-02	.25	mL
MS	1204695449	Metals Spike Mix I	UI200911-01	.25	mL
MS	1204695449	Metals Spike Mix II	UI200911-02	.25	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Hot Block Stop Date (date)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204695446 MB	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695447 LCS	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509002	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695450 SDILT (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695448 DUP (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695449 MS (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509007	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509011	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510002	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510008	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510012	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510014	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2

Reagent/Solvent Lot ID	Description	Amount
3129814	Concentrated Nitric Acid	1 mL
3129829	HYDROCHLORIC ACID	.5 mL

Comments:
Block Temperature (90-95C): 93 C
Temperature within limits (Y/N)?: y
Thermometer ID: 11202072
Hot Block ID: 11
Digestion tube lot #: 2001329

Prep Logbook

Sample Preparation for Total Recoverable Elements by EPA Method 200.2

Batch ID: **2063262**
Analyst: Ridge Gleaton
Method: EPA 200.2
Lab SOP: GL-MA-E-016 REV# 18
Instrument: Metals Manual Instrument

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695452	ICP-MS spiking soluiton A	UI200911-A	.25	mL
LCS	1204695452	ICP-MS spiking solution B	UI200911-B	.25	mL
MS	1204695454	ICP-MS spiking soluiton A	UI200911-A	.25	mL
MS	1204695454	ICP-MS spiking solution B	UI200911-B	.25	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Hot Block Stop Date (date)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204695451 MB	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695452 LCS	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509002	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695455 SDILT (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695453 DUP (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695454 MS (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509007	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509011	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510002	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510008	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510012	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510014	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2

Reagent/Solvent Lot ID	Description	Amount
3129814	Concentrated Nitric Acid	1 mL
3129829	HYDROCHLORIC ACID	.5 mL

Comments:
Block Temperature (90-95C): 93 C
Temperature within limits (Y/N)?: y
Thermometer ID: 11202072
Hot Block ID: 11
Digestion tube lot #: 2001329

Prep Logbook

Sample Preparation for Total Recoverable Elements by EPA Method 200.2

Batch ID: **2065859**
Analyst: Hannah Hatherly
Method: EPA 200.2
Lab SOP: GL-MA-E-016 REV# 18
Instrument: Metals Manual Instrument

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204700945	ICP-MS spiking soluiton A	UI200911-A	.25	mL
LCS	1204700945	ICP-MS spiking solution B	UI200911-B	.25	mL
MS	1204700947	ICP-MS spiking soluiton A	UI200911-A	.25	mL
MS	1204700947	ICP-MS spiking solution B	UI200911-B	.25	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Hot Block Stop Date (date)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204700944 MB	23-NOV-2020 17:39:16	Water	50	11/23/20 21:39	50	1	<2
1204700945 LCS	23-NOV-2020 17:39:16	Water	50	11/23/20 21:39	50	1	<2
527509007 - 2	23-NOV-2020 17:39:16	Water	50	11/23/20 21:39	50	1	<2
1204700948 - 2 SDILT (527509007)	23-NOV-2020 17:39:16	Water	50	11/23/20 21:39	50	1	<2
1204700946 - 2 DUP (527509007)	23-NOV-2020 17:39:16	Water	50	11/23/20 21:39	50	1	<2
1204700947 - 2 MS (527509007)	23-NOV-2020 17:39:16	Water	50	11/23/20 21:39	50	1	<2

Reagent/Solvent Lot ID	Description	Amount
3129814	Concentrated Nitric Acid	1 mL
3129829	HYDROCHLORIC ACID	.5 mL

Comments:
Block Temperature (90-95C): 92 C
Temperature within limits (Y/N)?: y
Thermometer ID: 118631
Hot Block ID: 2
Digestion tube lot #: 2001329

Prep Logbook

Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

Batch ID: **2063258**
Analyst: Cristy Whittington
Method: EPA 245.1/245.2 Prep
Lab SOP: GL-MA-E-010 REV# 38
Instrument: Metals Manual Instrument

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695457	MHGLIQLCSMSSPIKE	WHG201116-13	.2	mL
MS	1204695459	MHGLIQLCSMSSPIKE	WHG201116-13	.2	mL
MS	1204695462	MHGLIQLCSMSSPIKE	WHG201116-13	.2	mL
MS	1204695464	MHGLIQLCSMSSPIKE	WHG201116-13	.2	mL
MSD	1204695465	MHGLIQLCSMSSPIKE	WHG201116-13	.2	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204695456 MB	16-NOV-2020 13:48:16	Water	20	20	1	<2
1204695457 LCS	16-NOV-2020 13:48:16	Water	20	20	1	<2
527457001	16-NOV-2020 13:48:16	Water	20	20	1	<2
1204695460 SDILT (527457001)	16-NOV-2020 13:48:16	Water	20	20	1	<2
1204695458 DUP (527457001)	16-NOV-2020 13:48:16	Water	20	20	1	<2
1204695459 MS (527457001)	16-NOV-2020 13:48:16	Water	20	20	1	<2
527457002	16-NOV-2020 13:48:16	Water	20	20	1	<2
527509001	16-NOV-2020 13:48:16	Water	20	20	1	<2
1204695463 SDILT (527509001)	16-NOV-2020 13:48:16	Water	20	20	1	<2
1204695461 DUP (527509001)	16-NOV-2020 13:48:16	Water	20	20	1	<2
1204695462 MS (527509001)	16-NOV-2020 13:48:16	Water	20	20	1	<2
527509002	16-NOV-2020 13:48:16	Water	20	20	1	<2
527509005	16-NOV-2020 13:48:16	Water	20	20	1	<2
527509007	16-NOV-2020 13:48:16	Water	20	20	1	<2
527509010	16-NOV-2020 13:48:16	Water	20	20	1	<2
527509011	16-NOV-2020 13:48:16	Water	20	20	1	<2
527518001	16-NOV-2020 13:48:16	Water	2	20	10	<2
1204695466 SDILT (527518001)	16-NOV-2020 13:48:16	Water	2	20	10	<2
1204695464 MS (527518001)	16-NOV-2020 13:48:16	Water	2	20	10	<2
1204695465 MSD (527518001)	16-NOV-2020 13:48:16	Water	2	20	10	<2
527520001	16-NOV-2020 13:48:16	Water	20	20	1	<2

Reagent/Solvent Lot ID	Description	Amount
3066893	Sulfuric Acid, Concentrated	1 mL
3129011-C	5% Potassium Persulfate	1.5 mL
3138221-1	NITRIC ACID	.5 mL
3139892-C	5% KMnO4 solution	3 mL
3145052-C	Hg reducing agent	1 mL
IHG201116-01	Mercury Intermediate 1st Source 200 ug/L	250 mL
IHG201116-02	Mercury Intermediate 2nd Source 200 ug/L	250 mL
UHG3070569-01	Mercury Source Standard #1 1,000 mg/L	50 uL
UHG3070572-02	Mercury Source Standard #2 1,000 mg/L	50 uL
WHG201116-01A	Mercury Working 1st Source CAL 0.2/CRA	20 uL
WHG201116-02	Mercury Working 1st Source CAL 0.5	50 mL
WHG201116-03	Mercury Working 1st Source CAL 2.0	200 uL
WHG201116-04	Mercury Working 1st Source CAL 5.0/CCV	500 uL
WHG201116-05	Mercury Working 1st Source CAL 10.0	1 mL

Comments:
Digestion Start Date: 16-NOV-2020 13:49
Digestion End Date: 16-NOV-2020 15:49
Block Temperature (90-95C): 95 C
Temperature within limits (Y/N)?: Y
Thermometer ID: 119015
Hot Block ID: 12
Less sample used due tot eh potassium permanganate falling out after double the initial was added.

Prep Logbook

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check

Reagent/Solvent Lot ID	Description	Amount
WHG201116-06	Mercury Working 2nd Source 5.0/ICV	500 uL

Comments:

Standard Logbook

Serial ID: UHG3070569-01 **Open/Reference Date:** 23-APR-20 **Amount :** 100 mL
Name: MHGSTOCK1 **Received:** 23-APR-20 **Catalog Number :** G34-060080-02-01
Type: Source Material **Expires:** 23-APR-21 **Lot Number :** 1009904-95
Employee: Alan Stanley **Solvent :** 10% HNO3
Supplier: O2SI
Description: Mercury Source Standard #1 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

Serial ID: UHG3070572-02 **Open/Reference Date:** 23-APR-20 **Amount :** 100 mL
Name: MHGSTOCK2 **Received:** 23-APR-20 **Catalog Number :** 02SI-060080-02-01
Type: Source Material **Expires:** 23-APR-21 **Lot Number :** 1009904-47
Employee: Alan Stanley **Solvent :** 2% HNO3
Supplier: 02Si
Description: Mercury Source Standard #2 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

Serial ID: UI191203-40 **Open/Reference Date:** 20-DEC-19 **Catalog Number :** HP7029-500
Name: Trace ICP ICSAB Source A **Received:** 02-DEC-19 **Lot Number :** 1933131
Type: Source Material **Expires:** 20-DEC-20
Employee: Helen Camello
Supplier: High Purity Standards
Description: Trace ICP ICSAB Source A
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	10 mg/L	Cadmium	20 mg/L
Chromium	20 mg/L	Cobalt	20 mg/L
Copper	20 mg/L	Lead	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Phosphorous	100 mg/L	Potassium	200 mg/L
Selenium	100 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Uranium	20 mg/L
Vanadium	20 mg/L	Zinc	20 mg/L

Serial ID: UI191203-41 **Open/Reference Date:** 20-DEC-19 **Catalog Number :** HP7029-500
Name: Trace ICP ICSAB Source B **Received:** 03-DEC-19 **Lot Number :** 1933132
Type: Source Material **Expires:** 20-DEC-20
Employee: Helen Camello
Supplier: High Purity Standards

Description: Trace ICP ICSAB Source B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Boron	20 ug/mL
Molybdenum	20 mg/L	Silica	42.78 mg/L
Silicon	20 mg/L	Silver	10 mg/L
Sulfur	100 mg/L	Tin	20 mg/L
Titanium	20 ug/mL		

Serial ID: UI200108-40 **Open/Reference Date:** 03-JUL-20 **Amount :** 500 mL
Name: SILICON 1000mg/L **Received:** 06-JAN-20 **Catalog Number :** HP100050-4F
Type: Source Material **Expires:** 03-JUL-21 **Lot Number :** 1913711
Employee: Helen Camello **Solvent :** in H2O(NH4)2SiF6
Supplier: o2si
Description: Silicon 1000mg/L in H2O(NH4)2SiF6
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI200225-40 **Open/Reference Date:** 29-JUN-20 **Amount :** 500 mL
Name: TRACE ICP ICSA SOLN A **Received:** 24-FEB-20 **Catalog Number :** 160005-01-03
Type: Source Material **Expires:** 29-JUN-21 **Lot Number :** 1058826-2
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: o2si
Description: TRACE ICP ICSA SOLN A mg/L+/-0.5%IN5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

Serial ID: UI200304-40 **Open/Reference Date:** 26-MAR-20 **Amount :** 500 mL
Name: TRACE ICP Stock PQL Sta **Received:** 02-MAR-20 **Catalog Number :** O2SI-090061-MC-03
Type: Source Material **Expires:** 26-MAR-21 **Lot Number :** 10093451-2
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3+TrHF
Supplier: 02si
Description: TRACE ICP Stock PQL Standard
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	10 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L

Analyte	Concentration	Analyte	Concentration
Chromium	5 mg/L	Cobalt	2.5 mg/L
Copper	10 mg/L	Iron	50 mg/L
Lead	10 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silica	106.95 mg/L	Silicon	50 mg/L
Silver	2.5 mg/L	Sodium	150 mg/L
Strontium	2.5 mg/L	Sulfur	50 mg/L
Thallium	10 mg/L	Tin	5 mg/L
Titanium	2.5 mg/L	Uranium	25 mg/L
Vanadium	2.5 mg/L	Zinc	10 mg/L

Serial ID: UI200311-40 **Open/Reference Date:** 21-APR-20 **Amount :** 500 mL
Name: TRACE CALSTD#1A SOUR **Received:** 10-MAR-20 **Catalog Number :** HP2270-1-500
Type: Source Material **Expires:** 21-APR-21 **Lot Number :** 2006435-500
Employee: Helen Camello **Solvent :** HNO3
Supplier: Environmental Express
Description: Trace Calibration Std #1A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2000 mg/L	Arsenic	200 mg/L
Barium	200 mg/L	Beryllium	200 mg/L
Boron	200 mg/L	Cadmium	200 mg/L
Calcium	2000 mg/L	Chromium	200 mg/L
Cobalt	200 mg/L	Copper	200 mg/L
Iron	2000 mg/L	Lead	200 mg/L
Magnesium	2000 mg/L	Manganese	200 mg/L
Nickel	200 mg/L	Phosphorous	1000 mg/L
Potassium	2000 mg/L	Selenium	200 mg/L
Sodium	2000 mg/L	Strontium	200 mg/L
Thallium	200 mg/L	Uranium	200 mg/L
Uranium-235	1.44 mg/L	Uranium-238	198.56 mg/L
Vanadium	200 mg/L	Zinc	200 mg/L

Serial ID: UI200311-41 **Open/Reference Date:** 21-APR-20 **Amount :** 500 mL
Name: TRACE CALSTD#1B SOUR **Received:** 10-MAR-20 **Catalog Number :** HP2270-2-500
Type: Source Material **Expires:** 21-APR-21 **Lot Number :** 2006439-500
Employee: Helen Camello **Solvent :** HNO3
Supplier: Environmental Express
Description: Trace Calibration Standard #1B
Comments: None

Analyte	Concentration	Analyte	Concentration

Analyte	Concentration	Analyte	Concentration
Antimony	200 mg/L	Molybdenum	200 mg/L
Silver	200 mg/L	Sulfur	400 mg/L
Tin	200 mg/L	Titanium	200 mg/L

Serial ID: UI200312-41 **Open/Reference Date:** 27-AUG-20 **Amount :** 500 mL
Name: SILICON 1000mg/L **Received:** 11-MAR-20 **Catalog Number :** 060014-02-03
Type: Source Material **Expires:** 27-AUG-21 **Lot Number :** 1047570-6
Employee: Helen Camello **Solvent :** in H2O(NH4)2SiF6
Supplier: o2si
Description: Silicon 1000mg/L in H2O(NH4)2SiF6
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI200416-09 **Open/Reference Date:** 16-APR-20 **Amount :** 250 mL
Name: ICP-MS CRDL Master #1 **Received:** 16-APR-20 **Catalog Number :** 090014-MC-02
Type: Source Material **Expires:** 16-APR-21 **Lot Number :** 10091735-3
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 02SI
Description: ICPMS CRDL Master Soln #1
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	50 mg/L	Arsenic	5 mg/L
Barium	4 mg/L	Beryllium	.5 mg/L
Boron	15 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	10 mg/L
Cobalt	1 mg/L	Copper	2 mg/L
Iron	100 mg/L	Lead	2 mg/L
Lithium	10 mg/L	Magnesium	30 mg/L
Manganese	5 mg/L	Nickel	2 mg/L
Phosphorous	50 mg/L	Potassium	300 mg/L
Selenium	5 mg/L	Sodium	250 mg/L
Strontium	10 mg/L	Thallium	2 mg/L
Thorium	2 mg/L	Uranium	.2 mg/L
Vanadium	20 mg/L	Zinc	20 mg/L

Serial ID: UI200416-10 **Open/Reference Date:** 16-APR-20 **Amount :** 250 mL
Name: ICP-MS CRDL Master #2 **Received:** 16-APR-20 **Catalog Number :** 160044-11-02
Type: Source Material **Expires:** 16-APR-21 **Lot Number :** 10091735-4
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 02SI
Description: ICPMS CRDL Soln #2

Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	3 mg/L	Molybdenum	1 mg/L
Silver	1 mg/L	Tin	5 mg/L
Titanium	10 mg/L	Tungsten	5 mg/L
Zirconium	2 mg/L		

Serial ID: UI200504-40 **Open/Reference Date:** 09-SEP-20 **Amount :** 250 mL
Name: TRACE ICP Na-1000SOUR **Received:** 30-APR-20 **Catalog Number :** HP100052-1-250
Type: Source Material **Expires:** 09-SEP-21 **Lot Number :** 1910018-250
Employee: Helen Camello **Solvent :** 1%HNO3
Supplier: ENVIRONMENTAL EXPRESS
Description: Sodium 1000 +/- 3 ug/mL in 1% HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

Serial ID: UI200605-40 **Open/Reference Date:** 17-JUL-20 **Amount :** 500 mL
Name: TRACE ICP Na-1000SOUR **Received:** 04-JUN-20 **Catalog Number :** 060011-02-03
Type: Source Material **Expires:** 17-JUL-21 **Lot Number :** 1038021-50
Employee: Helen Camello **Solvent :** 1%HNO3
Supplier: 02SI
Description: Sodium 1000 +/- 3 ug/mL in 1% HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

Serial ID: UI200728-40 **Open/Reference Date:** 31-JUL-20 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 27-JUL-20 **Catalog Number :** G34-160358-01-0
Type: Source Material **Expires:** 31-JUL-21 **Lot Number :** 10091173-3
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: 02si
Description: SECOND SOURCE STD #1A 5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L

Analyte	Concentration	Analyte	Concentration
Sodium	500 mg/L	Strontium	100 mg/L

Serial ID: UI200728-41 **Open/Reference Date:** 31-JUL-20 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 27-JUL-20 **Catalog Number :** G34-160358-01-0
Type: Source Material **Expires:** 31-JUL-21 **Lot Number :** 10091173-4
Employee: Helen Camello **Solvent :** 5%HNO3,TR.HF
Supplier: 02si
Description: SECOND SOURCE STD #1B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L
Vanadium	100 mg/L	Zinc	100 mg/L

Serial ID: UI200812-40 **Open/Reference Date:** 11-SEP-20 **Amount :** 250 mL
Name: ICP HIGH RANGE STD-A **Received:** 10-AUG-20 **Catalog Number :** GEL-27A
Type: Source Material **Expires:** 11-SEP-21 **Lot Number :** P2-MEB678496
Employee: Helen Camello **Solvent :** 5% HNO3
Supplier: Inorganic Ventures
Description: ICP HIGH RANGE STD SOLUTION A
Comments: None

Analyte	Concentration	Analyte	Concentration
Molybdenum	100 mg/L	Silica	1070 mg/L
Silicon	500 mg/L	Titanium	100 mg/L

Serial ID: UI200812-41 **Open/Reference Date:** 16-NOV-20 **Amount :** 250 mL
Name: ICP HIGH RANGE STD-B **Received:** 10-AUG-20 **Catalog Number :** GEL-27B
Type: Source Material **Expires:** 16-NOV-21 **Lot Number :** P2-MEB678497
Employee: Helen Camello **Solvent :** 5% HNO3
Supplier: Inorganic Ventures
Description: ICP HIGH RANGE STD SOLUTION B
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	150 mg/L	Boron	500 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	250 mg/L	Cobalt	100 mg/L

Analyte	Concentration	Analyte	Concentration
Copper	200 mg/L	Iron	5000 mg/L
Lead	250 mg/L	Magnesium	5000 mg/L
Manganese	100 mg/L	Nickel	100 mg/L
Potassium	2000 mg/L	Sodium	5000 mg/L
Strontium	100 mg/L	Sulfur	500 mg/L
Uranium	150 mg/L	Vanadium	100 mg/L
Zinc	150 mg/L		

Serial ID: UI200908-12 **Open/Reference Date:** 08-SEP-20 **Amount :** 250 mL
Name: ICP-MS ICSAB Master B **Received:** 08-SEP-20 **Catalog Number :** 160033-02-02
Type: Source Material **Expires:** 08-SEP-21 **Lot Number :** 10069799-9
Employee: Paul Boyd **Solvent :** +/- 2.0% in 2% HNO3
Supplier: 02SI
Description: ICPMS ICSAB Master B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

Serial ID: UI200908-13 **Open/Reference Date:** 08-SEP-20 **Amount :** 250 mL
Name: ICP-MS ICSAB Master C **Received:** 08-SEP-20 **Catalog Number :** 160033-03-02
Type: Source Material **Expires:** 08-SEP-21 **Lot Number :** 10069799-10
Employee: Paul Boyd **Solvent :** +/- 2.0% in 2% HNO3 + tr HF
Supplier: 02SI
Description: ICPMS ICSAB Master C
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		

Serial ID: UI200911-01 **Open/Reference Date:** 11-SEP-20 **Catalog Number :** GEL-25
Name: METALSPIKE-1 **Received:** 11-SEP-20 **Lot Number :** R2-MEB696473
Type: Source Material **Expires:** 11-SEP-21
Employee: Edmund Frampton
Supplier: Inorganic Ventures
Description: Metals Spike Mix I
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Lithium	10 ug/mL	Magnesium	1000 ug/mL
Phosphorous	100 ug/mL	Potassium	1000 ug/mL
Silver	20 ug/mL	Sodium	1000 ug/mL
Strontium	100 ug/mL		

Serial ID: UI200911-02 **Open/Reference Date:** 11-SEP-20 **Catalog Number :** GEL-26
Name: METALSPIKE-2 **Received:** 11-SEP-20 **Lot Number :** R2-MEB696472
Type: Source Material **Expires:** 11-SEP-21
Employee: Edmund Frampton
Supplier: Inorganic Ventures
Description: Metals Spike Mix II
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2139 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Uranium-235	.72 ug/mL	Uranium-238	99.28 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

Serial ID: UI200911-A **Open/Reference Date:** 11-SEP-20 **Catalog Number :** GEL-12A
Name: ICP-MS SPIKE A **Received:** 11-SEP-20 **Lot Number :** R2-MEB688370
Type: Source Material **Expires:** 11-SEP-21
Employee: Edmund Frampton
Supplier: Inorganic Ventures
Description: ICP-MS spiking soluiton A
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Hafnium	10 mg/L
Molybdenum	10 mg/L	Tantalum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Tungsten	10 mg/L	Zirconium	10 mg/L

Serial ID: UI200911-B **Open/Reference Date:** 11-SEP-20 **Catalog Number :** GEL-12B
Name: ICP-MS SPIKE B **Received:** 11-SEP-20 **Lot Number :** R2-MEB688371
Type: Source Material **Expires:** 11-SEP-21
Employee: Edmund Frampton
Supplier: Inorganic Ventures
Description: ICP-MS spiking solution B
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	400 mg/L	Arsenic	10 mg/L
Barium	10 mg/L	Beryllium	10 mg/L
Bismuth	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Calcium	400 mg/L
Cesium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Iron	400 mg/L	Lead	10 mg/L
Lithium	10 mg/L	Magnesium	400 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Phosphorous	400 mg/L	Potassium	400 mg/L
Rhenium	10 mg/L	Rhodium	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Sodium	400 mg/L	Strontium	10 mg/L
Thallium	10 mg/L	Thorium	10 mg/L
Uranium	10 mg/L	Uranium-235	.072 mg/L
Uranium-238	9.928 mg/L	Vanadium	10 mg/L
Zinc	10 mg/L		

Serial ID: UI201020-40 **Open/Reference Date:** 26-OCT-20 **Amount :** 500 mL
Name: TRACE ICP ICSA SOLN. A **Received:** 20-OCT-20 **Catalog Number :** 160005-08-03
Type: Source Material **Expires:** 26-OCT-21 **Lot Number :** 10069142-6
Employee: Helen Camello **Solvent :** 5% HNO3 mg/l
Supplier: O2SI
Description: Trace ICP Interference Check Standard Solution A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	20000 mg/L	Calcium	20000 mg/L
Iron	8000 mg/L	Magnesium	20000 mg/L

Standard Logbook

Serial ID: UI201024-03 **Open/Reference Date:** 24-OCT-20 **Catalog Number :** 060074-05-01
Name: ICPMS Tungsten - 10mg/L S **Received:** 24-OCT-20 **Lot Number :** 10070573-12
Type: Source Material **Expires:** 24-OCT-21 **Solvent :** 2% HNO3 + Tr HF
Employee: Paul Boyd
Supplier: O2SI
Description: ICPMS Tungsten standard SPIKE - 10mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

Serial ID: UI201031-60 **Open/Reference Date:** 31-OCT-20 **Amount :** 100 mL
Name: ICPMS High Range Standar **Received:** 31-OCT-20 **Catalog Number :** 160212-02-01-A
Type: Source Material **Expires:** 31-OCT-21 **Lot Number :** 10066129-21
Employee: Paul Boyd **Solvent :** 2%HNO3
Supplier: O2SI
Description: Linear Range Standard A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

Serial ID: UI201031-61 **Open/Reference Date:** 31-OCT-20 **Amount :** 100 mL
Name: ICPMS High Range Standar **Received:** 31-OCT-20 **Catalog Number :** 160212-02-01-B
Type: Source Material **Expires:** 31-OCT-21 **Lot Number :** 10066129-22
Employee: Paul Boyd **Solvent :** 2% in 2%HNO3 + Tr HF
Supplier: O2SI
Description: Linear Range Standard B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

Serial ID: UI201102-11 **Open/Reference Date:** 02-NOV-20 **Amount :** 1000 mL
Name: ICP-MS ICSA Master A Nex **Received:** 02-NOV-20 **Catalog Number :** 60013-01-01LNexion
Type: Source Material **Expires:** 02-NOV-21 **Lot Number :** 10065549-18
Employee: Paul Boyd **Solvent :** 5% HNO3 + Tr HF
Supplier: 02SI
Description: ICP-MS ICSA Master A NEXION
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

Serial ID: UI201109-07 **Open/Reference Date:** 09-NOV-20 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master B **Received:** 09-NOV-20 **Catalog Number :** 160054-02-03
Type: Source Material **Expires:** 09-NOV-21 **Lot Number :** 10066767-16
Employee: Paul Boyd **Solvent :** 2% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV Soln B - 20ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

Serial ID: UI201109-08 **Open/Reference Date:** 09-NOV-20 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master C **Received:** 09-NOV-20 **Catalog Number :** ZGEL-107-500
Type: Source Material **Expires:** 30-SEP-21 **Lot Number :** 2-180MF
Employee: Paul Boyd **Solvent :** 2% HNO3/Tr. Tart Acid/ Tr. HF 100
Supplier: Spex
Description: ICPMS ICV/CCV Soln C - 20ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L

Analyte	Concentration	Analyte	Concentration
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L
Zirconium	20 mg/L		

Serial ID: UI201109-09 **Open/Reference Date:** 09-NOV-20 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master A **Received:** 09-NOV-20 **Catalog Number :** 160055-01-03
Type: Source Material **Expires:** 09-NOV-21 **Lot Number :** 10066767-15
Employee: Paul Boyd **Solvent :** 2% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV SOLN A - 2000ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2020 mg/L	Calcium	2000 mg/L
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

Serial ID: UMS201105-01 **Open/Reference Date:** 05-NOV-20 **Amount :** 250 mL
Name: ICPMSCalSPIKEB **Received:** 05-NOV-20 **Catalog Number :** ZGEL-100-250
Type: Source Material **Expires:** 05-NOV-21 **Lot Number :** 14-002AB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UMS201105-02 **Open/Reference Date:** 05-NOV-20 **Catalog Number :** ZGEL-102-250
Name: ICPMSCalSPIKEA **Received:** 05-NOV-20 **Lot Number :** 12-241AB
Type: Source Material **Expires:** 05-NOV-21
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution A

Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

Serial ID: UMS201105-03 **Open/Reference Date:** 05-NOV-20 **Amount :** 250 ml
Name: ICPMSCalSPIKEC **Received:** 05-NOV-20 **Catalog Number :** ZGEL-101-250
Type: Source Material **Expires:** 05-NOV-21 **Lot Number :** 14-001AB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution C
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

Serial ID: IHG201116-01 **Open/Reference Date:** 16-NOV-20 **Instrument Id :** Mercury
Name: MHGINTER1 **Received:** 16-NOV-20 **Pipet Id :** Minou1
Type: Intermediate **Expires:** 18-NOV-20 **Solvent :** 1mL HNO3 + TypeI H2O
Employee: Cristy Whittington
Supplier: GEL
Description: Mercury Intermediate 1st Source 200 ug/L
Comments: Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG3070569-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: IHG201116-02 **Open/Reference Date:** 16-NOV-20 **Pipet Id :** Minou1
Name: MHGINTER2 **Received:** 16-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Intermediate **Expires:** 18-NOV-20
Employee: Cristy Whittington
Supplier: GEL
Description: Mercury Intermediate 2nd Source 200 ug/L
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG3070572-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

Standard Logbook

Serial ID: WHG201116-01A **Open/Reference Date:** 16-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORKCAL0.2CRA **Received:** 16-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 18-NOV-20
Employee: Cristy Whittington
Supplier: GEL
Description: Mercury Working 1st Source CAL 0.2/CRA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201116-01	Mercury	200 ug/L	20 uL	20 mL	.2 ug/L

Serial ID: WHG201116-02 **Open/Reference Date:** 16-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORKCAL0.5 **Received:** 16-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 18-NOV-20
Employee: Cristy Whittington
Supplier: GEL
Description: Mercury Working 1st Source CAL 0.5
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201116-01	Mercury	200 ug/L	50 uL	20 mL	.5 ug/L

Serial ID: WHG201116-03 **Open/Reference Date:** 16-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORKCAL2.0 **Received:** 16-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 18-NOV-20
Employee: Cristy Whittington
Supplier: GEL
Description: Mercury Working 1st Source CAL 2.0
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201116-01	Mercury	200 ug/L	200 uL	20 mL	2 ug/L

Serial ID: WHG201116-04 **Open/Reference Date:** 16-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORKCAL5.0CCV **Received:** 16-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 18-NOV-20
Employee: Cristy Whittington
Supplier: GEL
Description: Mercury Working 1st Source CAL 5.0/CCV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201116-01	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

Serial ID: WHG201116-05 **Open/Reference Date:** 16-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORKCAL10.0 **Received:** 16-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 18-NOV-20
Employee: Cristy Whittington
Supplier: GEL
Description: Mercury Working 1st Source CAL 10.0
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201116-01	Mercury	200 ug/L	1000 uL	20 mL	10 ug/L

Serial ID: WHG201116-06 **Open/Reference Date:** 16-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORK5.0ICV **Received:** 16-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 18-NOV-20
Employee: Cristy Whittington
Supplier: GEL
Description: Mercury Working 2nd Source 5.0/ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201116-02	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

Serial ID: WHG201116-13 **Open/Reference Date:** 16-NOV-20 **Pipet Id :** Hg1289245
Name: MHGLIQLCSMSSPIKE **Received:** 16-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 18-NOV-20
Employee: Cristy Whittington
Supplier: GEL
Description: Mercury working intermediate standard for LCS/MS
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG3070569-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WI201111-48 **Open/Reference Date:** 11-NOV-20 **Amount :** 25 mL
Name: Trace ICP ICSA **Received:** 20-OCT-20 **Catalog Number :** 160005-08-03
Type: Working **Expires:** 11-DEC-20 **Lot Number :** 1109048
Employee: Helen Camello **Solvent :** 3% HCl + 1% HNO3
Supplier: o2si
Description: Trace ICP Interferent Check Standard A
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201020-40	Aluminum	20000 mg/L	25 mL	1000 mL	500000 UG/L
UI201020-40	Calcium	20000 mg/L	25 mL	1000 mL	500000 UG/L
UI201020-40	Iron	8000 mg/L	25 mL	1000 mL	200000 UG/L
UI201020-40	Magnesium	20000 mg/L	25 mL	1000 mL	500000 UG/L

Standard Logbook

Serial ID: WI201111-49 **Open/Reference Date:** 11-NOV-20 **Balance Id :** 216
Name: Trace ICP ICSAB **Received:** 20-OCT-20 **Pipet Id :** K13302G
Type: Working **Expires:** 11-DEC-20 **Solvent :** 3%HCL AND 1%HNO3%
Employee: Helen Camello
Supplier: Environmental Express
Description: Trace ICP Interferent Check Standard AB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI191203-40	Arsenic	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Barium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Beryllium	10 mg/L	12.5 mL	500 mL	250 ug/L
UI191203-40	Cadmium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Chromium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Cobalt	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Copper	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Lead	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Manganese	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Nickel	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Phosphorous	100 mg/L	12.5 mL	500 mL	2500 ug/L
UI191203-40	Potassium	200 mg/L	12.5 mL	500 mL	5000 ug/L
UI191203-40	Selenium	100 mg/L	12.5 mL	500 mL	2500 ug/L
UI191203-40	Strontium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Thallium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Uranium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Vanadium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Zinc	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-41	Antimony	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-41	Boron	20 ug/mL	12.5 mL	500 mL	500 ug/L
UI191203-41	Molybdenum	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-41	Silica	42.78 mg/L	12.5 mL	500 mL	10700 ug/L
UI191203-41	Silicon	20 mg/L	12.5 mL	500 mL	5000 ug/L
UI191203-41	Silver	10 mg/L	12.5 mL	500 mL	250 ug/L
UI191203-41	Sulfur	100 mg/L	12.5 mL	500 mL	2500 ug/L
UI191203-41	Tin	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-41	Titanium	20 ug/mL	12.5 mL	500 mL	500 ug/L
UI200504-40	Sodium	1000 ug/mL	2.5 mL	500 mL	5000 ug/L
UI201020-40	Aluminum	20000 mg/L	12.5 mL	500 mL	500000 ug/L
UI201020-40	Calcium	20000 mg/L	12.5 mL	500 mL	500000 ug/L
UI201020-40	Iron	8000 mg/L	12.5 mL	500 mL	200000 ug/L
UI201020-40	Magnesium	20000 mg/L	12.5 mL	500 mL	500000 ug/L

Standard Logbook

Serial ID: WI201116-40 **Open/Reference Date:** 16-NOV-20 **Balance Id :** 216
Name: ICP HIGH RANGE STANDA **Received:** 12-AUG-20 **Lot Number :** 10065978-1
Type: Working **Expires:** 16-DEC-20 **Pipet Id :** K13302G
Employee: Helen Camello **Solvent :** 3%HCL and1%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STANDARD A
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200812-40	Molybdenum	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-40	Silica	1070 mg/L	50 mL	500 mL	107000 ug/L
UI200812-40	Silicon	500 mg/L	50 mL	500 mL	50000 ug/L
UI200812-40	Titanium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Arsenic	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Barium	150 mg/L	50 mL	500 mL	15000 ug/L
UI200812-41	Boron	500 mg/L	50 mL	500 mL	5000 ug/L
UI200812-41	Cadmium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Chromium	250 mg/L	50 mL	500 mL	25000 ug/L
UI200812-41	Cobalt	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Copper	200 mg/L	50 mL	500 mL	20000 ug/L
UI200812-41	Lead	250 mg/L	50 mL	500 mL	25000 ug/L
UI200812-41	Manganese	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Nickel	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Strontium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Vanadium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Zinc	150 mg/L	50 mL	500 mL	15000 ug/L

Serial ID: WI201116-41 **Open/Reference Date:** 16-NOV-20 **Balance Id :** 216
Name: ICP HIGH RANGE STD B **Received:** 12-AUG-20 **Lot Number :** N2-MEB674242/N2-ME674241
Type: Working **Expires:** 16-DEC-20 **Pipet Id :** K13302G
Employee: Helen Camello **Solvent :** 3%HCLand 1%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION A and SOLUTION B
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200812-40	Molybdenum	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-40	Silica	1070 mg/L	50 mL	500 mL	107000 ug/L
UI200812-40	Silicon	500 mg/L	50 mL	500 mL	50000 ug/L
UI200812-40	Titanium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Aluminum	5000 mg/L	50 mL	500 mL	500000 ug/L
UI200812-41	Arsenic	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Barium	150 mg/L	50 mL	500 mL	15000 ug/L
UI200812-41	Boron	500 mg/L	50 mL	500 mL	5000 ug/L
UI200812-41	Cadmium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Calcium	5000 mg/L	50 mL	500 mL	500000 ug/L
UI200812-41	Chromium	250 mg/L	50 mL	500 mL	25000 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200812-41	Cobalt	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Copper	200 mg/L	50 mL	500 mL	20000 ug/L
UI200812-41	Iron	5000 mg/L	50 mL	500 mL	500000 ug/L
UI200812-41	Lead	250 mg/L	50 mL	500 mL	25000 ug/L
UI200812-41	Magnesium	5000 mg/L	50 mL	500 mL	500000 ug/L
UI200812-41	Manganese	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Nickel	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Potassium	2000 mg/L	50 mL	500 mL	300000 ug/L
UI200812-41	Sodium	5000 mg/L	50 mL	500 mL	500000 ug/L
UI200812-41	Strontium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Sulfur	500 mg/L	50 mL	500 mL	50000 ug/L
UI200812-41	Uranium	150 mg/L	50 mL	500 mL	15000 ug/L
UI200812-41	Vanadium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Zinc	150 mg/L	50 mL	500 mL	15000 ug/L

Serial ID: WI201119-42 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216
Name: TRACE ICP 0.1 PPM STD. **Received:** 11-MAR-20 **Pipet Id :** K13302G
Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL and 1%HNO3-3146480
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP 0.1 PPM CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI201119-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI201119-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI201119-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI201119-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI201119-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

Serial ID: WI201119-43 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216

Name: TRACE ICP 0.5/CCV STD. **Received:** 11-MAR-20 **Pipet Id :** K13302G

Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL and 1%HNO3-3146480

Employee: Helen Camello

Supplier: GEL

Description: TRACE ICP O.5/CCV CALIBRATION STD.

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200108-40	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI200108-40	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI200311-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Phosphorous	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI200311-40	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Selenium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Strontium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Thallium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Uranium	200 mg/L	2.5 mL	1000 mL	500 UG/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200311-40	Vanadium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Zinc	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-41	Antimony	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-41	Molybdenum	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-41	Silver	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-41	Sulfur	400 mg/L	2.5 mL	1000 mL	1000 UG/L
UI200311-41	Tin	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-41	Titanium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200605-40	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L

Serial ID: WI201119-44 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216

Name: TRACE ICP SCAL 1.0 **Received:** 11-MAR-20 **Pipet Id :** 3581809

Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL and 1 %HNO3-3146480

Employee: Helen Camello

Supplier: o2si

Description: Trace ICP Calibration Standard 1.0ppm

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200311-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200311-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Sodium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Strontium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Thallium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Uranium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Vanadium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Zinc	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-41	Antimony	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-41	Molybdenum	200 mg/L	2.5 mL	500 mL	1000 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200311-41	Silver	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-41	Sulfur	400 mg/L	2.5 mL	500 mL	2000 ug/L
UI200311-41	Tin	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-41	Titanium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200312-41	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI200312-41	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

Serial ID: WI201119-45 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216
Name: TRACE ICP S-10 STD **Received:** 25-FEB-20 **Pipet Id :** K13002G
Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL and 1%HNO3-3146480
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP S-10 CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200225-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI200225-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI200225-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI200225-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI200605-40	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

Serial ID: WI201119-46 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216
Name: ICP TRACE ICV **Received:** 28-JUL-20 **Pipet Id :** K13302G
Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL and 1%HNO3-3146480
Employee: Helen Camello
Supplier: GEL
Description: Initial Calibration Verification ICP Trace Metals
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200108-40	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI200108-40	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200728-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200728-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200728-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200728-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200728-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI200728-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI200728-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI200728-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI200728-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200728-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L
UI200728-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI200728-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L

Serial ID: WI201119-47 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216

Name: PQL Working Standard **Received:** 04-MAR-20 **Pipet Id :** K13302G

Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL&1%HNO3-3146480

Employee: Helen Camello

Supplier: 02si

Description: PQL Working Standard

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200304-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI200304-40	Antimony	10 mg/L	2 mL	1000 mL	20 ug/L
UI200304-40	Arsenic	15 mg/L	2 mL	1000 mL	30 ug/L
UI200304-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI200304-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Calcium	100 mg/L	2 mL	1000 mL	200 ug/L
UI200304-40	Chromium	5 mg/L	2 mL	1000 mL	10 ug/L
UI200304-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Copper	10 mg/L	2 mL	1000 mL	20 ug/L
UI200304-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI200304-40	Lead	10 mg/L	2 mL	1000 mL	20 ug/L
UI200304-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI200304-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI200304-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI200304-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200304-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI200304-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI200304-40	Selenium	15 mg/L	2 mL	1000 mL	30 ug/L
UI200304-40	Silica	106.95 mg/L	2 mL	1000 mL	213 ug/L
UI200304-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI200304-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Sodium	150 mg/L	2 mL	1000 mL	300 ug/L
UI200304-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI200304-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
UI200304-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI200304-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI200304-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Zinc	10 mg/L	2 mL	1000 mL	20 ug/L

Serial ID: WMS201120-04 **Open/Reference Date:** 20-NOV-20 **Amount :** 50 mL

Name: ICPMS Cal Standard 100 **Received:** 20-NOV-20 **Balance Id :** 4025216

Type: Working **Expires:** 21-NOV-20 **Pipet Id :** 3541598

Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl -3143783

Supplier: GEL

Description: ICPMS Calibration Standard (100 ppb)

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201024-03	Tungsten	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Arsenic	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Barium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Beryllium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Boron	20 mg/L	5 mL	500 mL	200 ug/l
UMS201105-01	Cadmium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Chromium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Cobalt	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Copper	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Lead	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Lithium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Manganese	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Nickel	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Selenium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Silver	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Strontium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Thallium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Thorium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Uranium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Vanadium	10 mg/L	5 mL	500 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS201105-01	Zinc	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-02	Aluminum	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Calcium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Iron	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Magnesium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Phosphorous	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Potassium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Sodium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-03	Antimony	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Molybdenum	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Tin	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Titanium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Zirconium	10 mg/L	5 mL	500 mL	100 ug/l

Serial ID: WMS201120-04A **Open/Reference Date:** 20-NOV-20 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 20-NOV-20 **Pipet Id :** 3541598
Type: Working **Expires:** 21-NOV-20 **Solvent :** 2%HNO3/1%HCl -3143783
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS201120-04	Aluminum	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Antimony	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Arsenic	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Barium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Beryllium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Boron	200 ug/l	50 mL	500 mL	20 ug/l
WMS201120-04	Cadmium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Calcium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Chromium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Cobalt	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Copper	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Iron	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Lead	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Lithium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Magnesium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Manganese	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Molybdenum	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Nickel	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Phosphorous	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Potassium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Selenium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Silver	100 ug/l	50 mL	500 mL	10 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS201120-04	Sodium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Strontium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Thallium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Thorium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Tin	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Titanium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Tungsten	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Uranium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Vanadium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Zinc	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Zirconium	100 ug/l	50 mL	500 mL	10 ug/l

Serial ID: WMS201120-05 **Open/Reference Date:** 20-NOV-20 **Balance Id :** BAL216

Name: ICPMS ICV **Received:** 20-NOV-20 **Pipet Id :** 3541598

Type: Working **Expires:** 21-NOV-20 **Solvent :** 2%HNO3/1%HCl -3143783

Employee: Paul Boyd

Supplier: GEL

Description: ICPMS ICV

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201109-07	Arsenic	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Barium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Beryllium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Boron	40 mg/L	2.5 mL	1000 mL	100 ug/L
UI201109-07	Cadmium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Chromium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Cobalt	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Copper	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Lead	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Lithium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Manganese	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Nickel	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Selenium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Strontium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Thallium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Thorium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Uranium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Vanadium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Zinc	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Antimony	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Molybdenum	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Silver	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Tin	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Titanium	20 mg/L	2.5 mL	1000 mL	50 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201109-08	Tungsten	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Zirconium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-09	Aluminum	2020 mg/L	2.5 mL	1000 mL	5050 ug/L
UI201109-09	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Iron	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Phosphorous	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L

Serial ID: WMS201120-06 **Open/Reference Date:** 20-NOV-20 **Balance Id :** BAL216
Name: ICPMS CRDL **Received:** 20-NOV-20 **Pipet Id :** 3820544
Type: Working **Expires:** 21-NOV-20 **Solvent :** 2%HNO3/1%HCl - 3143783
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS CRDL
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200416-09	Aluminum	50 mg/L	.5 mL	500 mL	50 ug/L
UI200416-09	Arsenic	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-09	Barium	4 mg/L	.5 mL	500 mL	4 ug/L
UI200416-09	Beryllium	.5 mg/L	.5 mL	500 mL	.5 ug/L
UI200416-09	Boron	15 mg/L	.5 mL	500 mL	15 ug/L
UI200416-09	Cadmium	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-09	Calcium	200 mg/L	.5 mL	500 mL	200 ug/L
UI200416-09	Chromium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-09	Cobalt	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-09	Copper	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Iron	100 mg/L	.5 mL	500 mL	100 ug/L
UI200416-09	Lead	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Lithium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-09	Magnesium	30 mg/L	.5 mL	500 mL	30 ug/L
UI200416-09	Manganese	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-09	Nickel	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Phosphorous	50 mg/L	.5 mL	500 mL	50 ug/L
UI200416-09	Potassium	300 mg/L	.5 mL	500 mL	300 ug/L
UI200416-09	Selenium	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-09	Sodium	250 mg/L	.5 mL	500 mL	250 ug/L
UI200416-09	Strontium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-09	Thallium	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Thorium	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Uranium	.2 mg/L	.5 mL	500 mL	.2 ug/L
UI200416-09	Vanadium	20 mg/L	.5 mL	500 mL	20 ug/L
UI200416-09	Zinc	20 mg/L	.5 mL	500 mL	20 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200416-10	Antimony	3 mg/L	.5 mL	500 mL	3 ug/L
UI200416-10	Molybdenum	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-10	Silver	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-10	Tin	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-10	Titanium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-10	Tungsten	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-10	Zirconium	2 mg/L	.5 mL	500 mL	10 ug/L

Serial ID: WMS201120-20 **Open/Reference Date:** 20-NOV-20 **Balance Id :** BAL216
Name: ICPMS ICSA **Received:** 20-NOV-20 **Lot Number :** 1064482
Type: Working **Expires:** 21-NOV-20 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl -3143783
Supplier: GEL
Description: ICPMS ICSA NexION
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201102-11	Aluminum	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Calcium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Carbon	2000 mg/L	25 mL	250 mL	200000 ug/L
UI201102-11	Chloride	10000 mg/L	25 mL	250 mL	1000000 ug/L
UI201102-11	Iron	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Magnesium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Molybdenum	20 mg/L	25 mL	250 mL	2000 ug/L
UI201102-11	Phosphorous	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Potassium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sodium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sulfur	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Titanium	20 mg/L	25 mL	250 mL	2000 ug/L

Serial ID: WMS201120-21 **Open/Reference Date:** 20-NOV-20 **Balance Id :** BAL216
Name: ICPMS ICSAB **Received:** 20-NOV-20 **Pipet Id :** 1758088
Type: Working **Expires:** 21-NOV-20 **Solvent :** 2%HNO3/1%HCl -3143783
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB NexION
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200908-12	Arsenic	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Barium	2 mg/L	2.5 mL	250 mL	22.349 ug/L
UI200908-12	Beryllium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Boron	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Cadmium	2 mg/L	2.5 mL	250 mL	20.72 ug/L
UI200908-12	Chromium	2 mg/L	2.5 mL	250 mL	20 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200908-12	Cobalt	2 mg/L	2.5 mL	250 mL	20.651 ug/L
UI200908-12	Copper	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Lead	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Lithium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Manganese	2 mg/L	2.5 mL	250 mL	25.723 ug/L
UI200908-12	Nickel	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Selenium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Strontium	2 mg/L	2.5 mL	250 mL	24.96 ug/L
UI200908-12	Thallium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Thorium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Uranium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Vanadium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Zinc	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Antimony	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Silver	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Tin	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Tungsten	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Zirconium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI201102-11	Aluminum	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Calcium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Carbon	2000 mg/L	25 mL	250 mL	200000 ug/L
UI201102-11	Chloride	10000 mg/L	25 mL	250 mL	1000000 ug/L
UI201102-11	Iron	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Magnesium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Molybdenum	20 mg/L	25 mL	250 mL	2000 ug/L
UI201102-11	Phosphorous	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Potassium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sodium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sulfur	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Titanium	20 mg/L	25 mL	250 mL	2000 ug/L

Serial ID: WMS201120-70 **Open/Reference Date:** 20-NOV-20 **Balance Id :** BAL216
Name: ICPMS LINEAR RANGE ST **Received:** 20-NOV-20 **Pipet Id :** 2878988
Type: Working **Expires:** 21-NOV-20 **Solvent :** 2%HNO3/1%HCl -3143783
Employee: Paul Boyd
Supplier: 02SI
Description: ICPMS LINEAR RANGE STANDARD
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201031-60	Aluminum	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Arsenic	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Barium	250 mg/L	2.5 mL	250 mL	2500 ug/L
UI201031-60	Beryllium	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Cadmium	100 mg/L	2.5 mL	250 mL	1000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201031-60	Calcium	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Chromium	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Cobalt	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Copper	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Iron	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Lead	500 mg/L	2.5 mL	250 mL	5000 ug/L
UI201031-60	Lithium	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Magnesium	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Manganese	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Nickel	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Phosphorous	2500 mg/L	2.5 mL	250 mL	25000 ug/L
UI201031-60	Potassium	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Selenium	50 mg/L	2.5 mL	250 mL	500 ug/L
UI201031-60	Sodium	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Strontium	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Thallium	50 mg/L	2.5 mL	250 mL	500 ug/L
UI201031-60	Thorium	250 mg/L	2.5 mL	250 mL	2500 ug/L
UI201031-60	Uranium	500 mg/L	2.5 mL	250 mL	5000 ug/L
UI201031-60	Vanadium	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Zinc	250 mg/L	2.5 mL	250 mL	2500 ug/L
UI201031-61	Antimony	25 mg/L	2.5 mL	250 mL	250 ug/L
UI201031-61	Molybdenum	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-61	Silver	25 mg/L	2.5 mL	250 mL	250 ug/L
UI201031-61	Tin	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-61	Tungsten	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-61	Zirconium	50 mg/L	2.5 mL	250 mL	500 ug/L

Serial ID: WMS201123-04 **Open/Reference Date:** 23-NOV-20 **Amount :** 50 mL

Name: ICPMS Cal Standard 100 **Received:** 23-NOV-20 **Balance Id :** 4025216

Type: Working **Expires:** 24-NOV-20 **Pipet Id :** 3541598

Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl -3149619

Supplier: GEL

Description: ICPMS Calibration Standard (100 ppb)

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201024-03	Tungsten	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Arsenic	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Barium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Beryllium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Boron	20 mg/L	5 mL	500 mL	200 ug/l
UMS201105-01	Cadmium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Chromium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Cobalt	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Copper	10 mg/L	5 mL	500 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS201105-01	Lead	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Lithium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Manganese	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Nickel	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Selenium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Silver	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Strontium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Thallium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Thorium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Uranium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Vanadium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Zinc	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-02	Aluminum	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Calcium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Iron	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Magnesium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Phosphorous	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Potassium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Sodium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-03	Antimony	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Molybdenum	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Tin	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Titanium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Zirconium	10 mg/L	5 mL	500 mL	100 ug/l

Serial ID: WMS201123-04A **Open/Reference Date:** 23-NOV-20 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 23-NOV-20 **Pipet Id :** 3541598
Type: Working **Expires:** 24-NOV-20 **Solvent :** 2%HNO3/1%HCl -3149619
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS201123-04	Aluminum	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201123-04	Antimony	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Arsenic	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Barium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Beryllium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Boron	200 ug/l	50 mL	500 mL	20 ug/l
WMS201123-04	Cadmium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Calcium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201123-04	Chromium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Cobalt	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Copper	100 ug/l	50 mL	500 mL	10 ug/l

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS201123-04	Iron	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201123-04	Lead	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Lithium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Magnesium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201123-04	Manganese	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Molybdenum	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Nickel	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Phosphorous	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201123-04	Potassium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201123-04	Selenium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Silver	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Sodium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201123-04	Strontium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Thallium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Thorium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Tin	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Titanium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Tungsten	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Uranium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Vanadium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Zinc	100 ug/l	50 mL	500 mL	10 ug/l
WMS201123-04	Zirconium	100 ug/l	50 mL	500 mL	10 ug/l

Serial ID: WMS201123-05 **Open/Reference Date:** 23-NOV-20 **Balance Id :** BAL216
Name: ICPMS ICV **Received:** 23-NOV-20 **Pipet Id :** 3541598
Type: Working **Expires:** 24-NOV-20 **Solvent :** 2%HNO3/1%HCl -3149619
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201109-07	Arsenic	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Barium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Beryllium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Boron	40 mg/L	2.5 mL	1000 mL	100 ug/L
UI201109-07	Cadmium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Chromium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Cobalt	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Copper	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Lead	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Lithium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Manganese	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Nickel	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Selenium	20 mg/L	2.5 mL	1000 mL	50 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201109-07	Strontium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Thallium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Thorium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Uranium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Vanadium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Zinc	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Antimony	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Molybdenum	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Silver	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Tin	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Titanium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Tungsten	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Zirconium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-09	Aluminum	2020 mg/L	2.5 mL	1000 mL	5050 ug/L
UI201109-09	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Iron	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Phosphorous	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L

Serial ID: WMS201123-06 **Open/Reference Date:** 23-NOV-20 **Balance Id :** BAL216

Name: ICPMS CRDL **Received:** 23-NOV-20 **Pipet Id :** 3820544

Type: Working **Expires:** 24-NOV-20 **Solvent :** 2%HNO3/1%HCl - 3149619

Employee: Paul Boyd

Supplier: GEL

Description: ICPMS CRDL

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200416-09	Aluminum	50 mg/L	.5 mL	500 mL	50 ug/L
UI200416-09	Arsenic	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-09	Barium	4 mg/L	.5 mL	500 mL	4 ug/L
UI200416-09	Beryllium	.5 mg/L	.5 mL	500 mL	.5 ug/L
UI200416-09	Boron	15 mg/L	.5 mL	500 mL	15 ug/L
UI200416-09	Cadmium	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-09	Calcium	200 mg/L	.5 mL	500 mL	200 ug/L
UI200416-09	Chromium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-09	Cobalt	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-09	Copper	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Iron	100 mg/L	.5 mL	500 mL	100 ug/L
UI200416-09	Lead	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Lithium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-09	Magnesium	30 mg/L	.5 mL	500 mL	30 ug/L
UI200416-09	Manganese	5 mg/L	.5 mL	500 mL	5 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200416-09	Nickel	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Phosphorous	50 mg/L	.5 mL	500 mL	50 ug/L
UI200416-09	Potassium	300 mg/L	.5 mL	500 mL	300 ug/L
UI200416-09	Selenium	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-09	Sodium	250 mg/L	.5 mL	500 mL	250 ug/L
UI200416-09	Strontium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-09	Thallium	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Thorium	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Uranium	.2 mg/L	.5 mL	500 mL	.2 ug/L
UI200416-09	Vanadium	20 mg/L	.5 mL	500 mL	20 ug/L
UI200416-09	Zinc	20 mg/L	.5 mL	500 mL	20 ug/L
UI200416-10	Antimony	3 mg/L	.5 mL	500 mL	3 ug/L
UI200416-10	Molybdenum	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-10	Silver	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-10	Tin	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-10	Titanium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-10	Tungsten	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-10	Zirconium	2 mg/L	.5 mL	500 mL	10 ug/L

Serial ID: WMS201123-20 **Open/Reference Date:** 23-NOV-20 **Balance Id :** BAL216
Name: ICPMS ICSA **Received:** 23-NOV-20 **Lot Number :** 1064482
Type: Working **Expires:** 24-NOV-20 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl -3149619
Supplier: GEL
Description: ICPMS ICSA NexION
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201102-11	Aluminum	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Calcium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Carbon	2000 mg/L	25 mL	250 mL	200000 ug/L
UI201102-11	Chloride	10000 mg/L	25 mL	250 mL	1000000 ug/L
UI201102-11	Iron	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Magnesium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Molybdenum	20 mg/L	25 mL	250 mL	2000 ug/L
UI201102-11	Phosphorous	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Potassium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sodium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sulfur	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Titanium	20 mg/L	25 mL	250 mL	2000 ug/L

Standard Logbook

Serial ID: WMS201123-21 **Open/Reference Date:** 23-NOV-20 **Balance Id :** BAL216
Name: ICPMS ICSAB **Received:** 23-NOV-20 **Pipet Id :** 1758088
Type: Working **Expires:** 24-NOV-20 **Solvent :** 2%HNO3/1%HCl -3149619
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB NexION
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200908-12	Arsenic	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Barium	2 mg/L	2.5 mL	250 mL	22.349 ug/L
UI200908-12	Beryllium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Boron	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Cadmium	2 mg/L	2.5 mL	250 mL	20.72 ug/L
UI200908-12	Chromium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Cobalt	2 mg/L	2.5 mL	250 mL	20.651 ug/L
UI200908-12	Copper	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Lead	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Lithium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Manganese	2 mg/L	2.5 mL	250 mL	25.723 ug/L
UI200908-12	Nickel	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Selenium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Strontium	2 mg/L	2.5 mL	250 mL	24.96 ug/L
UI200908-12	Thallium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Thorium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Uranium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Vanadium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Zinc	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Antimony	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Silver	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Tin	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Tungsten	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Zirconium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI201102-11	Aluminum	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Calcium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Carbon	2000 mg/L	25 mL	250 mL	200000 ug/L
UI201102-11	Chloride	10000 mg/L	25 mL	250 mL	1000000 ug/L
UI201102-11	Iron	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Magnesium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Molybdenum	20 mg/L	25 mL	250 mL	2000 ug/L
UI201102-11	Phosphorous	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Potassium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sodium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sulfur	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Titanium	20 mg/L	25 mL	250 mL	2000 ug/L

Serial ID: 201030 **Open/Reference Date:** 30-OCT-20 **Lot Number :** 2020081345
Name: I-HCL **Received:** 30-OCT-20
Type: Reagent/Solvent **Expires:** 30-OCT-22
Employee: Edmund Frampton
Supplier: VWR
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 2919766-A **Open/Reference Date:** 19-APR-19 **Lot Number :** 173169
Name: B-NaCl-MER **Received:** 19-APR-19
Type: Reagent/Solvent **Expires:** 19-APR-21
Employee: Monifa Basdeo
Supplier: Fisher Scientific
Description: Sodium Chloride
Comments: None

Serial ID: 3066893 **Open/Reference Date:** 10-APR-20 **Lot Number :** 2020012868
Name: B-H2SO4-MER **Received:** 10-APR-20
Type: Reagent/Solvent **Expires:** 10-APR-22
Employee: Alan Stanley
Supplier: BDH
Description: Sulfuric Acid, Concentrated
Comments: None

Serial ID: 3078150 **Open/Reference Date:** 14-MAY-20 **Amount :** 5 kg
Name: B-K2S2O8S-MER **Received:** 14-MAY-20 **Lot Number :** A0410243
Type: Reagent/Solvent **Expires:** 14-MAY-22
Employee: Alan Stanley
Supplier: ACROS ORGANICS
Description: Potassium Persulfate Concentrate.
Comments: None

Serial ID: 3116141-A **Open/Reference Date:** 28-AUG-20 **Lot Number :** 1912756455
Name: B-NH2OH.HCl-MER **Received:** 28-AUG-20
Type: Reagent/Solvent **Expires:** 28-AUG-21
Employee: Monifa Basdeo
Supplier: VWR
Description: Hydroxlyamine Hydrochloride
Comments: None

Serial ID: 3129011-C **Open/Reference Date:** 02-OCT-20 **Balance Id :** BAL-002
Name: B-K2S2O8-MER **Received:** 02-OCT-20
Type: Reagent/Solvent **Expires:** 14-MAY-22
Employee: Alan Stanley
Supplier: GEL
Description: 5% Potassium Persulfate
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
3078150	B-K2S2O8S-MER	N/A	175 g	3500 mL	5%

Serial ID: 3129814 **Open/Reference Date:** 05-OCT-20 **Lot Number :** 2020033099
Name: I-HNO3 **Received:** 05-OCT-20
Type: Reagent/Solvent **Expires:** 05-OCT-22
Employee: Edmund Frampton
Supplier: VWR - BDH Chemicals
Description: Concentrated Nitric Acid
Comments: None

Serial ID: 3129829 **Open/Reference Date:** 05-OCT-20 **Lot Number :** 2020081345
Name: I-HCL **Received:** 05-OCT-20
Type: Reagent/Solvent **Expires:** 05-OCT-22
Employee: Edmund Frampton
Supplier: VWR
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 3137704-A **Open/Reference Date:** 26-OCT-20 **Lot Number :** U04D025
Name: B-KMnO4(VWR)-MER **Received:** 26-OCT-20
Type: Reagent/Solvent **Expires:** 26-OCT-22
Employee: Alan Stanley
Supplier: ACROS
Description: Potassium Permanganate
Comments: None

Serial ID: 3138221-1 **Open/Reference Date:** 27-OCT-20 **Instrument Id :** MERCURY
Name: B-HNO3-MER **Received:** 27-OCT-20 **Lot Number :** 2020033099
Type: Reagent/Solvent **Expires:** 27-OCT-22
Employee: Alan Stanley
Supplier: MACRON
Description: NITRIC ACID
Comments: None

Serial ID: 3139892-C **Open/Reference Date:** 30-OCT-20 **Balance Id :** BAL-423
Name: B-KMnO4-MER **Received:** 30-OCT-20
Type: Reagent/Solvent **Expires:** 26-OCT-22
Employee: Alan Stanley
Supplier: GEL
Description: 5% KMnO4 solution
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
3137704-A	B-KMnO4(VWR)-MER	Crystals	175 g	3500 mL	5%

Serial ID: 3140093 **Open/Reference Date:** 30-OCT-20 **Lot Number :** 2020052020
Name: I-HNO3 **Received:** 30-OCT-20
Type: Reagent/Solvent **Expires:** 30-OCT-22
Employee: Edmund Frampton
Supplier: VWR - BDH Chemicals
Description: Concentrated Nitric Acid
Comments: None

Serial ID: 3143783 **Open/Reference Date:** 09-NOV-20 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 09-NOV-20
Type: Reagent/Solvent **Expires:** 23-NOV-20
Employee: Paul Boyd
Supplier: GEL
Description: 2%HNO3/1%HCl Solution (Type I Water)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
3129814	I-HNO3	68.0-70.0%	160 mL	8 l	N/A
3129829	I-HCL	36.5-38.0	80 mL	8 l	N/A

Serial ID: 3145052-C **Open/Reference Date:** 10-NOV-20 **Balance Id :** BAL-423
Name: B-NaCl.NH2OH.HCl-MER **Received:** 10-NOV-20
Type: Reagent/Solvent **Expires:** 19-APR-21
Employee: Monifa Basdeo
Supplier: GEL
Description: Hg reducing agent
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
2919766-A	B-NaCl-MER	NA	120 g	1000 mL	12%
3116141-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	12%

Standard Logbook

Serial ID: 3146480 **Open/Reference Date:** 16-NOV-20 **Solvent :** 3%HCL+1%HNO3
Name: B-ICP-RINSE SOLN **Received:** 30-OCT-20
Type: Reagent/Solvent **Expires:** 22-NOV-20
Employee: Helen Camello
Supplier: GEL
Description: 3%HCL+1%HNO3 RINSE SOLN.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
201030	I-HCL	36.5-38.0	240 mL	10000 mL	N/A
3140093	I-HNO3	68.0-70.0%	80 mL	10000 mL	N/A

Serial ID: 3149619 **Open/Reference Date:** 23-NOV-20 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 23-NOV-20
Type: Reagent/Solvent **Expires:** 07-DEC-20
Employee: Paul Boyd
Supplier: GEL
Description: 2%HNO3/1%HCl Solution (Type I Water)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
3129814	I-HNO3	68.0-70.0%	160 mL	8 l	N/A
3129829	I-HCL	36.5-38.0	80 mL	8 l	N/A

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
ARS International, LLC
SDG #: 2021-129
Work Order #: 527509

Product: **Cyanide, Total**
Analytical Method: EPA 335.4 1993
Analytical Procedure: GL-GC-E-095 REV# 22
Analytical Batch: 2063122

Preparation Method: EPA 335.4 1993
Preparation Procedure: GL-GC-E-067 REV# 23
Preparation Batch: 2063121

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509001	SMEB01-20-209970
527509005	SMEB01-20-209986
527509010	SMEB02-20-209973
1204695057	Method Blank (MB)
1204695058	Laboratory Control Sample (LCS)
1204695059	527509001(SMEB01-20-209970) Sample Duplicate (DUP)
1204695061	527509001(SMEB01-20-209970) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Ion Chromatography**
Analytical Method: EPA:300.0
Analytical Procedure: GL-GC-E-086 REV# 28
Analytical Batch: 2062981

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509002	SMEB01-20-209971
527509007	SMEB01-20-209987
527509011	SMEB02-20-209975
1204694597	Method Blank (MB)
1204694598	Laboratory Control Sample (LCS)
1204694599	527509002(SMEB01-20-209971) Sample Duplicate (DUP)
1204694600	527509002(SMEB01-20-209971) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

Continuing Calibration Blanks
One or more of the calibration verification blanks was above the required limits. The results for the following samples bracketed by the failing CCB are less than the PQL or are QC samples associated with these samples. Therefore, the data is deemed acceptable. 1204694597 (MB), 1204694598 (LCS), 1204694599 (SMEB01-20-209971DUP) and 1204694600 (SMEB01-20-209971PS).

Technical Information

Sample Dilutions
The following samples 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS), 527509002 (SMEB01-20-209971) and 527509011 (SMEB02-20-209975) were diluted because target analyte concentrations exceeded the calibration range. Samples 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS), 527509002 (SMEB01-20-209971) and 527509011 (SMEB02-20-209975) were diluted to minimize matrix effects on instrument performance. Samples 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS), 527509002 (SMEB01-20-209971), 527509007 (SMEB01-20-209987) and 527509011 (SMEB02-20-209975) were diluted based on historical data. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	527509	
	002	011
Fluoride	100X	100X
Sulfate	200X	500X

Sample Re-analysis
Samples1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS), 527509002 (SMEB01-20-209971) and 527509007 (SMEB01-20-209987) were re-analyzed to verify the results.

Product: **Total Kjeldahl Nitrogen**
Analytical Method: EPA:351.2
Analytical Procedure: GL-GC-E-104 REV# 15
Analytical Batch: 2063654

Preparation Method: EPA 351.2 Prep
Preparation Procedure: GL-GC-E-071 REV# 17
Preparation Batch: 2063653

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509005	SMEB01-20-209986
1204696393	Method Blank (MB)
1204696394	Laboratory Control Sample (LCS)
1204696395	527509005(SMEB01-20-209986) Sample Duplicate (DUP)
1204696396	527509005(SMEB01-20-209986) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Re-analysis
Sample1204696394 (LCS) was re-analyzed due to instrument failure. The results from the reanalysis are reported.

Product: **Nitrate Nitrite by Cadmium Reduction**
Analytical Method: EPA:353.2
Analytical Procedure: GL-GC-E-128 REV# 10
Analytical Batch: 2063130

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509007	SMEB01-20-209987
1204695092	Method Blank (MB)
1204695093	Laboratory Control Sample (LCS)
1204695094	527511005(NonSDG) Sample Duplicate (DUP)
1204695097	527511005(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
The following samples 1204695094 (Non SDG 527511005DUP) and 1204695097 (Non SDG 527511005PS) in this sample group were diluted due to matrix interference. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Product: **Solids, Total Dissolved**
Analytical Method: EPA:160.1
Analytical Procedure: GL-GC-E-001 REV# 16
Analytical Batch: 2063665

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509007	SMEB01-20-209987
1204696423	Method Blank (MB)
1204696424	Laboratory Control Sample (LCS)
1204696426	527509007(SMEB01-20-209987) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-129 GEL Work Order: 527509

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
J Value is estimated
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Aubrey Kingsbury**

Date: 20 NOV 2020 **Title: Data Validator**

Sample Data Summary

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Certificate of Analysis

Report Date: November 20, 2020

Company :	Los Alamos National Laboratory
Address :	TA-00, SM1237, Rm104C
	Los Alamos, New Mexico 87545
Contact:	Mr. Stanislaw Marczak
Project:	LANL- Discharge Permits

Client SDG: 2021-129

Client Sample ID:	SMEB01-20-209970	Project:	ESHL00118
Sample ID:	527509001	Client ID:	ARSL004
Matrix:	W		
Collect Date:	10-NOV-20 15:15		
Receive Date:	14-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis												
DP-CN(TOTAL) "As Received"												
Cyanide, Total		7.14	1.67	5.00	ug/L	1.00	1	AXH3	11/17/20	0829	2063122	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 335.4 1993	EPA 335.4 Total Cyanide	AXH3	11/17/20	0649	2063121

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 335.4 1993	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-129

Client Sample ID: SMEB01-20-209971
Sample ID: 527509002
Matrix: W
Collect Date: 10-NOV-20 15:15
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
DP-F+SO4 "As Received"												
Fluoride	J	3.36	3.30	10.0	mg/L		100	LXA2	11/14/20	1556	2062981	1
Sulfate		3410	26.6	80.0	mg/L		200	LXA2	11/17/20	1045	2062981	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:300.0	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-129

Client Sample ID: SMEB01-20-209986
Sample ID: 527509005
Matrix: W
Collect Date: 10-NOV-20 13:40
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis												
DP-CN(TOTAL) "As Received"												
Cyanide, Total	U	ND	1.67	5.00	ug/L	1.00	1	AXH3	11/17/20	0837	2063122	1
Nutrient Analysis												
DP-TKN "As Received"												
Nitrogen, Total Kjeldahl	U	ND	0.0330	0.100	mg/L	1.00	1	KLP1	11/20/20	1136	2063654	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 335.4 1993	EPA 335.4 Total Cyanide	AXH3	11/17/20	0649	2063121
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	11/19/20	1600	2063653

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 335.4 1993	
2	EPA:351.2	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-129

Client Sample ID: SMEB01-20-209987
Sample ID: 527509007
Matrix: W
Collect Date: 10-NOV-20 13:40
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
Chloride "As Received"												
Chloride	J	0.173	0.0670	0.200	mg/L		1	LXA2	11/16/20	1040	2062981	1
Fluoride	J	0.0565	0.0330	0.100	mg/L		1					
Sulfate	U	ND	0.133	0.400	mg/L		1					
Nutrient Analysis												
DP-NO3NO2 "As Received"												
Nitrogen, Nitrate/Nitrite	U	ND	0.0170	0.0500	mg/L		1	AXH3	11/16/20	0954	2063130	2
Solids Analysis												
TDS "As Received"												
Total Dissolved Solids	U	ND	3.40	14.3	mg/L			KLP1	11/17/20	1437	2063665	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:353.2	
3	EPA:160.1	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: November 20, 2020

Company :	Los Alamos National Laboratory
Address :	TA-00, SM1237, Rm104C
	Los Alamos, New Mexico 87545
Contact:	Mr. Stanislaw Marczak
Project:	LANL- Discharge Permits

Client SDG: 2021-129

Client Sample ID:	SMEB02-20-209973	Project:	ESHL00118
Sample ID:	527509010	Client ID:	ARSL004
Matrix:	W		
Collect Date:	10-NOV-20 13:25		
Receive Date:	14-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis												
DP-CN(TOTAL) "As Received"												
Cyanide, Total	U	ND	1.67	5.00	ug/L	1.00	1	AXH3	11/17/20	0838	2063122	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 335.4 1993	EPA 335.4 Total Cyanide	AXH3	11/17/20	0649	2063121

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 335.4 1993	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company :	Los Alamos National Laboratory
Address :	TA-00, SM1237, Rm104C
	Los Alamos, New Mexico 87545
Contact:	Mr. Stanislaw Marczak
Project:	LANL- Discharge Permits

Client SDG: 2021-129

Client Sample ID:	SMEB02-20-209975	Project:	ESHL00118
Sample ID:	527509011	Client ID:	ARSL004
Matrix:	W		
Collect Date:	10-NOV-20 13:25		
Receive Date:	14-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
DP-F+SO4 "As Received"												
Fluoride	U	ND	3.30	10.0	mg/L		100	LXA2	11/14/20	1658	2062981	1
Sulfate		5790	66.5	200	mg/L		500	LXA2	11/16/20	1111	2062981	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:300.0	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

Quality Control Summary

QC Summary

Report Date: November 20, 2020

Los Alamos National Laboratory
TA-00, SM1237, Rm104C
Los Alamos, New Mexico

Contact: **Mr. Stanislaw Marczak**

Workorder: **527509**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Flow Injection Analysis										
Batch 2063122										
QC1204695059 527509001 DUP										
Cyanide, Total		7.14		7.01	ug/L	1.84 ^		(+/-5.00)	AXH3	11/17/20 08:34
QC1204695058 LCS										
Cyanide, Total	50.0			48.3	ug/L		96.6	(90%-110%)		11/17/20 08:13
QC1204695057 MB										
Cyanide, Total			U	ND	ug/L					11/17/20 08:12
QC1204695061 527509001 MS										
Cyanide, Total	100	7.14		101	ug/L		93.9	(90%-110%)		11/17/20 08:35
Ion Chromatography										
Batch 2062981										
QC1204694599 527509002 DUP										
Chloride		61500		61500	mg/L	0.137		(0%-20%)	LXA2	11/16/20 14:47
Fluoride	J	3.36	J	3.50	mg/L	4.08 ^		(+/-10.0)		11/14/20 22:07
Sulfate		3410		3400	mg/L	0.0493		(0%-20%)		11/17/20 11:16
QC1204694598 LCS										
Chloride	5.00			4.88	mg/L		97.7	(80%-120%)		11/14/20 23:39
Fluoride	2.50			2.48	mg/L		99.1	(80%-120%)		
Sulfate	10.0			9.84	mg/L		98.4	(80%-120%)		
QC1204694597 MB										
Chloride			U	ND	mg/L					11/14/20 23:08

QC Summary

Workorder: **527509**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography											
Batch 2062981											
Fluoride				U	ND	mg/L				LXA2	11/14/20 23:08
Sulfate				U	ND	mg/L					
QC1204694600 527509002 PS											
Chloride	5.00		6.15		11.3	mg/L		103	(75%-125%)		11/16/20 15:18
Fluoride	2.50	J	0.0336		2.36	mg/L		93	(75%-125%)		11/14/20 22:37
Sulfate	10.0		17.0		27.3	mg/L		102	(75%-125%)		11/17/20 11:47
Nutrient Analysis											
Batch 2063130											
QC1204695094 527511005 DUP											
Nitrogen, Nitrate/Nitrite			0.635		0.635	mg/L	0 ^		(+/-0.250)	AXH3	11/16/20 09:56
QC1204695093 LCS											
Nitrogen, Nitrate/Nitrite	1.00				0.969	mg/L		96.9	(90%-110%)		11/16/20 09:33
QC1204695092 MB											
Nitrogen, Nitrate/Nitrite				U	ND	mg/L					11/16/20 09:27
QC1204695097 527511005 PS											
Nitrogen, Nitrate/Nitrite	1.00		0.127		1.10	mg/L		97.3	(90%-110%)		11/16/20 09:58
Batch 2063654											
QC1204696395 527509005 DUP											
Nitrogen, Total Kjeldahl		U	ND	U	ND	mg/L	N/A			KLP1	11/20/20 11:36
QC1204696394 LCS											
Nitrogen, Total Kjeldahl	1.00				1.08	mg/L		108	(90%-110%)		11/20/20 11:47
QC1204696393 MB											
Nitrogen, Total Kjeldahl				U	ND	mg/L					11/20/20 11:34

QC Summary

Workorder: **527509**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Nutrient Analysis												
Batch 2063654												
QC1204696396 527509005 MS												
Nitrogen, Total Kjeldahl	1.00	U	ND		1.05	mg/L		105	(90%-110%)	KLP1	11/20/20	11:37
Solids Analysis												
Batch 2063665												
QC1204696426 527509007 DUP												
Total Dissolved Solids		U	ND	U	ND	mg/L	N/A			KLP1	11/17/20	14:37
QC1204696424 LCS												
Total Dissolved Solids	300				289	mg/L		96.2	(95%-105%)		11/17/20	14:37
QC1204696423 MB												
Total Dissolved Solids				U	ND	mg/L					11/17/20	14:37

Notes:

<	Result is less than value reported
>	Result is greater than value reported
B	The target analyte was detected in the associated blank.
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

QC Summary

Workorder: **527509**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

d 5-day BOD--The 2:1 depletion requirement was not met for this sample

e 5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Instrument QC Data Summary

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:16

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-129

Flow Injection Analysis

Method: EPA 335.4

Instrument: Lachat QuickChem FIA+ 8000 Series (LACHAT)

Parmname: Cyanide, Total Concentration Units:ug/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**17-NOV-2020 08:03:34**	**OM_11-17-2020_07-53-56**	**150**	**150**	**100**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 08:18:16	OM_11-17-2020_07-53-56	103	100	103	(90%-110%)	Yes
CCV	17-NOV-2020 08:30:45	OM_11-17-2020_07-53-56	103	100	103	(90%-110%)	Yes
CCV	17-NOV-2020 08:43:21	OM_11-17-2020_07-53-56	103	100	103	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**17-NOV-2020 08:05:30**	**OM_11-17-2020_07-53-56**	**-0.86**	**5**	**Yes**
CCB	17-NOV-2020 08:20:12	OM_11-17-2020_07-53-56	-0.9	5	Yes
CCB	17-NOV-2020 08:32:41	OM_11-17-2020_07-53-56	-0.948	5	Yes
CCB	17-NOV-2020 08:45:18	OM_11-17-2020_07-53-56	-0.717	5	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:16

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-129

Ion Chromatography

Method: EPA 300.0

Instrument: DIONEX Aquion Ion Chromatograph (IC12)

Parmname: Chloride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 14:54:00**	**201114**	**4.9208**	**5**	**98.4**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 21:05:00	201114	7.4222	7.5	99	(90%-110%)	Yes
CCV	15-NOV-2020 00:41:00	201114	4.9095	5	98.2	(90%-110%)	Yes
ICV	**16-NOV-2020 08:46:00**	**201116**	**4.819**	**5**	**96.4**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 15:49:00	201116	7.1247	7.5	95	(90%-110%)	Yes
CCV	16-NOV-2020 18:54:00	201116	4.6619	5	93.2	(90%-110%)	Yes
ICV	**17-NOV-2020 08:24:00**	**201117**	**4.8108**	**5**	**96.2**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 12:17:00	201117	7.147	7.5	95.3	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 15:25:00**	**201114**	**0.1623**	**0.2**	**Yes**
CCB	14-NOV-2020 21:36:00	201114	0.2163	0.2	No
CCB	15-NOV-2020 01:12:00	201114	0.1405	0.2	Yes
ICB	**16-NOV-2020 09:17:00**	**201116**	**0.0736**	**0.2**	**Yes**
CCB	16-NOV-2020 16:20:00	201116	0	0.2	Yes
CCB	16-NOV-2020 19:25:00	201116	0	0.2	Yes
ICB	**17-NOV-2020 08:55:00**	**201117**	**0**	**0.2**	**Yes**
CCB	17-NOV-2020 12:48:00	201117	0	0.2	Yes

Parmname: Fluoride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 14:54:00**	**201114**	**2.4867**	**2.5**	**99.5**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 21:05:00	201114	3.7206	3.75	99.2	(90%-110%)	Yes
CCV	15-NOV-2020 00:41:00	201114	2.4459	2.5	97.8	(90%-110%)	Yes
ICV	**16-NOV-2020 08:46:00**	**201116**	**2.4431**	**2.5**	**97.7**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 15:49:00	201116	3.5865	3.75	95.6	(90%-110%)	Yes
CCV	16-NOV-2020 18:54:00	201116	2.4178	2.5	96.7	(90%-110%)	Yes
ICV	**17-NOV-2020 08:24:00**	**201117**	**2.5028**	**2.5**	**100**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 12:17:00	201117	3.6105	3.75	96.3	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 15:25:00**	**201114**	**0**	**0.1**	**Yes**
CCB	14-NOV-2020 21:36:00	201114	0	0.1	Yes
CCB	15-NOV-2020 01:12:00	201114	0	0.1	Yes
ICB	**16-NOV-2020 09:17:00**	**201116**	**0**	**0.1**	**Yes**
CCB	16-NOV-2020 16:20:00	201116	0	0.1	Yes
CCB	16-NOV-2020 19:25:00	201116	0	0.1	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:16

GEL Laboratories LLC
Contract: ESHL00118
SDG #: 2021-129

Ion Chromatography
Method: EPA 300.0
Instrument: DIONEX Aquion Ion Chromatograph (IC12)

Parmname: Fluoride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**17-NOV-2020 08:55:00**	**201117**	**0**	**0.1**	**Yes**
CCB	17-NOV-2020 12:48:00	201117	0	0.1	Yes

Parmname: Sulfate Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 14:54:00**	**201114**	**10.0534**	**10**	**101**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 21:05:00	201114	14.8608	15	99.1	(90%-110%)	Yes
CCV	15-NOV-2020 00:41:00	201114	9.7305	10	97.3	(90%-110%)	Yes
ICV	**16-NOV-2020 08:46:00**	**201116**	**9.9257**	**10**	**99.3**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 15:49:00	201116	14.3892	15	95.9	(90%-110%)	Yes
CCV	16-NOV-2020 18:54:00	201116	9.5738	10	95.7	(90%-110%)	Yes
ICV	**17-NOV-2020 08:24:00**	**201117**	**9.9067**	**10**	**99.1**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 12:17:00	201117	14.4278	15	96.2	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 15:25:00**	**201114**	**0**	**0.4**	**Yes**
CCB	14-NOV-2020 21:36:00	201114	0	0.4	Yes
CCB	15-NOV-2020 01:12:00	201114	0	0.4	Yes
ICB	**16-NOV-2020 09:17:00**	**201116**	**0**	**0.4**	**Yes**
CCB	16-NOV-2020 16:20:00	201116	0	0.4	Yes
CCB	16-NOV-2020 19:25:00	201116	0	0.4	Yes
ICB	**17-NOV-2020 08:55:00**	**201117**	**0**	**0.4**	**Yes**
CCB	17-NOV-2020 12:48:00	201117	0	0.4	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:16

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-129

Nutrient Analysis

Method: EPA 351.2

Instrument: Lachat Quickchem FIA+ 8500 Series (LACHAT3)

Parmname: Nitrogen, Total Kjeldahl Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**20-NOV-2020 10:24:44**	**OM_11-20-2020_10-17-23**	**0.987**	**1**	**98.7**	**(90%-110%)**	**Yes**
CCV	20-NOV-2020 11:29:59	OM_11-20-2020_11-29-09	1.04	1	104	(90%-110%)	Yes
CCV	20-NOV-2020 11:43:02	OM_11-20-2020_11-29-09	1.09	1	109	(90%-110%)	Yes
CCV	20-NOV-2020 11:56:01	OM_11-20-2020_11-29-09	1.06	1	106	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**20-NOV-2020 10:26:55**	**OM_11-20-2020_10-17-23**	**0.0116**	**0.1**	**Yes**
CCB	20-NOV-2020 11:32:10	OM_11-20-2020_11-29-09	0.00341	0.1	Yes
CCB	20-NOV-2020 11:45:13	OM_11-20-2020_11-29-09	0.0148	0.1	Yes
CCB	20-NOV-2020 11:58:11	OM_11-20-2020_11-29-09	-0.00912	0.1	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:16

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-129

Nutrient Analysis

Method: EPA 353.2

Instrument: Lachat Quickchem FIA+ 8500 Series (LACHAT3)

Parmname: Nitrogen, Nitrate/Nitrite Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**16-NOV-2020 08:17:34**	**OM_11-16-2020_08-06-59**	**1.01**	**1**	**101**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 09:11:56	OM_11-16-2020_08-06-59	0.98	1	98	(90%-110%)	Yes
CCV	16-NOV-2020 09:28:33	OM_11-16-2020_08-06-59	0.981	1	98.1	(90%-110%)	Yes
CCV	16-NOV-2020 09:45:07	OM_11-16-2020_08-06-59	0.979	1	97.9	(90%-110%)	Yes
CCV	16-NOV-2020 10:01:40	OM_11-16-2020_08-06-59	0.979	1	97.9	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**16-NOV-2020 08:19:55**	**OM_11-16-2020_08-06-59**	**-0.00457**	**0.05**	**Yes**
CCB	16-NOV-2020 09:14:17	OM_11-16-2020_08-06-59	-0.0044	0.05	Yes
CCB	16-NOV-2020 09:30:54	OM_11-16-2020_08-06-59	-0.00449	0.05	Yes
CCB	16-NOV-2020 09:47:28	OM_11-16-2020_08-06-59	-0.00439	0.05	Yes
CCB	16-NOV-2020 10:04:01	OM_11-16-2020_08-06-59	-0.00335	0.05	Yes

Cyanide, Total Raw Data

Prep Logbook

Cyanide Sample Distillation

Batch ID: **2063121**
Analyst: Aubrey Kingsbury
Method: SM 4500-Cn C SW846 9010C Distillation EPA 335.4
Lab SOP: GL-GC-E-067 REV# 23
Instrument: No instrument-manual method

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695058	RFASPIKE-2	URF3122200-02	.0125	mL
MS	1204695061	RFASPIKE-2	URF3122200-02	.025	mL
MS	1204695062	RFASPIKE-2	URF3122200-02	.025	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204695057 MB	17-NOV-2020 06:49:40	Water	25	25	1	>12
1204695058 LCS	17-NOV-2020 06:49:40	Water	25	25	1	>12
527235001	17-NOV-2020 06:49:40	Water	25	25	1	>12
1204695060 DUP (527235001)	17-NOV-2020 06:49:40	Water	25	25	1	>12
1204695062 MS (527235001)	17-NOV-2020 06:49:40	Water	25	25	1	>12
527235002	17-NOV-2020 06:49:40	Water	25	25	1	>12
527342001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527344001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527346001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527349001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527351001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527353001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527385001	17-NOV-2020 06:49:40	Waste Water	25	25	1	>12
527471002	17-NOV-2020 06:49:40	Water	25	25	1	>12
527471003	17-NOV-2020 06:49:40	Water	25	25	1	>12
527509001	17-NOV-2020 06:49:40	Water	25	25	1	>12
1204695059 DUP (527509001)	17-NOV-2020 06:49:40	Water	25	25	1	>12
1204695061 MS (527509001)	17-NOV-2020 06:49:40	Water	25	25	1	>12
527509005	17-NOV-2020 06:49:40	Water	25	25	1	>12
527509010	17-NOV-2020 06:49:40	Water	25	25	1	>12
527510001	17-NOV-2020 06:49:40	Water	25	25	1	>12
527510007	17-NOV-2020 06:49:40	Water	25	25	1	>12
527510013	17-NOV-2020 06:49:40	Water	25	25	1	>12
527526001	17-NOV-2020 06:49:40	Water	25	25	1	>12
527531002	17-NOV-2020 06:49:40	Water	25	25	1	>12
527533001	17-NOV-2020 06:49:40	Water	25	25	1	>12

Reagent/Solvent Lot ID	Description	Amount
3099880-C	0.8N H3NO3S	1.25 mL
3120200-C	0.25N Sodium Hydroxide Solution	25 mL
3137120-C	51% MgCl2 Soln	1 mL
3137122-C	Bismuth Nitrate Solution	1.25 mL
3137124-C	50% H2SO4 CN Prep	2.5 mL
WCN201117-07	150 ppb CN Distilled ICV Standard	.0375 mL

Comments:
Start Time: 17-NOV-20 06:19:40
End Time: 17-NOV-20 06:49:40
Lot Number: 195652-0070-NS

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axh3	11/17/2020 7:56:21	OM_11-17-2020_07-53-56
150 ppb		1	axh3	11/17/2020 7:57:13	OM_11-17-2020_07-53-56
100 ppb		1	axh3	11/17/2020 7:58:05	OM_11-17-2020_07-53-56
50 ppb		1	axh3	11/17/2020 7:58:57	OM_11-17-2020_07-53-56
10 ppb		1	axh3	11/17/2020 7:59:50	OM_11-17-2020_07-53-56
5.0 ppb		1	axh3	11/17/2020 8:00:43	OM_11-17-2020_07-53-56
ICAL-00		1	axh3	11/17/2020 8:01:37	OM_11-17-2020_07-53-56
ICV		1	axh3	11/17/2020 8:03:34	OM_11-17-2020_07-53-56
ICB		1	axh3	11/17/2020 8:05:30	OM_11-17-2020_07-53-56
CRDL		1	axh3	11/17/2020 8:07:26	OM_11-17-2020_07-53-56
1204695054	2063120	1	axh3	11/17/2020 8:09:23	OM_11-17-2020_07-53-56
1204695055	2063120	500	axh3	11/17/2020 8:10:17	OM_11-17-2020_07-53-56
527519001	2063120	1	axh3	11/17/2020 8:11:10	OM_11-17-2020_07-53-56
1204695056	2063120	1	axh3	11/17/2020 8:12:04	OM_11-17-2020_07-53-56
1204695057	2063122	1	axh3	11/17/2020 8:12:57	OM_11-17-2020_07-53-56
1204695058	2063122	1	axh3	11/17/2020 8:13:51	OM_11-17-2020_07-53-56
527235001	2063122	1	axh3	11/17/2020 8:14:43	OM_11-17-2020_07-53-56
1204695060	2063122	1	axh3	11/17/2020 8:15:36	OM_11-17-2020_07-53-56
1204695062	2063122	1	axh3	11/17/2020 8:16:29	OM_11-17-2020_07-53-56
527235002	2063122	1	axh3	11/17/2020 8:17:21	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 8:18:16	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 8:20:12	OM_11-17-2020_07-53-56
527342001	2063122	1	axh3	11/17/2020 8:22:07	OM_11-17-2020_07-53-56
527344001	2063122	1	axh3	11/17/2020 8:22:59	OM_11-17-2020_07-53-56
527346001*	2063122	1	axh3	11/17/2020 8:23:51	OM_11-17-2020_07-53-56
527349001	2063122	1	axh3	11/17/2020 8:24:43	OM_11-17-2020_07-53-56
527351001	2063122	1	axh3	11/17/2020 8:25:34	OM_11-17-2020_07-53-56
527353001	2063122	1	axh3	11/17/2020 8:26:26	OM_11-17-2020_07-53-56
527385001	2063122	1	axh3	11/17/2020 8:27:17	OM_11-17-2020_07-53-56
527471002	2063122	1	axh3	11/17/2020 8:28:09	OM_11-17-2020_07-53-56
527471003	2063122	1	axh3	11/17/2020 8:29:00	OM_11-17-2020_07-53-56
527509001	2063122	1	axh3	11/17/2020 8:29:53	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 8:30:45	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 8:32:41	OM_11-17-2020_07-53-56
1204695059	2063122	1	axh3	11/17/2020 8:34:37	OM_11-17-2020_07-53-56
1204695061	2063122	1	axh3	11/17/2020 8:35:30	OM_11-17-2020_07-53-56
527346001	2063122	1	axh3	11/17/2020 8:36:22	OM_11-17-2020_07-53-56
527509005	2063122	1	axh3	11/17/2020 8:37:15	OM_11-17-2020_07-53-56
527509010	2063122	1	axh3	11/17/2020 8:38:08	OM_11-17-2020_07-53-56
527510001	2063122	1	axh3	11/17/2020 8:39:00	OM_11-17-2020_07-53-56
527510007	2063122	1	axh3	11/17/2020 8:39:53	OM_11-17-2020_07-53-56
527510013	2063122	1	axh3	11/17/2020 8:40:45	OM_11-17-2020_07-53-56
527526001	2063122	1	axh3	11/17/2020 8:41:37	OM_11-17-2020_07-53-56
527531002	2063122	1	axh3	11/17/2020 8:42:29	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 8:43:21	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 8:45:18	OM_11-17-2020_07-53-56
527533001	2063122	1	axh3	11/17/2020 8:47:12	OM_11-17-2020_07-53-56
1204695073	2063126	1	axh3	11/17/2020 8:48:04	OM_11-17-2020_07-53-56
1204695074	2063126	1	axh3	11/17/2020 8:48:56	OM_11-17-2020_07-53-56
527305004	2063126	1	axh3	11/17/2020 8:49:47	OM_11-17-2020_07-53-56
1204695076	2063126	1	axh3	11/17/2020 8:50:38	OM_11-17-2020_07-53-56
1204695078	2063126	1	axh3	11/17/2020 8:51:33	OM_11-17-2020_07-53-56
527312004	2063126	1	axh3	11/17/2020 8:52:26	OM_11-17-2020_07-53-56
527312009	2063126	1	axh3	11/17/2020 8:53:19	OM_11-17-2020_07-53-56
527354001	2063126	1	axh3	11/17/2020 8:54:12	OM_11-17-2020_07-53-56
527380001	2063126	1	axh3	11/17/2020 8:55:04	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 8:55:57	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 8:57:53	OM_11-17-2020_07-53-56

527384001	2063126	1	axh3	11/17/2020 8:59:48	OM_11-17-2020_07-53-56
527389001	2063126	1	axh3	11/17/2020 9:00:41	OM_11-17-2020_07-53-56
527394001	2063126	1	axh3	11/17/2020 9:01:33	OM_11-17-2020_07-53-56
527398001	2063126	1	axh3	11/17/2020 9:02:26	OM_11-17-2020_07-53-56
527407001	2063126	1	axh3	11/17/2020 9:03:18	OM_11-17-2020_07-53-56
527441001	2063126	1	axh3	11/17/2020 9:04:10	OM_11-17-2020_07-53-56
527442001	2063126	1	axh3	11/17/2020 9:05:01	OM_11-17-2020_07-53-56
527443001	2063126	1	axh3	11/17/2020 9:05:53	OM_11-17-2020_07-53-56
1204695075	2063126	1	axh3	11/17/2020 9:06:45	OM_11-17-2020_07-53-56
1204695077	2063126	1	axh3	11/17/2020 9:07:37	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 9:08:28	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 9:10:25	OM_11-17-2020_07-53-56
527444001	2063126	1	axh3	11/17/2020 9:12:21	OM_11-17-2020_07-53-56
527445001	2063126	1	axh3	11/17/2020 9:13:14	OM_11-17-2020_07-53-56
527447001	2063126	1	axh3	11/17/2020 9:14:08	OM_11-17-2020_07-53-56
527448001	2063126	1	axh3	11/17/2020 9:15:01	OM_11-17-2020_07-53-56
527449001	2063126	1	axh3	11/17/2020 9:15:54	OM_11-17-2020_07-53-56
527450001	2063126	1	axh3	11/17/2020 9:16:47	OM_11-17-2020_07-53-56
1204695079	2063128	1	axh3	11/17/2020 9:17:40	OM_11-17-2020_07-53-56
1204695080	2063128	1	axh3	11/17/2020 9:18:32	OM_11-17-2020_07-53-56
1204695081	2063128	1	axh3	11/17/2020 9:19:24	OM_11-17-2020_07-53-56
527290004	2063128	1	axh3	11/17/2020 9:20:17	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 9:21:09	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 9:23:05	OM_11-17-2020_07-53-56
1204695083	2063128	1	axh3	11/17/2020 9:25:00	OM_11-17-2020_07-53-56
1204695085	2063128	1	axh3	11/17/2020 9:25:52	OM_11-17-2020_07-53-56
527340001	2063128	1	axh3	11/17/2020 9:26:44	OM_11-17-2020_07-53-56
527489002	2063128	1	axh3	11/17/2020 9:27:36	OM_11-17-2020_07-53-56
1204695082	2063128	1	axh3	11/17/2020 9:28:27	OM_11-17-2020_07-53-56
1204695084	2063128	1	axh3	11/17/2020 9:29:21	OM_11-17-2020_07-53-56
527489005	2063128	1	axh3	11/17/2020 9:30:15	OM_11-17-2020_07-53-56
527489008	2063128	1	axh3	11/17/2020 9:31:08	OM_11-17-2020_07-53-56
527501002	2063128	1	axh3	11/17/2020 9:32:02	OM_11-17-2020_07-53-56
527501005	2063128	1	axh3	11/17/2020 9:32:55	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 9:33:47	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 9:35:43	OM_11-17-2020_07-53-56
527501006	2063128	1	axh3	11/17/2020 9:37:39	OM_11-17-2020_07-53-56
1204696232	2063596	1	axh3	11/17/2020 9:38:32	OM_11-17-2020_07-53-56
1204696233	2063596	10	axh3	11/17/2020 9:39:24	OM_11-17-2020_07-53-56
527503002	2063596	1	axh3	11/17/2020 9:40:17	OM_11-17-2020_07-53-56
1204696234	2063596	1	axh3	11/17/2020 9:41:10	OM_11-17-2020_07-53-56
1204696235	2063596	1	axh3	11/17/2020 9:42:02	OM_11-17-2020_07-53-56
527503003	2063596	1	axh3	11/17/2020 9:42:54	OM_11-17-2020_07-53-56
527503004	2063596	1	axh3	11/17/2020 9:43:46	OM_11-17-2020_07-53-56
527503005	2063596	1	axh3	11/17/2020 9:44:39	OM_11-17-2020_07-53-56
527503006	2063596	1	axh3	11/17/2020 9:45:30	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 9:46:22	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 9:48:18	OM_11-17-2020_07-53-56

Author: axh3 Date : 11/17/2020

Original Run Filename: OM_11-17-2020_07-53-56.OMN created 11/17/2020 07:53:56
Original Run Author's Signature: [axh3]
Current Run Filename: OM_11-17-2020_07-53-56.OMN last modified 11/17/2020 09:49:23
Current Run Author's Signature: [axh3]
Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M
Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE Conc. (ug/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WCN201117-01	1	S1	200	9.30	11/17/2020@07:56:21			200 ppb
WCN201117-02	1	S2	150	7.14	11/17/2020@07:57:13			150 ppb
WCN201117-03	1	S3	100	4.62	11/17/2020@07:58:05			100 ppb
WCN201117-04	1	S4	50.0	2.33	11/17/2020@07:58:57			50 ppb
WCN201117-05	1	S5	10.0	0.533	11/17/2020@07:59:50			10 ppb
WCN201117-06	1	S6	5.00	0.276	11/17/2020@08:00:43			5.0 ppb
WCN201117-08	1	S7	0.00	0.0239	11/17/2020@08:01:37			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99985 > 0.99500					
Message			Pass					
Action			Continue					
WCN201117-07	1	S8	150	7.02	11/17/2020@08:03:34			ICV
Known Conc:			150					
DQM Test: > + Concentration Limit								
Result:			150 < 165					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			150 > 135					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN201117-08	1	S7	-0.860	-0.00674	11/17/2020@08:05:30			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.860 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.860 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN201117-06	1	S6	5.10	0.271	11/17/2020@08:07:26			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			5.10 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			5.10 > 2.50					
Message			Pass					
Action			None					
1204695054|2063120|MB	1	76	-0.782	-0.00311	11/17/2020@08:09:23			
1204695055||LCS	1	77	125	5.85	11/17/2020@08:10:17		500.00	
527519001	1	78	0.150	0.0403	11/17/2020@08:11:10			
1204695056||DUP	1	79	-0.878	-0.00758	11/17/2020@08:12:04			
1204695057|2063122|MB	1	1	-0.722	-2.99e-4	11/17/2020@08:12:57			
1204695058||LCS	1	2	48.3	2.28	11/17/2020@08:13:51			
527235001	1	3	44.8	2.12	11/17/2020@08:14:43			
1204695060||DUP	1	4	46.4	2.19	11/17/2020@08:15:36			
1204695062||MS	1	5	139	6.49	11/17/2020@08:16:29			
527235002	1	6	3.38	0.191	11/17/2020@08:17:21			
WCN201117-03	1	S3	103	4.83	11/17/2020@08:18:16			CCV
Known Conc:			100					
DQM Test: > + Concentration Limit								
Result:			103 < 110					

		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	103 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	-0.900	-0.00858	11/17/2020@08:20:12			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.900 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.900 > -5.00					
		Message	CCB Passed					
		Action	Continue					
527342001	1	7	-0.0847	0.0294	11/17/2020@08:22:07			
527344001	1	8	-0.712	1.75e-4	11/17/2020@08:22:59			
527346001	1	9	1.65	0.110	11/17/2020@08:23:51			
527349001	1	10	-0.827	-0.00520	11/17/2020@08:24:43			
527351001	1	11	-0.719	-1.73e-4	11/17/2020@08:25:34			
527353001	1	12	-0.679	0.00171	11/17/2020@08:26:26			
527385001	1	13	-0.0388	0.0315	11/17/2020@08:27:17			
527471002	1	14	0.293	0.0470	11/17/2020@08:28:09			
527471003	1	15	-0.413	0.0141	11/17/2020@08:29:00			
527509001	1	16	7.14	0.366	11/17/2020@08:29:53			
WCN201117-03	1	S3	103	4.82	11/17/2020@08:30:45			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	103 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	103 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	-0.948	-0.0108	11/17/2020@08:32:41			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.948 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.948 > -5.00					
		Message	CCB Passed					
		Action	Continue					
1204695059||DUP	1	17	7.01	0.360	11/17/2020@08:34:37			
1204695061||MS	1	18	101	4.73	11/17/2020@08:35:30			
527346001	1	9	0.0739	0.0368	11/17/2020@08:36:22			
527509005	1	19	-0.814	-0.00460	11/17/2020@08:37:15			
527509010	1	20	1.36	0.0969	11/17/2020@08:38:08			
527510001	1	21	3.59	0.200	11/17/2020@08:39:00			
527510007	1	22	1.62	0.109	11/17/2020@08:39:53			
527510013	1	23	0.921	0.0762	11/17/2020@08:40:45			
527526001	1	24	-0.718	-9.31e-5	11/17/2020@08:41:37			
527531002	1	25	-0.717	-7.18e-5	11/17/2020@08:42:29			
WCN201117-03	1	S3	103	4.82	11/17/2020@08:43:21			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	103 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	103 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	-0.717	-7.53e-5	11/17/2020@08:45:18			CCB
		Known Conc:	0.00					

DQM Test: > + Concentration Limit								
		Result:	-0.717 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.717 > -5.00					
		Message	CCB Passed					
		Action	Continue					
527533001	1	26	0.571	0.0599	11/17/2020@08:47:12			
1204695073|2063126|MB	1	27	-0.902	-0.00866	11/17/2020@08:48:04			
1204695074||LCS	1	28	48.9	2.31	11/17/2020@08:48:56			
527305004	1	29	-0.483	0.0108	11/17/2020@08:49:47			
1204695076||DUP	1	30	-0.803	-0.00409	11/17/2020@08:50:38			
1204695078||MS	1	31	99.6	4.67	11/17/2020@08:51:33			
527312004	1	32	0.0576	0.0360	11/17/2020@08:52:26			
527312009	1	33	-0.717	-7.42e-5	11/17/2020@08:53:19			
527354001	1	34	-0.941	-0.0105	11/17/2020@08:54:12			
527380001	1	35	-0.714	7.76e-5	11/17/2020@08:55:04			
WCN201117-03	1	S3	103	4.83	11/17/2020@08:55:57			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	103 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	103 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	-0.720	-1.84e-4	11/17/2020@08:57:53			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.720 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.720 > -5.00					
		Message	CCB Passed					
		Action	Continue					
527384001	1	36	-0.788	-0.00339	11/17/2020@08:59:48			
527389001	1	37	-0.906	-0.00884	11/17/2020@09:00:41			
527394001	1	38	-0.728	-5.72e-4	11/17/2020@09:01:33			
527398001	1	39	-1.05	-0.0154	11/17/2020@09:02:26			
527407001	1	40	-0.719	-1.45e-4	11/17/2020@09:03:18			
527441001	1	41	-0.124	0.0275	11/17/2020@09:04:10			
527442001	1	42	-0.717	-7.07e-5	11/17/2020@09:05:01			
527443001	1	43	-0.718	-1.29e-4	11/17/2020@09:05:53			
1204695075||DUP	1	44	-0.712	1.81e-4	11/17/2020@09:06:45			
1204695077||MS	1	45	98.9	4.64	11/17/2020@09:07:37			
WCN201117-03	1	S3	104	4.87	11/17/2020@09:08:28			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	104 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	104 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	-0.723	-3.22e-4	11/17/2020@09:10:25			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.723 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.723 > -5.00					
		Message	CCB Passed					
		Action	Continue					

527444001	1	46	-0.383	0.0155	11/17/2020@09:12:21			
527445001	1	47	-0.717	-8.24e-5	11/17/2020@09:13:14			
527447001	1	48	-0.895	-0.00833	11/17/2020@09:14:08			
527448001	1	49	-0.727	-5.34e-4	11/17/2020@09:15:01			
527449001	1	50	-0.241	0.0221	11/17/2020@09:15:54			
527450001	1	51	-0.889	-0.00807	11/17/2020@09:16:47			
1204695079|2063128|MB	1	52	-0.607	0.00508	11/17/2020@09:17:40			
1204695080||LCS	1	53	49.0	2.32	11/17/2020@09:18:32			
1204695081||LCSD	1	54	49.1	2.32	11/17/2020@09:19:24			
527290004	1	55	-0.295	0.0196	11/17/2020@09:20:17			
WCN201117-03	1	S3	103	4.85	11/17/2020@09:21:09			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	103 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	103 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	0.00582	0.0336	11/17/2020@09:23:05			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	0.00582 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.00582 > -5.00					
		Message	CCB Passed					
		Action	Continue					
1204695083||DUP	1	56	-0.834	-0.00549	11/17/2020@09:25:00			
1204695085||MS	1	57	99.5	4.67	11/17/2020@09:25:52			
527340001	1	58	-0.0195	0.0324	11/17/2020@09:26:44			
527489002	1	59	-0.719	-1.75e-4	11/17/2020@09:27:36			
1204695082||DUP	1	60	-0.787	-0.00332	11/17/2020@09:28:27			
1204695084||MS	1	61	95.7	4.49	11/17/2020@09:29:21			
527489005	1	62	-0.725	-4.30e-4	11/17/2020@09:30:15			
527489008	1	63	-0.678	0.00174	11/17/2020@09:31:08			
527501002	1	64	-0.853	-0.00639	11/17/2020@09:32:02			
527501005	1	65	-0.849	-0.00620	11/17/2020@09:32:55			
WCN201117-03	1	S3	104	4.87	11/17/2020@09:33:47			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	104 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	104 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	0.102	0.0381	11/17/2020@09:35:43			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	0.102 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.102 > -5.00					
		Message	CCB Passed					
		Action	Continue					
527501006	1	66	-0.849	-0.00621	11/17/2020@09:37:39			
1204696232|2063596|MB	1	67	-0.827	-0.00520	11/17/2020@09:38:32			
1204696233||LCS	1	68	124	5.79	11/17/2020@09:39:24		10.00	
527503002	1	69	0.464	0.0549	11/17/2020@09:40:17			
1204696234||DUP	1	70	0.929	0.0766	11/17/2020@09:41:10			
1204696235||MS	1	71	96.5	4.53	11/17/2020@09:42:02			
527503003	1	72	0.760	0.0687	11/17/2020@09:42:54			
527503004	1	73	0.678	0.0649	11/17/2020@09:43:46			

527503005	1	74	0.785	0.0699	11/17/2020@09:44:39			
527503006	1	75	0.238	0.0444	11/17/2020@09:45:30			
WCN201117-03	1	S3	104	4.86	11/17/2020@09:46:22			CCV
Known Conc:			100					
DQM Test: > + Concentration Limit								
Result:			104 < 110					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			104 > 90.0					
Message			CCV Passed					
Action			Continue					
WCN201117-08	1	S7	-0.871	-0.00724	11/17/2020@09:48:18			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.871 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.871 > -5.00					
Message			CCB Passed					
Action			Continue					

Analyte Properties Table for OM_11-17-2020_07-53-56.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Callibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	14
Peak Base Width	53

Channel 1: Current View

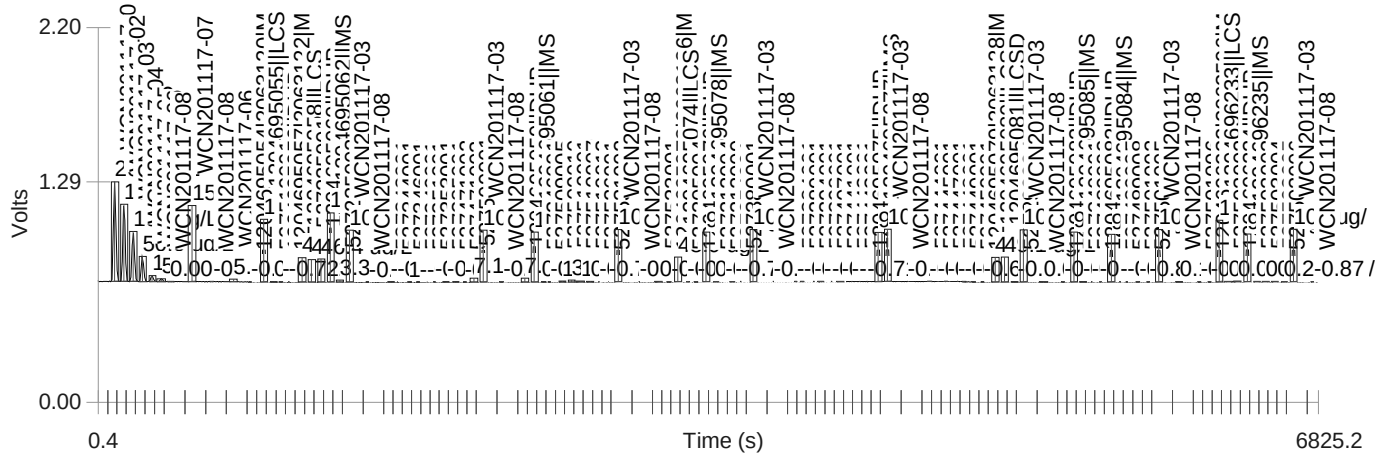
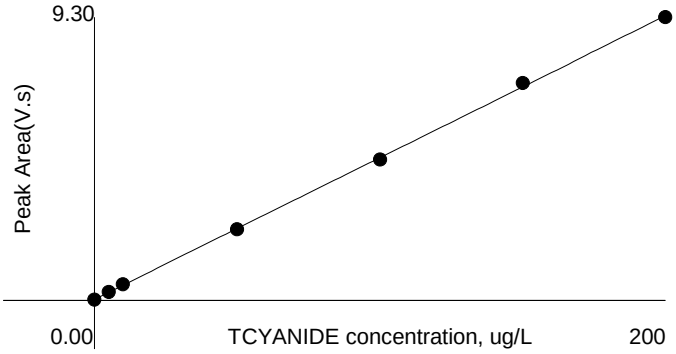


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	9.30	0.583	0.5	11/17/2020	07:57:25
2	150	1	7.14	0.453	-1.7	11/17/2020	07:58:17
3	100	1	4.62	0.293	1.5	11/17/2020	07:59:09
4	50.0	1	2.33	0.147	1.4	11/17/2020	08:00:01
5	10.0	1	0.533	0.0341	-6.6	11/17/2020	08:00:54
6	5.00	1	0.276	0.0158	-3.3	11/17/2020	08:01:47
7	0.00	1	0.0239	0.00104		11/17/2020	08:02:41

Figure 1: TCYANIDE



Area = 0.0466 * Conc + 0.0343
Conc = 21.5 * Area - 0.716
Correlation Coefficient (r) = 0.99985

No Weighting

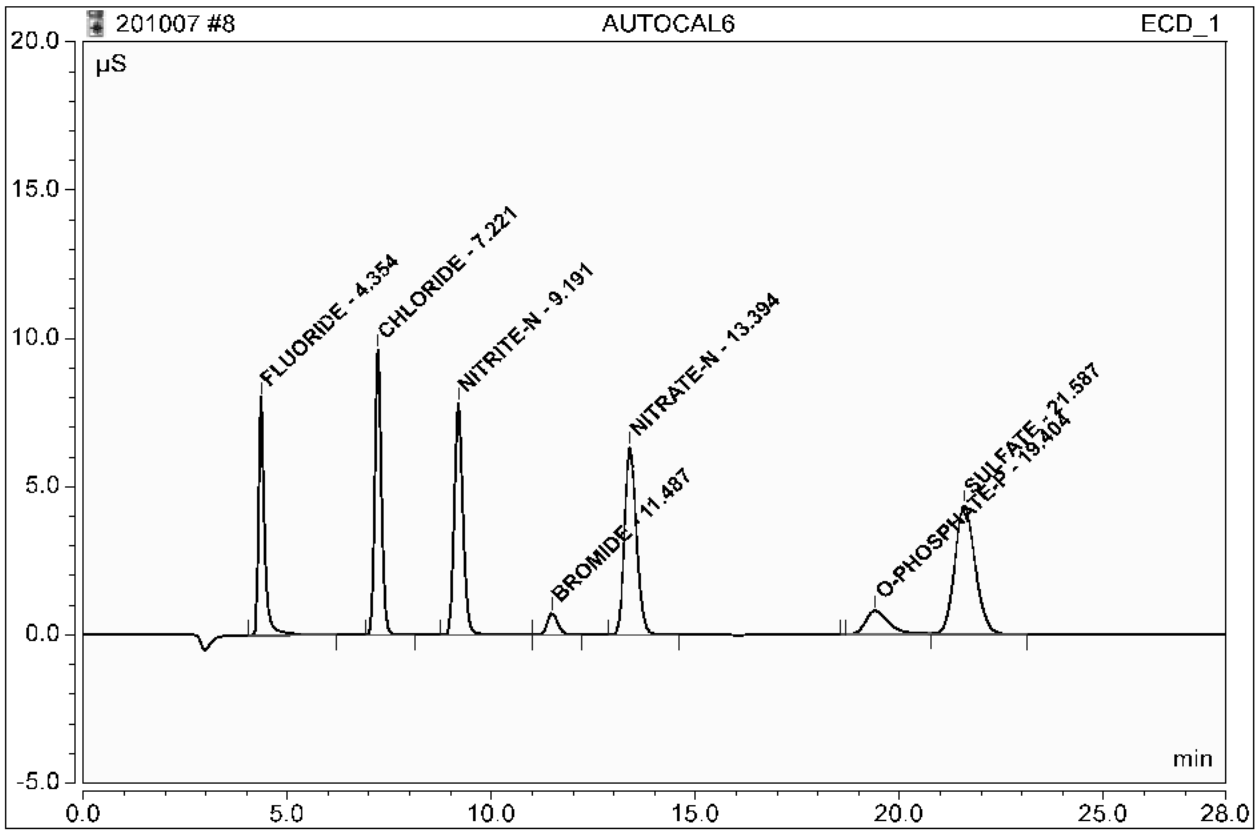
Ion Chromatography Raw Data

This is runlog for Sequence 201118.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
ICAL-06	10/07/20 13:10		1	201118	LXA2
ICAL-05	10/07/20 13:40		1	201118	LXA2
ICAL-04	10/07/20 14:11		1	201118	LXA2
ICAL-03	10/07/20 14:42		1	201118	LXA2
ICAL-02	10/07/20 15:13		1	201118	LXA2
ICAL-01	10/07/20 15:44		1	201118	LXA2
ICAL-06	10/07/20 13:10		1	201118	LXA2
ICAL-05	10/07/20 13:40		1	201118	LXA2
ICAL-04	10/07/20 14:11		1	201118	LXA2
ICAL-03	10/07/20 14:42		1	201118	LXA2
ICAL-02	10/07/20 15:13		1	201118	LXA2
ICAL-01	10/07/20 15:44		1	201118	LXA2

8 AUTOCAL6

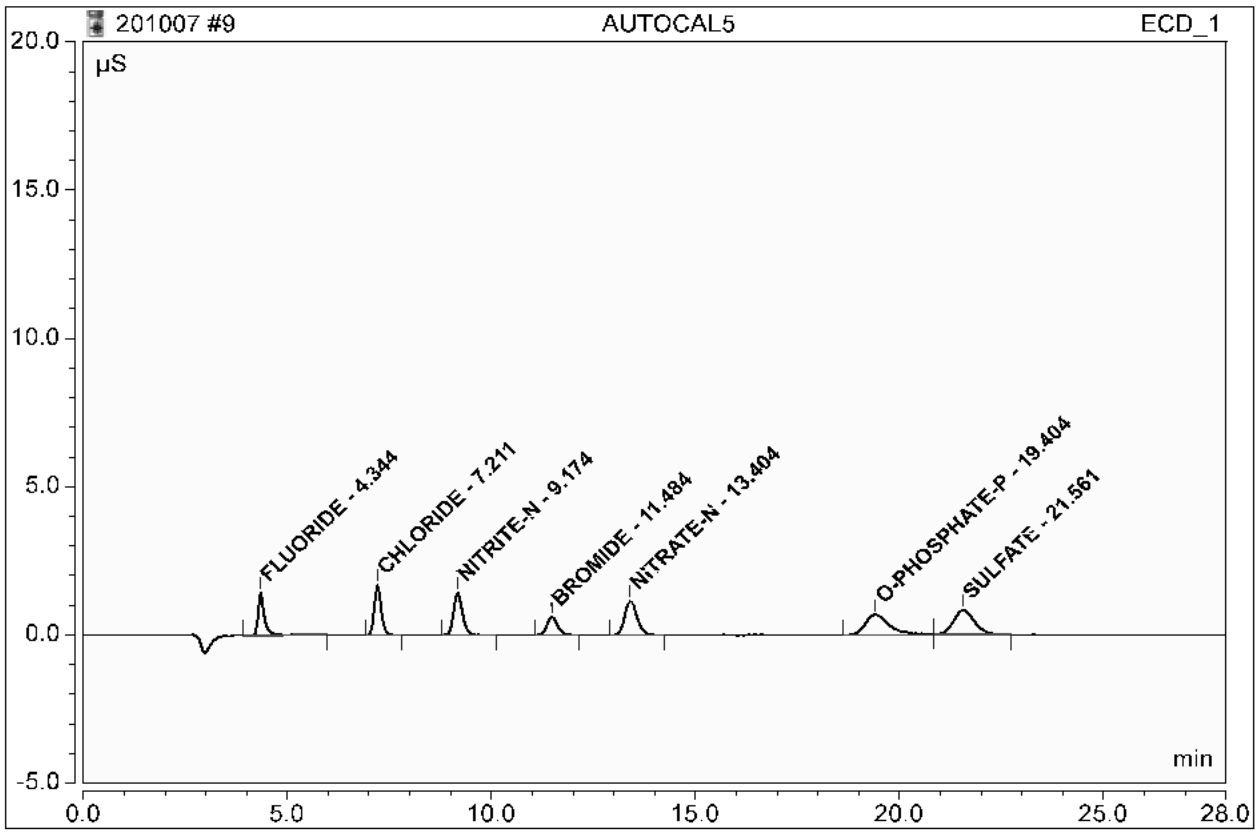
Sample Name:	**AUTOCAL6**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 13:10**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	5.0000	5.0072		1.35834	12.91
2	7.22	CHLORIDE	10.0000	10.0241		1.78569	16.97
3	9.19	NITRITE-N	5.0000	5.0101		1.92861	18.33
4	11.49	BROMIDE	3.0000	3.0164		0.21441	2.04
5	13.39	NITRATE-N	5.0000	5.0100		2.13420	20.28
6	19.40	O-PHOSPHATE-P	3.0000	2.8523		0.51574	4.90
7	21.59	SULFATE	20.0000	20.0308		2.58693	24.58
Total:				50.9510	0.000	10.524	100.00

9 AUTOCAL5

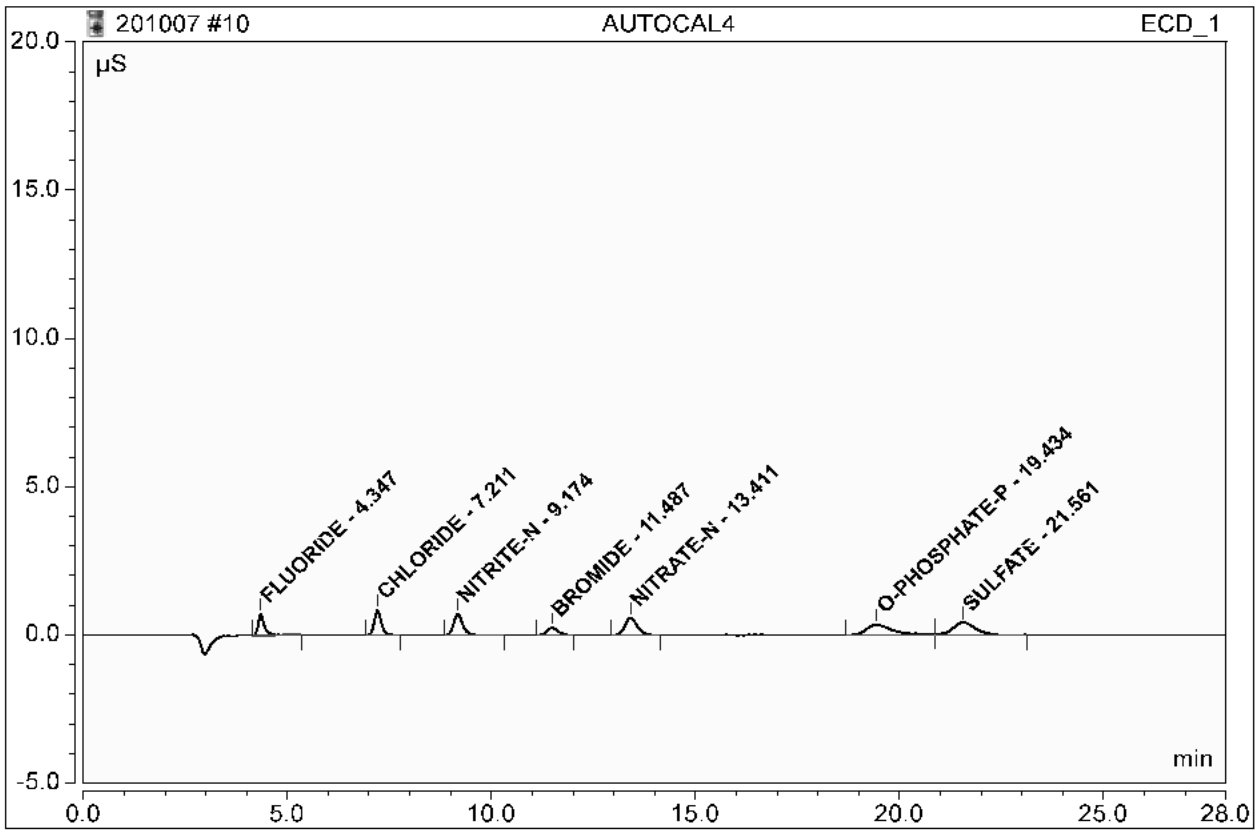
Sample Name:	**AUTOCAL5**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 13:40**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.34	FLUORIDE	1.0000	0.9629		0.25834	10.45
2	7.21	CHLORIDE	2.0000	1.8682		0.32306	13.07
3	9.17	NITRITE-N	1.0000	0.9444		0.35506	14.37
4	11.48	BROMIDE	2.5000	2.4821		0.17638	7.14
5	13.40	NITRATE-N	1.0000	0.9450		0.39390	15.94
6	19.40	O-PHOSPHATE-P	2.5000	2.5558		0.46834	18.95
7	21.56	SULFATE	4.0000	3.8208		0.49644	20.09
Total:				13.5792	0.000	2.472	100.00

10 AUTOCAL4

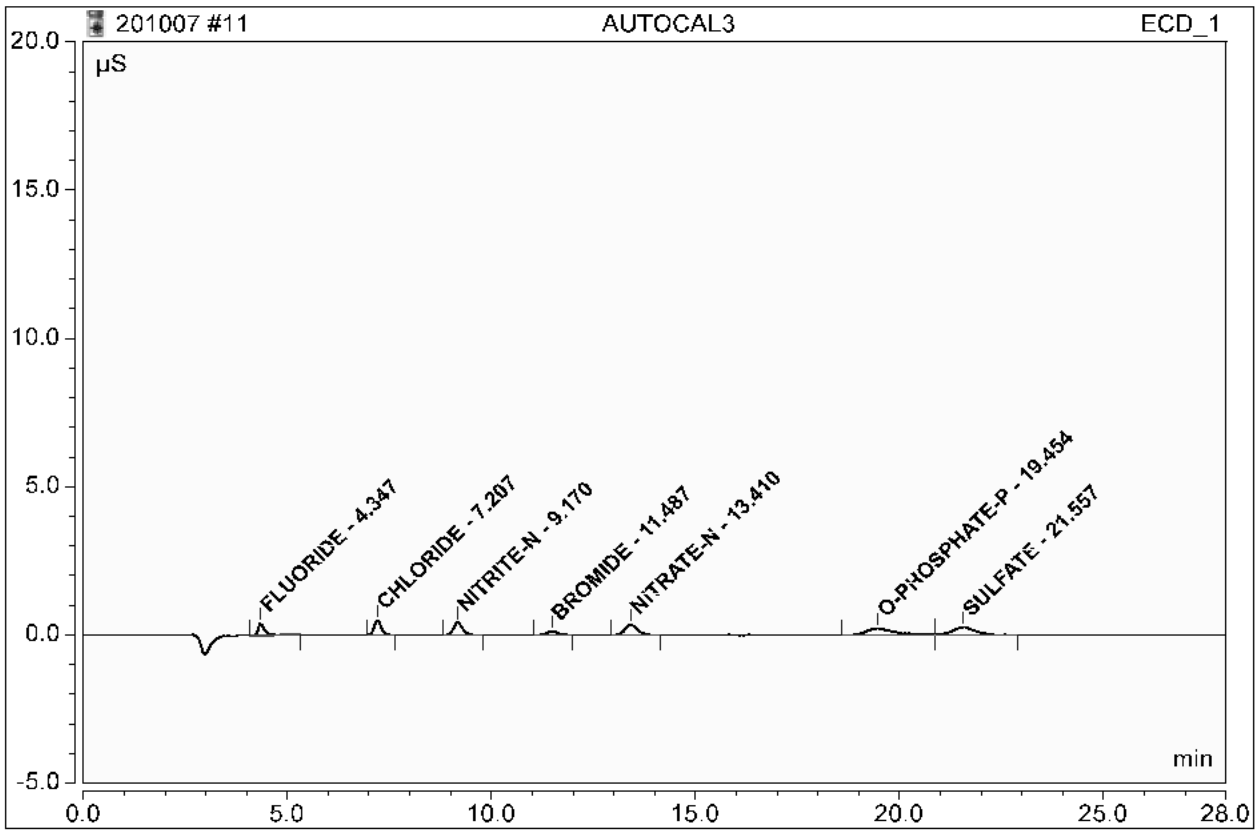
Sample Name:	**AUTOCAL4**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 14:11**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.5000	0.5090		0.12649	10.20
2	7.21	CHLORIDE	1.0000	1.0500		0.16094	12.97
3	9.17	NITRITE-N	0.5000	0.5210		0.17712	14.28
4	11.49	BROMIDE	1.0000	1.0043		0.07034	5.67
5	13.41	NITRATE-N	0.5000	0.5201		0.19620	15.82
6	19.43	O-PHOSPHATE-P	1.0000	0.9790		0.25293	20.39
7	21.56	SULFATE	2.0000	2.0722		0.25652	20.68
Total:				6.6558	0.000	1.241	100.00

11 AUTOCAL3

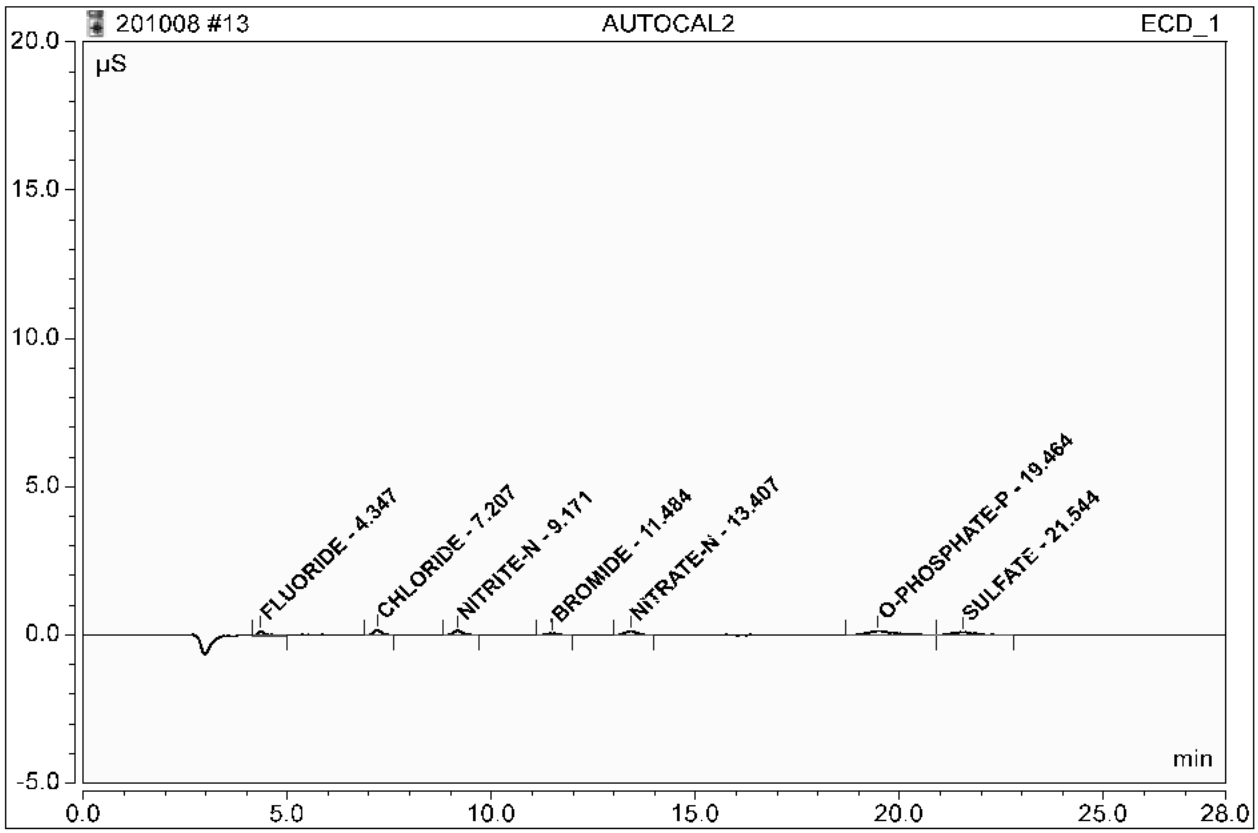
Sample Name:	**AUTOCAL3**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 14:42**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.2500	0.2960		0.07694	10.25
2	7.21	CHLORIDE	0.5000	0.5973		0.09515	12.67
3	9.17	NITRITE-N	0.2500	0.2952		0.10382	13.83
4	11.49	BROMIDE	0.5000	0.5040		0.03557	4.74
5	13.41	NITRATE-N	0.2500	0.2971		0.11653	15.52
6	19.45	O-PHOSPHATE-P	0.5000	0.6770		0.16788	22.36
7	21.56	SULFATE	1.0000	1.1732		0.15500	20.64
Total:				3.8398	0.000	0.751	100.00

13 AUTOCAL2

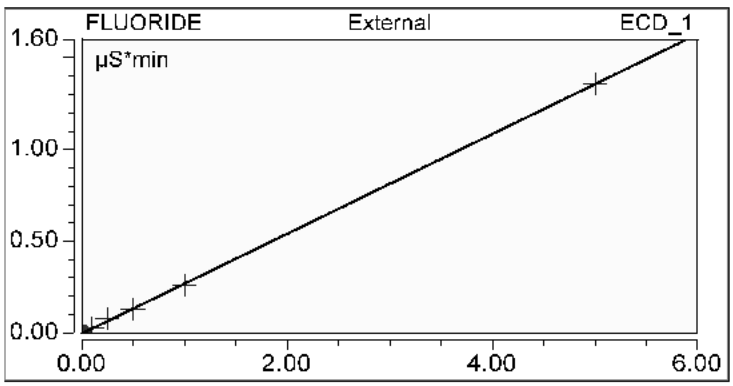
Sample Name:	**AUTOCAL2**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:13**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**

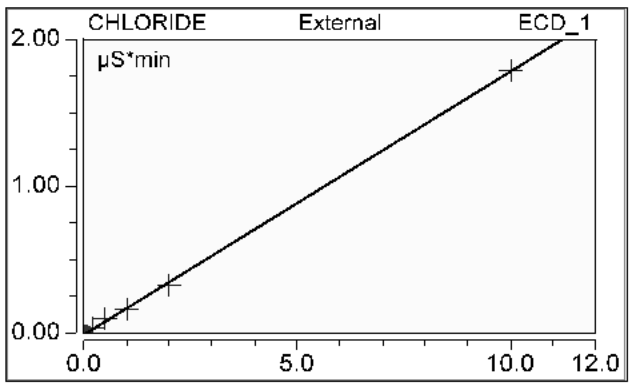


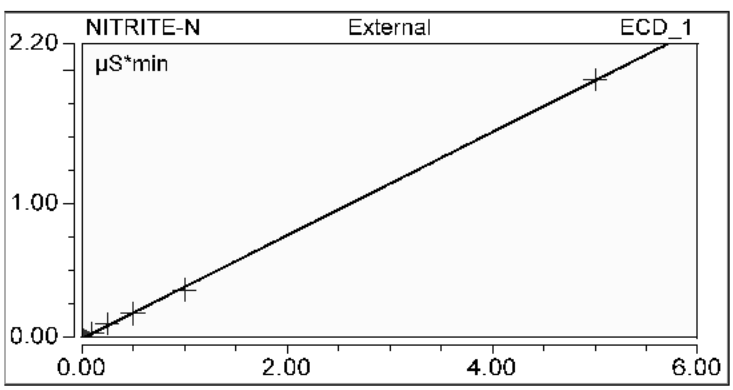
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.1000	0.1058		0.02521	8.45
2	7.21	CHLORIDE	0.2000	0.2461		0.03215	10.78
3	9.17	NITRITE-N	0.1000	0.1158		0.03437	11.52
4	11.48	BROMIDE	0.2000	0.2050		0.01428	4.79
5	13.41	NITRATE-N	0.1000	0.1148		0.03848	12.90
6	19.46	O-PHOSPHATE-P	0.2000	0.2317		0.09666	32.40
7	21.54	SULFATE	0.4000	0.4148		0.05719	19.17
Total:				1.4338	0.000	0.298	100.00

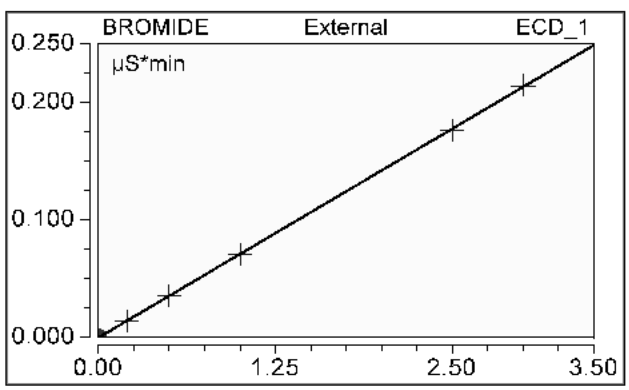
13 AUTOCAL1

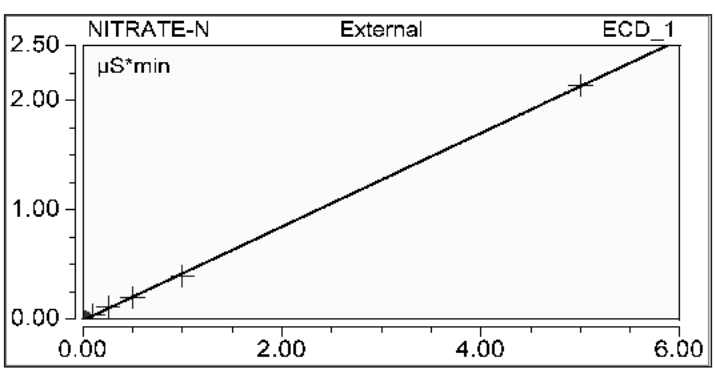
Sample Name:	**AUTOCAL1**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:44**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**n.a.**

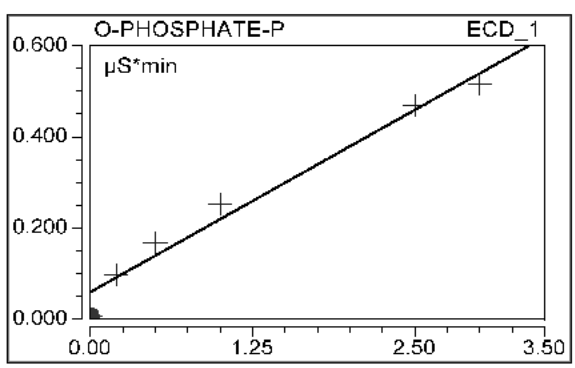


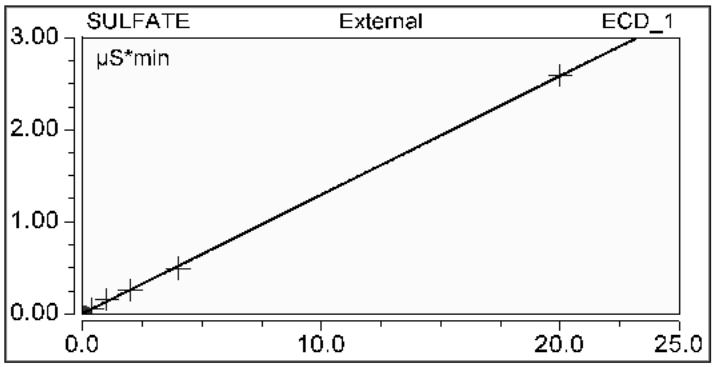








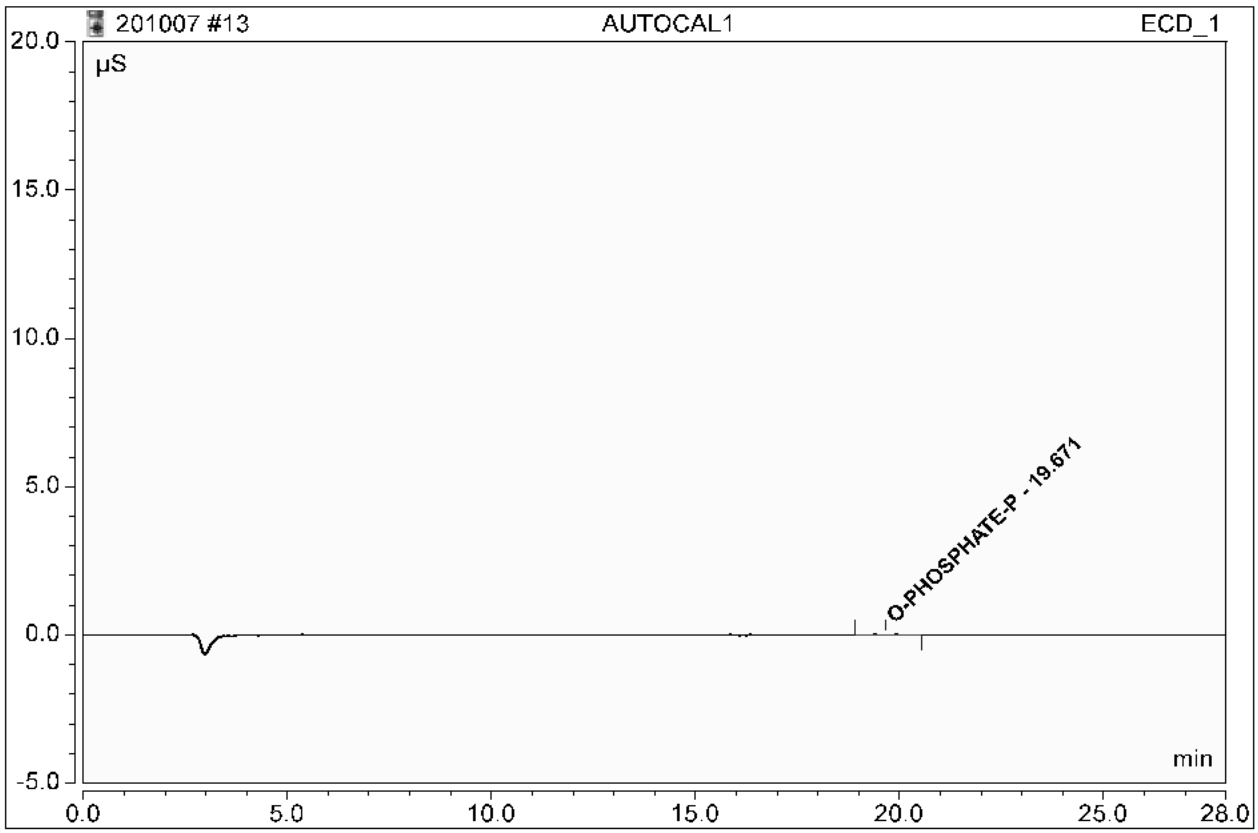




No.	Ret.Time min	Peak Name	Cal.Type	Coeff.Det. %	Offset	Slope	Curve
n.a.	n.a.	FLUORIDE	n, WithOffs	99.9761	-0.0036	0.2720	0.0000
n.a.	n.a.	CHLORIDE	n, WithOffs	99.9545	-0.0120	0.1793	0.0000
n.a.	n.a.	NITRITE-N	n, WithOffs	99.9662	-0.0104	0.3870	0.0000
n.a.	n.a.	BROMIDE	n, WithOffs	99.9888	-0.0003	0.0712	0.0000
n.a.	n.a.	NITRATE-N	n, WithOffs	99.9655	-0.0106	0.4281	0.0000
n.a.	n.a.	O-PHOSPHATE-P	n, WithOffs	97.4479	0.0596	0.1599	0.0000
n.a.	n.a.	SULFATE	n, WithOffs	99.9761	0.0037	0.1290	0.0000
Average:				99.6107	0.0038	0.2324	0.0000

13 AUTOCAL1

Sample Name:	**AUTOCAL1**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:44**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



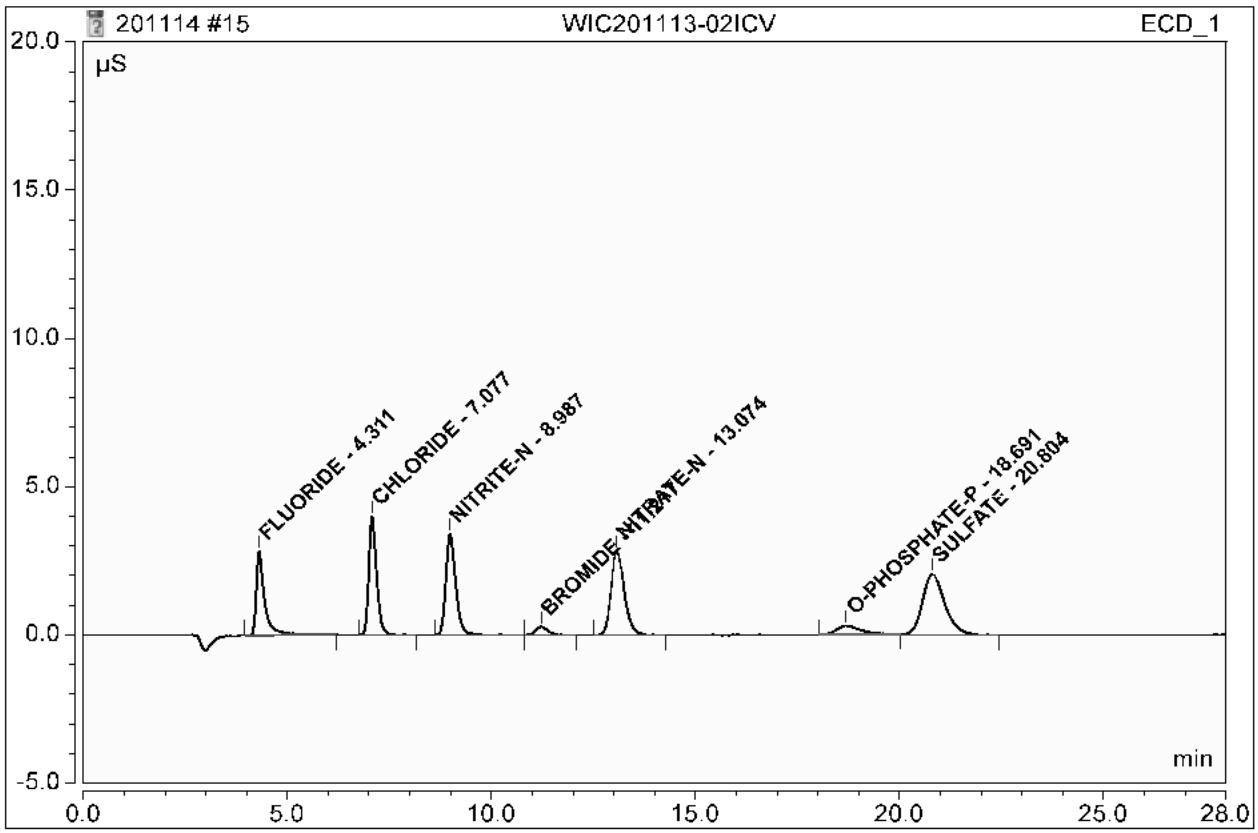
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	0.0000	n.a.	n.a.	n.a.	n.a.
1	19.67	O-PHOSPHATE-P	0.0000	n.a.		0.00755	100.00
n.a.	n.a.	SULFATE	0.0000	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.008	100.00

This is runlog for Sequence 201114.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/14/20 14:24		1	201114	LXA2
ICV	11/14/20 14:54		1	201114	LXA2
ICB	11/14/20 15:25		1	201114	LXA2
527509002	11/14/20 15:56	2062981	100	201114	LXA2
527509007	11/14/20 16:27	2062981	100	201114	LXA2
527509011	11/14/20 16:58	2062981	100	201114	LXA2
527510002	11/14/20 17:28	2062981	100	201114	LXA2
527510008	11/14/20 17:59	2062981	100	201114	LXA2
527510014	11/14/20 18:30	2062981	100	201114	LXA2
527512005	11/14/20 19:01	2062981	100	201114	LXA2
527513002	11/14/20 19:32	2062981	100	201114	LXA2
527513004	11/14/20 20:03	2062981	100	201114	LXA2
527513006	11/14/20 20:34	2062981	100	201114	LXA2
CVH	11/14/20 21:05		1	201114	LXA2
CCB	11/14/20 21:36		1	201114	LXA2
1204694599	11/14/20 22:07	2062981	100	201114	LXA2
1204694600	11/14/20 22:37	2062981	100	201114	LXA2
1204694597	11/14/20 23:08	2062981	1	201114	LXA2
1204694598	11/14/20 23:39	2062981	1	201114	LXA2

15 WIC201113-02ICV

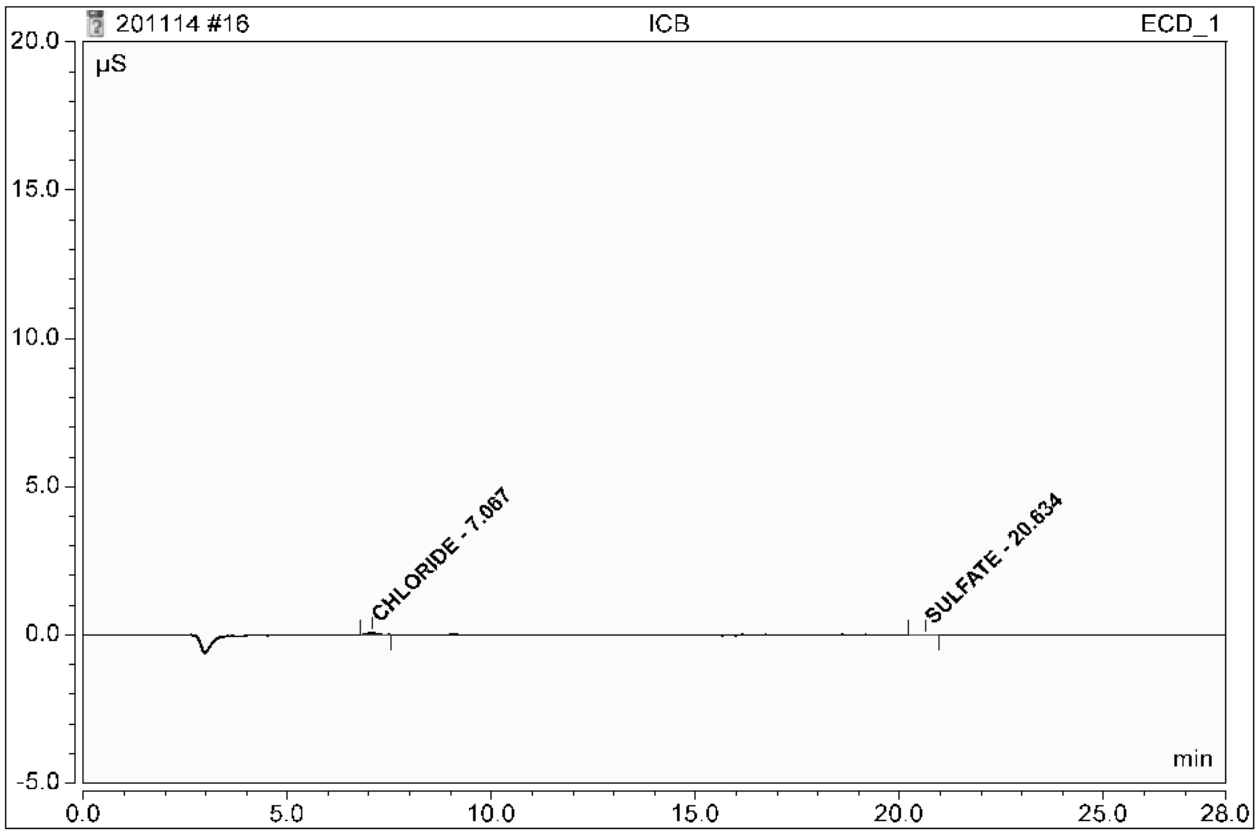
Sample Name:	**WIC201113-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 14:54**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	2.4867		0.67279	13.11
2	7.08	CHLORIDE	n.a.	4.9208		0.87049	16.96
3	8.99	NITRITE-N	n.a.	2.4699		0.94549	18.43
4	11.22	BROMIDE	n.a.	1.2449		0.08831	1.72
5	13.07	NITRATE-N	n.a.	2.4790		1.05063	20.47
6	18.69	O-PHOSPHATE-P	n.a.	0.8998		0.20351	3.97
7	20.80	SULFATE	n.a.	10.0534		1.30022	25.34
Total:				24.5545	0.000	5.131	100.00

16 ICB

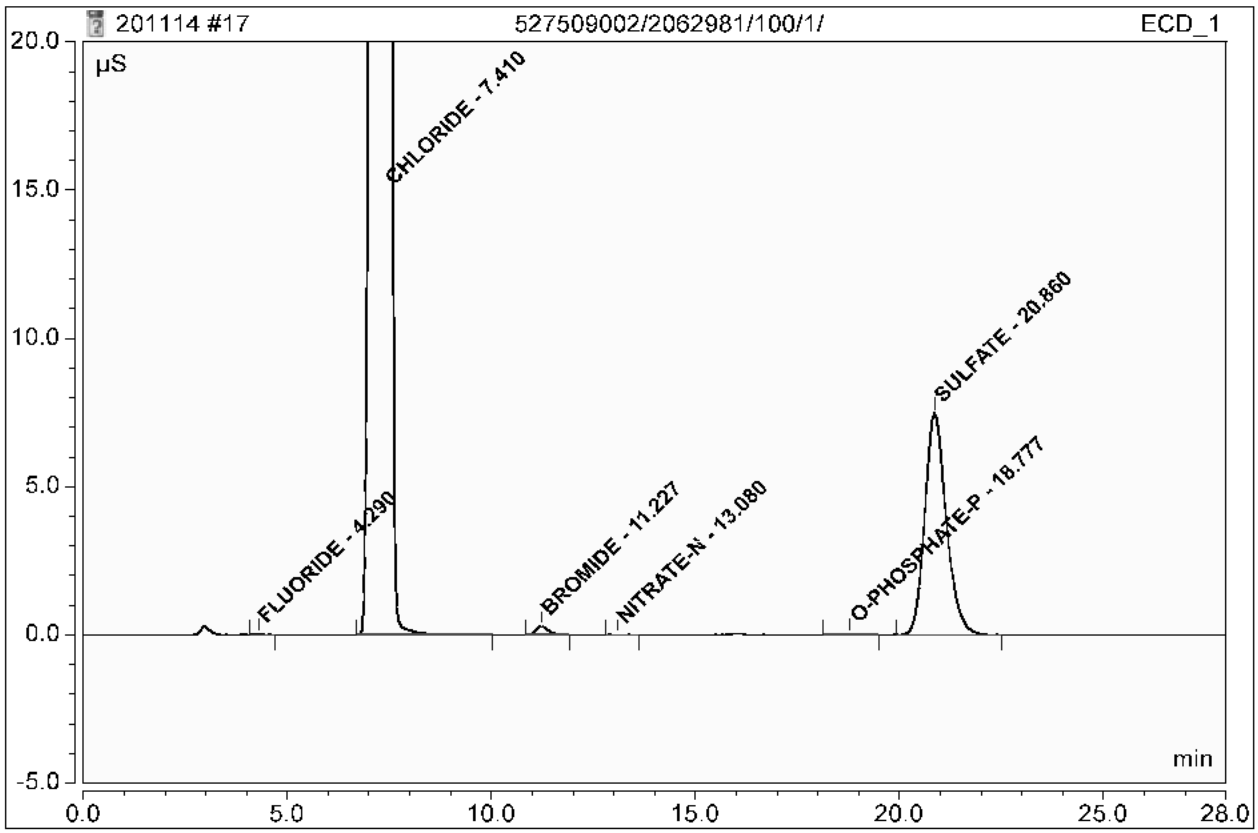
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:25**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.07	CHLORIDE	n.a.	0.1623		0.01713	92.13
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	20.63	SULFATE	n.a.	n.a.		0.00146	7.87
Total:				0.1623	0.000	0.019	100.00

17 527509002/2062981/100/1/

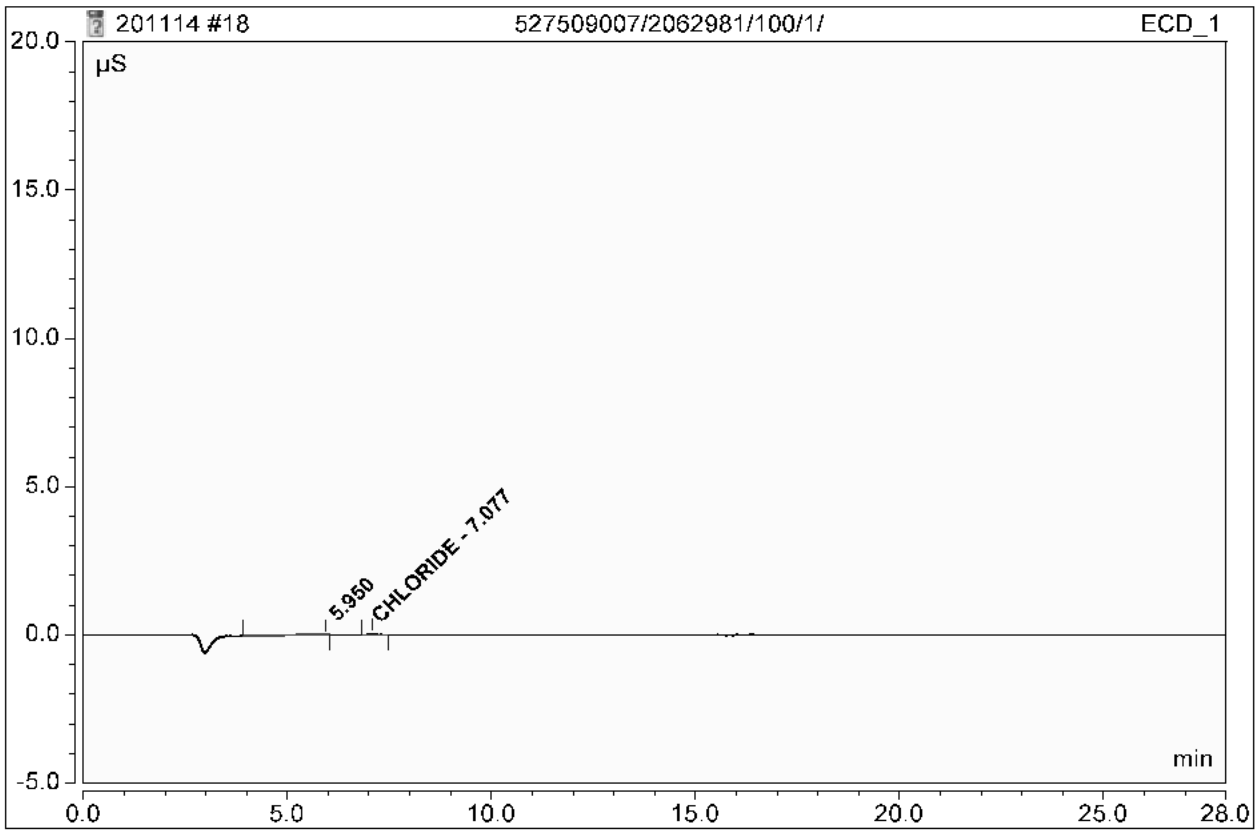
Sample Name:	**527509002/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:56**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	0.0336		0.00558	0.01
2	7.41	CHLORIDE	n.a.	566.7045		101.61736	95.61
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.23	BROMIDE	n.a.	1.2824		0.09098	0.09
4	13.08	NITRATE-N	n.a.	0.0312		0.00272	0.00
5	18.78	O-PHOSPHATE-P	n.a.	n.a.		0.00829	0.01
6	20.86	SULFATE	n.a.	35.2848		4.55412	4.29
Total:				603.3366	0.000	106.279	100.00

18 527509007/2062981/100/1/

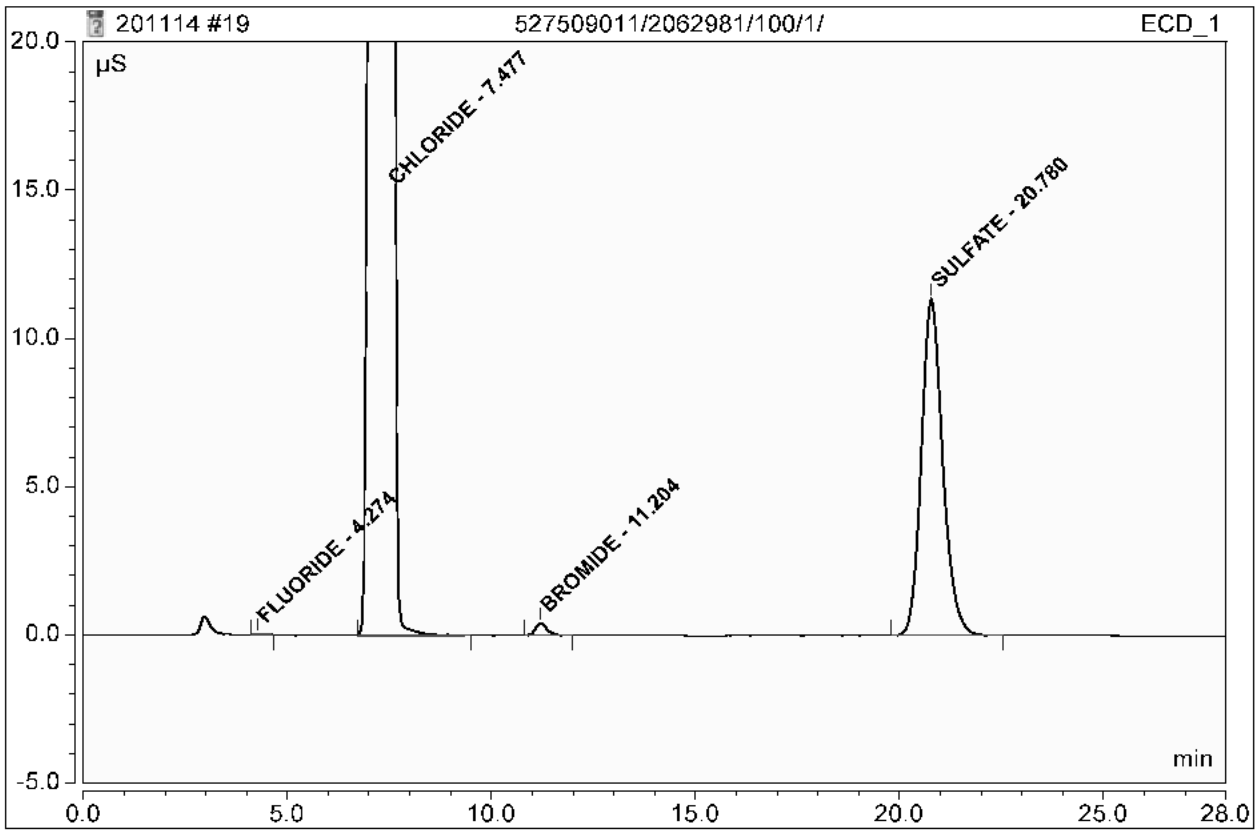
Sample Name:	**527509007/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 16:27**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
2	7.08	CHLORIDE	n.a.	0.1157		0.00877	48.15
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.1157	0.000	0.009	48.15

19 527509011/2062981/100/1/

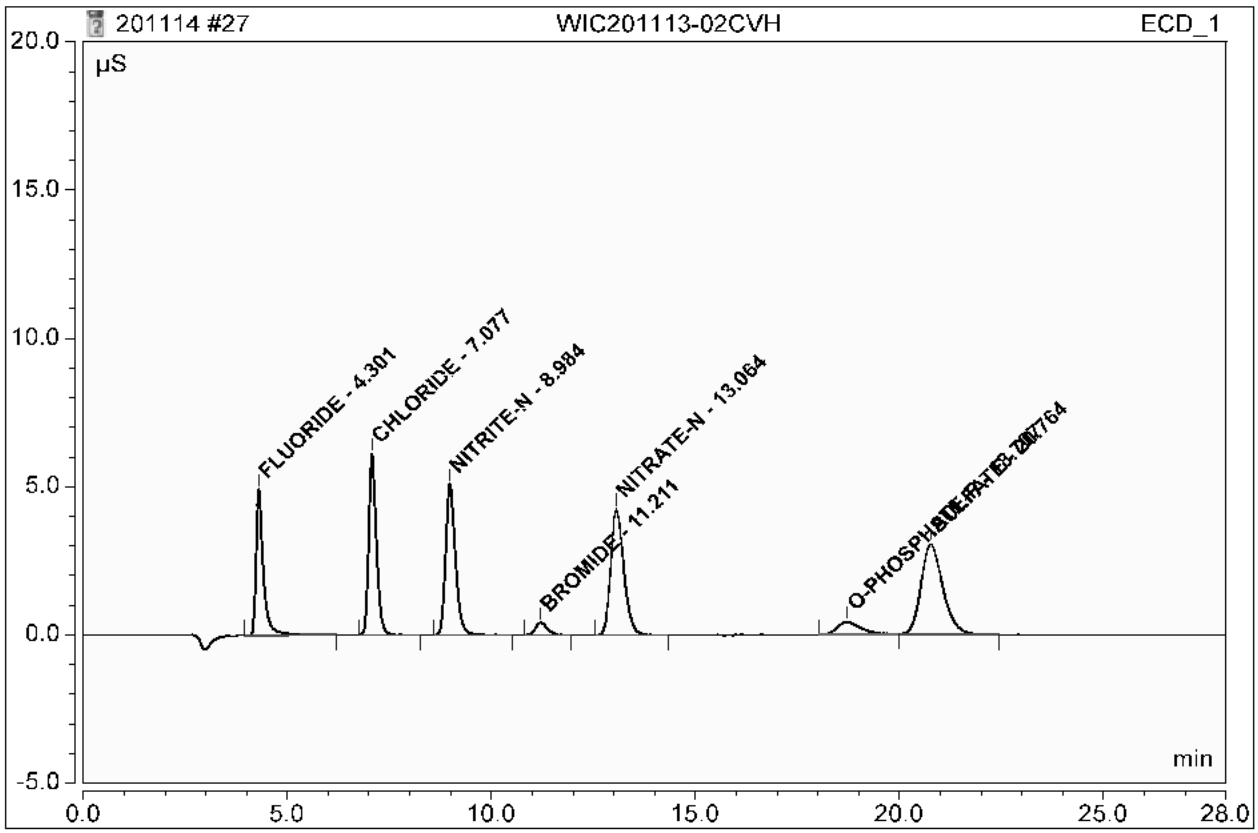
Sample Name:	**527509011/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 16:58**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.27	FLUORIDE	n.a.	0.0316		0.00502	0.00
2	7.48	CHLORIDE	n.a.	790.7896		141.80341	95.28
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.20	BROMIDE	n.a.	1.8716		0.13292	0.09
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.78	SULFATE	n.a.	53.3911		6.88915	4.63
Total:				846.0838	0.000	148.831	100.00

27 WIC201113-02CVH

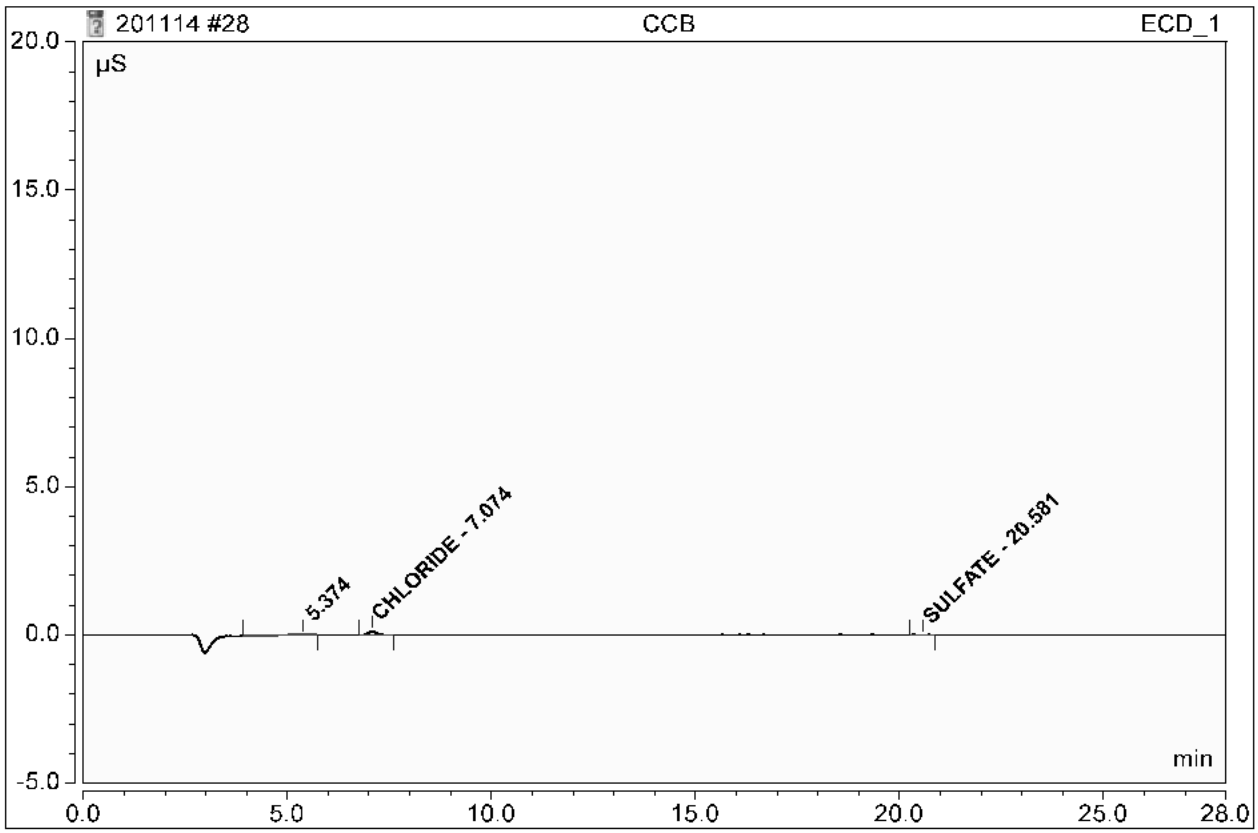
Sample Name:	**WIC201113-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 21:05**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.7206		1.00841	13.20
2	7.08	CHLORIDE	n.a.	7.4222		1.31907	17.27
3	8.98	NITRITE-N	n.a.	3.6575		1.40512	18.40
4	11.21	BROMIDE	n.a.	1.8795		0.13348	1.75
5	13.06	NITRATE-N	n.a.	3.6948		1.57114	20.57
6	18.71	O-PHOSPHATE-P	n.a.	1.3844		0.28100	3.68
7	20.76	SULFATE	n.a.	14.8608		1.92019	25.14
Total:				36.6197	0.000	7.638	100.00

28 CCB

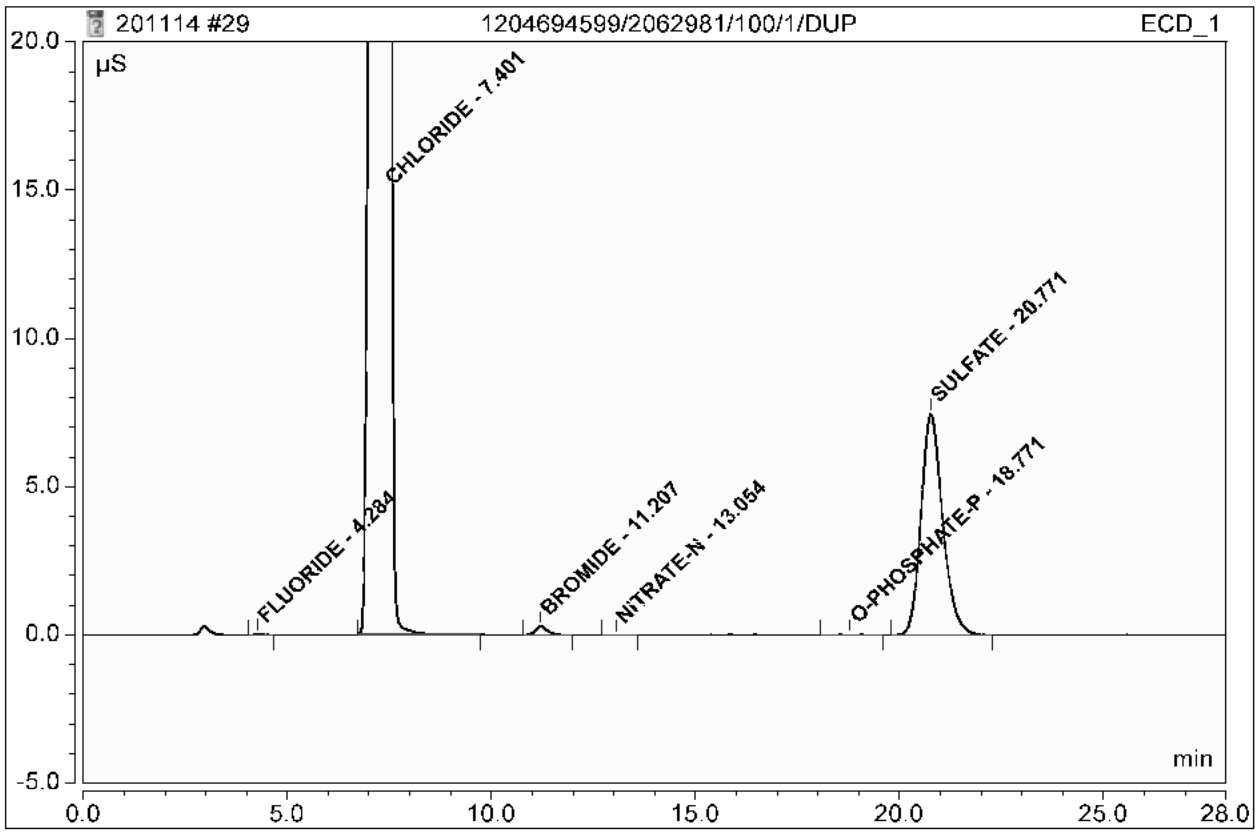
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 21:36**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
2	7.07	CHLORIDE	n.a.	0.2163		0.02681	76.12
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.58	SULFATE	n.a.	n.a.		0.00124	3.51
Total:				0.2163	0.000	0.028	79.63

29 1204694599/2062981/100/1/DUP

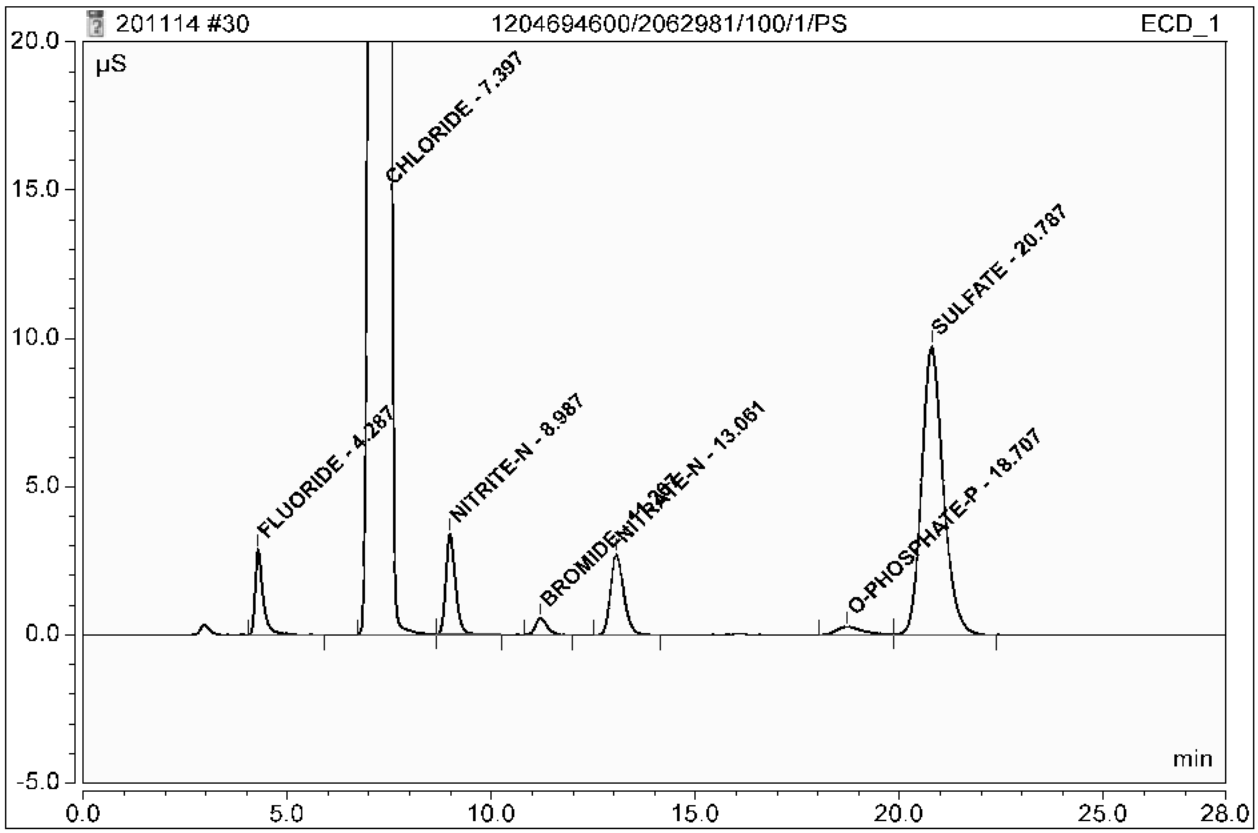
Sample Name:	**1204694599/2062981/100/1/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 22:07**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.28	FLUORIDE	n.a.	0.0350		0.00596	0.01
2	7.40	CHLORIDE	n.a.	567.0551		101.68024	95.62
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	1.2905		0.09156	0.09
4	13.05	NITRATE-N	n.a.	0.0312		0.00272	0.00
5	18.77	O-PHOSPHATE-P	n.a.	n.a.		0.00896	0.01
6	20.77	SULFATE	n.a.	35.2634		4.55136	4.28
Total:				603.6753	0.000	106.341	100.00

30 1204694600/2062981/100/1/PS

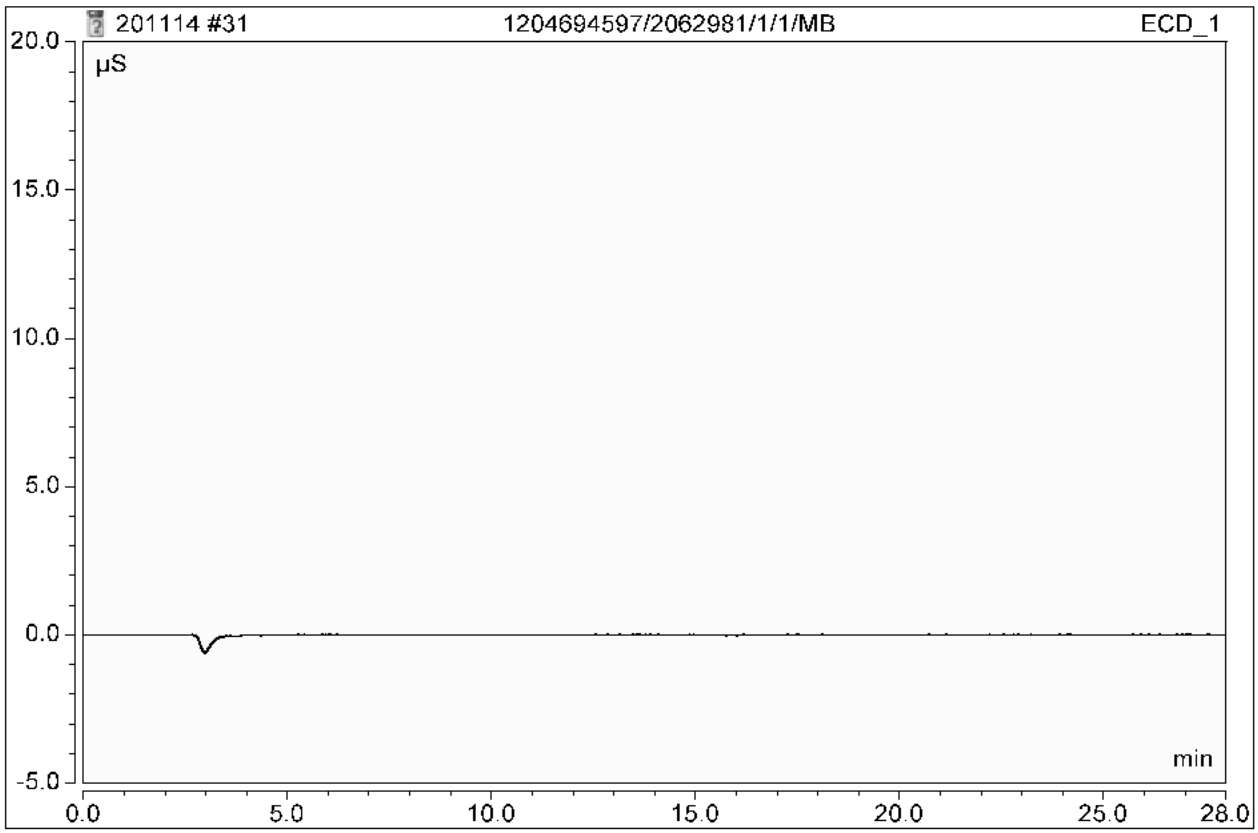
Sample Name:	**1204694600/2062981/100/1/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 22:37**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	2.3590		0.63807	0.58
2	7.40	CHLORIDE	n.a.	569.0249		102.03348	91.99
3	8.99	NITRITE-N	n.a.	2.4192		0.92588	0.83
4	11.21	BROMIDE	n.a.	2.5153		0.17874	0.16
5	13.06	NITRATE-N	n.a.	2.3916		1.01321	0.91
6	18.71	O-PHOSPHATE-P	n.a.	0.8826		0.20076	0.18
7	20.79	SULFATE	n.a.	45.9401		5.92826	5.34
Total:				625.5327	0.000	110.918	100.00

31 1204694597/2062981/1/1/MB

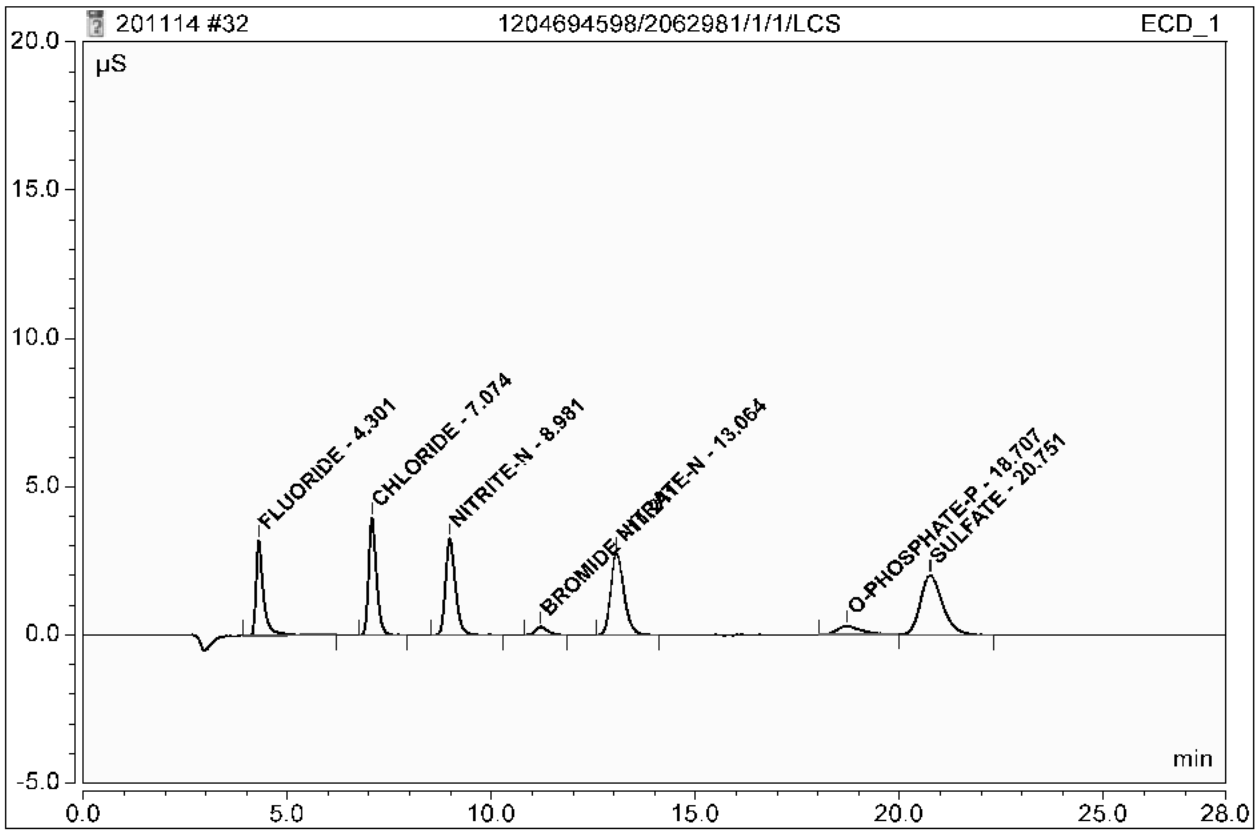
Sample Name:	**1204694597/2062981/1/1/MB**	*Injection Volume:*	**5000.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 23:08**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

32 1204694598/2062981/1/1/LCS

Sample Name:	**1204694598/2062981/1/1/LCS**	*Injection Volume:*	**5000.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 23:39**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



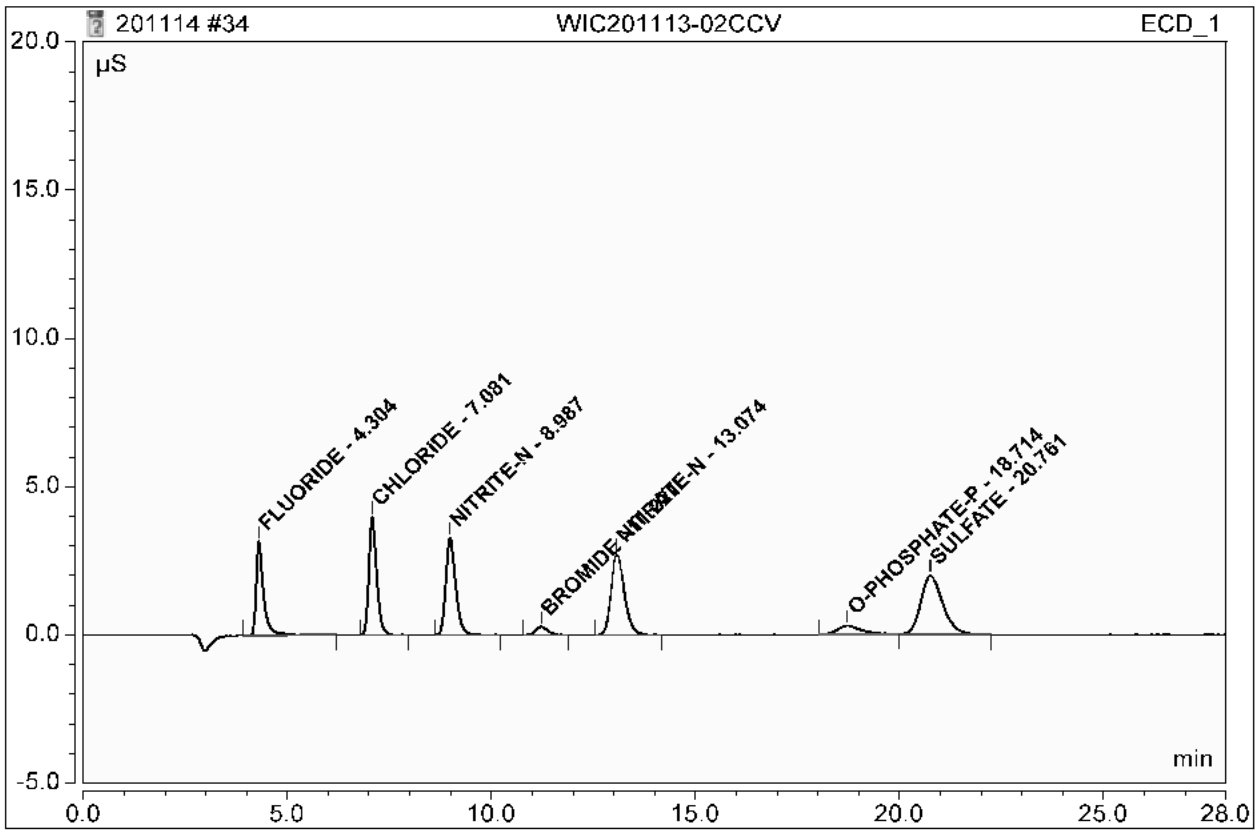
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4773		0.67025	13.36
2	7.07	CHLORIDE	n.a.	4.8838		0.86386	17.22
3	8.98	NITRITE-N	n.a.	2.3576		0.90201	17.98
4	11.21	BROMIDE	n.a.	1.2249		0.08688	1.73
5	13.06	NITRATE-N	n.a.	2.4233		1.02679	20.47
6	18.71	O-PHOSPHATE-P	n.a.	0.8331		0.19285	3.84
7	20.75	SULFATE	n.a.	9.8434		1.27313	25.38
Total:				24.0434	0.000	5.016	100.00

This is runlog for Sequence 201114.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
1204694179	11/15/20 00:10	2062706	1	201114	LXA2
CCV	11/15/20 00:41		1	201114	LXA2
CCB	11/15/20 01:12		1	201114	LXA2

34 WIC201113-02CCV

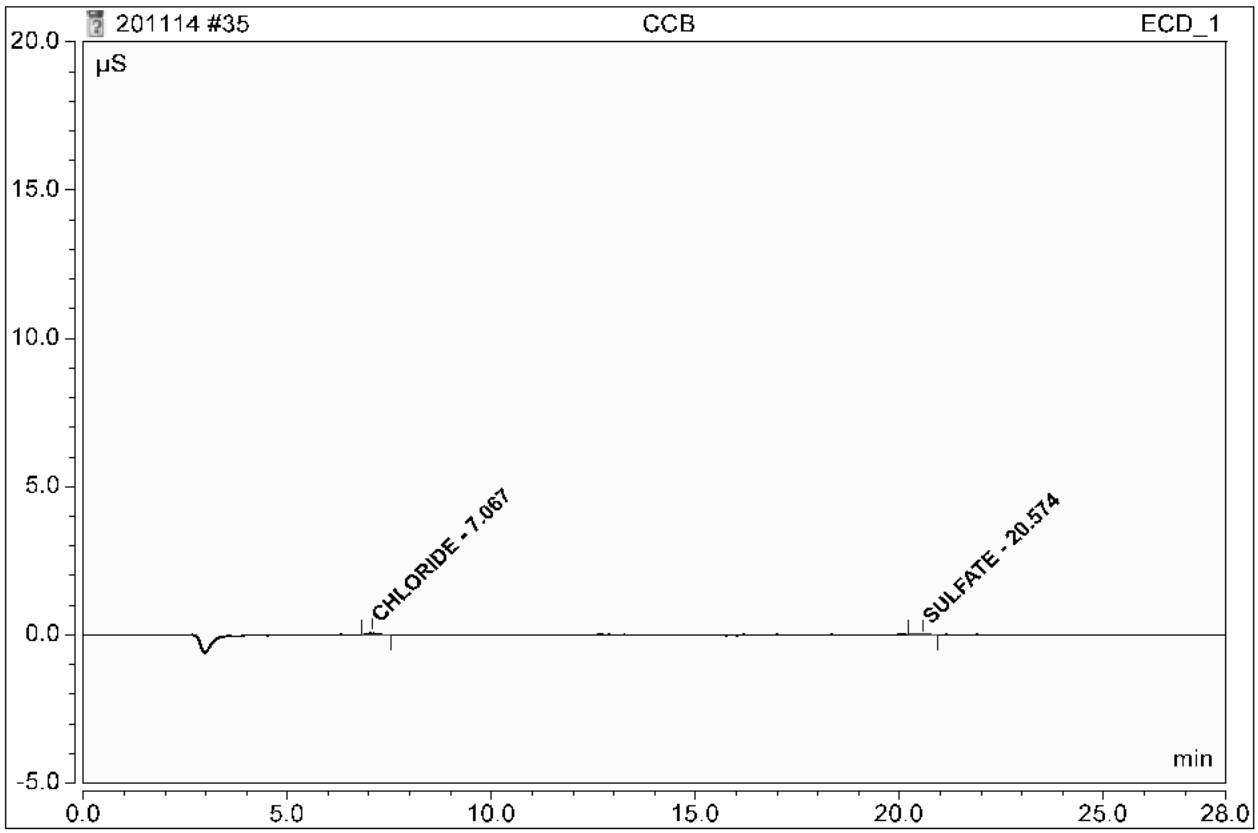
Sample Name:	**WIC201113-02CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 0:41**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4459		0.66171	13.26
2	7.08	CHLORIDE	n.a.	4.9095		0.86846	17.40
3	8.99	NITRITE-N	n.a.	2.3673		0.90577	18.15
4	11.22	BROMIDE	n.a.	1.2141		0.08612	1.73
5	13.07	NITRATE-N	n.a.	2.3980		1.01597	20.36
6	18.71	O-PHOSPHATE-P	n.a.	0.8394		0.19386	3.88
7	20.76	SULFATE	n.a.	9.7305		1.25857	25.22
Total:				23.9048	0.000	4.990	100.00

35 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 1:12**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



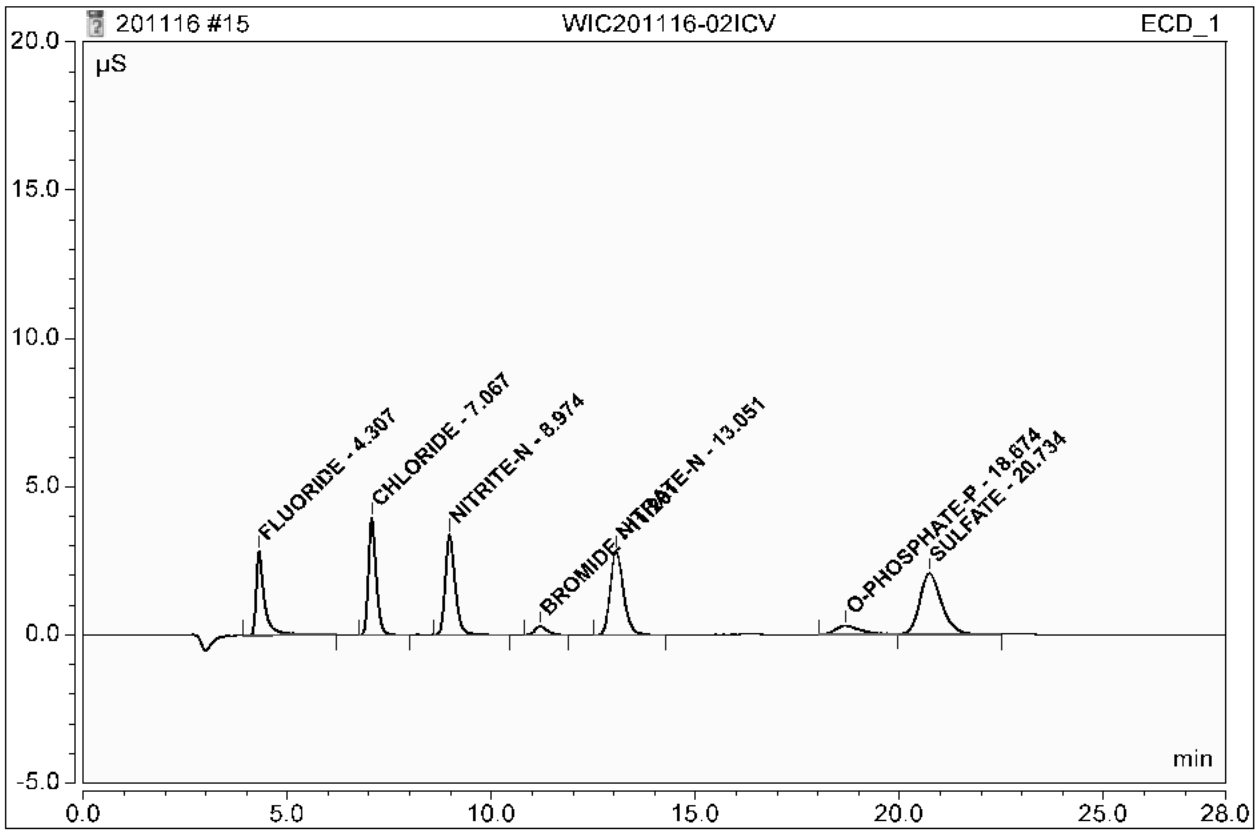
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.07	CHLORIDE	n.a.	0.1405		0.01323	90.33
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	20.57	SULFATE	n.a.	n.a.		0.00142	9.67
Total:				0.1405	0.000	0.015	100.00

This is runlog for Sequence 201116.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/16/20 08:16		1	201116	LXA2
ICV	11/16/20 08:46		1	201116	LXA2
ICB	11/16/20 09:17		1	201116	LXA2
527509007	11/16/20 10:40	2062981	1	201116	LXA2
527509011	11/16/20 11:11	2062981	500	201116	LXA2
527510002	11/16/20 11:42	2062981	1000	201116	LXA2
527510008	11/16/20 12:13	2062981	1000	201116	LXA2
527512005	11/16/20 12:43	2062981	500	201116	LXA2
527513002	11/16/20 13:14	2062981	1000	201116	LXA2
527513004	11/16/20 13:45	2062981	1000	201116	LXA2
527509002	11/16/20 14:16	2062981	10000	201116	LXA2
1204694599	11/16/20 14:47	2062981	10000	201116	LXA2
1204694600	11/16/20 15:18	2062981	10000	201116	LXA2
CVH	11/16/20 15:49		1	201116	LXA2
CCB	11/16/20 16:20		1	201116	LXA2
527509002	11/16/20 16:51	2062981	200	201116	LXA2
1204694599	11/16/20 17:21	2062981	200	201116	LXA2
1204694600	11/16/20 17:52	2062981	200	201116	LXA2
527509007	11/16/20 18:23	2062981	1	201116	LXA2
CCV	11/16/20 18:54		1	201116	LXA2
CCB	11/16/20 19:25		1	201116	LXA2

15 WIC201116-02ICV

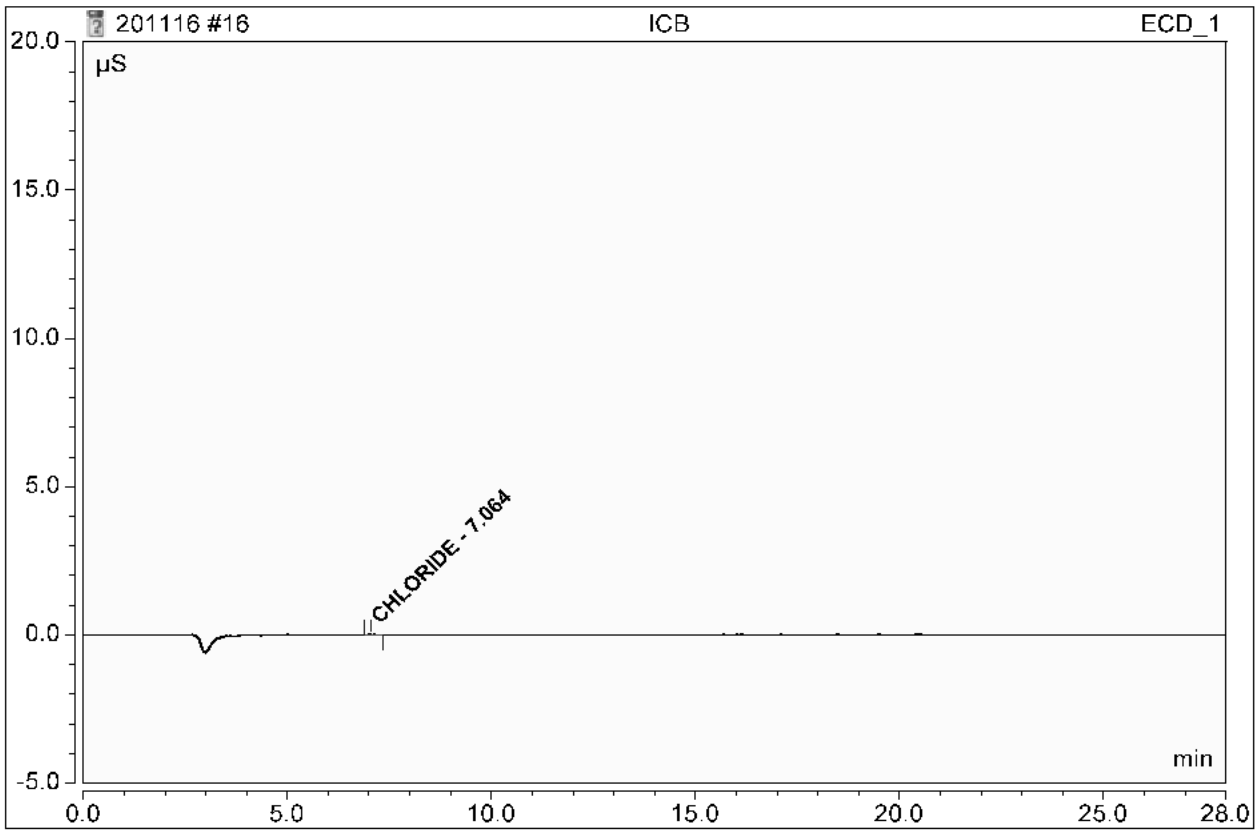
Sample Name:	**WIC201116-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 8:46**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	2.4431		0.66094	13.08
2	7.07	CHLORIDE	n.a.	4.8190		0.85223	16.87
3	8.97	NITRITE-N	n.a.	2.4316		0.93067	18.42
4	11.20	BROMIDE	n.a.	1.2403		0.08798	1.74
5	13.05	NITRATE-N	n.a.	2.4562		1.04086	20.60
6	18.67	O-PHOSPHATE-P	n.a.	0.8513		0.19576	3.87
7	20.73	SULFATE	n.a.	9.9257		1.28375	25.41
Total:				24.1673	0.000	5.052	100.00

16 ICB

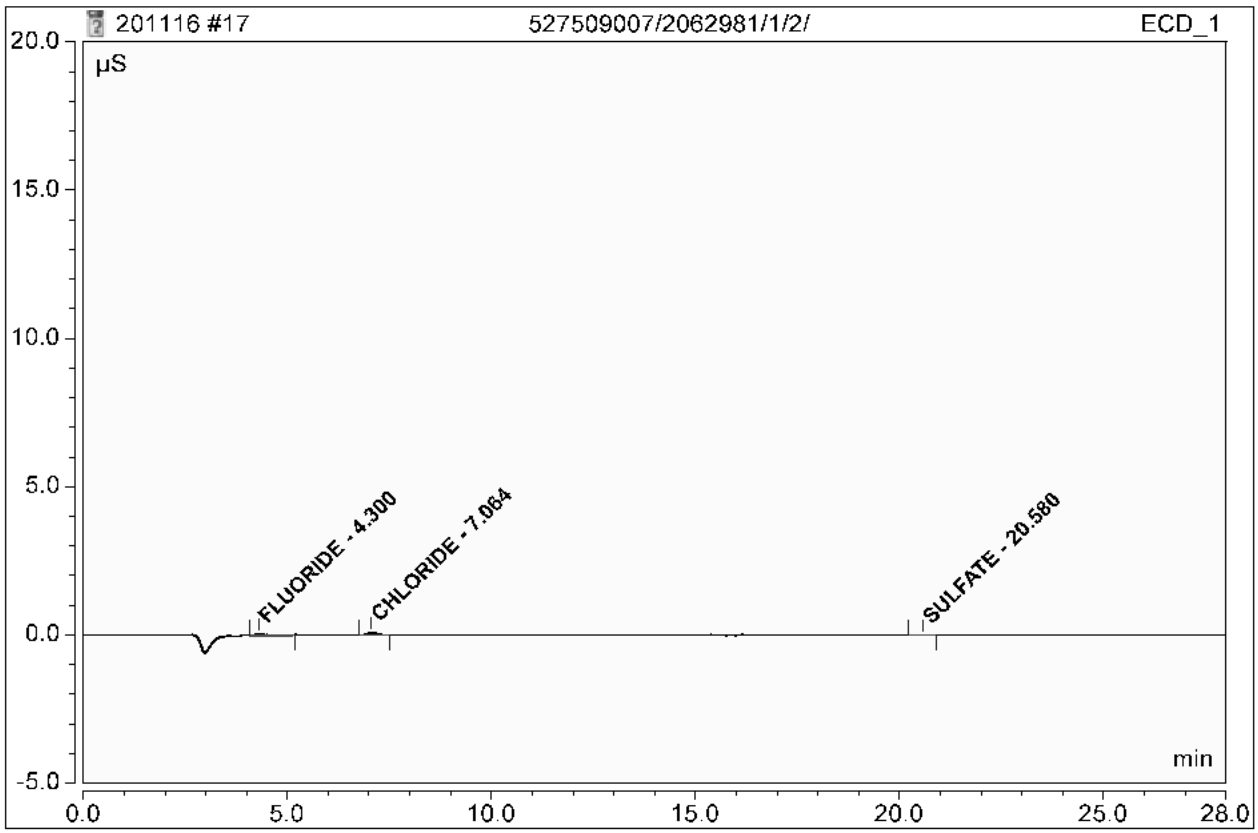
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 9:17**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.06	CHLORIDE	n.a.	0.0736		0.00122	100.00
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0736	0.000	0.001	100.00

17 527509007/2062981/1/2/

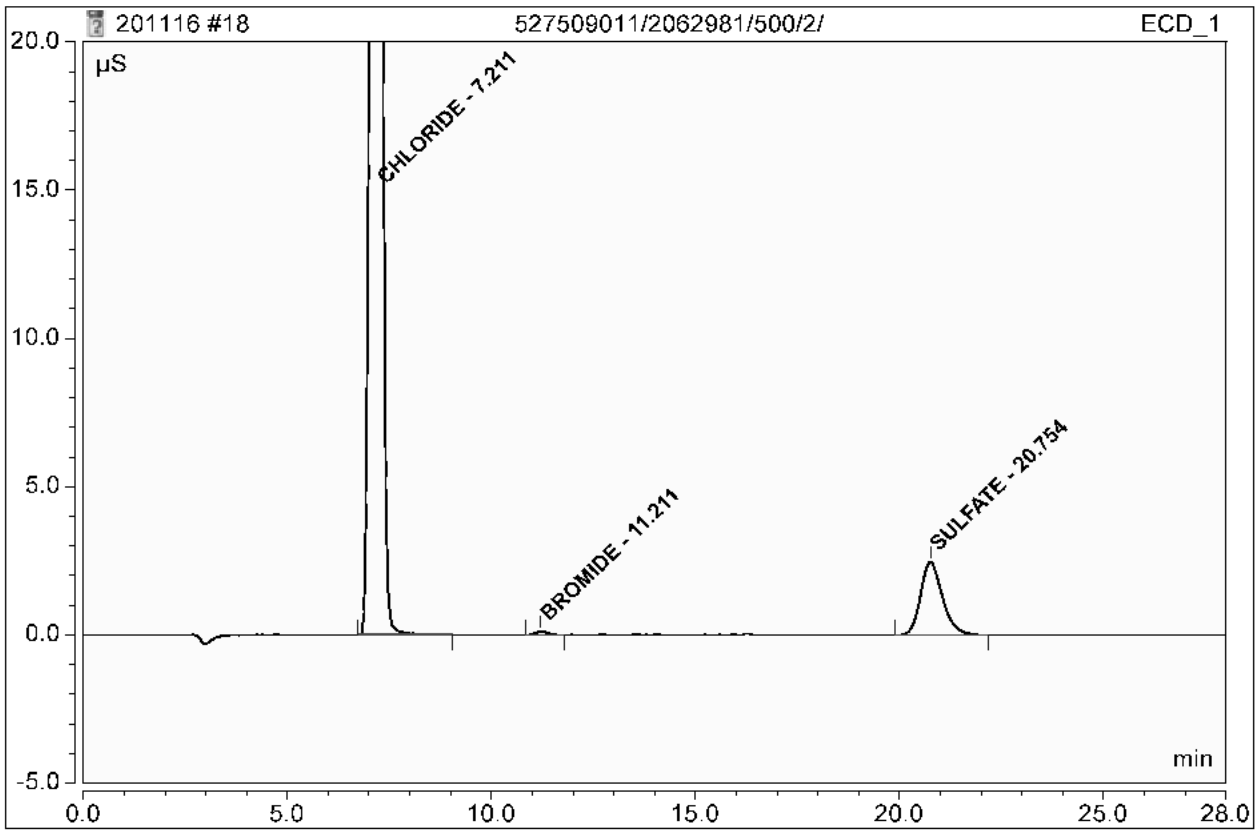
Sample Name:	**527509007/2062981/1/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 10:40**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	0.0565		0.01181	36.46
2	7.06	CHLORIDE	n.a.	0.1732		0.01908	58.89
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.58	SULFATE	n.a.	n.a.		0.00151	4.65
Total:				0.2297	0.000	0.032	100.00

18 527509011/2062981/500/2/

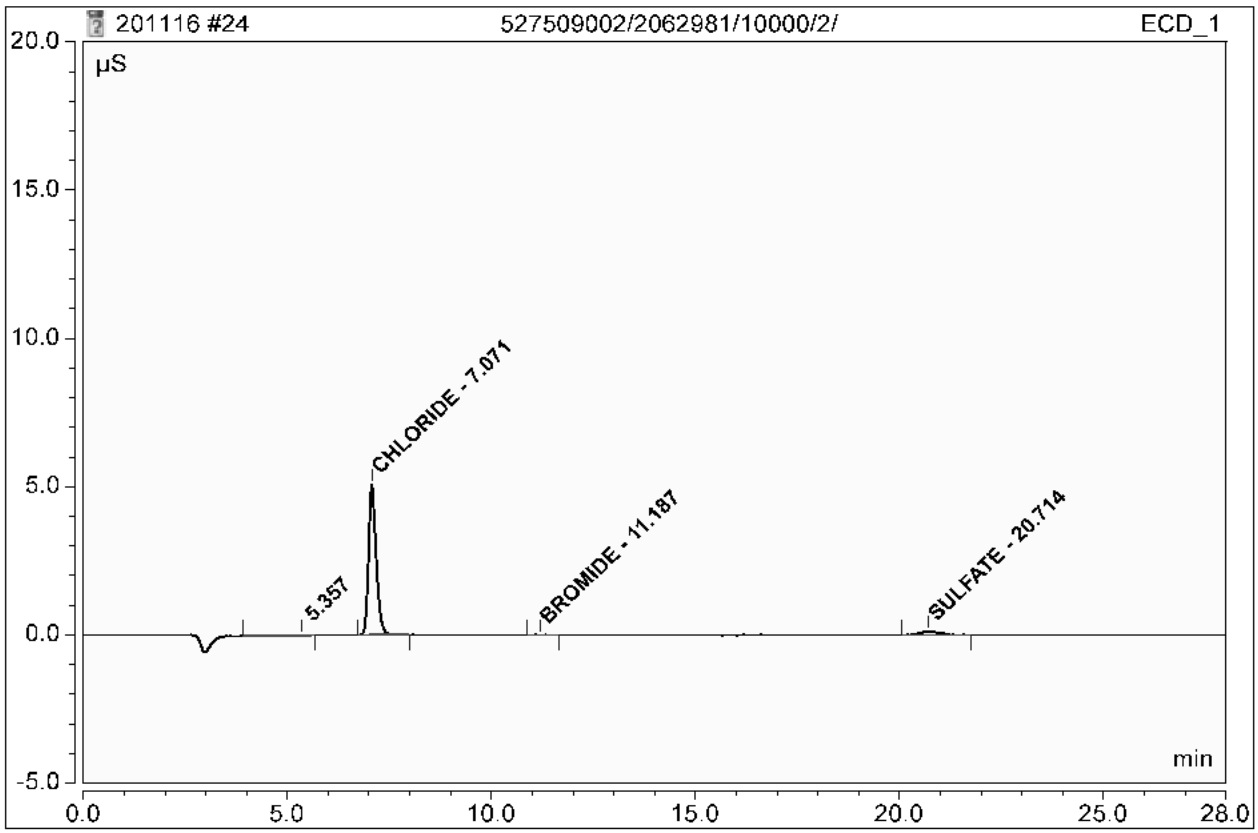
Sample Name:	**527509011/2062981/500/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 11:11**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.21	CHLORIDE	n.a.	172.3498		30.89618	95.29
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.21	BROMIDE	n.a.	0.4408		0.03107	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.75	SULFATE	n.a.	11.5703		1.49584	4.61
Total:				184.3609	0.000	32.423	100.00

24 527509002/2062981/10000/2/

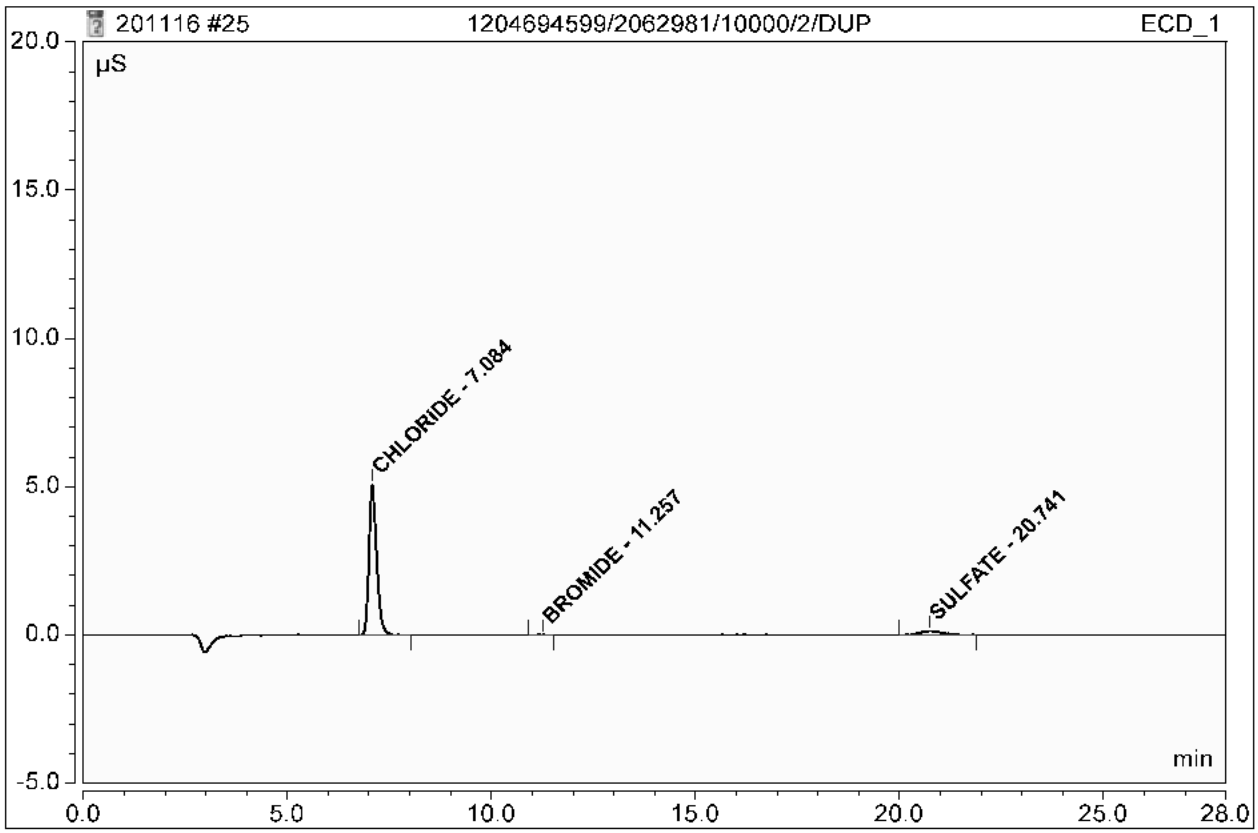
Sample Name:	**527509002/2062981/10000/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 14:16**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
2	7.07	CHLORIDE	n.a.	6.1539		1.09162	93.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.19	BROMIDE	n.a.	0.0300		0.00183	0.16
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.71	SULFATE	n.a.	0.5154		0.07017	6.00
Total:				6.6993	0.000	1.164	99.52

25 1204694599/2062981/10000/2/DUP

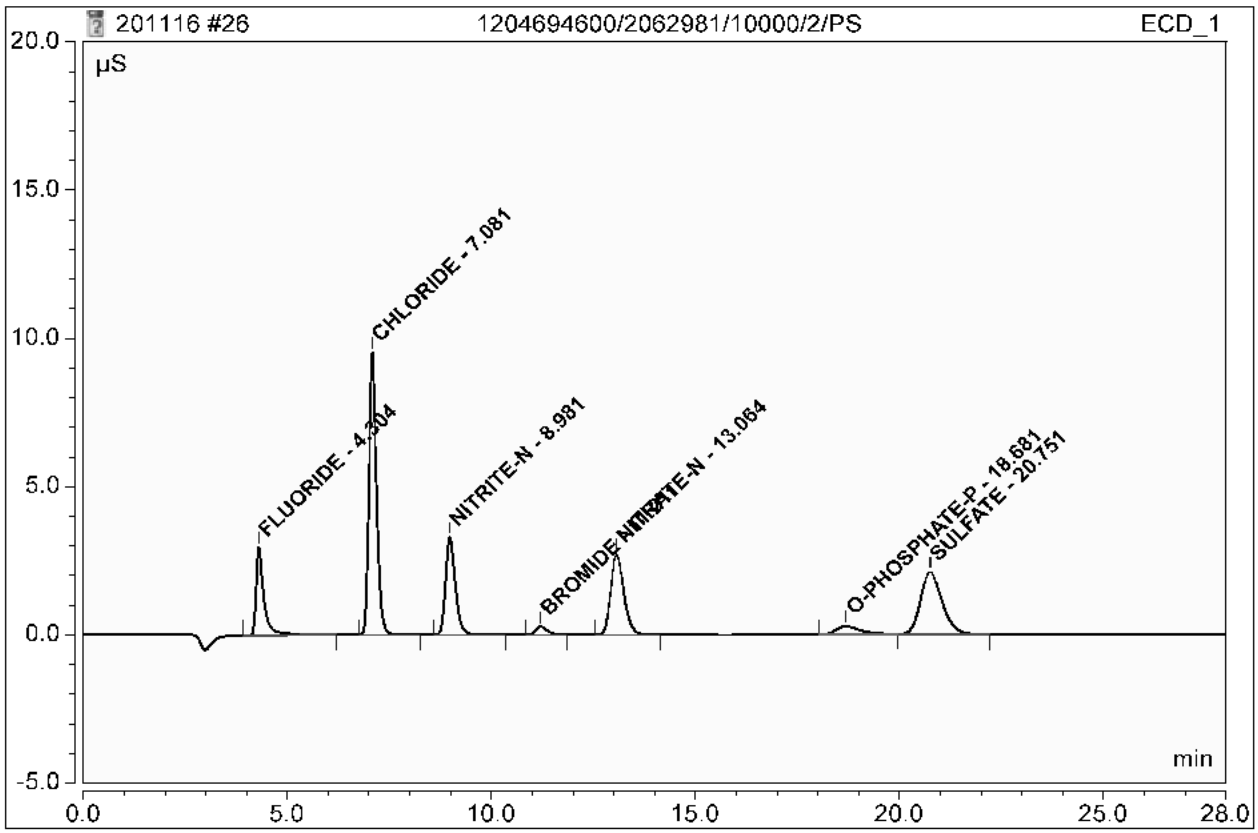
Sample Name:	**1204694599/2062981/10000/2/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 14:47**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.08	CHLORIDE	n.a.	6.1455		1.09013	93.73
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.26	BROMIDE	n.a.	0.0243		0.00142	0.12
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.74	SULFATE	n.a.	0.5255		0.07147	6.15
Total:				6.6953	0.000	1.163	100.00

26 1204694600/2062981/10000/2/PS

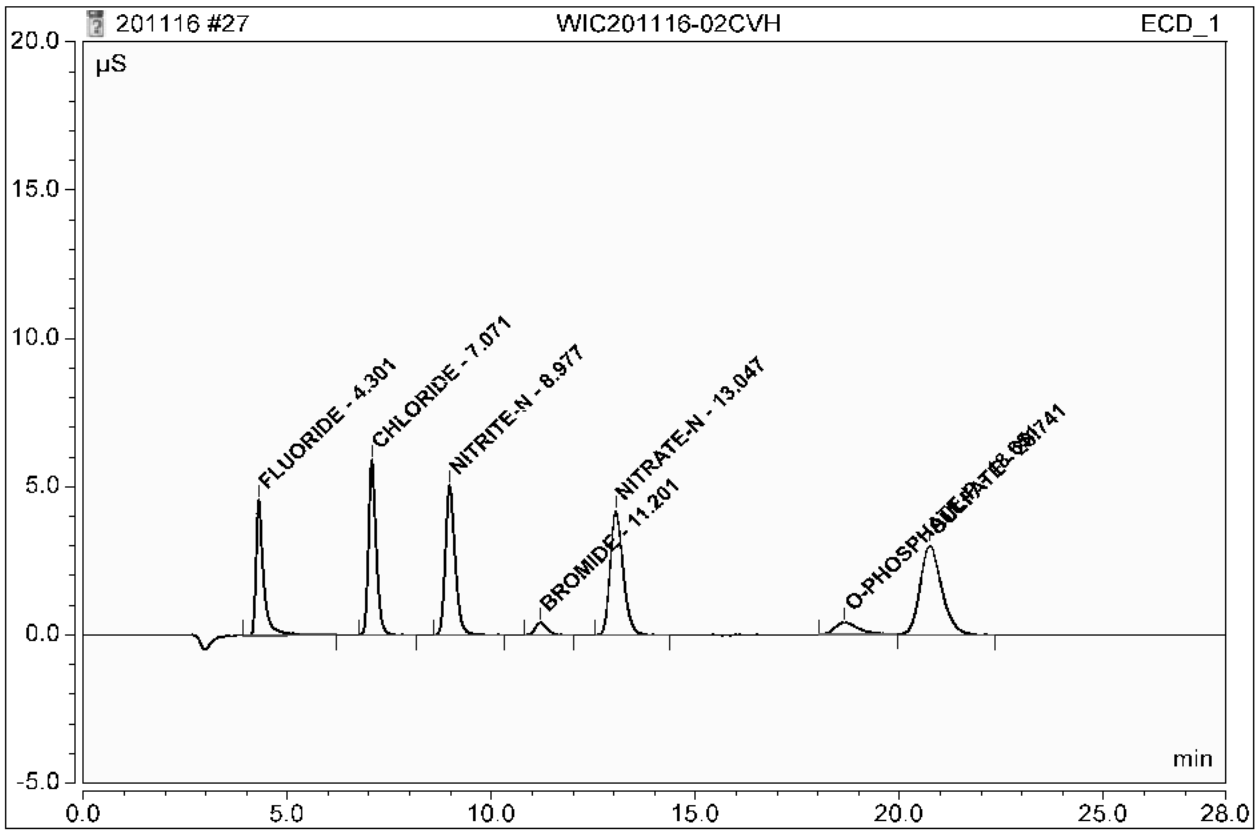
Sample Name:	**1204694600/2062981/10000/2/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 15:18**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4065		0.65099	10.56
2	7.08	CHLORIDE	n.a.	11.2848		2.01177	32.64
3	8.98	NITRITE-N	n.a.	2.3756		0.90898	14.75
4	11.21	BROMIDE	n.a.	1.2428		0.08816	1.43
5	13.06	NITRATE-N	n.a.	2.3733		1.00539	16.31
6	18.68	O-PHOSPHATE-P	n.a.	0.8010		0.18770	3.05
7	20.75	SULFATE	n.a.	10.1364		1.31092	21.27
Total:				30.6204	0.000	6.164	100.00

27 WIC201116-02CVH

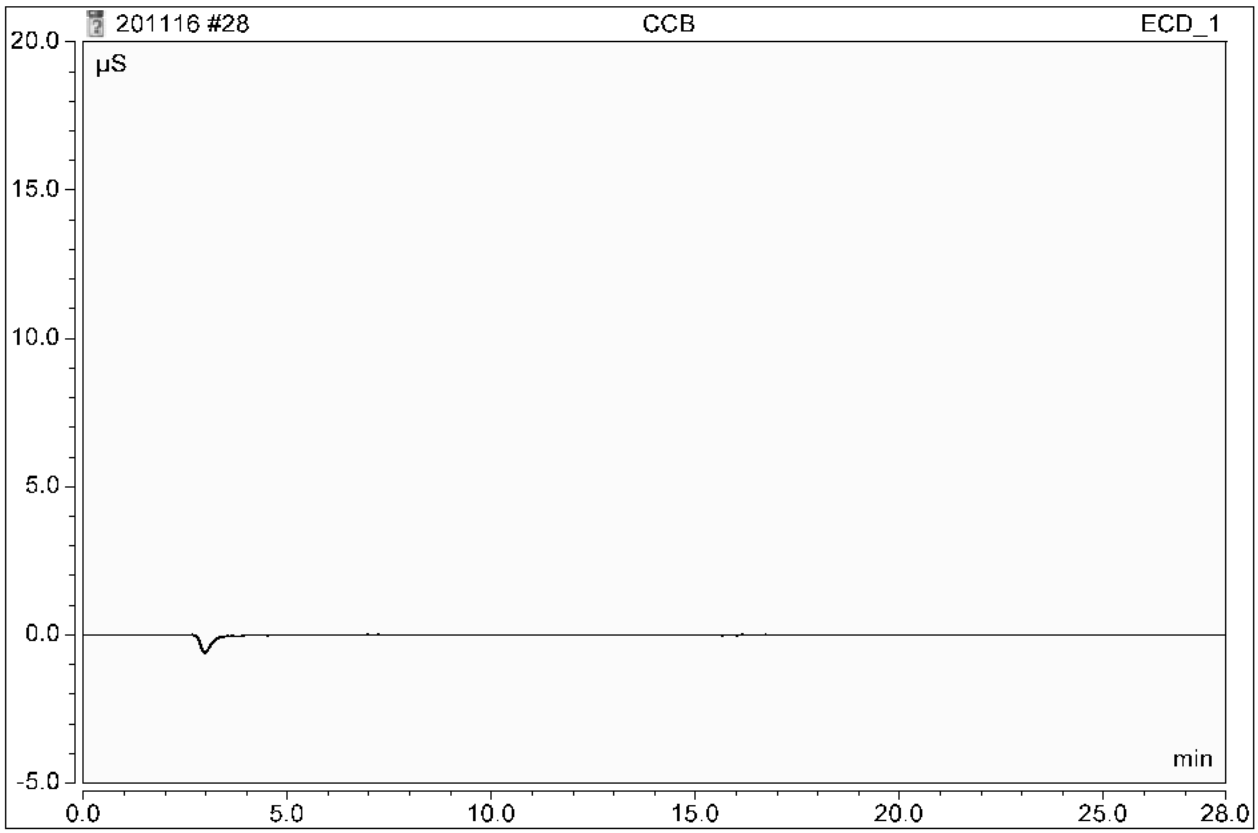
Sample Name:	**WIC201116-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 15:49**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.5865		0.97193	13.12
2	7.07	CHLORIDE	n.a.	7.1247		1.26573	17.09
3	8.98	NITRITE-N	n.a.	3.5939		1.38052	18.64
4	11.20	BROMIDE	n.a.	1.8309		0.13002	1.76
5	13.05	NITRATE-N	n.a.	3.5989		1.53007	20.66
6	18.65	O-PHOSPHATE-P	n.a.	1.3096		0.26904	3.63
7	20.74	SULFATE	n.a.	14.3892		1.85937	25.10
Total:				35.4337	0.000	7.407	100.00

28 CCB

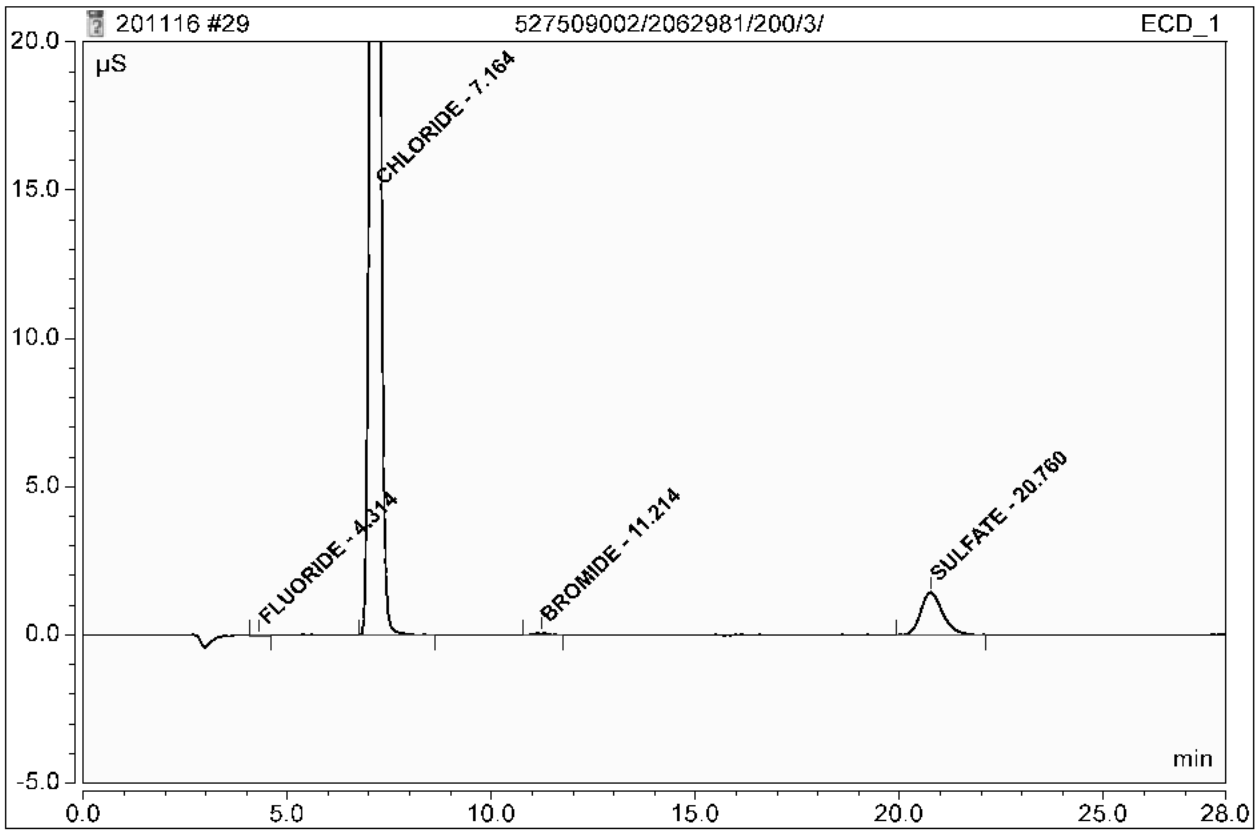
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 16:20**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

29 527509002/2062981/200/3/

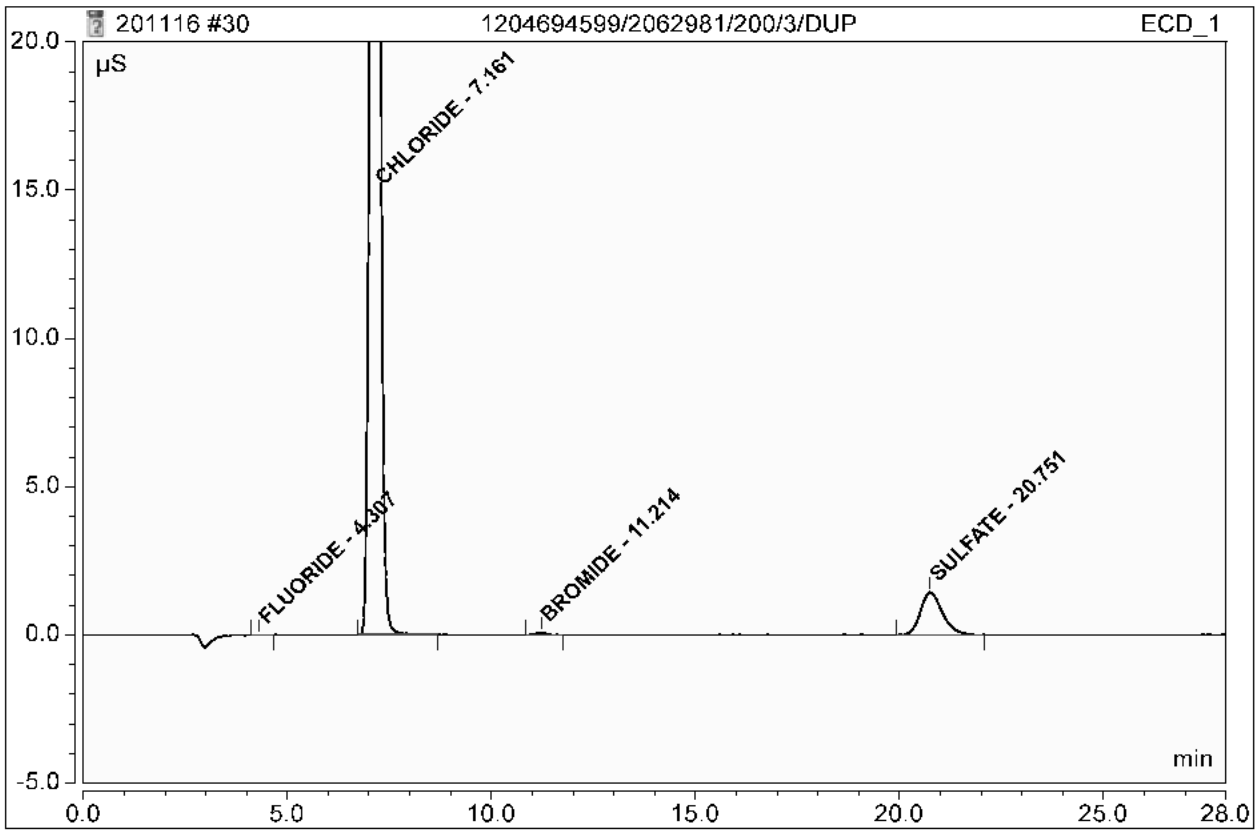
Sample Name:	**527509002/2062981/200/3/**	*Injection Volume:*	**5000.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 16:51**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	0.0176		0.00123	0.01
2	7.16	CHLORIDE	n.a.	102.8329		18.42944	95.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.2644		0.01851	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.76	SULFATE	n.a.	6.7658		0.87624	4.53
Total:				109.8807	0.000	19.325	100.00

30 1204694599/2062981/200/3/DUP

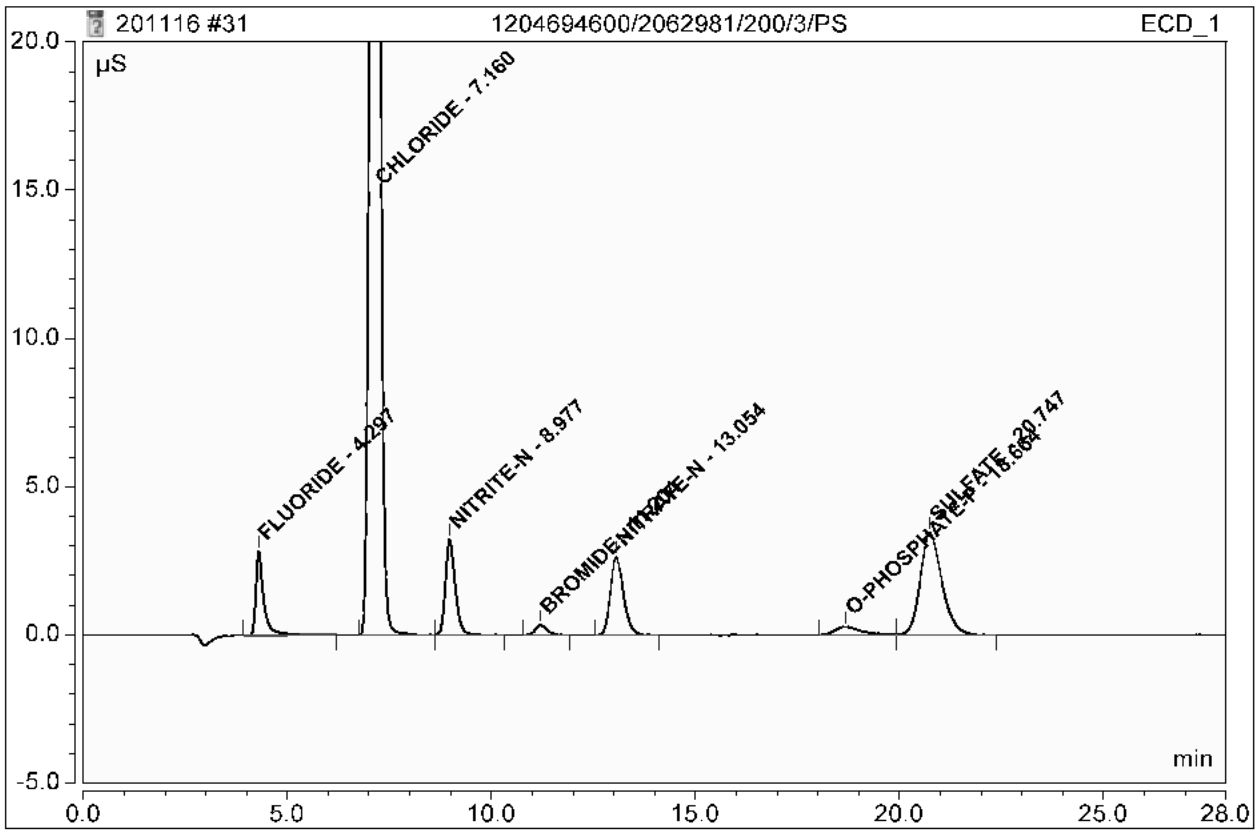
Sample Name:	**1204694599/2062981/200/3/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 17:21**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	0.0174		0.00118	0.01
2	7.16	CHLORIDE	n.a.	102.8487		18.43228	95.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.2673		0.01872	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.75	SULFATE	n.a.	6.7751		0.87744	4.54
Total:				109.9085	0.000	19.330	100.00

31 1204694600/2062981/200/3/PS

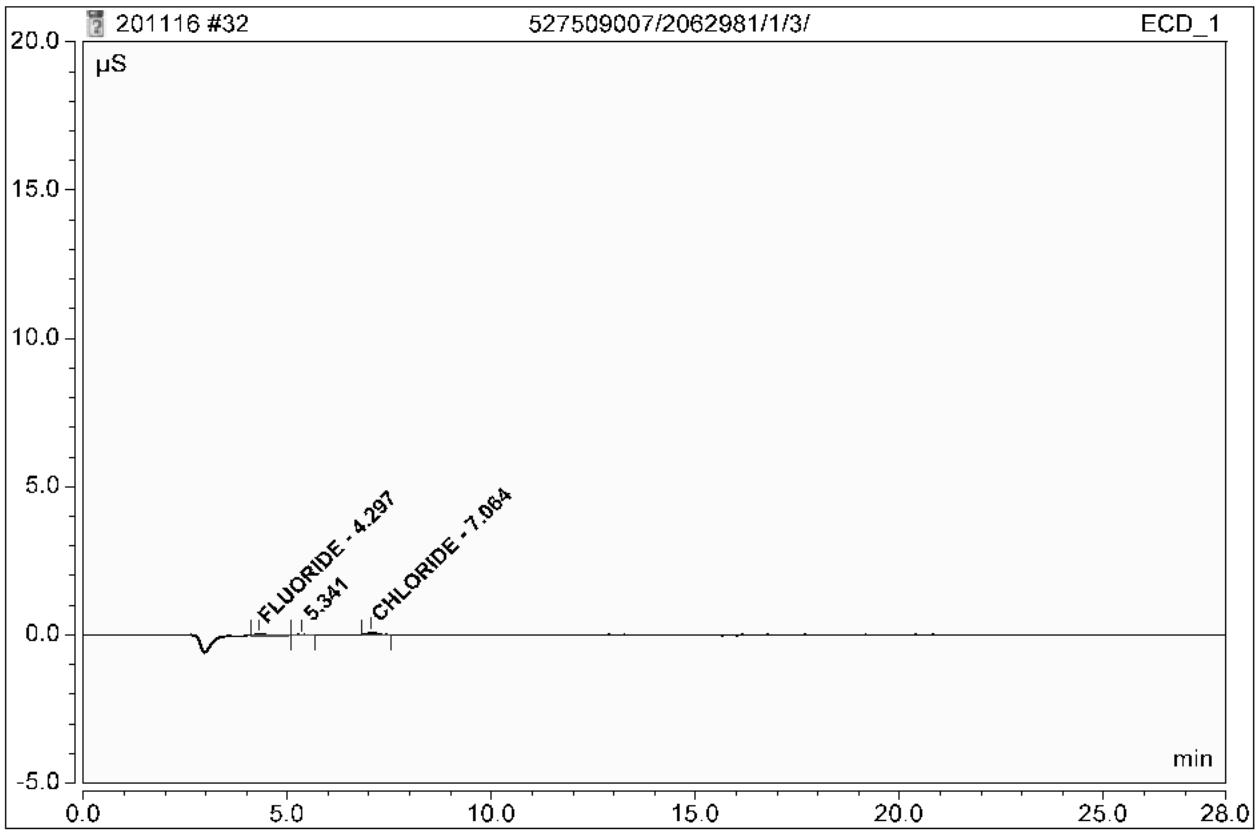
Sample Name:	**1204694600/2062981/200/3/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 17:52**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.3097		0.62465	2.56
2	7.16	CHLORIDE	n.a.	108.7050		19.48252	79.96
3	8.98	NITRITE-N	n.a.	2.3009		0.88009	3.61
4	11.20	BROMIDE	n.a.	1.4500		0.10291	0.42
5	13.05	NITRATE-N	n.a.	2.2920		0.97058	3.98
6	18.66	O-PHOSPHATE-P	n.a.	0.8756		0.19964	0.82
7	20.75	SULFATE	n.a.	16.3047		2.10640	8.64
Total:				134.2380	0.000	24.367	100.00

32 527509007/2062981/1/3/

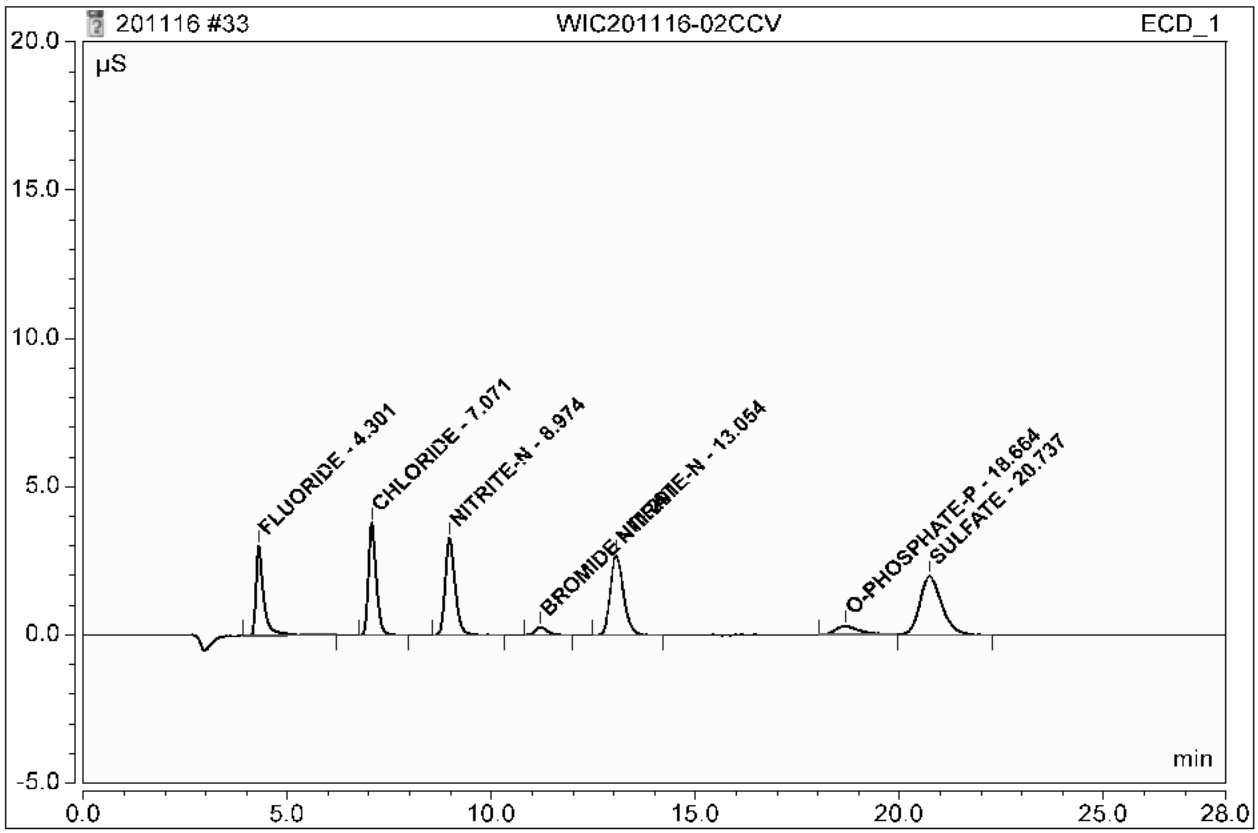
Sample Name:	**527509007/2062981/1/3/**	*Injection Volume:*	**5000.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 18:23**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	0.0544		0.01123	35.22
3	7.06	CHLORIDE	n.a.	0.1757		0.01953	61.25
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.2301	0.000	0.031	96.47

33 WIC201116-02CCV

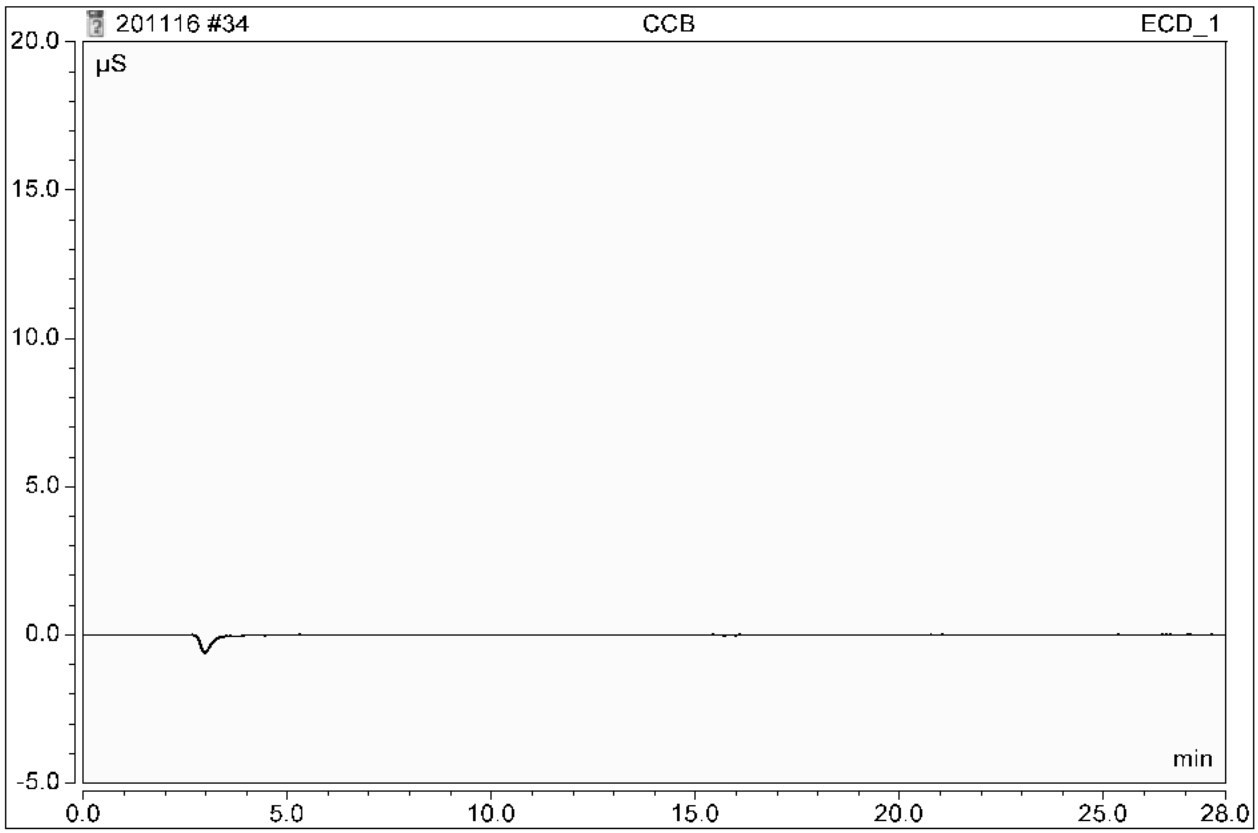
Sample Name:	**WIC201116-02CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 18:54**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4178		0.65406	13.35
2	7.07	CHLORIDE	n.a.	4.6619		0.82406	16.82
3	8.97	NITRITE-N	n.a.	2.3657		0.90515	18.47
4	11.20	BROMIDE	n.a.	1.2163		0.08627	1.76
5	13.05	NITRATE-N	n.a.	2.3622		1.00061	20.42
6	18.66	O-PHOSPHATE-P	n.a.	0.8239		0.19136	3.91
7	20.74	SULFATE	n.a.	9.5738		1.23837	25.27
Total:				23.4215	0.000	4.900	100.00

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 19:25**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



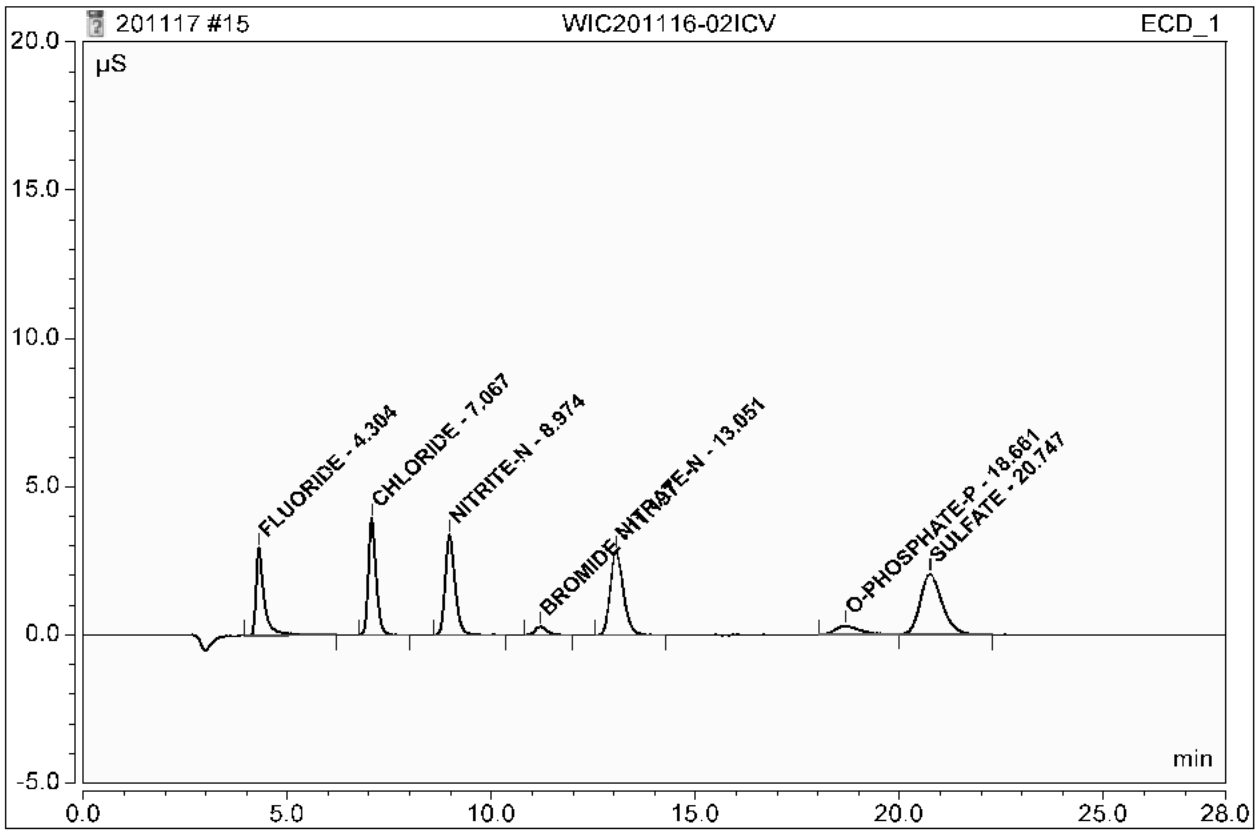
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 201117.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/17/20 07:54		1	201117	LXA2
ICV	11/17/20 08:24		1	201117	LXA2
ICB	11/17/20 08:55		1	201117	LXA2
527509002	11/17/20 10:45	2062981	200	201117	LXA2
1204694599	11/17/20 11:16	2062981	200	201117	LXA2
1204694600	11/17/20 11:47	2062981	200	201117	LXA2
CVH	11/17/20 12:17		1	201117	LXA2
CCB	11/17/20 12:48		1	201117	LXA2
527512005	11/17/20 14:35	10000	3	201117	LXA2
527513002	11/17/20 15:05	20000	3	201117	LXA2
527513004	11/17/20 15:36	20000	3	201117	LXA2
527513006	11/17/20 16:07	5000	2	201117	LXA2
CCV	11/17/20 16:38		1	201117	LXA2
CCB	11/17/20 17:08		1	201117	LXA2
527593020	11/17/20 17:44	2063976	1	201117	LXA2
527593021	11/17/20 18:15	2063976	1	201117	LXA2
527655001	11/17/20 18:46	2063976	1	201117	LXA2
527655002	11/17/20 19:17	2063976	200	201117	LXA2
527655003	11/17/20 19:47	2063976	200	201117	LXA2
527508001	11/17/20 20:18	2063976	1	201117	LXA2
1204697019	11/17/20 20:49	2063976	1	201117	LXA2
1204697020	11/17/20 21:20	2063976	1	201117	LXA2
1204697017	11/17/20 21:51	2063976	1	201117	LXA2
1204697018	11/17/20 22:22	2063976	1	201117	LXA2
CVH	11/17/20 22:53		1	201117	LXA2
CCB	11/17/20 23:24		1	201117	LXA2
527512005	11/17/20 23:55	2062981	10000	201117	LXA2

15 WIC201116-02ICV

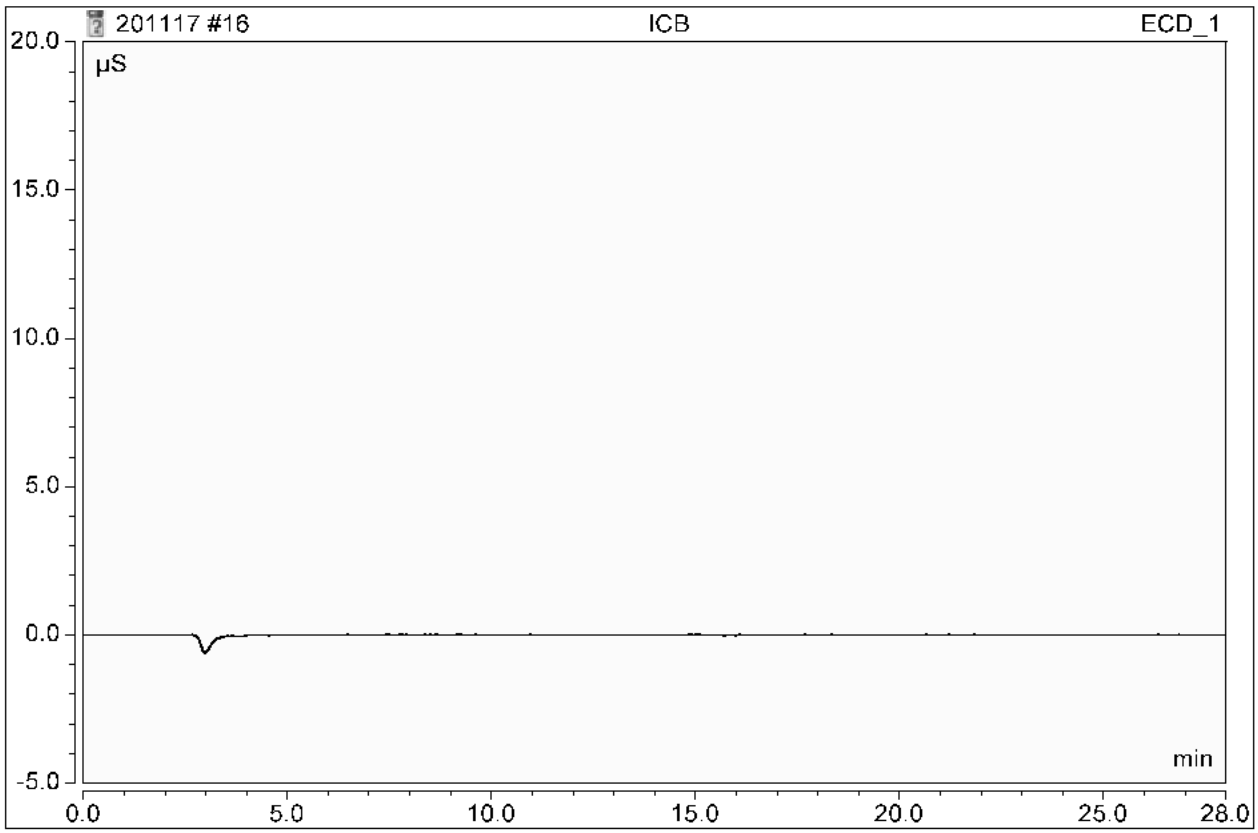
Sample Name:	**WIC201116-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 8:24**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.5028		0.67718	13.36
2	7.07	CHLORIDE	n.a.	4.8108		0.85076	16.78
3	8.97	NITRITE-N	n.a.	2.4351		0.93200	18.38
4	11.20	BROMIDE	n.a.	1.2430		0.08817	1.74
5	13.05	NITRATE-N	n.a.	2.4585		1.04186	20.55
6	18.66	O-PHOSPHATE-P	n.a.	0.8665		0.19819	3.91
7	20.75	SULFATE	n.a.	9.9067		1.28130	25.27
Total:				24.2234	0.000	5.069	100.00

16 ICB

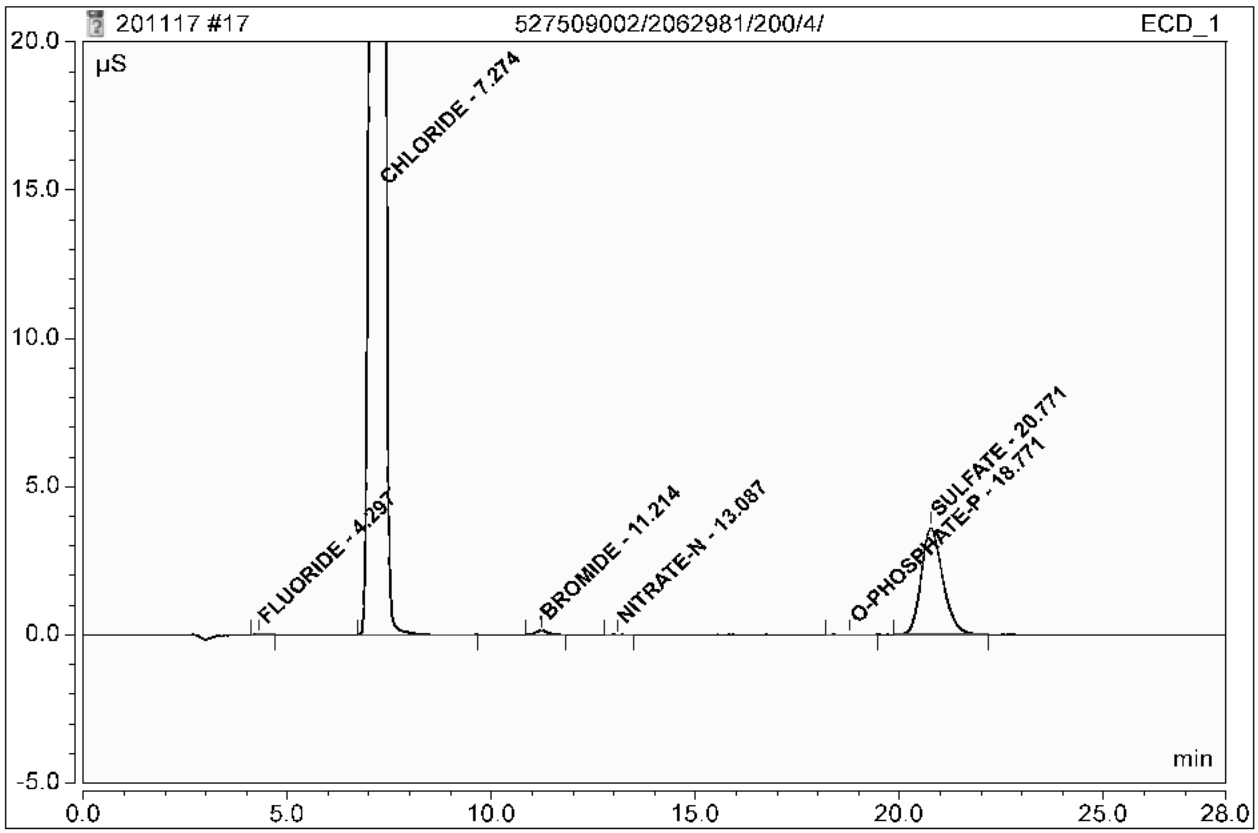
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 8:55**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

17 527509002/2062981/200/4/

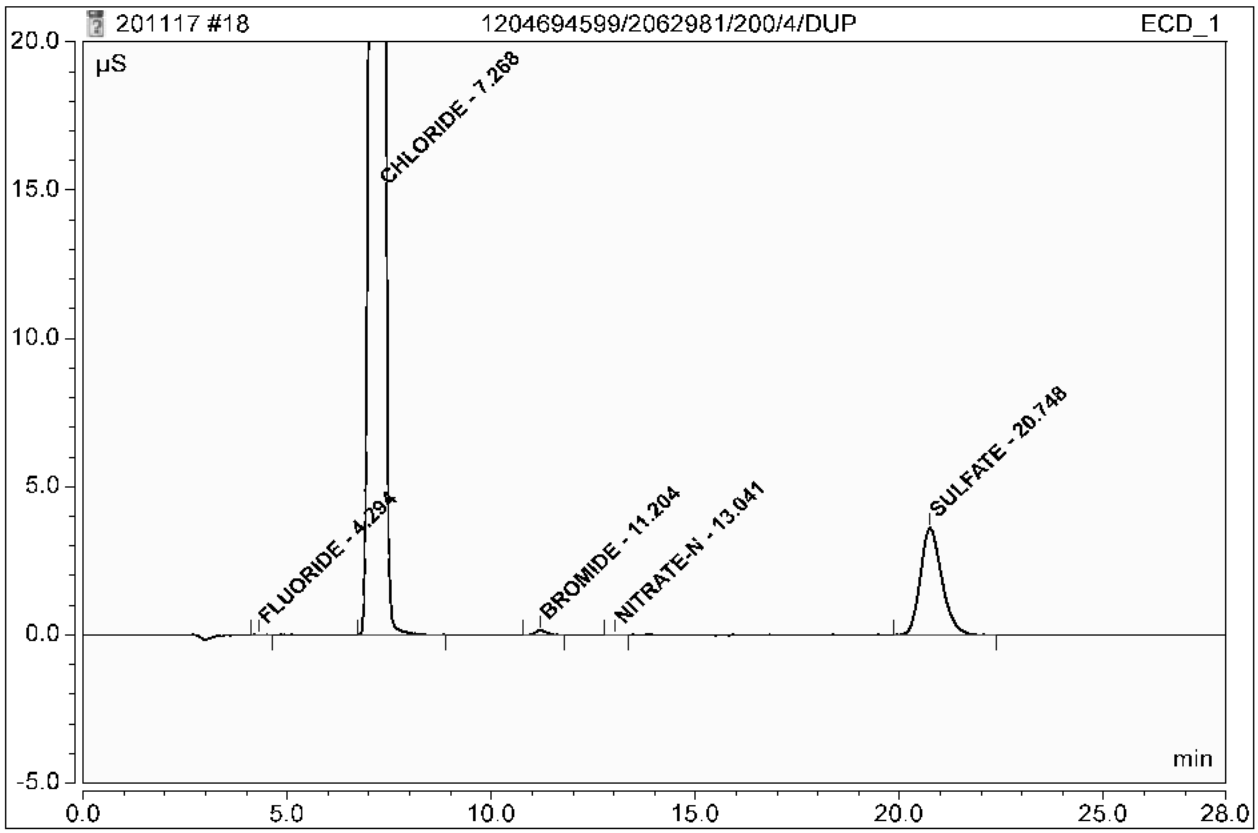
Sample Name:	**527509002/2062981/200/4/**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 10:45**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	0.0245		0.00310	0.01
2	7.27	CHLORIDE	n.a.	274.9938		49.30374	95.63
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.6441		0.04554	0.09
4	13.09	NITRATE-N	n.a.	0.0280		0.00133	0.00
5	18.77	O-PHOSPHATE-P	n.a.	n.a.		0.00458	0.01
6	20.77	SULFATE	n.a.	17.0294		2.19986	4.27
Total:				292.7198	0.000	51.558	100.00

18 1204694599/2062981/200/4/DUP

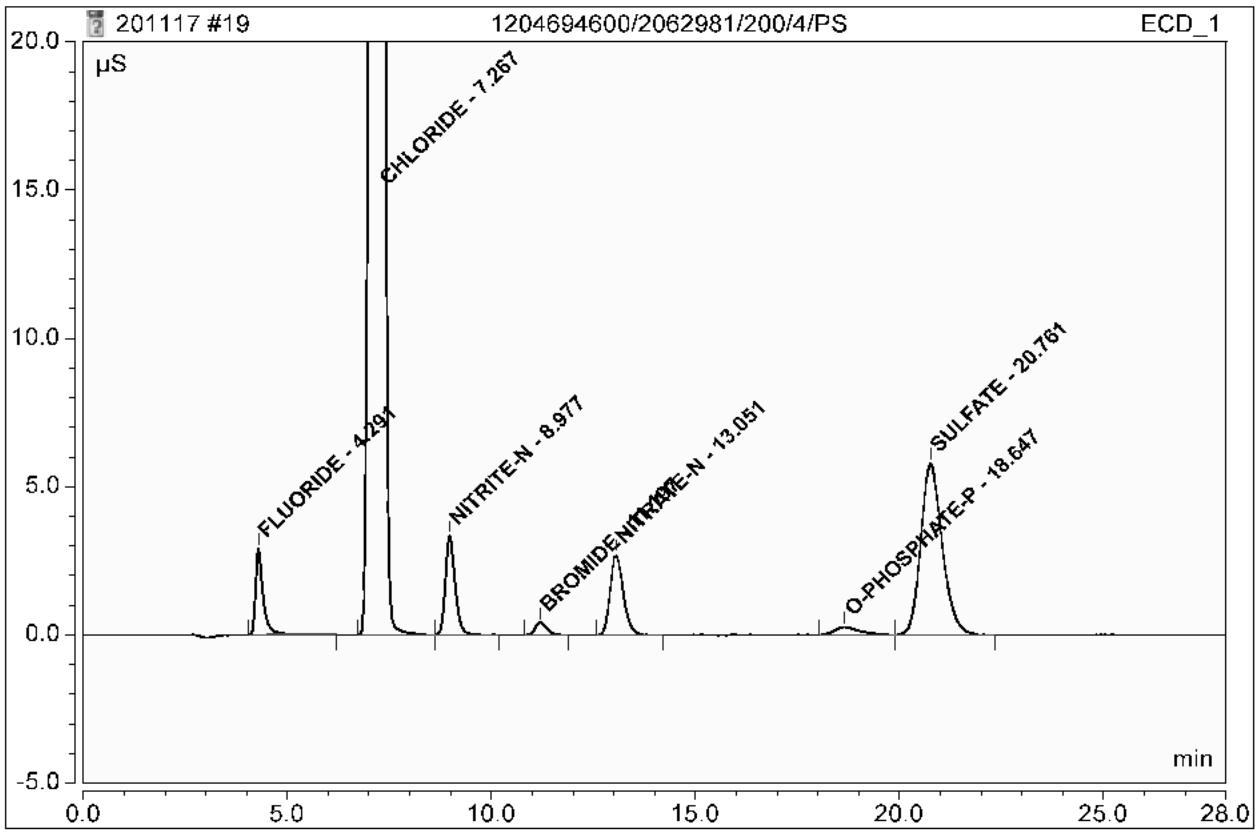
Sample Name:	**1204694599/2062981/200/4/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 11:16**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	0.0233		0.00278	0.01
2	7.27	CHLORIDE	n.a.	274.4562		49.20733	95.63
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.20	BROMIDE	n.a.	0.6487		0.04587	0.09
4	13.04	NITRATE-N	n.a.	0.0276		0.00116	0.00
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
5	20.75	SULFATE	n.a.	17.0210		2.19877	4.27
Total:				292.1768	0.000	51.456	100.00

19 1204694600/2062981/200/4/PS

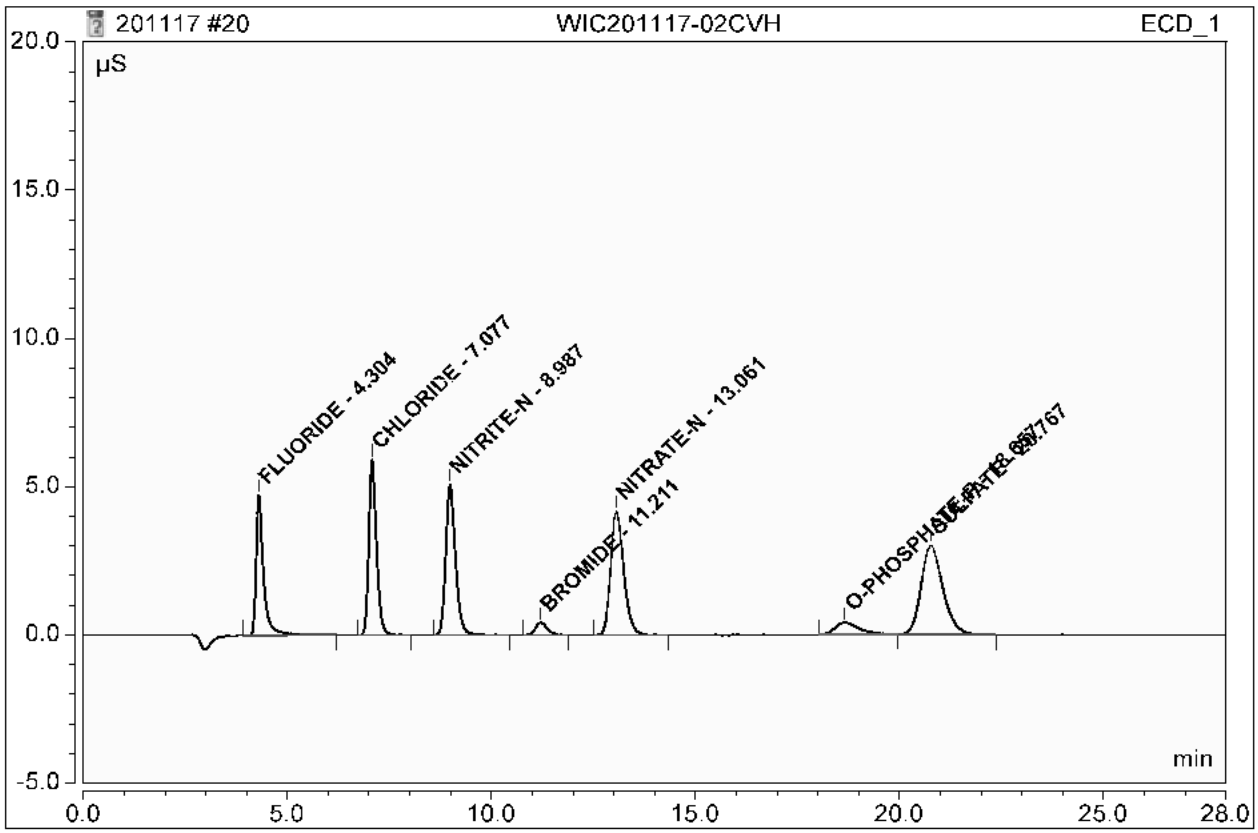
Sample Name:	**1204694600/2062981/200/4/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 11:47**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	2.3365		0.63193	1.12
2	7.27	CHLORIDE	n.a.	279.0131		50.02453	88.69
3	8.98	NITRITE-N	n.a.	2.3743		0.90849	1.61
4	11.20	BROMIDE	n.a.	1.8600		0.13209	0.23
5	13.05	NITRATE-N	n.a.	2.3665		1.00247	1.78
6	18.65	O-PHOSPHATE-P	n.a.	0.7884		0.18569	0.33
7	20.76	SULFATE	n.a.	27.2563		3.51875	6.24
Total:				315.9950	0.000	56.404	100.00

20 WIC201117-02CVH

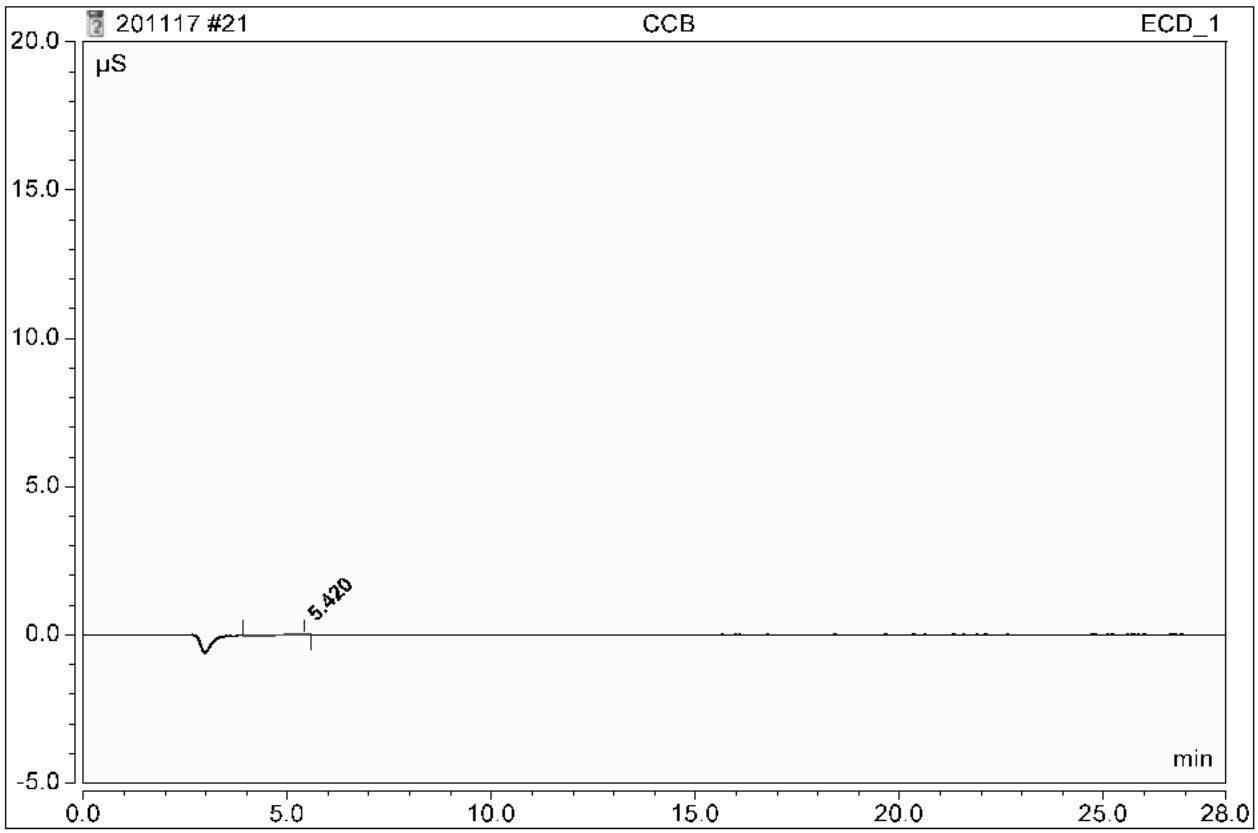
Sample Name:	**WIC201117-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 12:17**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.6105		0.97846	13.16
2	7.08	CHLORIDE	n.a.	7.1470		1.26973	17.08
3	8.99	NITRITE-N	n.a.	3.6097		1.38661	18.65
4	11.21	BROMIDE	n.a.	1.8465		0.13113	1.76
5	13.06	NITRATE-N	n.a.	3.6140		1.53655	20.67
6	18.66	O-PHOSPHATE-P	n.a.	1.3043		0.26819	3.61
7	20.77	SULFATE	n.a.	14.4278		1.86434	25.08
Total:				35.5597	0.000	7.435	100.00

21 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 12:48**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

Nitrate Nitrite by Cadmium Reduction Raw Data

This is runlog lachat3

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
1.5 ppm		1	AXH3	11/16/2020 8:07:59	OM_11-16-2020_08-06-59
1.0 ppm		1	AXH3	11/16/2020 8:09:11	OM_11-16-2020_08-06-59
0.5 ppm		1	AXH3	11/16/2020 8:10:23	OM_11-16-2020_08-06-59
0.1 ppm		1	AXH3	11/16/2020 8:11:35	OM_11-16-2020_08-06-59
0.05 ppm		1	AXH3	11/16/2020 8:12:47	OM_11-16-2020_08-06-59
0.02 ppm		1	AXH3	11/16/2020 8:14:00	OM_11-16-2020_08-06-59
ICAL-00		1	AXH3	11/16/2020 8:15:13	OM_11-16-2020_08-06-59
1.0 ppm ICV		1	AXH3	11/16/2020 8:17:34	OM_11-16-2020_08-06-59
ICB		1	AXH3	11/16/2020 8:19:55	OM_11-16-2020_08-06-59
Nitrate 1.0 ppm		1	AXH3	11/16/2020 8:22:14	OM_11-16-2020_08-06-59
Nitrite 1.0 ppm		1	AXH3	11/16/2020 8:24:33	OM_11-16-2020_08-06-59
1204691053	2061299	1	AXH3	11/16/2020 8:26:54	OM_11-16-2020_08-06-59
1204691054	2061299	1	AXH3	11/16/2020 8:28:06	OM_11-16-2020_08-06-59
526834001	2061299	10	AXH3	11/16/2020 8:29:18	OM_11-16-2020_08-06-59
1204691055	2061299	10	AXH3	11/16/2020 8:30:30	OM_11-16-2020_08-06-59
1204691057	2061299	10	AXH3	11/16/2020 8:31:41	OM_11-16-2020_08-06-59
526834003	2061299	1	AXH3	11/16/2020 8:32:53	OM_11-16-2020_08-06-59
526837003	2061299	1	AXH3	11/16/2020 8:34:05	OM_11-16-2020_08-06-59
1204691056	2061299	1	AXH3	11/16/2020 8:35:16	OM_11-16-2020_08-06-59
1204691058	2061299	1	AXH3	11/16/2020 8:36:28	OM_11-16-2020_08-06-59
526982001	2061299	25	AXH3	11/16/2020 8:37:39	OM_11-16-2020_08-06-59
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CCB		1	AXH3	11/16/2020 8:41:11	OM_11-16-2020_08-06-59
526982004	2061299	10	AXH3	11/16/2020 8:43:30	OM_11-16-2020_08-06-59
526982008	2061299	10	AXH3	11/16/2020 8:44:41	OM_11-16-2020_08-06-59
527003003	2061299	1	AXH3	11/16/2020 8:45:52	OM_11-16-2020_08-06-59
1204692160	2061299	1	AXH3	11/16/2020 8:47:03	OM_11-16-2020_08-06-59
1204692162	2061299	1	AXH3	11/16/2020 8:48:13	OM_11-16-2020_08-06-59
527003011	2061299	1	AXH3	11/16/2020 8:49:26	OM_11-16-2020_08-06-59
527062001	2061299	50	AXH3	11/16/2020 8:50:38	OM_11-16-2020_08-06-59
1204692161	2061299	50	AXH3	11/16/2020 8:51:50	OM_11-16-2020_08-06-59
1204692163	2061299	50	AXH3	11/16/2020 8:53:01	OM_11-16-2020_08-06-59
527171001	2061299	1	AXH3	11/16/2020 8:54:13	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 8:55:25	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 8:57:45	OM_11-16-2020_08-06-59
1204693489	2061299	1	AXH3	11/16/2020 9:00:05	OM_11-16-2020_08-06-59
1204693490	2061299	1	AXH3	11/16/2020 9:01:17	OM_11-16-2020_08-06-59
527171004	2061299	5	AXH3	11/16/2020 9:02:28	OM_11-16-2020_08-06-59
527171007	2061299	1	AXH3	11/16/2020 9:03:40	OM_11-16-2020_08-06-59
527228003	2061299	1	AXH3	11/16/2020 9:04:51	OM_11-16-2020_08-06-59
1204692168	2061893	1	AXH3	11/16/2020 9:06:02	OM_11-16-2020_08-06-59
1204692169	2061893	1	AXH3	11/16/2020 9:07:13	OM_11-16-2020_08-06-59
527016004	2061893	10	AXH3	11/16/2020 9:08:24	OM_11-16-2020_08-06-59
1204692170	2061893	10	AXH3	11/16/2020 9:09:34	OM_11-16-2020_08-06-59
1204692171	2061893	10	AXH3	11/16/2020 9:10:45	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 9:11:56	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 9:14:17	OM_11-16-2020_08-06-59
527083002	2061893	5	AXH3	11/16/2020 9:16:37	OM_11-16-2020_08-06-59
527083006	2061893	5	AXH3	11/16/2020 9:17:49	OM_11-16-2020_08-06-59
527083010	2061893	1	AXH3	11/16/2020 9:19:01	OM_11-16-2020_08-06-59
1204692164	2061892	1	AXH3	11/16/2020 9:20:12	OM_11-16-2020_08-06-59
1204692165	2061892	1	AXH3	11/16/2020 9:21:25	OM_11-16-2020_08-06-59
526974001	2061892	1	AXH3	11/16/2020 9:22:36	OM_11-16-2020_08-06-59
1204692166	2061892	1	AXH3	11/16/2020 9:23:48	OM_11-16-2020_08-06-59
1204692167	2061892	1	AXH3	11/16/2020 9:24:59	OM_11-16-2020_08-06-59
526974002	2061892	1	AXH3	11/16/2020 9:26:11	OM_11-16-2020_08-06-59
1204695092	2063130	1	AXH3	11/16/2020 9:27:22	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 9:28:33	OM_11-16-2020_08-06-59

CCB		1	AXH3	11/16/2020 9:30:54	OM_11-16-2020_08-06-59
1204695093	2063130	1	AXH3	11/16/2020 9:33:13	OM_11-16-2020_08-06-59
527300003	2063130	1	AXH3	11/16/2020 9:34:24	OM_11-16-2020_08-06-59
1204695096	2063130	1	AXH3	11/16/2020 9:35:35	OM_11-16-2020_08-06-59
1204695099	2063130	1	AXH3	11/16/2020 9:36:45	OM_11-16-2020_08-06-59
527489001	2063130	1	AXH3	11/16/2020 9:37:56	OM_11-16-2020_08-06-59
527489004	2063130	5	AXH3	11/16/2020 9:39:08	OM_11-16-2020_08-06-59
527489007	2063130	10	AXH3	11/16/2020 9:40:21	OM_11-16-2020_08-06-59
527493001	2063130	25	AXH3	11/16/2020 9:41:32	OM_11-16-2020_08-06-59
1204695095	2063130	25	AXH3	11/16/2020 9:42:44	OM_11-16-2020_08-06-59
1204695098	2063130	25	AXH3	11/16/2020 9:43:56	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 9:45:07	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 9:47:28	OM_11-16-2020_08-06-59
527497001	2063130	1	AXH3	11/16/2020 9:49:48	OM_11-16-2020_08-06-59
527501001	2063130	5	AXH3	11/16/2020 9:51:00	OM_11-16-2020_08-06-59
527501004	2063130	1	AXH3	11/16/2020 9:52:11	OM_11-16-2020_08-06-59
527501006	2063130	1	AXH3	11/16/2020 9:53:23	OM_11-16-2020_08-06-59
527509007	2063130	1	AXH3	11/16/2020 9:54:34	OM_11-16-2020_08-06-59
527511005	2063130	5	AXH3	11/16/2020 9:55:45	OM_11-16-2020_08-06-59
1204695094	2063130	5	AXH3	11/16/2020 9:56:56	OM_11-16-2020_08-06-59
1204695097	2063130	5	AXH3	11/16/2020 9:58:06	OM_11-16-2020_08-06-59
527511009	2063130	1	AXH3	11/16/2020 9:59:17	OM_11-16-2020_08-06-59
527511013	2063130	10	AXH3	11/16/2020 10:00:28	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 10:01:40	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 10:04:01	OM_11-16-2020_08-06-59
527512002	2063130	1	AXH3	11/16/2020 10:06:21	OM_11-16-2020_08-06-59
527512003	2063130	1	AXH3	11/16/2020 10:07:33	OM_11-16-2020_08-06-59
527512005	2063130	1	AXH3	11/16/2020 10:08:45	OM_11-16-2020_08-06-59
527513002	2063130	5	AXH3	11/16/2020 10:09:57	OM_11-16-2020_08-06-59
527513004	2063130	5	AXH3	11/16/2020 10:11:09	OM_11-16-2020_08-06-59
527513006	2063130	1	AXH3	11/16/2020 10:12:20	OM_11-16-2020_08-06-59
1204695100	2063131	1	AXH3	11/16/2020 10:13:32	OM_11-16-2020_08-06-59
1204695101	2063131	1	AXH3	11/16/2020 10:14:44	OM_11-16-2020_08-06-59
527290006	2063131	1	AXH3	11/16/2020 10:15:55	OM_11-16-2020_08-06-59
1204695102	2063131	1	AXH3	11/16/2020 10:17:06	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 10:18:17	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 10:20:38	OM_11-16-2020_08-06-59
1204695103	2063131	1	AXH3	11/16/2020 10:22:57	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 10:25:15	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 10:27:36	OM_11-16-2020_08-06-59

Author: lachat Date : 11/16/2020

Original Run Filename: OM_11-16-2020_08-06-59.OMN created 11/16/2020 08:06:59
Original Run Author's Signature: [lachat]
Current Run Filename: OM_11-16-2020_08-06-59.OMN last modified 11/16/2020 10:28:58
Current Run Author's Signature: [lachat]
Description: EPA 353.2
Cadmium Colum AR1111A
LCS nominal 1.0 mg/L

Sample	Rep.	Cup No.	Channel 1 NO3 + NO2 Conc. (mg/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WTR201116-26	1	S9	1.50	14.5	11/16/2020@08:07:59			1.5 ppm
WTR201116-25	1	S10	1.00	9.83	11/16/2020@08:09:11			1.0 ppm
WTR201116-24	1	S11	0.500	4.99	11/16/2020@08:10:23			0.5 ppm
WTR201116-23	1	S12	0.100	1.03	11/16/2020@08:11:35			0.1 ppm
WTR201116-21	1	S13	0.0500	0.518	11/16/2020@08:12:47			0.05 ppm
WTR201116-20	1	S14	0.0200	0.228	11/16/2020@08:14:00			0.02 ppm
0.0ppm	1	S15	0.00	0.0116	11/16/2020@08:15:13			0.0 ppm
DQM Test: Minimum Correlation Coefficient								
Result:			0.99994 > 0.99500					
Message			Calibration Passed					
Action			Continue					
WTR201116-27 ICV	1	S16	1.01	9.88	11/16/2020@08:17:34			1.0 ppm ICV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.01 < 1.10					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			1.01 > 0.899					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
ICB	1	S15	-0.00457	0.0113	11/16/2020@08:19:55			ICB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.00457 < 0.0200					
Message			ICB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.00457 > -0.0200					
Message			ICB Passed					
Action			Continue					
WTR201116-22	1	S1	1.05	10.2	11/16/2020@08:22:14			Nitrate 1.0 ppm
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.05 < 1.10					
Message			Nitrate Standard Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			1.05 > 0.900					
Message			Nitrate Standard Passed					
Action			None					
WTR201116-28	1	S2	1.05	10.2	11/16/2020@08:24:33			Nitrite 1.0 ppm
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.05 < 1.10					
Message			Pass					
Action			None					
DQM Test: < - Concentration Limit								
Result:			1.05 > 0.900					
Message			Nitrite Standard Passed					
Action			Continue					
1204691053|2061299|MB	1	1	-0.00445	0.0125	11/16/2020@08:26:54			
1204691054||LCS	1	2	0.989	9.64	11/16/2020@08:28:06			
526834001	1	3	0.214	2.13	11/16/2020@08:29:18		10.00	
1204691055||DUP	1	4	0.212	2.11	11/16/2020@08:30:30		10.00	

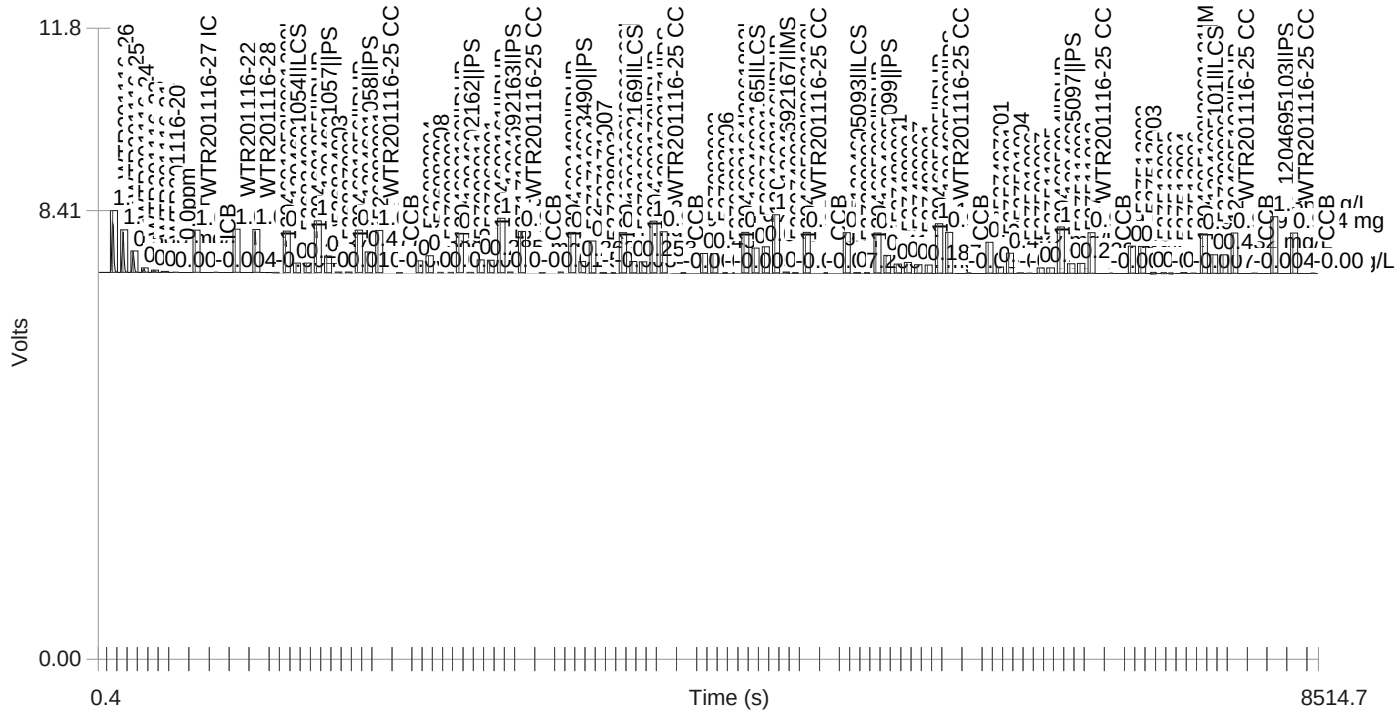
1204691057||PS	1	5	1.21	11.8	11/16/2020@08:31:41		10.00	
526834003	1	6	0.379	3.73	11/16/2020@08:32:53			
526837003	1	7	0.0105	0.158	11/16/2020@08:34:05			
1204691056||DUP	1	8	0.0102	0.155	11/16/2020@08:35:16			
1204691058||PS	1	9	0.991	9.66	11/16/2020@08:36:28			
526982001	1	10	0.477	4.68	11/16/2020@08:37:39		25.00	
WTR201116-25 CCV	1	S10	1.00	9.79	11/16/2020@08:38:50			1.0 ppm CCV
	Known Conc:		1.00					
DQM Test: > + Concentration Limit								
	Result:		1.00 < 1.10					
	Message		CCV Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		1.00 > 0.899					
	Message		CCV Passed					
	Action		Continue					
CCB	1	S15	-0.00416	0.0153	11/16/2020@08:41:11			CCB
	Known Conc:		0.00					
DQM Test: > + Concentration Limit								
	Result:		-0.00416 < 0.0200					
	Message		CCB Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		-0.00416 > -0.0200					
	Message		CCB Passed					
	Action		Continue					
526982004	1	11	0.268	2.65	11/16/2020@08:43:30		10.00	
526982008	1	12	0.388	3.81	11/16/2020@08:44:41		10.00	
527003003	1	13	0.00471	0.101	11/16/2020@08:45:52			
1204692160||DUP	1	14	0.00492	0.103	11/16/2020@08:47:03			
1204692162||PS	1	15	0.957	9.33	11/16/2020@08:48:13			
527003011	1	16	0.00232	0.0781	11/16/2020@08:49:26			
527062001	1	17	0.291	2.88	11/16/2020@08:50:38		50.00	
1204692161||DUP	1	18	0.285	2.82	11/16/2020@08:51:50		50.00	
1204692163||PS	1	19	1.28	12.4	11/16/2020@08:53:01		50.00	
527171001	1	20	0.0109	0.162	11/16/2020@08:54:13			
WTR201116-25 CCV	1	S10	0.989	9.64	11/16/2020@08:55:25			1.0 ppm CCV
	Known Conc:		1.00					
DQM Test: > + Concentration Limit								
	Result:		0.989 < 1.10					
	Message		CCV Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		0.989 > 0.899					
	Message		CCV Passed					
	Action		Continue					
CCB	1	S15	-0.00419	0.0151	11/16/2020@08:57:45			CCB
	Known Conc:		0.00					
DQM Test: > + Concentration Limit								
	Result:		-0.00419 < 0.0200					
	Message		CCB Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		-0.00419 > -0.0200					
	Message		CCB Passed					
	Action		Continue					
1204693489||DUP	1	21	0.0107	0.159	11/16/2020@09:00:05			
1204693490||PS	1	22	0.949	9.25	11/16/2020@09:01:17			
527171004	1	23	0.262	2.60	11/16/2020@09:02:28		5.00	
527171007	1	24	0.744	7.27	11/16/2020@09:03:40			
527228003	1	25	-5.68e-4	0.0502	11/16/2020@09:04:51			
1204692168|2061893|MB	1	26	-0.00345	0.0222	11/16/2020@09:06:02			
1204692169||LCS	1	27	0.966	9.42	11/16/2020@09:07:13			
527016004	1	28	0.259	2.56	11/16/2020@09:08:24		10.00	
1204692170||DUP	1	29	0.253	2.51	11/16/2020@09:09:34		10.00	
1204692171||PS	1	30	1.22	11.8	11/16/2020@09:10:45		10.00	
WTR201116-25 CCV	1	S10	0.980	9.55	11/16/2020@09:11:56			1.0 ppm CCV
	Known Conc:		1.00					

DQM Test: > + Concentration Limit								
Result:			0.980 < 1.10					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.980 > 0.899					
Message			CCV Passed					
Action			Continue					
CCB	1	S15	-0.00440	0.0130	11/16/2020@09:14:17			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.00440 < 0.0200					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.00440 > -0.0200					
Message			CCB Passed					
Action			Continue					
527083002	1	31	0.453	4.45	11/16/2020@09:16:37		5.00	
527083006	1	32	0.452	4.44	11/16/2020@09:17:49		5.00	
527083010	1	33	-0.00321	0.0245	11/16/2020@09:19:01			
1204692164|2061892|MB	1	34	-0.00518	0.00541	11/16/2020@09:20:12			
1204692165||LCS	1	35	0.974	9.50	11/16/2020@09:21:25			
526974001	1	36	0.586	5.74	11/16/2020@09:22:36			
1204692166||DUP	1	37	0.615	6.01	11/16/2020@09:23:48			
1204692167||MS	1	38	1.39	13.5	11/16/2020@09:24:59			
526974002	1	39	0.0139	0.190	11/16/2020@09:26:11			
1204695092|2063130|MB	1	40	-0.00742	-0.0163	11/16/2020@09:27:22			
WTR201116-25 CCV	1	S10	0.981	9.56	11/16/2020@09:28:33			1.0 ppm CCV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			0.981 < 1.10					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.981 > 0.899					
Message			CCV Passed					
Action			Continue					
CCB	1	S15	-0.00449	0.0121	11/16/2020@09:30:54			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.00449 < 0.0200					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.00449 > -0.0200					
Message			CCB Passed					
Action			Continue					
1204695093||LCS	1	41	0.969	9.45	11/16/2020@09:33:13			
527300003	1	42	0.00151	0.0703	11/16/2020@09:34:24			
1204695096||DUP	1	43	7.23e-4	0.0627	11/16/2020@09:35:35			
1204695099||PS	1	44	0.956	9.32	11/16/2020@09:36:45			
527489001	1	45	0.414	4.07	11/16/2020@09:37:56			
527489004	1	46	0.211	2.10	11/16/2020@09:39:08		5.00	
527489007	1	47	0.246	2.44	11/16/2020@09:40:21		10.00	
527493001	1	48	0.193	1.93	11/16/2020@09:41:32		25.00	
1204695095||DUP	1	49	0.187	1.87	11/16/2020@09:42:44		25.00	
1204695098||PS	1	50	1.17	11.4	11/16/2020@09:43:56		25.00	
WTR201116-25 CCV	1	S10	0.979	9.54	11/16/2020@09:45:07			1.0 ppm CCV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			0.979 < 1.10					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.979 > 0.899					
Message			CCV Passed					
Action			Continue					

CCB	1	S15	-0.00439	0.0131	11/16/2020@09:47:28			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00439 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00439 > -0.0200					
		Message	CCB Passed					
		Action	Continue					
527497001	1	51	0.729	7.12	11/16/2020@09:49:48			
527501001	1	52	0.146	1.47	11/16/2020@09:51:00		5.00	
527501004	1	53	0.462	4.54	11/16/2020@09:52:11			
527501006	1	54	-0.00110	0.0450	11/16/2020@09:53:23			
527509007	1	55	-0.00376	0.0192	11/16/2020@09:54:34			
527511005	1	56	0.127	1.28	11/16/2020@09:55:45		5.00	
1204695094||DUP	1	57	0.127	1.28	11/16/2020@09:56:56		5.00	
1204695097||PS	1	58	1.10	10.7	11/16/2020@09:58:06		5.00	
527511009	1	59	0.224	2.23	11/16/2020@09:59:17			
527511013	1	60	0.228	2.27	11/16/2020@10:00:28		10.00	
WTR201116-25 CCV	1	S10	0.979	9.55	11/16/2020@10:01:40			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.979 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.979 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00335	0.0232	11/16/2020@10:04:01			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00335 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00335 > -0.0200					
		Message	CCB Passed					
		Action	Continue					
527512002	1	61	0.678	6.62	11/16/2020@10:06:21			
527512003	1	62	0.672	6.57	11/16/2020@10:07:33			
527512005	1	63	0.0371	0.416	11/16/2020@10:08:45			
527513002	1	64	0.0124	0.176	11/16/2020@10:09:57		5.00	
527513004	1	65	-0.0198	-0.136	11/16/2020@10:11:09		5.00	
527513006	1	66	0.0137	0.188	11/16/2020@10:12:20			
1204695100|2063131|MB	1	67	-0.00712	-0.0133	11/16/2020@10:13:32			
1204695101||LCS	1	68	0.956	9.32	11/16/2020@10:14:44			
527290006	1	69	0.432	4.24	11/16/2020@10:15:55			
1204695102||DUP	1	70	0.432	4.25	11/16/2020@10:17:06			
WTR201116-25 CCV	1	S10	0.959	9.35	11/16/2020@10:18:17			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.959 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.959 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00426	0.0144	11/16/2020@10:20:38			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00426 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00426 > -0.0200					

		Message	CCB Passed					
		Action	Continue					
1204695103||PS	1	71	1.36	13.2	11/16/2020@10:22:57			
WTR201116-25 CCV	1	S10	0.964	9.40	11/16/2020@10:25:15			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.964 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.964 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00474	0.00969	11/16/2020@10:27:36			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00474 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00474 > -0.0200					
		Message	CCB Passed					
		Action	Continue					

Channel 1 (NO3 + NO2) : Current View

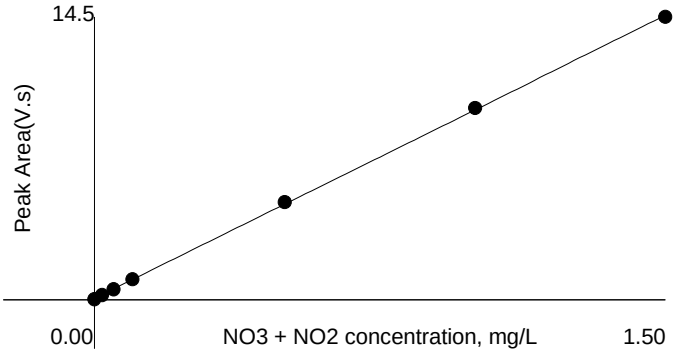


Author: lachat Date : 11/16/2020

Table 1: NO3 + NO2

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	1.50	1	14.5	1.16	0.6	11/16/2020	08:09:20
2	1.00	1	9.83	0.796	-0.8	11/16/2020	08:10:31
3	0.500	1	4.99	0.402	-1.9	11/16/2020	08:11:43
4	0.100	1	1.03	0.0818	-0.0	11/16/2020	08:12:55
5	0.0500	1	0.518	0.0409	4.3	11/16/2020	08:14:07
6	0.0200	1	0.228	0.0178	9.0	11/16/2020	08:15:20
7	0.00	1	0.0116	7.34e-4		11/16/2020	08:16:33

Figure 1: NO3 + NO2



Area = 9.69 * Conc + 0.0562
Conc = 0.103 * Area - 0.00574
Correlation Coefficient (r) = 0.99994

No Weighting

Solids, Total Dissolved
Raw Data

Batch: 2063665
Analyst: KLP1

TDS/TS/VS LogBook

Procedure Code BALDSSM_L
Procedure Description SM2540C Solids, Dissolved
Lab Sop GL-GC-E-001

Sample Type	Sample Id	Lot Id	Nc(mg/L)	Recovery(%)
LCS	1204696424	3124185	300	96.19

Sample Type	Sample Id	Rpd(%)
DUP	1204696425	3.0030030030030
DUP	1204696426	100.00000000000

Sample Id	Sample Type	Original Hsn	Instrument	Run Date	Crucible ID	Aliquot (L)	Crucible Wt(g)	Final Wt Event 1	Final Wt Event 2	Final Wt Event 3	Final Wt Event 4	Result	Units
1204696423	MB		BAL216	17-NOV-2020 14:37	700	0.07	72.8862	72.8857	72.8859			-4.28571	mg/L
1204696424	LCS		BAL216	17-NOV-2020 14:37	106	0.07	78.5289	78.5491	78.5491			288.57143	mg/L
527011025	SAMPLE		BAL216	17-NOV-2020 14:37	9	0.07	69.5553	69.5775	69.5771			311.42857	mg/L
527011026	SAMPLE		BAL216	17-NOV-2020 14:37	71	0.07	74.0024	74.0238	74.0241			310	mg/L
527016005	SAMPLE		BAL216	17-NOV-2020 14:37	57	0.07	76.6481	76.6647	76.665			241.42857	mg/L
1204696425	DUP	527016005	BAL216	17-NOV-2020 14:37	933	0.07	82.6954	82.7119	82.7118			234.28571	mg/L
527017001	SAMPLE		BAL216	17-NOV-2020 14:37	28	0.07	72.3563	72.7002	72.7001			4911.42857	mg/L
527180001	SAMPLE		BAL216	17-NOV-2020 14:37	40	0.07	66.7399	66.7672	66.7668			384.28571	mg/L
527180002	SAMPLE		BAL216	17-NOV-2020 14:37	MEH	0.07	103.5542	103.5589	103.5587			64.28571	mg/L
527180003	SAMPLE		BAL216	17-NOV-2020 14:37	M	0.07	72.3662	72.367	72.3667			7.14286	mg/L
527180004	SAMPLE		BAL216	17-NOV-2020 14:37	8	0.07	75.7814	75.7909	75.7908			134.28571	mg/L
527221003	SAMPLE		BAL216	17-NOV-2020 14:37	16	0.07	67.8348	67.8567	67.8567			312.85714	mg/L
527221008	SAMPLE		BAL216	17-NOV-2020 14:37	940	0.07	69.5912	69.6238	69.6237			464.28571	mg/L
527305003	SAMPLE		BAL216	17-NOV-2020 14:37	980	0.07	72.9475	72.9601	72.96			178.57143	mg/L
527312003	SAMPLE		BAL216	17-NOV-2020 14:37	107	0.07	80.6636	80.6892	80.6887			358.57143	mg/L
527312008	SAMPLE		BAL216	17-NOV-2020 14:37	177	0.07	72.0857	72.1041	72.1037			257.14286	mg/L
527509007	SAMPLE		BAL216	17-NOV-2020 14:37	7	0.07	76.5104	76.5099	76.5098			-8.57143	mg/L
1204696426	DUP	527509007	BAL216	17-NOV-2020 14:37	32	0.07	76.1239	76.1237	76.1237			-2.85714	mg/L
527512002	SAMPLE		BAL216	17-NOV-2020 14:37	ABC	0.07	75.23	79.9661	79.9578	79.9579		67541.42857	mg/L
527512003	SAMPLE		BAL216	17-NOV-2020 14:37	422	0.07	74.7831	79.4675	79.4596	79.4596		66807.14286	mg/L
527512005	SAMPLE		BAL216	17-NOV-2020 14:37	TT	0.07	89.3628	96.2553	96.2413	96.2413		98264.28571	mg/L
527513002	SAMPLE		BAL216	17-NOV-2020 14:37	500	0.07	65.6664	87.0315	81.5338	81.5338		2.27E+05	mg/L
527513004	SAMPLE		BAL216	17-NOV-2020 14:37	967	0.07	69.0547	87.5315	84.8331	84.8327		2.25E+05	mg/L
527513006	SAMPLE		BAL216	17-NOV-2020 14:37	17	0.07	77.08	79.7535	79.7489	79.7487		38124.28571	mg/L

Comments: **All Weights are in Grams**

A) Result = (Final - Crucible)/Aliquot * 1000

B) Prep Factor = 0.5 / Aliquot

In Oven Date/Time: 18-NOV-2020 05:00:00
In Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
Out Oven Date/Time: 18-NOV-2020 06:00:00
Out Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
In Oven Date/Time: 18-NOV-2020 10:00:00
In Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
Out Oven Date/Time: 18-NOV-2020 11:00:00
Out Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
In Oven Date/Time: 18-NOV-2020 15:00:00

In Oven Temperature (178-182C): 181 C
Temperature within limits (Y/N)?: Y
Out Oven Date/Time: 19-NOV-2020 06:00:00
Out Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
Filter Lot Number: 600024-0070-K

Note: Aliquot is used for the determination of the effective MDL and PQL in LIMS

Total Kjeldahl Nitrogen Raw Data

Prep Logbook

Total Phosphorous and Total Kjeldahl Nitrogen Sample Preparation

Batch ID: **2063653**
Analyst: Kristen Mizzell
Method: EPA 351.2 Prep
Lab SOP: GL-GC-E-071 REV# 17
Instrument: No instrument-manual method

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204696394	TRASPIKE2	UTR3125391-02	.2	mL
MS	1204696396	TRASPIKE2	UTR3125391-02	.2	mL
MS	1204698327	TRASPIKE2	UTR3125391-02	.2	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204696393 MB	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204696394 LCS	19-NOV-2020 16:00:00	Water	20	20	1	<2
527509005	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204696395 DUP (527509005)	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204696396 MS (527509005)	19-NOV-2020 16:00:00	Water	20	20	1	<2
527512001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527512004	19-NOV-2020 16:00:00	Water	20	20	1	<2
527513001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527513003	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204698326 DUP (527705001)	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204698327 MS (527705001)	19-NOV-2020 16:00:00	Water	20	20	1	<2
527513005	19-NOV-2020 16:00:00	Water	20	20	1	<2
527569001	19-NOV-2020 16:00:00	Waste Water	20	20	1	<2
527654001	19-NOV-2020 16:00:00	Ground Water	20	20	1	<2
527654002	19-NOV-2020 16:00:00	Ground Water	20	20	1	<2
527705001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705002	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705003	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705004	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705005	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705006	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705007	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705008	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705009	19-NOV-2020 16:00:00	Water	20	20	1	<2
527771001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527784001	19-NOV-2020 16:00:00	Water	20	20	1	<2

Reagent/Solvent Lot ID	Description	Amount
3127042-C	TKN/PO4 Digestion Solution	4 mL
WTR201119-12	TKN,TP Working Standard 5ppm	20 mL
WTR201119-13	TKN, TP Working Standard 3ppm	20 mL
WTR201119-14	TKN,TP Working Standard 1ppm CCV	20 mL
WTR201119-15	TKN, TP Working Standard 0.5ppm	20 mL
WTR201119-16	TKN, TP Working Standard 0.1ppm	20 mL
WTR201119-18	TKN, TP Standard 1ppm ICV	20 mL
WTR201119-19	TKN, TP Working Standard 0ppm	20 mL

Comments:
Digestion Start Time: 19-NOV-2020 12:00
Digestion Stop Time: 19-NOV-2020 16:00
Pipette ID: Rachel and Monica

Prep Logbook

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check

Reagent/Solvent Lot ID	Description	Amount

Comments:

This is runlog lachat3

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
5.0 ppm Std.		1	KLP1	11/20/2020 10:18:11	OM_11-20-2020_10-17-23
3.0 ppm Std.		1	KLP1	11/20/2020 10:19:01	OM_11-20-2020_10-17-23
1.0 ppm Std.		1	KLP1	11/20/2020 10:19:53	OM_11-20-2020_10-17-23
0.5 ppm Std		1	KLP1	11/20/2020 10:20:46	OM_11-20-2020_10-17-23
0.1 ppm Std		1	KLP1	11/20/2020 10:21:38	OM_11-20-2020_10-17-23
ICAL-00		1	KLP1	11/20/2020 10:22:32	OM_11-20-2020_10-17-23
ICV		1	KLP1	11/20/2020 10:24:44	OM_11-20-2020_10-17-23
ICB		1	KLP1	11/20/2020 10:26:55	OM_11-20-2020_10-17-23
1204693497	2062509	1	KLP1	11/20/2020 10:29:05	OM_11-20-2020_10-17-23
1204693498	2062509	1	KLP1	11/20/2020 10:29:59	OM_11-20-2020_10-17-23
526974001	2062509	50	KLP1	11/20/2020 10:30:51	OM_11-20-2020_10-17-23
1204693499	2062509	50	KLP1	11/20/2020 10:31:44	OM_11-20-2020_10-17-23
1204693500	2062509	50	KLP1	11/20/2020 10:32:36	OM_11-20-2020_10-17-23
526974002	2062509	100	KLP1	11/20/2020 10:33:29	OM_11-20-2020_10-17-23
CCV		1	KLP1	11/20/2020 10:35:39	OM_11-20-2020_10-17-23
CCB		1	KLP1	11/20/2020 10:37:50	OM_11-20-2020_10-17-23

Author: lachat Date : 11/20/2020

Original Run Filename: OM_11-20-2020_10-17-23.OMN created 11/20/2020 10:17:23
Original Run Author's Signature: [lachat]
Current Run Filename: OM_11-20-2020_10-17-23.OMN last modified 11/20/2020 10:39:15
Current Run Author's Signature: [lachat]
Description: TKN EPA Method 351.2 GEL SOP: GL-GC-E-104
Detection 660 nM
Sample spiked with 100ppm stock standard LCS/ICV/CCV/Spike nominal 1.0 ppm

Sample	Rep.	Cup No.	Channel 1 TKN Conc. (mg/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WTR201120-12	1	S1	5.00	10.6	11/20/2020@10:18:11			5.0 ppm Std.
WTR201120-13	1	S2	3.00	6.39	11/20/2020@10:19:01			3.0 ppm Std.
WTR201120-14	1	S3	1.00	2.21	11/20/2020@10:19:53			1.0 ppm Std.
WTR201120-15	1	S4	0.500	1.05	11/20/2020@10:20:46			0.5 ppm Std
WTR201120-16	1	S5	0.100	0.156	11/20/2020@10:21:38			0.1 ppm Std
WTR201120-19 0.0 ppm	1	S7	0.00	0.0212	11/20/2020@10:22:32			0.0 ppm
DQM Test: Minimum Correlation Coefficient								
Result:			0.99993 > 0.99500					
Message			Calibration Passed					
Action			Continue					
WTR201120-18 ICV	1	S8	0.987	2.10	11/20/2020@10:24:44			ICV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			0.987 < 1.10					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.987 > 0.895					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WTR201120-19 ICB	1	S7	0.0116	0.0328	11/20/2020@10:26:55			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			0.0116 < 0.100					
Message			ICB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.0116 > -0.100					
Message			ICB Passed					
Action			Continue					
1204693497|2062509|MB	1	1	-0.0313	-0.0582	11/20/2020@10:29:05			
1204693498||LCS	1	2	1.10	2.33	11/20/2020@10:29:59			
526974001	1	3	0.695	1.48	11/20/2020@10:30:51		50.00	
1204693499||DUP	1	4	0.793	1.69	11/20/2020@10:31:44		50.00	
1204693500||MS	1	5	1.14	2.42	11/20/2020@10:32:36		50.00	
526974002	1	6	1.87	3.97	11/20/2020@10:33:29		100.00	
WTR201120-14 CCV	1	S3	1.00	2.14	11/20/2020@10:35:39			CCV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.00 < 1.10					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			1.00 > 0.895					
Message			CCV Passed					
Action			Continue					
WTR201120-19 CCB	1	S7	0.00891	0.0271	11/20/2020@10:37:50			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			0.00891 < 0.0990					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.00891 > -0.100					

Message	CCB Passed					
Action	Continue					

Channel 1 (TKN) : Current View

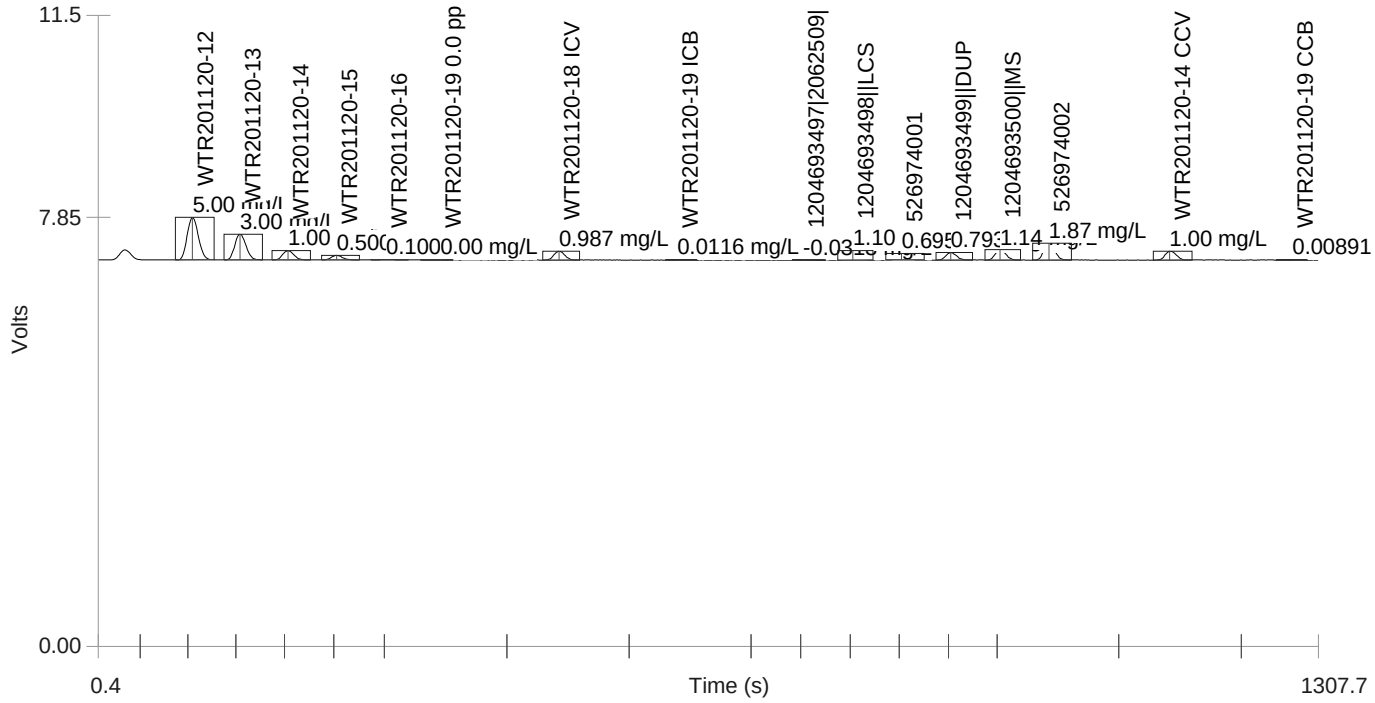
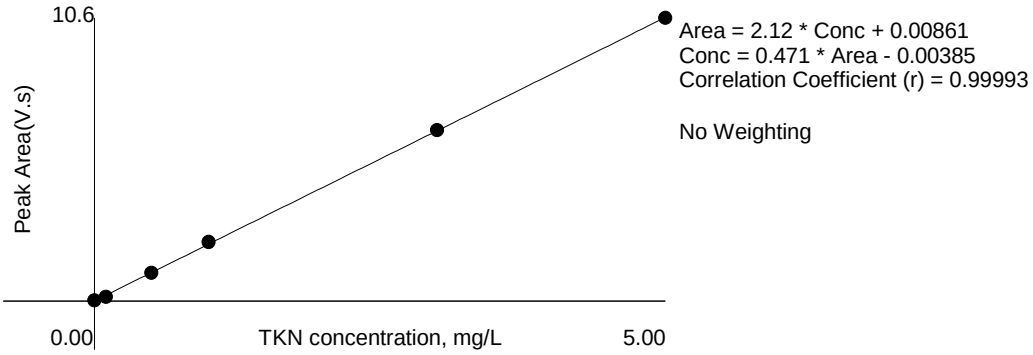


Table 1: TKN

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	5.00	1	10.6	0.771	0.2	11/20/2020	10:19:34
2	3.00	1	6.39	0.464	-0.2	11/20/2020	10:20:25
3	1.00	1	2.21	0.161	-3.7	11/20/2020	10:21:17
4	0.500	1	1.05	0.0764	1.9	11/20/2020	10:22:09
5	0.100	1	0.156	0.0103	29.2	11/20/2020	10:23:01
6	0.00	1	0.0212	0.00127		11/20/2020	10:23:55

Figure 1: TKN



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Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
CCV		1	KLP1	11/20/2020 11:29:59	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 11:32:10	OM_11-20-2020_11-29-09
1204696393	2063654	1	KLP1	11/20/2020 11:34:20	OM_11-20-2020_11-29-09
1204696394*	2063654	1	KLP1	11/20/2020 11:35:13	OM_11-20-2020_11-29-09
527509005	2063654	1	KLP1	11/20/2020 11:36:06	OM_11-20-2020_11-29-09
1204696395	2063654	1	KLP1	11/20/2020 11:36:58	OM_11-20-2020_11-29-09
1204696396	2063654	1	KLP1	11/20/2020 11:37:51	OM_11-20-2020_11-29-09
527512001	2063654	1	KLP1	11/20/2020 11:38:43	OM_11-20-2020_11-29-09
527512004	2063654	1	KLP1	11/20/2020 11:39:35	OM_11-20-2020_11-29-09
527513001	2063654	1	KLP1	11/20/2020 11:40:27	OM_11-20-2020_11-29-09
527513003	2063654	1	KLP1	11/20/2020 11:41:19	OM_11-20-2020_11-29-09
527513005	2063654	1	KLP1	11/20/2020 11:42:10	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 11:43:02	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 11:45:13	OM_11-20-2020_11-29-09
1204696394	2063654	1	KLP1	11/20/2020 11:47:24	OM_11-20-2020_11-29-09
527569001	2063654	1	KLP1	11/20/2020 11:48:15	OM_11-20-2020_11-29-09
527654001	2063654	1	KLP1	11/20/2020 11:49:06	OM_11-20-2020_11-29-09
527654002	2063654	1	KLP1	11/20/2020 11:49:57	OM_11-20-2020_11-29-09
527705001	2063654	1	KLP1	11/20/2020 11:50:47	OM_11-20-2020_11-29-09
1204698326	2063654	1	KLP1	11/20/2020 11:51:38	OM_11-20-2020_11-29-09
1204698327	2063654	1	KLP1	11/20/2020 11:52:30	OM_11-20-2020_11-29-09
527705002	2063654	1	KLP1	11/20/2020 11:53:23	OM_11-20-2020_11-29-09
527705003	2063654	1	KLP1	11/20/2020 11:54:16	OM_11-20-2020_11-29-09
527705004	2063654	1	KLP1	11/20/2020 11:55:08	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 11:56:01	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 11:58:11	OM_11-20-2020_11-29-09
527705005	2063654	1	KLP1	11/20/2020 12:00:21	OM_11-20-2020_11-29-09
527705006	2063654	1	KLP1	11/20/2020 12:01:14	OM_11-20-2020_11-29-09
527705007	2063654	1	KLP1	11/20/2020 12:02:06	OM_11-20-2020_11-29-09
527705008	2063654	1	KLP1	11/20/2020 12:02:58	OM_11-20-2020_11-29-09
527705009	2063654	1	KLP1	11/20/2020 12:03:49	OM_11-20-2020_11-29-09
527771001	2063654	1	KLP1	11/20/2020 12:04:41	OM_11-20-2020_11-29-09
527784001	2063654	1	KLP1	11/20/2020 12:05:32	OM_11-20-2020_11-29-09
527512001	2063654	5	KLP1	11/20/2020 12:06:24	OM_11-20-2020_11-29-09
527513001	2063654	5	KLP1	11/20/2020 12:07:15	OM_11-20-2020_11-29-09
527513005	2063654	10	KLP1	11/20/2020 12:08:07	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:10:18	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:12:30	OM_11-20-2020_11-29-09
527771001	2063654	10	KLP1	11/20/2020 12:14:40	OM_11-20-2020_11-29-09
1204698332	2064569	1	KLP1	11/20/2020 12:15:30	OM_11-20-2020_11-29-09
1204698333	2064569	1	KLP1	11/20/2020 12:16:21	OM_11-20-2020_11-29-09
527719002	2064569	1	KLP1	11/20/2020 12:17:11	OM_11-20-2020_11-29-09
1204698334	2064569	1	KLP1	11/20/2020 12:18:02	OM_11-20-2020_11-29-09
1204698335	2064569	1	KLP1	11/20/2020 12:18:53	OM_11-20-2020_11-29-09
527719004	2064569	1	KLP1	11/20/2020 12:19:46	OM_11-20-2020_11-29-09
527719006	2064569	1	KLP1	11/20/2020 12:20:39	OM_11-20-2020_11-29-09
527719008	2064569	1	KLP1	11/20/2020 12:21:32	OM_11-20-2020_11-29-09
527731001	2064569	1	KLP1	11/20/2020 12:22:24	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:23:17	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:25:28	OM_11-20-2020_11-29-09
1204698336	2064569	1	KLP1	11/20/2020 12:27:38	OM_11-20-2020_11-29-09
1204698337	2064569	1	KLP1	11/20/2020 12:28:30	OM_11-20-2020_11-29-09
527734006	2064569	1	KLP1	11/20/2020 12:29:22	OM_11-20-2020_11-29-09
527826002	2064569	1	KLP1	11/20/2020 12:30:13	OM_11-20-2020_11-29-09
527826004	2064569	1	KLP1	11/20/2020 12:31:05	OM_11-20-2020_11-29-09
1204699917	2065369	1	KLP1	11/20/2020 12:31:56	OM_11-20-2020_11-29-09
1204699918	2065369	1	KLP1	11/20/2020 12:32:47	OM_11-20-2020_11-29-09
527936001	2065369	1	KLP1	11/20/2020 12:33:38	OM_11-20-2020_11-29-09

527871001	2065369	1	KLP1	11/20/2020 12:34:30	OM_11-20-2020_11-29-09
1204699919	2065369	1	KLP1	11/20/2020 12:35:20	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:36:12	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:38:23	OM_11-20-2020_11-29-09
1204699920	2065369	1	KLP1	11/20/2020 12:40:32	OM_11-20-2020_11-29-09
527871004	2065369	1	KLP1	11/20/2020 12:41:24	OM_11-20-2020_11-29-09
527871006	2065369	1	KLP1	11/20/2020 12:42:17	OM_11-20-2020_11-29-09
527936001	2065369	10	KLP1	11/20/2020 12:43:10	OM_11-20-2020_11-29-09
527826004	2064569	100	KLP1	11/20/2020 12:44:02	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:46:13	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:48:24	OM_11-20-2020_11-29-09

Original Run Filename: OM_11-20-2020_11-29-09.OMN created 11/20/2020 11:29:09
Original Run Author's Signature: [lachat]
Current Run Filename: OM_11-20-2020_11-29-09.OMN last modified 11/20/2020 12:49:48
Current Run Author's Signature: [lachat]
Description: TKN EPA Method 351.2 GEL SOP: GL-GC-E-104
Detection 660 nM
Sample spiked with 100ppm stock standard LCS/ICV/CCV/Spike nominal 1.0 ppm

Sample	Rep.	Cup No.	Channel 1 TKN Conc. (mg/L)	Channel 1 TKN Area (Vs)	Detection Time	ADF	MDF
WTR201120-14 CCV	1	S3	1.04	2.21	11/20/2020@11:29:59		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.04 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.04 > 0.895				
Message			CCV Passed				
Action			Continue				
Calibration:			Table/Fig. 1				
WTR201120-19 CCB	1	S7	0.00341	0.0154	11/20/2020@11:32:10		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00341 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00341 > -0.100				
Message			CCB Passed				
Action			Continue				
1204696393|2063654|MB	1	1	0.0109	0.0313	11/20/2020@11:34:20		
1204696394||LCS	1	2	1.11	2.36	11/20/2020@11:35:13		
527509005	1	3	-0.0160	-0.0258	11/20/2020@11:36:06		
1204696395||DUP	1	4	-0.0157	-0.0251	11/20/2020@11:36:58		
1204696396||MS	1	5	1.05	2.23	11/20/2020@11:37:51		
527512001	1	6	5.42	11.5	11/20/2020@11:38:43		
527512004	1	7	2.70	5.74	11/20/2020@11:39:35		
527513001	1	8	6.30	13.4	11/20/2020@11:40:27		
527513003	1	9	3.94	8.36	11/20/2020@11:41:19		
527513005	1	10	14.8	31.4	11/20/2020@11:42:10		
WTR201120-14 CCV	1	S3	1.09	2.32	11/20/2020@11:43:02		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.09 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.09 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.0148	0.0396	11/20/2020@11:45:13		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.0148 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.0148 > -0.100				
Message			CCB Passed				
Action			Continue				
1204696394||LCS	1	2	1.08	2.29	11/20/2020@11:47:24		
527569001	1	11	0.260	0.559	11/20/2020@11:48:15		
527654001	1	12	0.103	0.227	11/20/2020@11:49:06		
527654002	1	13	0.464	0.992	11/20/2020@11:49:57		

527705001	1	14	0.346	0.741	11/20/2020@11:50:47		
1204698326||DUP	1	15	0.399	0.854	11/20/2020@11:51:38		
1204698327||MS	1	16	1.42	3.02	11/20/2020@11:52:30		
527705002	1	17	0.502	1.07	11/20/2020@11:53:23		
527705003	1	18	0.384	0.824	11/20/2020@11:54:16		
527705004	1	19	0.631	1.35	11/20/2020@11:55:08		
WTR201120-14 CCV	1	S3	1.06	2.26	11/20/2020@11:56:01		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.06 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.06 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	-0.00912	-0.0112	11/20/2020@11:58:11		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-0.00912 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-0.00912 > -0.100				
Message			CCB Passed				
Action			Continue				
527705005	1	20	0.334	0.716	11/20/2020@12:00:21		
527705006	1	21	0.380	0.814	11/20/2020@12:01:14		
527705007	1	22	1.03	2.18	11/20/2020@12:02:06		
527705008	1	23	0.385	0.824	11/20/2020@12:02:58		
527705009	1	24	0.419	0.896	11/20/2020@12:03:49		
527771001	1	25	8.21	17.4	11/20/2020@12:04:41		
527784001	1	26	0.433	0.928	11/20/2020@12:05:32		
527512001	1	6	1.49	3.17	11/20/2020@12:06:24		5.00
527513001	1	8	1.66	3.53	11/20/2020@12:07:15		5.00
527513005	1	10	1.85	3.93	11/20/2020@12:08:07		10.00
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:10:18		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00723	0.0235	11/20/2020@12:12:30		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00723 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00723 > -0.100				
Message			CCB Passed				
Action			Continue				
527771001	1	25	0.958	2.04	11/20/2020@12:14:40		10.00
1204698332|2064569|MB	1	27	0.0140	0.0378	11/20/2020@12:15:30		
1204698333||LCS	1	28	1.08	2.31	11/20/2020@12:16:21		
527719002	1	29	-0.0274	-0.0500	11/20/2020@12:17:11		
1204698334||DUP	1	30	-0.0630	-0.125	11/20/2020@12:18:02		
1204698335||MS	1	31	0.982	2.09	11/20/2020@12:18:53		
527719004	1	32	0.0463	0.106	11/20/2020@12:19:46		
527719006	1	33	0.0188	0.0481	11/20/2020@12:20:39		
527719008	1	34	-0.00738	-0.00747	11/20/2020@12:21:32		
527731001	1	35	0.0453	0.104	11/20/2020@12:22:24		
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:23:17		
Known Conc:			1.00				

DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00328	0.0151	11/20/2020@12:25:28		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00328 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00328 > -0.100				
Message			CCB Passed				
Action			Continue				
1204698336||DUP	1	36	0.0434	0.100	11/20/2020@12:27:38		
1204698337||MS	1	37	1.20	2.56	11/20/2020@12:28:30		
527734006	1	38	-0.0180	-0.0301	11/20/2020@12:29:22		
527826002	1	39	2.09	4.45	11/20/2020@12:30:13		
527826004	1	40	35.9	76.1	11/20/2020@12:31:05		
1204699917|2065369|MB	1	41	0.0713	0.159	11/20/2020@12:31:56		
1204699918||LCS	1	42	1.09	2.32	11/20/2020@12:32:47		
527936001	1	48	7.27	15.4	11/20/2020@12:33:38		
527871001	1	43	0.676	1.44	11/20/2020@12:34:30		
1204699919||DUP	1	44	0.575	1.23	11/20/2020@12:35:20		
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:36:12		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00291	0.0143	11/20/2020@12:38:23		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00291 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00291 > -0.100				
Message			CCB Passed				
Action			Continue				
1204699920||MS	1	45	1.24	2.64	11/20/2020@12:40:32		
527871004	1	46	0.358	0.767	11/20/2020@12:41:24		
527871006	1	47	0.00789	0.0249	11/20/2020@12:42:17		
527936001	1	48	0.775	1.65	11/20/2020@12:43:10		10.00
527826004|2064569|	1	40	0.635	1.36	11/20/2020@12:44:02		100.00
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:46:13		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00347	0.0155	11/20/2020@12:48:24		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00347 < 0.0990				
Message			CCB Passed				

Action	Continue				
DQM Test: < - Concentration Limit					
Result:	0.00347 > -0.100				
Message	CCB Passed				
Action	Continue				

Channel 1 (TKN) : Current View

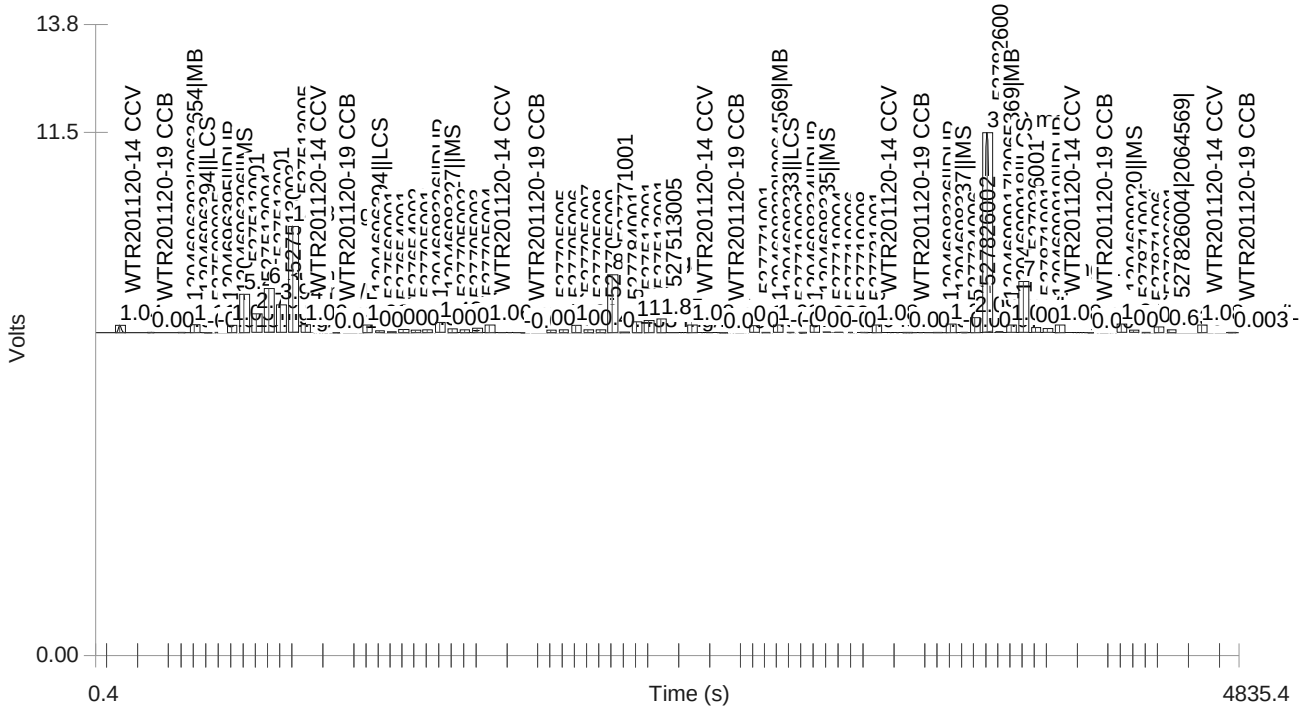
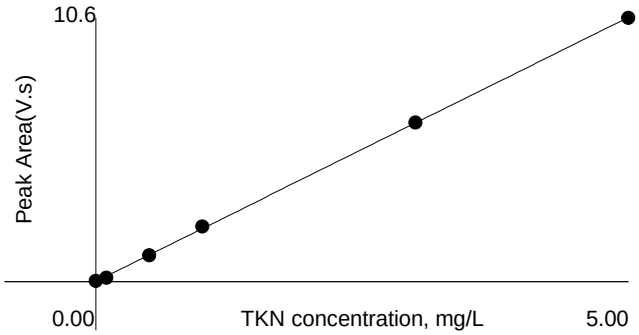


Table 1: TKN

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	5.00	1	10.6	0.771	0.2	11/20/2020	10:19:34
2	3.00	1	6.39	0.464	-0.2	11/20/2020	10:20:25
3	1.00	1	2.21	0.161	-3.7	11/20/2020	10:21:17
4	0.500	1	1.05	0.0764	1.9	11/20/2020	10:22:09
5	0.100	1	0.156	0.0103	29.2	11/20/2020	10:23:01
6	0.00	1	0.0212	0.00127		11/20/2020	10:23:55

Author: lachat Date : 11/20/2020

Figure 1: TKN



Area = 2.12 * Conc + 0.00861
Conc = 0.471 * Area - 0.00385
Correlation Coefficient (r) = 0.99993

No Weighting

Radiological Analysis

Case Narrative

Radiochemistry
Technical Case Narrative
ARS International, LLC
SDG #: 2021-129
Work Order #: 527509

Product: **Ra228**
Analytical Method: EPA:904
Analytical Procedure: GL-RAD-A-009 REV# 17
Analytical Batch: 2063164

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509001	SMEB01-20-209970
527509010	SMEB02-20-209973
1204695162	Method Blank (MB)
1204695163	527510013(SMEB05-20-209983) Sample Duplicate (DUP)
1204695164	527510013(SMEB05-20-209983) Matrix Spike (MS)
1204695165	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Preparation Information

Aliquot Reduced
aliquot volumes were reduced due to the sample matrix. They were hazy and contained sediment.

Homogenous Matrix
Samples were non-homogenous matrix. They were hazy and contained sediment.

Quality Control (QC) Information

Blank Information
Aliquots for samples 1204695162 (MB) and 1204695165 (LCS) were changed to 1.0 per client request.

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative error ratio requirement; however, both sample and duplicate results are less than the minimum detectable concentration.

Sample	Analyte	Value
1204695163 (SMEB05-20-209983DUP)	Radium-228	RPD 0 N/A RER 1.27* (0-1)

Technical Information

Negative > 3 sigma TPU
Sample result was more negative than the three sigma TPU. The background control chart was examined and the detector was determined to be fully functional.

Sample	Analyte	Value
1204695163 (SMEB05-20-209983DUP)	Radium-228	Negative Result > 3 sigma value

Recounts
Samples 1204695163 (SMEB05-20-209983DUP), 527509001 (SMEB01-20-209970) and 527509010 (SMEB02-20-209973) were recounted due to high MDCs. The recounts are reported.

Miscellaneous Information

Additional Comments
The matrix spike, 1204695164 (SMEB05-20-209983MS), aliquot was reduced to conserve sample volume. Samples did not meet client tracer yield requirement; however, GEL standard yield requirement was met.

Sample	Analyte	Value
1204695162 (MB)	Barium-133 Tracer	106* (50%-105%)
1204695164 (SMEB05-20-209983MS)	Barium-133 Tracer	110* (50%-105%)

Product: **Ra226**
Analytical Method: EPA:903.1
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2063137

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527509001	SMEB01-20-209970
527509010	SMEB02-20-209973
1204695106	Method Blank (MB)
1204695107	527509001(SMEB01-20-209970) Sample Duplicate (DUP)
1204695108	527509001(SMEB01-20-209970) Matrix Spike (MS)
1204695109	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Blank Information

Aliquots for samples 1204695106 (MB) and 1204695109 (LCS) were changed to 1.0 per client request.

Blank Decision Level
The blank (See Below) result is greater than the decision level but less than the MDC.

Sample	Analyte	Value
1204695106 (MB)	Radium-226	Blank result > DL

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with the value listed below.

Sample	Analyte	Value
1204695107 (SMEB01-20-209970DUP)	Radium-226	RPD 134* (0.0%-100.0%) RER 0.822 (0-1)

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-129 GEL Work Order: 527509

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a Tracer compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Theresa Austin**

Date: 20 NOV 2020 **Title: Group Leader**

Sample Data Summary

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C
Los Alamos, New Mexico 87545
Report Date: November 20, 2020
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client Sample ID: SMEB01-20-209970
Sample ID: 527509001
Matrix: W
Collect Date: 10-NOV-20
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting															
Ra228 "As Received"															
Radium-228	U	0.694	+/-0.307	0.991	0.463	+/-0.320	1.00	pCi/L			LXB3	11/19/20	1035	2063164	1
Rad Radium-226															
Ra226 "As Received"															
Radium-226	U	0.188	+/-0.172	0.607	0.247	+/-0.173	1.00	pCi/L			MXH8	11/19/20	0925	2063137	2

The following Analytical Methods were performed

Method	Description
1	EPA:904
2	EPA:903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	Ra228 "As Received"	2063164	62.8	(50%-105%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 68% confidence level (1-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545 Report Date: November 20, 2020

Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client Sample ID: SMEB02-20-209973 Project: ESHL00118
Sample ID: 527509010 Client ID: ARSL004
Matrix: W
Collect Date: 10-NOV-20
Receive Date: 14-NOV-20
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting															
Ra228 "As Received"															
Radium-228	U	0.411	+/-0.295	0.984	0.458	+/-0.300	1.00	pCi/L			LXB3	11/19/20	1035	2063164	1
Rad Radium-226															
Ra226 "As Received"															
Radium-226	U	0.257	+/-0.160	0.527	0.199	+/-0.162	1.00	pCi/L			MXH8	11/19/20	0925	2063137	2

The following Analytical Methods were performed

Method	Description
1	EPA:904
2	EPA:903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	Ra228 "As Received"	2063164	82.7	(50%-105%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 68% confidence level (1-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

Quality Control Summary

QC Summary

Client : **Los Alamos National Laboratory**
TA-00, SM1237, Rm104C
Los Alamos, New Mexico
Contact: **Mr. Stanislaw Marczak**
Workorder: **527509**

Report Date: November 20, 2020

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2063164										
QC1204695163 527510013 DUP										
Radium-228	U	-0.0443	U	-1.38	pCi/L	1.27		(0-1)	LXB3	11/19/2010:35
	Uncert:	+/-0.281		+/-0.243						
	TPU:	+/-0.281		+/-0.243						
**Barium-133 Tracer	219	148		149	CPM		68.2	(50%-105%)		
QC1204695165 LCS										
Radium-228	17.0			15.7	pCi/L		92.6	(80%-120%)	LXB3	11/19/2008:29
	Uncert:			+/-0.510						
	TPU:			+/-2.10						
**Barium-133 Tracer	219			215	CPM		98.3	(50%-105%)		
QC1204695162 MB										
Radium-228			U	-0.276	pCi/L				LXB3	11/19/2008:29
	Uncert:			+/-0.0910						
	TPU:			+/-0.0911						
**Barium-133 Tracer	219			233	CPM		106 *	(50%-105%)		
QC1204695164 527510013 MS										
Radium-228	340 U	-0.0443		269	pCi/L		79.3	(75%-125%)	LXB3	11/19/2008:29
	Uncert:	+/-0.281		+/-9.62						
	TPU:	+/-0.281		+/-36.3						
**Barium-133 Tracer	219	148		241	CPM		110 *	(50%-105%)		
Rad Ra-226										
Batch 2063137										
QC1204695107 527509001 DUP										
Radium-226	U	0.188		0.950	pCi/L	0.822		(0-1)	MXH8	11/19/2009:58
	Uncert:	+/-0.172		+/-0.266						
	TPU:	+/-0.173		+/-0.291						
QC1204695109 LCS										
Radium-226	13.5			12.3	pCi/L		90.9	(80%-120%)	MXH8	11/19/2009:58
	Uncert:			+/-0.494						
	TPU:			+/-1.06						
QC1204695106 MB										
Radium-226			U	0.151	pCi/L				MXH8	11/19/2009:58
	Uncert:			+/-0.103						
	TPU:			+/-0.104						
QC1204695108 527509001 MS										
Radium-226	27.0 U	0.188		28.6	pCi/L		106	(75%-125%)	MXH8	11/19/2009:58
	Uncert:	+/-0.172		+/-1.24						
	TPU:	+/-0.173		+/-2.75						

Notes:

TPU and Counting Uncertainty are calculated at the 68% confidence level (1-sigma).

QC Summary

Workorder: **527509**

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Gas Flow Raw Data

Blank Correction Report

Batch ID 2063164

GEL ID	Sample Type	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1204695163	DUP	Barium-133 Tracer	450 mL	149			517.777778	CPM	YES
		Radium-228	450 mL	-1.38	0.243	0.996	-.61333333	pCi/L	NO
1204695165	LCS	Barium-133 Tracer	1000 mL	215			233	CPM	YES
		Radium-228	1000 mL	15.7	2.10	0.389	-.276	pCi/L	NO
1204695162	MB	Barium-133 Tracer	1000 mL	233			233	CPM	YES
		Radium-228	1000 mL	-0.276	0.0911	0.413	-.276	pCi/L	NO
1204695164	MS	Barium-133 Tracer	50.0 mL	241			4660	CPM	YES
		Radium-228	50.0 mL	269	36.3	9.34	-5.52	pCi/L	NO
527509001	SAMPLE	Barium-133 Tracer	450 mL	138			517.777778	CPM	YES
		Radium-228	450 mL	0.694	0.320	0.991	-.61333333	pCi/L	NO
527509010	SAMPLE	Barium-133 Tracer	450 mL	181			517.777778	CPM	YES
		Radium-228	450 mL	0.411	0.300	0.984	-.61333333	pCi/L	NO
527510013	SAMPLE	Barium-133 Tracer	450 mL	148			517.777778	CPM	YES
		Radium-228	450 mL	-0.0443	0.281	0.989	-.61333333	pCi/L	NO

Batch 2063164 Check-list

This check-list was completed on 20-NOV-20 by Kenshalla Oston

This batch was reviewed by Angela Johnson on 20-NOV-20 and Kenshalla Oston on 20-NOV-20.

Batch ID:	**Product:**	**Description:** Gas Flow Radium 228
2063164	GFC28RAL	GL-RAD-A-009

#	Criteria	Yes	No	Comments
Preparation Information				
1	Were all of the samples homogenous? Include sample description if not homogenous		No	
2	Was the preservation correct for this analysis?	Yes		
Internal Checklist Information				
3	Are instrument source checks within limits?	Yes		
4	Has an Aliquot Correction been completed for this batch?		No	
5	Have sample historical results been reviewed for this batch?	Yes		
Technical Information				
6	Were all the samples prepared/analyzed within the required holding time period?	Yes		
7	Are any sample results more negative than 3xTPU?	Yes		
Quality Control (QC) Information				
8	Was the method blank (MB) within the acceptance criteria?	Yes		
9	Is the blank result less than 1.65 times the CSU?	Yes		
10	Is the blank result less than the decision level? Use the results greater than CL report to check.	Yes		
11	Were the laboratory control sample (LCS/LCSD) recoveries within the acceptance limits?	Yes		
12	Were the matrix spike (MS/MSD) recoveries within the acceptance limits?	Yes		
13	Were the relative percent differences and/or error (RPD/RER) between the sample and its duplicate within acceptable limits?		No	
14	Has the method required detection limit been met?	Yes		
Miscellaneous Information				
15	Are sample-specific MDA/MDC calculated and reported?	Yes		

Prep Logbook

Radium−228 in Liquid

Batch ID: **2063164**
Analyst: Lois Buist (LXB3)
Method: EPA 904.0/SW846 9320 Modified
Lab SOP: GL−RAD−A−009 REV# 17
Instrument: GFC−8949708441

Due Dates for Lab: 19−NOV−2020 **Package: 20−NOV−2020** **SDG: 21−NOV−2020**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695165	Radium−228 SPIKE	1965−B	.1	mL
MS	1204695164	Radium−228 SPIKE	1965−B	.1	mL

#	Sample ID	Prep Date	Min RDL (pCi/L)	Aliquot (mL)	Ac−228 Ingrow (date)	Ac−228 Separation (date)
1	527509001	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
2	527509010	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
3	527510001	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
4	527510007	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
5	527510013	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
6	1204695162 MB	16−NOV−2020	1	1000	11/17/20 13:56	11/19/20 06:26
7	1204695163 DUP (527510013)	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
8	1204695164 MS (527510013)	16−NOV−2020	1	50	11/17/20 13:56	11/19/20 06:26
9	1204695165 LCS	16−NOV−2020	1	1000	11/17/20 13:56	11/19/20 06:26

Reagent/Solvent Lot ID	Description	Amount
WORK 0487−G	Barium−133 TRACER	.1 mL
REGNT 3086994	500 mg/mL Neodymium Carrier	.2 mL
REGNT 3099514	RGF−Neodymium Subtrate	5 mL
REGNT 3132221	Lot #DGA0017	2 g
REGNT 3136164.4	RGF−Hydrofluoric Acid	4 mL
REGNT 3136531	2M HCL	20 mL
REGNT 3138849	RGF−50% Potassium Carbonate	2 mL
REGNT 3141231.2	Glacial Acetic Acid	10 mL
REGNT 3141951	RGF−1M Citric Acid	5 mL
REGNT 3141958	RGF−1.5M Ammonium Sulfate	10 mL
REGNT 3142065	RGF−7M Nitric Acid	25 mL
REGNT 3144358.7	Concentrated HNO3 (16M)	5 mL
REGNT 3145436	Barium Carrier Ra228 REG	1 mL

Comments:

Pipet Id: RAD−GFC−1795419
Data Entry Date2: 16−NOV−2020 00:00

Radium-228 Liquid

Filename : RA228.XLS
File type : Excel
Version # : 1.4.2

Tracer S/N : 0487-G
Tracer Exp Date : 2/27/2021
Tracer Volume Added: 0.10

Batch : 2063164
Analyst : LOI02092
Prep Date : 11/16/2020
Ra-228 Method Uncertainty : 0.1268

Geometry: 25mm Filter

Procedure Code : GFC28RAL
Parmname : Radium-228
Required MDC : 1 pCi/L
Ra-228 Abundance : 1.00
Halflife of Ra-228 : 5.75 years
Halflife of Ac-228 : 6.15 hours

Sample Characteristics					Tracer Calculations					
Pos.	Sample ID	Sample Aliquot L	Sample Aliquot StDev. L	Sample Date/Time	Tracer Ref. Activity (CPM)	Tracer Ref. Count Uncertainty (%)	Tracer Samp. Activity (CPM)	Tracer Samp. Count Uncertainty (%)	Tracer Aliquot (mL)	Tracer Aliquot StDev. (mL)
1	527509001.1	0.4500	2.0013E-05	11/10/2020 15:15	219.1	3.90%	137.7	4.92%	0.1	0.000200
2	527509010.1	0.4500	2.0013E-05	11/10/2020 13:25	219.1	3.90%	181.3	4.29%	0.1	0.000200
3	527510001.1	0.4500	2.0013E-05	11/12/2020 10:27	219.1	3.90%	192.6	4.16%	0.1	0.000200
4	527510007.1	0.4500	2.0013E-05	11/12/2020 10:27	219.1	3.90%	158.8	4.58%	0.1	0.000200
5	527510013.1	0.4500	2.0013E-05	11/12/2020 14:40	219.1	3.90%	148.3	4.74%	0.1	0.000200
6	1204695162.1	1.0000	2.0399E-05	11/16/2020 0:00	219.1	3.90%	233.0	3.78%	0.1	0.000200
7	1204695163.1	0.4500	2.0013E-05	11/12/2020 14:40	219.1	3.90%	149.5	4.72%	0.1	0.000200
8	1204695164.1	0.0500	7.8337E-06	11/12/2020 14:40	219.1	3.90%	241.3	3.72%	0.1	0.000200
9	1204695165.1	1.0000	2.0399E-05	11/16/2020 0:00	219.1	3.90%	215.3	3.93%	0.1	0.000200

Pipet, 0.1 ml Stdev : +/-	0.000200	ml
Pipet, 0.5 ml Stdev : +/-	0.001000	ml
Pipet, 1 ml Stdev : +/-	0.002000	ml

Analytical SOP: GL-RAD-A-009
Instrument SOP: GL-RAD-I-016

Count raw Data

Pos.	Detector ID	Counting Time (min.)	Gross Counts Alpha	Gross Counts Beta	Beta cpm	Count Start Date/Time	Ac-228 Ingrowth Date/Time	Ac-228 Decay Date/Time	Ra-228 Decay	Ac-228 Decay	Ac-228 Ingrowth	Ac-228 Count Correction	Calculated Sample Recovery %	Sample Recovery Error %
1	11D	220	16	153	0.695	11/19/2020 10:35	11/17/2020 13:56	11/19/2020 6:26	0.997	0.626	0.990	1.221	62.8%	3.15%
2	11C	150	3	131	0.873	11/19/2020 10:35	11/17/2020 13:56	11/19/2020 6:26	0.997	0.626	0.990	1.147	82.7%	2.91%
3	14B	190	39	276	1.453	11/19/2020 10:35	11/17/2020 13:56	11/19/2020 6:26	0.998	0.625	0.990	1.189	87.9%	2.87%
4	13D	240	18	186	0.775	11/19/2020 10:36	11/17/2020 13:56	11/19/2020 6:26	0.998	0.625	0.990	1.242	72.5%	3.02%
5	12C	240	52	136	0.567	11/19/2020 10:36	11/17/2020 13:56	11/19/2020 6:26	0.998	0.625	0.990	1.242	67.7%	3.08%
6	4B	60	9	30	0.500	11/19/2020 8:29	11/17/2020 13:56	11/19/2020 6:26	0.999	0.793	0.990	1.057	106%	2.73%
7	13A	280	30	142	0.507	11/19/2020 10:35	11/17/2020 13:56	11/19/2020 6:26	0.998	0.626	0.990	1.286	68.2%	3.07%
8	4D	60	50	900	15.000	11/19/2020 8:29	11/17/2020 13:56	11/19/2020 6:26	0.998	0.793	0.990	1.057	110%	2.71%
9	5B	60	11	1025	17.083	11/19/2020 8:29	11/17/2020 13:56	11/19/2020 6:26	0.999	0.793	0.990	1.057	98.3%	2.78%

Calibration Data								
Pos.	Counted on	Calibration Date	Calibration Due Date	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Bkg cpm	Weekly Bkg Count Start Date/Time	Bkg Count Time (min.)
1	PIC	6/1/2020	5/31/2021	0.6701	0.01068	0.548	11/13/2020 17:31	500
2	PIC	6/1/2020	5/31/2021	0.6536	0.01278	0.754	11/13/2020 17:31	500
3	PIC	6/1/2020	5/31/2021	0.6422	0.01028	1.116	11/13/2020 17:31	1000
4	PIC	6/1/2020	5/31/2021	0.6429	0.01144	0.840	11/13/2020 17:31	1000
5	PIC	6/1/2020	5/31/2021	0.6277	0.01666	0.576	11/13/2020 17:31	500
6	PIC	6/1/2020	5/31/2021	0.6255	0.01519	0.802	11/13/2020 17:33	500
7	PIC	6/1/2020	5/31/2021	0.6413	0.00714	0.796	11/13/2020 17:31	1000
8	PIC	6/1/2020	5/31/2021	0.5764	0.00773	0.946	11/13/2020 17:33	500
9	PIC	6/1/2020	5/31/2021	0.6479	0.00426	0.634	11/13/2020 17:33	500

Notes:
1 - Results are decay corrected to Sample Date/Time
2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date
3 - Spike Nominals are decay corrected to Sample Date/Time

* - RPD changed to 0% due to sample & dup activity below MDC

Spike S/N : 1965-B
Spike Exp Date : 9/24/2021
Spike Activity (dpm/ml): 376.47
Spike Volume Added: 0.10

LCS S/N : 1965-B
LCS Exp Date : 9/24/2021
LCS Activity (dpm/ml): 376.47
LCS Volume Added: 0.10

Results

Pos.	Decision Level pCi/L	Critical Level pCi/L	Required MDC pCi/L	MDC pCi/L	Sample Act. Conc. pCi/L	Sample Act. Error %	Net Count Rate CPM	Net Count Rate Error CPM	1 SIGMA Counting Uncertainty pCi/L	1 SIGMA Total Prop. Uncertainty pCi/L	Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
1	0.6564	0.4634	1	0.9909	**0.6936**	44.37%	0.1475	0.0652	0.3069	0.3201		SAMPLE				
2	0.6482	0.4577	1	0.9841	**0.4107**	71.82%	0.1193	0.0856	0.2947	0.2995		SAMPLE				
3	0.6653	0.4697	1	0.9933	**1.1496**	27.97%	0.3366	0.0936	0.3197	0.3531		SAMPLE				
4	0.6639	0.4687	1	0.9914	**-0.2811**	98.19%	-0.0650	0.0638	0.2759	0.2759		SAMPLE				
5	0.6587	0.4651	1	0.9895	**-0.0443**	635.06%	-0.0093	0.0593	0.2812	0.2812		SAMPLE				
6	0.2604	0.1838	1	0.4133	**-0.2758**	33.16%	-0.3020	0.0997	0.0910	0.0911		MB				
7	0.6696	0.4727	1	0.9965	**-1.3760**	17.96%	-0.2889	0.0511	0.2432	0.2433	527510013.1	DUP	* 0.0%	1.2697		
8	5.9334	4.1890	1	9.3362	**269.3203**	4.55%	14.0540	0.5019	9.6178	36.2808	527510013.1	MS			339.5387	79.3%
9	0.2419	0.1708	1	0.3892	**15.6966**	4.30%	16.4493	0.5348	0.5103	2.1017		LCS			16.9580	92.6%

SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine	Batch ID
527509001	11D	220	16	153	11/19/2020 10:35	11/19/2020 14:15	PIC	2063164
527509010	11C	150	3	131	11/19/2020 10:35	11/19/2020 13:05	PIC	2063164
527510001	14B	190	39	276	11/19/2020 10:35	11/19/2020 13:45	PIC	2063164
527510007	13D	240	18	186	11/19/2020 10:36	11/19/2020 14:36	PIC	2063164
527510013	12C	240	52	136	11/19/2020 10:36	11/19/2020 14:36	PIC	2063164
1204695162	4B	60	9	30	11/19/2020 8:29	11/19/2020 9:29	PIC	2063164
1204695163	13A	280	30	142	11/19/2020 10:35	11/19/2020 15:15	PIC	2063164
1204695164	4D	60	50	900	11/19/2020 8:29	11/19/2020 9:29	PIC	2063164
1204695165	5B	60	11	1025	11/19/2020 8:29	11/19/2020 9:29	PIC	2063164

ASSAY 19-Nov-20 7:36:33

Protocol	id	9	Ba-133_1
Time	limit		
Count	limit		
Isotope	Ba-133_1		
Protocol	date	11/19/2020	
Run	id.	2334	

Samp_ID	POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
REF	1	92	1	180	657.5	219.13	3.9		07:36:33
527509001	2	92	2	180	413	137.65	4.92	62.82	07:39:48
527509010	3	92	3	180	544	181.29	4.29	82.73	07:43:01
527510001	4	92	4	180	578	192.62	4.16	87.90	07:46:15
527510007	5	92	5	180	476.5	158.8	4.58	72.47	07:49:29
527510013	1	98	1	180	445	148.3	4.74	67.68	07:53:05
1204695162	2	98	2	180	699	232.95	3.78	106.31	07:56:19
1204695163	3	98	3	180	448.5	149.47	4.72	68.21	07:59:33
1204695164	4	98	4	180	724	241.28	3.72	110.11	08:02:47
1204695165	5	98	5	180	646	215.3	3.93	98.25	08:06:01

END OF ASSAY

Continuing Calibration Data

Gas Flow Proportional Counter Checks for 19-Nov-2020

Detectors LB4100 A1 through I4 and PIC 1A through 14D and G5400W 1W through 1Z

Short Name	Status	Parmname	Run Time	Count Time	CPM or dec	Low Limit	High Limit	Stdev
LB4100C1	Above	Alpha XTalk	19-Nov 06:20	5	0.205	0.169	0.204	+3.17
LB4100C3	Below	Alpha eff	19-Nov 06:33	5	7268	7302	8637	-3.15
LB4100C3	Above	Alpha XTalk	19-Nov 06:33	5	0.339	0.284	0.336	+3.30
LB4100C3	Below	Beta eff	19-Nov 06:13	5	16009	16080	17090	-3.42
LB4100E1	need 2nd	Alpha bkg	19-Nov 04:58	60	0.183	-5.45E-2	0.290	+1.15
LB4100E2	need 2nd	Beta eff	19-Nov 06:00	5	15430	15220	16690	-2.14
LB4100E3	Above	Alpha bkg	19-Nov 04:58	60	3.033	-4.47E-2	0.174	+81.34
LB4100E3	Above	Beta bkg	19-Nov 04:58	60	2.433	-1.31E+0	6.766	-0.22
LB4100E3	Above	Beta XTalk	19-Nov 06:00	5	5.11E-4	8.54E-5	4.65E-4	+3.72
LB4100F3	need 2nd	Alpha bkg	19-Nov 04:58	60	0.283	-7.68E-2	0.332	+2.28
LB4100F3	Below	Alpha eff	19-Nov 06:07	5	13356	13590	17080	-3.40
LB4100F3	Above	Alpha XTalk	19-Nov 06:07	5	0.389	0.296	0.376	+4.00
LB4100G2	need 2nd	Alpha bkg	19-Nov 04:58	60	0.100	-3.13E-2	0.219	+0.15
LB4100G2	Below	Alpha eff	19-Nov 06:01	5	9208	9464	12690	-3.48
LB4100G2	Above	Alpha XTalk	19-Nov 06:01	5	0.345	0.224	0.342	+3.19
LB4100G3	Above	Beta bkg	19-Nov 04:58	60	1.867	0.810	1.674	+4.34
LB4100H4	Below	Alpha eff	19-Nov 06:28	5	8659	9849	14990	-4.39
LB4100H4	Above	Alpha XTalk	19-Nov 06:28	5	0.480	0.277	0.414	+5.87
LB4100I1	Above	Alpha XTalk	19-Nov 06:26	5	0.251	0.155	0.201	+9.39
LB4100I2	Below	Alpha eff	19-Nov 06:26	5	11481	12260	13540	-6.65
LB4100I2	Above	Alpha XTalk	19-Nov 06:26	5	0.283	0.206	0.251	+7.34
LB4100I3	Below	Alpha eff	19-Nov 06:26	5	8779	8847	10310	-3.28
LB4100I3	Above	Alpha XTalk	19-Nov 06:26	5	0.268	0.174	0.229	+7.27
LB4100I4	need 2nd	Alpha eff	19-Nov 06:26	5	9740	9674	12150	-2.84
LB4100I4	Above	Alpha XTalk	19-Nov 06:26	5	0.267	0.179	0.224	+8.70
PIC1A	Below	Alpha eff	19-Nov 08:27	5	9685	9717	10950	-3.16
PIC4A	Above	Alpha bkg	19-Nov 05:09	60	0.750	-5.00E-3	0.347	+9.88
PIC4A	Above	Beta bkg	19-Nov 05:09	60	4.000	0.750	2.058	+11.91
PIC5A	Above	Alpha bkg	19-Nov 06:27	60	0.317	0.062	0.371	+1.94

PIC6A	Above	Alpha bkg	19-Nov 05:23	60	0.533	0.009	0.389	+5.28
PIC6A	Above	Alpha eff	19-Nov 05:09	5	10193	9110	9744	+7.25
PIC6A	Above	Beta eff	19-Nov 05:16	5	51367	42850	48790	+5.60
PIC6B	need 2nd	Alpha bkg	19-Nov 05:23	60	0.050	0.030	0.341	-2.61
PIC6B	Above	Alpha eff	19-Nov 05:09	5	8914	8118	8796	+4.04
PIC8A	Above	Alpha bkg	19-Nov 06:30	60	0.333	-4.33E-2	0.357	+2.65
PIC8A	Above	Beta bkg	19-Nov 06:30	60	1.683	0.173	1.614	+3.29
PIC11B	Below	Alpha eff	19-Nov 05:34	5	12375	12460	13570	-3.46
PIC12D	Below	Alpha XTalk	19-Nov 09:54	5	0.286	0.289	0.318	-3.51
PIC13B	Above	Alpha bkg	19-Nov 06:47	60	0.417	-6.50E-2	0.289	+5.16
PIC14A	Below	Beta XTalk	19-Nov 09:55	5	3.38E-4	4.14E-4	0.001	-3.52

INSTRUMENTS NOT LISTED HAVE PASSED ALL QUALITY ASSURANCE PARAMETERS

The following detectors may not have properly transferred to the LIMS system

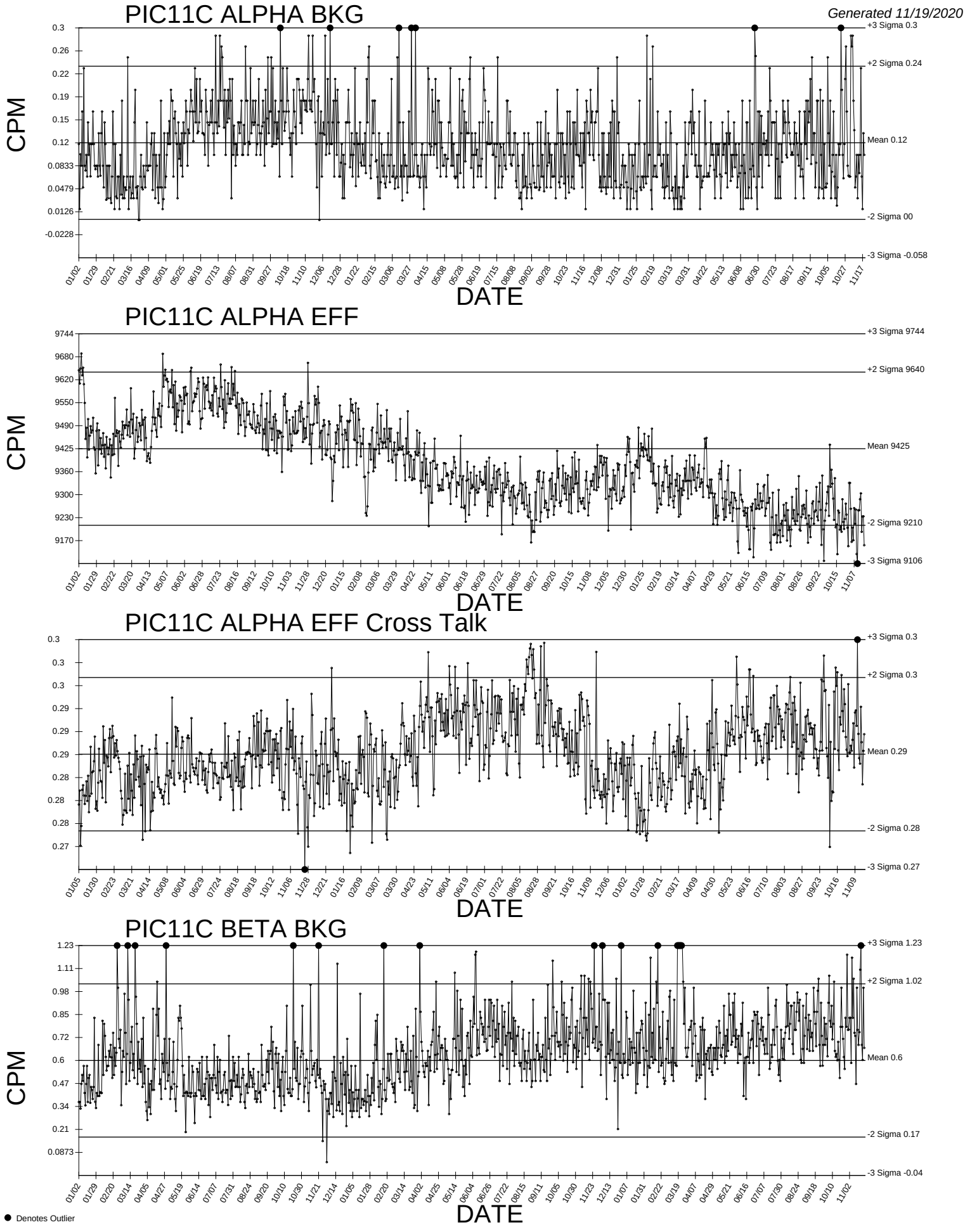
PIC3A	Alpha bkg, Alpha eff, Alpha XTalk, Beta bkg, Beta eff, Beta XTalk
PIC6D	Alpha bkg, Alpha eff, Alpha XTalk, Beta bkg, Beta eff, Beta XTalk
PIC13C	Alpha bkg, Alpha eff, Alpha XTalk, Beta bkg, Beta eff, Beta XTalk

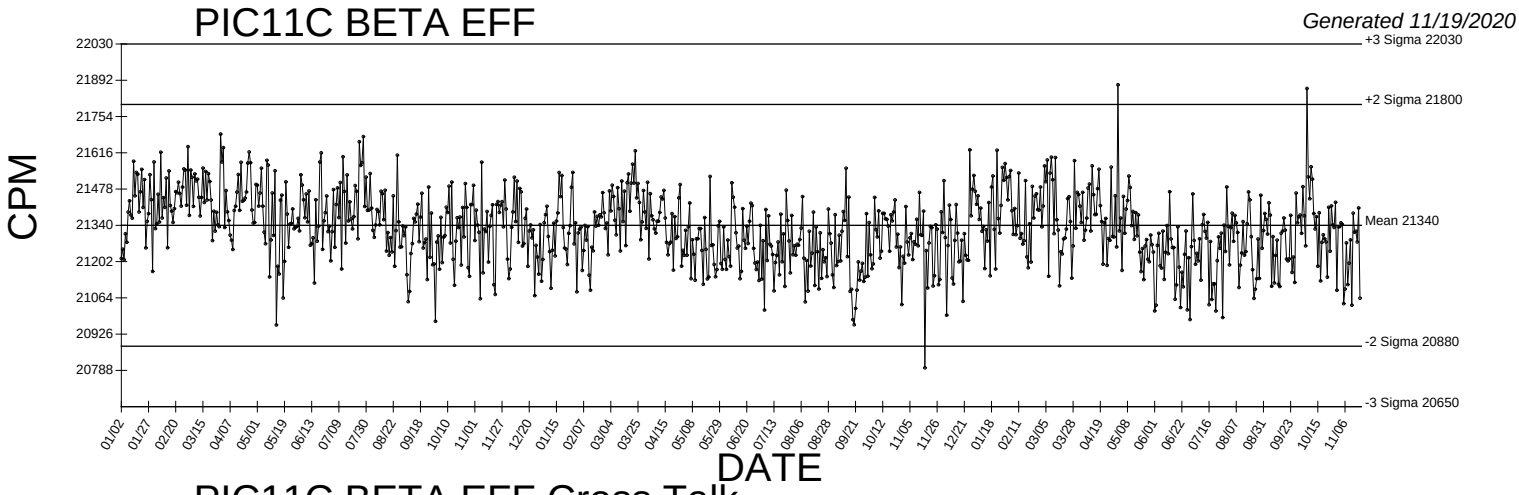
Reviewed by R. Beard-Hausman

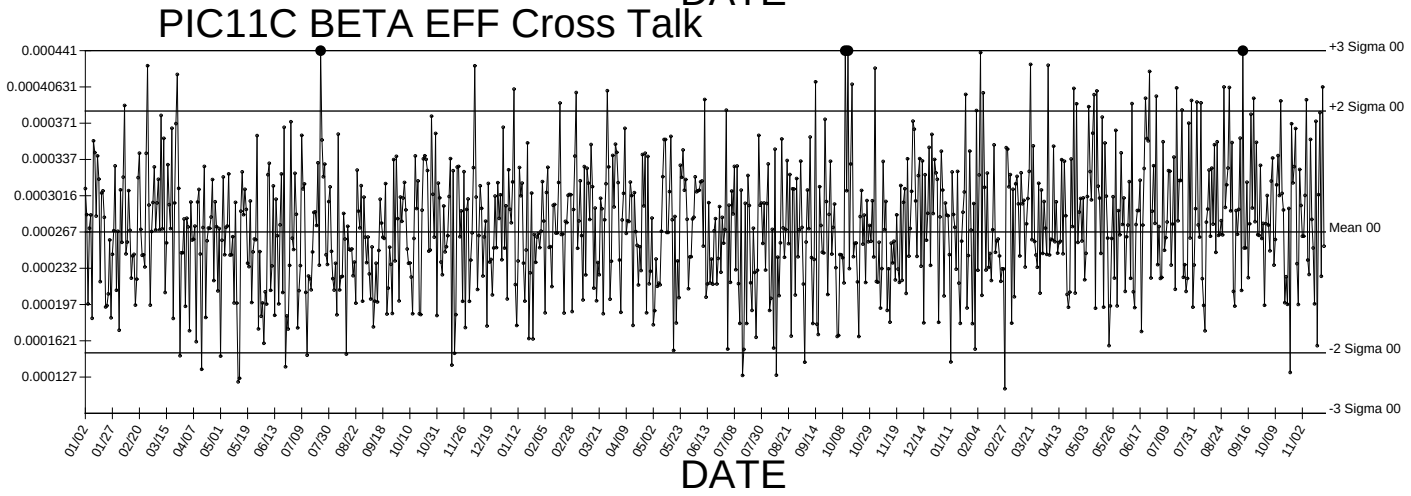
Date 11-19-2020

GEL Laboratories LLC

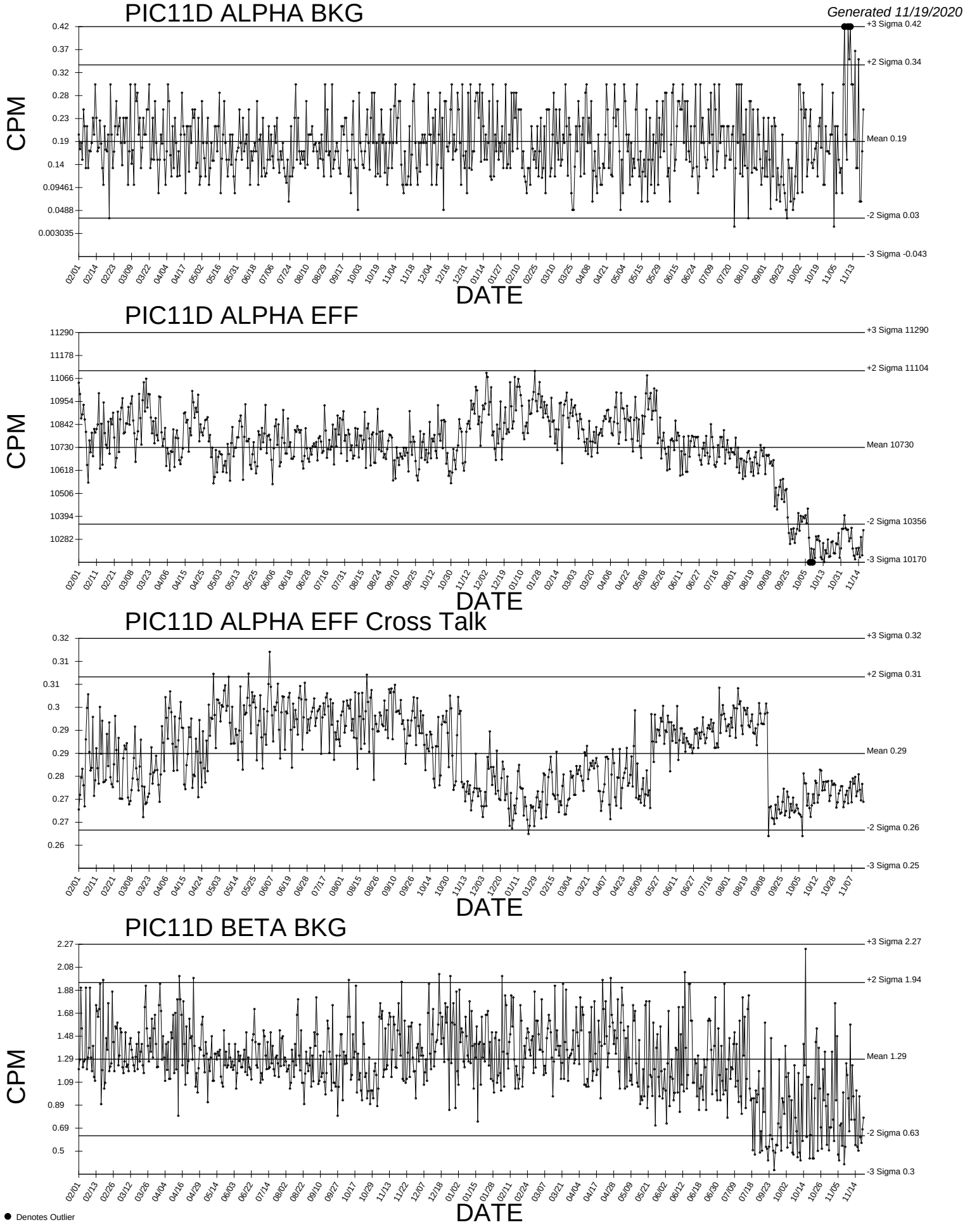
Background and Efficiency Data

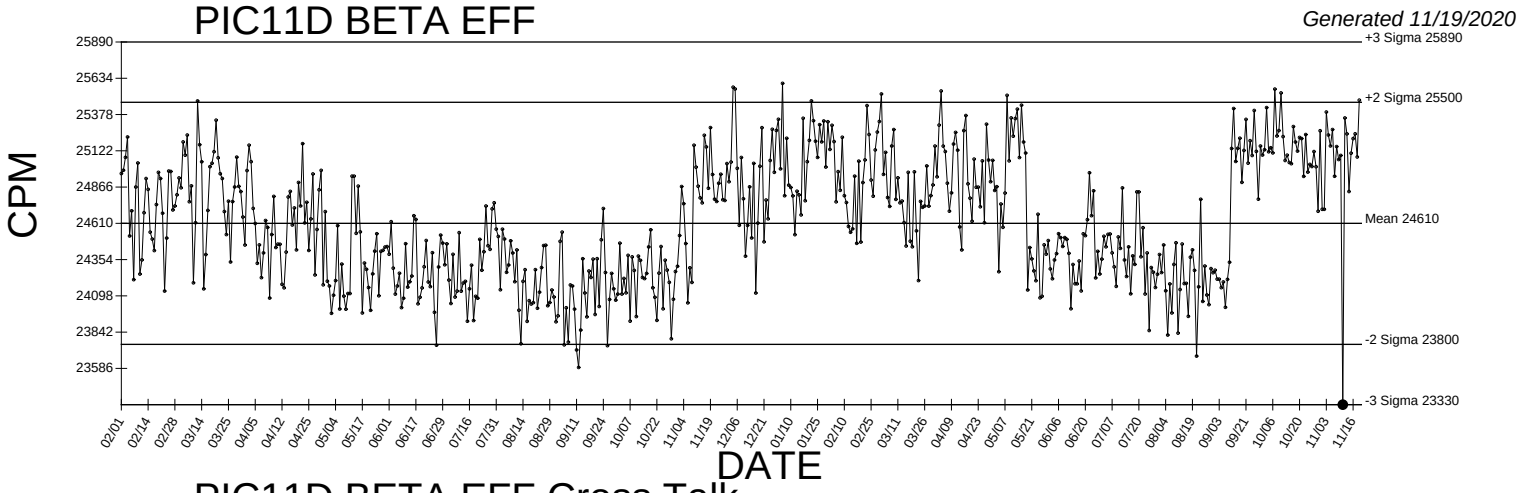

PIC11C ALPHA BKG
Generated 11/19/2020
CPM
DATE
+3 Sigma 0.3
+2 Sigma 0.24
Mean 0.12
-2 Sigma 00
-3 Sigma -0.058
PIC11C ALPHA EFF
+3 Sigma 9744
+2 Sigma 9640
Mean 9425
-2 Sigma 9210
-3 Sigma 9106
PIC11C ALPHA EFF Cross Talk
+3 Sigma 0.3
+2 Sigma 0.3
Mean 0.29
-2 Sigma 0.28
-3 Sigma 0.27
PIC11C BETA BKG
+3 Sigma 1.23
+2 Sigma 1.02
Mean 0.6
-2 Sigma 0.17
-3 Sigma -0.04
● Denotes Outlier

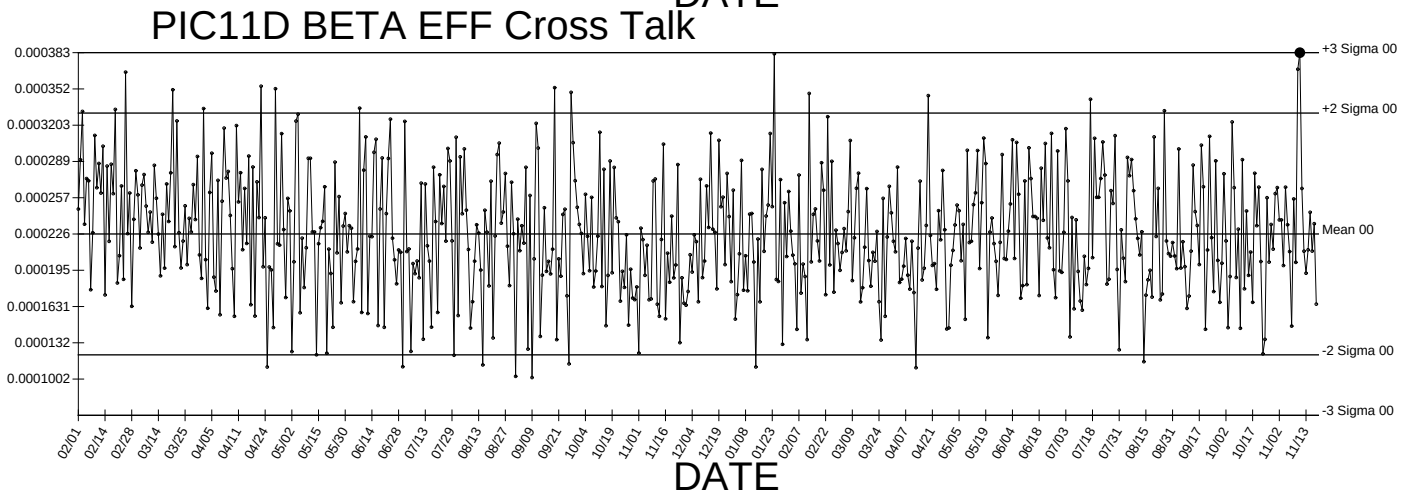




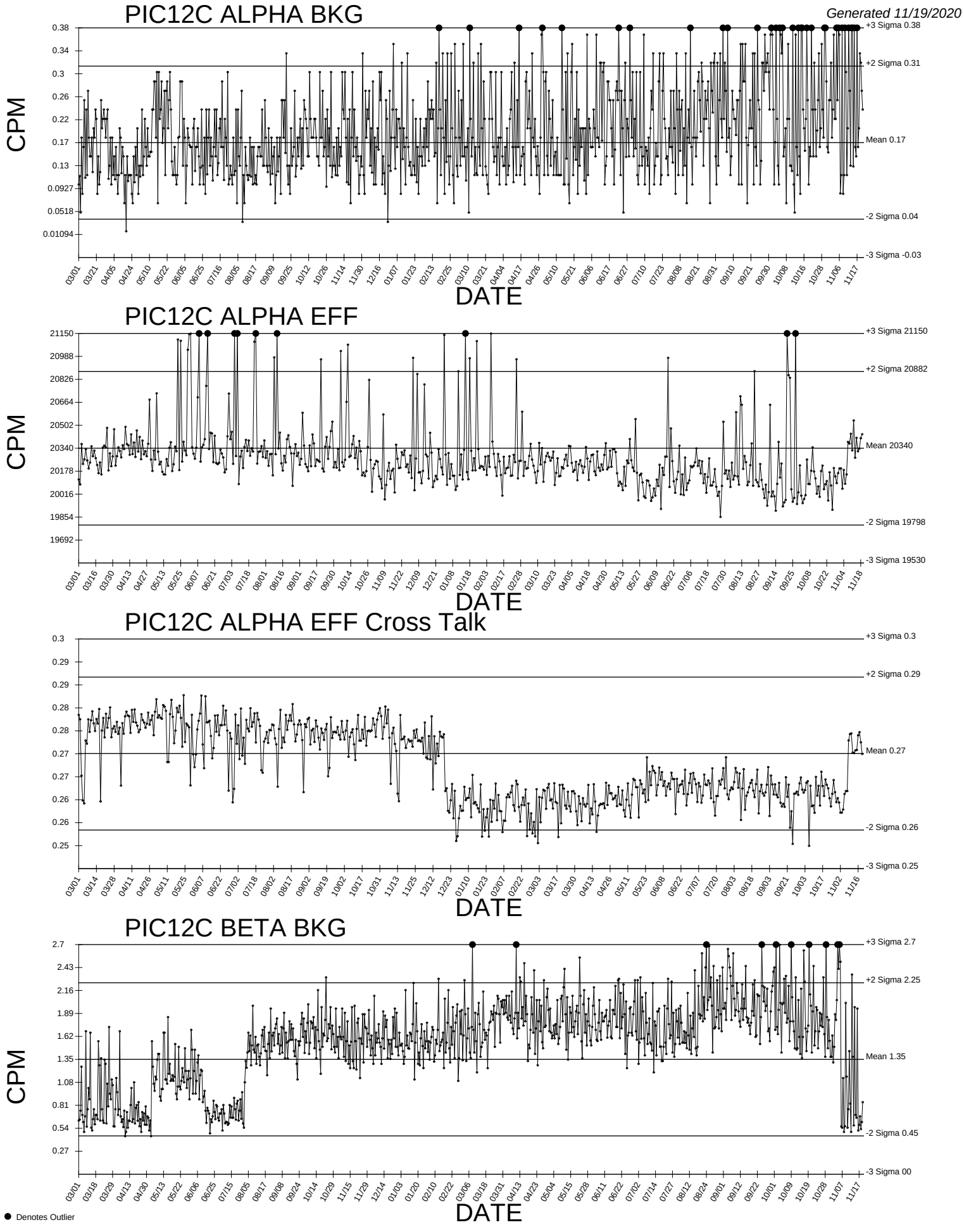
● Denotes Outlier

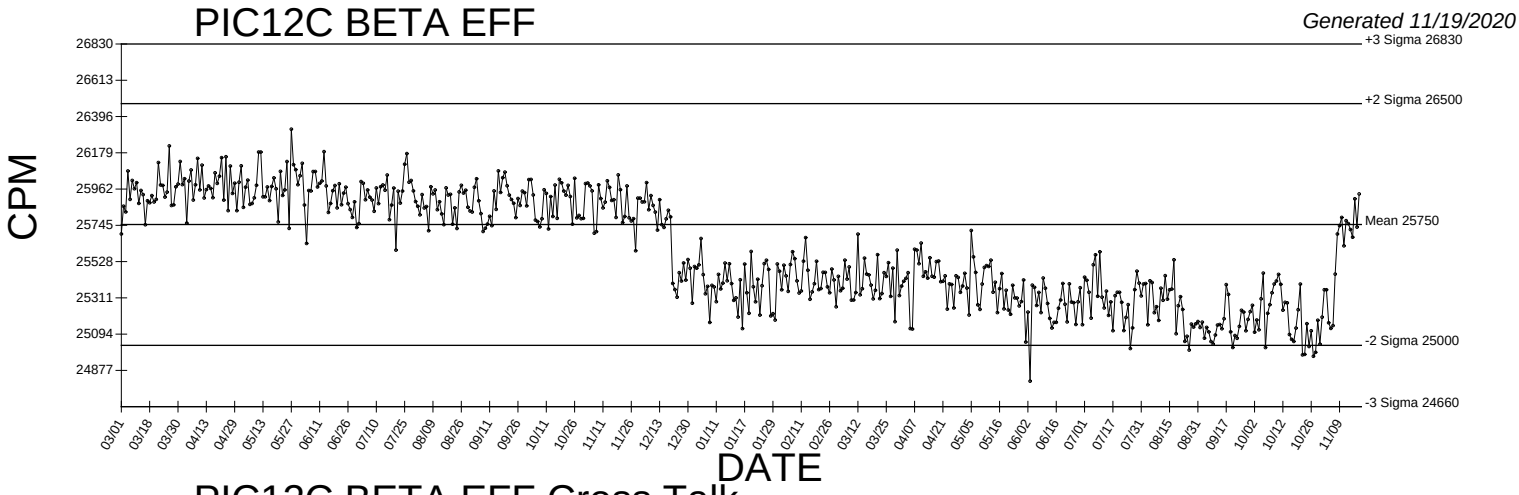

PIC11D ALPHA BKG
Generated 11/19/2020
CPM
DATE
+3 Sigma 0.42
+2 Sigma 0.34
Mean 0.19
-2 Sigma 0.03
-3 Sigma -0.043
PIC11D ALPHA EFF
+3 Sigma 11290
+2 Sigma 11104
Mean 10730
-2 Sigma 10356
-3 Sigma 10170
PIC11D ALPHA EFF Cross Talk
+3 Sigma 0.32
+2 Sigma 0.31
Mean 0.29
-2 Sigma 0.26
-3 Sigma 0.25
PIC11D BETA BKG
+3 Sigma 2.27
+2 Sigma 1.94
Mean 1.29
-2 Sigma 0.63
-3 Sigma 0.3
Denotes Outlier

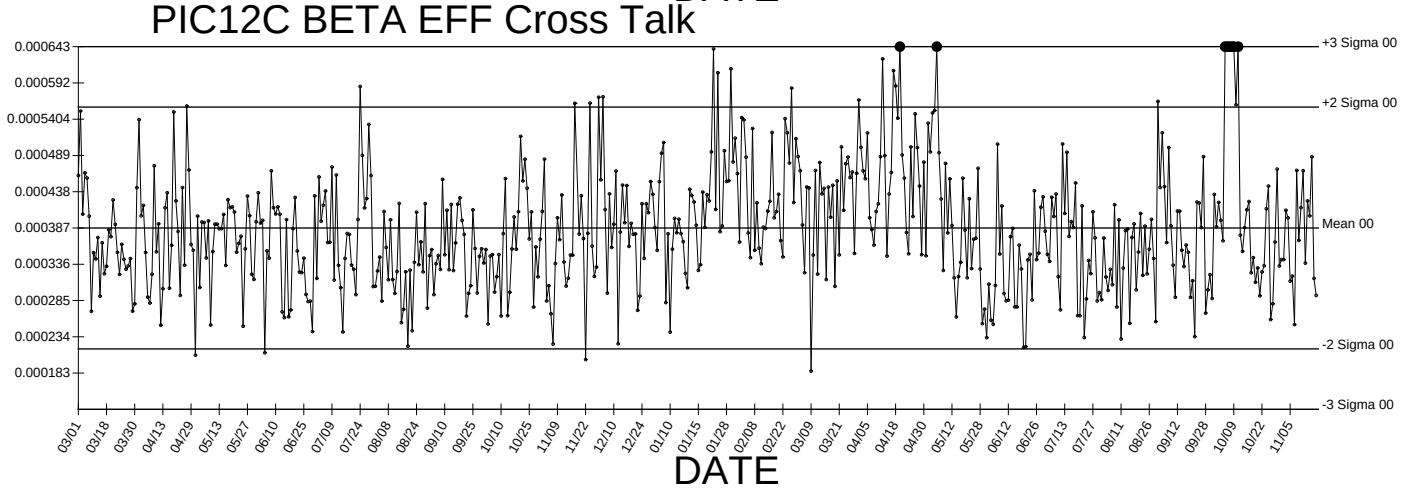




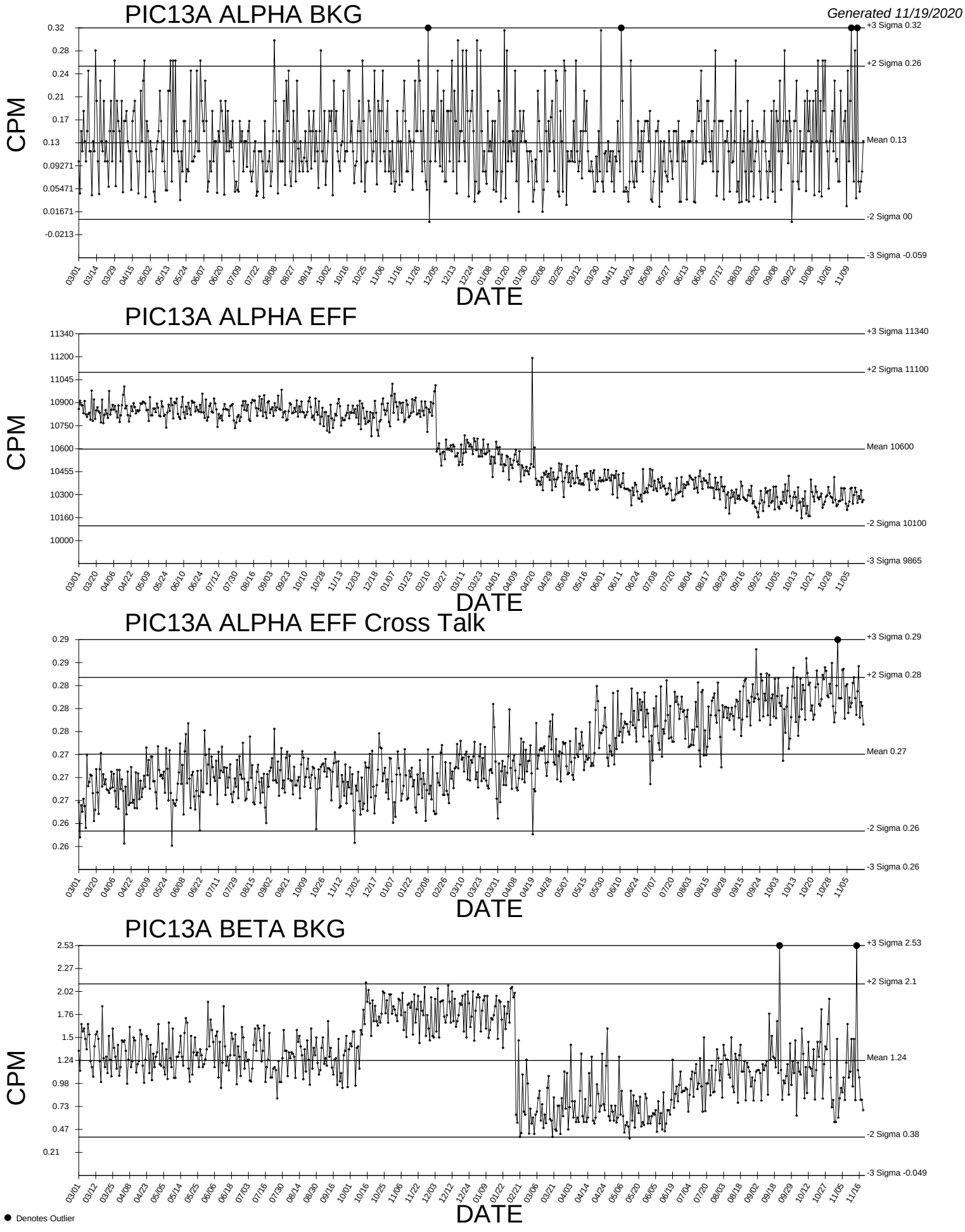
● Denotes Outlier

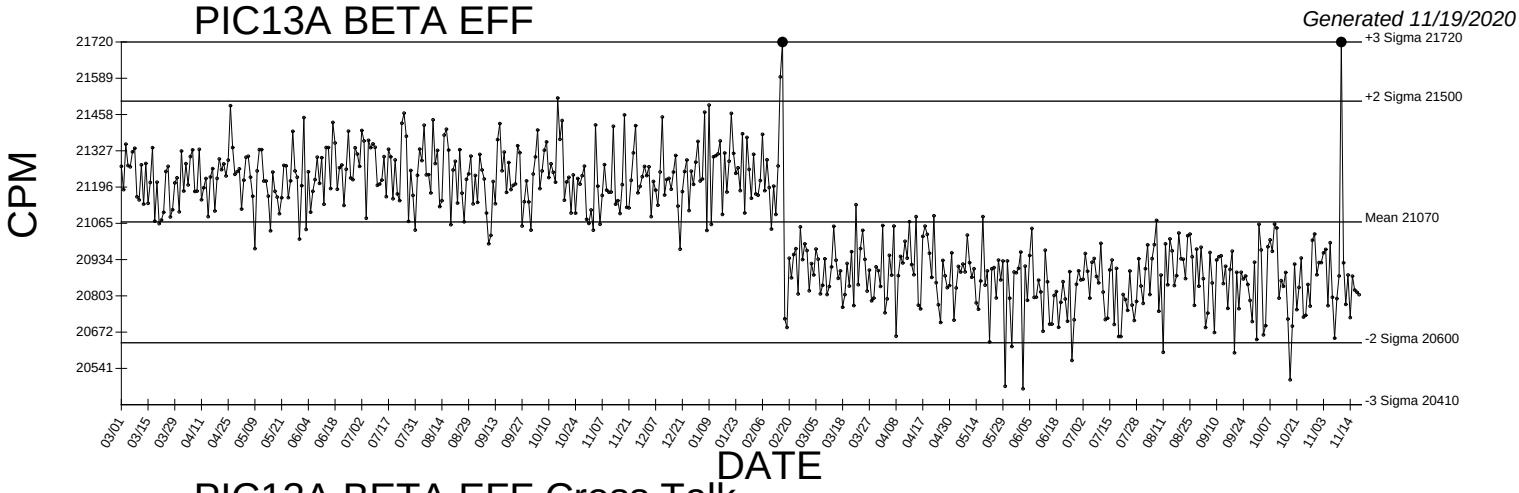

PIC12C ALPHA BKG
Generated 11/19/2020
CPM
0.38
0.34
0.3
0.26
0.22
0.17
0.13
0.0927
0.0518
0.01094
+3 Sigma 0.38
+2 Sigma 0.31
Mean 0.17
-2 Sigma 0.04
-3 Sigma -0.03
03/01 03/21 04/05 04/24 05/10 05/22 06/05 06/25 07/16 08/05 08/17 09/09 09/25 10/12 10/26 11/14 11/30 12/16 01/07 01/23 02/13 02/25 03/10 03/21 04/04 04/17 04/26 05/10 05/21 06/06 06/17 06/27 07/10 07/23 08/08 08/21 08/31 09/10 09/21 09/30 10/08 10/16 10/28 11/06 11/17
DATE
PIC12C ALPHA EFF
CPM
21150
20988
20826
20664
20502
20340
20178
20016
19854
19692
+3 Sigma 21150
+2 Sigma 20882
Mean 20340
-2 Sigma 19798
-3 Sigma 19530
03/01 03/16 03/30 04/13 04/27 05/13 05/25 06/07 06/21 07/03 07/18 08/01 08/16 09/01 09/17 09/30 10/14 10/26 11/09 11/22 12/09 12/21 01/08 01/18 02/03 02/17 02/28 03/10 03/23 04/05 04/18 04/30 05/13 05/27 06/09 06/22 07/06 07/18 07/30 08/13 08/27 09/14 09/25 10/08 10/22 11/04 11/18
DATE
PIC12C ALPHA EFF Cross Talk
0.3
0.29
0.29
0.28
0.28
0.27
0.27
0.26
0.26
0.25
+3 Sigma 0.3
+2 Sigma 0.29
Mean 0.27
-2 Sigma 0.26
-3 Sigma 0.25
03/01 03/14 03/28 04/11 04/26 05/11 05/25 06/07 06/22 07/02 07/18 08/02 08/17 09/02 09/19 10/02 10/17 10/31 11/13 11/25 12/12 12/23 01/10 01/23 02/07 02/22 03/03 03/17 03/30 04/13 04/26 05/11 05/23 06/08 06/22 07/07 07/20 08/03 08/18 09/03 09/21 10/03 10/17 11/02 11/16
DATE
PIC12C BETA BKG
CPM
2.7
2.43
2.16
1.89
1.62
1.35
1.08
0.81
0.54
0.27
+3 Sigma 2.7
+2 Sigma 2.25
Mean 1.35
-2 Sigma 0.45
-3 Sigma 00
03/01 03/18 03/29 04/13 04/30 05/13 05/22 06/06 06/25 07/15 08/05 08/17 09/08 09/24 10/14 10/29 11/15 11/29 12/14 01/03 01/20 02/10 02/22 03/06 03/18 03/31 04/13 04/23 05/04 05/15 05/28 06/11 06/22 07/02 07/14 07/27 08/12 08/24 09/01 09/12 09/22 10/01 10/09 10/19 10/28 11/07 11/17
DATE
● Denotes Outlier

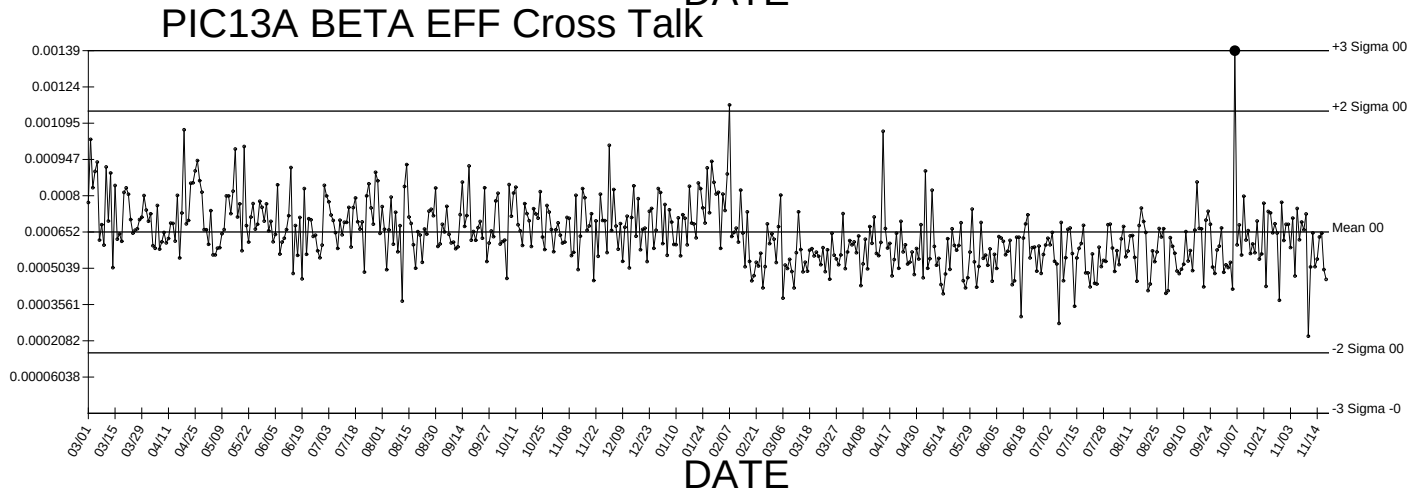




● Denotes Outlier


PIC13A ALPHA BKG
Generated 11/19/2020
CPM
0.32
0.28
0.24
0.21
0.17
0.13
0.09271
0.05471
0.01671
-0.0213
+3 Sigma 0.32
+2 Sigma 0.26
Mean 0.13
-2 Sigma 00
-3 Sigma -0.059
03/01 03/14 03/29 04/15 05/02 05/13 05/24 06/07 06/20 07/09 07/22 08/08 08/27 09/14 10/02 10/16 10/25 11/06 11/16 11/26 12/05 12/13 12/24 01/08 01/20 01/30 02/08 02/25 03/12 03/30 04/11 04/24 05/09 05/27 06/13 06/30 07/17 08/03 08/20 09/08 09/22 10/08 10/26 11/09
DATE
PIC13A ALPHA EFF
CPM
11340
11200
11045
10900
10750
10600
10455
10300
10160
10000
+3 Sigma 11340
+2 Sigma 11100
Mean 10600
-2 Sigma 10100
-3 Sigma 9865
03/01 03/20 04/06 04/22 05/09 05/24 06/10 06/24 07/12 07/30 08/16 09/03 09/23 10/10 10/28 11/13 12/03 12/18 01/07 01/23 02/10 02/27 03/11 03/23 04/01 04/09 04/20 04/29 05/08 05/16 06/01 06/11 06/24 07/08 07/20 08/04 08/17 08/29 09/16 09/25 10/05 10/13 10/21 10/28 11/05
DATE
PIC13A ALPHA EFF Cross Talk
0.29
0.29
0.28
0.28
0.28
0.27
0.27
0.27
0.26
0.26
+3 Sigma 0.29
+2 Sigma 0.28
Mean 0.27
-2 Sigma 0.26
-3 Sigma 0.26
03/01 03/20 04/06 04/22 05/09 05/24 06/08 06/22 07/11 07/29 08/15 09/02 09/21 10/09 10/26 11/12 12/02 12/17 01/07 01/22 02/08 02/26 03/10 03/23 03/31 04/08 04/19 04/28 05/07 05/15 05/30 06/10 06/24 07/07 07/20 08/03 08/15 08/28 09/15 09/24 10/03 10/13 10/20 10/28 11/05
DATE
PIC13A BETA BKG
CPM
2.53
2.27
2.02
1.76
1.5
1.24
0.98
0.73
0.47
0.21
+3 Sigma 2.53
+2 Sigma 2.1
Mean 1.24
-2 Sigma 0.38
-3 Sigma -0.049
03/01 03/12 03/25 04/08 04/23 05/05 05/14 05/25 06/06 06/18 07/03 07/16 07/30 08/14 08/30 09/16 10/01 10/16 10/25 11/06 11/22 12/03 12/12 12/24 01/09 01/22 02/21 03/06 03/21 04/03 04/14 04/24 05/06 05/20 06/05 06/19 07/04 07/20 08/03 08/18 09/02 09/18 09/29 10/12 10/27 11/05 11/16
DATE
● Denotes Outlier





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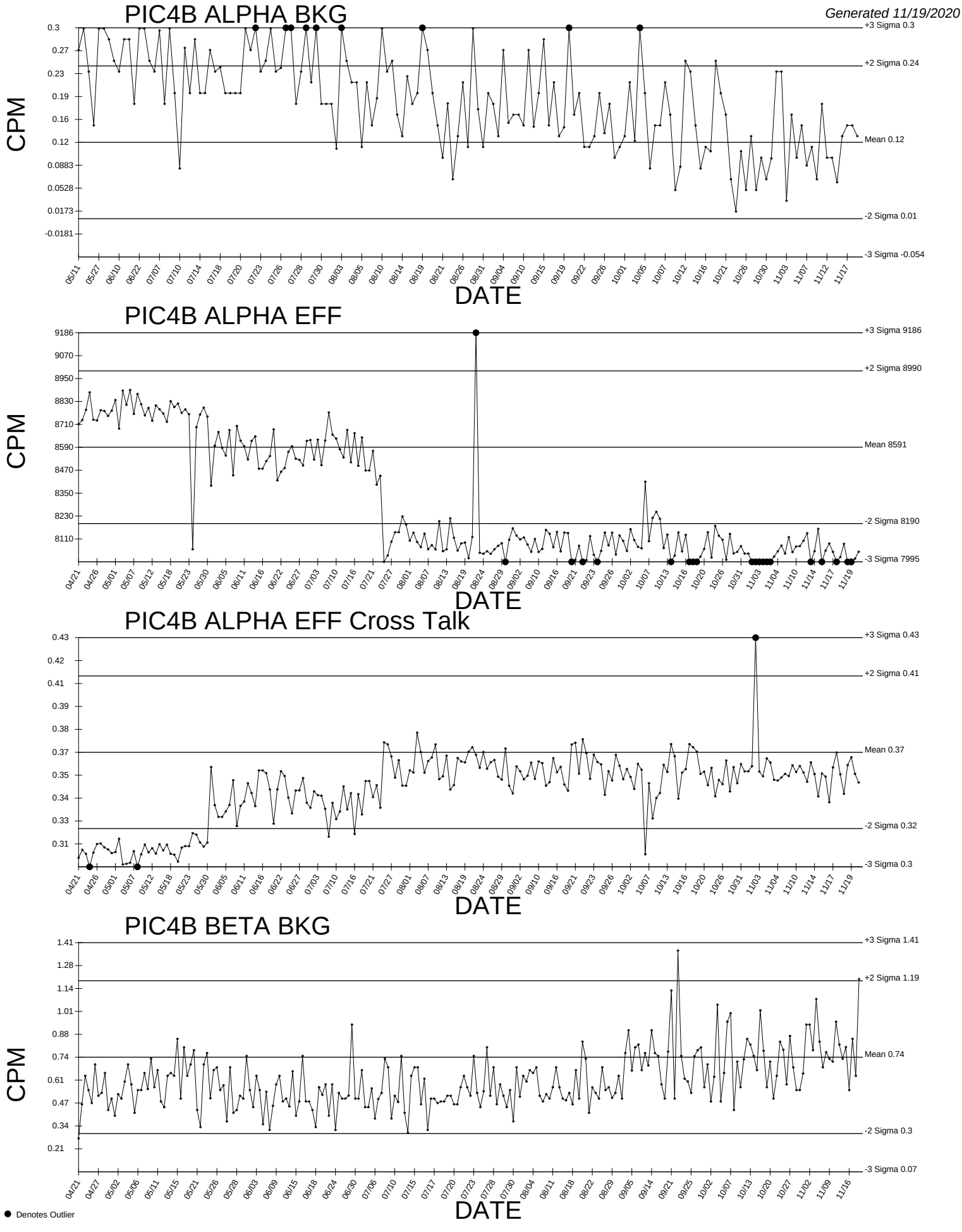
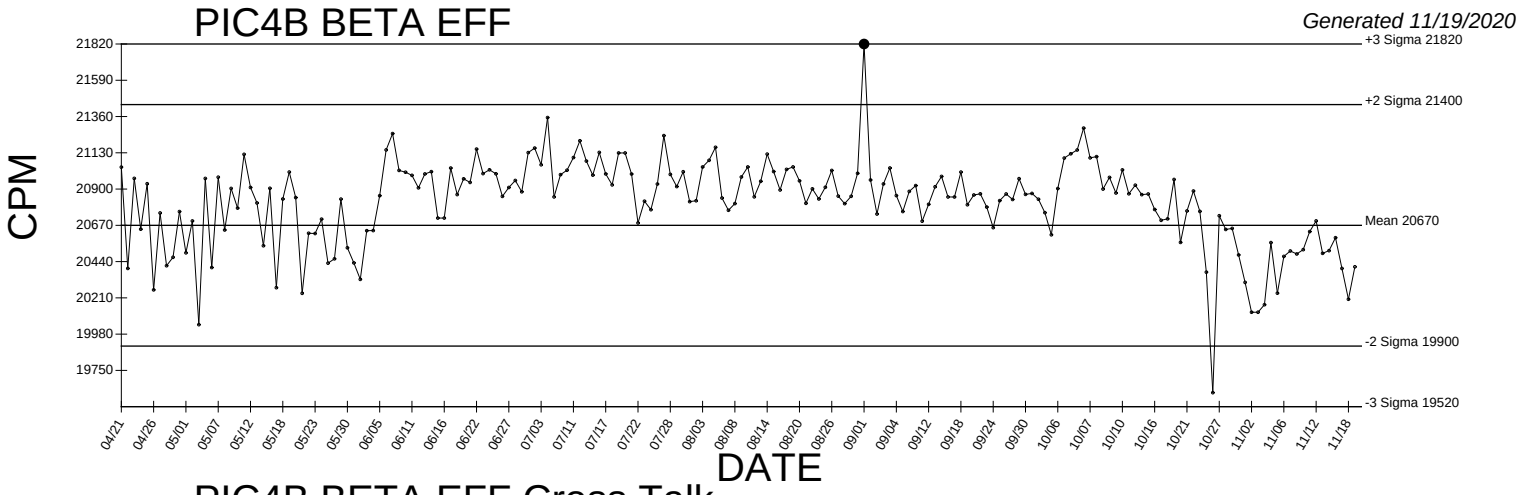
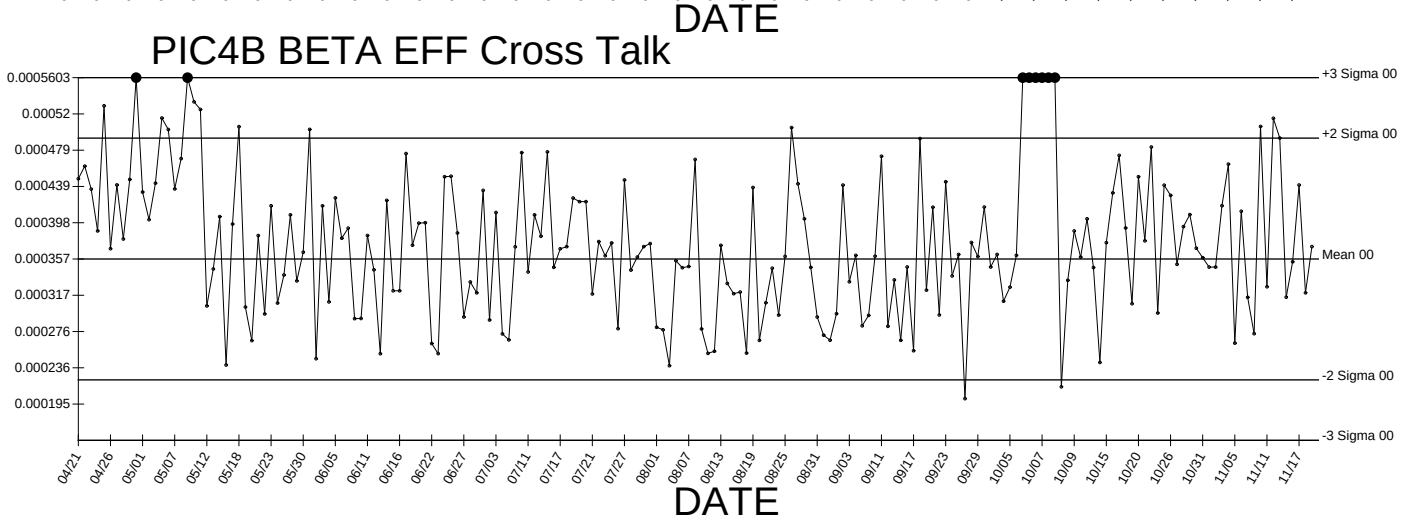
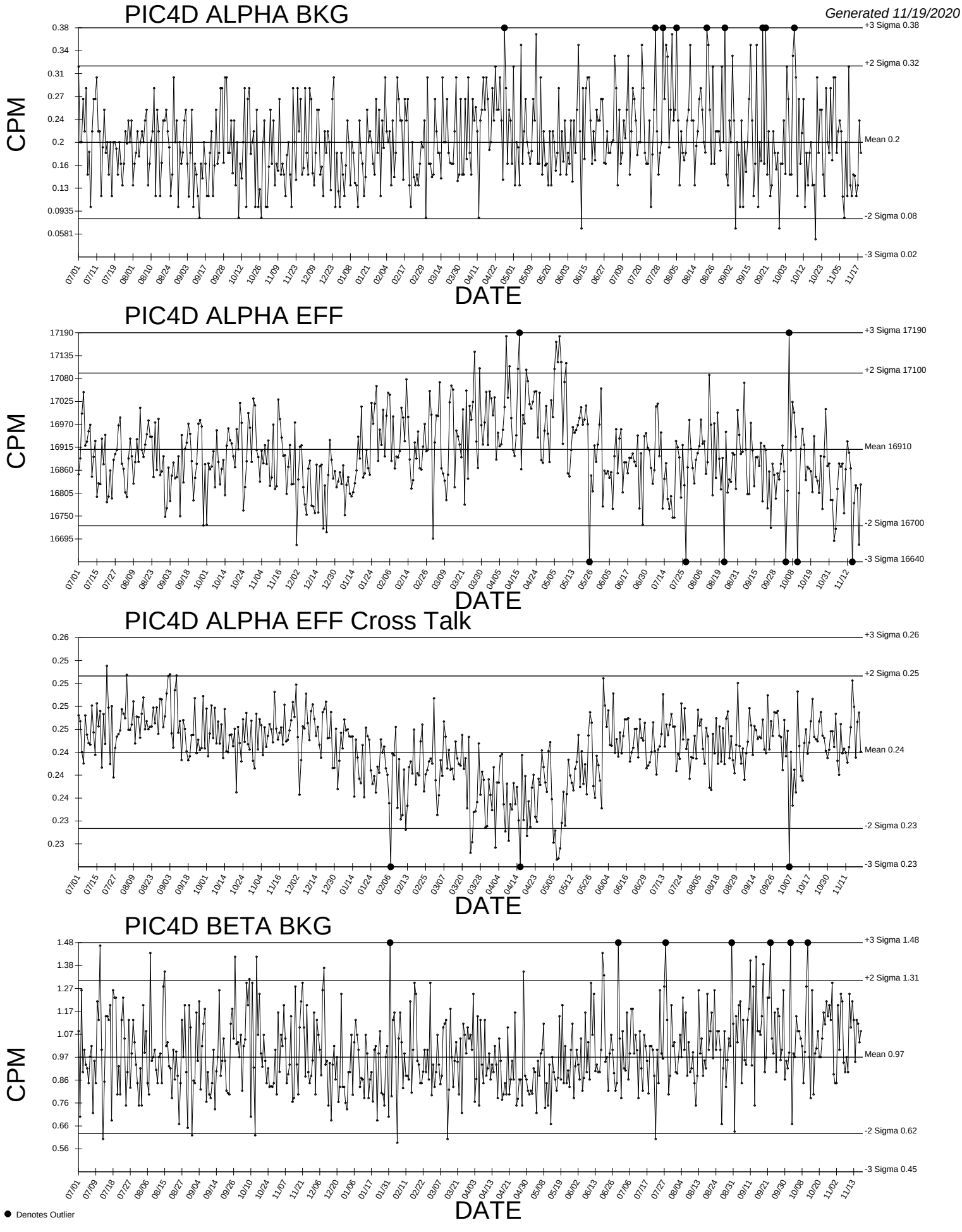
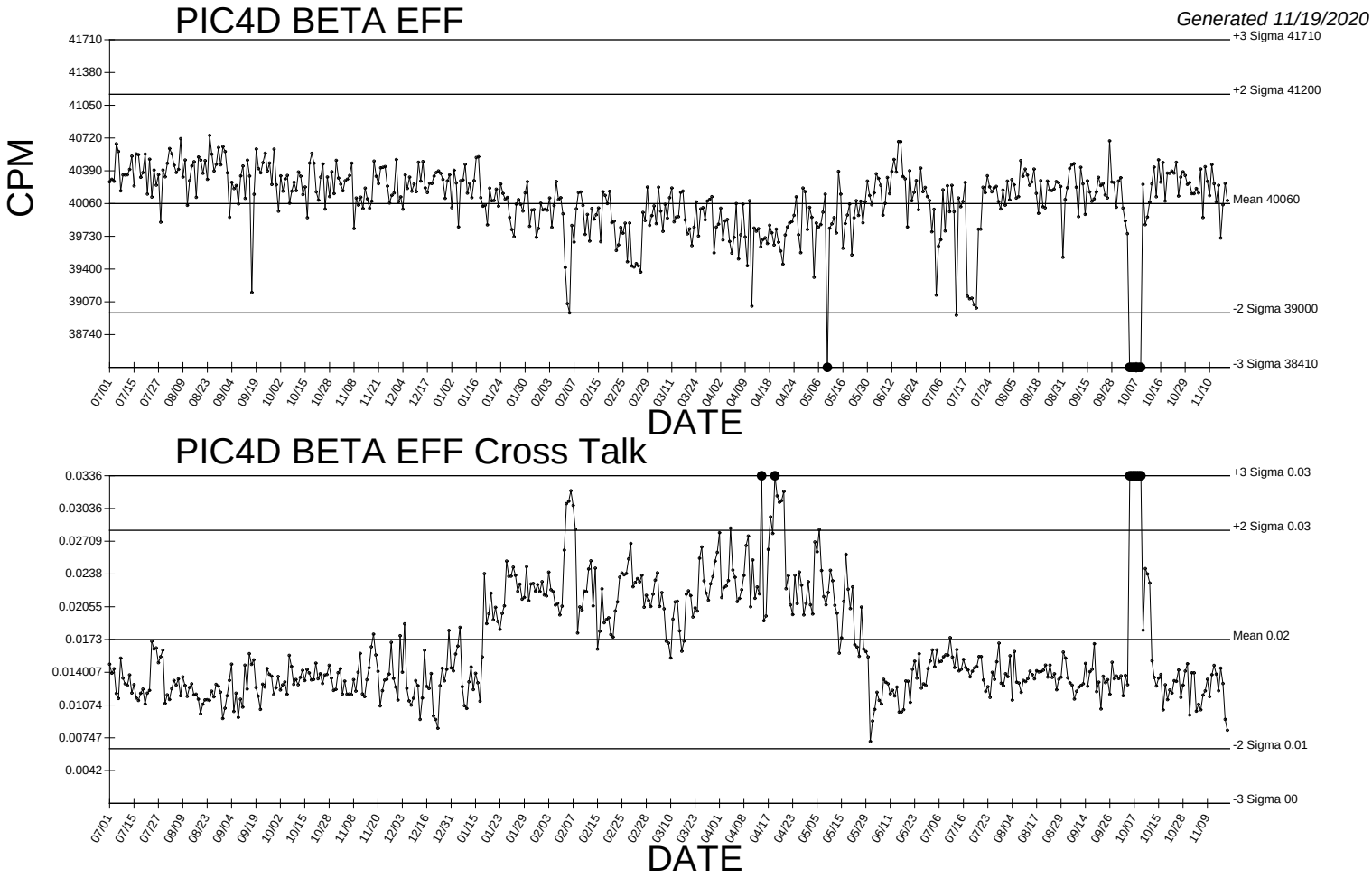

PIC4B ALPHA BKG
Generated 11/19/2020
CPM
DATE
+3 Sigma 0.3
+2 Sigma 0.24
Mean 0.12
-2 Sigma 0.01
-3 Sigma -0.054
PIC4B ALPHA EFF
+3 Sigma 9186
+2 Sigma 8990
Mean 8591
-2 Sigma 8190
-3 Sigma 7995
PIC4B ALPHA EFF Cross Talk
+3 Sigma 0.43
+2 Sigma 0.41
Mean 0.37
-2 Sigma 0.32
-3 Sigma 0.3
PIC4B BETA BKG
+3 Sigma 1.41
+2 Sigma 1.19
Mean 0.74
-2 Sigma 0.3
-3 Sigma 0.07
Denotes Outlier



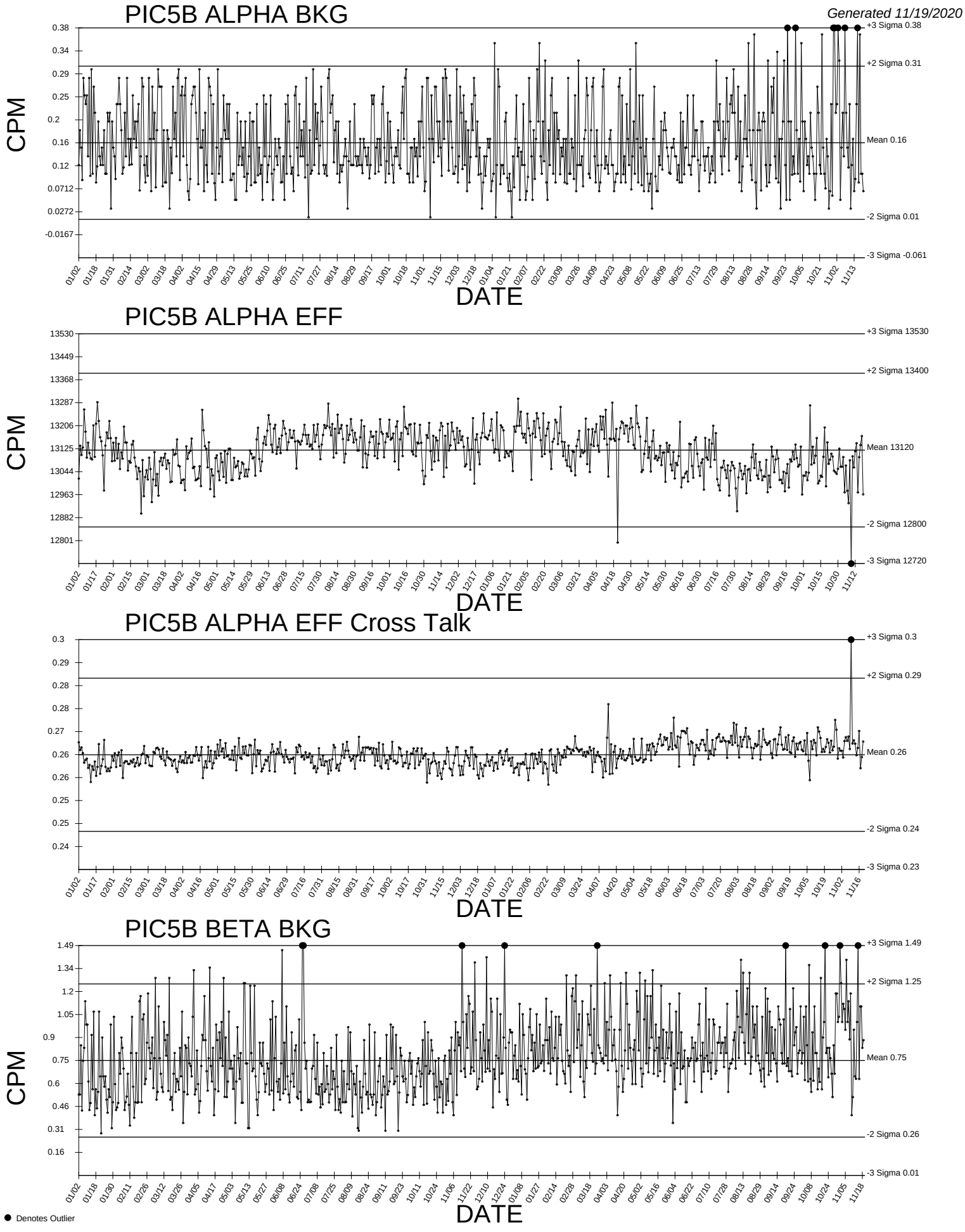


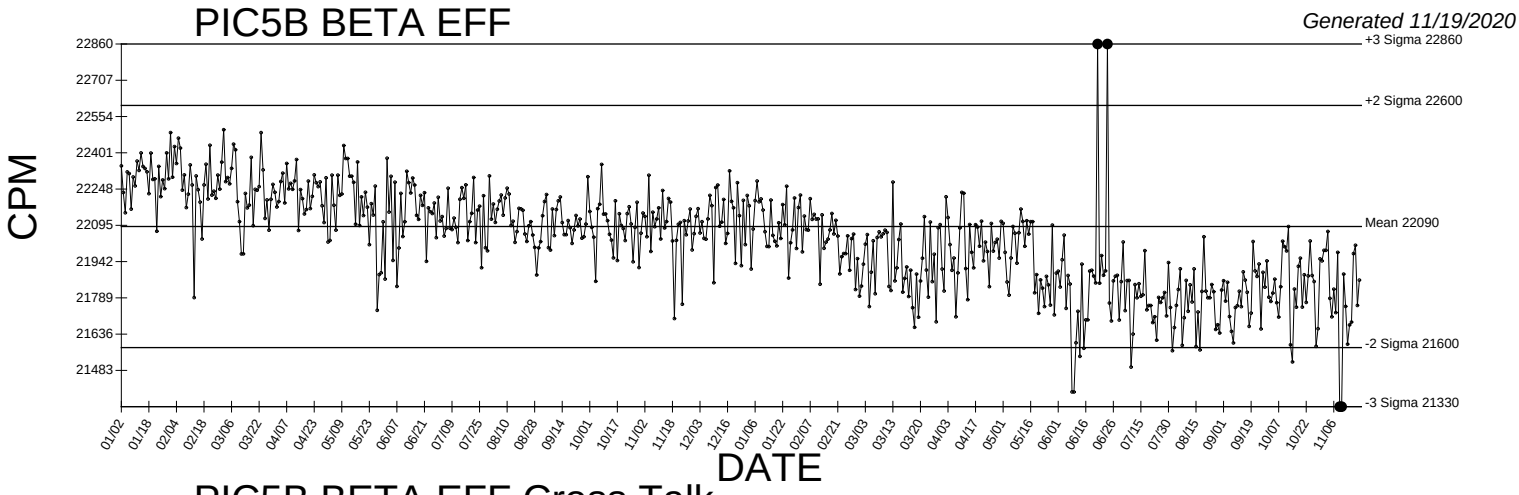
● Denotes Outlier

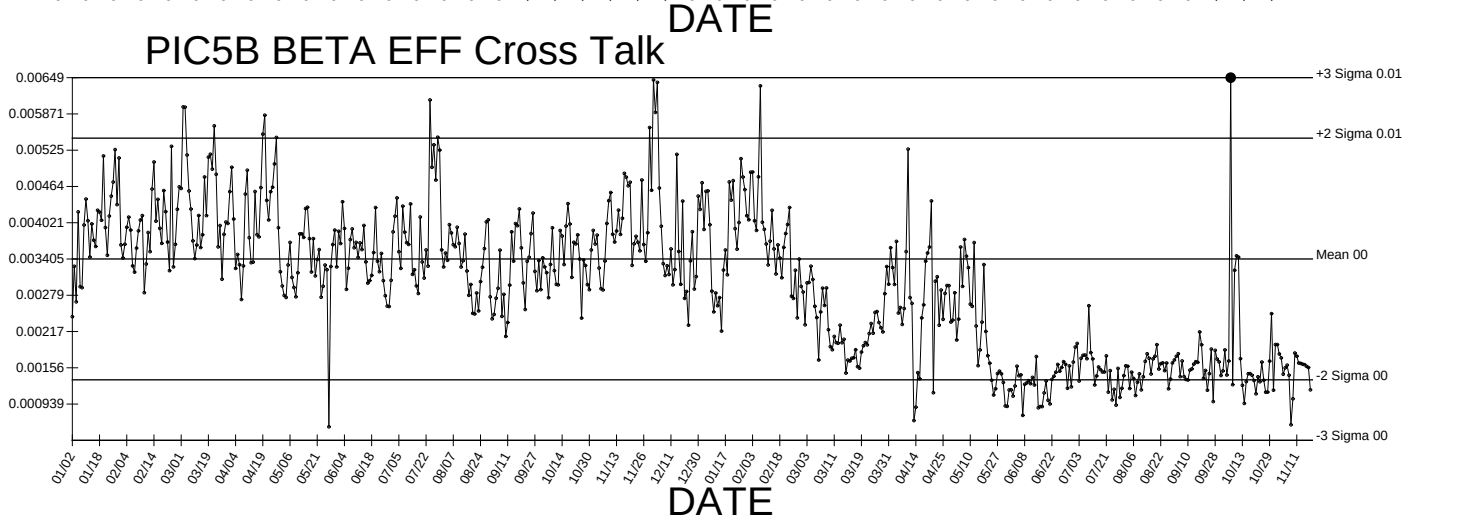

PIC4D ALPHA BKG
Generated 11/19/2020
CPM
0.38
0.34
0.31
0.27
0.24
0.2
0.16
0.13
0.0935
0.0581
+3 Sigma 0.38
+2 Sigma 0.32
Mean 0.2
-2 Sigma 0.08
-3 Sigma 0.02
07/01 07/11 07/19 08/01 08/10 08/24 09/03 09/17 09/28 10/12 10/26 11/09 11/23 12/09 12/23 01/08 01/21 02/04 02/17 02/29 03/14 03/30 04/11 04/22 05/01 05/09 05/20 06/03 06/15 06/27 07/09 07/20 07/28 08/05 08/14 08/26 09/02 09/15 09/21 10/03 10/12 10/23 11/05 11/17
DATE
PIC4D ALPHA EFF
CPM
17190
17135
17080
17025
16970
16915
16860
16805
16750
16695
+3 Sigma 17190
+2 Sigma 17100
Mean 16910
-2 Sigma 16700
-3 Sigma 16640
07/01 07/15 07/27 08/09 08/23 09/03 09/18 10/01 10/14 10/24 11/04 11/16 12/02 12/14 12/30 01/14 01/24 02/06 02/14 02/26 03/09 03/21 03/30 04/05 04/15 04/24 05/05 05/13 05/26 06/05 06/17 06/30 07/14 07/25 08/06 08/19 08/31 09/15 09/28 10/08 10/19 10/31 11/12
DATE
PIC4D ALPHA EFF Cross Talk
0.26
0.25
0.25
0.25
0.24
0.24
0.24
0.23
0.23
+3 Sigma 0.26
+2 Sigma 0.25
Mean 0.24
-2 Sigma 0.23
-3 Sigma 0.23
07/01 07/15 07/27 08/09 08/23 09/03 09/18 10/01 10/14 10/24 11/04 11/16 12/02 12/14 12/30 01/14 01/24 02/06 02/13 02/25 03/07 03/20 03/28 04/04 04/14 04/23 05/05 05/12 05/26 06/04 06/16 06/29 07/13 07/24 08/05 08/18 08/29 09/14 09/26 10/07 10/17 10/30 11/11
DATE
PIC4D BETA BKG
CPM
1.48
1.38
1.27
1.17
1.07
0.97
0.86
0.76
0.66
0.56
+3 Sigma 1.48
+2 Sigma 1.31
Mean 0.97
-2 Sigma 0.62
-3 Sigma 0.45
07/01 07/09 07/18 07/27 08/06 08/15 08/27 09/04 09/14 09/26 10/10 10/24 11/07 11/21 12/06 12/20 01/06 01/17 01/31 02/11 02/22 03/07 03/21 04/03 04/13 04/21 04/30 05/08 05/19 06/02 06/13 06/26 07/06 07/17 07/27 08/04 08/13 08/24 08/31 09/11 09/21 09/30 10/08 10/20 11/02 11/13
DATE
● Denotes Outlier



● Denotes Outlier


PIC5B ALPHA BKG
Generated 11/19/2020
CPM
DATE
+3 Sigma 0.38
+2 Sigma 0.31
Mean 0.16
-2 Sigma 0.01
-3 Sigma -0.061
PIC5B ALPHA EFF
+3 Sigma 13530
+2 Sigma 13400
Mean 13120
-2 Sigma 12800
-3 Sigma 12720
PIC5B ALPHA EFF Cross Talk
+3 Sigma 0.3
+2 Sigma 0.29
Mean 0.26
-2 Sigma 0.24
-3 Sigma 0.23
PIC5B BETA BKG
+3 Sigma 1.49
+2 Sigma 1.25
Mean 0.75
-2 Sigma 0.26
-3 Sigma 0.01
● Denotes Outlier





● Denotes Outlier

RAD Standards Traceability

0487

National Institute of Standards & Technology

0487

Certificate

Standard Reference Material 4251C
Barium-133 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive barium-133 chloride, non-radioactive barium chloride, and hydrochloric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of ionization chambers and solid-state gamma-ray spectrometry systems.

Radiological Hazard

The SRM ampoule contains barium-133 with a total activity of approximately 2.5 MBq. Barium-133 decays by electron capture and during the decay process X-rays and gamma rays with energies from 4 to 400 keV are emitted. Most of these photons escape from the SRM ampoule and can represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. Appropriate shielding and/or distance should be used to minimize personnel exposure. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard

The SRM ampoule contains hydrochloric acid (HCl) with a concentration of 1 mole per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling

The SRM should be stored and used at a temperature between 5 and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least June 2004.

The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

Preparation

This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, J.M.R. Hutchinson, Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group and D.B. Golas, Nuclear Energy Institute Research Associate.

The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program by N.M. Trahey.

Gaithersburg, Maryland 20899
October 1994

Thomas E. Gills, Chief
Standard Reference Materials Program

*Notes and references are on pages 5 and 6.

RC-S-035-002a

Recommended Procedure for Opening the SRM Ampoule

1) If the SRM solution is to be diluted, it is recommended that the diluting solution have an acid concentration and a carrier concentration comparable to that of the SRM solution.

2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.

3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.

4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.

5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.

6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.

7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.

8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. NEVER PIPETTE BY MOUTH.

9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.

See also reference [4]*.

*Notes and references are on pages 5 and 6.

RC-S-035-002b

PROPERTIES OF SRM 4251C
(Certified values are shown in bold type)

Source identification number	NIST SRM 4251C		
Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter Wall Thickness Barium content Lead-oxide content Other heavy elements	(16.5 ± 0.5) mm (0.60 ± 0.04) mm Less than 2.5% Less than 0.02% Trace quantities	
Solution density	**(1.015 ± 0.002) g•mL^{-1} at 22.1 °C** [b]*		
Solution mass	**(5.054 ± 0.001) g** [b]		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol•L^{-1})	Mass Fraction (g•g^{-1})
	H_2O HCl $BaCl_2$ $^{133}BaCl_2$	54 1.0 6×10^{-4} 4×10^{-7}	0.96 0.04 1.2×10^{-4} 8×10^{-8}
Radiological Properties:			
Radionuclide	**Barium-133**		
Reference time	**1200 EST, 1 September 1993**		
Massic activity of the solution [c] (Activity per unit mass of solution)	**4.876 × 10^5 Bq•g^{-1}**		
Relative expanded uncertainty (k=2)	**0.52%** [d]		
Photon-emitting impurities	None detected [e]		
Half lives used	Barium-133: (10.52 ± 0.13) a [f] Radium-226: (1600 ± 7) a [f]		
Measuring instrument	Pressurized "4π"γ ionization chamber A calibrated using a barium-133 solution whose activity was determined by 4π(e+X)-γ-anticoincidence counting		

*Notes and references are on pages 5 and 6.

RC-S-035-002

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d]*

Input Quantity x_i, the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [g]	Relative Sensitivity Factor, $\lvert\partial y/\partial x_i\rvert \cdot (x_i/y)$ [h]	Relative Uncertainty Of Output Quantity, $u_i(y)/y$, (%) [i]
PIC A net response per gram of SRM 4251C, measured relative to RRS20 [j]	Standard deviation of the mean for 1000 repeated measurements (A)	0.008	1.0	0.01
PIC A background response, measured relative to RRS20	Standard deviation of the mean for >150 repeated measurements (A)	0.25	0.001 [k]	0.00
PIC A net response for RRS200, measured relative to RRS20	Standard deviation of the mean for >100 repeated measurements (A)	0.06	1.0	0.06
PIC A net response per Bq of barium-133 in solution, measured relative to RRS200.	Standard deviation of the mean for 240 repeated measurements (A)	0.02	1.0	0.02
Gravimetric measurements	Estimated (B)	0.01	1.0	0.01
Half life of barium-133 Half life of radium-226	Standard uncertainty of the half life (A)	1.24 [m] 0.44 [m]	0.004 [n] 0.004 [n]	0.00 0.00
Activity used to calibrate PIC A net response per Bq of barium-133 in solution	Standard uncertainty of the activity determined by $4\pi(e+X)$-γ-anticoincidence counting. (B)	0.22	1.0	0.22
Live-time [p]	Estimated (B)	0.10	1.0	0.10
PIC A charge collection	Estimated (B)	0.05	1.0	0.05
Source Positioning	Estimated (B)	0.05	1.0	0.05
Photon-emitting impurities	Limit of detection for Cs-134 (B) [q]	100.	0.00002	0.00
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.26
Coverage Factor, k				x 2
Relative Expanded Uncertainty of the Output Quantity, U/y, (%)				0.52

*Notes and references are on pages 5 and 6.

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NOTES

[a] The Sievert is the SI unit for dose equivalent. See reference [1]. One μSv is equal to 0.1 mrem.

Distance from Ampoule (cm):	1	30	100
Approximate Dose Rate (μSv/h):	100	1.5	0.2

[b] The stated uncertainty is two times the standard uncertainty.

[c] **Massic activity** is the preferred name for the quantity activity divided by the total mass of the sample. See reference [1].

[d] The reported value, y, of massic activity (activity per unit mass) at the reference time was not measured directly but was derived from measurements and calculations of other quantities. This can be expressed as $y = f(x_1, x_2, x_3, \ldots x_n)$, where f is a mathematical function derived from the assumed model of the measurement process.

The value, x_i, used for each input quantity i has a **standard uncertainty**, $u(x_i)$, that generates a corresponding uncertainty in y, $u_i(y) \equiv |\partial y/\partial x_i| \cdot u(x_i)$, called a **component of combined standard uncertainty** of y.

The **combined standard uncertainty** of y, $u_c(y)$, is the positive square root of the sum of the squares of the components of combined standard uncertainty.

The combined standard uncertainty is multiplied by a **coverage factor** of $k = 2$ to obtain U, the **expanded uncertainty** of y.

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation $u_c(y)$, the unknown value of the massic activity is believed to lie in the interval $y \pm U$ with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

[e] Estimated limits of detection for photon-emitting impurities are:
600 $\gamma \cdot s^{-1} \cdot g^{-1}$ for energies between 12 and 75 keV,
150 $\gamma \cdot s^{-1} \cdot g^{-1}$ for energies between 84 and 379 keV, and
3 $\gamma \cdot s^{-1} \cdot g^{-1}$ for energies between 387 and 2700 keV, provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of barium-133.

[f] The stated uncertainty is the standard uncertainty. See reference [5].

[g] Relative standard uncertainty of the input quantity x_i.

[h] The relative change in the output quantity y divided by the relative change in the input quantity x_i. If $|\partial y/\partial x_i| \cdot (x_i/y) = 1.0$, then a 1% change in x_i results in a 1% change in y. If $|\partial y/\partial x_i| \cdot (x_i/y) = 0.05$, then a 1% change in x_i results in a 0.05% change in y.

[i] Relative component of combined standard uncertainty of output quantity y, rounded to two decimal places. The relative component of combined standard uncertainty of y is given by $u_i(y)/y \equiv |\partial y/\partial x_i| \cdot u(x_i)/y = |\partial y/\partial x_i| \cdot (x_i/y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y/\partial x_i| \cdot (x_i/y)$, and $u_i(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

RC-S-035-002e

[j] The response of pressurized ionization chamber A (PIC A) is determined from measurement of the time required to collect a given amount of charge on a stable fixed capacitor. All of the response measurements in the NIST pressurized ionization chambers are made relative to the response of one or more artifact standards. These artifact standards consist of microgram quantities of aged radium-226 in small welded stainless-steel capsules. These capsules are encapsulated in plastic rods whose dimensions are similar to those of the standard NIST ampoule. The artifact standards are called **Radium Reference Sources** and are designated as RRSx, where x is the nominal mass (in micrograms) of radium-226 in the capsule.

[k] $|\partial y/\partial x_i| \cdot (x_i/y)$ = (average background response)/(average net sample response)

[m] The relative standard uncertainty of $\lambda \cdot t$ is determined by the relative standard uncertainty of λ (i.e., of the half life). The relative standard uncertainty of t is negligible.

[n] $|\partial y/\partial x_i| \cdot (x_i/y) = |\lambda \cdot t|$

[p] The live time is determined by counting the pulses from a gated oscillator.

[q] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e. $u(x_i)/x_i$ = 100%. $|\partial y/\partial x_i| \cdot (x_i/y)$ = {(response per Bq of impurity)/(response per Bq of Ba-133)}·{(Bq of impurity)/(Bq of Ba-133)}. Thus $u_i(y)/y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.

REFERENCES

[1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036, U.S.A. 1-212-642-4900.

[2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993. Available from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036, U.S.A. 1-212-642-4900. (Listed under ISO miscellaneous publications as "ISO Guide to the Expression 1993".)

[3] B. N. Taylor and C. E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.

[4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.

[5] Evaluated Nuclear Structure Data File (ENSDF), April 1994.

RC-S-035-002f

Standard Logbook

Serial ID:	0487	**Open/Reference Date:**	01-SEP-93	**Aliquot :**	5.054 g
Name:	Barium-133	**Received:**	01-AUG-02	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	01-SEP-30	**Logbook Num :**	RC S 035 002
Employee:	Angela Johnson			**Solvent :**	0.1 M HCL
Supplier:	NIST			**Uncertainty :**	.26 percent

Description: 4251C

Comments: None

Analyte	Concentration	Analyte	Concentration
Barium-133	487600 bq/g		

[IMAGE] # Standard Traceability Log Rad

Source Material Info	
Parent Code:	0487
Prepared By:	Angela Johnson
Carrier Conc:	0.1 M HCL
Reference Date:	09/01/1993
Ampoule Mass (g):	5.054 g
Uncertainty:	+/- .26 %
LogBook No:	RC S 035 002
Supplier:	NIST

A Solution Material Info			
Isotope:	Barium-133		
Prepared By:	Angela Johnson		
Prep Date:	10/31/2002		
Verification Date:	02/27/2020		
Expiration Date:	02/27/2021		
Primary Code:	0487-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	4.7696 g		
Density(g/mL):	0.9984	Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (bq/g)) * (conversion dpm to bq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (bq/g)) * (conversion dpm to bq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(4.7696 g) * (487600 bq/g) * (60 dpm/bq) / (100 mL) = 1395394.1760 dpm/mL
(4.7696 g) * (487600 bq/g) * (60 dpm/bq) / (0.9984 g/mL) / (100 mL) = 1397609.3930 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/18/2015	Gregory Ramsay	15.0062	1000	0487-B	20972.806 dpm/mL	11/18/2016	11/18/2017
01/17/2017	Bethany Fiem	15.1795	1000	0487-C	21215.0117 dpm/mL	01/17/2017	01/17/2018
11/08/2017	Bethany Fiem	15.5573	1000	0487-D	21708.5658 dpm/mL	10/10/2018	10/10/2019
01/14/2019	Bethany Fiem	15.0723	1000	0487-E	21065.188 dpm/mL	01/14/2019	01/14/2020
09/10/2019	Bethany Fiem	15.5683	1000	0487-F	21758.4023 dpm/mL	09/10/2019	09/10/2020
02/27/2020	Bethany Fiem	11.507	750	0487-G	21443.055 dpm/mL	02/27/2020	02/27/2021

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Ba-133 Standard 0487-G

v1.0.2

Instrument	GOLD
Analyst	BXF1
Verification Prep Date	2/27/2020

Standard Information	
Isotope	Ba-133
Serial Number	0487-G
Isotope Halflife	3.8410E+03 D
Reference Date	9/1/1993
Ref. Act. (DPM/mL)	21443.05505
Amount of Std. (mL)	1.0
Standard Prep Date	2/27/2020

Std #	Count Date	Quench Number	Gross cpm	Bkg cpm
1	2/28/2020	84.50	3150.31	46.20
2	2/28/2020	84.60	3150.31	46.20
3	2/28/2020	85.00	3188.25	46.20

Std #	Net cpm	Calculated Avg. Eff.	Standard dpm/mL	Measured dpm
1	3104.11	0.835744	3714.19	3714.19
2	3104.11	0.835744	3714.19	3714.19
3	3142.05	0.835744	3759.59	3759.59

	dpm/mL
Mean Value =	3729.32
Stdev =	26.20978982
Certificate Value* =	**3740.7**
Two sigma =	52.420
10 % of Mean =	372.932
Rule A (Pass/Fail)	**Pass**
% Recovery	99.70%
Rule B (Pass/Fail)	**Pass**
Expiration Date	**2/27/2021**

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Count Date.**

The analyst prepared three standard verification sources for Ba-133 source 0487-G by transferring 1 mL portions of the standard into glass liquid scintillation vials. 10 mL of Ecoscint Ultra liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 10 mL of Ecoscint Ultra liquid scintillation cocktail. The standard verification vials and background source were dark adapted for at least two hours and counted on LSCGOLD for Ba-133 source standard verification. The Ba-133 efficiency calibration which was used for verification calculations was performed on 2/27/2020 using Ba-133 source 1601-A.

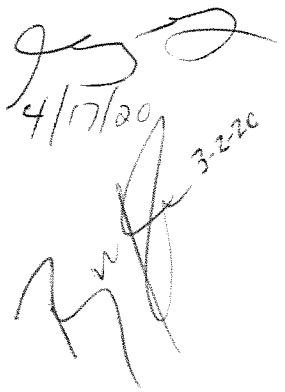
Standard results for each verification source was calculated as follows:

Source dpm/mL = (A - B)/(C)(D)

where:

A = Ver. source cpm,
B = BKG cpm,
C = System efficiency (cpm/dpm), and
D = volume used for standard verification.

RAD-M-001



1965

Eckert & Ziegler Analytics, Inc.
1380 Seaboard Industrial Blvd.
Atlanta, GA 30318, USA
Tel 1-404-352-8677
Fax 1-404-352-2837

Eckert & Ziegler
Analytics

Received 9-22-20

akkreditiert durch die / *accredited by the*

Deutsche Akkreditierungsstelle GmbH

ilac-MRA DAkkS Deutsche Akkreditierungsstelle D-K-19023-01-00

als Kalibrierlaboratorium im / *as calibration laboratory in the*

Deutschen Kalibrierdienst DKD

Kalibrierschein *Calibration certificate*	Kalibrierzeichen *Calibration mark*
	001443
	D-K-19023-01-00
	2020-09

Gegenstand *Object*	**5 mL Liquid in 5 mL Flame Sealed Ampoule**
Hersteller *Manufacturer*	**Eckert & Ziegler Analytics, Inc.**
Typ *Type*	**8328-5FSA-3700BQ-D**
Fabrikat/Serien-Nr. *Serial number*	**114437**
Auftraggeber *Customer*	**GEL Laboratories LLC**
Auftragsnummer *Order No.*	**CO-047265**
Anzahl der Seiten des Kalibrierscheines *Number of pages of the certificate*	**2**
Datum der Kalibrierung *Date of calibration*	**18-Sep-2020 1200 EST (1700 UTC)**

Dieser Kalibrierschein dokumentiert die Rückführung auf nationale Normale zur Darstellung der Einheiten in Übereinstimmung mit dem Internationalen Einheitensystem (SI).
Die DAkkS ist Unterzeichner der multilateralen Übereinkommen der European co-operation for Accreditation (EA) und der International Laboratory Accreditation Cooperation (ILAC) zur gegenseitigen Anerkennung der Kalibrierscheine.
Für die Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich.
This calibration certificate documents the traceability to national standards, which realize the units of measurement according to the International System of Units (SI).
The DAkkS is signatory to the multilateral agreements of the European co-operation for Accreditation (EA) and of the International Laboratory Accreditation Cooperation (ILAC) for the mutual recognition of calibration certificates.
The user is obliged to have the object recalibrated at appropriate intervals.

Dieser Kalibrierschein darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung sowohl der Deutschen Akkreditierungsstelle GmbH als auch des ausstellenden Kalibrierlaboratoriums. Kalibrierscheine ohne Unterschrift haben keine Gültigkeit.
This calibration certificate may not be reproduced other than in full except with the permission of both the Deutsche Akkreditierungsstelle GmbH and the issuing laboratory. Calibratian certificates without signature are not valid.

Datum *Date*	Leiter des Kalibrierlaboratoriums *Head of the calibration laboratory*	Bearbeiter *Person in charge*
14-Sep-20	Levan Tkavadze	Karlee Eardley

GL-CED-297-258

001443
D-K-19023-01-00
2020-09

- **Customer Purchase Order No.**:
  GEL2026750, Item 1

- **Calibration Results**:

Nuclide	Half-Life *, d	Activity, Bq	Uncertainty, %	Calibration Method
Ra-228	2.100E+03	3.172E+03	4.9	HPGe

- **Calibration Method(s)**:
  This standard radionuclide source was prepared gravimetrically from a master solution calibrated by Eckert & Ziegler Analytics using a germanium gamma-ray spectrometer system (HPGe).

- **Uncertainty**:
  The uncertainty stated is the expanded uncertainty obtained by multiplying the standard uncertainty by the coverage factor $k = 2$. It has been determined in accordance with EA-4/02 M. The value of the measurand lies within the assigned range of values with a probability of approximately 95%. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

- **Traceability**:
  Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST."

- **Impurities**:
  γ-impurities (other than decay products) < 0.1 %

- **Expiration Date**:
  No expiration date has been given for this source.

- **Wipe Test ***:
  This source was wipe tested in its inactive areas with leak test results < 185 Bq (5 nCi) of removable activity per ISO 9978:1992.

- **Additional Information**:
  - 5.00785 g of 0.1 M HCl solution with approximately 30 µg/g Ba carrier.
  - Separation date: 01-March-2018
  - *Values not calibrated by EZA (i.e. published nuclear data, uncertified values, etc.)
  - Date of Calibration corresponds to Reference Date for this source.
  - Expiration Date refers to useful life of this source.

End of Certificate

TBC. 9-22-20

GL-CED-297-258b

Standard Logbook

Serial ID:	1965	**Open/Reference Date:**	18-SEP-20	**Aliquot :**	5.00785 g
Name:	Radium-228	**Received:**	22-SEP-20	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	22-SEP-35	**Logbook Num :**	GL-CED-297-258
Employee:	Tim Chandler			**Lot Number :**	114437
Supplier:	Eckert & Zeigler Analytics			**Solvent :**	0.1M HCl
				Uncertainty :	2.45 percent

Description: Ampoule

Comments: None

Analyte	Concentration	Analyte	Concentration
Radium-228	3172 Bq		

[IMAGE] # Standard Traceability Log Rad

Source Material Info	
Parent Code:	1965
Prepared By:	Tim Chandler
Carrier Conc:	0.1M HCl
Reference Date:	09/18/2020
Ampoule Mass (g):	5.00785 g
Uncertainty:	+/- 2.45 %
LogBook No:	GL-CED-297-258
Supplier:	Eckert & Zeigler Analytics

A Solution Material Info			
Isotope:	Radium-228		
Prepared By:	Bethany Fiem		
Prep Date:	09/23/2020		
Verification Date:	09/23/2020		
Expiration Date:	09/23/2021		
Primary Code:	1965-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	4.9411 g		
Density(g/mL):	0.9999	Balance ID:	B733529066

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(4.9411 g) * (3172 Bq) * (60 dpm/Bq) / (5.00785 g * 100 mL) = 1877.8321 dpm/mL
(4.9411 g) * (3172 Bq) * (60 dpm/Bq) / (0.9999 g/mL)/ (5.00785 g * 100 mL) = 1877.9260 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
09/23/2020	Bethany Fiem	40.8755	200	1965-B	383.805821 dpm/mL	09/24/2020	09/24/2021
09/24/2020	Bethany Fiem	20.1605	100	1965-C	378.599271 dpm/mL	09/24/2020	09/24/2021

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Ra-228 Standard 1965-B

v1.0.2

Instrument	Yellow
Analyst	BXF1
Verification Prep Date	9/24/2020

Standard Information	
Isotope	Ra-228
Serial Number	1965-B
Isotope Halflife	5.7500 Y
Reference Date	9/18/2020
Ref. Act. (DPM/mL)	378.5992712
Amount of Std. (mL)	0.5
Standard Prep Date	9/23/2020

Std #	Count Date	Quench Number	Gross cpm	Bkg cpm
1	9/24/2020	751.52	499.80	24.30
2	9/24/2020	749.39	502.70	24.30
3	9/24/2020	750.17	497.80	24.30

Std #	Net cpm	Calculated Avg. Eff.	Standard dpm/mL	Measured dpm
1	475.50	2.524463	376.71	188.36
2	478.40	2.524463	379.01	189.51
3	473.50	2.524463	375.13	187.56

	dpm/mL
Mean Value =	376.95
Stdev =	1.951889637
Certificate Value* =	**377.9**
Two sigma =	3.904
10 % of Mean =	37.695
Rule A (Pass/Fail)	**Pass**
% Recovery	99.76%
Rule B (Pass/Fail)	**Pass**
Expiration Date	**9/24/2021**

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Count Date.**

The analyst prepared three standard verification sources for Ra-228 source 1965-B by transferring 0.5 mL portions of the standard into glass liquid scintillation vials. 10 mL of Ecoscint Ultra liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 10 mL of Ecoscint Ultra liquid scintillation cocktail. The standard verification vials and background source were dark adapted for at least two hours and counted on LSCYellow for Ra-228 source standard verification. The Ra-228 efficiency calibration which was used for verification calculations was performed on 9/24/2020 using Ra-228 source 1952-A.

Standard results for each verification source was calculated as follows:

Source dpm/mL = (A - B)/(C)(D)

where:

A = Ver. source cpm,
B = BKG cpm,
C = System efficiency (cpm/dpm), and
D = volume used for standard verification.

RAD-M-001

9-25-20

9/25/2020

Runlogs

Instrument Run Log

Instrument Type: GFPC **Batch ID: 2063164**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1204695162	MB	LXB3	PIC4B	NOV-19-20 08:29:10	DONE	25mm Filter	01-JUN-20 00:00
1204695164	MS	LXB3	PIC4D	NOV-19-20 08:29:17	DONE	25mm Filter	01-JUN-20 00:00
1204695165	LCS	LXB3	PIC5B	NOV-19-20 08:29:20	DONE	25mm Filter	01-JUN-20 00:00
1204695163	DUP	LXB3	PIC13A	NOV-19-20 10:35:37	DONE	25mm Filter	01-JUN-20 00:00
527509001	SAMPLE	LXB3	PIC11D	NOV-19-20 10:35:43	DONE	25mm Filter	01-JUN-20 00:00
527509010	SAMPLE	LXB3	PIC11C	NOV-19-20 10:35:45	DONE	25mm Filter	01-JUN-20 00:00
527510001	SAMPLE	LXB3	PIC14B	NOV-19-20 10:35:55	DONE	25mm Filter	01-JUN-20 00:00
527510007	SAMPLE	LXB3	PIC13D	NOV-19-20 10:36:06	DONE	25mm Filter	01-JUN-20 00:00
527510013	SAMPLE	LXB3	PIC12C	NOV-19-20 10:36:15	DONE	25mm Filter	01-JUN-20 00:00

Lucas Cell Raw Data

Blank Correction Report

Batch ID 2063137

GEL ID	Sample Type	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1204695107	DUP	Radium-226	500 mL	0.950	0.291	0.698	.302	pCi/L	YES
1204695109	LCS	Radium-226	1000 mL	12.3	1.06	0.297	.151	pCi/L	NO
1204695106	MB	Radium-226	1000 mL	0.151	0.104	0.349	.151	pCi/L	YES
1204695108	MS	Radium-226	500 mL	28.6	2.75	0.408	.302	pCi/L	NO
527509001	SAMPLE	Radium-226	500 mL	0.188	0.173	0.607	.302	pCi/L	YES
527509010	SAMPLE	Radium-226	500 mL	0.257	0.162	0.527	.302	pCi/L	YES

Batch 2063137 Check-list

This check-list was completed on 19-NOV-20 by Elizabeth Krouse

This batch was reviewed by Elizabeth Krouse on 19-NOV-20 and Lyndsey Pace on 19-NOV-20.

Batch ID: 2063137 **Product:** LUC26RAL **Description:** Lucas Cell Radium 226 GL-RAD-A-008

#	Criteria	Yes	No	Comments
Preparation Information				
1	Were all of the samples homogenous? Include sample description if not homogenous	Yes		
2	Was the preservation correct for this analysis?	Yes		
Internal Checklist Information				
3	Are instrument source checks within limits?	Yes		
4	Has an Aliquot Correction been completed for this batch?		No	
5	Have sample historical results been reviewed for this batch?	Yes		
Technical Information				
6	Were all the samples prepared/analyzed within the required holding time period?	Yes		
7	Are any sample results more negative than 3xTPU?		No	
Quality Control (QC) Information				
8	Was the method blank (MB) within the acceptance criteria?	Yes		
9	Is the blank result less than 1.65 times the CSU?	Yes		
10	Is the blank result less than the decision level? Use the results greater than CL report to check.		No	
11	Were the laboratory control sample (LCS/LCSD) recoveries within the acceptance limits?	Yes		
12	Were the matrix spike (MS/MSD) recoveries within the acceptance limits?	Yes		
13	Were the relative percent differences and/or error (RPD/RER) between the sample and its duplicate within acceptable limits?		No	
14	Has the method required detection limit been met?	Yes		
Miscellaneous Information				
15	Are sample-specific MDA/MDC calculated and reported?	Yes		

Prep Logbook

Radium−226 in Liquid

Batch ID: **2063137**
Analyst: Michael Hance (MXH8)
Method: EPA 903.1 Modified
Lab SOP: GL−RAD−A−008 REV# 15
Instrument: GFC−18150253

Due Dates for Lab: 18−NOV−2020 **Package: 20−NOV−2020** **SDG: 21−NOV−2020**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695109	Radium−226 SPIKE	1715−E	.1	mL
MS	1204695108	Radium−226 SPIKE	1715−E	.1	mL

#	Sample ID	Prep Date	Min RDL (pCi/L)	Aliquot (mL)	End Degas (date)	CELL #	End Transfer (date)	Start Count Time (date)	Background Counts	Total Counts
1	527509001	16−NOV−2020	1	500	11/16/20 12:01	506	11/19/20 06:30	11/19/20 09:25	8	13
2	527509010	16−NOV−2020	1	500	11/16/20 12:01	602	11/19/20 06:30	11/19/20 09:25	4	10
3	527510001	16−NOV−2020	1	500	11/16/20 12:01	705	11/19/20 06:30	11/19/20 09:25	8	19
4	527510007	16−NOV−2020	1	500	11/16/20 12:01	808	11/19/20 06:30	11/19/20 09:25	8	12
5	527510013	16−NOV−2020	1	500	11/16/20 12:01	108	11/19/20 07:00	11/19/20 09:57	2	10
6	1204695106 MB	16−NOV−2020	1	1000	11/16/20 12:01	208	11/19/20 07:00	11/19/20 09:58	8	15
7	1204695107 DUP (527509001)	16−NOV−2020	1	500	11/16/20 12:01	308	11/19/20 07:00	11/19/20 09:58	8	30
8	1204695108 MS (527509001)	16−NOV−2020	1	500	11/16/20 12:01	405	11/19/20 07:00	11/19/20 09:58	1	538
9	1204695109 LCS	16−NOV−2020	1	1000	11/16/20 12:01	501	11/19/20 07:00	11/19/20 09:58	7	641

Reagent/Solvent Lot ID	Description	Amount

Comments:
Spike Pipet ID: RAD−RA226−2766953
Bkg Count Time: 30 Minutes
Sample Count Time: 30 Minutes
Data Entry Date2: 16−NOV−2020 00:00

Radium-226 Liquid

Filename : RA226.XLS
File type : Excel
Version # : 1.3.2

Batch : 2063137
Analyst : MIC02086
Prep Date : 11/16/2020
Ra-226 Method Uncertainty : 0.073648

Procedure Code : LUC26RAL
Parmname : Radium-226
Required MDC : 1 pCi/L
Halflife of Ra-226 : 1600 years
Ra-226 Abundance : 1.00
Halflife of Rn-222: 3.8235 days

Batch counted on : LUCAS CELL DETECTOR
BKG Count time : 30 min

Sample Characteristics					Count Raw Data							
Pos.	Sample ID	Sample Aliquot L	Sample Aliquot StDev. L	Sample Date/Time	Cell Number	Counting Time (min.)	Gross Counts	Gross CPM	Background Counts	Background CPM	Background Count Time (min.)	Cell Efficiency (cpm/dpm)
1	527509001.1	0.5000	2.0256E-05	11/10/2020 15:15	506	30	13	0.433	8	0.267	30	2.0750
2	527509010.1	0.5000	2.0256E-05	11/10/2020 13:25	602	30	10	0.333	4	0.133	30	1.8180
3	527510001.1	0.5000	2.0256E-05	11/12/2020 10:27	705	30	19	0.633	8	0.267	30	1.7890
4	527510007.1	0.5000	2.0256E-05	11/12/2020 10:27	808	30	12	0.400	8	0.267	30	1.4130
5	527510013.1	0.5000	2.0256E-05	11/12/2020 14:40	108	30	10	0.333	2	0.067	30	2.0199
6	1204695106.1	1.0000	2.0399E-05	11/16/2020 0:00	208	30	15	0.500	8	0.267	30	1.7960
7	1204695107.1	0.5000	2.0256E-05	11/10/2020 15:15	308	30	30	1.000	8	0.267	30	1.7949
8	1204695108.1	0.5000	2.0256E-05	11/10/2020 15:15	405	30	538	17.933	1	0.033	30	1.4550
9	1204695109.1	1.0000	2.0399E-05	11/16/2020 0:00	501	30	641	21.367	7	0.233	30	1.9970

Pipet, 0.1 ml Stdev : +/-	0.000200	ml
Pipet, 0.5 ml Stdev : +/-	0.001000	ml
Pipet, 1 ml Stdev : +/-	0.002000	ml

Analytical SOP: GL-RAD-A-008
Instrument SOP: GL-RAD-I-007

Cell Efficiency Error (%)	Cell Calibration Date	Cell Calibration Due Date	De-Gas Date/Time	Rn-222 Ingrow End Date/Time	Count Start Date/Time	Rn-222 Corrections			
						De-Gas to Ingrowth	Ingrowth to Count	During Count	Ra-226 Decay
6.100%	6/2/2020	5/31/2021	11/16/2020 12:01	11/19/2020 6:30	11/19/2020 9:25	0.395	0.978	1.002	1.000
2.600%	7/2/2020	6/30/2021	11/16/2020 12:01	11/19/2020 6:30	11/19/2020 9:25	0.395	0.978	1.002	1.000
8.600%	11/1/2020	10/31/2021	11/16/2020 12:01	11/19/2020 6:30	11/19/2020 9:25	0.395	0.978	1.002	1.000
2.200%	3/31/2020	3/31/2021	11/16/2020 12:01	11/19/2020 6:30	11/19/2020 9:25	0.395	0.978	1.002	1.000
6.875%	5/1/2020	4/30/2021	11/16/2020 12:01	11/19/2020 7:00	11/19/2020 9:57	0.397	0.978	1.002	1.000
6.200%	8/1/2020	7/31/2021	11/16/2020 12:01	11/19/2020 7:00	11/19/2020 9:58	0.397	0.978	1.002	1.000
9.806%	1/20/2020	12/31/2020	11/16/2020 12:01	11/19/2020 7:00	11/19/2020 9:58	0.397	0.978	1.002	1.000
4.400%	3/1/2020	1/31/2021	11/16/2020 12:01	11/19/2020 7:00	11/19/2020 9:58	0.397	0.978	1.002	1.000
2.000%	6/2/2020	5/31/2021	11/16/2020 12:01	11/19/2020 7:00	11/19/2020 9:58	0.397	0.978	1.002	1.000

Notes:
1 - Results are decay corrected to Sample Date/Time
2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date
3 - Spike Nominals are decay corrected to Sample Date/Time

Spike S/N : 1715-E
Spike Exp Date : 5/21/2021
Spike Activity (dpm/ml): 300.24
Spike Volume Added: 0.10

LCS S/N : 1715-E
LCS Exp Date : 5/21/2021
LCS Activity (dpm/ml): 300.24
LCS Volume Added: 0.10

Results

Pos.	Decision Level pCi/L	Critical Level pCi/L	Required MDC pCi/L	MDC pCi/L	Sample Act. Conc. pCi/L	Sample Act. Error %	Net Count Rate CPM	Net Count Rate Error CPM	**1 SIGMA** Counting Uncertainty pCi/L	**1 SIGMA** Total Prop. Uncertainty pCi/L	Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
1	0.3499	0.2470	1	0.6067	**0.1877**	91.85%	0.1667	0.1528	0.1721	0.1730		SAMPLE				
2	0.2824	0.1994	1	0.5273	**0.2571**	62.42%	0.2000	0.1247	0.1603	0.1616		SAMPLE				
3	0.4059	0.2865	1	0.7037	**0.4790**	48.01%	0.3667	0.1732	0.2263	0.2327		SAMPLE				
4	0.5139	0.3628	1	0.8910	**0.2205**	111.83%	0.1333	0.1491	0.2466	0.2472		SAMPLE				
5	0.1787	0.1262	1	0.3675	**0.3069**	43.84%	0.2667	0.1155	0.1329	0.1364		SAMPLE				
6	0.2011	0.1419	1	0.3486	**0.1510**	68.79%	0.2333	0.1599	0.1035	0.1045		MB				
7	0.4024	0.2841	1	0.6977	**0.9498**	29.69%	0.7333	0.2055	0.2661	0.2905	527509001.1	DUP	134.0%	0.8221		
8	0.1755	0.1239	1	0.4076	**28.5988**	6.17%	17.9000	0.7739	1.2364	2.7474	527509001.1	MS			27.0487	105.7%
9	0.1691	0.1194	1	0.2970	**12.3003**	4.49%	21.1333	0.8485	0.4939	1.0607		LCS			13.5243	90.9%

Continuing Calibration Data

[IMAGE]

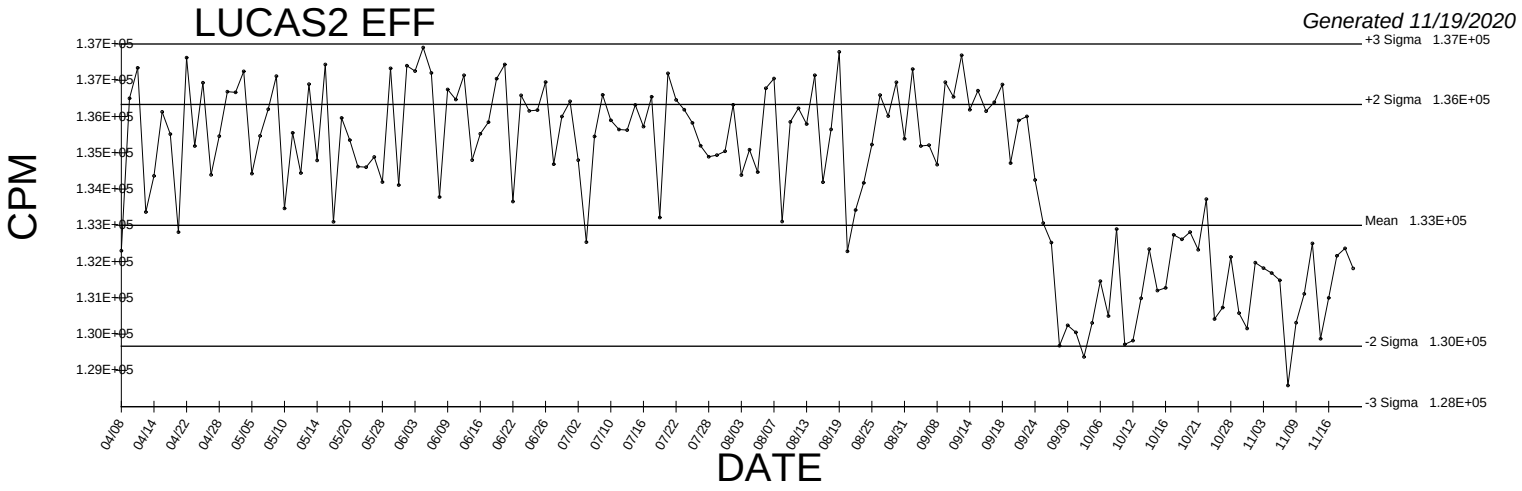
Ludlum Alpha Scintillation Counter Checks for 19-NOV-2020

Short Name	Parmname	Run Time	Count Time	Counts	CPM	Stdev	Status	Comments
LUCAS1	EFF	07:20	1	1.24E+05	123677	-2.83		
LUCAS2	EFF	07:19	1	1.32E+05	131663	-0.71		
LUCAS3	EFF	07:17	1	1.34E+05	133837	-0.56		
LUCAS4	EFF	07:16	1	1.28E+05	127625	-2.26		
LUCAS5	EFF	07:12	1	1.29E+05	129467	-1.54		
LUCAS6	EFF	07:09	1	1.33E+05	132698	-2.04		
LUCAS7	EFF	07:01	1	1.31E+05	131190	-0.65		
LUCAS8	EFF	06:58	1	1.27E+05	127158	-0.16		

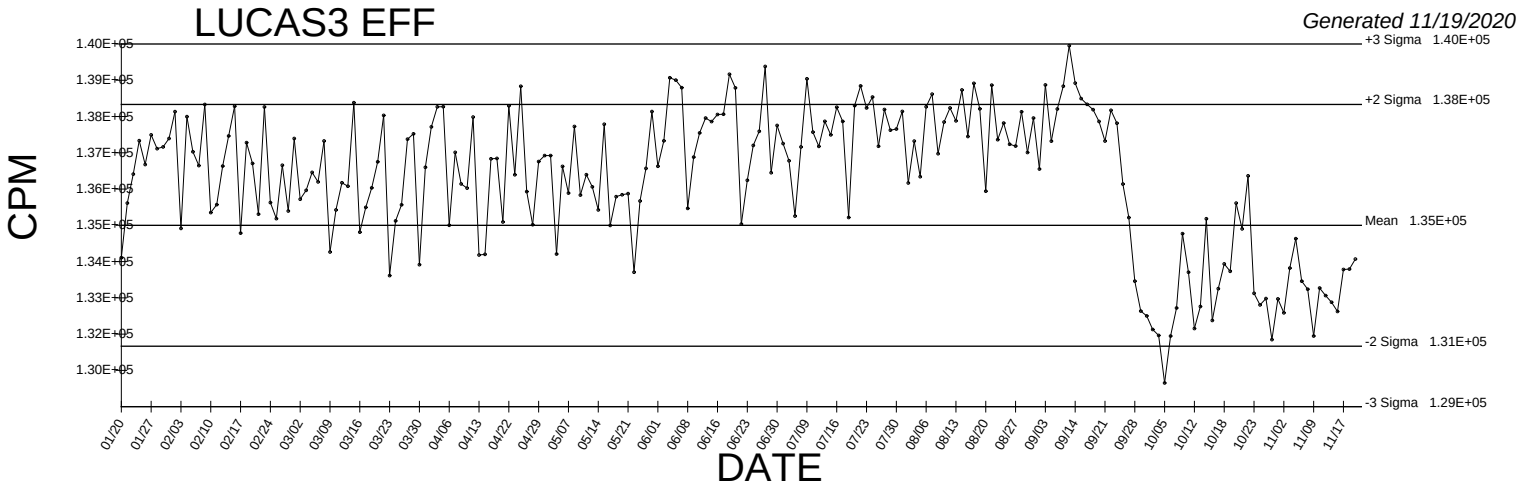
Reviewed by: Lyndsey Pace **Date:** 19-NOV-20

GEL Laboratories LLC

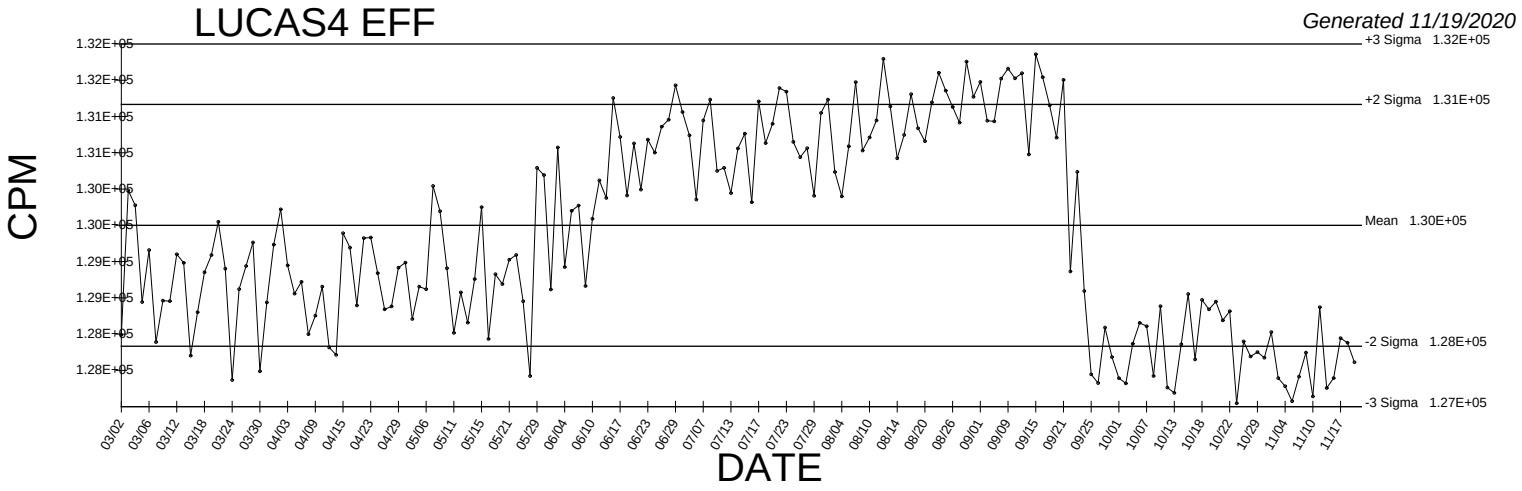
Efficiency Data



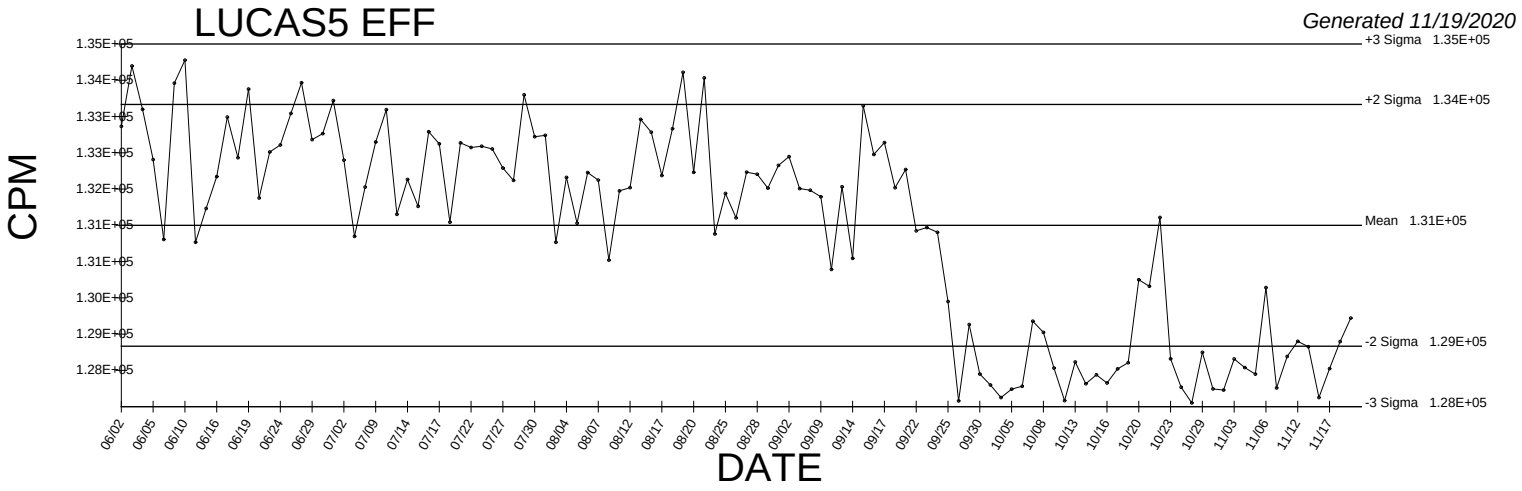
● Denotes Outlier



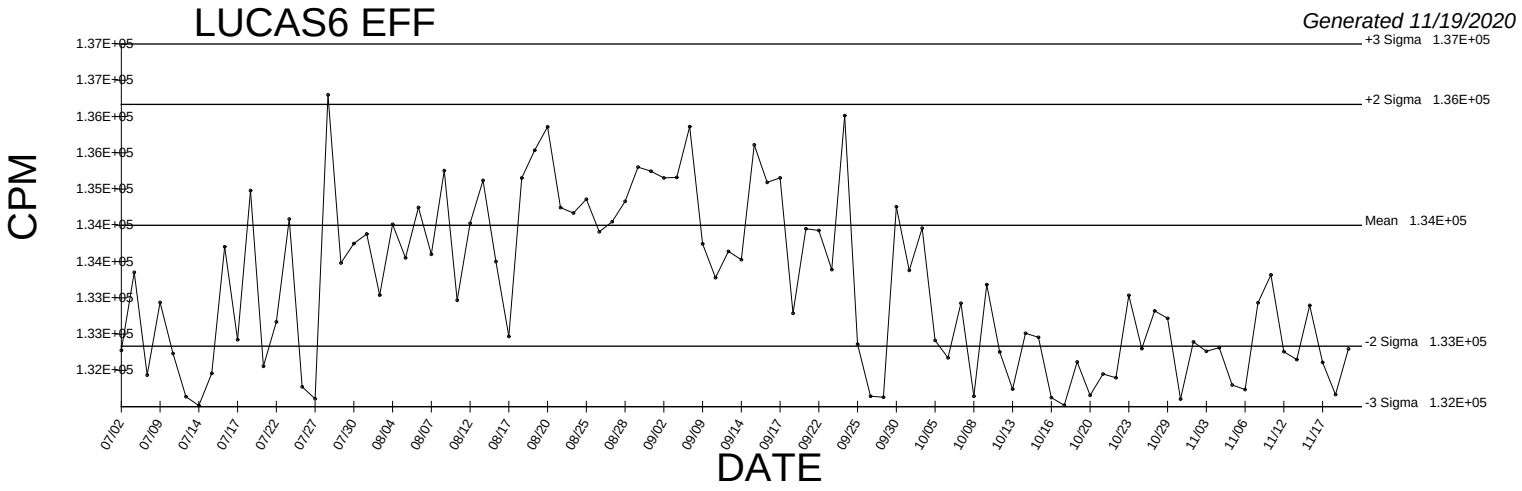
● Denotes Outlier



● Denotes Outlier



● Denotes Outlier



● Denotes Outlier

RAD Standards Traceability

Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404·352·8677
Fax 404·352·2837
www.analyticsinc.com

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

1715

98367

Ra-226 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC
P.O. No.: GEL 1408580, Item 7 Product Code: 8226

This standard radionuclide source was prepared gravimetrically from a master solution calibrated by Eckert & Ziegler Analytics, using a germanium gamma spectrometer system. Radionuclide purity and calibration were checked by germanium gamma-ray spectrometry, liquid scintillation counting, and/or alpha spectrometry, as applicable. The nuclear decay rate and reference date for this source are given below. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

Isotope	Half-Life, Days	Activity (Bq)	Uncertainty* , % Type u_A	u_B	U	Reference Date (12:00 PM EST)
Ra-226	5.844E+05	3.676E+04	1.0	2.1	4.7	09/09/2014

***Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

Comments:
Impurities: γ-impurities (other than decay products)<0.1%.
5.02193 g 0.1M HCl solution with approximately 30 µg/g Ba carrier.

Source Prepared by: R. Ormsby
R. Ormsby, Radiochemist

QC Approved: L. Tk
L. Tkavadze, Nuclear Metrologist

Date: 9 Sep 14

RECEIVED 9/10/14

ACCREDITED SOURCE CALIBRATION LABORATORY HEALTH PHYSICS SOCIETY FOUNDED 1956

Corporate Office
24937 Avenue Tibbitts Valencia, California 91355

Laboratory
1380 Seaboard Industrial Blvd. Atlanta, Georgia, 30318

Standard Logbook

Serial ID:	1715	**Open/Reference Date:**	09-SEP-14	**Aliquot :**	5.02193 g
Name:	Radium-226	**Received:**	10-SEP-14	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	11-SEP-15	**Logbook Num :**	GL-CED-297-008
Employee:	Gregory Ramsay			**Lot Number :**	98367
Supplier:	Eckert & Ziegler			**Solvent :**	0.1M HCl
				Uncertainty :	2.35 PERCENT

Description: ampule

Comments: None

Analyte	Concentration	Analyte	Concentration
Radium-226	36760 Bq		

[IMAGE] # Standard Traceability Log Rad

Source Material Info	
Parent Code:	1715
Prepared By:	Gregory Ramsay
Carrier Conc:	0.1M HCl
Reference Date:	09/09/2014
Ampoule Mass (g):	5.02193 g
Uncertainty:	+/- 2.35 %
LogBook No:	GL-CED-297-008
Supplier:	Eckert & Ziegler

A Solution Material Info			
Isotope:	Radium-226		
Prepared By:	Gregory Ramsay		
Prep Date:	07/06/2016		
Verification Date:	01/03/2020		
Expiration Date:	01/03/2021		
Primary Code:	1715-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	4.9865 g		
Density(g/mL):	0.9967	Balance ID:	C31514

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(4.9865 g) * (36760 Bq) * (60 dpm/Bq) / (5.02193 g * 100 mL) = 21900.3937 dpm/mL
(4.9865 g) * (36760 Bq) * (60 dpm/Bq) / (0.9967 g/mL)/ (5.02193 g * 100 mL) = 21972.4854 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
07/06/2016	Gregory Ramsay	2.6261	200	1715-B	288.51 dpm/ml	01/25/2017	11/10/2018
02/08/2017	Gregory Ramsay	21.96	250	1715-C	1930.063 dpm/ml	02/08/2017	02/08/2018
12/19/2017	Gregory Ramsay	2.63	200	1715-D	288.938 dpm/ml	01/03/2020	01/03/2021
06/17/2019	Gregory Ramsay	2.7402	200	1715-E	301.045 dpm/ml	05/21/2020	05/21/2021
01/03/2020	Bethany Fiem	.9865	100	1715-F	216.758568 dpm/mL	01/03/2020	01/03/2021

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Ra-226 Standard 1715-E

G. Ramsay **5/21/2020**	**Isotope**	Value (pCi/L)	
	1715-E	26.074	
	1715-E	26.160	
	1715-E	26.429	
Mean Value (Counting) =	26.221	**97.02**	**Pass**
Stdev =	0.185571127		**Rule B (Pass/Fail)**
Target =	27.03		
Two sigma =	0.371142255		
10 % of Mean =	2.622086667		
Rule A (Pass/Fail)	**Pass**		

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for Ra-226 source 1715-E by transferring portions of the degassed standard into Lucas Cells. The cells were allowed to sit for 3 hours after transfer. The sources were then counted on the Lucas Cell detectors 5, 6, and 7 which were calibrated using Ra-226 standard 0299-H

6/22/20

Runlogs

Instrument Run Log

Instrument Type: LUCAS CELL DETECTOR **Batch ID: 2063137**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
527509001	SAMPLE	MXH8	LUCAS5	NOV-19-20 09:25:00	DONE	Lucas Cell	02-JUN-20 00:00
527509010	SAMPLE	MXH8	LUCAS6	NOV-19-20 09:25:00	DONE	Lucas Cell	02-JUL-20 00:00
527510001	SAMPLE	MXH8	LUCAS7	NOV-19-20 09:25:00	DONE	Lucas Cell	01-NOV-20 00:00
527510007	SAMPLE	MXH8	LUCAS8	NOV-19-20 09:25:00	DONE	Lucas Cell	31-MAR-20 00:00
527510013	SAMPLE	MXH8	LUCAS1	NOV-19-20 09:57:00	DONE	Lucas Cell	01-MAY-20 00:00
1204695106	MB	MXH8	LUCAS2	NOV-19-20 09:58:00	DONE	Lucas Cell	01-AUG-20 00:00
1204695107	DUP	MXH8	LUCAS3	NOV-19-20 09:58:00	DONE	Lucas Cell	20-JAN-20 00:00
1204695108	MS	MXH8	LUCAS4	NOV-19-20 09:58:00	DONE	Lucas Cell	01-MAR-20 00:00
1204695109	LCS	MXH8	LUCAS5	NOV-19-20 09:58:00	DONE	Lucas Cell	02-JUN-20 00:00

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
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gel.com

November 17, 2020

Mr. Stanislaw Marczak
Los Alamos National Laboratory
TA-00, SM1237, Rm104C
Los Alamos, New Mexico 87545

Re: LANL- Discharge Permits
Work Order: 527510
SDG: 2021-130

Dear Mr. Marczak:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on November 14, 2020, and analyzed for GC Semivolatile PCB, GC/MS Semivolatile, GC/MS Volatile, General Chemistry, Metals and Radiochemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4485.

Sincerely,

Nina Gampe for
Valerie Davis
Project Manager

Chain of Custody: 2021-130
Enclosures

ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 527510
SDG # : 2021-130

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Case Narrative

Case Narrative for
ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 527510
SDG # : 2021-130

November 17, 2020

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on November 14, 2020 for analysis. The samples were delivered with proper chain of custody documentation and signatures. The samples were screened according to GEL Standard Operating Procedure. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. Shipping container temperatures were checked, documented, and within specifications. Shipping container temperature was within specification (0 - 6C). The metals container for SMEB03-20-209978, SMEB04-20-209981, and SMEB04-20-209997 were received with a pH>2. Client requested to add preservative and proceed with analysis. *527510002(SMEB03-20-209978), 527510008(SMEB04-20-209981), 527510012(SMEB04-20-209997).*

Sample Identification The laboratory received the following samples:

Laboratory ID	Client ID
527510001	SMEB03-20-209977
527510002	SMEB03-20-209978
527510003	SMEB03-20-209979
527510004	SMEB03-20-209979
527510005	SMEB03-20-209990
527510006	SMEB03-20-209994
527510007	SMEB04-20-209980
527510008	SMEB04-20-209981
527510009	SMEB04-20-209982
527510010	SMEB04-20-209982
527510011	SMEB04-20-209991
527510012	SMEB04-20-209997
527510013	SMEB05-20-209983
527510014	SMEB05-20-209984
527510015	SMEB05-20-209985
527510016	SMEB05-20-209985
527510017	SMEB05-20-209992
527510018	SMEB05-20-209995

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: GC Semivolatile PCB, GC/MS Semivolatile, GC/MS Volatile, General Chemistry, Metals and Radiochemistry.

I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.

Nina Gampe for
Valerie Davis
Project Manager

GEL Laboratories LLC P.O. Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178 www.gel.com

List of current GEL Certifications as of 17 November 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122021−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−33
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Chain of Custody and Supporting Documentation

SDG: 2021-130

General Engineering
Charleston SC

527510

Chain of Custody/Analysis Request

COC/Lab Request #: 2021-130

Page 1 of 1

Client Contact:

Lab Agreement

Project Number: LANL

Analysis Turnaround

24 Hour - ☐ Other - ☐

7 Days - ☒

14 Days - ☐

21 Days - ☐

28 Days - ☐

Site Name: Los Alamos National Laboratory

Rad Screening Info: Similar locations identify no DOT hazard classification

Lab Reporting Limit Method Detection Limit

Field Sample ID	Sample Date	Sample Time	Sample Matrix	DP-3103-8260	DP-3103-8270	DP-8082	DP-CN(TOTAL)	DP-F+SO4	DP-Hg	DP-Metals	DP-Ra226+228
SMEB03-20-209977	11/12/2020	10:27	W				1		1		4
SMEB03-20-209978	11/12/2020	10:27	W					1		1	
SMEB03-20-209979	11/12/2020	10:27	W	2	2	3					
SMEB03-20-209990	11/12/2020	10:27	W	2							
SMEB03-20-209994	11/12/2020	09:00	W		2						
SMEB04-20-209980	11/12/2020	10:27	W				1		1		4
SMEB04-20-209981	11/12/2020	10:27	W					1		1	
SMEB04-20-209982	11/12/2020	10:27	W	2	2	3					
SMEB04-20-209991	11/12/2020	10:27	W	2							
SMEB04-20-209997	11/12/2020	10:27	W							1	
SMEB05-20-209983	11/12/2020	14:40	W				1		1		4
SMEB05-20-209984	11/12/2020	14:40	W					1		1	
SMEB05-20-209985	11/12/2020	14:40	W	2	2	3					
SMEB05-20-209992	11/12/2020	14:40	W	2							
SMEB05-20-209995	11/12/2020	13:48	W		2						

Special Instructions:

Relinquished by: Sheri Sherwood	Print Name: Sheri Sherwood	Date/Time: 11/13/2020 15:00	Received by: A. Almeras	Print Name: A. Almeras	Date/Time: 11/14/20 9:20
Relinquished by:	Print Name:	Date/Time:	Received by:	Print Name:	Date/Time:
Relinquished by:	Print Name:	Date/Time:	Received by:	Print Name:	Date/Time:

GEL Laboratories LLC

VD **SAMPLE RECEIPT & REVIEW FORM**

Client: ESHL	**SDG/AR/COC/Work Order:** 527510
Received By: AJA	**Date Received:** 11/14/20
Carrier and Tracking Number	Circle Applicable: (FedEx Express) FedEx Ground UPS Field Services Courier Other See FedEx Tags

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr **Classified as: Rad 1 Rad 2 Rad 3**
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: (Wet Ice) (Ice Packs) Dry ice None Other: *all temperatures are recorded in Celsius TEMP: on tags
4	Daily check performed and passed on IR temperature gun?	✓			**Temperature Device Serial #:** IR4-16 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?	✓			If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes✓ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes✓ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?			✓	
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials NRG Date 11/17/20 Page 1 of 1

GL-CHL-SR-001 Rev 7

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 52.00 LB MAN
CAD: 0745193/CAFE3407

TO VALERIE DAVIS
GENERAL ENGINEERING L
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWESW11520000

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Part # 156149-434 RIT EXP 07/19

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BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 56.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWE6L11570000

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CAD: 0745193/CAFE3407

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BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 57.00 LB MAN
CAD: 0745193/CAFE3407

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TO VALERIE DAVIS
GENERAL ENGINEERING LAB
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1 of 2
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SC-US CHS

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BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
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ACTWGT: 60.00 LB MAN
CAD: 0745193/CAFE3407

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TO VALERIE DAVIS
GENERAL ENGINEERING LAB
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(843) 566-8171
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UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 43.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 656-8171
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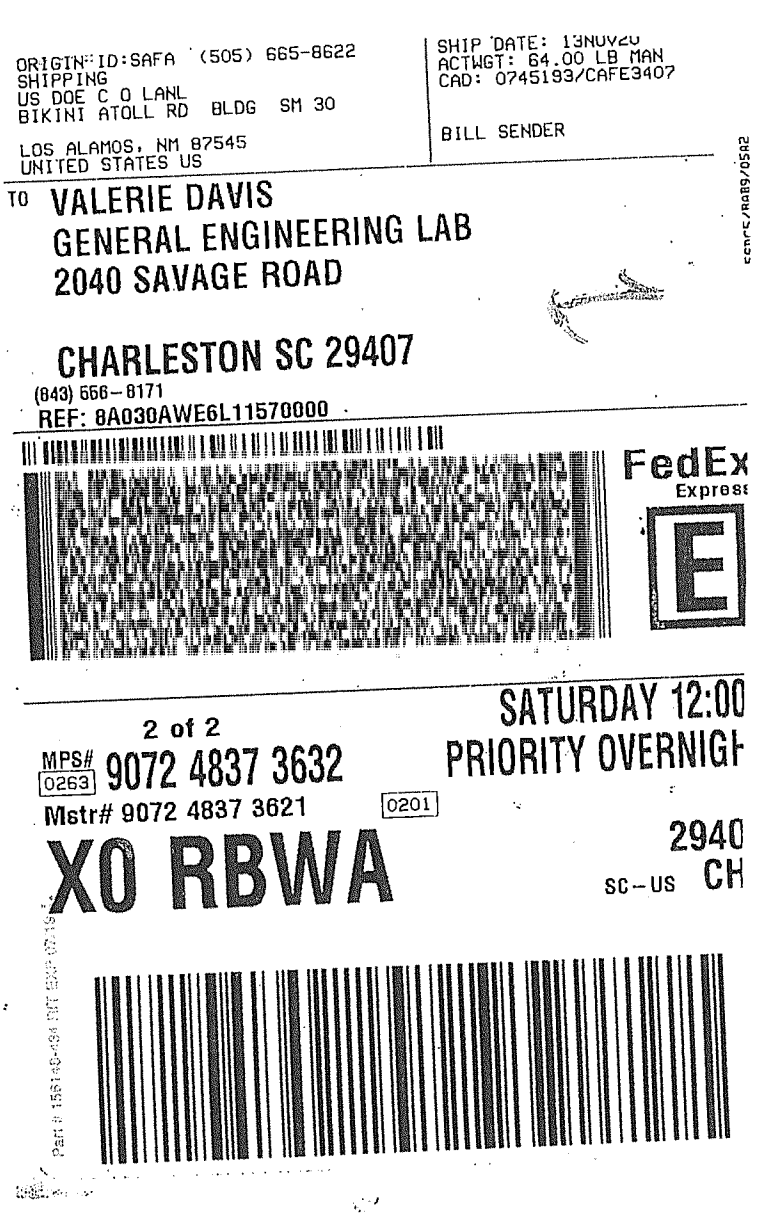
SC-US CHS



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BIKINI ATOLL RD BLDG SM 30
LOS ALAMOS, NM 87545
UNITED STATES US

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CAD: 0745193/CAFE3407

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TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 656-8171
REF: 8A030AWE6L11570000

FedEx Express

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BIKINI ATOLL RD BLDG SM 30
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 56.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 656-8171
REF: 8A030AWE6L11570000

56DC5/BAB9/05A2

FedEx Express

J201019110601uv

1 of 2
TRK# 9072 4837 3621
0201
MASTER

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO RBWA

29407
SC-US CHS

Nina Gampe

From: Marczak, Stanislaw <stas@lanl.gov>
Sent: Tuesday, November 17, 2020 10:19 AM
To: Nina Gampe
Cc: Sherwood, Sherri R; Team Davis
Subject: RE: LANL Sample shipment 2021-130

Follow Up Flag: Follow up
Flag Status: Flagged

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Yes, please add preservation and note discrepancy in the case narrative.

Thank, Nina

Stas

From: Nina Gampe <Nina.Gampe@gel.com>
Sent: Tuesday, November 17, 2020 8:08 AM
To: Marczak, Stanislaw <stas@lanl.gov>
Cc: Sherwood, Sherri R <sherwoods@lanl.gov>; Team Davis <Team.Davis@gel.com>
Subject: [EXTERNAL] RE: LANL Sample shipment 2021-130

Good morning,

The metals container for SMEB03-20-209978, SMEB04-20-209981, and SMEB04-20-209997 were received with a pH>2. Please advise if you would like us to add preservation.

Thank you,
Nina Gampe
Project Manager Assistant

GEL Laboratories LLC

2040 Savage Road, Charleston, SC 29407 | PO Box 30712, Charleston, SC 29417
Office Direct: 843.556.8171 ext.4778 | Office Main: 843.556.8171 | Fax: 843.766.1178
E-Mail: nina.gampe@gel.com | Website: www.gel.com
Analytical Testing

From: Sherwood, Sherri R <sherwoods@lanl.gov>
Sent: Friday, November 13, 2020 4:23 PM
To: Valerie Davis <Valerie.Davis@gel.com>; Team Davis <Team.Davis@gel.com>
Cc: Marczak, Stanislaw <stas@lanl.gov>
Subject: LANL Sample shipment

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Well…….. I think you'll receive 9 coolers tomorrow. Fingers crossed. ;-)

Hope everyone has a great weekend.

From: EPCEScopier@lanl.gov <EPCEScopier@lanl.gov>
Sent: Friday, November 13, 2020 1:50 PM
To: Sherwood, Sherri R <sherwoods@lanl.gov>
Subject: Attached Image

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Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

P Organics-The concentrations between the primary and confirmation columns/detectors is >40% difference. For HPLC, the difference is >70%.

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Volatile Analysis

Case Narrative

GC/MS Volatile
Technical Case Narrative
ARS International, LLC
SDG #: 2021-130
Work Order #: 527510

Product: **Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer**
Analytical Method: SW-846:8260B
Analytical Procedure: GL-OA-E-038 REV# 28
Analytical Batch: 2063772

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527510003	SMEB03-20-209979
527510005	SMEB03-20-209990
527510009	SMEB04-20-209982
527510011	SMEB04-20-209991
527510015	SMEB05-20-209985
527510017	SMEB05-20-209992
1204696631	Method Blank (MB)
1204696632	Laboratory Control Sample (LCS)
1204696633	527510011(SMEB04-20-209991) Post Spike (PS)
1204696634	527510011(SMEB04-20-209991) Post Spike Duplicate (PSD)
1204699777	Method Blank (MB)
1204699778	Method Blank (MB)
1204699779	Laboratory Control Sample (LCS)
1204699780	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Preservation and Integrity
Preservation for samples 527510003 (SMEB03-20-209979), 527510009 (SMEB04-20-209982) and 527510015 (SMEB05-20-209985) were indicated on the vials, however the sample pH values were above 2. The samples were analyzed within 7 days from collection.

Miscellaneous Information

TIC Comment
Tentatively identified compounds (TIC) may be requested for samples in this delivery group/work order. Please note that non-requested calibrated analytes detected in a client sample may be reported on the Form 1/Certificate of Analysis as TICs. TIC data, if requested, were included on the Sample Data Summary (Form 1) and included with the sample raw data.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the

requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-130 GEL Work Order: 527510

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Erin Haubert **Name: Erin Haubert**

Date: 20 NOV 2020 **Title: Data Validator**

Sample Data Summary

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209979**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 20:08**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 20:08**				
Data File:	**111720V6\6J226.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	59.9	50.0	ug/L	120	(71%-134%)
Bromofluorobenzene	50.3	50.0	ug/L	101	(70%-131%)
Toluene-d8	51.1	50.0	ug/L	102	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.608	90.6	ug/L		J

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510005**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209990**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 20:34**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 20:34**				
Data File:	**111720V6\6J227.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	52.9	50.0	ug/L	106	(71%-134%)
Bromofluorobenzene	49.9	50.0	ug/L	100	(70%-131%)
Toluene-d8	52.4	50.0	ug/L	105	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510009**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209982**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 15:01**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/18/2020 15:01**				
Data File:	**111820V6\6J312.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	57.8	50.0	ug/L	116	(71%-134%)
Bromofluorobenzene	52.4	50.0	ug/L	105	(70%-131%)
Toluene-d8	50.5	50.0	ug/L	101	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.656	70.7	ug/L		J
000075-18-3	Dimethyl sulfide	6.307	40.9	ug/L	95	NJ

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510011**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209991**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA9.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 16:42**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/19/2020 16:42**				
Data File:	**111920V9\9S408.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	49.7	50.0	ug/L	99	(71%-134%)
Bromofluorobenzene	46.8	50.0	ug/L	94	(70%-131%)
Toluene-d8	49.9	50.0	ug/L	100	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 14:40**	**Matrix:**	**W**
Lab Sample ID:	**527510015**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB05-20-209985**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 15:53**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/18/2020 15:53**				
Data File:	**111820V6\6J314.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	54.0	50.0	ug/L	108	(71%-134%)
Bromofluorobenzene	52.6	50.0	ug/L	105	(70%-131%)
Toluene-d8	52.3	50.0	ug/L	105	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.664	78.5	ug/L		J

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 14:40**	**Matrix:**	**W**
Lab Sample ID:	**527510017**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB05-20-209992**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 16:18**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/18/2020 16:18**				
Data File:	**111820V6\6J315.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	52.0	50.0	ug/L	104	(71%-134%)
Bromofluorobenzene	52.3	50.0	ug/L	105	(70%-131%)
Toluene-d8	51.2	50.0	ug/L	102	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.551	6.7	ug/L		J

Quality Control Summary

Volatile

Surrogate Recovery Report

SDG Number: 2021-130

Matrix Type: LIQUID

Sample ID	Client ID	DCED4 %REC	TOL %REC	BFB %REC
1204696632	LCS for batch 2063772	102	100	103
1204696631	MB for batch 2063772	102	102	106
527510003	SMEB03-20-209979	120	102	101
527510005	SMEB03-20-209990	106	105	100
1204699779	LCS for batch 2063772	102	99	102
1204699777	MB for batch 2063772	103	102	101
527510009	SMEB04-20-209982	116	101	105
527510015	SMEB05-20-209985	108	105	105
527510017	SMEB05-20-209992	104	102	105
1204699780	LCS for batch 2063772	97	99	89
1204699778	MB for batch 2063772	99	96	93
527510011	SMEB04-20-209991	99	100	94
1204696633	SMEB04-20-209991PS	96	99	89
1204696634	SMEB04-20-209991PSD	98	98	91

Surrogate	Parmname	Acceptance Limits
DCED4	= 1,2-Dichloroethane-d4	(71%-134%)
TOL	= Toluene-d8	(74%-124%)
BFB	= Bromofluorobenzene	(70%-131%)

* Recovery outside Acceptance Limits

\# Column to be used to flag recovery values

D Sample Diluted

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-130 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 2063772 **Matrix:** WATER

Lab Sample ID 1204696632

Instrument: VOA6.I **Analysis Date:** 11/17/2020 10:18 **Dilution:** 1

Analyst: WD1

Purge Vol: 5 mL **Batch ID:** 2063772

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
1330-20-7	LCS	Xylenes (total)	150	0.0	146	97	66-128
75-01-4	LCS	Vinyl chloride	50.0	0.0	41.7	83	68-135
75-35-4	LCS	1,1-Dichloroethylene	50.0	0.0	51.1	102	73-131
75-09-2	LCS	Methylene chloride	50.0	0.0	47.6	95	68-123
75-34-3	LCS	1,1-Dichloroethane	50.0	0.0	52.1	104	76-123
67-66-3	LCS	Chloroform	50.0	0.0	47.5	95	76-126
71-55-6	LCS	1,1,1-Trichloroethane	50.0	0.0	50.2	100	72-140
56-23-5	LCS	Carbon tetrachloride	50.0	0.0	50.9	102	74-145
107-06-2	LCS	1,2-Dichloroethane	50.0	0.0	46.8	94	72-127
71-43-2	LCS	Benzene	50.0	0.0	47.1	94	73-120
79-01-6	LCS	Trichloroethylene	50.0	0.0	47.3	95	74-125
74-95-3	LCS	Dibromomethane	50.0	0.0	47.4	95	75-123
108-88-3	LCS	Toluene	50.0	0.0	48.9	98	74-120
79-00-5	LCS	1,1,2-Trichloroethane	50.0	0.0	49.0	98	74-120
127-18-4	LCS	Tetrachloroethylene	50.0	0.0	47.3	95	72-124
100-41-4	LCS	Ethylbenzene	50.0	0.0	49.2	98	76-123
79-34-5	LCS	1,1,2,2-Tetrachloroethane	50.0	0.0	52.8	106	69-126

Quality Control Summary
Spike Recovery Report

SDG Number: **2021-130** **Sample Type:** **Post Spike**

Client ID: **SMEB04-20-209991PS** **Matrix:** **W**

Lab Sample ID **1204696633**

Instrument: **VOA9.I** **Analysis Date:** **11/19/2020 17:08** **Dilution:** **1**

Analyst: **WD1**

Purge Vol: **5 mL** **Batch ID:** **2063772**

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits
1330-20-7	PS	Xylenes (total)	150	0.000	U	147	98	48-137
75-01-4	PS	Vinyl chloride	50.0	0.000	U	39.2	78	58-134
75-35-4	PS	1,1-Dichloroethylene	50.0	0.000	U	40.5	81	62-134
75-09-2	PS	Methylene chloride	50.0	0.000	U	47.6	95	62-129
75-34-3	PS	1,1-Dichloroethane	50.0	0.000	U	46.1	92	67-129
67-66-3	PS	Chloroform	50.0	0.000	U	48.3	97	66-133
71-55-6	PS	1,1,1-Trichloroethane	50.0	0.000	U	48.6	97	66-138
56-23-5	PS	Carbon tetrachloride	50.0	0.000	U	50.6	101	63-146
107-06-2	PS	1,2-Dichloroethane	50.0	0.000	U	42.9	86	69-132
71-43-2	PS	Benzene	50.0	0.000	U	45.0	90	63-124
79-01-6	PS	Trichloroethylene	50.0	0.000	U	46.2	92	66-128
74-95-3	PS	Dibromomethane	50.0	0.000	U	53.3	107	70-129
108-88-3	PS	Toluene	50.0	0.000	U	44.3	89	60-122
79-00-5	PS	1,1,2-Trichloroethane	50.0	0.000	U	48.3	97	68-126
127-18-4	PS	Tetrachloroethylene	50.0	0.000	U	52.0	104	57-132
100-41-4	PS	Ethylbenzene	50.0	0.000	U	45.1	90	57-126
79-34-5	PS	1,1,2,2-Tetrachloroethane	50.0	0.000	U	45.6	91	52-142

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-130 **Sample Type:** Post Spike Duplicate

Client ID: SMEB04-20-209991PSD **Matrix:** W

Lab Sample ID 1204696634

Instrument: VOA9.I **Analysis Date:** 11/19/2020 17:33 **Dilution:** 1

Analyst: WD1

Purge Vol: 5 mL **Batch ID:** 2063772

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1330-20-7	PSD	Xylenes (total)	150	0.000	U	138	92	48-137	6	0-20
75-01-4	PSD	Vinyl chloride	50.0	0.000	U	37.7	75	58-134	4	0-20
75-35-4	PSD	1,1-Dichloroethylene	50.0	0.000	U	38.4	77	62-134	5	0-20
75-09-2	PSD	Methylene chloride	50.0	0.000	U	45.4	91	62-129	5	0-20
75-34-3	PSD	1,1-Dichloroethane	50.0	0.000	U	44.2	88	67-129	4	0-20
67-66-3	PSD	Chloroform	50.0	0.000	U	46.6	93	66-133	4	0-20
71-55-6	PSD	1,1,1-Trichloroethane	50.0	0.000	U	46.2	92	66-138	5	0-20
56-23-5	PSD	Carbon tetrachloride	50.0	0.000	U	48.2	96	63-146	5	0-20
107-06-2	PSD	1,2-Dichloroethane	50.0	0.000	U	41.3	83	69-132	4	0-20
71-43-2	PSD	Benzene	50.0	0.000	U	43.1	86	63-124	4	0-20
79-01-6	PSD	Trichloroethylene	50.0	0.000	U	44.8	90	66-128	3	0-20
74-95-3	PSD	Dibromomethane	50.0	0.000	U	51.0	102	70-129	4	0-20
108-88-3	PSD	Toluene	50.0	0.000	U	42.2	84	60-122	5	0-20
79-00-5	PSD	1,1,2-Trichloroethane	50.0	0.000	U	45.7	91	68-126	6	0-20
127-18-4	PSD	Tetrachloroethylene	50.0	0.000	U	48.3	97	57-132	7	0-20
100-41-4	PSD	Ethylbenzene	50.0	0.000	U	42.6	85	57-126	6	0-20
79-34-5	PSD	1,1,2,2-Tetrachloroethane	50.0	0.000	U	44.3	89	52-142	3	0-20

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-130 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 2063772 **Matrix:** WATER

Lab Sample ID 1204699779

Instrument: VOA6.I **Analysis Date:** 11/18/2020 11:11 **Dilution:** 1

Analyst: WD1

Purge Vol: 5 mL **Batch ID:** 2063772

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
1330-20-7	LCS	Xylenes (total)	150	0.0	133	88	66-128
75-01-4	LCS	Vinyl chloride	50.0	0.0	35.9	72	68-135
75-35-4	LCS	1,1-Dichloroethylene	50.0	0.0	45.9	92	73-131
75-09-2	LCS	Methylene chloride	50.0	0.0	43.4	87	68-123
75-34-3	LCS	1,1-Dichloroethane	50.0	0.0	48.4	97	76-123
67-66-3	LCS	Chloroform	50.0	0.0	44.1	88	76-126
71-55-6	LCS	1,1,1-Trichloroethane	50.0	0.0	45.9	92	72-140
56-23-5	LCS	Carbon tetrachloride	50.0	0.0	47.8	96	74-145
107-06-2	LCS	1,2-Dichloroethane	50.0	0.0	43.8	88	72-127
71-43-2	LCS	Benzene	50.0	0.0	43.8	88	73-120
79-01-6	LCS	Trichloroethylene	50.0	0.0	43.9	88	74-125
74-95-3	LCS	Dibromomethane	50.0	0.0	44.6	89	75-123
108-88-3	LCS	Toluene	50.0	0.0	44.7	89	74-120
79-00-5	LCS	1,1,2-Trichloroethane	50.0	0.0	45.8	92	74-120
127-18-4	LCS	Tetrachloroethylene	50.0	0.0	42.2	84	72-124
100-41-4	LCS	Ethylbenzene	50.0	0.0	45.5	91	76-123
79-34-5	LCS	1,1,2,2-Tetrachloroethane	50.0	0.0	48.6	97	69-126

Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-130 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 2063772 **Matrix:** WATER

Lab Sample ID 1204699780

Instrument: VOA9.I **Analysis Date:** 11/19/2020 14:33 **Dilution:** 1

Analyst: WD1

Purge Vol: 5 mL **Batch ID:** 2063772

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
1330-20-7	LCS	Xylenes (total)	150	0.0	145	97	66-128
75-01-4	LCS	Vinyl chloride	50.0	0.0	36.0	72	68-135
75-35-4	LCS	1,1-Dichloroethylene	50.0	0.0	40.2	80	73-131
75-09-2	LCS	Methylene chloride	50.0	0.0	47.0	94	68-123
75-34-3	LCS	1,1-Dichloroethane	50.0	0.0	46.2	92	76-123
67-66-3	LCS	Chloroform	50.0	0.0	49.0	98	76-126
71-55-6	LCS	1,1,1-Trichloroethane	50.0	0.0	48.5	97	72-140
56-23-5	LCS	Carbon tetrachloride	50.0	0.0	50.9	102	74-145
107-06-2	LCS	1,2-Dichloroethane	50.0	0.0	43.6	87	72-127
71-43-2	LCS	Benzene	50.0	0.0	45.7	91	73-120
79-01-6	LCS	Trichloroethylene	50.0	0.0	46.9	94	74-125
74-95-3	LCS	Dibromomethane	50.0	0.0	53.6	107	75-123
108-88-3	LCS	Toluene	50.0	0.0	44.7	89	74-120
79-00-5	LCS	1,1,2-Trichloroethane	50.0	0.0	48.8	98	74-120
127-18-4	LCS	Tetrachloroethylene	50.0	0.0	52.2	104	72-124
100-41-4	LCS	Ethylbenzene	50.0	0.0	44.9	90	76-123
79-34-5	LCS	1,1,2,2-Tetrachloroethane	50.0	0.0	45.1	90	69-126

Method Blank Summary

SDG Number:	**2021-130**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2063772**	**Instrument ID:**	**VOA6.I**	**Data File:**	**111720V6\6J206A.D**
Lab Sample ID:	**1204696631**	**Prep Date:**	**11/17/2020 11:35**	**Analyzed:**	**11/17/20 11:35**
Column:	**DB-624**				

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 2063772	1204696632	111720V6\6J203A.D	11/17/20	1018
02	SMEB03-20-209979	527510003	111720V6\6J226.D	11/17/20	2008
03	SMEB03-20-209990	527510005	111720V6\6J227.D	11/17/20	2034

Method Blank Summary

SDG Number:	**2021-130**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2063772**	**Instrument ID:**	**VOA6.I**	**Data File:**	**111820V6\6J306A.D**
Lab Sample ID:	**1204699777**	**Prep Date:**	**11/18/2020 12:28**	**Analyzed:**	**11/18/20 12:28**
Column:	**DB-624**				

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
05	LCS for batch 2063772	1204699779	111820V6\6J303A.D	11/18/20	1111
06	SMEB04-20-209982	527510009	111820V6\6J312.D	11/18/20	1501
07	SMEB05-20-209985	527510015	111820V6\6J314.D	11/18/20	1553
08	SMEB05-20-209992	527510017	111820V6\6J315.D	11/18/20	1618

Method Blank Summary

SDG Number:	**2021-130**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2063772**	**Instrument ID:**	**VOA9.I**	**Data File:**	**111920V9\9S406A.D**
Lab Sample ID:	**1204699778**	**Prep Date:**	**11/19/2020 15:50**	**Analyzed:**	**11/19/20 15:50**
Column:	**DB-624**				

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
10	LCS for batch 2063772	1204699780	111920V9\9S403A.D	11/19/20	1433
11	SMEB04-20-209991	527510011	111920V9\9S408.D	11/19/20	1642
12	SMEB04-20-209991PS	1204696633	111920V9\9S409.D	11/19/20	1708
13	SMEB04-20-209991PSD	1204696634	111920V9\9S410.D	11/19/20	1733

Instrument Performance Check

BROMOFLUOROBENZENE

Lab Name GEL Laboratories LLC **Client SDG:** 2021-130

Instrument ID: VOA6.I **Injection Date/Time:** 20-OCT-20 13:12

Column Description: DB-624 **Lab File ID** 102020V6\6F201.D

m/e	Ion Abundance Criteria	% Relative Abundance
50	15.0 - 40.0% of mass 95	25.5
75	30.0 - 60.0% of mass 95	51.6
95	Base Peak, 100% Relative Abundance	100
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.3
174	50.0 - 100.0% of mass 95	82.4
175	5.0 -9.0% of mass 174	6.5
176	95.0 - 101.0% of mass 174	99.1
177	5.0 - 9.0% of mass 176	6.6

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
ICALMIX[A]	W6VM201020-01	102020V6\6F202.D	20-OCT-20 13:37
ICALMIX[A]	W6VM201020-02	102020V6\6F203.D	20-OCT-20 14:03
ICALMIX[A]	W6VM201020-03	102020V6\6F204.D	20-OCT-20 14:28
ICALMIX[A]	W6VM201020-04	102020V6\6F205.D	20-OCT-20 14:54
ICALMIX[A]	W6VM201020-05	102020V6\6F206.D	20-OCT-20 15:20
ICALMIX[A]	W6VM201020-06	102020V6\6F207.D	20-OCT-20 15:46
ICALMIX[A]	W6VM201020-07	102020V6\6F208.D	20-OCT-20 16:11
ICALMIX[A]	W6VM201020-08	102020V6\6F209.D	20-OCT-20 16:37
ICALMIX[A]	W6VM201020-09	102020V6\6F210.D	20-OCT-20 17:02
ICVMIX[A]01	W6VM201020-10	102020V6\6F212.D	20-OCT-20 17:53

Instrument Performance Check

BROMOFLUOROBENZENE

Lab Name GEL Laboratories LLC **Client SDG:** 2021-130

Instrument ID: VOA6.I **Injection Date/Time:** 17-NOV-20 09:27

Column Description: DB-624 **Lab File ID** 111720V6\6J201.D

m/e	Ion Abundance Criteria	% Relative Abundance
50	15.0 - 40.0% of mass 95	30.1
75	30.0 - 60.0% of mass 95	50.4
95	Base Peak, 100% Relative Abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.3
174	50.0 - 100.0% of mass 95	73.3
175	5.0 -9.0% of mass 174	7
176	95.0 - 101.0% of mass 174	98.1
177	5.0 - 9.0% of mass 176	6.7

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
CCVMIX[A]01	W6VM201117-02	111720V6\6J203.D	17-NOV-20 10:18
BLK01LCS	1204696632	111720V6\6J203A.D	17-NOV-20 10:18
BLK01	1204696631	111720V6\6J206A.D	17-NOV-20 11:35
SMEB03-20-209979	527510003	111720V6\6J226.D	17-NOV-20 20:08
SMEB03-20-209990	527510005	111720V6\6J227.D	17-NOV-20 20:34

Instrument Performance Check

BROMOFLUOROBENZENE

Lab Name GEL Laboratories LLC **Client SDG:** 2021-130

Instrument ID: VOA6.I **Injection Date/Time:** 18-NOV-20 10:19

Column Description: DB-624 **Lab File ID** 111820V6\6J301.D

m/e	Ion Abundance Criteria	% Relative Abundance
50	15.0 - 40.0% of mass 95	32.5
75	30.0 - 60.0% of mass 95	53
95	Base Peak, 100% Relative Abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0
174	50.0 - 100.0% of mass 95	77.8
175	5.0 -9.0% of mass 174	7.2
176	95.0 - 101.0% of mass 174	95.3
177	5.0 - 9.0% of mass 176	7.3

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
CCVMIX[A]02	W6VM201118-01	111820V6\6J302.D	18-NOV-20 10:45
BLK02LCS	1204699779	111820V6\6J303A.D	18-NOV-20 11:11
BLK02	1204699777	111820V6\6J306A.D	18-NOV-20 12:28
SMEB04-20-209982	527510009	111820V6\6J312.D	18-NOV-20 15:01
SMEB05-20-209985	527510015	111820V6\6J314.D	18-NOV-20 15:53
SMEB05-20-209992	527510017	111820V6\6J315.D	18-NOV-20 16:18

Instrument Performance Check

BROMOFLUOROBENZENE

Lab Name GEL Laboratories LLC **Client SDG:** 2021-130

Instrument ID: VOA9.I **Injection Date/Time:** 09-SEP-20 19:34

Column Description: DB-624 **Lab File ID** 090920V9\9I301.D

m/e	Ion Abundance Criteria	% Relative Abundance
50	15.0 - 40.0% of mass 95	20.4
75	30.0 - 60.0% of mass 95	48.1
95	Base Peak, 100% Relative Abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0
174	50.0 - 100.0% of mass 95	91.8
175	5.0 -9.0% of mass 174	7.1
176	95.0 - 101.0% of mass 174	96
177	5.0 - 9.0% of mass 176	6.5

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
ICALMIX[A]	W9VM200909-01	090920V9\9I302.D	09-SEP-20 20:00
ICALMIX[A]	W9VM200909-02	090920V9\9I303.D	09-SEP-20 20:26
ICALMIX[A]	W9VM200909-03	090920V9\9I304.D	09-SEP-20 20:53
ICALMIX[A]	W9VM200909-04	090920V9\9I305.D	09-SEP-20 21:20
ICALMIX[A]	W9VM200909-05	090920V9\9I306.D	09-SEP-20 21:47
ICALMIX[A]	W9VM200909-06	090920V9\9I307.D	09-SEP-20 22:14
ICALMIX[A]	W9VM200909-07	090920V9\9I308.D	09-SEP-20 22:41
ICALMIX[A]	W9VM200909-08	090920V9\9I309.D	09-SEP-20 23:07
ICALMIX[A]	W9VM200909-09	090920V9\9I310.D	09-SEP-20 23:34
ICVMIX[A]01	W9VM200909-10	090920V9\9I312.D	10-SEP-20 00:27

Instrument Performance Check

BROMOFLUOROBENZENE

Lab Name GEL Laboratories LLC **Client SDG:** 2021-130

Instrument ID: VOA9.I **Injection Date/Time:** 19-NOV-20 13:43

Column Description: DB-624 **Lab File ID** 111920V9\9S401.D

m/e	Ion Abundance Criteria	% Relative Abundance
50	15.0 - 40.0% of mass 95	18.3
75	30.0 - 60.0% of mass 95	46.7
95	Base Peak, 100% Relative Abundance	100
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.3
174	50.0 - 100.0% of mass 95	99.5
175	5.0 -9.0% of mass 174	6.9
176	95.0 - 101.0% of mass 174	97.7
177	5.0 - 9.0% of mass 176	6.4

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
CCVMIX[A]01	W9VM201119-01	111920V9\9S402.D	19-NOV-20 14:07
BLK03LCS	1204699780	111920V9\9S403A.D	19-NOV-20 14:33
BLK03	1204699778	111920V9\9S406A.D	19-NOV-20 15:50
SMEB04-20-209991	527510011	111920V9\9S408.D	19-NOV-20 16:42
SMEB04-20-209991MS	1204696633	111920V9\9S409.D	19-NOV-20 17:08
SMEB04-20-209991MSD	1204696634	111920V9\9S410.D	19-NOV-20 17:33

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 2021-130

Instrument: VOA6.I

STD Analysis Time: 17-NOV-20 10:18

GC Column: DB-624

Data File: 111720V6\6J203.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Area #	RT #	Area #	RT #	Area #	RT #
12 Hour STD	1849348	9.44	1379680	12.6	765395	15.1
Upper Limit	3698696	9.94	2759360	13.1	1530790	15.6
Lower Limit	924674	8.94	689840	12.1	382698	14.6
Sample ID						
BLK01LCS	1849348	9.44	1379680	12.6	765395	15.1
BLK01	2005499	9.44	1433569	12.6	768461	15.1
SMEB03-20-209979	1451624	9.44	1038183	12.6	586241	15.1
SMEB03-20-209990	1504872	9.44	1060454	12.6	576532	15.1

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT
RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Value outside of QC Limits

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 2021-130

Instrument: VOA6.I

STD Analysis Time: 18-NOV-20 10:45

GC Column: DB-624

Data File: 111820V6\6J302.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Area #	RT #	Area #	RT #	Area #	RT #
12 Hour STD	1672026	9.44	1267980	12.6	706948	15.1
Upper Limit	3344052	9.94	2535960	13.1	1413896	15.6
Lower Limit	836013	8.94	633990	12.1	353474	14.6
Sample ID						
BLK02LCS	1879663	9.43	1431892	12.6	791742	15.1
BLK02	1759046	9.44	1257452	12.6	710334	15.1
SMEB04-20-209982	1797216	9.44	1283574	12.6	698056	15.1
SMEB05-20-209985	1826195	9.44	1296570	12.6	710754	15.1
SMEB05-20-209992	1802277	9.43	1292398	12.6	693627	15.1

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT
RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Value outside of QC Limits

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 2021-130

Instrument: VOA9.I

STD Analysis Time: 19-NOV-20 14:07

GC Column: DB-624

Data File: 111920V9\9S402.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Area #	RT #	Area #	RT #	Area #	RT #
12 Hour STD	1444383	9.96	1275869	13.1	865998	15.5
Upper Limit	2888766	10.5	2551738	13.6	1731996	16.0
Lower Limit	722192	9.46	637935	12.6	432999	15.0
Sample ID						
BLK03LCS	1457913	9.97	1262810	13.1	847529	15.5
BLK03	1373130	9.97	1195212	13.1	747344	15.5
SMEB04-20-209991	1399905	9.96	1203117	13.1	738717	15.5
SMEB04-20-209991MS	1370868	9.97	1193147	13.1	786343	15.5
SMEB04-20-209991MSD	1423623	9.97	1258951	13.1	836989	15.5

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT
RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Value outside of QC Limits

Sample Data

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209979**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 20:08**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 20:08**				
Data File:	**111720V6\6J226.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	59.9	50.0	ug/L	120	(71%-134%)
Bromofluorobenzene	50.3	50.0	ug/L	101	(70%-131%)
Toluene-d8	51.1	50.0	ug/L	102	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.608	90.6	ug/L		J

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J226.D
Acq On : 17 Nov 2020 20:08
Operator : WD1
InstName : VOA6
Sample : |527510003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 26 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 18 09:26:01 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	1451624	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.634	12.635	1.000	1038183	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	586241	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1451624	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.634	12.641	1.000	1038183	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	586241	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	613519	59.92	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1448467	51.09	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	564573	50.30	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	120%
45) Toluene-d8	50.000	74 - 124	102%
63) Bromofluorobenzene	50.000	70 - 131	101%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane	50	4.322	4.338	0.458	3405	N.D.		
4) Vinyl chloride		0.000	4.522	0.000	0	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.191	6.179	0.656	21608	9.15	ug/L	99
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0m	N.D.	d	
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.538	6.526	0.693	1503	N.D.		
13) Methyl acetate	43	6.538	6.563	0.693	365	N.D.		
14) Carbon disulfide	76	6.526	6.538	0.691	2965	N.D.		
15) Methylene chloride	84	6.739	6.739	0.714	4625	Below Cal	#	74
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.367	7.355	0.780	2030	N.D.		
19) Vinyl acetate	43	7.550	7.532	0.800	129	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.178	8.160	0.866	8797	2.46	ug/L	85
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform		0.000	8.514	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane		0.000	8.867	0.000	0	N.D.		
28) 1,1-Dichloropropene		0.000	8.940	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.159	9.172	0.970	132	N.D.		
32) Benzene	78	9.202	9.178	0.975	170	N.D.		
33) Cyclohexene		0.000	9.288	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene	95	9.830	9.830	1.041	136	N.D.		
36) 2-Pentanone	43	9.940	9.928	1.053	1803	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J226.D
Acq On : 17 Nov 2020 20:08
Operator : WD1
InstName : VOA6
Sample : |527510003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 18 09:26:01 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
39) Dibromomethane		0.000	10.214	0.000	0	N.D.		
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.		
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.		
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.		
44) 4-Methyl-2-pentanone	58	10.903	10.891	0.863	397	N.D.		
46) Toluene	91	11.165	11.172	0.884	821	N.D.		
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.		
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.		
49) 2-Hexanone	43	11.769	11.751	0.931	724	N.D.		
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.		
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.		
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.		
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	127	N.D.		
54) Chlorobenzene		0.000	12.671	0.000	0	N.D.		
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.		
56) Ethylbenzene		0.000	12.738	0.000	0	N.D.		
57) m,p-Xylenes		0.000	12.848	0.000	0	N.D.		
58) o-Xylene	91	13.287	13.287	1.052	107	N.D.		
59) Styrene		0.000	13.293	0.000	0	N.D.		
61) Bromoform		0.000	13.543	0.000	0	N.D.		
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.		
64) 1,1,2,2-Tetrachloroethane	83	13.842	13.933	0.919	432	N.D.		
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.		
66) Bromobenzene		0.000	14.049	0.000	0	N.D.		
67) n-Propylbenzene		0.000	14.079	0.000	0	N.D.		
68) 1,3,5-Trimethylbenzene		0.000	14.238	0.000	0	N.D.		
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.		
70) 4-Chlorotoluene		0.000	14.323	0.000	0	N.D.		
71) tert-Butylbenzene		0.000	14.604	0.000	0	N.D.		
72) 1,2,4-Trimethylbenzene	105	14.652	14.646	0.972	283	N.D.		
73) sec-Butylbenzene		0.000	14.829	0.000	0	N.D.		
74) 4-Isopropyltoluene	119	14.945	14.957	0.992	238	N.D.		
75) 1,3-Dichlorobenzene	146	15.000	15.006	0.996	131	N.D.		
76) 1,4-Dichlorobenzene	146	15.103	15.091	1.002	136	N.D.		
77) n-Butylbenzene		0.000	15.384	0.000	0	N.D.		
78) 1,2-Dichlorobenzene	146	15.506	15.500	1.029	221	N.D.		
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.		
80) 1,2,4-Trichlorobenzene	180	17.286	17.292	1.147	129	N.D.		
81) Hexachlorobutadiene		0.000	17.457	0.000	0	N.D.		
82) Naphthalene	128	17.652	17.646	1.172	1364	N.D.		
83) 1,2,3-Trichlorobenzene	180	17.950	17.957	1.191	193	N.D.		
85) Acrolein	56	6.020	6.008	0.638	220	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol	45	6.276	6.270	0.665	133487	216.85	ug/L	95
88) Allyl chloride	41	6.605	6.593	0.700	317	N.D.		
89) tert-Butyl Alcohol	59	6.751	6.758	0.715	1660	N.D.		
90) Acrylonitrile		0.000	7.001	0.000	0	N.D.		
91) Isopropyl ether	45	7.556	7.544	0.800	118	N.D.		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.		
93) Ethyl tert-butyl ether	59	7.861	7.952	0.833	1368	N.D.		
94) Ethyl acetate	43	8.178	8.172	0.866	8797	N.D.		
95) Propionitrile		0.000	8.233	0.000	0	N.D.		
96) Methacrylonitrile	41	8.532	8.410	0.904	524	N.D.		
97) Tetrahydrofuran	42	8.525	8.519	0.903	962	N.D.		
98) Isobutyl alcohol	41	8.794	8.867	0.932	147	N.D.		

Quantitation Report
GEL Laboratories, LLC

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Misc : ARSL 5ML PH7
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 18 09:26:01 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99) Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.	
100) Methyl methacrylate		0.000	10.068	0.000	0	N.D.	
101) 1,4-Dioxane		0.000	10.172	0.000	0m	N.D.	d
102) 2-Nitropropane		0.000	10.550	0.000	0m	N.D.	d
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...	45	15.683	15.603	1.041	3356	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J226.D
Acq On : 17 Nov 2020 20:08
Operator : WD1
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Sample : |527510003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
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Quant Time: Nov 18 09:26:01 2020
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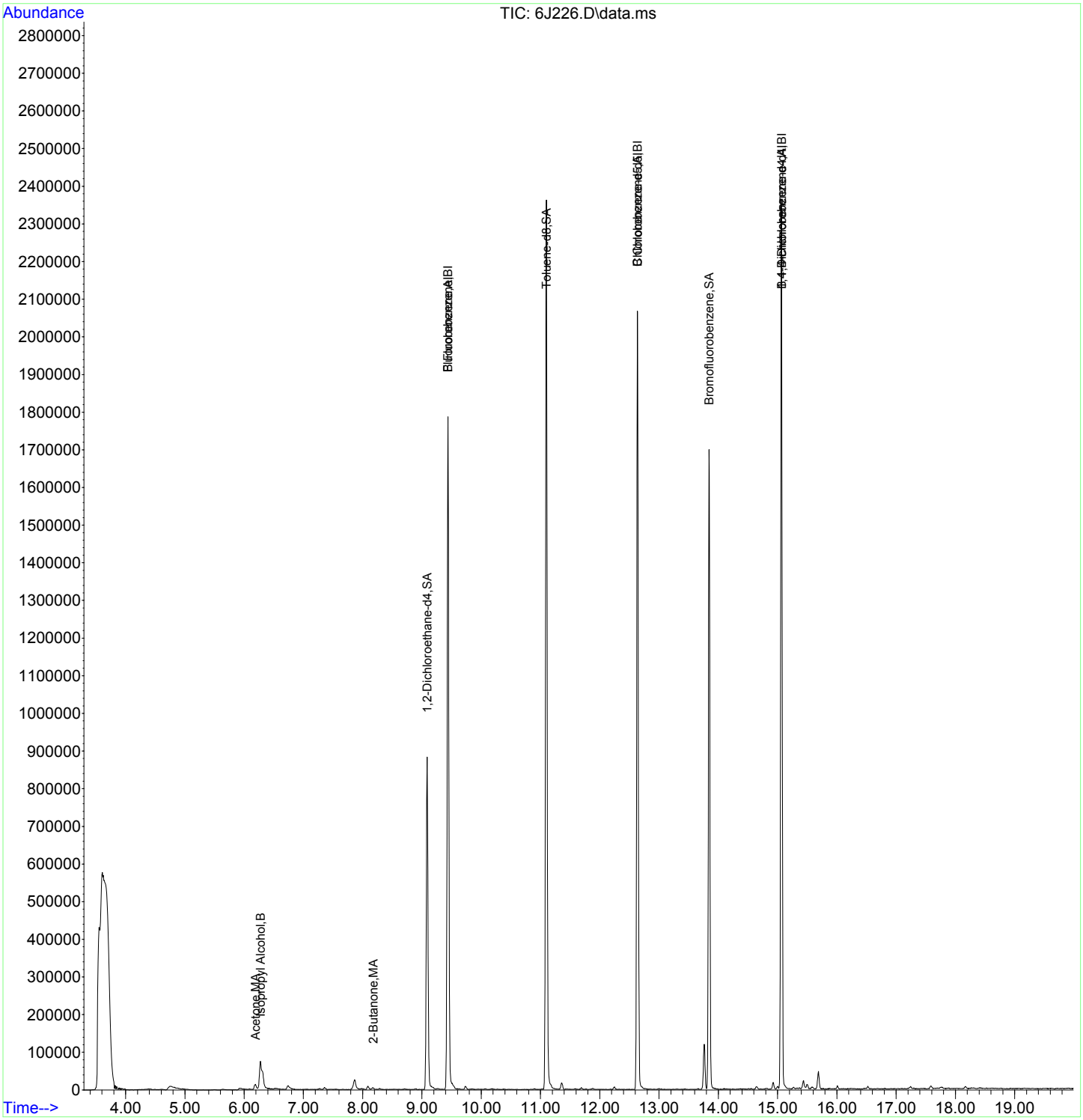
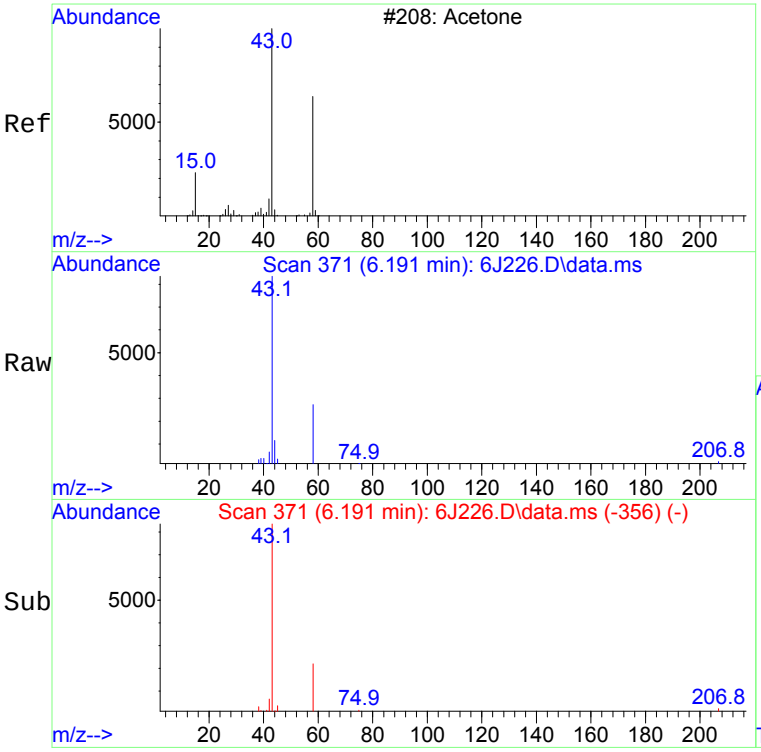
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

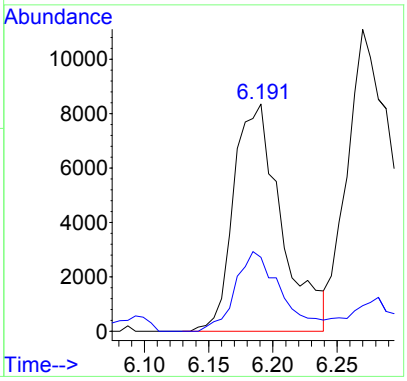


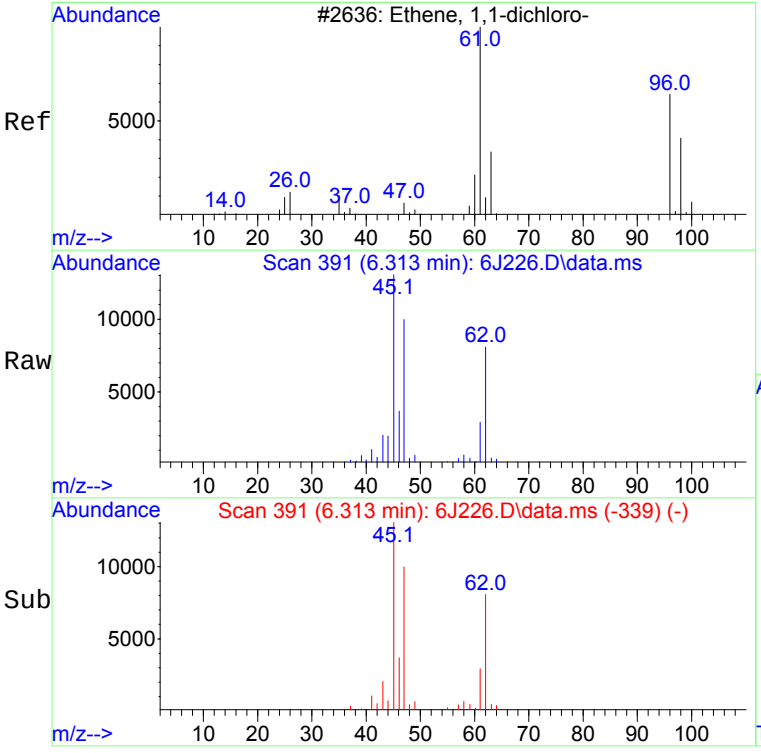


#9
Acetone
Concen: 9.15 ug/L
RT: 6.191 min Scan# 371
Delta R.T. 0.012 min
Lab File: 6J226.D
Acq: 17 Nov 2020 20:08

Tgt Ion: 43 Resp: 21608

Ion	Ratio	Lower	Upper
43	100		
58	36.0	5.4	65.4

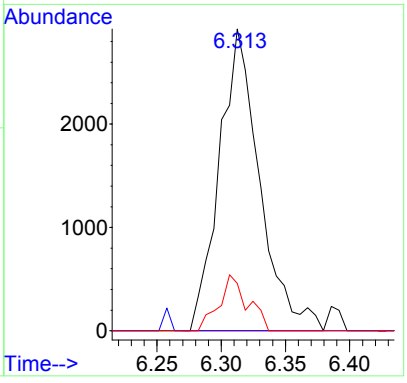


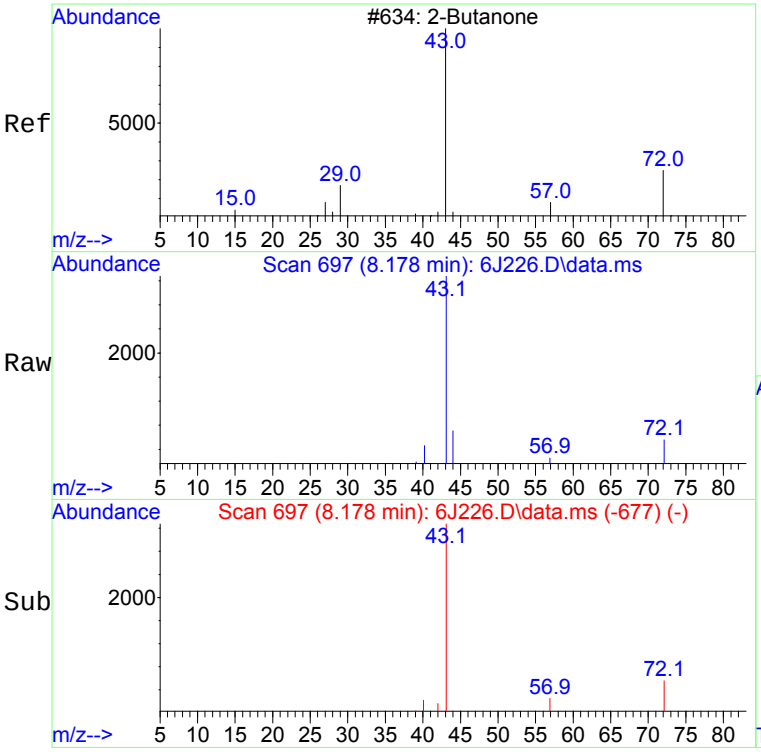


#10 BEFORE analyst DELETION
1,1-Dichloroethylene
Concen: 0.42 ug/L
RT: 6.313 min Scan# 391
Delta R.T. 0.139 min
Lab File: 6J226.D
Acq: 17 Nov 2020 20:08

Tgt Ion: 61 Resp: 6376

Ion	Ratio	Lower	Upper
61	100		
96	0.0	14.7	74.7#
63	13.0	1.1	61.1

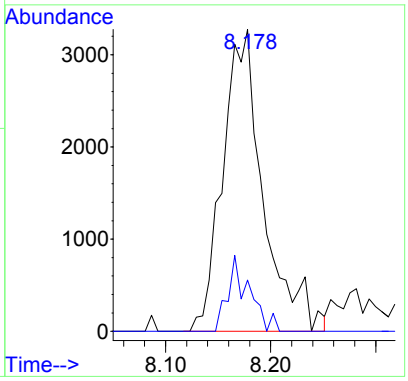


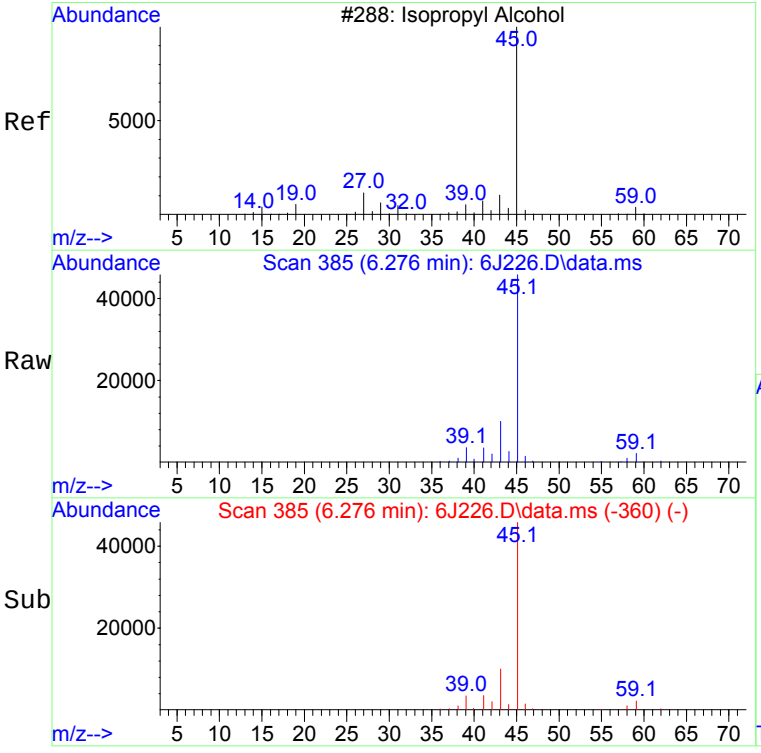


#21
2-Butanone
Concen: 2.46 ug/L
RT: 8.178 min Scan# 697
Delta R.T. 0.018 min
Lab File: 6J226.D
Acq: 17 Nov 2020 20:08

Tgt Ion: 43 Resp: 8797

Ion	Ratio	Lower	Upper
43	100		
72	13.3	0.0	50.5

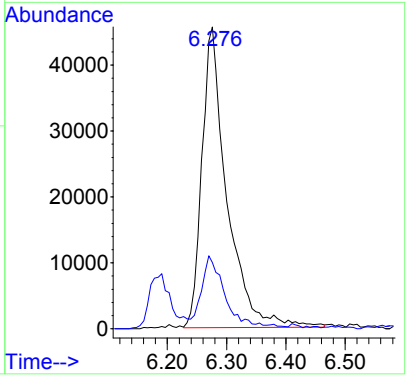


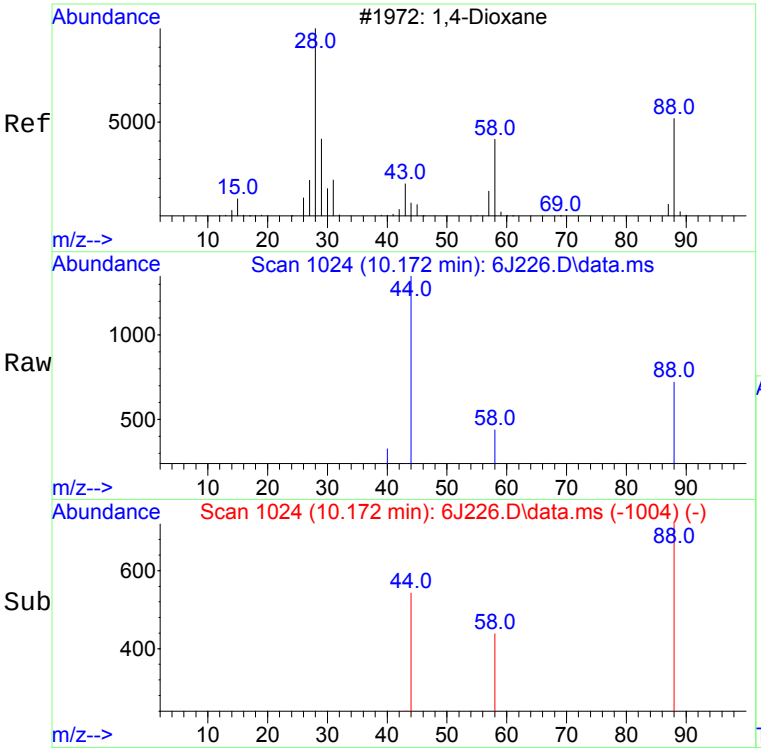


#87
Isopropyl Alcohol
Concen: 216.85 ug/L
RT: 6.276 min Scan# 385
Delta R.T. 0.006 min
Lab File: 6J226.D
Acq: 17 Nov 2020 20:08

Tgt Ion: 45 Resp: 133487

Ion	Ratio	Lower	Upper
45	100		
43	22.0	0.0	49.6

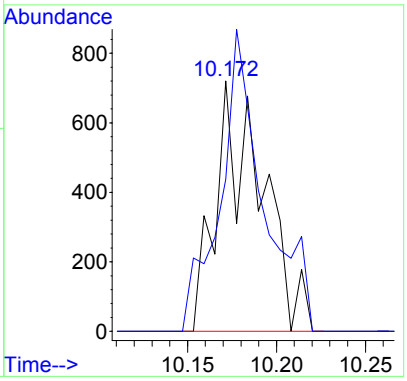


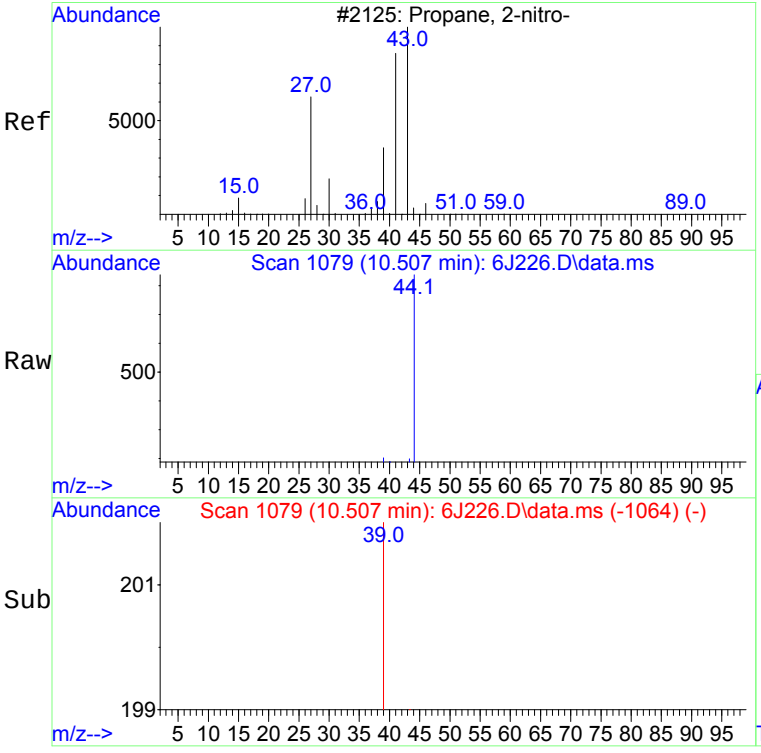


#101 BEFORE analyst DELETION
1,4-Dioxane
Concen: 17.66 ug/L
RT: 10.172 min Scan# 1024
Delta R.T. -0.001 min
Lab File: 6J226.D
Acq: 17 Nov 2020 20:08

Tgt Ion: 88 Resp: 1301

Ion	Ratio	Lower	Upper
88	100		
58	113.2	68.7	128.7

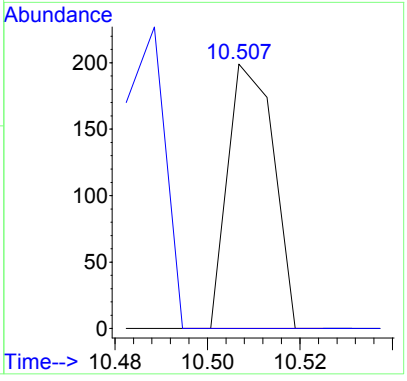


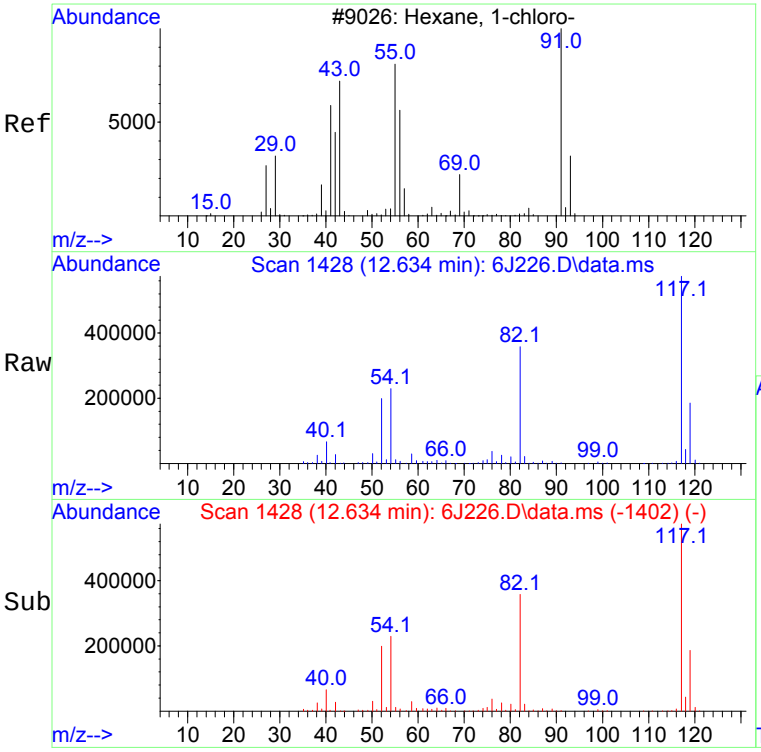


#102 BEFORE analyst DELETION
2-Nitropropane
Concen: 4.32 ug/L
RT: 10.507 min Scan# 1079
Delta R.T. -0.043 min
Lab File: 6J226.D
Acq: 17 Nov 2020 20:08

Tgt Ion: 43 Resp: 136

Ion	Ratio	Lower	Upper
43	100		
41	106.6	52.3	112.3

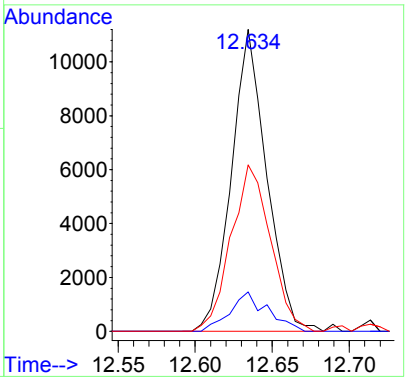




#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.76 ug/L
RT: 12.634 min Scan# 1428
Delta R.T. 0.085 min
Lab File: 6J226.D
Acq: 17 Nov 2020 20:08

Tgt Ion: 55 Resp: 17843

Ion	Ratio	Lower	Upper
55	100		
91	13.8	65.1	125.1#
56	61.6	30.4	90.4



Library Search Compound Report
GEL Laboratories, LLC

WMD
11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J226.D
Acq On : 17 Nov 2020 20:08
Operator : WD1
Sample : |527510003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 26 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

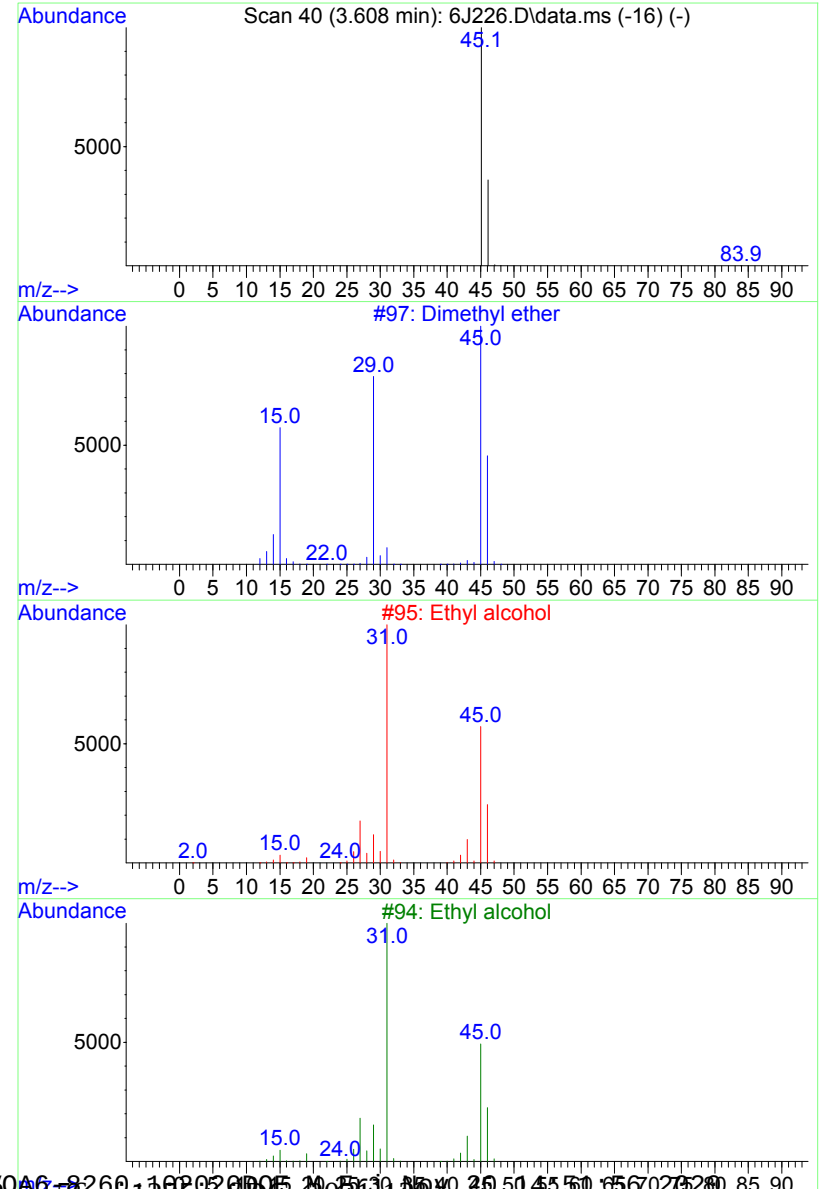
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

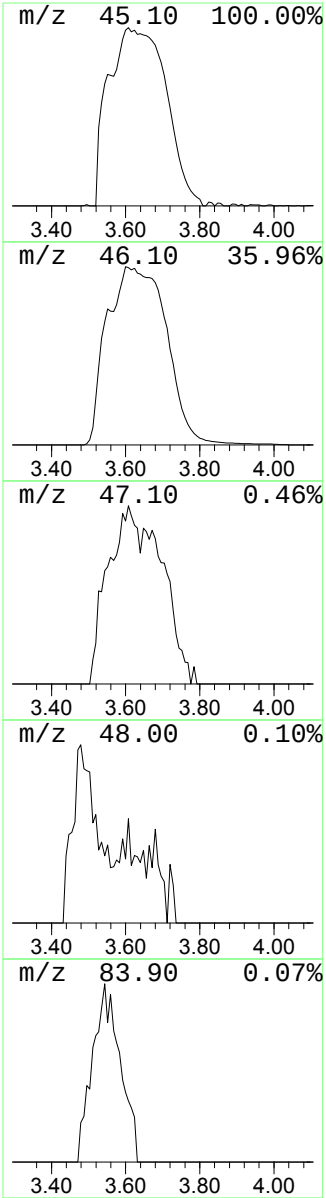
****

Peak Number 1 Unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.608	90.63 ug/L	6270010	Fluorobenzene	9.440

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl ether	46	C2H6O	000115-10-6	5
2	Ethyl alcohol	46	C2H6O	000064-17-5	4
3	Ethyl alcohol	46	C2H6O	000064-17-5	4
4	Ethyl alcohol	46	C2H6O	000064-17-5	4
5	Formic acid	46	CH2O2	000064-18-6	3





Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J226.D
Acq On : 17 Nov 2020 20:08
Operator : WD1
Sample : |527510003|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc
Unknown	000115-10-6	3.608	90.6	6270010	1 9.440	3459030	50.0

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510005**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209990**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 20:34**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 20:34**				
Data File:	**111720V6\6J227.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	52.9	50.0	ug/L	106	(71%-134%)
Bromofluorobenzene	49.9	50.0	ug/L	100	(70%-131%)
Toluene-d8	52.4	50.0	ug/L	105	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J227.D
Acq On : 17 Nov 2020 20:34
Operator : WD1
InstName : VOA6
Sample : |527510005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 27 Sample Multiplier: 1

GH 11/20/2020

Quant Time: Nov 18 09:27:09 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	1504872	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1060454	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	576532	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1504872	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1060789	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	577358	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	561651	52.91	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1517934	52.42	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	550706	49.89	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	106%
45) Toluene-d8	50.000	74 - 124	105%
63) Bromofluorobenzene	50.000	70 - 131	100%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane		0.000	4.338	0.000	0	N.D.		
4) Vinyl chloride		0.000	4.522	0.000	0	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.191	6.179	0.656	4299	1.76	ug/L	81
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0	N.D.		
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.550	6.526	0.694	392	N.D.		
13) Methyl acetate	43	6.569	6.563	0.696	520	N.D.		
14) Carbon disulfide	76	6.514	6.538	0.690	139	N.D.		
15) Methylene chloride	84	6.739	6.739	0.714	4337	Below Cal	#	74
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.361	7.355	0.780	1501	N.D.		
19) Vinyl acetate		0.000	7.532	0.000	0	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.166	8.160	0.865	2404	N.D.		
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform		0.000	8.514	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane		0.000	8.867	0.000	0	N.D.		
28) 1,1-Dichloropropene		0.000	8.940	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	342	N.D.		
32) Benzene		0.000	9.178	0.000	0	N.D.		
33) Cyclohexene	67	9.269	9.288	0.982	180	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene		0.000	9.830	0.000	0	N.D.		
36) 2-Pentanone	43	9.952	9.928	1.054	761	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J227.D
Acq On : 17 Nov 2020 20:34
Operator : WD1
InstName : VOA6
Sample : |527510005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 18 09:27:09 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
39) Dibromomethane		0.000	10.214	0.000	0	N.D.	
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.	
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.	
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.	
44) 4-Methyl-2-pentanone		0.000	10.891	0.000	0	N.D.	
46) Toluene	91	11.165	11.172	0.884	402	N.D.	
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.	
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.	
49) 2-Hexanone	43	11.757	11.751	0.931	203	N.D.	
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.	
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.	
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.	
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.	
54) Chlorobenzene	112	12.641	12.671	1.000	140	N.D.	
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.	
56) Ethylbenzene	91	12.738	12.738	1.008	166	N.D.	
57) m,p-Xylenes	106	12.854	12.848	1.017	176	N.D.	
58) o-Xylene		0.000	13.287	0.000	0	N.D.	
59) Styrene		0.000	13.293	0.000	0	N.D.	
61) Bromoform		0.000	13.543	0.000	0	N.D.	
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.	
64) 1,1,2,2-Tetrachloroethane	83	13.848	13.933	0.919	360	N.D.	
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.	
66) Bromobenzene		0.000	14.049	0.000	0	N.D.	
67) n-Propylbenzene		0.000	14.079	0.000	0	N.D.	
68) 1,3,5-Trimethylbenzene		0.000	14.238	0.000	0	N.D.	
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.	
70) 4-Chlorotoluene		0.000	14.323	0.000	0	N.D.	
71) tert-Butylbenzene		0.000	14.604	0.000	0	N.D.	
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	362	N.D.	
73) sec-Butylbenzene		0.000	14.829	0.000	0	N.D.	
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	283	N.D.	
75) 1,3-Dichlorobenzene		0.000	15.006	0.000	0	N.D.	
76) 1,4-Dichlorobenzene	146	15.073	15.091	1.000	124	N.D.	
77) n-Butylbenzene	91	15.396	15.384	1.022	150	N.D.	
78) 1,2-Dichlorobenzene		0.000	15.500	0.000	0	N.D.	
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.	
80) 1,2,4-Trichlorobenzene		0.000	17.292	0.000	0	N.D.	
81) Hexachlorobutadiene		0.000	17.457	0.000	0	N.D.	
82) Naphthalene	128	17.658	17.646	1.172	939	N.D.	
83) 1,2,3-Trichlorobenzene		0.000	17.957	0.000	0	N.D.	
85) Acrolein		0.000	6.008	0.000	0	N.D.	
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.	
87) Isopropyl Alcohol	45	6.185	6.270	0.655	206	N.D.	
88) Allyl chloride	41	6.617	6.593	0.701	112	N.D.	
89) tert-Butyl Alcohol	59	6.764	6.758	0.716	1204	N.D.	
90) Acrylonitrile		0.000	7.001	0.000	0	N.D.	
91) Isopropyl ether		0.000	7.544	0.000	0	N.D.	
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.	
93) Ethyl tert-butyl ether	59	7.861	7.952	0.833	1137	N.D.	
94) Ethyl acetate	43	8.166	8.172	0.865	2404	N.D.	
95) Propionitrile		0.000	8.233	0.000	0	N.D.	
96) Methacrylonitrile	41	8.532	8.410	0.904	564	N.D.	
97) Tetrahydrofuran	42	8.538	8.519	0.904	1254	N.D.	
98) Isobutyl alcohol	41	9.013	8.867	0.955	157	N.D.	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J227.D
Acq On : 17 Nov 2020 20:34
Operator : WD1
InstName : VOA6
Sample : |527510005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 18 09:27:09 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

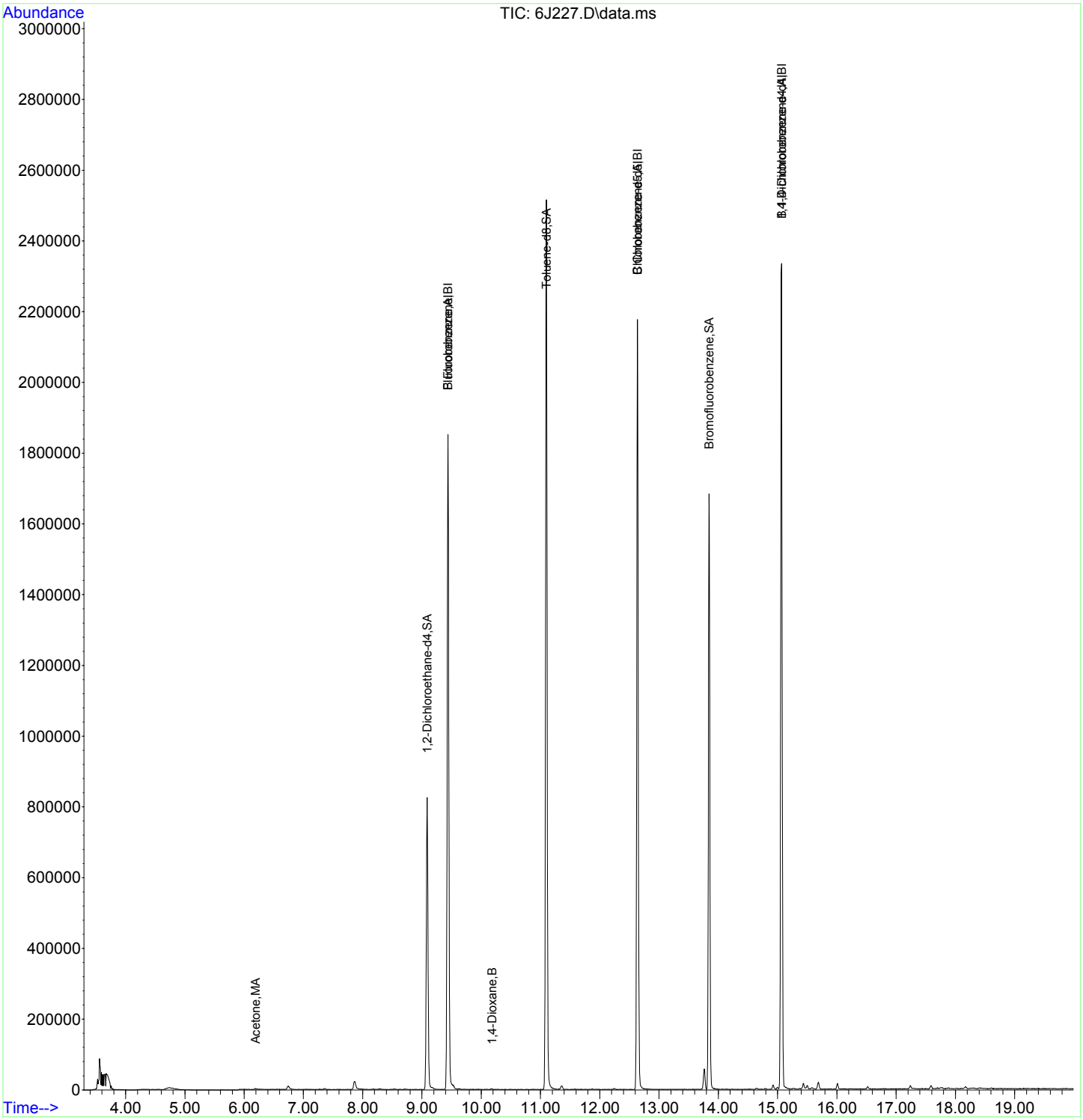
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.		
100)	Methyl methacrylate		0.000	10.068	0.000	0	N.D.		
101)	1,4-Dioxane	88	10.184	10.172	1.079	1290	16.90	ug/L	87
102)	2-Nitropropane		0.000	10.550	0.000	0	N.D.		
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.		
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d	
107)	cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.		
108)	Cyclohexanone		0.000	13.799	0.000	0	N.D.		
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.		
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.		
111)	Benzyl chloride		0.000	15.213	0.000	0	N.D.		
112)	bis(2-Chloroisopropyl)...	45	15.683	15.603	1.041	1381	N.D.		

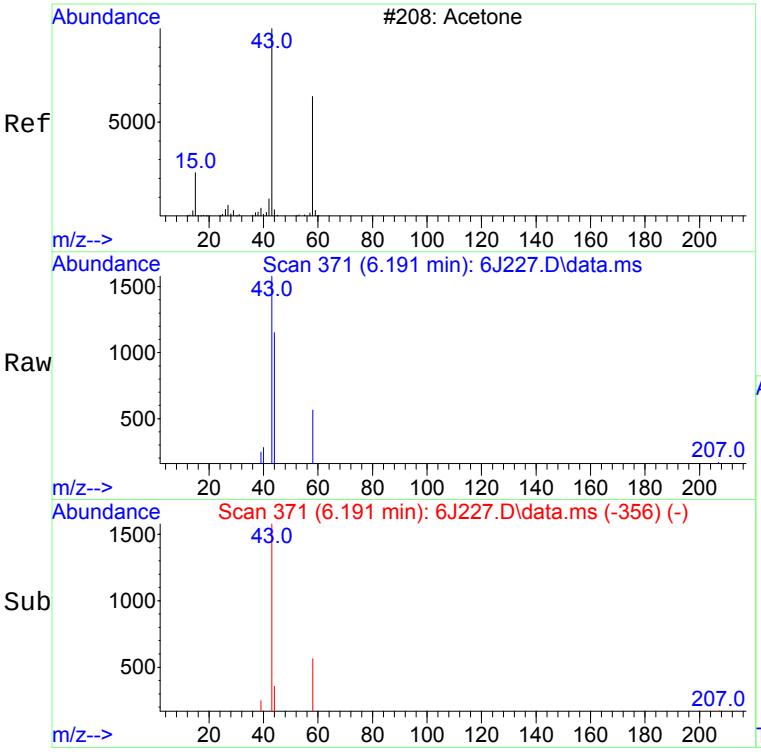
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J227.D
Acq On : 17 Nov 2020 20:34
Operator : WD1
InstName : VOA6
Sample : |527510005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 18 09:27:09 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

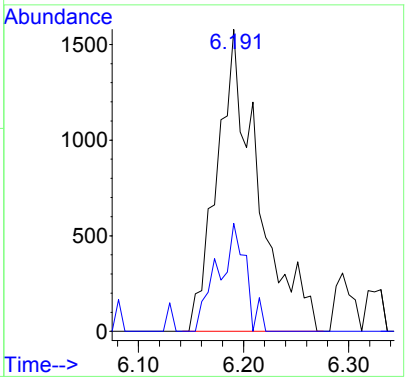


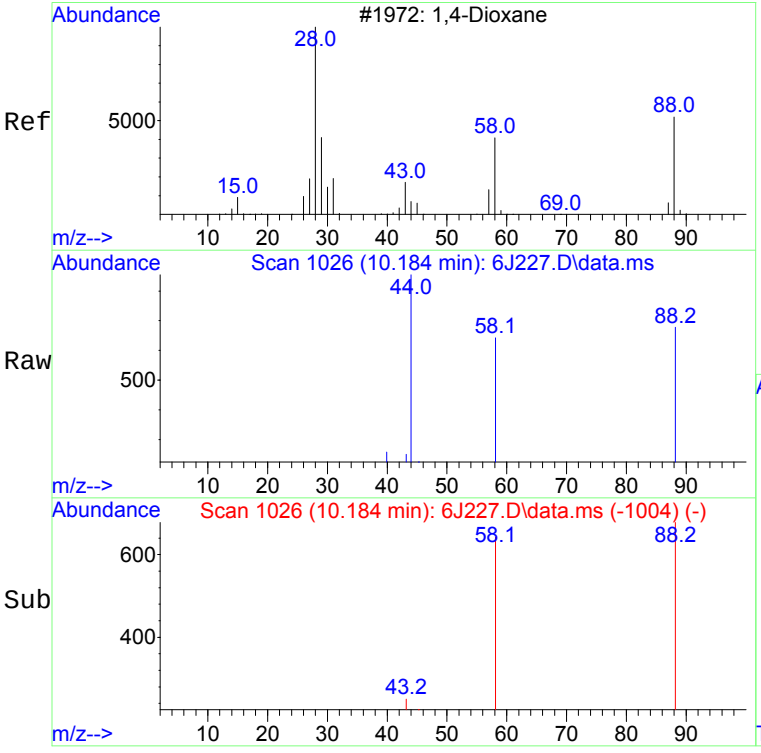


#9
Acetone
Concen: 1.76 ug/L
RT: 6.191 min Scan# 371
Delta R.T. 0.012 min
Lab File: 6J227.D
Acq: 17 Nov 2020 20:34

Tgt Ion: 43 Resp: 4299

Ion	Ratio	Lower	Upper
43	100		
58	24.3	5.4	65.4

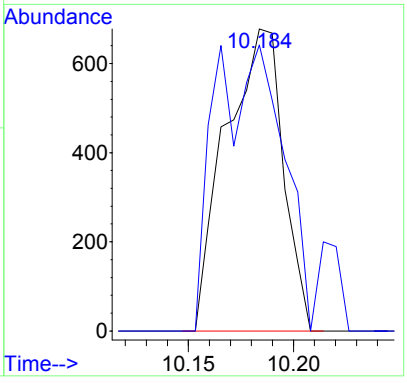


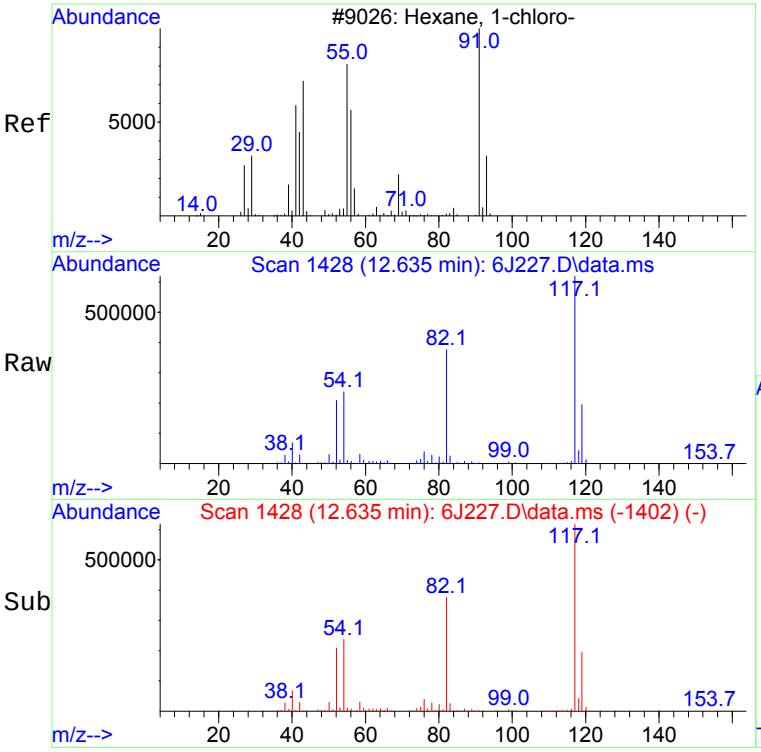


#101
1,4-Dioxane
Concen: 16.90 ug/L
RT: 10.184 min Scan# 1026
Delta R.T. 0.012 min
Lab File: 6J227.D
Acq: 17 Nov 2020 20:34

Tgt Ion: 88 Resp: 1290

Ion	Ratio	Lower	Upper
88	100		
58	111.5	68.7	128.7

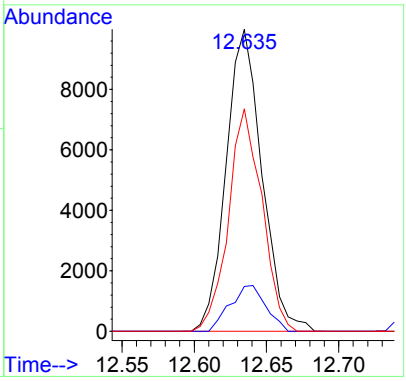




#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.72 ug/L
RT: 12.635 min Scan# 1428
Delta R.T. 0.086 min
Lab File: 6J227.D
Acq: 17 Nov 2020 20:34

Tgt Ion: 55 Resp: 17175

Ion	Ratio	Lower	Upper
55	100		
91	15.1	65.1	125.1#
56	68.8	30.4	90.4



Library Search Compound Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J227.D
Acq On : 17 Nov 2020 20:34
Operator : WD1
Sample : |527510005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 27 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J227.D
Acq On : 17 Nov 2020 20:34
Operator : WD1
Sample : |527510005|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510009**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209982**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 15:01**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/18/2020 15:01**				
Data File:	**111820V6\6J312.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	57.8	50.0	ug/L	116	(71%-134%)
Bromofluorobenzene	52.4	50.0	ug/L	105	(70%-131%)
Toluene-d8	50.5	50.0	ug/L	101	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.656	70.7	ug/L		J
000075-18-3	Dimethyl sulfide	6.307	40.9	ug/L	95	NJ

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J312.D
Acq On : 18 Nov 2020 15:01
Operator : WD1
InstName : VOA6
Sample : |527510009|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 12 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 19 08:56:00 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	1797216	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1283574	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	698056	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1797216	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1283898	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	698558	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	732806	57.81	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1770265	50.50	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	700173	52.39	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	116%
45) Toluene-d8	50.000	74 - 124	101%
63) Bromofluorobenzene	50.000	70 - 131	105%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane	50	4.346	4.338	0.460	6994	N.D.		
4) Vinyl chloride		0.000	4.522	0.000	0	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.179	6.179	0.655	66891	22.88	ug/L	95
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0m	N.D.	d	
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.550	6.526	0.694	3295	N.D.		
13) Methyl acetate	43	6.563	6.563	0.695	1954	N.D.		
14) Carbon disulfide	76	6.508	6.538	0.689	2495	N.D.		
15) Methylene chloride	84	6.721	6.739	0.712	2199	Below Cal	#	58
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.355	7.355	0.779	896	N.D.		
19) Vinyl acetate	43	7.514	7.532	0.796	106	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.172	8.160	0.866	14155	3.20	ug/L	85
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform	83	8.507	8.514	0.901	179	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane		0.000	8.867	0.000	0	N.D.		
28) 1,1-Dichloropropene		0.000	8.940	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	389	N.D.		
32) Benzene	78	9.184	9.178	0.973	458	N.D.		
33) Cyclohexene		0.000	9.288	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene	95	9.824	9.830	1.041	101	N.D.		
36) 2-Pentanone	43	9.952	9.928	1.054	4211	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J312.D
Acq On : 18 Nov 2020 15:01
Operator : WD1
InstName : VOA6
Sample : |527510009|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 19 08:56:00 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
39) Dibromomethane		0.000	10.214	0.000	0	N.D.	
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.	
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.	
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.	
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	525	N.D.	
46) Toluene	91	11.172	11.172	0.884	803	N.D.	
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.	
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.	
49) 2-Hexanone	43	11.769	11.751	0.931	993	N.D.	
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.	
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.	
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.	
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.	
54) Chlorobenzene	112	12.671	12.671	1.003	109	N.D.	
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.	
56) Ethylbenzene	91	12.738	12.738	1.008	214	N.D.	
57) m,p-Xylenes	106	12.854	12.848	1.017	365	N.D.	
58) o-Xylene		0.000	13.287	0.000	0	N.D.	
59) Styrene		0.000	13.293	0.000	0m	N.D.	d
61) Bromoform		0.000	13.543	0.000	0	N.D.	
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.	
64) 1,1,2,2-Tetrachloroethane	83	13.842	13.933	0.919	301	N.D.	
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.	
66) Bromobenzene		0.000	14.049	0.000	0	N.D.	
67) n-Propylbenzene	91	14.073	14.079	0.934	291	N.D.	
68) 1,3,5-Trimethylbenzene		0.000	14.238	0.000	0	N.D.	
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.	
70) 4-Chlorotoluene	91	14.329	14.323	0.951	339	N.D.	
71) tert-Butylbenzene	134	14.659	14.604	0.973	125	N.D.	
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	516	N.D.	
73) sec-Butylbenzene		0.000	14.829	0.000	0	N.D.	
74) 4-Isopropyltoluene	119	14.951	14.957	0.992	682	N.D.	
75) 1,3-Dichlorobenzene	146	15.000	15.006	0.996	462	N.D.	
76) 1,4-Dichlorobenzene	146	15.085	15.091	1.001	1020	N.D.	
77) n-Butylbenzene	91	15.384	15.384	1.021	777	N.D.	
78) 1,2-Dichlorobenzene	146	15.494	15.500	1.028	504	N.D.	
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.	
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	1966	N.D.	
81) Hexachlorobutadiene	225	17.457	17.457	1.159	380	N.D.	
82) Naphthalene	128	17.646	17.646	1.171	9727	N.D.	
83) 1,2,3-Trichlorobenzene	180	17.951	17.957	1.191	4318	N.D.	
85) Acrolein	56	6.026	6.008	0.638	378	N.D.	
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.	
87) Isopropyl Alcohol		0.000	6.270	0.000	0m	N.D.	d
88) Allyl chloride	41	6.550	6.593	0.694	3295	N.D.	
89) tert-Butyl Alcohol	59	6.758	6.758	0.716	1848	N.D.	
90) Acrylonitrile	53	7.014	7.001	0.743	439	N.D.	
91) Isopropyl ether	45	7.556	7.544	0.800	262	N.D.	
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.	
93) Ethyl tert-butyl ether	59	7.953	7.952	0.842	345	N.D.	
94) Ethyl acetate	43	8.172	8.172	0.866	14155	N.D.	
95) Propionitrile		0.000	8.233	0.000	0	N.D.	
96) Methacrylonitrile	41	8.422	8.410	0.892	623	N.D.	
97) Tetrahydrofuran	42	8.526	8.519	0.903	1900	N.D.	
98) Isobutyl alcohol	41	8.873	8.867	0.940	1071	N.D.	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J312.D
Acq On : 18 Nov 2020 15:01
Operator : WD1
InstName : VOA6
Sample : |527510009|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 19 08:56:00 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

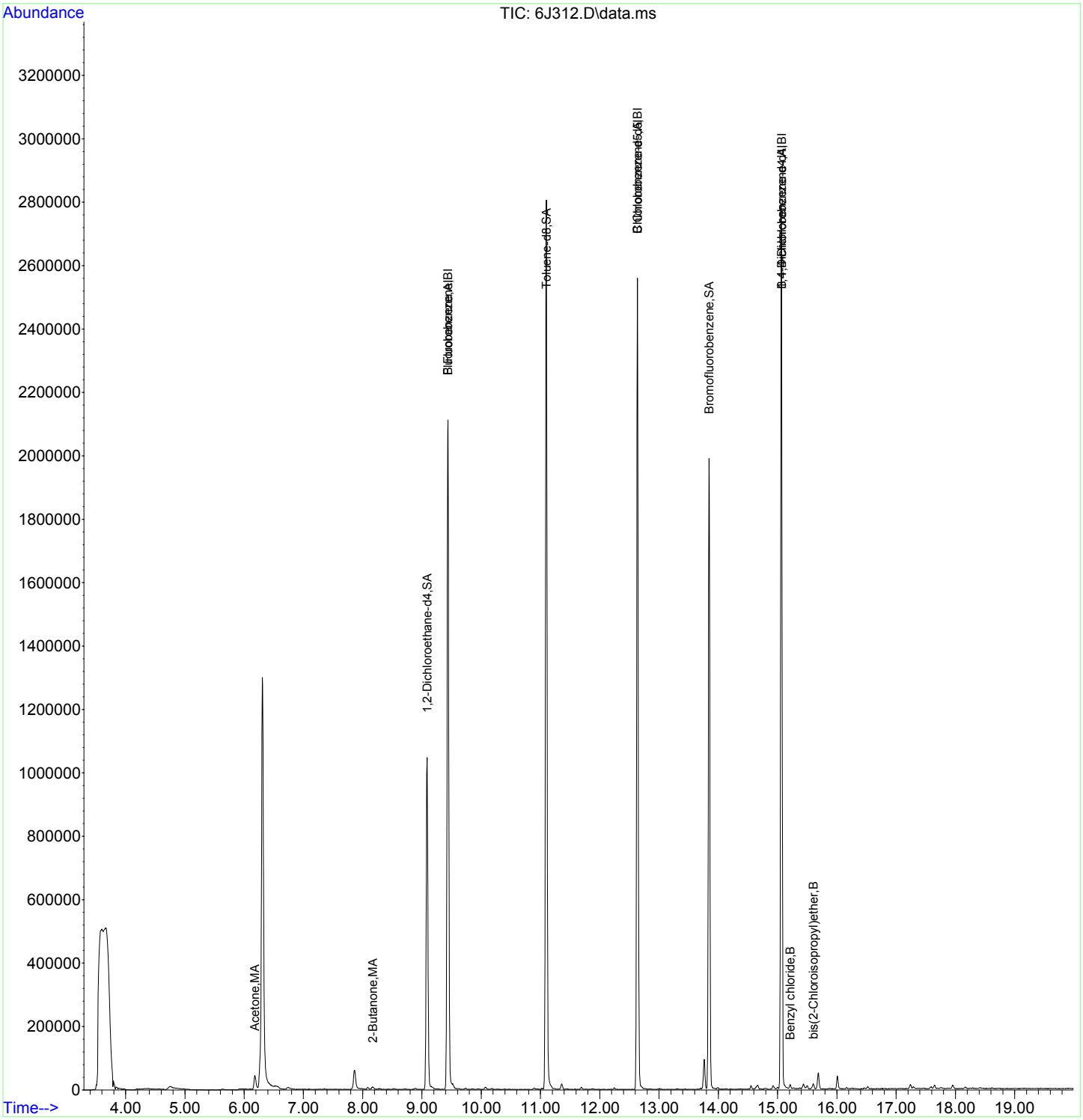
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.		
100)	Methyl methacrylate		0.000	10.068	0.000	0	N.D.		
101)	1,4-Dioxane	88	10.184	10.172	1.079	1434	N.D.		
102)	2-Nitropropane		0.000	10.550	0.000	0m	N.D.	d	
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.		
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d	
107)	cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.		
108)	Cyclohexanone	42	13.799	13.799	0.916	477	N.D.		
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.		
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.		
111)	Benzyl chloride	91	15.213	15.213	1.010	9538	2.53	ug/L	92
112)	bis(2-Chloroisopropyl)...	45	15.604	15.603	1.036	10132	1.74	ug/L	88

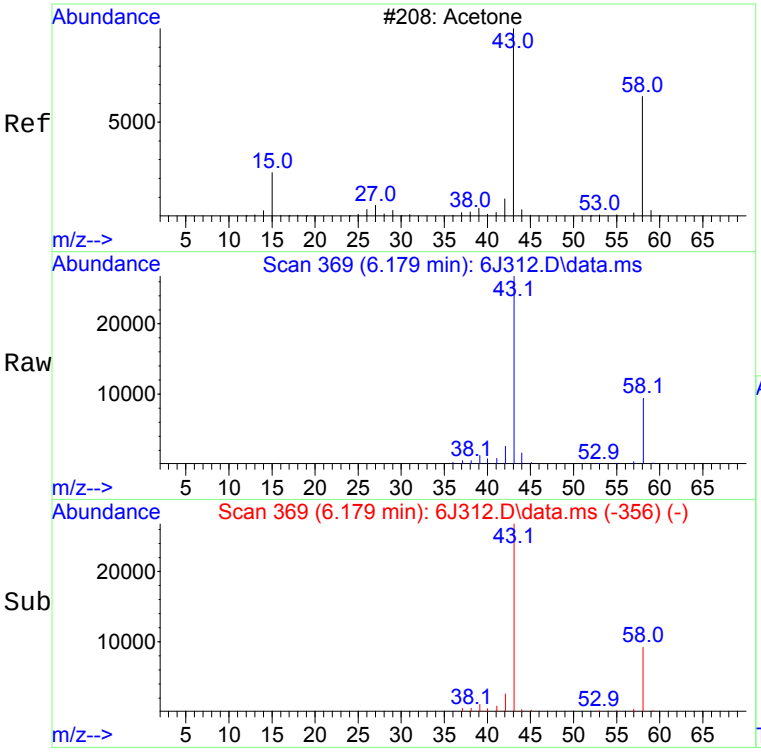
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J312.D
Acq On : 18 Nov 2020 15:01
Operator : WD1
InstName : VOA6
Sample : |527510009|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 19 08:56:00 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

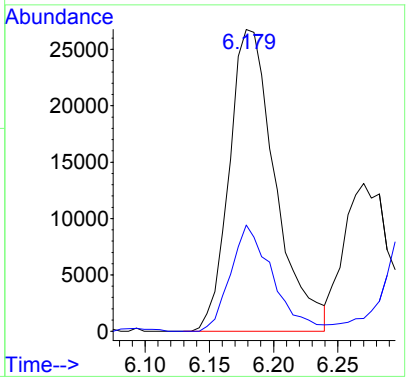


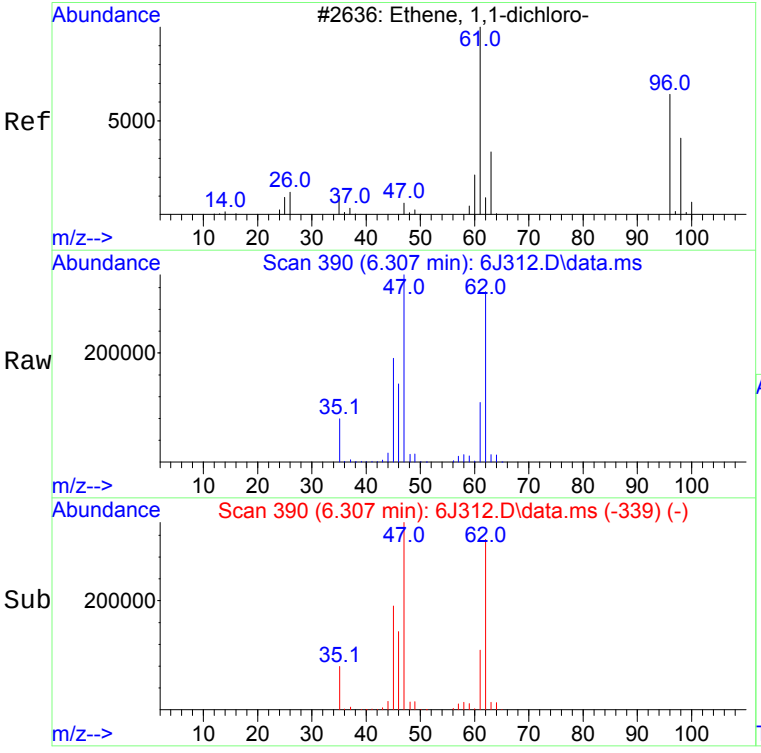


#9
Acetone
Concen: 22.88 ug/L
RT: 6.179 min Scan# 369
Delta R.T. -0.000 min
Lab File: 6J312.D
Acq: 18 Nov 2020 15:01

Tgt Ion: 43 Resp: 66891

Ion	Ratio	Lower	Upper
43	100		
58	32.5	5.4	65.4

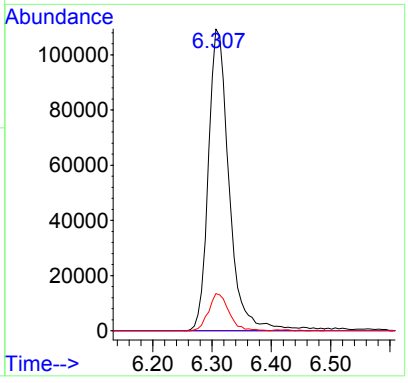


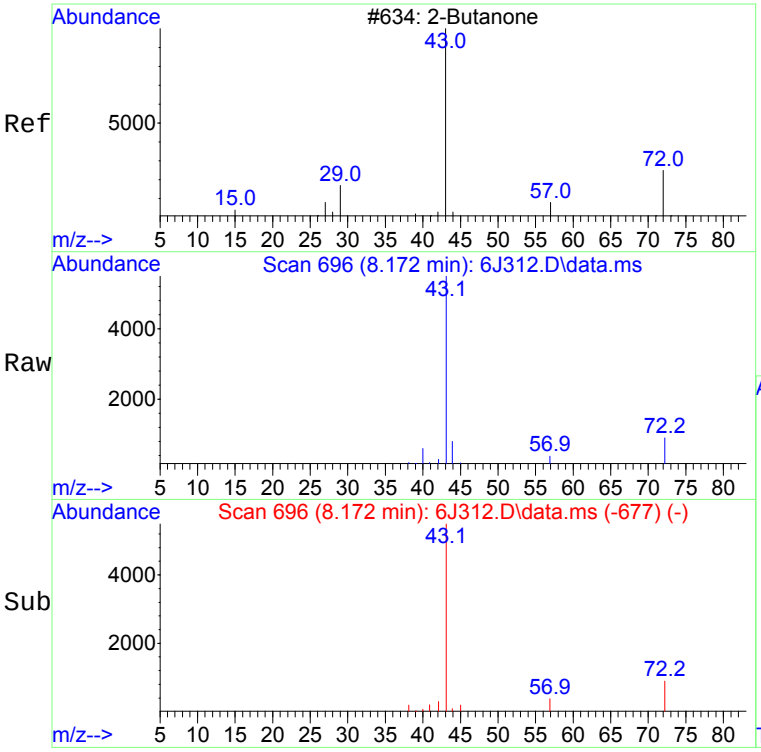


#10 BEFORE analyst DELETION
1,1-Dichloroethylene
Concen: 14.36 ug/L
RT: 6.307 min Scan# 390
Delta R.T. 0.134 min
Lab File: 6J312.D
Acq: 18 Nov 2020 15:01

Tgt Ion: 61 Resp: 267826

Ion	Ratio	Lower	Upper
61	100		
96	0.0	14.7	74.7#
63	12.0	1.1	61.1

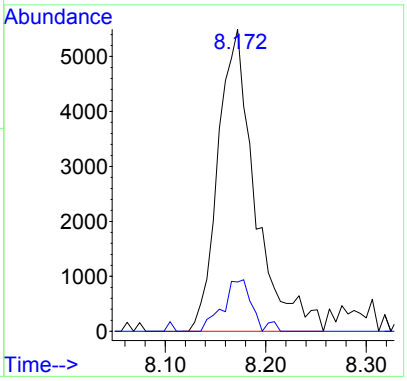


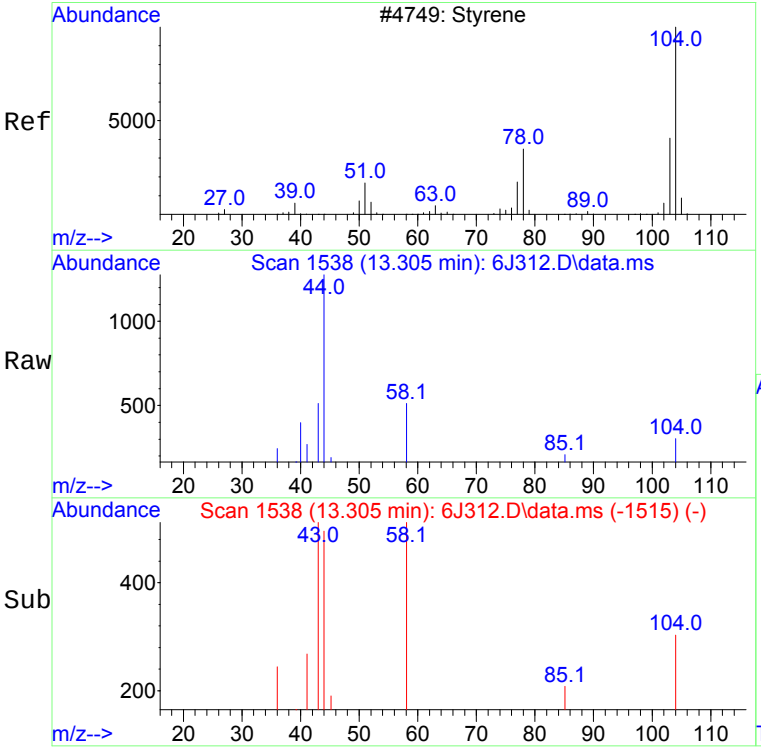


#21
2-Butanone
Concen: 3.20 ug/L
RT: 8.172 min Scan# 696
Delta R.T. 0.012 min
Lab File: 6J312.D
Acq: 18 Nov 2020 15:01

Tgt Ion: 43 Resp: 14155

Ion	Ratio	Lower	Upper
43	100		
72	13.5	0.0	50.5

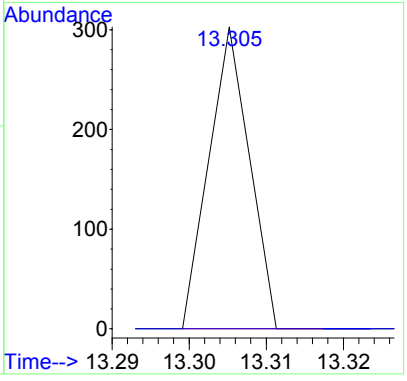


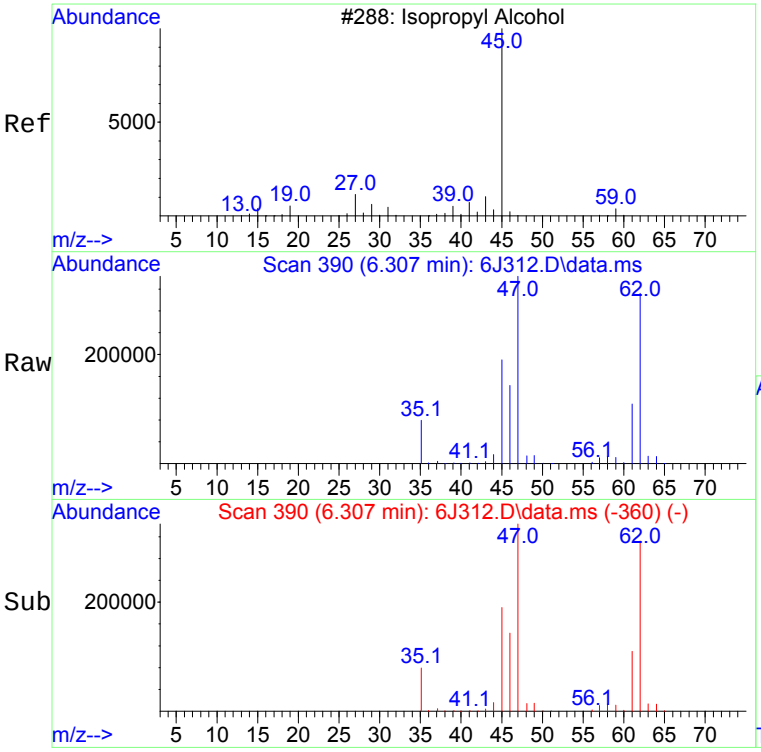


#59 BEFORE analyst DELETION
Styrene
Concen: 0.86 ug/L
RT: 13.305 min Scan# 1538
Delta R.T. 0.012 min
Lab File: 6J312.D
Acq: 18 Nov 2020 15:01

Tgt Ion:104 Resp: 111

Ion	Ratio	Lower	Upper
104	100		
78	0.0	22.7	82.7#

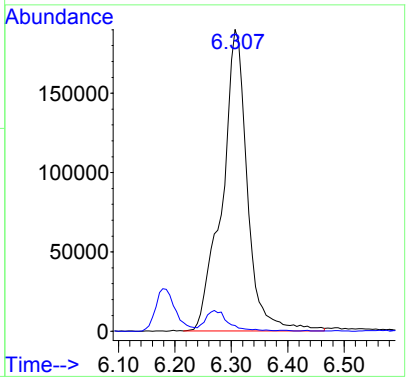


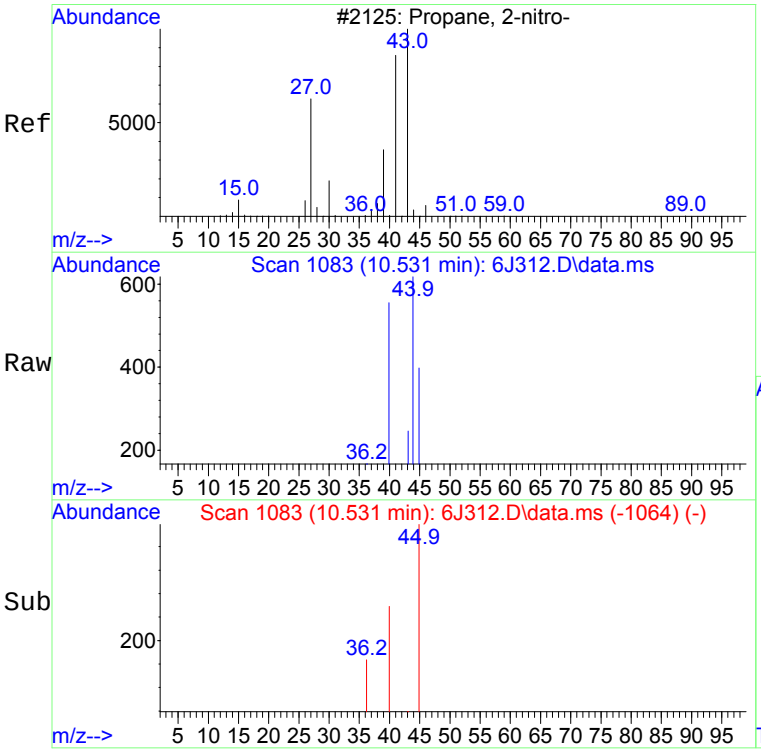


#87 BEFORE analyst DELETION
Isopropyl Alcohol
Concen: 775.30 ug/L
RT: 6.307 min Scan# 390
Delta R.T. 0.037 min
Lab File: 6J312.D
Acq: 18 Nov 2020 15:01

Tgt Ion: 45 Resp: 590879

Ion	Ratio	Lower	Upper
45	100		
43	6.3	0.0	49.6

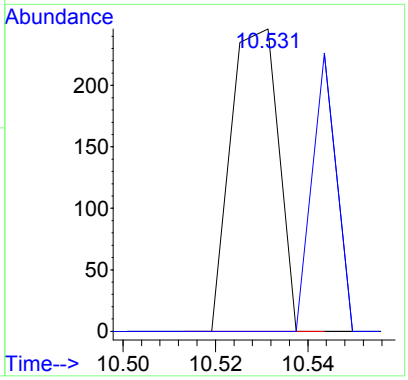


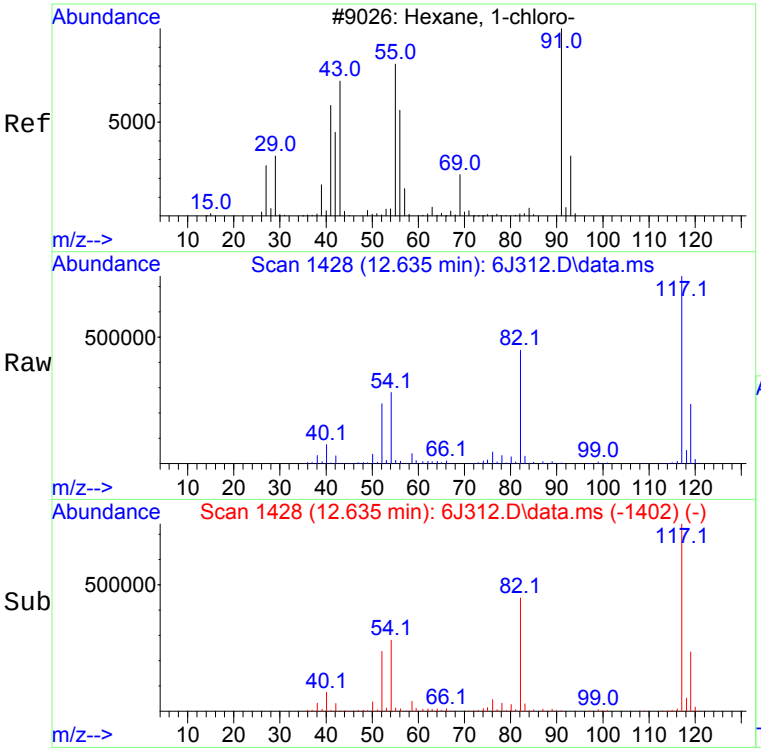


#102 BEFORE analyst DELETION
2-Nitropropane
Concen: 4.32 ug/L
RT: 10.531 min Scan# 1083
Delta R.T. -0.019 min
Lab File: 6J312.D
Acq: 18 Nov 2020 15:01

Tgt Ion: 43 Resp: 176

Ion	Ratio	Lower	Upper
43	100		
41	0.0	52.3	112.3#

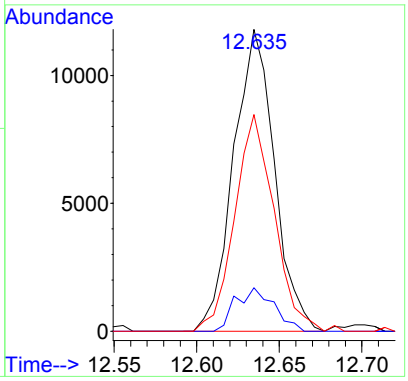


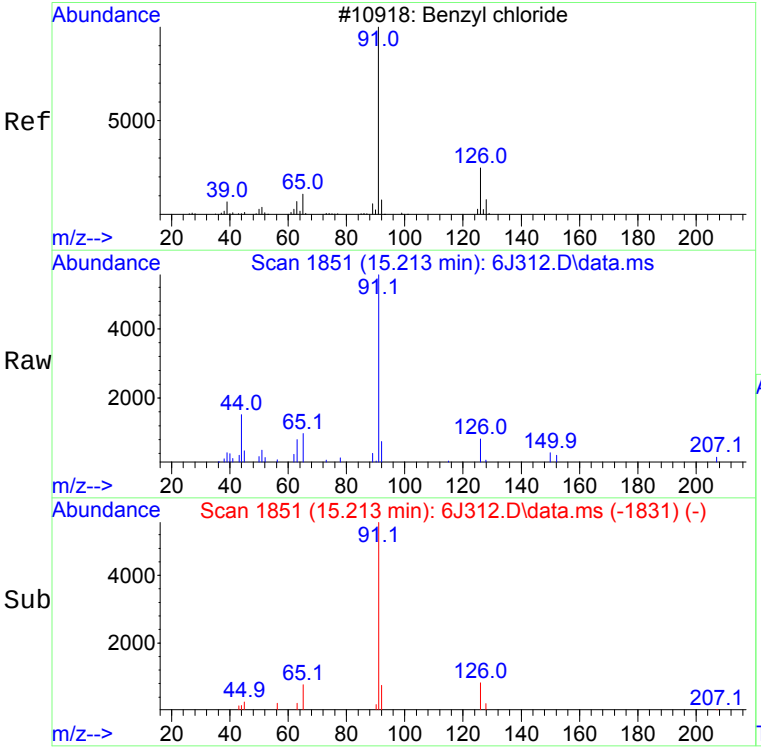


#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.69 ug/L
RT: 12.635 min Scan# 1428
Delta R.T. 0.086 min
Lab File: 6J312.D
Acq: 18 Nov 2020 15:01

Tgt Ion: 55 Resp: 20350

Ion	Ratio	Lower	Upper
55	100		
91	13.6	65.1	125.1#
56	69.6	30.4	90.4

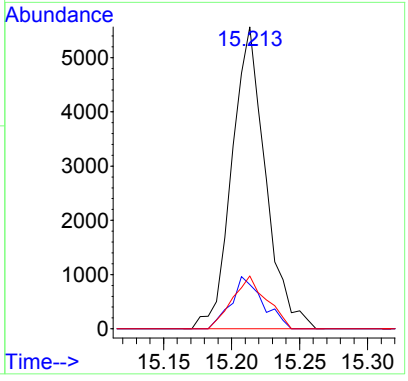


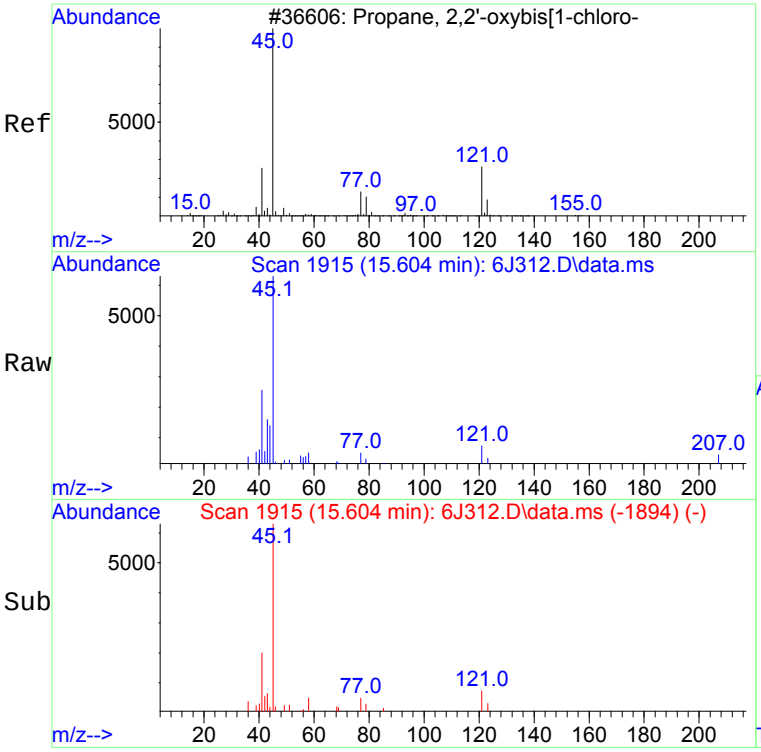


#111
Benzyl chloride
Concen: 2.53 ug/L
RT: 15.213 min Scan# 1851
Delta R.T. 0.000 min
Lab File: 6J312.D
Acq: 18 Nov 2020 15:01

Tgt Ion: 91 Resp: 9538

Ion	Ratio	Lower	Upper
91	100		
126	16.3	0.0	50.7
65	17.8	0.0	44.9

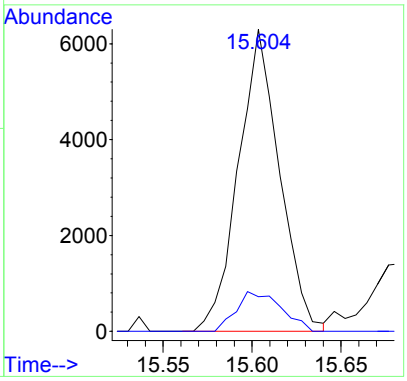




#112
bis(2-Chloroisopropyl)ether
Concen: 1.74 ug/L
RT: 15.604 min Scan# 1915
Delta R.T. 0.001 min
Lab File: 6J312.D
Acq: 18 Nov 2020 15:01

Tgt Ion: 45 Resp: 10132

Ion	Ratio	Lower	Upper
45	100		
121	14.3	0.0	49.7



Library Search Compound Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J312.D
Acq On : 18 Nov 2020 15:01
Operator : WD1
Sample : |527510009|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 12 Sample Multiplier: 1

GEL 11/20/2020

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

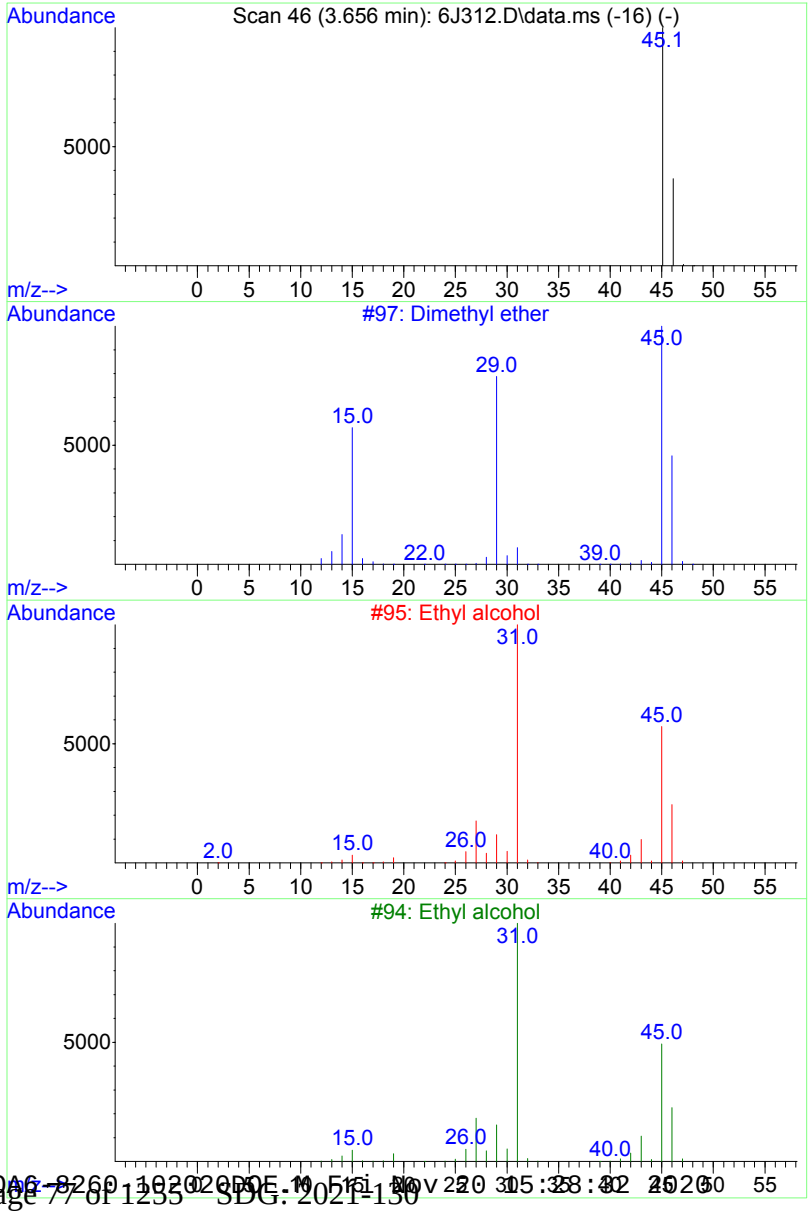
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

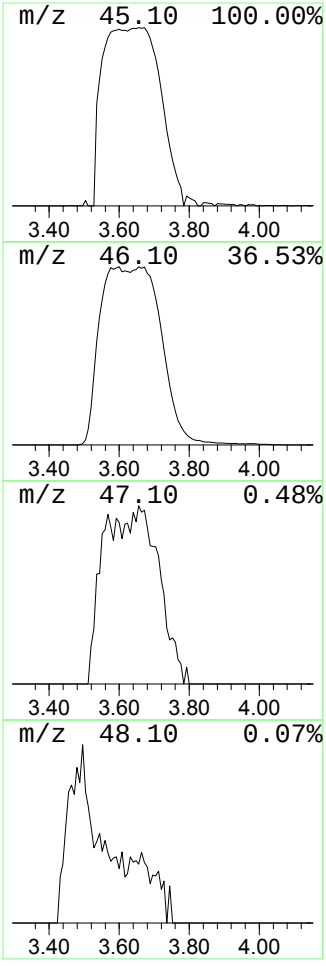
****

Peak Number 1 Unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.656	70.68 ug/L	5971240	Fluorobenzene	9.440

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl ether	46	C2H6O	000115-10-6	5
2	Ethyl alcohol	46	C2H6O	000064-17-5	4
3	Ethyl alcohol	46	C2H6O	000064-17-5	4
4	Ethyl alcohol	46	C2H6O	000064-17-5	4
5	Formic acid	46	CH2O2	000064-18-6	3





Library Search Compound Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J312.D
Acq On    : 18 Nov 2020  15:01
Operator  : WD1
Sample    : |527510009|2063772|1|VOAF|1|VOA8260LFD|
Misc      : ARSL 5ML PH7
ALS Vial  : 12   Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title  : Volatile Organics                          SubList :

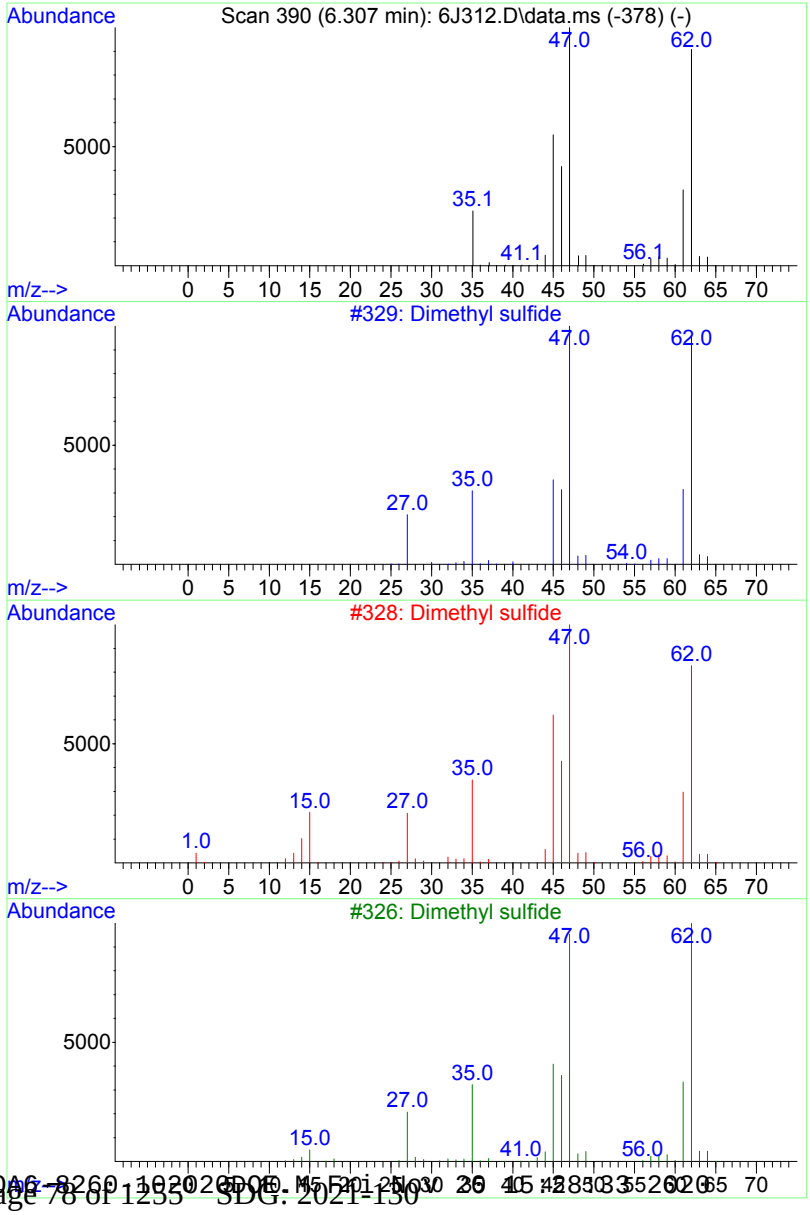
TIC Library   : C:\Database\NIST05.L
TIC Integration Parameters: default.P
```

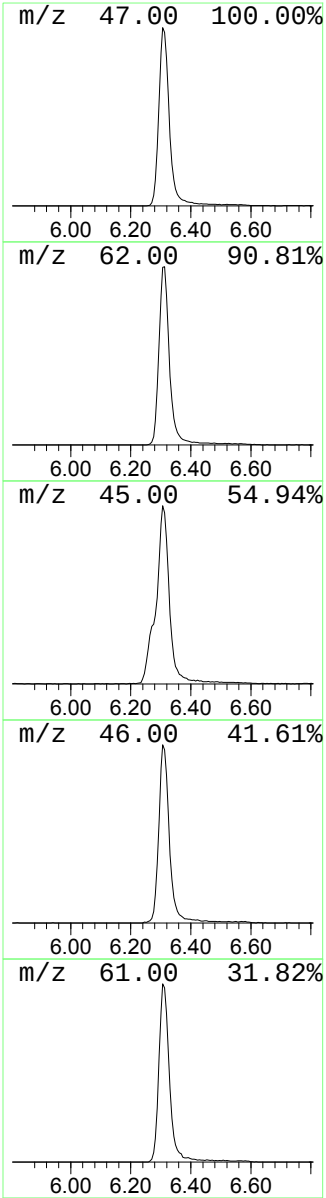
****

Peak Number 2 Dimethyl sulfide Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.307	40.88 ug/L	3454090	Fluorobenzene	9.440

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl sulfide	62	C2H6S	000075-18-3	95
2	Dimethyl sulfide	62	C2H6S	000075-18-3	95
3	Dimethyl sulfide	62	C2H6S	000075-18-3	95
4	Dimethyl sulfide	62	C2H6S	000075-18-3	91
5	Borane-methyl sulfide complex	76	C2H9BS	013292-87-0	90





Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J312.D
Acq On : 18 Nov 2020 15:01
Operator : WD1
Sample : |527510009|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard			
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
Unknown	000115-10-6	3.656	70.7	5971240	1	9.440	4224180	50.0
Dimethyl sulfide	000075-18-3	6.307	40.9	3454090	1	9.440	4224180	50.0

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510011**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209991**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA9.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 16:42**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/19/2020 16:42**				
Data File:	**111920V9\9S408.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	49.7	50.0	ug/L	99	(71%-134%)
Bromofluorobenzene	46.8	50.0	ug/L	94	(70%-131%)
Toluene-d8	49.9	50.0	ug/L	100	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S408.D
Acq On : 19 Nov 2020 16:42
Operator : WD1
InstName : VOA9
Sample : |527510011|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 8 Sample Multiplier: 1

GEL 11/20/2020

Quant Time: Nov 19 17:40:45 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.955	9.967	1.000	1399905	50.00	ug/L	-0.01
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1203117	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	738717	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.955	9.967	1.000	1399905	50.00	ug/L	-0.01
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	1203117	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	738717	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.965	369453	49.66	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1453882	49.86	ug/L	0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	564740	46.80	ug/L	-0.01

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	99%
45) Toluene-d8	50.000	74 - 124	100%
63) Bromofluorobenzene	50.000	70 - 131	94%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	4.405	0.000	0	N.D.		
3) Chloromethane		0.000	4.761	0.000	0	N.D.		
4) Vinyl chloride		0.000	4.963	0.000	0	N.D.		
5) Bromomethane	94	5.414	5.508	0.544	186	N.D.		
6) Chloroethane		0.000	5.627	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	6.042	0.000	0	N.D.		
8) Ethyl ether		0.000	6.327	0.000	0	N.D.		
9) Acetone	43	6.706	6.694	0.674	2770	1.90	ug/L	74
10) 1,1-Dichloroethylene		0.000	6.706	0.000	0	N.D.		
11) Iodomethane		0.000	6.955	0.000	0	N.D.		
12) Acetonitrile		0.000	7.050	0.000	0	N.D.		
13) Methyl acetate		0.000	7.086	0.000	0	N.D.		
14) Carbon disulfide	76	7.074	7.086	0.711	1317	N.D.		
15) Methylene chloride	84	7.275	7.275	0.731	6299	Below Cal		99
16) tert-Butyl methyl ether		0.000	7.584	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.619	0.000	0	N.D.		
18) Hexane	57	7.904	7.904	0.794	647	N.D.		
19) Vinyl acetate		0.000	8.058	0.000	0	N.D.		
20) 1,1-Dichloroethane		0.000	8.093	0.000	0	N.D.		
21) 2-Butanone	43	8.687	8.675	0.873	1143	N.D.		
22) cis-1,2-Dichloroethylene		0.000	8.734	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.758	0.000	0	N.D.		
24) Bromochloromethane		0.000	9.007	0.000	0	N.D.		
25) Chloroform		0.000	9.042	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	9.315	0.000	0	N.D.		
27) Cyclohexane		0.000	9.410	0.000	0	N.D.		
28) 1,1-Dichloropropene		0.000	9.469	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	9.517	0.000	0	N.D.		
31) 1,2-Dichloroethane		0.000	9.694	0.000	0	N.D.		
32) Benzene	78	9.706	9.706	0.975	400	N.D.		
33) Cyclohexene		0.000	9.825	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	10.062	0.000	0	N.D.		
35) Trichloroethylene		0.000	10.347	0.000	0	N.D.		
36) 2-Pentanone		0.000	10.430	0.000	0	N.D.		
37) 1,2-Dichloropropane		0.000	10.596	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.607	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S408.D
Acq On : 19 Nov 2020 16:42
Operator : WD1
InstName : VOA9
Sample : |527510011|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 17:40:45 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
39) Dibromomethane		0.000	10.726	0.000	0	N.D.	
40) Bromodichloromethane		0.000	10.845	0.000	0	N.D.	
41) 2-Chloroethylvinyl ether		0.000	11.070	0.000	0	N.D.	
42) cis-1,3-Dichloropropylene		0.000	11.295	0.000	0	N.D.	
44) 4-Methyl-2-pentanone		0.000	11.390	0.000	0	N.D.	
46) Toluene	91	11.687	11.687	0.890	970	N.D.	
47) trans-1,3-Dichloroprop...		0.000	11.841	0.000	0	N.D.	
48) 1,1,2-Trichloroethane		0.000	12.054	0.000	0	N.D.	
49) 2-Hexanone	43	12.244	12.232	0.932	250	N.D.	
50) 1,3-Dichloropropane		0.000	12.244	0.000	0	N.D.	
51) Tetrachloroethylene		0.000	12.280	0.000	0	N.D.	
52) Dibromochloromethane		0.000	12.517	0.000	0	N.D.	
53) 1,2-Dibromoethane		0.000	12.683	0.000	0	N.D.	
54) Chlorobenzene	112	13.169	13.169	1.003	657	N.D.	
55) 1,1,1,2-Tetrachloroethane		0.000	13.228	0.000	0	N.D.	
56) Ethylbenzene	91	13.228	13.228	1.007	857	N.D.	
57) m,p-Xylenes	106	13.347	13.347	1.016	590	N.D.	
58) o-Xylene	106	13.774	13.774	1.049	184	N.D.	
59) Styrene	104	13.774	13.774	1.049	303	N.D.	
61) Bromoform		0.000	14.035	0.000	0	N.D.	
62) Isopropylbenzene		0.000	14.129	0.000	0	N.D.	
64) 1,1,2,2-Tetrachloroethane		0.000	14.402	0.000	0	N.D.	
65) 1,2,3-Trichloropropane		0.000	14.497	0.000	0	N.D.	
66) Bromobenzene	156	14.533	14.533	0.935	272	N.D.	
67) n-Propylbenzene	91	14.556	14.556	0.937	827	N.D.	
68) 1,3,5-Trimethylbenzene		0.000	14.711	0.000	0	N.D.	
69) 2-Chlorotoluene	126	14.711	14.711	0.947	187	N.D.	
70) 4-Chlorotoluene	91	14.806	14.805	0.953	1370	N.D.	
71) tert-Butylbenzene		0.000	15.078	0.000	0	N.D.	
72) 1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	699	N.D.	
73) sec-Butylbenzene		0.000	15.303	0.000	0	N.D.	
74) 4-Isopropyltoluene	119	15.422	15.422	0.992	241	N.D.	
75) 1,3-Dichlorobenzene	146	15.481	15.481	0.996	1562	N.D.	
76) 1,4-Dichlorobenzene	146	15.564	15.564	1.002	2199	N.D.	
77) n-Butylbenzene	91	15.861	15.861	1.021	544	N.D.	
78) 1,2-Dichlorobenzene	146	15.980	15.979	1.028	1112	N.D.	
79) 1,2-Dibromo-3-chloropr...		0.000	16.833	0.000	0	N.D.	
80) 1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	1856	N.D.	
81) Hexachlorobutadiene		0.000	18.031	0.000	0	N.D.	
82) Naphthalene	128	18.221	18.221	1.172	5776	N.D.	
83) 1,2,3-Trichlorobenzene	180	18.565	18.553	1.195	1109	N.D.	
85) Acrolein		0.000	6.516	0.000	0	N.D.	
86) Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.	
87) Isopropyl Alcohol		6.777	6.777	0.681	0m	N.D.	d
88) Allyl chloride		0.000	7.133	0.000	0	N.D.	
89) tert-Butyl Alcohol		7.275	7.275	0.731	0m	N.D.	d
90) Acrylonitrile		0.000	7.524	0.000	0	N.D.	
91) Isopropyl ether		0.000	8.082	0.000	0	N.D.	
92) 2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.	
93) Ethyl tert-butyl ether		8.378	8.485	0.842	0m	N.D.	d
94) Ethyl acetate		8.687	8.687	0.873	0m	N.D.	d
95) Propionitrile		0.000	8.746	0.000	0	N.D.	
96) Methacrylonitrile		0.000	8.924	0.000	0	N.D.	
97) Tetrahydrofuran		9.054	9.054	0.909	0m	N.D.	d
98) Isobutyl alcohol		0.000	9.374	0.000	0	N.D.	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S408.D
Acq On : 19 Nov 2020 16:42
Operator : WD1
InstName : VOA9
Sample : |527510011|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 17:40:45 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

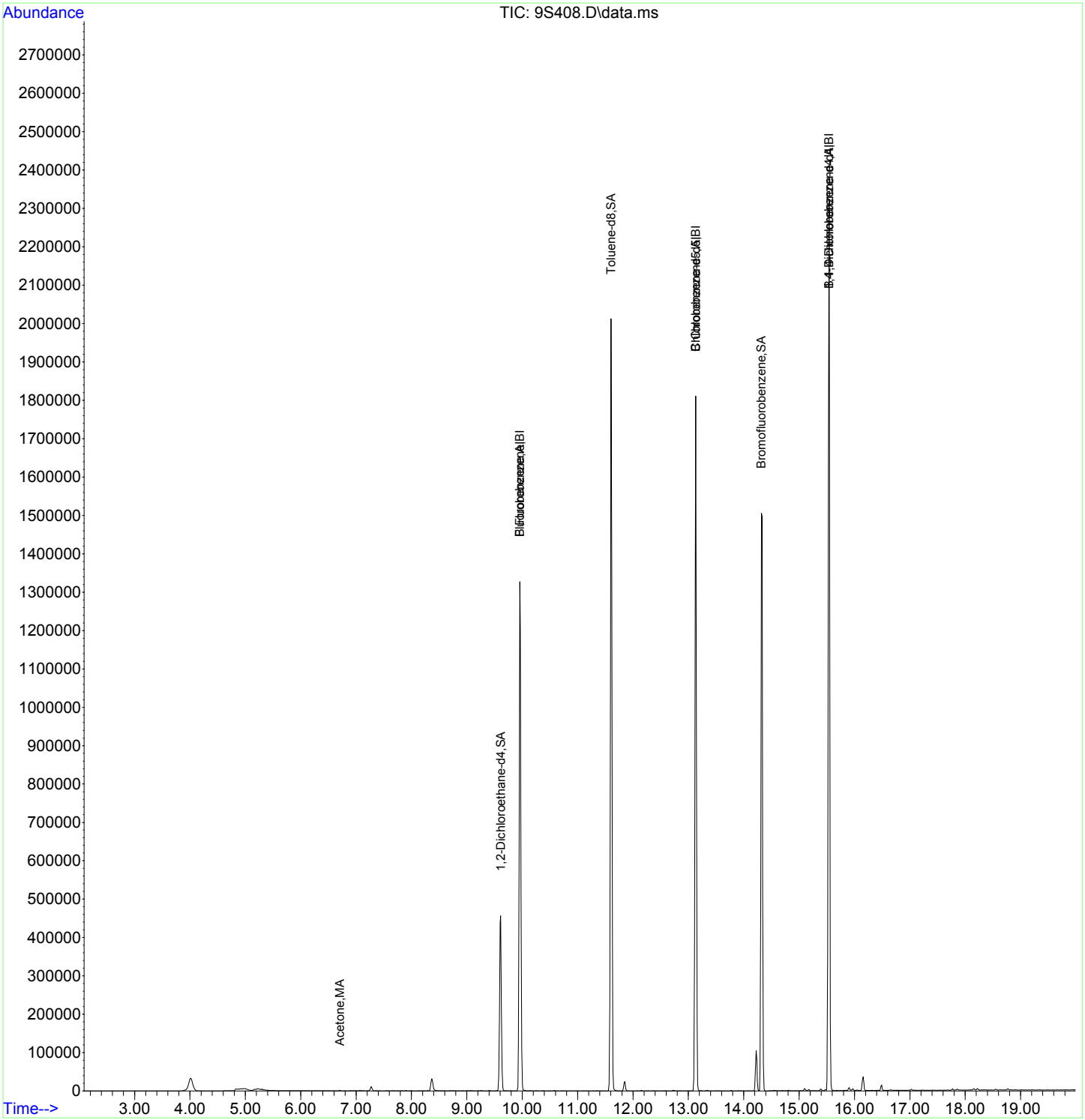
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		0.000	9.730	0.000	0	N.D.	
100)	Methyl methacrylate		10.572	10.572	1.062	0m	N.D.	d
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.	
102)	2-Nitropropane		0.000	11.046	0.000	0	N.D.	
104)	Ethyl methacrylate		11.853	11.841	0.902	0m	N.D.	d
106)	1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene		0.000	14.165	0.000	0	N.D.	
108)	Cyclohexanone		0.000	14.284	0.000	0	N.D.	
109)	trans-1,4-Dichloro-2-b...		0.000	14.450	0.000	0	N.D.	
110)	Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111)	Benzyl chloride		15.683	15.683	1.009	0m	N.D.	d
112)	bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

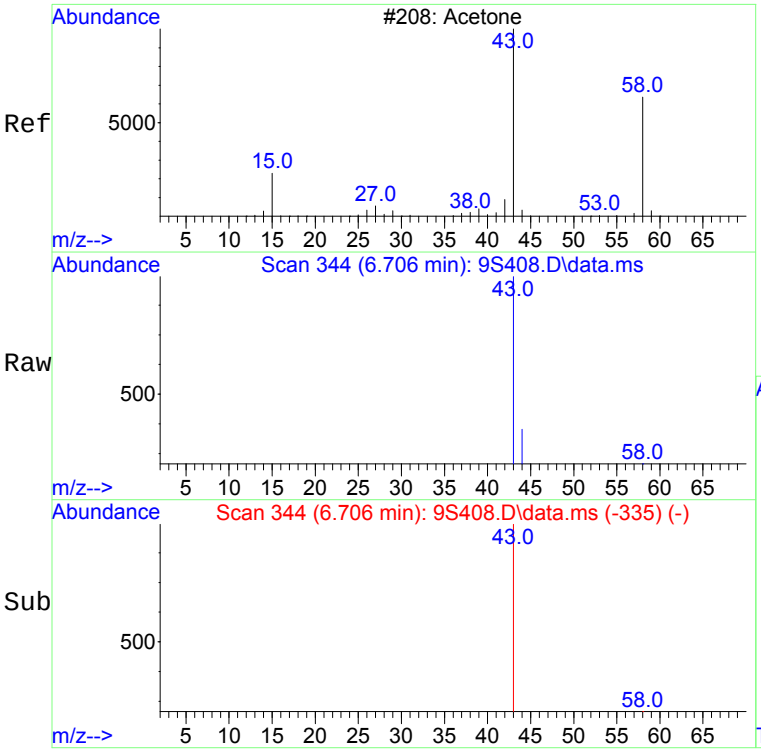
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S408.D
Acq On : 19 Nov 2020 16:42
Operator : WD1
InstName : VOA9
Sample : |527510011|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 17:40:45 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

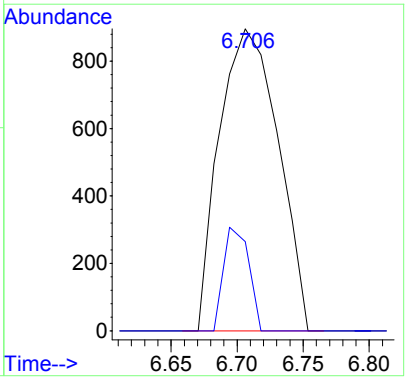




#9
Acetone
Concen: 1.90 ug/L
RT: 6.706 min Scan# 344
Delta R.T. 0.012 min
Lab File: 9S408.D
Acq: 19 Nov 2020 16:42

Tgt Ion: 43 Resp: 2770

Ion	Ratio	Lower	Upper
43	100		
58	14.7	0.0	58.4



Library Search Compound Report
GEL Laboratories, LLC

WMD
11/19/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S408.D
Acq On : 19 Nov 2020 16:42
Operator : WD1
Sample : |527510011|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 8 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S408.D
Acq On : 19 Nov 2020 16:42
Operator : WD1
Sample : |527510011|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 14:40**	**Matrix:**	**W**
Lab Sample ID:	**527510015**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB05-20-209985**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 15:53**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/18/2020 15:53**				
Data File:	**111820V6\6J314.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	54.0	50.0	ug/L	108	(71%-134%)
Bromofluorobenzene	52.6	50.0	ug/L	105	(70%-131%)
Toluene-d8	52.3	50.0	ug/L	105	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.664	78.5	ug/L		J

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J314.D
Acq On : 18 Nov 2020 15:53
Operator : WD1
InstName : VOA6
Sample : |527510015|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 14 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 19 08:58:56 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	1826195	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1296570	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	710754	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1826195	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1296761	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	710861	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	695354	53.98	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1852469	52.32	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	715598	52.59	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	108%
45) Toluene-d8	50.000	74 - 124	105%
63) Bromofluorobenzene	50.000	70 - 131	105%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane		0.000	4.338	0.000	0	N.D.		
4) Vinyl chloride	62	4.683	4.522	0.496	696	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.178	6.179	0.654	44126	14.85	ug/L	86
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0m	N.D.	d	
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.550	6.526	0.694	2940	N.D.		
13) Methyl acetate	43	6.569	6.563	0.696	1526	N.D.		
14) Carbon disulfide	76	6.526	6.538	0.691	2724	N.D.		
15) Methylene chloride	84	6.739	6.739	0.714	3112	Below Cal		82
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.355	7.355	0.779	718	N.D.		
19) Vinyl acetate	43	7.544	7.532	0.799	283	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.160	8.160	0.864	6724	N.D.		
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform	83	8.501	8.514	0.901	1252	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane		0.000	8.867	0.000	0	N.D.		
28) 1,1-Dichloropropene		0.000	8.940	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	202	N.D.		
32) Benzene	78	9.178	9.178	0.972	605	N.D.		
33) Cyclohexene	67	9.263	9.288	0.981	463	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene	95	9.818	9.830	1.040	1020	N.D.		
36) 2-Pentanone	43	9.946	9.928	1.054	2238	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J314.D
Acq On : 18 Nov 2020 15:53
Operator : WD1
InstName : VOA6
Sample : |527510015|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 19 08:58:56 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
39) Dibromomethane		0.000	10.214	0.000	0	N.D.		
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.		
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.		
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.		
44) 4-Methyl-2-pentanone	58	10.897	10.891	0.862	619	N.D.		
46) Toluene	91	11.171	11.172	0.884	1164	N.D.		
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.		
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.		
49) 2-Hexanone	43	11.726	11.751	0.928	1319	N.D.		
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.		
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.		
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.		
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.		
54) Chlorobenzene		0.000	12.671	0.000	0	N.D.		
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.		
56) Ethylbenzene	91	12.744	12.738	1.009	288	N.D.		
57) m,p-Xylenes	106	12.854	12.848	1.017	973	N.D.		
58) o-Xylene	91	13.293	13.287	1.052	196	N.D.		
59) Styrene		0.000	13.293	0.000	0	N.D.		
61) Bromoform		0.000	13.543	0.000	0	N.D.		
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.		
64) 1,1,2,2-Tetrachloroethane	83	13.842	13.933	0.919	524	N.D.		
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.		
66) Bromobenzene		0.000	14.049	0.000	0	N.D.		
67) n-Propylbenzene		0.000	14.079	0.000	0	N.D.		
68) 1,3,5-Trimethylbenzene	105	14.232	14.238	0.945	247	N.D.		
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.		
70) 4-Chlorotoluene	91	14.329	14.323	0.951	111	N.D.		
71) tert-Butylbenzene		0.000	14.604	0.000	0	N.D.		
72) 1,2,4-Trimethylbenzene	105	14.652	14.646	0.972	714	N.D.		
73) sec-Butylbenzene		0.000	14.829	0.000	0	N.D.		
74) 4-Isopropyltoluene	119	14.945	14.957	0.992	740	N.D.		
75) 1,3-Dichlorobenzene	146	15.000	15.006	0.996	484	N.D.		
76) 1,4-Dichlorobenzene	146	15.061	15.091	1.000	154	N.D.		
77) n-Butylbenzene	91	15.390	15.384	1.021	169	N.D.		
78) 1,2-Dichlorobenzene	146	15.494	15.500	1.028	137	N.D.		
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.		
80) 1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	944	N.D.		
81) Hexachlorobutadiene		0.000	17.457	0.000	0	N.D.		
82) Naphthalene	128	17.652	17.646	1.172	3987	N.D.		
83) 1,2,3-Trichlorobenzene	180	17.951	17.957	1.191	1830	N.D.		
85) Acrolein	56	6.008	6.008	0.636	1852	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol	45	6.276	6.270	0.665	144639	186.77	ug/L #	57
88) Allyl chloride	41	6.550	6.593	0.694	2939	N.D.		
89) tert-Butyl Alcohol	59	6.758	6.758	0.716	913	N.D.		
90) Acrylonitrile		0.000	7.001	0.000	0	N.D.		
91) Isopropyl ether	45	7.605	7.544	0.806	180	N.D.		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.		
93) Ethyl tert-butyl ether	59	7.849	7.952	0.831	1383	N.D.		
94) Ethyl acetate	43	8.160	8.172	0.864	6724	N.D.		
95) Propionitrile		0.000	8.233	0.000	0	N.D.		
96) Methacrylonitrile	41	8.416	8.410	0.892	220	N.D.		
97) Tetrahydrofuran	42	8.538	8.519	0.904	1230	N.D.		
98) Isobutyl alcohol	41	8.861	8.867	0.939	163	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J314.D
Acq On : 18 Nov 2020 15:53
Operator : WD1
InstName : VOA6
Sample : |527510015|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 19 08:58:56 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

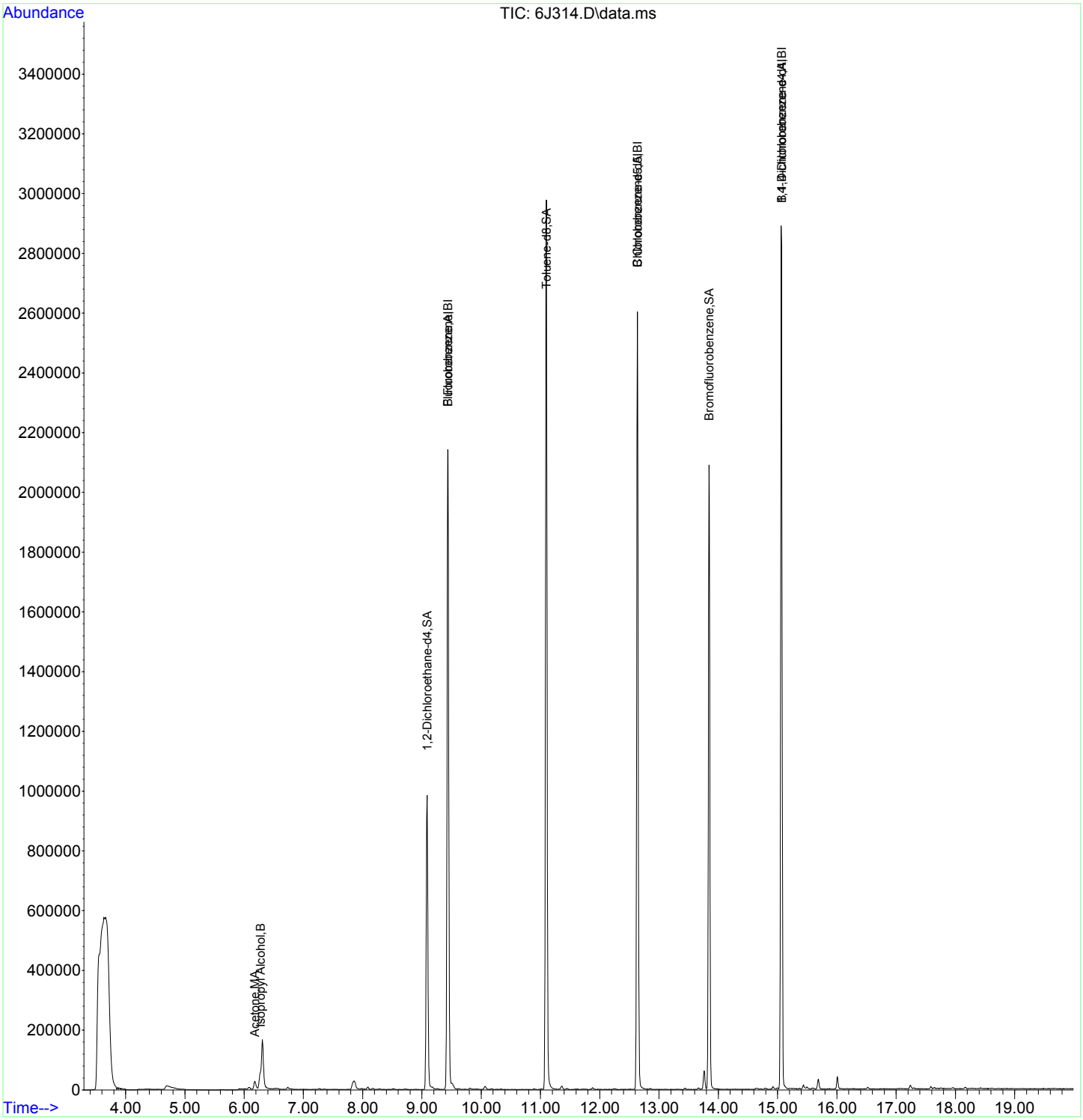
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.	
100)	Methyl methacrylate		0.000	10.068	0.000	0	N.D.	
101)	1,4-Dioxane	88	10.184	10.172	1.079	1098	N.D.	
102)	2-Nitropropane		0.000	10.550	0.000	0	N.D.	
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108)	Cyclohexanone	42	13.823	13.799	0.917	142	N.D.	
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111)	Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112)	bis(2-Chloroisopropyl)...	45	15.603	15.603	1.036	2053	N.D.	

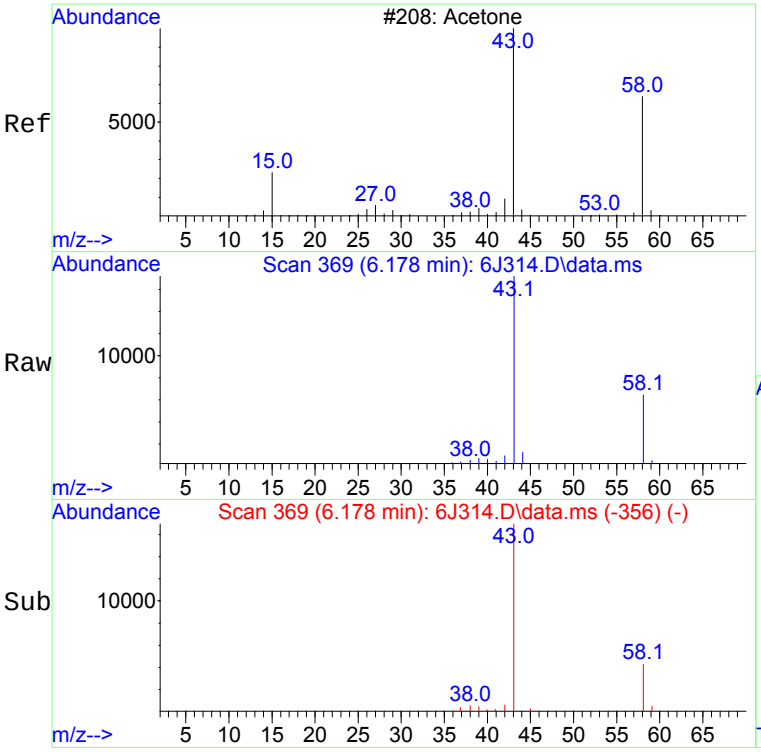
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J314.D
Acq On : 18 Nov 2020 15:53
Operator : WD1
InstName : VOA6
Sample : |527510015|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 19 08:58:56 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

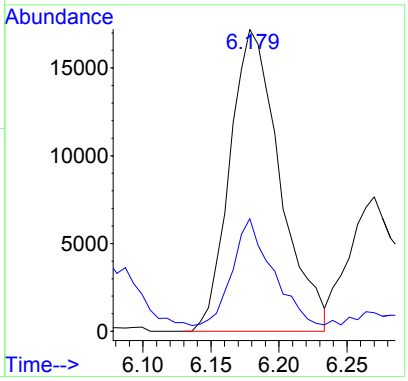


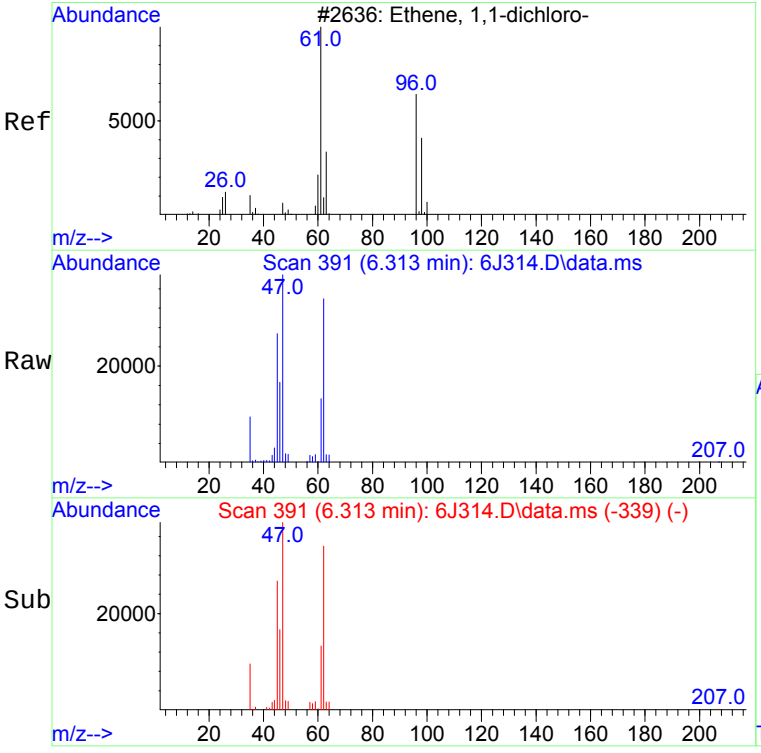


#9
Acetone
Concen: 14.85 ug/L
RT: 6.178 min Scan# 369
Delta R.T. -0.001 min
Lab File: 6J314.D
Acq: 18 Nov 2020 15:53

Tgt Ion: 43 Resp: 44126

Ion	Ratio	Lower	Upper
43	100		
58	27.4	5.4	65.4

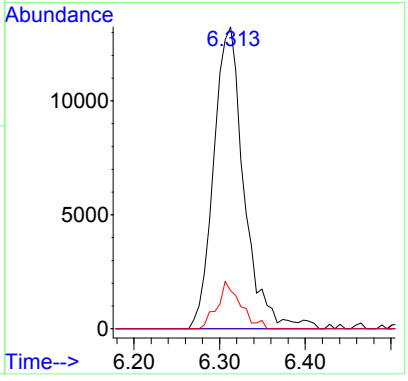


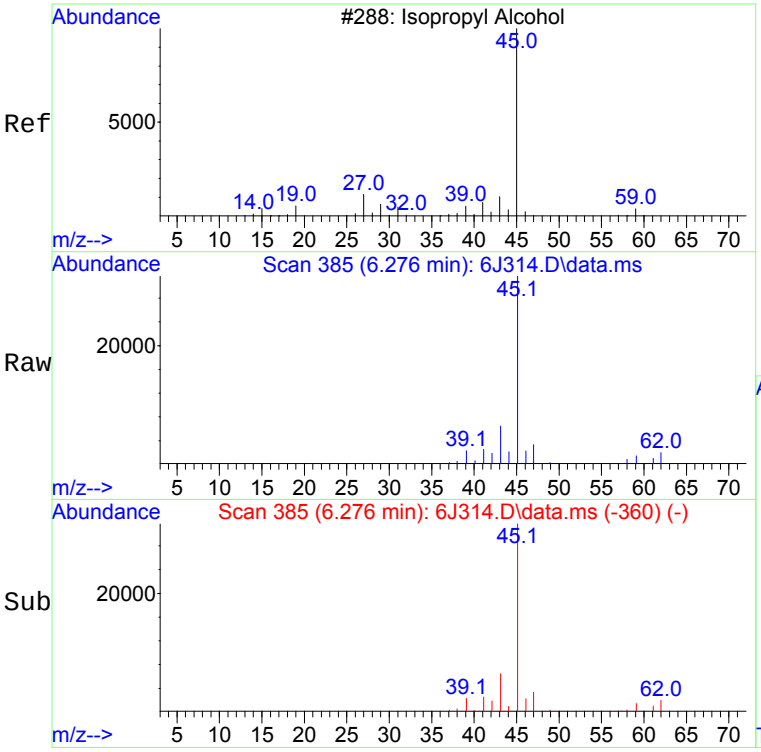


#10 BEFORE analyst DELETION
1,1-Dichloroethylene
Concen: 1.72 ug/L
RT: 6.313 min Scan# 391
Delta R.T. 0.140 min
Lab File: 6J314.D
Acq: 18 Nov 2020 15:53

Tgt Ion: 61 Resp: 32627

Ion	Ratio	Lower	Upper
61	100		
96	0.0	14.7	74.7#
63	12.0	1.1	61.1

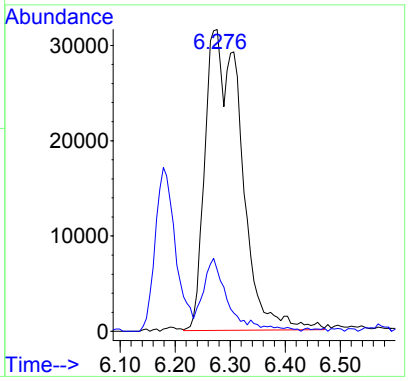


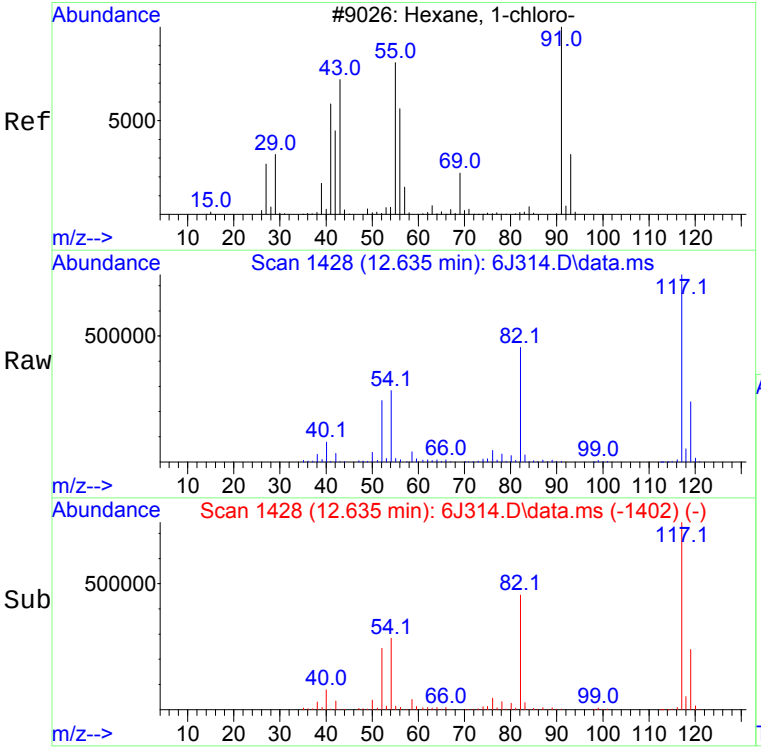


#87
Isopropyl Alcohol
Concen: 186.77 ug/L
RT: 6.276 min Scan# 385
Delta R.T. 0.006 min
Lab File: 6J314.D
Acq: 18 Nov 2020 15:53

Tgt Ion: 45 Resp: 144639

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	49.6

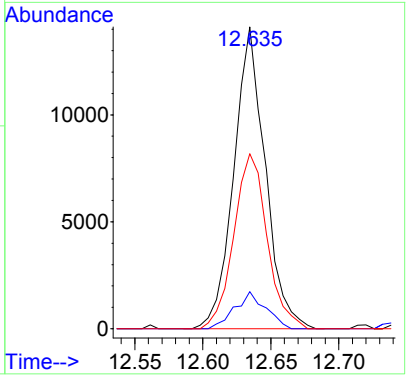




#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.84 ug/L
RT: 12.635 min Scan# 1428
Delta R.T. 0.086 min
Lab File: 6J314.D
Acq: 18 Nov 2020 15:53

Tgt Ion: 55 Resp: 22602

Ion	Ratio	Lower	Upper
55	100		
91	12.1	65.1	125.1#
56	61.5	30.4	90.4



Library Search Compound Report
GEL Laboratories, LLC

WMD
11/20/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J314.D
Acq On : 18 Nov 2020 15:53
Operator : WD1
Sample : |527510015|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 14 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

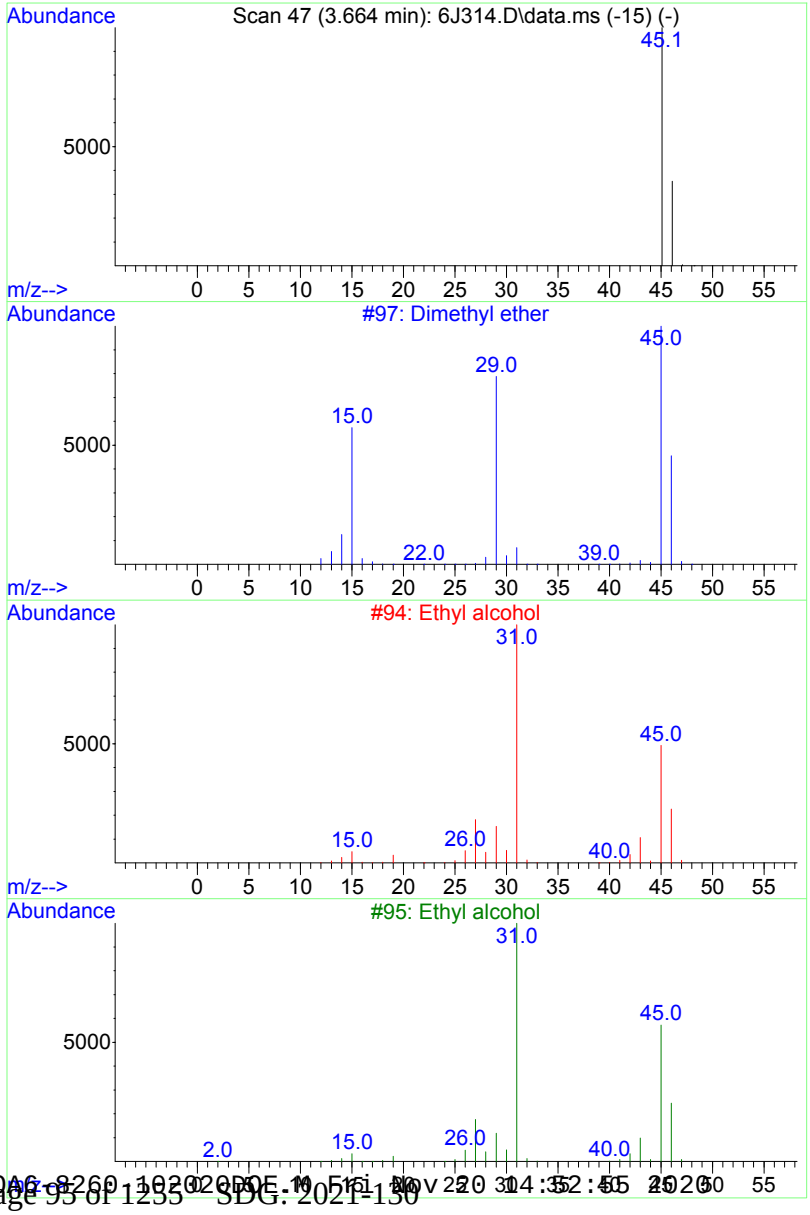
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

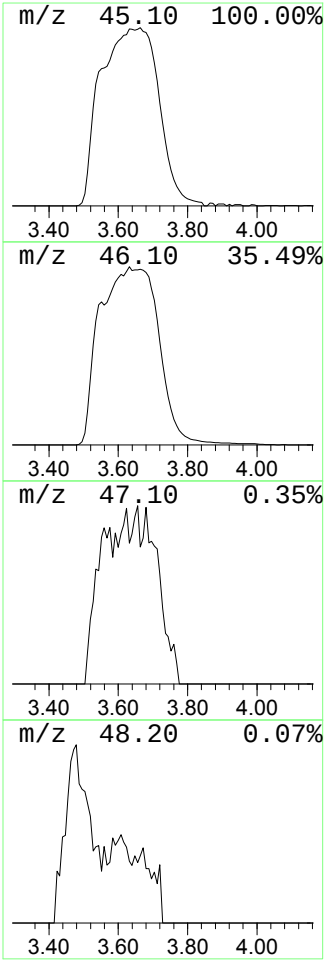
****

Peak Number 1 Unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.664	78.47 ug/L	6756190	Fluorobenzene	9.440

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl ether	46	C2H6O	000115-10-6	5
2	Ethyl alcohol	46	C2H6O	000064-17-5	4
3	Ethyl alcohol	46	C2H6O	000064-17-5	4
4	Ethyl alcohol	46	C2H6O	000064-17-5	4
5	Dimethyl ether	46	C2H6O	000115-10-6	2





Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J314.D
Acq On : 18 Nov 2020 15:53
Operator : WD1
Sample : |527510015|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH7
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc
Unknown	000115-10-6	3.664	78.5	6756190	1 9.440	4305150	50.0

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 14:40**	**Matrix:**	**W**
Lab Sample ID:	**527510017**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB05-20-209992**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 16:18**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/18/2020 16:18**				
Data File:	**111820V6\6J315.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	52.0	50.0	ug/L	104	(71%-134%)
Bromofluorobenzene	52.3	50.0	ug/L	105	(70%-131%)
Toluene-d8	51.2	50.0	ug/L	102	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.551	6.7	ug/L		J

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J315.D
Acq On : 18 Nov 2020 16:18
Operator : WD1
InstName : VOA6
Sample : |527510017|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 15 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 19 08:59:51 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.434	9.440	1.000	1802277	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.634	12.635	1.000	1292398	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	693627	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.434	9.440	1.000	1802277	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.634	12.641	1.000	1292726	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	694445	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	661337	52.02	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1805666	51.16	ug/L	0.00
63) Bromofluorobenzene	95	13.841	13.842	0.919	693932	52.25	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	104%
45) Toluene-d8	50.000	74 - 124	102%
63) Bromofluorobenzene	50.000	70 - 131	105%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane		0.000	4.338	0.000	0	N.D.		
4) Vinyl chloride		0.000	4.522	0.000	0	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.178	6.179	0.655	4180	N.D.		
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0	N.D.		
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.526	6.526	0.692	471	N.D.		
13) Methyl acetate	43	6.575	6.563	0.697	855	N.D.		
14) Carbon disulfide	76	6.514	6.538	0.690	512	N.D.		
15) Methylene chloride	84	6.733	6.739	0.714	3068	Below Cal	#	68
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.343	7.355	0.778	173	N.D.		
19) Vinyl acetate	43	7.550	7.532	0.800	325	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.178	8.160	0.867	2826	N.D.		
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform		0.000	8.514	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane		0.000	8.867	0.000	0	N.D.		
28) 1,1-Dichloropropene		0.000	8.940	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.166	9.172	0.972	661	N.D.		
32) Benzene	78	9.172	9.178	0.972	465	N.D.		
33) Cyclohexene		0.000	9.288	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene		0.000	9.830	0.000	0	N.D.		
36) 2-Pentanone	43	9.934	9.928	1.053	339	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J315.D
Acq On : 18 Nov 2020 16:18
Operator : WD1
InstName : VOA6
Sample : |527510017|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Nov 19 08:59:51 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
39) Dibromomethane		0.000	10.214	0.000	0	N.D.	
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.	
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.	
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.	
44) 4-Methyl-2-pentanone		0.000	10.891	0.000	0	N.D.	
46) Toluene	91	11.171	11.172	0.884	440	N.D.	
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.	
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.	
49) 2-Hexanone	43	11.769	11.751	0.931	485	N.D.	
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.	
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.	
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.	
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.	
54) Chlorobenzene		0.000	12.671	0.000	0	N.D.	
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.	
56) Ethylbenzene	91	12.738	12.738	1.008	154	N.D.	
57) m,p-Xylenes		0.000	12.848	0.000	0	N.D.	
58) o-Xylene		0.000	13.287	0.000	0	N.D.	
59) Styrene		0.000	13.293	0.000	0	N.D.	
61) Bromoform		0.000	13.543	0.000	0	N.D.	
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.	
64) 1,1,2,2-Tetrachloroethane	83	13.841	13.933	0.919	319	N.D.	
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.	
66) Bromobenzene		0.000	14.049	0.000	0	N.D.	
67) n-Propylbenzene		0.000	14.079	0.000	0	N.D.	
68) 1,3,5-Trimethylbenzene		0.000	14.238	0.000	0	N.D.	
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.	
70) 4-Chlorotoluene	91	14.323	14.323	0.951	131	N.D.	
71) tert-Butylbenzene		0.000	14.604	0.000	0	N.D.	
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	231	N.D.	
73) sec-Butylbenzene		0.000	14.829	0.000	0	N.D.	
74) 4-Isopropyltoluene	119	15.061	14.957	1.000	296	N.D.	
75) 1,3-Dichlorobenzene	146	15.012	15.006	0.996	143	N.D.	
76) 1,4-Dichlorobenzene	146	15.073	15.091	1.000	1089	N.D.	
77) n-Butylbenzene		0.000	15.384	0.000	0	N.D.	
78) 1,2-Dichlorobenzene		0.000	15.500	0.000	0	N.D.	
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.	
80) 1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	901	N.D.	
81) Hexachlorobutadiene		0.000	17.457	0.000	0	N.D.	
82) Naphthalene	128	17.652	17.646	1.172	2613	N.D.	
83) 1,2,3-Trichlorobenzene	180	17.963	17.957	1.192	1234	N.D.	
85) Acrolein		0.000	6.008	0.000	0	N.D.	
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.	
87) Isopropyl Alcohol	45	6.276	6.270	0.665	823	N.D.	
88) Allyl chloride	41	6.599	6.593	0.700	315	N.D.	
89) tert-Butyl Alcohol	59	6.770	6.758	0.718	1378	N.D.	
90) Acrylonitrile	53	7.038	7.001	0.746	108	N.D.	
91) Isopropyl ether		0.000	7.544	0.000	0	N.D.	
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.	
93) Ethyl tert-butyl ether	59	7.861	7.952	0.833	1328	N.D.	
94) Ethyl acetate	43	8.178	8.172	0.867	2826	N.D.	
95) Propionitrile		0.000	8.233	0.000	0	N.D.	
96) Methacrylonitrile	41	8.410	8.410	0.891	195	N.D.	
97) Tetrahydrofuran	42	8.513	8.519	0.902	2007	N.D.	
98) Isobutyl alcohol	41	8.989	8.867	0.953	238	N.D.	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J315.D
Acq On : 18 Nov 2020 16:18
Operator : WD1
InstName : VOA6
Sample : |527510017|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Nov 19 08:59:51 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

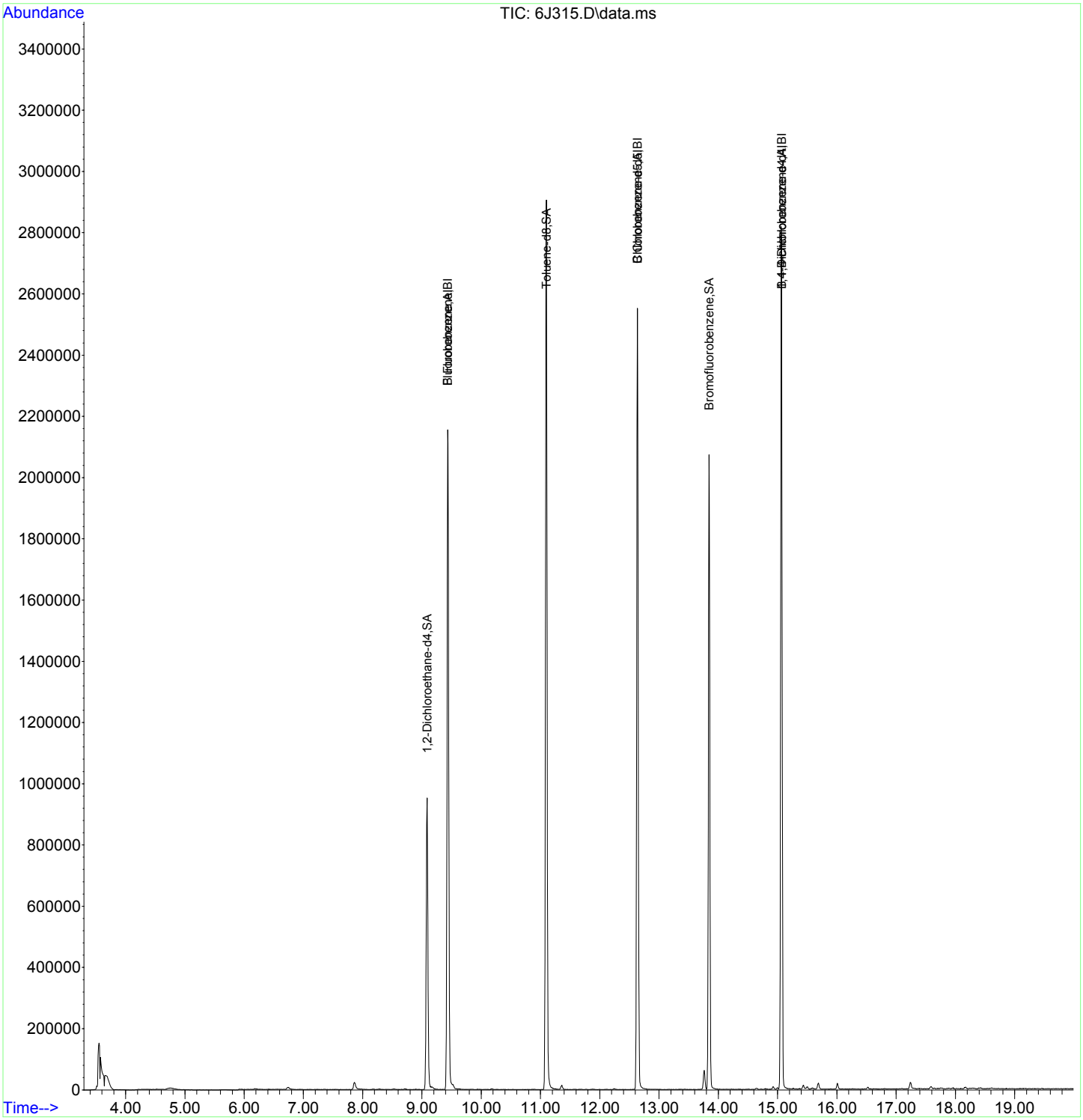
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.	
100)	Methyl methacrylate		0.000	10.068	0.000	0	N.D.	
101)	1,4-Dioxane	88	10.190	10.172	1.080	1276	N.D.	
102)	2-Nitropropane		0.000	10.550	0.000	0	N.D.	
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108)	Cyclohexanone	42	13.817	13.799	0.917	207	N.D.	
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111)	Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112)	bis(2-Chloroisopropyl)...	45	15.603	15.603	1.036	1335	N.D.	

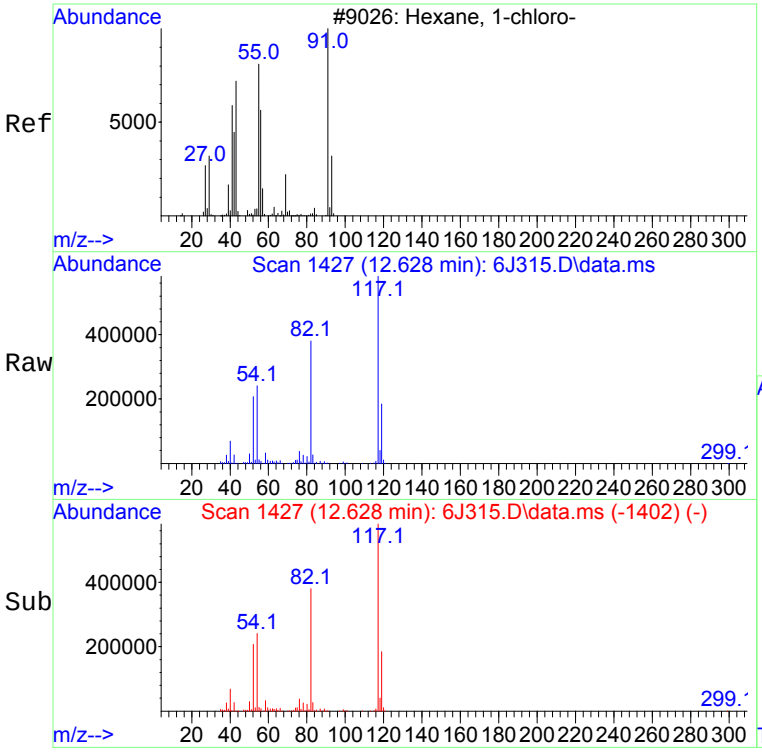
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J315.D
Acq On : 18 Nov 2020 16:18
Operator : WD1
InstName : VOA6
Sample : |527510017|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Nov 19 08:59:51 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

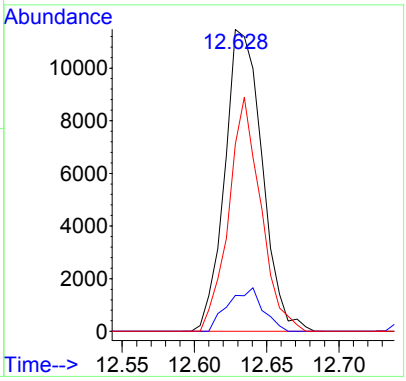




#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.72 ug/L
RT: 12.628 min Scan# 1427
Delta R.T. 0.079 min
Lab File: 6J315.D
Acq: 18 Nov 2020 16:18

Tgt Ion: 55 Resp: 20583

Ion	Ratio	Lower	Upper
55	100		
91	13.4	65.1	125.1#
56	66.6	30.4	90.4



Library Search Compound Report
GEL Laboratories, LLC

WMD
11/20/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J315.D
Acq On : 18 Nov 2020 16:18
Operator : WD1
Sample : |527510017|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 15 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

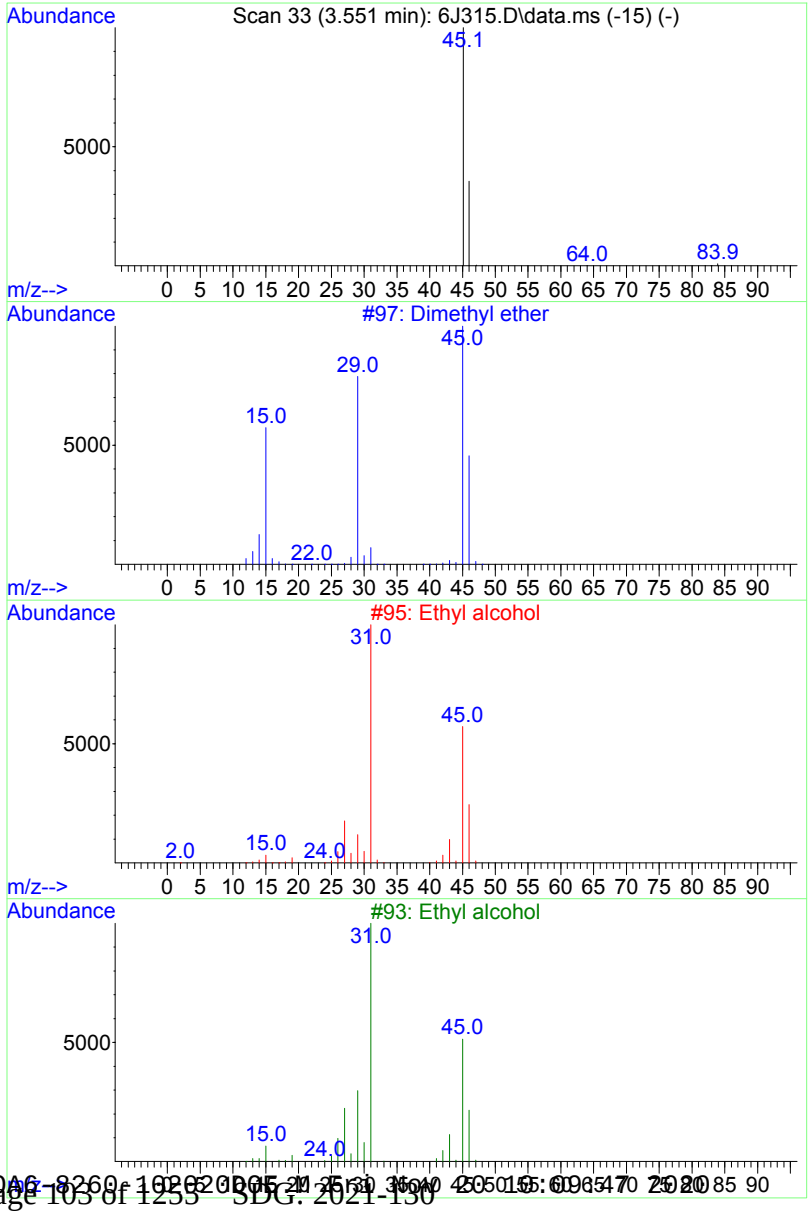
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

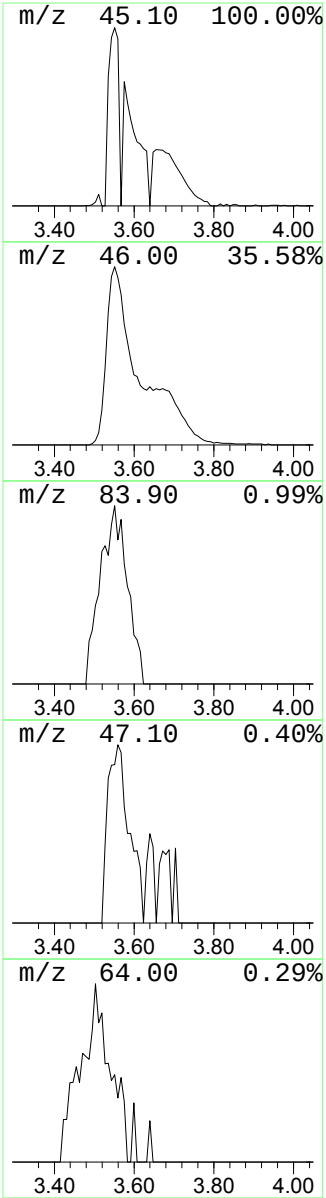
****

Peak Number 1 Unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.551	6.70 ug/L	572844	Fluorobenzene	9.434

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl ether	46	C2H6O	000115-10-6	5
2	Ethyl alcohol	46	C2H6O	000064-17-5	4
3	Ethyl alcohol	46	C2H6O	000064-17-5	4
4	Ethyl alcohol	46	C2H6O	000064-17-5	4
5	Formic acid	46	CH2O2	000064-18-6	3





Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J315.D
Acq On : 18 Nov 2020 16:18
Operator : WD1
Sample : |527510017|2063772|1|VOAF|1|VOA8260LFD|
Misc : ARSL 5ML PH<2
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard			
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
Unknown	000115-10-6	3.551	6.7	572844	1	9.434	4277660	50.0

Standards

Low level SW846 8260B and Regular level 8260B and EPA 624

Calibration Standard Concentration Levels

	Level 1	Level 1a	Level 2	Level 3	Level 4	Level 5	Level 6 #	Level 7 !	Level 7a
Fluorobenzene (IS)	20	20/50	20/50	20/50	20/50	20/50	20/50	20/50	20/50
1,2-Dichloroethane-d4(surr)		20/50	20/50	20/50	20/50	20/50	20/50	20/50	20/50
Dichlorodifluoromethane		0.5	1	2	5	10	20	50	100
Chloromethane		0.5	1	2	5	10	20	50	100
Vinyl chloride		0.5	1	2	5	10	20	50	100
Bromomethane		0.5	1	2	5	10	20	50	100
Chloroethane		0.5	1	2	5	10	20	50	100
Trichlorofluoromethane		0.5	1	2	5	10	20	50	100
1,1-Dichloroethene		0.5	1	2	5	10	20	50	100
Acetone	1	2.5	5	10	25	50	100	250	500
Iodomethane	1	2.5	5	10	25	50	100	250	500
Carbon disulfide	1	2.5	5	10	25	50	100	250	500
Methylene chloride		0.5	1	2	5	10	20	50	100
trans-1,2-Dichloroethene		0.5	1	2	5	10	20	50	100
1,1-Dichloroethane		0.5	1	2	5	10	20	50	100
Ethyl ether		0.5	1	2	5	10	20	50	100
Vinyl acetate	1	2.5	5	10	25	50	100	250	500
cis-1,2-Dichloroethene		0.5	1	2	5	10	20	50	100
1,2-Dichloroethene (total)		1	2	4	10	20	40	100	200
Cyclohexene		0.5	1	2	5	10	20	50	100
2-Chloroethylvinyl ether			5	10	25	50	100	250	500
2,2-Dichloropropane		0.5	1	2	5	10	20	50	100
2-Butanone	1	2.5	5	10	25	50	100	250	500
Bromochloromethane		0.5	1	2	5	10	20	50	100
Chloroform		0.5	1	2	5	10	20	50	100
1,1,1-Trichloroethane		0.5	1	2	5	10	20	50	100
1,1-Dichloropropene		0.5	1	2	5	10	20	50	100
Carbon tetrachloride		0.5	1	2	5	10	20	50	100
Benzene		0.5	1	2	5	10	20	50	100
1,2-Dichloroethane		0.5	1	2	5	10	20	50	100
Trichloroethene		0.5	1	2	5	10	20	50	100
1,2-Dichloropropane		0.5	1	2	5	10	20	50	100
Dibromomethane		0.5	1	2	5	10	20	50	100
Bromodichloromethane		0.5	1	2	5	10	20	50	100
cis-1,3-Dichloropropene		0.5	1	2	5	10	20	50	100
tert-Butylmethylether		0.5	1	2	5	10	20	50	100
Ethyl Ether			1	2	5	10	20	50	100
Acetonitrile			25	50	125	250	500	1250	2500
Methyl acetate			5	10	25	50	100	250	500
Cyclohexane			1	2	5	10	20	50	100
Methylcyclohexane			1	2	5	10	20	50	100
n-Butyl alcohol		50	100	200	500	1000	2000	5000	10000
2-Nitropropane			5	10	25	50	100	250	500
Ethyl acetate			5	10	25	50	100	250	500
Acrolein			5	10	25	50	100	250	500
Trichlorotrifluoroethane		2	5	10	25	50	100	250	500
Allyl chloride			5	10	25	50	100	250	500
Acrylonitrile			5	10	25	50	100	250	500
1,4-Dioxane			50	100	250	500	1000	2500	5000
Isobutyl alcohol			50	100	250	500	1000	2500	5000
Methacrylonitrile			5	10	25	50	100	250	500
Propionitrile			5	10	25	50	100	250	500
Methyl methacrylate			5	10	25	50	100	250	500
Chlorotrifluoroethylene			5	10	25	50	100	150	200
2-Chloro-1,1,1-trifluoroethane			5	10	25	50	100	150	200
Tetrahydrofuran			5	10	25	50	100	250	500
tert-Butyl alcohol			50	100	250	500	1000	2500	5000
Isopropyl ether			1	2	5	10	20	50	100
Ethyl tert-butyl ether			1	2	5	10	20	50	100
Isopropyl alcohol			50	100	250	500	1000	2500	5000
Methyl tert-amyl ether			1	2	5	10	20	50	100
1-Chlorohexane			1	2	5	10	20	50	100
2-Chloro-1,3-butadiene(chloroprene)			1	2	5	10	20	50	100
Chlorobenzene-d5 (IS)	20	20	20/50	20/50	20/50	20/50	20/50	20/50	20/50
Toluene-d8 (surr)		20	20/50	20/50	20/50	20/50	20/50	20/50	20/50
4-Methyl-2-pentanone	1	2.5	5	10	25	50	100	250	500
Toluene		0.5	1	2	5	10	20	50	100
trans-1,3-Dichloropropene		0.5	1	2	5	10	20	50	100
1,1,2-Trichloroethane		0.5	1	2	5	10	20	50	100
Tetrachloroethene		0.5	1	2	5	10	20	50	100
1,3-Dichloropropane		0.5	1	2	5	10	20	50	100
2-Hexanone	1	2.5	5	10	25	50	20	250	500
Dibromochloromethane		0.5	1	2	5	10	20	50	100
1,2-Dibromoethane		0.5	1	2	5	10	20	50	100
Chlorobenzene		0.5	1	2	5	10	20	50	100
1,1,1,2-Tetrachloroethane		0.5	1	2	5	10	20	50	100
Ethylbenzene		0.5	1	2	5	10	20	50	100
m,p-Xylene		1	2	4	10	20	20	100	200
o-Xylene		0.5	1	2	5	10	20	50	100
Xylenes (total)		1.5	3	6	15	30	60	150	300
Stryene		0.5	1	2	5	10	20	50	100
Ethyl methacrylate			5	10	25	50	100	250	500
1,4-Dichlorobenzene-d4 (IS)	20	20	20/50	20/50	20/50	20/50	20/50	20/50	20/50
Bromofluorobenzene (surr)		20	20/50	20/50	20/50	20/50	20/50	20/50	20/50
Bromoform		0.5	1	2	5	10	20	50	100
Isopropylbenzene		0.5	1	2	5	10	20	50	100
1,1,2,2-Tetrachloroethane		0.5	1	2	5	10	20	50	100
Bromobenzene		0.5	1	2	5	10	20	50	100
1,2,3-Trichloropropane		0.5	1	2	5	10	20	50	100
n-Propylbenzene		0.5	1	2	5	10	20	50	100
2-Chlorotoluene		0.5	1	2	5	10	20	50	100
1,3,5-Trimethylbenzene		0.5	1	2	5	10	20	50	100
4-Chlorotoluene		0.5	1	2	5	10	20	50	100
1,2,4-Trimethylbenzene		0.5	1	2	5	10	20	50	100
sec-Butylbenzene		0.5	1	2	5	10	20	50	100
1,3-Dichlorobenzene		0.5	1	2	5	10	20	50	100
tert-Butylbenzene		0.5	1	2	5	10	20	50	100
Isopropyltoluene		0.5	1	2	5	10	20	50	100
1,4-Dichlorobenzene		0.5	1	2	5	10	20	50	100
n-Butylbenzene		0.5	1	2	5	10	20	50	100
1,2-Dichlorobenzene		0.5	1	2	5	10	20	50	100
1,2-Dibromo-3-chloropropa		0.5	1	2	5	10	20	50	100
1,2,4-Trichlorobenzene		0.5	1	2	5	10	20	50	100
Hexachlorobutadiene		0.5	1	2	5	10	20	50	100
Naphthalene		0.5	1	2	5	10	20	50	100
1,2,3-Trichlorobenzene		0.5	1	2	5	10	20	50	100
cis-1,4-Dichloro-2-butene			5	10	25	50	100	250	500
trans-1,4-Dichloro-2-butene			5	10	25	50	100	250	500
Pentachloroethane			5	10	25	50	100	250	500
Benzyl chloride			5	10	25	50	100	250	500
Cyclohexanone			25	50	125	250	500	1250	2500
bis(2-Chloro-isopropyl)ether			5	10	25	50	100	250	500

Method	PQL	Concentration range		
SW 846 8260B low level	Level 1 &1a	Levels 1-> 7a	IS/SS @ 20 ppb	
EPA 524.2	Level 1a	Levels 1a-> 7a	IS/SS @ 20 ppb	
SW846 8260B/624	Level 2	Levels 1a-> 7a	IS/SS @ 50 ppb	n-butyl alchol only in 1a

#: Indicates calibration verification concentration level used for low level analysis

!: Indicates calibration verification concentration level used for regular level analysis

MEL

Calibration History Report VOA6
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M 10/21/2020
Last Update : Wed Oct 21 15:27:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

KP 10/21/2020

Cal Lvl:8 Amt:0.00 Last Updated with: C:\msdchem\1\data\102020V6\6F202.D

Injection Date	Mix	Calibration File
20 Oct 2020 13:37	A	C:\msdchem\1\data\102020V6\6F202.D

Cal Lvl:1 Amt:1.00 Last Updated with: C:\msdchem\1\data\102020V6\6F213.D

Injection Date	Mix	Calibration File
20 Oct 2020 14:03	A	C:\msdchem\1\data\102020V6\6F203.D
20 Oct 2020 18:19	B	C:\msdchem\1\data\102020V6\6F213.D

Cal Lvl:2 Amt:2.00 Last Updated with: C:\msdchem\1\data\102020V6\6F214.D

Injection Date	Mix	Calibration File
20 Oct 2020 14:28	A	C:\msdchem\1\data\102020V6\6F204.D
20 Oct 2020 18:44	B	C:\msdchem\1\data\102020V6\6F214.D

Cal Lvl:3 Amt:5.00 Last Updated with: C:\msdchem\1\data\102020V6\6F215.D

Injection Date	Mix	Calibration File
20 Oct 2020 14:54	A	C:\msdchem\1\data\102020V6\6F205.D
20 Oct 2020 19:10	B	C:\msdchem\1\data\102020V6\6F215.D

Cal Lvl:4 Amt:10.00 Last Updated with: C:\msdchem\1\data\102020V6\6F216.D

Injection Date	Mix	Calibration File
20 Oct 2020 15:20	A	C:\msdchem\1\data\102020V6\6F206.D
20 Oct 2020 19:36	B	C:\msdchem\1\data\102020V6\6F216.D

Cal Lvl:5 Amt:20.00 Last Updated with: C:\msdchem\1\data\102020V6\6F217.D

Injection Date	Mix	Calibration File
20 Oct 2020 15:46	A	C:\msdchem\1\data\102020V6\6F207.D
20 Oct 2020 20:02	B	C:\msdchem\1\data\102020V6\6F217.D

Cal Lvl:6 Amt:50.00 Last Updated with: C:\msdchem\1\data\102020V6\6F218.D

Injection Date	Mix	Calibration File
20 Oct 2020 16:11	A	C:\msdchem\1\data\102020V6\6F208.D
20 Oct 2020 20:27	B	C:\msdchem\1\data\102020V6\6F218.D

Cal Lvl:7 Amt:100.00 Last Updated with: C:\msdchem\1\data\102020V6\6F220.D

Injection Date	Mix	Calibration File
20 Oct 2020 17:02	A	C:\msdchem\1\data\102020V6\6F210.D
20 Oct 2020 21:19	B	C:\msdchem\1\data\102020V6\6F220.D

Cal Lvl:9 Amt:80.00 Last Updated with: C:\msdchem\1\data\102020V6\6F219.D

Injection Date	Mix	Calibration File
20 Oct 2020 16:37	A	C:\msdchem\1\data\102020V6\6F209.D

Calibration History Report VOA6
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Last Update : Wed Oct 21 15:27:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

20 Oct 2020 20:53	B	C:\msdchem\1\data\102020V6\6F219.D

VOA6-8260-102020DOE.M Wed Oct 21 15:30:54 2020

SDG: 2021-130

Response Factor Report VOA6
GEL Laboratories, LLC

MEL 10/21/2020

Method File : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Last Update : Wed Oct 21 15:27:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

KP 10/21/2020

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	6	7	9							
2)MA Dichlorodifluoromethane		0.3753261	0.3097616	0.3620452	0.3188557	0.3602942				
	0.2815689	0.2740904	0.2848176				0.3208	AVRG		12.5642
3)MPA Chloromethane		0.7717084	0.6356728	0.7233163	0.6683777	0.6700985				
	0.6162436	0.5753428	0.5858111				0.6558	AVRG		10.2607
4)MCA Vinyl chloride		0.6209178	0.5603873	0.6128982	0.5654490	0.5715513				
	0.5292676	0.4959811	0.5099525				0.5583	AVRG		8.0664
5)MA Bromomethane		0.3194967	0.2781414	0.2961521	0.2733871	0.2657534				
	0.2524311	0.2329086	0.2426292				0.2701	AVRG		10.5302
6)MA Chloroethane		0.3557441	0.3357777	0.3575139	0.3347836	0.3394426				
	0.3258756	0.3099077	0.3086534				0.3335	AVRG		5.4896
7)MA Trichlorofluoromethane		0.5201877	0.4916846	0.5194239	0.4924191	0.4998531				
	0.4774831	0.4618042	0.4611241				0.4905	AVRG		4.6659
8)MA Ethyl ether		0.3147214	0.3181442	0.3186881	0.3273777	0.3238709				
	0.3299001	0.3285959	0.3277001				0.3236	AVRG		1.7655
9)MA Acetone		0.0913846	0.0840092	0.0810311	0.0798468	0.0767578				
	0.0805709	0.0781240	0.0790786				0.0814	AVRG		5.6405
10)MCA 1,1-Dichloroethylene		0.4741332	0.4955839	0.5094472	0.5266189	0.5389820				
	0.5439301	0.5354579	0.5266171				0.5188	AVRG		4.6418
11)MA Iodomethane		0.3745569	0.3748365	0.4045601	0.4172276	0.4160520				
	0.4274482	0.4142571	0.4092979				0.4048	AVRG		4.8664
12)MA Acetonitrile		0.0374781	0.0378508	0.0373585	0.0392516	0.0375208				
	0.0410847	0.0385992	0.0383697				0.0384	AVRG		3.2568
13)MA Methyl acetate		0.1818333	0.1870915	0.1872315	0.1935832	0.1885548				
	0.2014792	0.1932973	0.1984968				0.1914	AVRG		3.3958
14)MA Carbon disulfide		0.6575947	0.6696200	0.7790044	0.8501574	0.8734225				
	0.9191665	0.8349477	0.8557501				0.8050	AVRG		11.8749
15)MA Methylene chloride		16236	27255	48469	93455	193224		1/x		
0.0053 | 0.2762 | 0.00	475279	1028182	786662					LINR	#	0.9998
16)MA tert-Butyl methyl ether		0.6110146	0.6372515	0.7090886	0.7191065	0.7205047				
	0.7506051	0.7418873	0.7323015				0.7027	AVRG		7.2208

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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
17)MA trans-1,2-Dichloroethyle		0.4568268	0.4873749	0.4842751	0.5026775	0.5107040				
	0.5117386	0.5052724	0.4991474				0.4948	AVRG		3.6942
18)MA Hexane				0.5559941	0.6088646	0.5593416				
	0.5695527	0.5464274	0.5401940				0.5634	AVRG		4.3497
19)MA Vinyl acetate		0.5178609	0.5840701	0.6049689	0.6554671	0.6643234				
	0.6846583	0.5693670	0.6217076				0.6128	AVRG		9.0448
20)MPA 1,1-Dichloroethane		0.5306677	0.5843037	0.5634283	0.5871232	0.5958442				
	0.6135048	0.6018073	0.5965252				0.5842	AVRG		4.4650
21)MA 2-Butanone		0.1198698	0.1235353	0.1197434	0.1230955	0.1207595				
	0.1272097	0.1244806	0.1255579				0.1230	AVRG		2.2189
22)MA cis-1,2-Dichloroethylene		0.5157649	0.5590928	0.5429743	0.5576977	0.5723160				
	0.5860752	0.5753208	0.5648328				0.5593	AVRG		3.9047
23)MA 2,2-Dichloropropane		0.2696284	0.2951276	0.2743968	0.2915023	0.3041831				
	0.3053845	0.3044532	0.2951868				0.2925	AVRG		4.6796
24)MA Bromochloromethane		0.1228439	0.1116417	0.1197408	0.1230200	0.1232027				
	0.1276331	0.1253925	0.1220557				0.1219	AVRG		3.9061
25)MCA Chloroform		0.4237522	0.4597487	0.4473913	0.4564382	0.4680608				
	0.4715492	0.4660790	0.4603214				0.4567	AVRG		3.3438
26)MA 1,1,1-Trichloroethane		0.3251053	0.3511695	0.3598096	0.3775437	0.3965820				
	0.3996565	0.3947895	0.3895687				0.3743	AVRG		7.1178
27)MA Cyclohexane		0.6999506	0.7178255	0.7153616	0.7308614	0.7310707				
	0.7348615	0.7142878	0.7146070				0.7199	AVRG		1.6193
28)MA 1,1-Dichloropropene		0.3217722	0.3485174	0.3364594	0.3577593	0.3653640				
	0.3644108	0.3622674	0.3573704				0.3517	AVRG		4.3871
29)MA Carbon tetrachloride		0.2249841	0.2722688	0.2736093	0.2945753	0.3143408				
	0.3199056	0.3221273	0.3194968				0.2927	AVRG		11.6685
30)SA 1,2-Dichloroethane-d4		0.3515361	0.3585487	0.3542860	0.3578041	0.3492249				
	0.3576559	0.3446307	0.3478246				0.3527	AVRG		1.4758
31)MA 1,2-Dichloroethane		0.4245534	0.4469774	0.4205242	0.4432188	0.4441563				
	0.4557846	0.4479697	0.4451260				0.4410	AVRG		2.7431

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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
2)MA Benzene		0.9760530	1.0201044	1.0108196	1.0551852	1.0467505				
	1.0810487	1.0734499	1.0558707				1.0399	AVRG		3.3840
3)MA Cyclohexene		0.5132010	0.5275041	0.5223202	0.5589480	0.5763742				
	0.5759019	0.5691889	0.5686428				0.5515	AVRG		4.7335
4)MA n-Butyl alcohol	0.0058926	0.0059624	0.0069445	0.0077261	0.0087253	0.0096481				
	0.0107363	0.0115160	0.0111938				0.0087	AVRG	# #	25.2340
35)MA Trichloroethylene		0.2374833	0.2594660	0.2459948	0.2549841	0.2570947				
	0.2627651	0.2650217	0.2590816				0.2552	AVRG		3.5945
36)MA 2-Pentanone			0.1847488	0.1783025	0.1937929	0.1960838				
	0.2048359	0.2011593	0.2042963				0.1947	AVRG		5.1655
37)MCA 1,2-Dichloropropane		0.2861978	0.3254218	0.3176537	0.3324493	0.3481181				
	0.3596826	0.3620916	0.3583038				0.3362	AVRG		7.8097
38)MA Methylcyclohexane		0.4809597	0.4691416	0.4802110	0.4943602	0.4953760				
	0.5039598	0.5004691	0.5012282				0.4907	AVRG		2.5395
39)MA Dibromomethane		0.1259527	0.1356529	0.1389735	0.1388360	0.1408705				
	0.1457363	0.1459903	0.1447311				0.1396	AVRG		4.7614
40)MA Bromodichloromethane		7183	16264	39738	92042	205644		1/x		
-0.0039 | 0.3455 | 0.00	567382	1302734	975022					LINR	#	0.9984
41)MA 2-Chloroethylvinyl ether		0.1488228	0.1673458	0.2240176	0.1925343	0.1999927				
	0.2083112	0.1928629	0.1964210				0.1913	AVRG		12.2500
42)MA cis-1,3-Dichloropropylen		8671	20384	51231	116372	262784		1/x		
-0.0046 | 0.4297 | 0.00	711584	1610905	1206830					LINR	#	0.9990
44)MA 4-Methyl-2-pentanone		0.1131896	0.1361503	0.1418999	0.1533507	0.1550617				
	0.1639814	0.1659530	0.1674682				0.1496	AVRG		12.3832
45)SA Toluene-d8		1.3648973	1.3603761	1.3426741	1.3698614	1.3862752				
	1.3782954	1.3636939	1.3572460				1.3654	AVRG		0.9721
46)MCA Toluene		1.3297114	1.4166690	1.4101275	1.4021780	1.4199639				
	1.4366010	1.4219759	1.4159836				1.4067	AVRG		2.3190
47)MA trans-1,3-Dichloropropyl		7412	16499	43039	103586	232469		1/x		
-0.0060 | 0.5035 | 0.00	634899	1444082	1084865					LINR	#	0.9988

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
48)MA 1,1,2-Trichloroethane		0.1998642	0.2327537	0.2169515	0.2296631	0.2289868				
	0.2349798	0.2365308	0.2333738				0.2266	AVRG		5.4693
49)MA 2-Hexanone		0.1702201	0.1906753	0.2106872	0.2214191	0.2382078				
	0.2480560	0.2360545	0.2449388				0.2200	AVRG		12.6522
50)MA 1,3-Dichloropropane		0.4478422	0.4671318	0.4777321	0.5044338	0.5046115				
	0.5216220	0.5190029	0.5221898				0.4956	AVRG		5.6570
51)MA Tetrachloroethylene		0.2667616	0.2887428	0.2607717	0.2744322	0.2763378				
	0.2750509	0.2694497	0.2698919				0.2727	AVRG		3.0214
52)MA Dibromochloromethane		3989	8416	21687	52642	121373		1/x		
-0.0045 | 0.2864 | 0.00	355544	830612	626374					LINR	#	0.9961
53)MA 1,2-Dibromoethane		0.1982953	0.2284923	0.2377294	0.2472120	0.2591233				
	0.2654842	0.2667126	0.2640150				0.2459	AVRG		9.6701
54)MPA Chlorobenzene		0.8955537	0.9458243	0.9024359	0.9136347	0.9407195				
	0.9358425	0.9340388	0.9212541				0.9237	AVRG		1.9985
55)MA 1,1,1,2-Tetrachloroethan		0.2233110	0.2599466	0.2673527	0.2955053	0.3165077				
	0.3355428	0.3430639	0.3388801				0.2975	AVRG		14.7192
56)MCA Ethylbenzene		1.4666441	1.5814087	1.5571471	1.6008766	1.6703457				
	1.6866830	1.6449721	1.6567509				1.6081	AVRG		4.5300
57)MA m,p-Xylenes		0.5631368	0.6115560	0.6104178	0.6145058	0.6445892				
	0.6526340	0.6427005	0.6478457				0.6234	AVRG		4.8096
58)MA o-Xylene		1.2028460	1.3080450	1.3031598	1.3528819	1.4221092				
	1.4712483	1.4249233	1.4453038				1.3663	AVRG		6.6670
59)MA Styrene		16378	39330	101695	225070	525114				
-0.0193 | 1.1273 | 0.00	1432810	3136726	2439431					LINR	#	0.9998
61)MPA Bromoform			0.1599424	0.1695674	0.1995188	0.2328930				
	0.2820350	0.3160814	0.3104749				0.2386	AVRG	#	27.3542
62)MA Isopropylbenzene		2.5017850	2.8343420	2.8214068	3.0022741	3.0448635				
	3.0400844	2.9923156	3.0475801				2.9106	AVRG		6.4869
63)SA Bromofluorobenzene		0.9454078	0.9488628	0.9445153	0.9669432	0.9676955				
	0.9565262	0.9569795	0.9712299				0.9573	AVRG		1.0969

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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
64)MPA 1,1,2,2-Tetrachloroethan		0.5178942	0.5714797	0.5670573	0.6282588	0.6294602				
	0.6449049	0.6620616	0.6667951				0.6110	AVRG		8.6760
65)MA 1,2,3-Trichloropropane		0.1921258	0.1745487	0.1800600	0.1879933	0.1889825				
	0.1878764	0.1929809	0.1953906				0.1875	AVRG		3.7136
66)MA Bromobenzene		0.6088682	0.6599585	0.6506988	0.6805309	0.6935744				
	0.6849645	0.6935634	0.6930486				0.6707	AVRG		4.4319
67)MA n-Propylbenzene		3.1551224	3.4285723	3.4831969	3.6575265	3.7162432				
	3.6903255	3.5358706	3.6525110				3.5399	AVRG		5.2733
68)MA 1,3,5-Trimethylbenzene		2.2093686	2.4831034	2.5305128	2.6816097	2.7705730				
	2.8209374	2.7734971	2.8087400				2.6348	AVRG		8.1103
69)MA 2-Chlorotoluene		0.6448820	0.7173129	0.6795613	0.7227211	0.7257316				
	0.7289951	0.7311611	0.7324356				0.7104	AVRG		4.4328
70)MA 4-Chlorotoluene		2.0538829	2.1403532	2.1286116	2.2299740	2.2829068				
	2.3009947	2.2914743	2.2940577				2.2153	AVRG		4.2934
71)MA tert-Butylbenzene		0.5115526	0.5227667	0.5232121	0.5416896	0.5698250				
	0.5756404	0.5994534	0.5936296				0.5547	AVRG		6.1804
72)MA 1,2,4-Trimethylbenzene		2.2726276	2.5269986	2.6456794	2.7766076	2.8359025				
	2.9035202	2.8577385	2.8857249				2.7131	AVRG		8.1146
73)MA sec-Butylbenzene		2.9041219	3.2832744	3.3230035	3.5091389	3.5840469				
	3.6158091	3.5207312	3.6075041				3.4185	AVRG		7.1031
74)MA 4-Isopropyltoluene		2.4321061	2.6999414	2.8191539	2.9784858	3.0532674				
	3.0891693	3.0215594	3.0692065				2.8954	AVRG		7.9850
75)MA 1,3-Dichlorobenzene		1.3205323	1.4014750	1.3795722	1.4254026	1.4512023				
	1.4287230	1.4409147	1.4283390				1.4095	AVRG		3.0074
76)MA 1,4-Dichlorobenzene		1.4143247	1.4605118	1.4198411	1.4336528	1.4685105				
	1.4522368	1.4452224	1.4349476				1.4412	AVRG		1.3195
77)MA n-Butylbenzene		2.5336494	2.8098325	2.8812745	3.0048120	3.1805414				
	3.1833873	3.0758731	3.1055651				2.9719	AVRG		7.4654
78)MA 1,2-Dichlorobenzene		1.2449033	1.3997544	1.3625099	1.4109899	1.4015152				
	1.4138863	1.4139810	1.3998798				1.3809	AVRG		4.1565

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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
79)MA 1,2-Dibromo-3-chloroprop				0.0826647	0.0815942	0.0941195				
	0.1119618	0.1240472	0.1222641				0.1028	AVRG	#	18.6891
80)MA 1,2,4-Trichlorobenzene		1.2276793	1.1252560	1.1187854	1.1661997	1.1557429				
	1.1563088	1.1368053	1.1133299				1.1500	AVRG		3.1991
81)MA Hexachlorobutadiene		0.7251301	0.7230866	0.7045955	0.7315068	0.7658602				
	0.7532411	0.7369671	0.7373839				0.7347	AVRG		2.5567
82)MA Naphthalene		2.7079249	2.3322994	2.2581621	2.4634328	2.3749280				
	2.4496447	2.5177919	2.4985390				2.4503	AVRG		5.5604
83)MA 1,2,3-Trichlorobenzene		1.3022122	1.0982612	1.0579882	1.0808413	1.0595215				
	1.0481342	1.0558908	1.0423327				1.0931	AVRG		7.9033
85)B Acrolein		0.0428978	0.0454292	0.0475713	0.0495992	0.0504648				
	0.0522603	0.0548969	0.0551481				0.0498	AVRG		8.7500
86)B Trichlorotrifluoroethane		0.1243235	0.1268065	0.1302764	0.1390618	0.1365867				
	0.1306091	0.1244694	0.1292027				0.1302	AVRG		4.0999
87)B Isopropyl Alcohol		0.0201442	0.0187526	0.0198173	0.0213649	0.0227388				
	0.0217847	0.0229837	0.0220375				0.0212	AVRG		7.0489
88)B Allyl chloride		0.4133373	0.4284096	0.4784501	0.4922319	0.5026704				
	0.4947758	0.4569488	0.5057628				0.4716	AVRG		7.4400
89)B tert-Butyl Alcohol		0.0339039	0.0352162	0.0358119	0.0381182	0.0401701				
	0.0392023	0.0397991	0.0390816				0.0377	AVRG		6.2656
90)B Acrylonitrile		0.1135012	0.1179194	0.1226471	0.1262689	0.1277515				
	0.1240431	0.1253522	0.1246920				0.1228	AVRG		3.8758
91)B Isopropyl ether		1.0839932	1.1067524	1.1983587	1.2214362	1.2136388				
	1.2034967	1.1860052	1.2167822				1.1788	AVRG		4.5000
92)B 2-Chloro-1,3-butadiene		0.4216853	0.4339509	0.4908028	0.5064958	0.5211347				
	0.5167487	0.5229780	0.5281920				0.4927	AVRG		8.4903
93)B Ethyl tert-butyl ether		1.0793112	1.0708527	1.1210700	1.1634174	1.1685307				
	1.1693519	1.1590966	1.1794554				1.1389	AVRG		3.7778
94)B Ethyl acetate		0.2704563	0.2601792	0.2821462	0.2733478	0.2766661				
	0.2562622	0.2357902	0.2366976				0.2614	AVRG		6.7533

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

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Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
95)B Propionitrile		0.0390841	0.0443786	0.0466401	0.0464597	0.0473124				
	0.0463401	0.0472767	0.0471125				0.0456	AVRG		6.1135
96)B Methacrylonitrile		0.1497819	0.1595316	0.1766221	0.1766251	0.1836752				
	0.1820224	0.1841956	0.1850125				0.1747	AVRG		7.4611
97)B Tetrahydrofuran		0.0963512	0.0897792	0.0936009	0.0925102	0.0931609				
	0.0906986	0.0923387	0.0916581				0.0925	AVRG		2.1565
98)B Isobutyl alcohol		0.0091817	0.0090213	0.0100474	0.0105075	0.0110864				
	0.0108979	0.0115379	0.0110638				0.0104	AVRG	$	8.8666
99)B Methyl tert-amyl ether		0.6613998	0.6777690	0.7317230	0.7649022	0.7792197				
	0.7914671	0.7945927	0.7983280				0.7499	AVRG		7.2199
100)B Methyl methacrylate		0.1249194	0.1299754	0.1541617	0.1543472	0.1635789				
	0.1705195	0.1777277	0.1783533				0.1567	AVRG		12.9568
101)B 1,4-Dioxane		0.0030776	0.0027932	0.0023594	0.0024005	0.0024567				
	0.0023358	0.0025020	0.0023690				0.0025	AVRG	#	10.3694
102)B 2-Nitropropane		8406	16207	49027	100961	239440		1/x		
-0.0072 | 0.0839 | 0.00	690963	1657533	892497					LINR	#	0.9948
104)B Ethyl methacrylate		0.3084678	0.3497594	0.4157113	0.4248881	0.4487648				
	0.4633375	0.4346832	0.4678026				0.4142	AVRG		13.6429
106)B 1-Chlorohexane		0.8180198	0.7868599	0.8656560	0.8226215	0.8564001				
	0.8896813	0.9415651	0.9210173				0.8627	AVRG		6.1571
107)B cis-1,4-Dichloro-2-buten		13156	28999	88644	164737	389930		1/x		
-0.0283 | 0.3433 | 0.00	1096604	2673832	1418559					LINR	#	0.9939
108)B Cyclohexanone		0.0144827	0.0149420	0.0160526	0.0175386	0.0186970				
	0.0210133	0.0211323	0.0199011				0.0180	AVRG		14.6798
109)B trans-1,4-Dichloro-2-but		11380	26370	77112	141395	329272		1/x		
-0.0204 | 0.2820 | 0.00	910214	2182888	1161186					LINR	#	0.9955
110)B Pentachloroethane		21693	48118	144587	298259	636739		1/x		
-0.0252 | 0.4950 | 0.00	1746621	3543660	2090612					LINR	#	0.9989
111)B Benzyl chloride		56895	131104	418676	855522	1852205		1/x		
-0.0539 | 1.3369 | 0.00	4884413	8967434	5907632					LINR	#	0.9936

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Last Update : Wed Oct 21 15:27:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound			8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b	m1	m2	6	7	9							
112)B bis(2-Chloroisopropyl)et				0.3368526	0.3617882	0.3989922	0.4293960	0.4440197				
			0.4533408	0.4618152	0.4527783				0.4174	AVRG		11.1970

(#) = Out of Range ($) = Individual RF Out of Range
AVRG = Average, LINR = Linear Regression, 1/x = the inverse of concentration, 1/x^2 = the inverse square of concentration

MEL

Quantitation Report
GEL Laboratories, LLC

10/21/2020

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F202.D
Acq On : 20 Oct 2020 13:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-01|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

KP 10/21/2020

Quant Time: Oct 21 15:28:19 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1642404	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.641	12.635	1.000	1223130	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	660375	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.641	12.641	1.000	0m	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	577321	49.83	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1686232	50.48	ug/L		0.00
63) Bromofluorobenzene	95	13.848	13.842	0.919	643278	50.88	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.953	3.969	0.419	3464	N.D.			
3) Chloromethane	50	4.322	4.338	0.458	16947	0.79	ug/L	#	41
4) Vinyl chloride	62	4.522	4.522	0.479	12036	0.66	ug/L	#	45
5) Bromomethane	94	5.020	5.020	0.532	5642	0.64	ug/L		98
6) Chloroethane	64	5.124	5.140	0.543	6573	0.60	ug/L		98
7) Trichlorofluoromethane	101	5.517	5.517	0.584	10506	0.65	ug/L		95
8) Ethyl ether	59	5.814	5.814	0.616	5634	0.53	ug/L		95
9) Acetone	43	6.185	6.179	0.655	10100	3.78	ug/L		93
10) 1,1-Dichloroethylene	61	6.166	6.173	0.653	8273	0.49	ug/L		92
11) Iodomethane	142	6.404	6.404	0.678	30178	2.27	ug/L		97
12) Acetonitrile	41	6.538	6.526	0.693	14969	11.86	ug/L	#	75
13) Methyl acetate	43	6.562	6.563	0.695	15494	2.46	ug/L		98
14) Carbon disulfide	76	6.526	6.538	0.691	54314	2.05	ug/L		98
15) Methylene chloride	84	6.739	6.739	0.714	13491	N.D.			
16) tert-Butyl methyl ether	73	7.026	7.032	0.744	10682	0.46	ug/L		86
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	8310	0.51	ug/L		99
18) Hexane	57	7.355	7.355	0.779	2641	N.D.			
19) Vinyl acetate	43	7.532	7.532	0.798	51671	2.57	ug/L		97
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	9273	0.48	ug/L		99
21) 2-Butanone	43	8.166	8.160	0.865	11843	2.93	ug/L		97
22) cis-1,2-Dichloroethylene	61	8.202	8.197	0.869	8864	0.48	ug/L		98
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	4394	0.46	ug/L		68
24) Bromochloromethane	128	8.471	8.471	0.897	1667	0.42	ug/L	#	67
25) Chloroform	83	8.513	8.514	0.902	7839	0.52	ug/L		99
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	6082	0.49	ug/L		97
27) Cyclohexane	56	8.861	8.867	0.939	12386	0.52	ug/L		98
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	5742	0.50	ug/L		83
29) Carbon tetrachloride	117	8.964	8.965	0.950	4337	0.45	ug/L		93
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	8270	0.57	ug/L		96
32) Benzene	78	9.184	9.178	0.973	17984	0.53	ug/L	#	71
33) Cyclohexene	67	9.288	9.288	0.984	9231	0.51	ug/L		98
34) n-Butyl alcohol	56	9.574	9.568	1.014	9678	33.85	ug/L		76
35) Trichloroethylene	95	9.830	9.830	1.041	4553	0.54	ug/L		94
36) 2-Pentanone	43	9.946	9.928	1.054	1167	N.D.			
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	5004	0.45	ug/L		98
38) Methylcyclohexane	83	10.068	10.068	1.067	8078	0.50	ug/L		97
39) Dibromomethane	93	10.214	10.214	1.082	2083	0.45	ug/L		95
40) Bromodichloromethane	83	10.336	10.330	1.095	4088	0.92	ug/L		98
41) 2-Chloroethylvinyl ether	63	10.574	10.568	1.120	13966	2.22	ug/L		96
42) cis-1,3-Dichloropropylene	75	10.793	10.787	1.143	4825	0.88	ug/L		84

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F202.D
Acq On : 20 Oct 2020 13:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-01|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 21 15:28:19 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	10.897	10.891	0.862	7127	1.95	ug/L	#	82
46)	Toluene	91	11.171	11.172	0.884	17632	0.51	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.342	11.342	0.897	4101	0.93	ug/L		88
48)	1,1,2-Trichloroethane	83	11.562	11.562	0.915	2722	0.49	ug/L		99
49)	2-Hexanone	43	11.757	11.751	0.930	11810	2.19	ug/L		91
50)	1,3-Dichloropropane	76	11.763	11.751	0.931	5884	0.49	ug/L		95
51)	Tetrachloroethylene	164	11.763	11.763	0.931	3655	0.55	ug/L		97
52)	Dibromochloromethane	129	12.019	12.019	0.951	2118	1.08	ug/L		89
53)	1,2-Dibromoethane	107	12.183	12.177	0.964	2587	0.43	ug/L		95
54)	Chlorobenzene	112	12.671	12.671	1.002	11451	0.51	ug/L	#	16
55)	1,1,1,2-Tetrachloroethane	131	12.732	12.726	1.007	2684	0.37	ug/L	#	64
56)	Ethylbenzene	91	12.738	12.738	1.008	18519	0.47	ug/L		96
57)	m,p-Xylenes	106	12.854	12.848	1.017	13954	0.91	ug/L		99
58)	o-Xylene	91	13.287	13.287	1.051	14329	0.43	ug/L		92
59)	Styrene	104	13.293	13.293	1.052	8813	1.18	ug/L		94
61)	Bromoform		0.000	13.543	0.000	0	N.D.			
62)	Isopropylbenzene	105	13.646	13.647	0.906	18046	0.47	ug/L		97
64)	1,1,2,2-Tetrachloroethane	83	13.939	13.933	0.925	3878	0.48	ug/L		94
65)	1,2,3-Trichloropropane	110	14.018	14.019	0.930	1047	0.42	ug/L	#	51
66)	Bromobenzene	156	14.049	14.049	0.932	4782	0.54	ug/L		98
67)	n-Propylbenzene	91	14.079	14.079	0.934	22086	0.47	ug/L		97
68)	1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	14777	0.42	ug/L		96
69)	2-Chlorotoluene	126	14.220	14.220	0.944	4663	0.50	ug/L		92
70)	4-Chlorotoluene	91	14.329	14.323	0.951	14345	0.49	ug/L		97
71)	tert-Butylbenzene	134	14.604	14.604	0.969	3008	0.41	ug/L	#	73
72)	1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	15295	0.43	ug/L		93
73)	sec-Butylbenzene	105	14.829	14.829	0.984	19568	0.43	ug/L		97
74)	4-Isopropyltoluene	119	14.957	14.957	0.993	15909	0.42	ug/L		98
75)	1,3-Dichlorobenzene	146	15.006	15.006	0.996	9213	0.49	ug/L		96
76)	1,4-Dichlorobenzene	146	15.091	15.091	1.002	10488	0.55	ug/L	#	32
77)	n-Butylbenzene	91	15.390	15.384	1.021	17335	0.44	ug/L		98
78)	1,2-Dichlorobenzene	146	15.506	15.500	1.029	9375	0.51	ug/L		99
79)	1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.			
80)	1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	10493	0.69	ug/L		99
81)	Hexachlorobutadiene	225	17.457	17.457	1.159	4998	0.52	ug/L		94
82)	Naphthalene	128	17.652	17.646	1.172	24000	0.74	ug/L		96
83)	1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	12097	0.84	ug/L		92
85)	Acrolein		0.000	6.008	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.270	6.270	0.664	0m	N.D.	d		
88)	Allyl chloride		6.538	6.593	0.693	0m	N.D.	d		
89)	tert-Butyl Alcohol		6.758	6.758	0.716	0m	N.D.	d		
90)	Acrylonitrile		0.000	7.001	0.000	0	N.D.			
91)	Isopropyl ether		7.520	7.544	0.797	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		7.855	7.952	0.832	0m	N.D.	d		
94)	Ethyl acetate		8.166	8.172	0.865	0m	N.D.	d		
95)	Propionitrile		0.000	8.233	0.000	0	N.D.			
96)	Methacrylonitrile		8.513	8.410	0.902	0m	N.D.	d		
97)	Tetrahydrofuran		8.519	8.519	0.902	0m	N.D.	d		
98)	Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100)	Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d		
101)	1,4-Dioxane		10.172	10.172	1.077	0m	N.D.	d		
102)	2-Nitropropane		10.574	10.550	1.120	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F202.D
Acq On : 20 Oct 2020 13:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-01|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 21 15:28:19 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

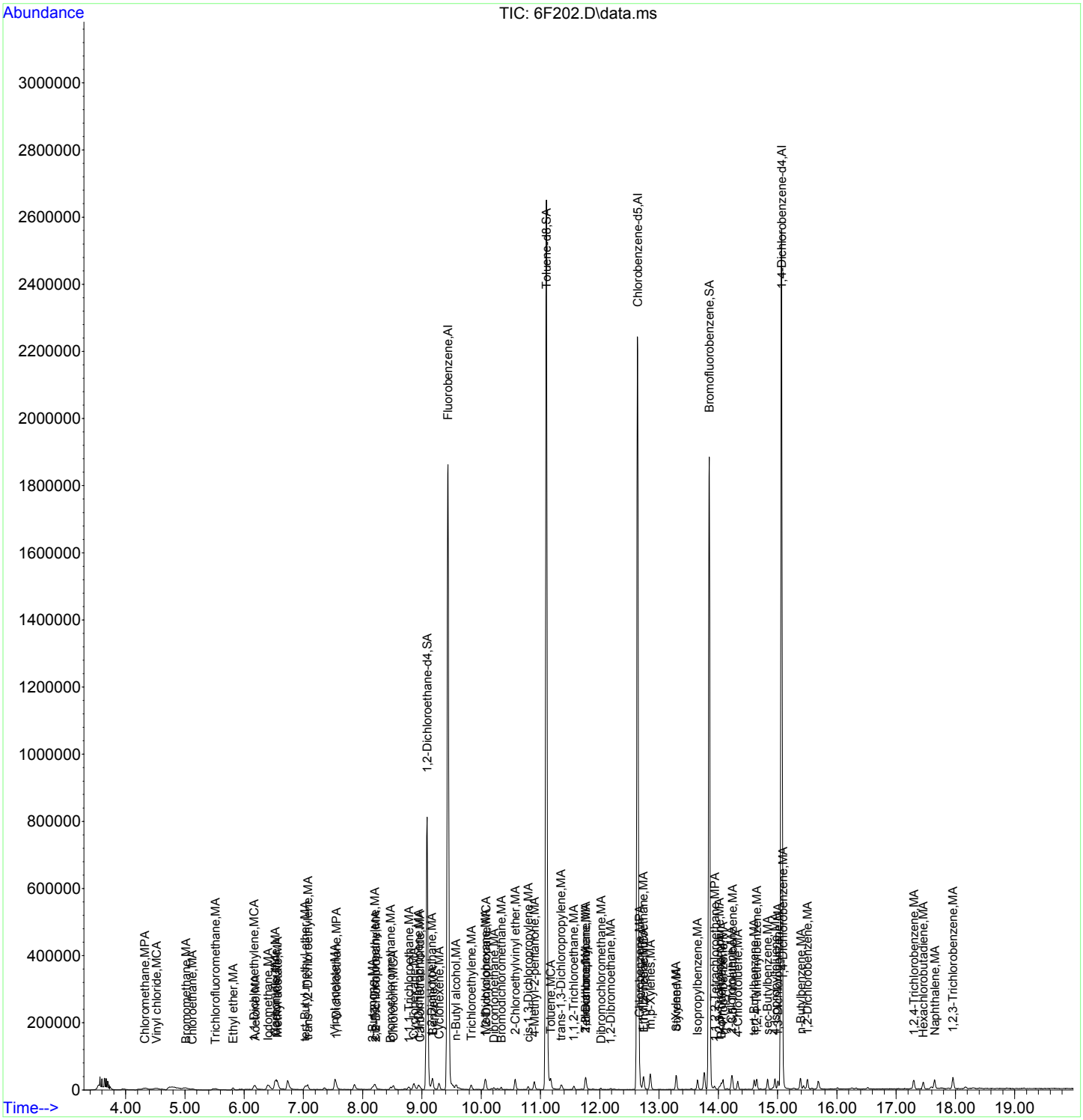
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.634	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.683	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F202.D
Acq On : 20 Oct 2020 13:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-01|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 21 15:28:19 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

10/21/2020

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F203.D
Acq On : 20 Oct 2020 14:03
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-02|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

KP 10/21/2020

Quant Time: Oct 21 15:28:23 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1560110	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1147279	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	638644	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	0m	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	548435	49.84	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1565918	49.98	ug/L		0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	603779	49.38	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue	
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	11711	1.17	ug/L		92
3) Chloromethane	50	4.330	4.338	0.459	24079	1.18	ug/L		85
4) Vinyl chloride	62	4.522	4.522	0.479	19374	1.11	ug/L		85
5) Bromomethane	94	5.036	5.020	0.533	9969	1.18	ug/L		97
6) Chloroethane	64	5.132	5.140	0.544	11100	1.07	ug/L		98
7) Trichlorofluoromethane	101	5.517	5.517	0.584	16231	1.06	ug/L		97
8) Ethyl ether	59	5.814	5.814	0.616	9820	0.97	ug/L		97
9) Acetone	43	6.179	6.179	0.654	14257	5.62	ug/L		98
10) 1,1-Dichloroethylene	61	6.166	6.173	0.653	14794	0.91	ug/L		97
11) Iodomethane	142	6.404	6.404	0.678	58435	4.63	ug/L		99
12) Acetonitrile	41	6.532	6.526	0.692	29235	24.37	ug/L		95
13) Methyl acetate	43	6.569	6.563	0.696	28368	4.75	ug/L		99
14) Carbon disulfide	76	6.538	6.538	0.693	102592	4.08	ug/L		100
15) Methylene chloride	84	6.739	6.739	0.714	16236	N.D.			
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	19065	0.87	ug/L		94
17) trans-1,2-Dichloroethy...	61	7.069	7.075	0.749	14254	0.92	ug/L		98
18) Hexane	57	7.355	7.355	0.779	3191	N.D.			
19) Vinyl acetate	43	7.532	7.532	0.798	80792	4.23	ug/L		98
20) 1,1-Dichloroethane	63	7.562	7.556	0.801	16558	0.91	ug/L		99
21) 2-Butanone	43	8.166	8.160	0.865	18701	4.87	ug/L		96
22) cis-1,2-Dichloroethylene	61	8.203	8.197	0.869	16093	0.92	ug/L		98
23) 2,2-Dichloropropane	77	8.215	8.221	0.870	8413	0.92	ug/L		68
24) Bromochloromethane	128	8.477	8.471	0.898	3833	1.01	ug/L		93
25) Chloroform	83	8.520	8.514	0.902	13222	0.93	ug/L		99
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	10144	0.87	ug/L		95
27) Cyclohexane	56	8.867	8.867	0.939	21840	0.97	ug/L		97
28) 1,1-Dichloropropene	75	8.946	8.940	0.948	10040	0.91	ug/L		89
29) Carbon tetrachloride	117	8.971	8.965	0.950	7020	0.77	ug/L		99
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	13247	0.96	ug/L		100
32) Benzene	78	9.184	9.178	0.973	30455	0.94	ug/L	#	72
33) Cyclohexene	67	9.288	9.288	0.984	16013	0.93	ug/L		99
34) n-Butyl alcohol	56	9.574	9.568	1.014	18604	68.49	ug/L		82
35) Trichloroethylene	95	9.830	9.830	1.041	7410	0.93	ug/L		94
36) 2-Pentanone	43	9.910	9.928	1.050	277	N.D.			
37) 1,2-Dichloropropane	63	10.074	10.080	1.067	8930	0.85	ug/L		100
38) Methylcyclohexane	83	10.062	10.068	1.066	15007	0.98	ug/L		95
39) Dibromomethane	93	10.214	10.214	1.082	3930	0.90	ug/L		97
40) Bromodichloromethane	83	10.330	10.330	1.094	7183	1.23	ug/L		95
41) 2-Chloroethylvinyl ether	63	10.574	10.568	1.120	23218	3.89	ug/L		97
42) cis-1,3-Dichloropropylene	75	10.794	10.787	1.143	8671	1.18	ug/L		93

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F203.D
Acq On : 20 Oct 2020 14:03
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-02|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 15:28:23 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	12986	3.78	ug/L		89
46) Toluene	91	11.172	11.172	0.884	30511	0.95	ug/L		98
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	7412	1.23	ug/L		95
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	4586	0.88	ug/L		94
49) 2-Hexanone	43	11.757	11.751	0.931	19529	3.87	ug/L		98
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	10276	0.90	ug/L		98
51) Tetrachloroethylene	164	11.775	11.763	0.932	6121	0.98	ug/L		99
52) Dibromochloromethane	129	12.013	12.019	0.951	3989	1.38	ug/L		89
53) 1,2-Dibromoethane	107	12.184	12.177	0.964	4550	0.81	ug/L		96
54) Chlorobenzene	112	12.671	12.671	1.003	20549	0.97	ug/L	#	55
55) 1,1,1,2-Tetrachloroethane	131	12.732	12.726	1.008	5124	0.75	ug/L	#	63
56) Ethylbenzene	91	12.738	12.738	1.008	33653	0.91	ug/L		98
57) m,p-Xylenes	106	12.848	12.848	1.017	25843	1.81	ug/L		99
58) o-Xylene	91	13.281	13.287	1.051	27600	0.88	ug/L		98
59) Styrene	104	13.293	13.293	1.052	16378	1.49	ug/L		100
61) Bromoform		0.000	13.543	0.000	0	N.D.			
62) Isopropylbenzene	105	13.647	13.647	0.906	31955	0.86	ug/L		99
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	6615	0.85	ug/L		87
65) 1,2,3-Trichloropropane	110	14.025	14.019	0.931	2454	1.02	ug/L	#	73
66) Bromobenzene	156	14.055	14.049	0.933	7777	0.91	ug/L		92
67) n-Propylbenzene	91	14.079	14.079	0.934	40300	0.89	ug/L		100
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	28220	0.84	ug/L		97
69) 2-Chlorotoluene	126	14.220	14.220	0.944	8237	0.91	ug/L		87
70) 4-Chlorotoluene	91	14.323	14.323	0.951	26234	0.93	ug/L		98
71) tert-Butylbenzene	134	14.604	14.604	0.969	6534	0.92	ug/L	#	90
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	29028	0.84	ug/L		99
73) sec-Butylbenzene	105	14.829	14.829	0.984	37094	0.85	ug/L		97
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	31065	0.84	ug/L		96
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	16867	0.94	ug/L		98
76) 1,4-Dichlorobenzene	146	15.098	15.091	1.002	18065	0.98	ug/L	#	63
77) n-Butylbenzene	91	15.390	15.384	1.021	32362	0.85	ug/L		100
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	15901	0.90	ug/L		97
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.			
80) 1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	15681	1.07	ug/L		95
81) Hexachlorobutadiene	225	17.457	17.457	1.159	9262	0.99	ug/L		97
82) Naphthalene	128	17.646	17.646	1.171	34588	1.11	ug/L		100
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	16633	1.19	ug/L		98
85) Acrolein		0.000	6.008	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87) Isopropyl Alcohol		6.264	6.270	0.664	0m	N.D.	d		
88) Allyl chloride		6.532	6.593	0.692	0m	N.D.	d		
89) tert-Butyl Alcohol		6.776	6.758	0.718	0m	N.D.	d		
90) Acrylonitrile		7.020	7.001	0.744	0m	N.D.	d		
91) Isopropyl ether		7.526	7.544	0.797	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.			
93) Ethyl tert-butyl ether		7.855	7.952	0.832	0m	N.D.	d		
94) Ethyl acetate		8.166	8.172	0.865	0m	N.D.	d		
95) Propionitrile		0.000	8.233	0.000	0	N.D.			
96) Methacrylonitrile		8.526	8.410	0.903	0m	N.D.	d		
97) Tetrahydrofuran		8.526	8.519	0.903	0m	N.D.	d		
98) Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d		
101) 1,4-Dioxane		10.178	10.172	1.078	0m	N.D.	d		
102) 2-Nitropropane		10.574	10.550	1.120	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F203.D
Acq On : 20 Oct 2020 14:03
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-02|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 15:28:23 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

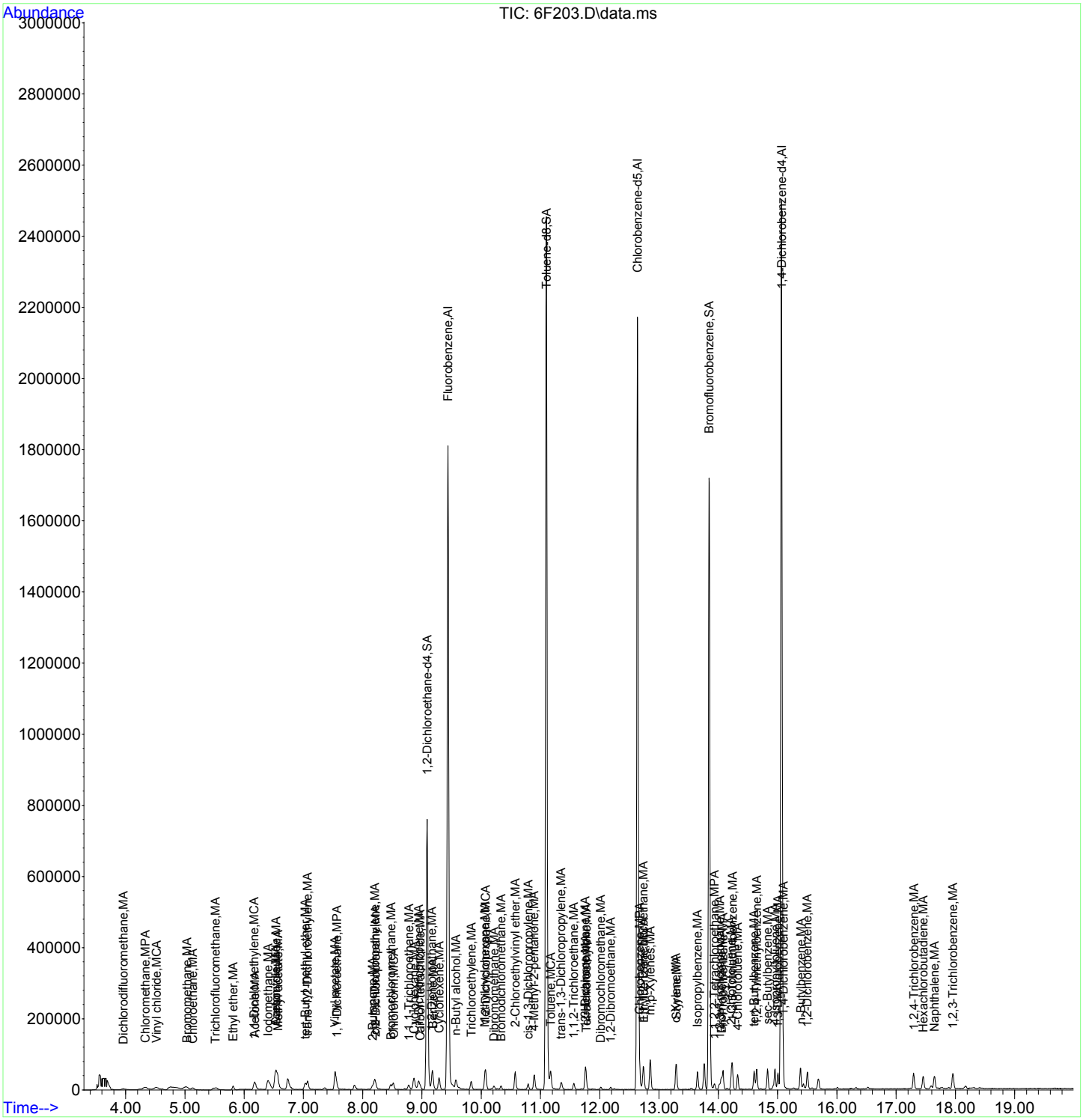
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.695	15.603	1.042	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F203.D
Acq On : 20 Oct 2020 14:03
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-02|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 15:28:23 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F204.D
Acq On : 20 Oct 2020 14:28
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-03|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

10/21/2020

KP

10/21/2020

Quant Time: Oct 21 15:28:25 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1583637	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.641	12.635	1.000	1185051	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	653829	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.641	12.641	1.000	0m	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	567811	50.83	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1612115	49.82	ug/L		0.00
63) Bromofluorobenzene	95	13.848	13.842	0.919	620394	49.56	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	19622	1.93	ug/L		93
3) Chloromethane	50	4.330	4.338	0.459	40267	1.94	ug/L	#	41
4) Vinyl chloride	62	4.514	4.522	0.478	35498	2.01	ug/L	#	45
5) Bromomethane	94	5.020	5.020	0.532	17619	2.06	ug/L		100
6) Chloroethane	64	5.132	5.140	0.544	21270	2.01	ug/L		99
7) Trichlorofluoromethane	101	5.517	5.517	0.584	31146	2.00	ug/L		99
8) Ethyl ether	59	5.814	5.814	0.616	20153	1.97	ug/L		95
9) Acetone	43	6.185	6.179	0.655	26608	10.33	ug/L		99
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	31393	1.91	ug/L		97
11) Iodomethane	142	6.404	6.404	0.678	118721	9.26	ug/L		99
12) Acetonitrile	41	6.532	6.526	0.692	59942	49.23	ug/L		99
13) Methyl acetate	43	6.563	6.563	0.695	59257	9.77	ug/L		99
14) Carbon disulfide	76	6.526	6.538	0.691	212087	8.32	ug/L		98
15) Methylene chloride	84	6.733	6.739	0.713	27255	2.16	ug/L		96
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	40367	1.81	ug/L		88
17) trans-1,2-Dichloroethy...	61	7.069	7.075	0.749	30873	1.97	ug/L		96
18) Hexane	57	7.355	7.355	0.779	40304	2.26	ug/L		93
19) Vinyl acetate	43	7.532	7.532	0.798	184991	9.53	ug/L		98
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	37013	2.00	ug/L		99
21) 2-Butanone	43	8.160	8.160	0.864	39127	10.04	ug/L		96
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	35416	2.00	ug/L		99
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	18695	2.02	ug/L		98
24) Bromochloromethane	128	8.471	8.471	0.897	7072	1.83	ug/L		89
25) Chloroform	83	8.507	8.514	0.901	29123	2.01	ug/L		99
26) 1,1,1-Trichloroethane	97	8.776	8.776	0.930	22245	1.88	ug/L		95
27) Cyclohexane	56	8.861	8.867	0.939	45471	1.99	ug/L		98
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	22077	1.98	ug/L		93
29) Carbon tetrachloride	117	8.965	8.965	0.950	17247	1.86	ug/L		94
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	28314	2.03	ug/L		99
32) Benzene	78	9.178	9.178	0.972	64619	1.96	ug/L		94
33) Cyclohexene	67	9.288	9.288	0.984	33415	1.91	ug/L		95
34) n-Butyl alcohol	56	9.574	9.568	1.014	43990	159.55	ug/L		92
35) Trichloroethylene	95	9.830	9.830	1.041	16436	2.03	ug/L		98
36) 2-Pentanone	43	9.934	9.928	1.052	58515	9.49	ug/L		99
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	20614	1.94	ug/L		99
38) Methylcyclohexane	83	10.062	10.068	1.066	29718	1.91	ug/L		97
39) Dibromomethane	93	10.214	10.214	1.082	8593	1.94	ug/L		99
40) Bromodichloromethane	83	10.330	10.330	1.094	16264	2.05	ug/L		98
41) 2-Chloroethylvinyl ether	63	10.574	10.568	1.120	53003	8.75	ug/L		99
42) cis-1,3-Dichloropropylene	75	10.793	10.787	1.143	20384	2.03	ug/L		99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F204.D
Acq On : 20 Oct 2020 14:28
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-03|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 15:28:25 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	32269	9.10	ug/L		94
46) Toluene	91	11.171	11.172	0.884	67153	2.01	ug/L		96
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.897	16499	1.98	ug/L		96
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	11033	2.05	ug/L		94
49) 2-Hexanone	43	11.757	11.751	0.930	45192	8.67	ug/L		97
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	22143	1.89	ug/L		98
51) Tetrachloroethylene	164	11.763	11.763	0.931	13687	2.12	ug/L		95
52) Dibromochloromethane	129	12.019	12.019	0.951	8416	2.02	ug/L		96
53) 1,2-Dibromoethane	107	12.183	12.177	0.964	10831	1.86	ug/L		98
54) Chlorobenzene	112	12.671	12.671	1.002	44834	2.05	ug/L		82
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	12322	1.75	ug/L		97
56) Ethylbenzene	91	12.738	12.738	1.008	74962	1.97	ug/L		100
57) m,p-Xylenes	106	12.848	12.848	1.016	57978	3.92	ug/L		99
58) o-Xylene	91	13.287	13.287	1.051	62004	1.91	ug/L		99
59) Styrene	104	13.293	13.293	1.052	39330	2.33	ug/L		97
61) Bromoform	173	13.543	13.543	0.899	4183	1.34	ug/L		100
62) Isopropylbenzene	105	13.647	13.647	0.906	74127	1.95	ug/L		99
64) 1,1,2,2-Tetrachloroethane	83	13.939	13.933	0.925	14946	1.87	ug/L		99
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	4565	1.86	ug/L	#	92
66) Bromobenzene	156	14.049	14.049	0.932	17260	1.97	ug/L		98
67) n-Propylbenzene	91	14.079	14.079	0.934	89668	1.94	ug/L		99
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	64941	1.88	ug/L		98
69) 2-Chlorotoluene	126	14.220	14.220	0.944	18760	2.02	ug/L		87
70) 4-Chlorotoluene	91	14.329	14.323	0.951	55977	1.93	ug/L		99
71) tert-Butylbenzene	134	14.604	14.604	0.969	13672	1.88	ug/L		93
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	66089	1.86	ug/L		98
73) sec-Butylbenzene	105	14.829	14.829	0.984	85868	1.92	ug/L		100
74) 4-Isopropyltoluene	119	14.951	14.957	0.992	70612	1.87	ug/L		99
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	36653	1.99	ug/L		100
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	38197	2.03	ug/L		82
77) n-Butylbenzene	91	15.384	15.384	1.021	73486	1.89	ug/L		97
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	36608	2.03	ug/L		97
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.			
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	29429	1.96	ug/L		96
81) Hexachlorobutadiene	225	17.457	17.457	1.159	18911	1.97	ug/L		97
82) Naphthalene	128	17.646	17.646	1.171	60997	1.90	ug/L		99
83) 1,2,3-Trichlorobenzene	180	17.963	17.957	1.192	28723	2.01	ug/L		97
85) Acrolein		0.000	6.008	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87) Isopropyl Alcohol		6.203	6.270	0.657	0m	N.D.	d		
88) Allyl chloride		6.532	6.593	0.692	0m	N.D.	d		
89) tert-Butyl Alcohol		6.752	6.758	0.715	0m	N.D.	d		
90) Acrylonitrile		7.026	7.001	0.744	0m	N.D.	d		
91) Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.			
93) Ethyl tert-butyl ether		7.861	7.952	0.833	0m	N.D.	d		
94) Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d		
95) Propionitrile		0.000	8.233	0.000	0	N.D.			
96) Methacrylonitrile		8.440	8.410	0.894	0m	N.D.	d		
97) Tetrahydrofuran		8.526	8.519	0.903	0m	N.D.	d		
98) Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.172	9.208	0.972	0m	N.D.	d		
100) Methyl methacrylate		10.062	10.068	1.066	0m	N.D.	d		
101) 1,4-Dioxane		10.178	10.172	1.078	0m	N.D.	d		
102) 2-Nitropropane		10.483	10.550	1.110	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F204.D
Acq On : 20 Oct 2020 14:28
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-03|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 15:28:25 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

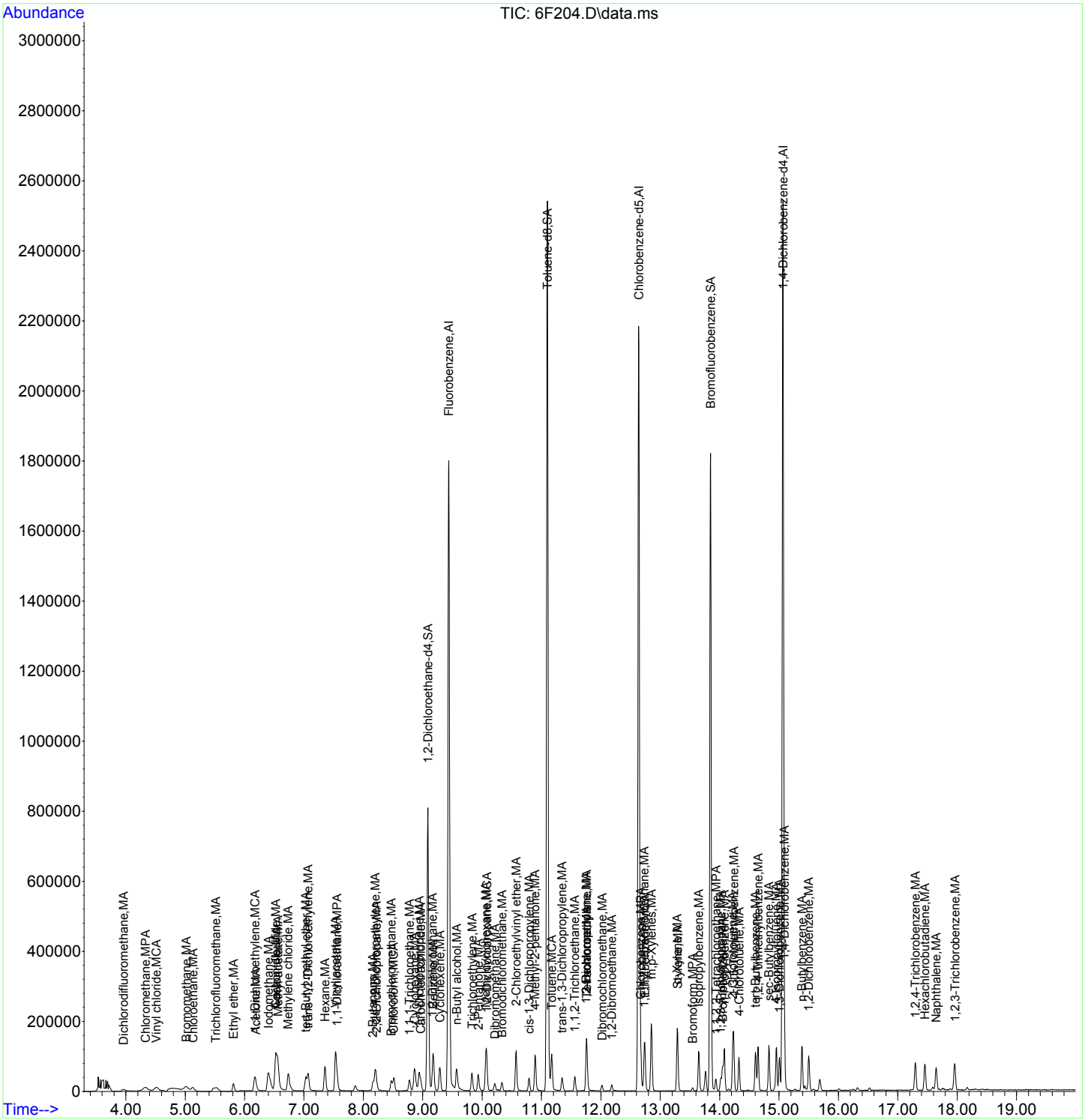
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	13.695	0.000	0	N.D.	
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.683	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F204.D
Acq On : 20 Oct 2020 14:28
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-03|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 15:28:25 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

10/21/2020

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F205.D
Acq On : 20 Oct 2020 14:54
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-04|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

KP

10/21/2020

Quant Time: Oct 21 15:28:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1498487	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.641	12.635	1.000	1130529	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	634733	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.641	12.641	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.093	9.087	0.963	530893	50.23	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1517932	49.17	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	599515	49.33	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.977	3.969	0.421	54252	5.64	ug/L	98
3) Chloromethane	50	4.346	4.338	0.460	108388	5.51	ug/L	96
4) Vinyl chloride	62	4.530	4.522	0.480	91842	5.49	ug/L	97
5) Bromomethane	94	5.028	5.020	0.533	44378	5.48	ug/L	98
6) Chloroethane	64	5.140	5.140	0.545	53573	5.36	ug/L	99
7) Trichlorofluoromethane	101	5.525	5.517	0.585	77835	5.29	ug/L	97
8) Ethyl ether	59	5.822	5.814	0.617	47755	4.92	ug/L	99
9) Acetone	43	6.191	6.179	0.656	60712	24.90	ug/L	98
10) 1,1-Dichloroethylene	61	6.173	6.173	0.654	76340	4.91	ug/L	98
11) Iodomethane	142	6.404	6.404	0.678	303114	24.99	ug/L	99
12) Acetonitrile	41	6.538	6.526	0.693	139953	121.49	ug/L	98
13) Methyl acetate	43	6.569	6.563	0.696	140282	24.45	ug/L	98
14) Carbon disulfide	76	6.544	6.538	0.693	583664	24.19	ug/L	99
15) Methylene chloride	84	6.746	6.739	0.715	48469	4.90	ug/L	97
16) tert-Butyl methyl ether	73	7.038	7.032	0.746	106256	5.05	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	72568	4.89	ug/L	98
18) Hexane	57	7.361	7.355	0.780	83315	4.93	ug/L	97
19) Vinyl acetate	43	7.532	7.532	0.798	453269	24.68	ug/L	99
20) 1,1-Dichloroethane	63	7.562	7.556	0.801	84429	4.82	ug/L	99
21) 2-Butanone	43	8.160	8.160	0.864	89717	24.33	ug/L	97
22) cis-1,2-Dichloroethylene	61	8.203	8.197	0.869	81364	4.85	ug/L	100
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	41118	4.69	ug/L	90
24) Bromochloromethane	128	8.477	8.471	0.898	17943	4.91	ug/L	97
25) Chloroform	83	8.514	8.514	0.902	67041	4.90	ug/L	99
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	53917	4.81	ug/L	99
27) Cyclohexane	56	8.867	8.867	0.939	107196	4.97	ug/L	99
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	50418	4.78	ug/L	97
29) Carbon tetrachloride	117	8.971	8.965	0.950	41000	4.67	ug/L	100
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	63015	4.77	ug/L	100
32) Benzene	78	9.184	9.178	0.973	151470	4.86	ug/L	98
33) Cyclohexene	67	9.288	9.288	0.984	78269	4.74	ug/L	98
34) n-Butyl alcohol	56	9.568	9.568	1.014	115774	443.77	ug/L	95
35) Trichloroethylene	95	9.830	9.830	1.041	36862	4.82	ug/L	99
36) 2-Pentanone	43	9.934	9.928	1.052	133592	22.89	ug/L	99
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	47600	4.72	ug/L	98
38) Methylcyclohexane	83	10.068	10.068	1.067	71959	4.89	ug/L	99
39) Dibromomethane	93	10.214	10.214	1.082	20825	4.98	ug/L	98
40) Bromodichloromethane	83	10.330	10.330	1.094	39738	4.40	ug/L	99
41) 2-Chloroethylvinyl ether	63	10.574	10.568	1.120	134275	23.42	ug/L	100
42) cis-1,3-Dichloropropylene	75	10.794	10.787	1.143	51231	4.51	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F205.D
Acq On : 20 Oct 2020 14:54
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-04|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 15:28:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	80211	23.71	ug/L		96
46) Toluene	91	11.172	11.172	0.884	159419	5.01	ug/L		97
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.897	43039	4.37	ug/L		95
48) 1,1,2-Trichloroethane	83	11.556	11.562	0.914	24527	4.79	ug/L		99
49) 2-Hexanone	43	11.757	11.751	0.930	119094	23.94	ug/L		96
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	54009	4.82	ug/L		97
51) Tetrachloroethylene	164	11.763	11.763	0.931	29481	4.78	ug/L		100
52) Dibromochloromethane	129	12.019	12.019	0.951	21687	4.13	ug/L		100
53) 1,2-Dibromoethane	107	12.184	12.177	0.964	26876	4.83	ug/L		98
54) Chlorobenzene	112	12.671	12.671	1.002	102023	4.89	ug/L		94
55) 1,1,1,2-Tetrachloroethane	131	12.732	12.726	1.007	30225	4.49	ug/L		97
56) Ethylbenzene	91	12.738	12.738	1.008	176040	4.84	ug/L		100
57) m,p-Xylenes	106	12.848	12.848	1.016	138019	9.79	ug/L		98
58) o-Xylene	91	13.287	13.287	1.051	147326	4.77	ug/L		99
59) Styrene	104	13.293	13.293	1.052	101695	4.85	ug/L		100
61) Bromoform	173	13.543	13.543	0.899	10763	3.55	ug/L		95
62) Isopropylbenzene	105	13.653	13.647	0.906	179084	4.85	ug/L		98
64) 1,1,2,2-Tetrachloroethane	83	13.939	13.933	0.925	35993	4.64	ug/L		96
65) 1,2,3-Trichloropropane	110	14.019	14.019	0.930	11429	4.80	ug/L	#	94
66) Bromobenzene	156	14.049	14.049	0.932	41302	4.85	ug/L		97
67) n-Propylbenzene	91	14.079	14.079	0.934	221090	4.92	ug/L		100
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	160620	4.80	ug/L		100
69) 2-Chlorotoluene	126	14.220	14.220	0.944	43134	4.78	ug/L		97
70) 4-Chlorotoluene	91	14.323	14.323	0.951	135110	4.80	ug/L		99
71) tert-Butylbenzene	134	14.604	14.604	0.969	33210	4.72	ug/L		96
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	167930	4.88	ug/L		99
73) sec-Butylbenzene	105	14.829	14.829	0.984	210922	4.86	ug/L		99
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	178941	4.87	ug/L		100
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	87566	4.89	ug/L		99
76) 1,4-Dichlorobenzene	146	15.092	15.091	1.002	90122	4.93	ug/L		94
77) n-Butylbenzene	91	15.384	15.384	1.021	182884	4.85	ug/L		99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	86483	4.93	ug/L		99
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	5247	4.02	ug/L		94
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	71013	4.86	ug/L		98
81) Hexachlorobutadiene	225	17.457	17.457	1.159	44723	4.79	ug/L		98
82) Naphthalene	128	17.646	17.646	1.171	143333	4.61	ug/L		99
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	67154	4.84	ug/L		99
85) Acrolein		0.000	6.008	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87) Isopropyl Alcohol		6.276	6.270	0.665	0m	N.D.	d		
88) Allyl chloride		6.538	6.593	0.693	0m	N.D.	d		
89) tert-Butyl Alcohol		6.770	6.758	0.717	0m	N.D.	d		
90) Acrylonitrile		7.044	7.001	0.746	0m	N.D.	d		
91) Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.			
93) Ethyl tert-butyl ether		7.873	7.952	0.834	0m	N.D.	d		
94) Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d		
95) Propionitrile		0.000	8.233	0.000	0	N.D.			
96) Methacrylonitrile		8.520	8.410	0.902	0m	N.D.	d		
97) Tetrahydrofuran		8.538	8.519	0.904	0m	N.D.	d		
98) Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.190	9.208	0.974	0m	N.D.	d		
100) Methyl methacrylate		10.074	10.068	1.067	0m	N.D.	d		
101) 1,4-Dioxane		10.172	10.172	1.077	0m	N.D.	d		
102) 2-Nitropropane		10.574	10.550	1.120	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F205.D
Acq On : 20 Oct 2020 14:54
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-04|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 15:28:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

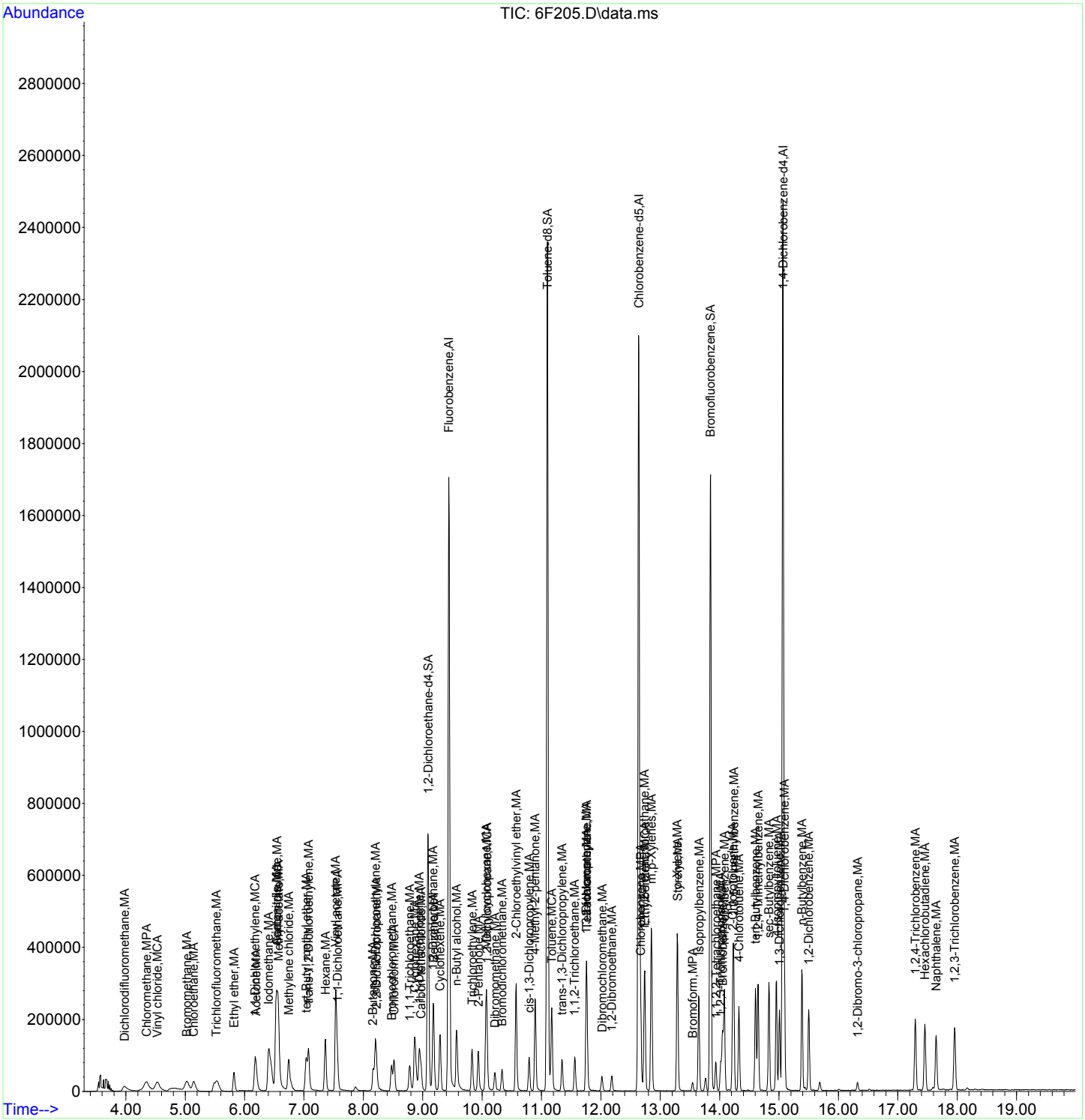
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.689	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F205.D
Acq On : 20 Oct 2020 14:54
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-04|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 15:28:27 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\ 10/21/2020
Data File : 6F206.D
Acq On : 20 Oct 2020 15:20
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-05|ICAL|1|VOAF|1|VOA8260BL| KP
Misc : VSTD010 5UL/5ML N/A MIX[A] 10/21/2020
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 15:28:29 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1563607	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1181840	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	644225	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	559465	50.73	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1618957	50.16	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	622929	50.51	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	99713	9.94	ug/L	97
3) Chloromethane	50	4.338	4.338	0.460	209016	10.19	ug/L	98
4) Vinyl chloride	62	4.522	4.522	0.479	176828	10.13	ug/L	98
5) Bromomethane	94	5.020	5.020	0.532	85494	10.12	ug/L	100
6) Chloroethane	64	5.140	5.140	0.544	104694	10.04	ug/L	99
7) Trichlorofluoromethane	101	5.533	5.517	0.586	153990	10.04	ug/L	99
8) Ethyl ether	59	5.814	5.814	0.616	102378	10.12	ug/L	99
9) Acetone	43	6.185	6.179	0.655	124849	49.08	ug/L	99
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	164685	10.15	ug/L	99
11) Iodomethane	142	6.410	6.404	0.679	652380	51.54	ug/L	99
12) Acetonitrile	41	6.532	6.526	0.692	306870	255.28	ug/L	99
13) Methyl acetate	43	6.563	6.563	0.695	302688	50.56	ug/L	99
14) Carbon disulfide	76	6.532	6.538	0.692	1329312	52.81	ug/L	99
15) Methylene chloride	84	6.739	6.739	0.714	93455	9.87	ug/L	97
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	224880	10.23	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	157198	10.16	ug/L	98
18) Hexane	57	7.355	7.355	0.779	190405	10.81	ug/L	99
19) Vinyl acetate	43	7.532	7.532	0.798	1024893	53.48	ug/L	99
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	183606	10.05	ug/L	99
21) 2-Butanone	43	8.160	8.160	0.864	192473	50.03	ug/L	100
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	174404	9.97	ug/L	98
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	91159	9.97	ug/L	96
24) Bromochloromethane	128	8.471	8.471	0.897	38471	10.09	ug/L	97
25) Chloroform	83	8.513	8.514	0.902	142738	9.99	ug/L	99
26) 1,1,1-Trichloroethane	97	8.776	8.776	0.930	118066	10.09	ug/L	99
27) Cyclohexane	56	8.867	8.867	0.939	228556	10.15	ug/L	99
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	111879	10.17	ug/L	98
29) Carbon tetrachloride	117	8.971	8.965	0.950	92120	10.07	ug/L	100
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	138604	10.05	ug/L	100
32) Benzene	78	9.184	9.178	0.973	329979	10.15	ug/L	99
33) Cyclohexene	67	9.288	9.288	0.984	174795	10.13	ug/L	100
34) n-Butyl alcohol	56	9.568	9.568	1.014	272858	1002.33	ug/L	97
35) Trichloroethylene	95	9.830	9.830	1.041	79739	9.99	ug/L	98
36) 2-Pentanone	43	9.934	9.928	1.052	303016	49.76	ug/L	98
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	103964	9.89	ug/L	100
38) Methylcyclohexane	83	10.068	10.068	1.067	154597	10.07	ug/L	98
39) Dibromomethane	93	10.214	10.214	1.082	43417	9.95	ug/L	99
40) Bromodichloromethane	83	10.330	10.330	1.094	92042	9.08	ug/L	98
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	301048	50.33	ug/L	99
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	116372	9.19	ug/L	98

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F206.D
Acq On : 20 Oct 2020 15:20
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-05|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 15:28:29 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	181236	51.24	ug/L	99
46) Toluene	91	11.171	11.172	0.884	331430	9.97	ug/L	100
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	103586	9.30	ug/L	97
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	54285	10.13	ug/L	97
49) 2-Hexanone	43	11.751	11.751	0.930	261682	50.32	ug/L	98
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	119232	10.18	ug/L	99
51) Tetrachloroethylene	164	11.763	11.763	0.931	64867	10.06	ug/L	98
52) Dibromochloromethane	129	12.019	12.019	0.951	52642	8.55	ug/L	96
53) 1,2-Dibromoethane	107	12.183	12.177	0.964	58433	10.05	ug/L	98
54) Chlorobenzene	112	12.671	12.671	1.003	215954	9.89	ug/L	97
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	69848	9.93	ug/L	99
56) Ethylbenzene	91	12.738	12.738	1.008	378396	9.96	ug/L	99
57) m,p-Xylenes	106	12.848	12.848	1.017	290499	19.71	ug/L	100
58) o-Xylene	91	13.287	13.287	1.052	319778	9.90	ug/L	100
59) Styrene	104	13.293	13.293	1.052	225070	9.30	ug/L	100
61) Bromoform	173	13.543	13.543	0.899	25707	8.36	ug/L	95
62) Isopropylbenzene	105	13.647	13.647	0.906	386828	10.32	ug/L	100
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	80948	10.28	ug/L	98
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	24222	10.03	ug/L	97
66) Bromobenzene	156	14.049	14.049	0.932	87683	10.15	ug/L	99
67) n-Propylbenzene	91	14.079	14.079	0.934	471254	10.33	ug/L	99
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	345512	10.18	ug/L	99
69) 2-Chlorotoluene	126	14.220	14.220	0.944	93119	10.17	ug/L	95
70) 4-Chlorotoluene	91	14.323	14.323	0.951	287321	10.07	ug/L	99
71) tert-Butylbenzene	134	14.604	14.604	0.969	69794	9.77	ug/L	97
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	357752	10.23	ug/L	100
73) sec-Butylbenzene	105	14.829	14.829	0.984	452135	10.27	ug/L	99
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	383763	10.29	ug/L	99
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	183656	10.11	ug/L	99
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	184719	9.95	ug/L	96
77) n-Butylbenzene	91	15.384	15.384	1.021	387155	10.11	ug/L	99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	181799	10.22	ug/L	99
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	10513	7.94	ug/L	90
80) 1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	150259	10.14	ug/L	99
81) Hexachlorobutadiene	225	17.457	17.457	1.159	94251	9.96	ug/L	98
82) Naphthalene	128	17.646	17.646	1.171	317401	10.05	ug/L	100
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	139261	9.89	ug/L	98
85) Acrolein		0.000	6.008	0.000	0	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol		6.288	6.270	0.666	0m	N.D.	d	
88) Allyl chloride		6.532	6.593	0.692	0m	N.D.	d	
89) tert-Butyl Alcohol		6.764	6.758	0.716	0m	N.D.	d	
90) Acrylonitrile		7.044	7.001	0.746	0m	N.D.	d	
91) Isopropyl ether		7.526	7.544	0.797	0m	N.D.	d	
92) 2-Chloro-1,3-butadiene		7.678	7.666	0.813	0m	N.D.	d	
93) Ethyl tert-butyl ether		7.879	7.952	0.835	0m	N.D.	d	
94) Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d	
95) Propionitrile		8.172	8.233	0.866	0m	N.D.	d	
96) Methacrylonitrile		8.428	8.410	0.893	0m	N.D.	d	
97) Tetrahydrofuran		8.532	8.519	0.904	0m	N.D.	d	
98) Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d	
99) Methyl tert-amyl ether		9.172	9.208	0.972	0m	N.D.	d	
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d	
101) 1,4-Dioxane		10.184	10.172	1.079	0m	N.D.	d	
102) 2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F206.D
Acq On : 20 Oct 2020 15:20
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-05|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 15:28:29 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

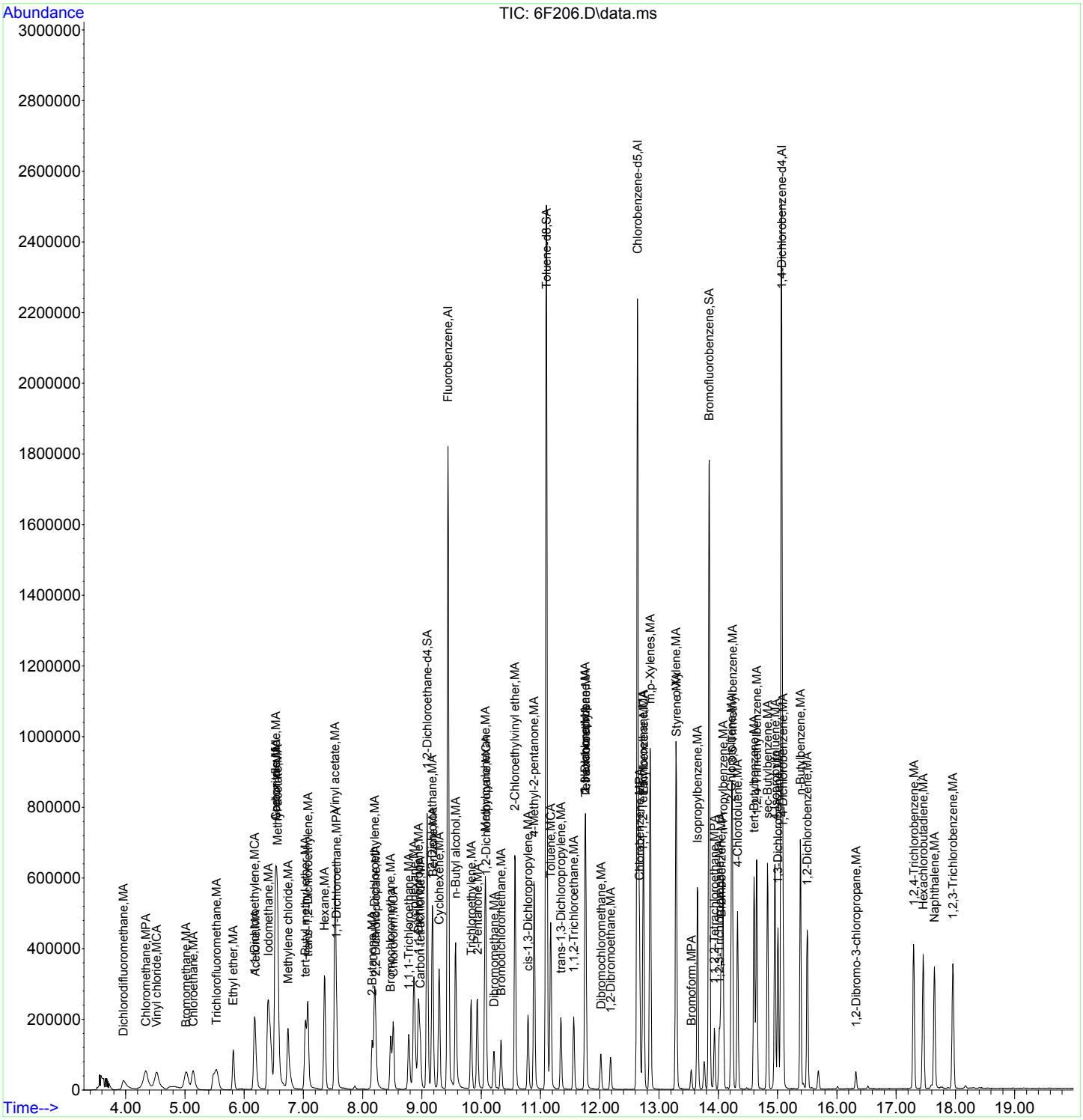
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.842	13.799	0.919	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.677	15.603	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F206.D
Acq On : 20 Oct 2020 15:20
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-05|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 15:28:29 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

10/21/2020

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F207.D
Acq On : 20 Oct 2020 15:46
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-06|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

KP

10/21/2020

Quant Time: Oct 21 15:28:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1641117	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1248074	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	699377	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	573119	49.51	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1730174	50.76	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	676784	50.54	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	236514	22.46	ug/L	98
3) Chloromethane	50	4.338	4.338	0.460	439884	20.44	ug/L	99
4) Vinyl chloride	62	4.522	4.522	0.479	375193	20.47	ug/L	100
5) Bromomethane	94	5.020	5.020	0.532	174453	19.68	ug/L	100
6) Chloroethane	64	5.132	5.140	0.544	222826	20.36	ug/L	99
7) Trichlorofluoromethane	101	5.517	5.517	0.584	328127	20.38	ug/L	100
8) Ethyl ether	59	5.814	5.814	0.616	212604	20.02	ug/L	100
9) Acetone	43	6.179	6.179	0.655	251937	94.35	ug/L	100
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	353813	20.78	ug/L	99
11) Iodomethane	142	6.404	6.404	0.678	1365580	102.78	ug/L	100
12) Acetonitrile	41	6.526	6.526	0.691	615761	488.05	ug/L	97
13) Methyl acetate	43	6.563	6.563	0.695	618881	98.49	ug/L	100
14) Carbon disulfide	76	6.532	6.538	0.692	2866777	108.51	ug/L	99
15) Methylene chloride	84	6.739	6.739	0.714	193224	20.36	ug/L	98
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	472973	20.51	ug/L	99
17) trans-1,2-Dichloroethy...	61	7.069	7.075	0.749	335250	20.64	ug/L	100
18) Hexane	57	7.355	7.355	0.779	367178	19.86	ug/L	98
19) Vinyl acetate	43	7.532	7.532	0.798	2180465	108.41	ug/L	99
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	391140	20.40	ug/L	99
21) 2-Butanone	43	8.160	8.160	0.864	396361	98.15	ug/L	98
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	375695	20.47	ug/L	99
23) 2,2-Dichloropropane	77	8.215	8.221	0.870	199680	20.80	ug/L	98
24) Bromochloromethane	128	8.471	8.471	0.897	80876	20.21	ug/L	96
25) Chloroform	83	8.514	8.514	0.902	307257	20.50	ug/L	99
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	260335	21.19	ug/L	99
27) Cyclohexane	56	8.867	8.867	0.939	479909	20.31	ug/L	99
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	239842	20.77	ug/L	100
29) Carbon tetrachloride	117	8.965	8.965	0.950	206348	21.48	ug/L	97
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	291565	20.14	ug/L	100
32) Benzene	78	9.178	9.178	0.972	687136	20.13	ug/L	100
33) Cyclohexene	67	9.288	9.288	0.984	378359	20.90	ug/L	100
34) n-Butyl alcohol	56	9.568	9.568	1.014	633349	2216.69	ug/L	98
35) Trichloroethylene	95	9.830	9.830	1.041	168769	20.15	ug/L	98
36) 2-Pentanone	43	9.928	9.928	1.052	643593	100.69	ug/L	99
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	228521	20.71	ug/L	99
38) Methylcyclohexane	83	10.068	10.068	1.067	325188	20.19	ug/L	98
39) Dibromomethane	93	10.214	10.214	1.082	92474	20.18	ug/L	99
40) Bromodichloromethane	83	10.330	10.330	1.094	205644	18.70	ug/L	99
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	656423	104.55	ug/L	99
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	262784	19.17	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F207.D
Acq On : 20 Oct 2020 15:46
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-06|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 15:28:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	387057	103.63	ug/L	97
46) Toluene	91	11.172	11.172	0.884	708888	20.19	ug/L	99
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	232469	19.09	ug/L	99
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	114317	20.21	ug/L	100
49) 2-Hexanone	43	11.751	11.751	0.930	594602	108.26	ug/L	98
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	251917	20.36	ug/L	98
51) Tetrachloroethylene	164	11.763	11.763	0.931	137956	20.27	ug/L	99
52) Dibromochloromethane	129	12.019	12.019	0.951	121373	17.76	ug/L	100
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	129362	21.08	ug/L	99
54) Chlorobenzene	112	12.671	12.671	1.003	469635	20.37	ug/L	100
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	158010	21.28	ug/L	100
56) Ethylbenzene	91	12.738	12.738	1.008	833886	20.77	ug/L	100
57) m,p-Xylenes	106	12.848	12.848	1.017	643596	41.36	ug/L	99
58) o-Xylene	91	13.287	13.287	1.052	709959	20.82	ug/L	99
59) Styrene	104	13.293	13.293	1.052	525114	19.52	ug/L	100
61) Bromoform	173	13.543	13.543	0.899	65152	19.52	ug/L	99
62) Isopropylbenzene	105	13.647	13.647	0.906	851803	20.92	ug/L	100
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	176092	20.60	ug/L	100
65) 1,2,3-Trichloropropane	110	14.019	14.019	0.930	52868	20.16	ug/L	98
66) Bromobenzene	156	14.049	14.049	0.932	194028	20.68	ug/L	98
67) n-Propylbenzene	91	14.079	14.079	0.934	1039622	21.00	ug/L	99
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	775070	21.03	ug/L	99
69) 2-Chlorotoluene	126	14.220	14.220	0.944	203024	20.43	ug/L	98
70) 4-Chlorotoluene	91	14.323	14.323	0.951	638645	20.61	ug/L	100
71) tert-Butylbenzene	134	14.604	14.604	0.969	159409	20.54	ug/L	100
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	793346	20.91	ug/L	100
73) sec-Butylbenzene	105	14.829	14.829	0.984	1002640	20.97	ug/L	100
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	854154	21.09	ug/L	99
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	405975	20.59	ug/L	99
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	410817	20.38	ug/L	98
77) n-Butylbenzene	91	15.384	15.384	1.021	889759	21.40	ug/L	99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	392075	20.30	ug/L	100
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	26330	18.32	ug/L	100
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	323320	20.10	ug/L	100
81) Hexachlorobutadiene	225	17.457	17.457	1.159	214250	20.85	ug/L	99
82) Naphthalene	128	17.646	17.646	1.171	664388	19.38	ug/L	100
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	296402	19.38	ug/L	100
85) Acrolein		0.000	6.008	0.000	0	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol		6.288	6.270	0.666	0m	N.D.	d	
88) Allyl chloride		6.526	6.593	0.691	0m	N.D.	d	
89) tert-Butyl Alcohol		6.776	6.758	0.718	0m	N.D.	d	
90) Acrylonitrile		7.032	7.001	0.745	0m	N.D.	d	
91) Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d	
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.		
93) Ethyl tert-butyl ether		7.849	7.952	0.831	0m	N.D.	d	
94) Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d	
95) Propionitrile		8.166	8.233	0.865	0m	N.D.	d	
96) Methacrylonitrile		8.514	8.410	0.902	0m	N.D.	d	
97) Tetrahydrofuran		8.532	8.519	0.904	0m	N.D.	d	
98) Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d	
99) Methyl tert-amyl ether		9.184	9.208	0.973	0m	N.D.	d	
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d	
101) 1,4-Dioxane		10.172	10.172	1.077	0m	N.D.	d	
102) 2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F207.D
Acq On : 20 Oct 2020 15:46
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-06|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 15:28:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

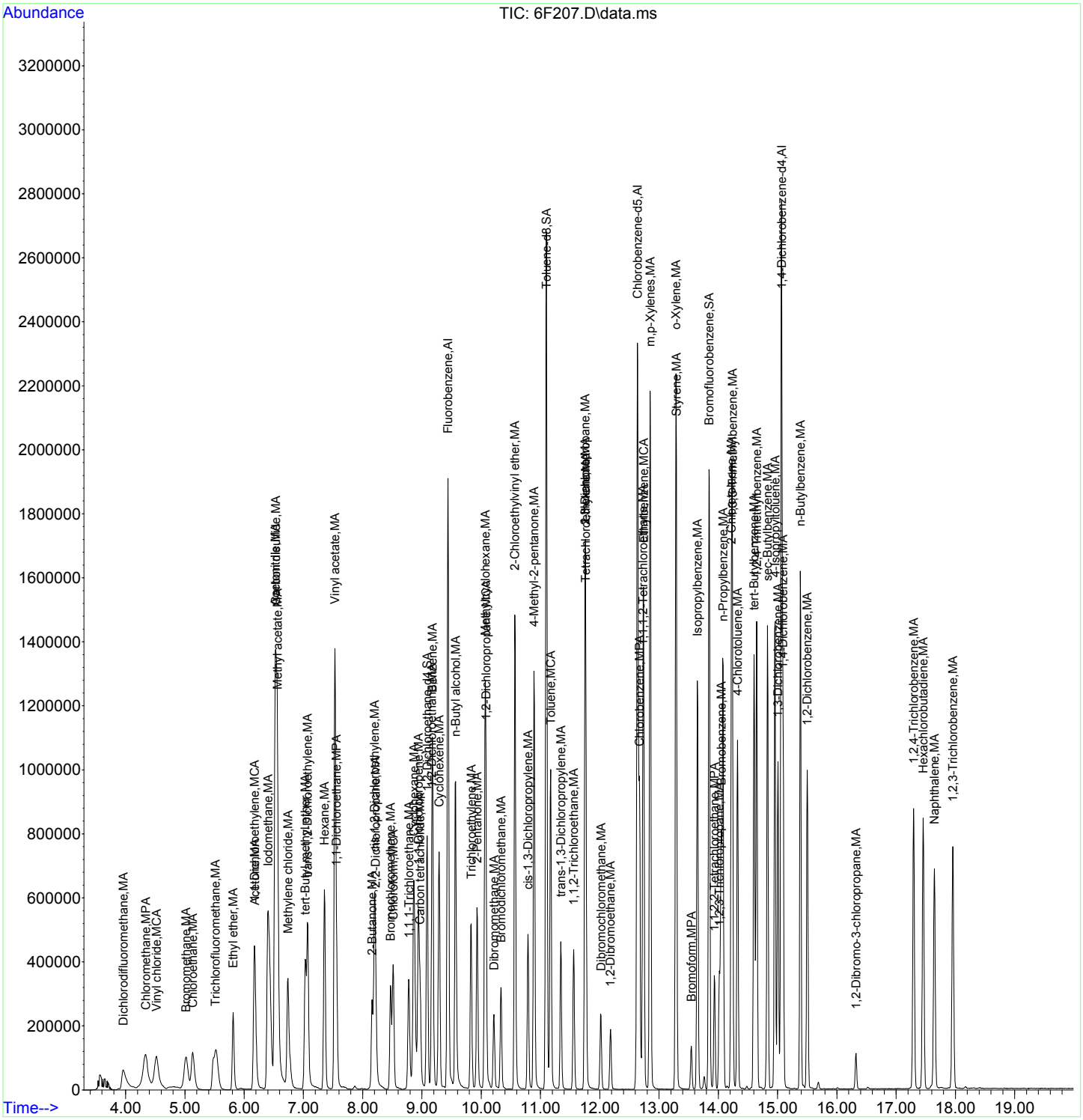
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.683	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F207.D
Acq On : 20 Oct 2020 15:46
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-06|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 15:28:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

10/21/2020

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F208.D
Acq On : 20 Oct 2020 16:11
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-07|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

KP

10/21/2020

Quant Time: Oct 21 15:28:33 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1661309	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1280272	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	723747	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	594177	50.70	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1764593	50.47	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	692283	49.96	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.969	3.969	0.420	467773	43.88	ug/L	100
3) Chloromethane	50	4.338	4.338	0.460	1023771	46.98	ug/L	100
4) Vinyl chloride	62	4.522	4.522	0.479	879277	47.40	ug/L	100
5) Bromomethane	94	5.020	5.020	0.532	419366	46.73	ug/L	100
6) Chloroethane	64	5.140	5.140	0.545	541380	48.86	ug/L	100
7) Trichlorofluoromethane	101	5.517	5.517	0.584	793247	48.67	ug/L	100
8) Ethyl ether	59	5.814	5.814	0.616	548066	50.97	ug/L	100
9) Acetone	43	6.179	6.179	0.655	669266	247.60	ug/L	100
10) 1,1-Dichloroethylene	61	6.173	6.173	0.654	903636	52.42	ug/L	100
11) Iodomethane	142	6.404	6.404	0.678	3550618	264.00	ug/L	100
12) Acetonitrile	41	6.526	6.526	0.691	1706361	1336.03	ug/L	100
13) Methyl acetate	43	6.563	6.563	0.695	1673596	263.10	ug/L	100
14) Carbon disulfide	76	6.538	6.538	0.693	7635098	285.47	ug/L	100
15) Methylene chloride	84	6.739	6.739	0.714	475279	50.83	ug/L	100
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	1246987	53.41	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	850156	51.72	ug/L	100
18) Hexane	57	7.355	7.355	0.779	946203	50.55	ug/L	100
19) Vinyl acetate	43	7.532	7.532	0.798	5687145	279.31	ug/L	100
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	1019221	52.51	ug/L	100
21) 2-Butanone	43	8.160	8.160	0.864	1056673	258.49	ug/L	100
22) cis-1,2-Dichloroethylene	61	8.197	8.197	0.868	973652	52.40	ug/L	100
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	507338	52.21	ug/L	99
24) Bromochloromethane	128	8.471	8.471	0.897	212038	52.33	ug/L	100
25) Chloroform	83	8.514	8.514	0.902	783389	51.63	ug/L	100
26) 1,1,1-Trichloroethane	97	8.776	8.776	0.930	663953	53.39	ug/L	100
27) Cyclohexane	56	8.867	8.867	0.939	1220832	51.04	ug/L	100
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	605399	51.80	ug/L	100
29) Carbon tetrachloride	117	8.965	8.965	0.950	531462	54.65	ug/L	100
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	757199	51.67	ug/L	100
32) Benzene	78	9.178	9.178	0.972	1795956	51.98	ug/L	100
33) Cyclohexene	67	9.288	9.288	0.984	956751	52.21	ug/L	100
34) n-Butyl alcohol	56	9.568	9.568	1.014	1783628	6166.73	ug/L	100
35) Trichloroethylene	95	9.830	9.830	1.041	436534	51.47	ug/L	100
36) 2-Pentanone	43	9.928	9.928	1.052	1701479	262.95	ug/L	100
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	597544	53.49	ug/L	100
38) Methylcyclohexane	83	10.068	10.068	1.067	837233	51.35	ug/L	100
39) Dibromomethane	93	10.214	10.214	1.082	242113	52.20	ug/L	100
40) Bromodichloromethane	83	10.330	10.330	1.094	567382	49.99	ug/L	100
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	1730346	272.25	ug/L	100
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	711584	50.37	ug/L	100

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F208.D
Acq On : 20 Oct 2020 16:11
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-07|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 15:28:33 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
44)	4-Methyl-2-pentanone	58	10.891	10.891	0.862	1049704	273.97	ug/L	100
46)	Toluene	91	11.172	11.172	0.884	1839240	51.06	ug/L	100
47)	trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	634899	49.84	ug/L	100
48)	1,1,2-Trichloroethane	83	11.562	11.562	0.915	300838	51.84	ug/L	100
49)	2-Hexanone	43	11.751	11.751	0.930	1587896	281.84	ug/L	100
50)	1,3-Dichloropropane	76	11.751	11.751	0.930	667818	52.63	ug/L	100
51)	Tetrachloroethylene	164	11.763	11.763	0.931	352140	50.43	ug/L	100
52)	Dibromochloromethane	129	12.019	12.019	0.951	355544	49.26	ug/L	100
53)	1,2-Dibromoethane	107	12.177	12.177	0.964	339892	53.99	ug/L	100
54)	Chlorobenzene	112	12.671	12.671	1.003	1198133	50.66	ug/L	100
55)	1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	429586	56.39	ug/L	100
56)	Ethylbenzene	91	12.738	12.738	1.008	2159413	52.44	ug/L	100
57)	m,p-Xylenes	106	12.848	12.848	1.017	1671098	104.69	ug/L	100
58)	o-Xylene	91	13.287	13.287	1.052	1883598	53.84	ug/L	100
59)	Styrene	104	13.293	13.293	1.052	1432810	50.49	ug/L	100
61)	Bromoform	173	13.543	13.543	0.899	204122	59.09	ug/L	100
62)	Isopropylbenzene	105	13.647	13.647	0.906	2200252	52.22	ug/L	100
64)	1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	466748	52.78	ug/L	100
65)	1,2,3-Trichloropropane	110	14.019	14.019	0.930	135975	50.10	ug/L	100
66)	Bromobenzene	156	14.049	14.049	0.932	495741	51.07	ug/L	100
67)	n-Propylbenzene	91	14.079	14.079	0.934	2670862	52.12	ug/L	100
68)	1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	2041645	53.53	ug/L	100
69)	2-Chlorotoluene	126	14.220	14.220	0.944	527608	51.31	ug/L	100
70)	4-Chlorotoluene	91	14.323	14.323	0.951	1665338	51.93	ug/L	100
71)	tert-Butylbenzene	134	14.604	14.604	0.969	416618	51.89	ug/L	100
72)	1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	2101414	53.51	ug/L	100
73)	sec-Butylbenzene	105	14.829	14.829	0.984	2616931	52.89	ug/L	100
74)	4-Isopropyltoluene	119	14.957	14.957	0.993	2235777	53.35	ug/L	100
75)	1,3-Dichlorobenzene	146	15.006	15.006	0.996	1034034	50.68	ug/L	100
76)	1,4-Dichlorobenzene	146	15.091	15.091	1.002	1051052	50.38	ug/L	100
77)	n-Butylbenzene	91	15.384	15.384	1.021	2303967	53.56	ug/L	100
78)	1,2-Dichlorobenzene	146	15.500	15.500	1.029	1023296	51.19	ug/L	100
79)	1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	81032	54.47	ug/L	100
80)	1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	836875	50.27	ug/L	100
81)	Hexachlorobutadiene	225	17.457	17.457	1.159	545156	51.26	ug/L	100
82)	Naphthalene	128	17.646	17.646	1.171	1772923	49.99	ug/L	100
83)	1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	758584	47.94	ug/L	100
85)	Acrolein		6.179	6.008	0.655	0m	N.D.	d	
86)	Trichlorotrifluoroethane		6.166	6.154	0.653	0m	N.D.	d	
87)	Isopropyl Alcohol		6.197	6.270	0.656	0m	N.D.	d	
88)	Allyl chloride		6.526	6.593	0.691	0m	N.D.	d	
89)	tert-Butyl Alcohol		6.697	6.758	0.709	0m	N.D.	d	
90)	Acrylonitrile		7.032	7.001	0.745	0m	N.D.	d	
91)	Isopropyl ether		7.526	7.544	0.797	0m	N.D.	d	
92)	2-Chloro-1,3-butadiene		7.660	7.666	0.811	0m	N.D.	d	
93)	Ethyl tert-butyl ether		7.867	7.952	0.833	0m	N.D.	d	
94)	Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d	
95)	Propionitrile		8.160	8.233	0.864	0m	N.D.	d	
96)	Methacrylonitrile		8.501	8.410	0.901	0m	N.D.	d	
97)	Tetrahydrofuran		8.520	8.519	0.902	0m	N.D.	d	
98)	Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d	
99)	Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d	
100)	Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d	
101)	1,4-Dioxane		10.178	10.172	1.078	0m	N.D.	d	
102)	2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F208.D
Acq On : 20 Oct 2020 16:11
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-07|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 15:28:33 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

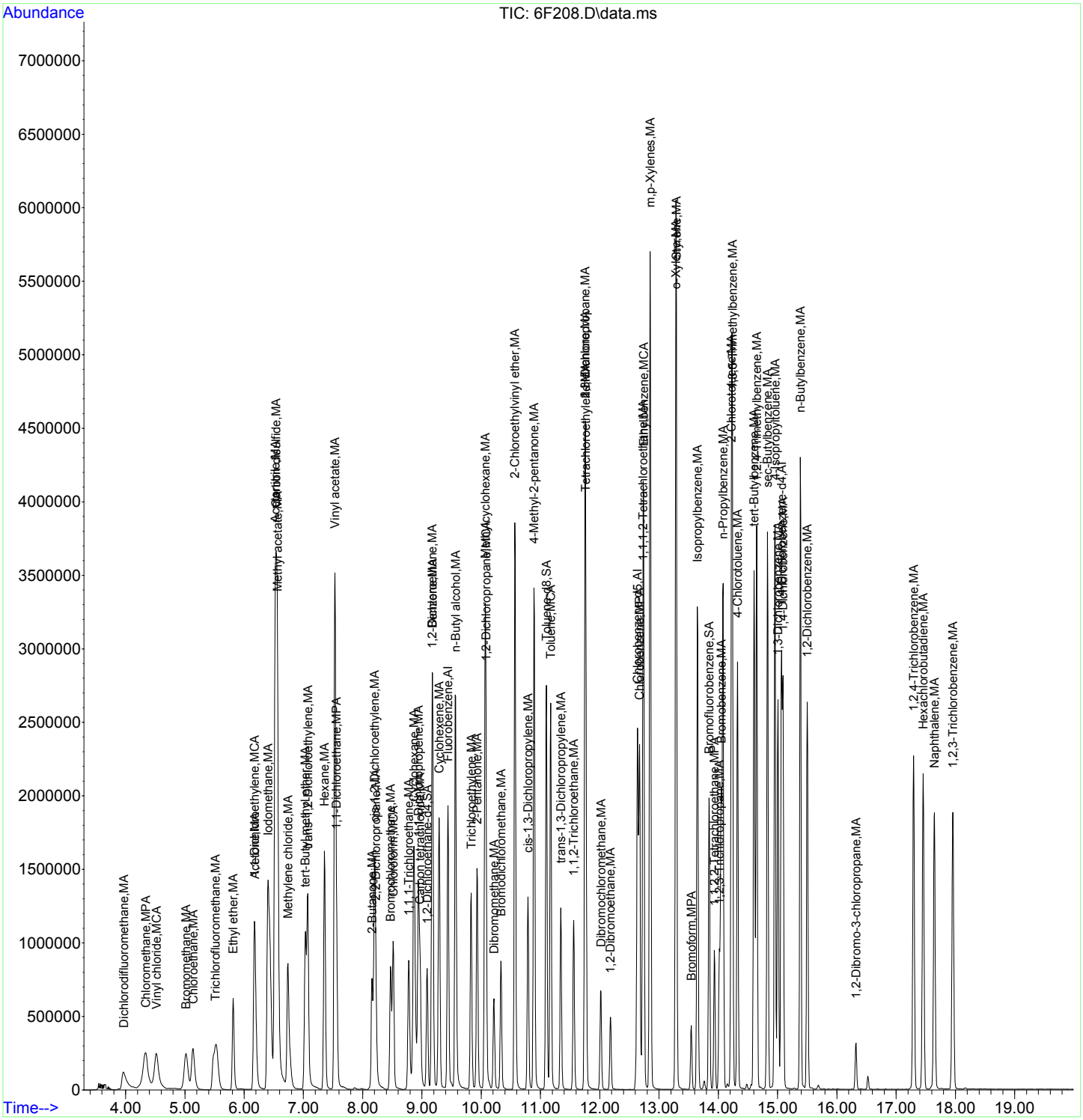
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		0.000	13.799	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.677	15.603	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F208.D
Acq On : 20 Oct 2020 16:11
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-07|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 15:28:33 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

10/21/2020

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F209.D
Acq On : 20 Oct 2020 16:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-08|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

KP

10/21/2020

Quant Time: Oct 21 15:28:35 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1779075	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.634	12.635	1.000	1357958	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	752899	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.634	12.641	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	618806	49.31	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1843083	49.70	ug/L	0.00
63) Bromofluorobenzene	95	13.848	13.842	0.919	731238	50.73	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	810739	71.02	ug/L	99
3) Chloromethane	50	4.330	4.338	0.459	1667523	71.46	ug/L	99
4) Vinyl chloride	62	4.522	4.522	0.479	1451590	73.07	ug/L	100
5) Bromomethane	94	5.020	5.020	0.532	690649	71.86	ug/L	100
6) Chloroethane	64	5.132	5.140	0.544	878588	74.05	ug/L	100
7) Trichlorofluoromethane	101	5.517	5.517	0.584	1312599	75.21	ug/L	100
8) Ethyl ether	59	5.814	5.814	0.616	932805	81.01	ug/L	100
9) Acetone	43	6.172	6.179	0.654	1125494	388.83	ug/L	100
10) 1,1-Dichloroethylene	61	6.166	6.173	0.653	1499026	81.20	ug/L	100
11) Iodomethane	142	6.404	6.404	0.678	5825374	404.47	ug/L	100
12) Acetonitrile	41	6.526	6.526	0.691	2730502	1996.38	ug/L	98
13) Methyl acetate	43	6.556	6.563	0.695	2825126	414.73	ug/L	99
14) Carbon disulfide	76	6.532	6.538	0.692	12179549	425.24	ug/L	99
15) Methylene chloride	84	6.733	6.739	0.713	786662	79.08	ug/L	97
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	2084511	83.37	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.068	7.075	0.749	1420833	80.71	ug/L	99
18) Hexane	57	7.355	7.355	0.779	1537673	76.71	ug/L	100
19) Vinyl acetate	43	7.526	7.532	0.797	8848516	405.81	ug/L	97
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	1698021	81.69	ug/L	100
21) 2-Butanone	43	8.154	8.160	0.864	1787015	408.21	ug/L	99
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	1607808	80.80	ug/L	99
23) 2,2-Dichloropropane	77	8.215	8.221	0.870	840255	80.74	ug/L	99
24) Bromochloromethane	128	8.471	8.471	0.897	347434	80.08	ug/L	98
25) Chloroform	83	8.513	8.514	0.902	1310314	80.64	ug/L	100
26) 1,1,1-Trichloroethane	97	8.775	8.776	0.930	1108915	83.27	ug/L	100
27) Cyclohexane	56	8.867	8.867	0.939	2034143	79.42	ug/L	100
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	1017262	81.28	ug/L	99
29) Carbon tetrachloride	117	8.964	8.965	0.950	909454	87.33	ug/L	99
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	1267060	80.74	ug/L	99
32) Benzene	78	9.178	9.178	0.972	3005557	81.23	ug/L	100
33) Cyclohexene	67	9.288	9.288	0.984	1618653	82.49	ug/L	99
34) n-Butyl alcohol	56	9.568	9.568	1.014	3186346	10287.27	ug/L	100 A
35) Trichloroethylene	95	9.830	9.830	1.041	737481	81.21	ug/L	100
36) 2-Pentanone	43	9.928	9.928	1.052	2907668	419.62	ug/L	100
37) 1,2-Dichloropropane	63	10.074	10.080	1.067	1019919	85.25	ug/L	99
38) Methylcyclohexane	83	10.068	10.068	1.067	1426756	81.71	ug/L	99
39) Dibromomethane	93	10.214	10.214	1.082	411980	82.94	ug/L	99
40) Bromodichloromethane	83	10.330	10.330	1.094	975022	79.87	ug/L	99
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	2795582	410.73	ug/L	100
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	1206830	79.46	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F209.D
Acq On : 20 Oct 2020 16:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-08|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 15:28:35 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	1819318	447.68	ug/L	96	
46) Toluene	91	11.171	11.172	0.884	3076554	80.53	ug/L	99	
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	1084865	79.93	ug/L	99	
48) 1,1,2-Trichloroethane	83	11.561	11.562	0.915	507059	82.38	ug/L	100	
49) 2-Hexanone	43	11.750	11.751	0.930	2660933	445.28	ug/L	98	
50) 1,3-Dichloropropane	76	11.750	11.751	0.930	1134579	84.30	ug/L	97	
51) Tetrachloroethylene	164	11.763	11.763	0.931	586403	79.18	ug/L	99	
52) Dibromochloromethane	129	12.013	12.019	0.951	626374	81.31	ug/L	99	
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	573634	85.90	ug/L	100	
54) Chlorobenzene	112	12.671	12.671	1.003	2001639	79.79	ug/L	99	
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	736296	91.12	ug/L	99	
56) Ethylbenzene	91	12.738	12.738	1.008	3599677	82.42	ug/L	99	
57) m,p-Xylenes	106	12.848	12.848	1.017	2815191	166.27	ug/L	95	
58) o-Xylene	91	13.287	13.287	1.052	3140259	84.62	ug/L	100	
59) Styrene	104	13.293	13.293	1.052	2439431	80.53	ug/L	100	
61) Bromoform	173	13.543	13.543	0.899	374010	104.08	ug/L	98	A
62) Isopropylbenzene	105	13.646	13.647	0.906	3671232	83.77	ug/L	98	
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	803247	87.31	ug/L	99	
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	235375	83.37	ug/L	97	
66) Bromobenzene	156	14.049	14.049	0.932	834873	82.67	ug/L	99	
67) n-Propylbenzene	91	14.079	14.079	0.934	4399955	82.54	ug/L	99	
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	3383516	85.28	ug/L	100	
69) 2-Chlorotoluene	126	14.220	14.220	0.944	882320	82.49	ug/L	100	
70) 4-Chlorotoluene	91	14.323	14.323	0.951	2763510	82.84	ug/L	100	
71) tert-Butylbenzene	134	14.604	14.604	0.969	715109	85.61	ug/L	99	
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	3476255	85.09	ug/L	99	
73) sec-Butylbenzene	105	14.829	14.829	0.984	4345738	84.42	ug/L	99	
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	3697284	84.80	ug/L	99	
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	1720632	81.07	ug/L	100	
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	1728593	79.66	ug/L	99	
77) n-Butylbenzene	91	15.384	15.384	1.021	3741083	83.60	ug/L	99	
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1686349	81.10	ug/L	100	
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	147284	95.17	ug/L	99	
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	1341160	77.45	ug/L	100	
81) Hexachlorobutadiene	225	17.457	17.457	1.159	888281	80.29	ug/L	99	
82) Naphthalene	128	17.646	17.646	1.171	3009836	81.57	ug/L	100	
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	1255634	76.28	ug/L	99	
85) Acrolein		6.026	6.008	0.638	0m	N.D.	d		
86) Trichlorotrifluoroethane		6.166	6.154	0.653	0m	N.D.	d		
87) Isopropyl Alcohol		6.191	6.270	0.656	0m	N.D.	d		
88) Allyl chloride		6.526	6.593	0.691	0m	N.D.	d		
89) tert-Butyl Alcohol		0.000	6.758	0.000	0	N.D.			
90) Acrylonitrile		7.026	7.001	0.744	0m	N.D.	d		
91) Isopropyl ether		7.526	7.544	0.797	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		7.654	7.666	0.811	0m	N.D.	d		
93) Ethyl tert-butyl ether		7.873	7.952	0.834	0m	N.D.	d		
94) Ethyl acetate		8.154	8.172	0.864	0m	N.D.	d		
95) Propionitrile		8.148	8.233	0.863	0m	N.D.	d		
96) Methacrylonitrile		8.519	8.410	0.902	0m	N.D.	d		
97) Tetrahydrofuran		8.507	8.519	0.901	0m	N.D.	d		
98) Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d		
101) 1,4-Dioxane		10.178	10.172	1.078	0m	N.D.	d		
102) 2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F209.D
Acq On : 20 Oct 2020 16:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-08|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 15:28:35 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

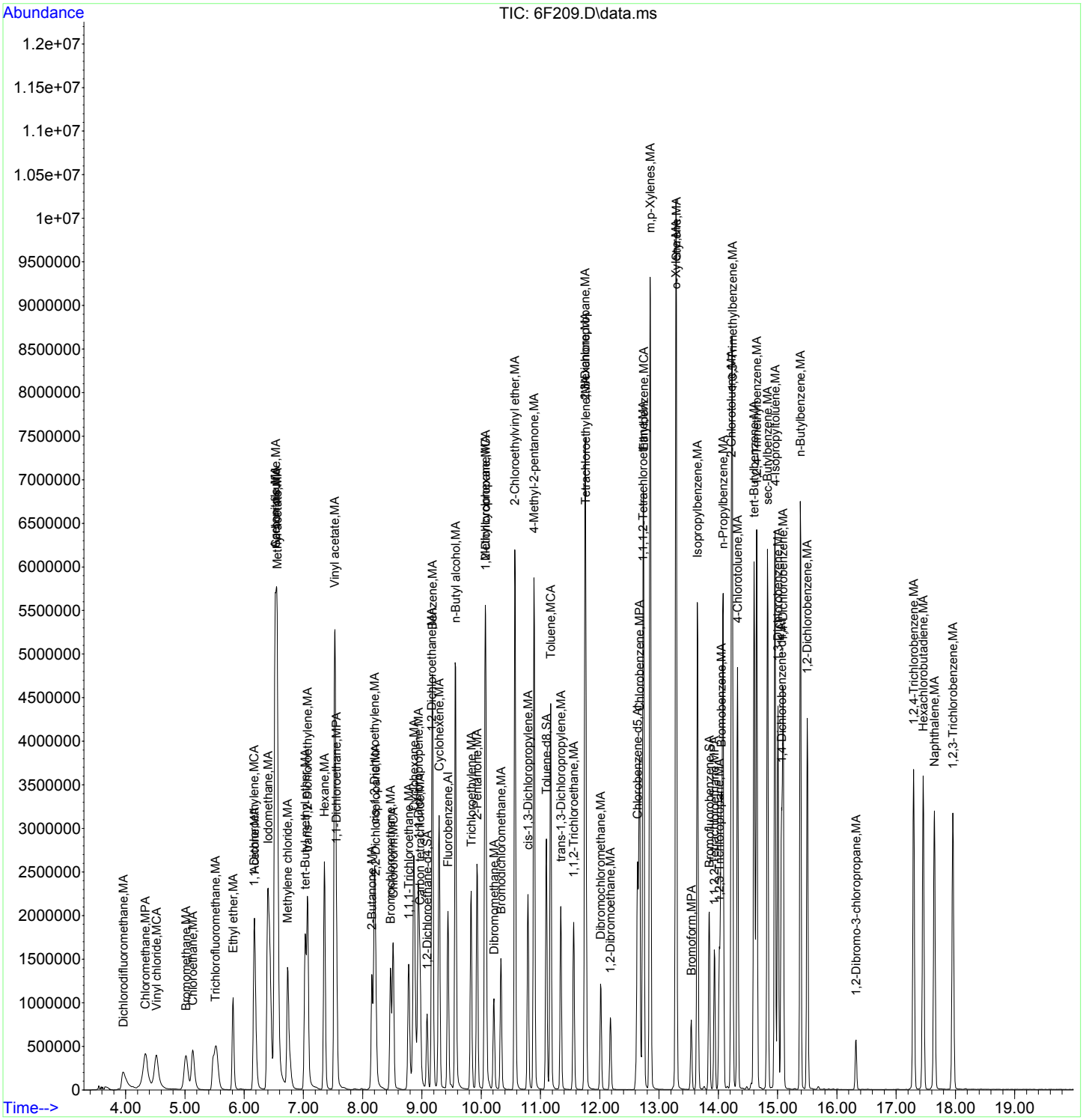
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.634	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.646	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.817	13.799	0.917	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.689	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F209.D
Acq On : 20 Oct 2020 16:37
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-08|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 15:28:35 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



MEL

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F210.D
Acq On : 20 Oct 2020 17:02
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-09|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

10/21/2020

KP

10/21/2020

Quant Time: Oct 21 15:28:37 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue	
Internal Standards								Dev(Min)	
1) Fluorobenzene	96	9.440	9.440	1.000	1845924	50.00	ug/L	0.00	
43) Chlorobenzene-d5	117	12.641	12.635	1.000	1410571	50.00	ug/L	0.00	
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	793226	50.00	ug/L	0.00	
84) B Fluorobenzene	96	9.440	9.440	1.000	0m	50.00	ug/L	0.00	
103) B Chlorobenzene-d5	117	12.641	12.641	1.000	0m	50.00	ug/L	0.00	
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	0m	50.00	ug/L	0.00	
System Monitoring Compounds								Dev(Min)	
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	636162	48.86	ug/L	0.00	
45) Toluene-d8	98	11.098	11.098	0.878	1923587	49.94	ug/L	0.00	
63) Bromofluorobenzene	95	13.842	13.842	0.919	759101	49.98	ug/L	0.00	
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue	
2) Dichlorodifluoromethane	85	3.969	3.969	0.420	1011900	85.43	ug/L	99	
3) Chloromethane	50	4.346	4.338	0.460	2124078	87.73	ug/L	100	
4) Vinyl chloride	62	4.530	4.522	0.480	1831087	88.84	ug/L	100	
5) Bromomethane	94	5.028	5.020	0.533	859863	86.23	ug/L	100	
6) Chloroethane	64	5.140	5.140	0.544	1144132	92.94	ug/L	100	
7) Trichlorofluoromethane	101	5.533	5.517	0.586	1704911	94.15	ug/L	100	
8) Ethyl ether	59	5.814	5.814	0.616	1213126	101.54	ug/L	99	A
9) Acetone	43	6.178	6.179	0.654	1442110	480.17	ug/L	99	
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	1976829	103.20	ug/L	99	A
11) Iodomethane	142	6.404	6.404	0.678	7646871	511.71	ug/L	100	A
12) Acetonitrile	41	6.526	6.526	0.691	3562556	2510.40	ug/L	100	A
13) Methyl acetate	43	6.562	6.563	0.695	3568121	504.84	ug/L	99	A
14) Carbon disulfide	76	6.538	6.538	0.693	15412500	518.63	ug/L	98	A
15) Methylene chloride	84	6.739	6.739	0.714	1028182	99.87	ug/L	98	
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	2738935	105.57	ug/L	100	A
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	1865389	102.13	ug/L	100	A
18) Hexane	57	7.355	7.355	0.779	2017327	96.99	ug/L	99	
19) Vinyl acetate	43	7.532	7.532	0.798	10510083	464.56	ug/L	95	
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	2221781	103.02	ug/L	100	A
21) 2-Butanone	43	8.154	8.160	0.864	2297817	505.89	ug/L	99	A
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	2123997	102.87	ug/L	99	A
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	1123995	104.09	ug/L	97	A
24) Bromochloromethane	128	8.471	8.471	0.897	462930	102.83	ug/L	99	A
25) Chloroform	83	8.513	8.514	0.902	1720693	102.06	ug/L	100	A
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	1457503	105.48	ug/L	100	A
27) Cyclohexane	56	8.867	8.867	0.939	2637042	99.23	ug/L	99	
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	1337436	102.99	ug/L	98	A
29) Carbon tetrachloride	117	8.964	8.965	0.950	1189245	110.07	ug/L	100	A
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	1653836	101.57	ug/L	100	A
32) Benzene	78	9.178	9.178	0.972	3963014	103.23	ug/L	99	A
33) Cyclohexene	67	9.288	9.288	0.984	2101359	103.21	ug/L	99	A
34) n-Butyl alcohol	56	9.568	9.568	1.014	4251522	13229.15	ug/L	99	A
35) Trichloroethylene	95	9.830	9.830	1.041	978420	103.83	ug/L	99	A
36) 2-Pentanone	43	9.928	9.928	1.052	3713247	516.47	ug/L	99	A
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	1336787	107.69	ug/L	100	A
38) Methylcyclohexane	83	10.068	10.068	1.067	1847656	101.99	ug/L	98	A
39) Dibromomethane	93	10.214	10.214	1.082	538974	104.58	ug/L	99	A
40) Bromodichloromethane	83	10.330	10.330	1.094	1302734	102.69	ug/L	99	A
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	3560102	504.12	ug/L	100	A
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	1610905	102.08	ug/L	98	A

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F210.D
Acq On : 20 Oct 2020 17:02
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-09|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 15:28:37 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	2340885	554.54	ug/L	93	A
46) Toluene	91	11.171	11.172	0.884	4011596	101.09	ug/L	99	A
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.897	1444082	102.26	ug/L	97	A
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	667287	104.37	ug/L	99	A
49) 2-Hexanone	43	11.750	11.751	0.930	3329717	536.41	ug/L	96	A
50) 1,3-Dichloropropane	76	11.750	11.751	0.930	1464181	104.73	ug/L	95	A
51) Tetrachloroethylene	164	11.763	11.763	0.931	760156	98.82	ug/L	99	
52) Dibromochloromethane	129	12.019	12.019	0.951	830612	103.59	ug/L	100	A
53) 1,2-Dibromoethane	107	12.177	12.177	0.963	752434	108.47	ug/L	100	A
54) Chlorobenzene	112	12.671	12.671	1.002	2635056	101.12	ug/L	100	A
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	967832	115.31	ug/L	99	A
56) Ethylbenzene	91	12.738	12.738	1.008	4640700	102.29	ug/L	98	A
57) m,p-Xylenes	106	12.854	12.848	1.017	3626299	206.18	ug/L	92	A
58) o-Xylene	91	13.287	13.287	1.051	4019911	104.29	ug/L	99	A
59) Styrene	104	13.293	13.293	1.052	3136726	99.49	ug/L	100	
61) Bromoform	173	13.543	13.543	0.899	501448	132.45	ug/L	100	A
62) Isopropylbenzene	105	13.646	13.647	0.906	4747165	102.81	ug/L	97	A
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	1050329	108.36	ug/L	99	A
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	306155	102.93	ug/L	99	A
66) Bromobenzene	156	14.049	14.049	0.932	1100305	103.42	ug/L	98	A
67) n-Propylbenzene	91	14.079	14.079	0.934	5609489	99.89	ug/L	97	
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	4400020	105.26	ug/L	99	A
69) 2-Chlorotoluene	126	14.220	14.220	0.944	1159952	102.93	ug/L	99	A
70) 4-Chlorotoluene	91	14.323	14.323	0.951	3635314	103.44	ug/L	99	A
71) tert-Butylbenzene	134	14.604	14.604	0.969	951004	108.06	ug/L	97	A
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	4533665	105.33	ug/L	98	A
73) sec-Butylbenzene	105	14.829	14.829	0.984	5585471	102.99	ug/L	98	A
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	4793559	104.36	ug/L	98	A
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	2285942	102.23	ug/L	100	A
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	2292776	100.28	ug/L	99	A
77) n-Butylbenzene	91	15.384	15.384	1.021	4879725	103.50	ug/L	98	A
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	2243213	102.39	ug/L	100	A
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	196795	120.70	ug/L	99	A
80) 1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	1803487	98.85	ug/L	100	
81) Hexachlorobutadiene	225	17.457	17.457	1.159	1169163	100.31	ug/L	99	A
82) Naphthalene	128	17.646	17.646	1.171	3994356	102.75	ug/L	100	A
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	1675120	96.59	ug/L	100	
85) Acrolein		6.008	6.008	0.636	0m	N.D.	d		
86) Trichlorotrifluoroethane		6.136	6.154	0.650	0m	N.D.	d		
87) Isopropyl Alcohol		6.191	6.270	0.656	0m	N.D.	d		
88) Allyl chloride		6.526	6.593	0.691	0m	N.D.	d		
89) tert-Butyl Alcohol		6.758	6.758	0.716	0m	N.D.	d		
90) Acrylonitrile		7.038	7.001	0.746	0m	N.D.	d		
91) Isopropyl ether		7.526	7.544	0.797	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		7.678	7.666	0.813	0m	N.D.	d		
93) Ethyl tert-butyl ether		7.861	7.952	0.833	0m	N.D.	d		
94) Ethyl acetate		8.154	8.172	0.864	0m	N.D.	d		
95) Propionitrile		8.239	8.233	0.873	0m	N.D.	d		
96) Methacrylonitrile		8.526	8.410	0.903	0m	N.D.	d		
97) Tetrahydrofuran		8.513	8.519	0.902	0m	N.D.	d		
98) Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d		
101) 1,4-Dioxane		10.184	10.172	1.079	0m	N.D.	d		
102) 2-Nitropropane		10.458	10.550	1.108	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F210.D
Acq On : 20 Oct 2020 17:02
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-09|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 15:28:37 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

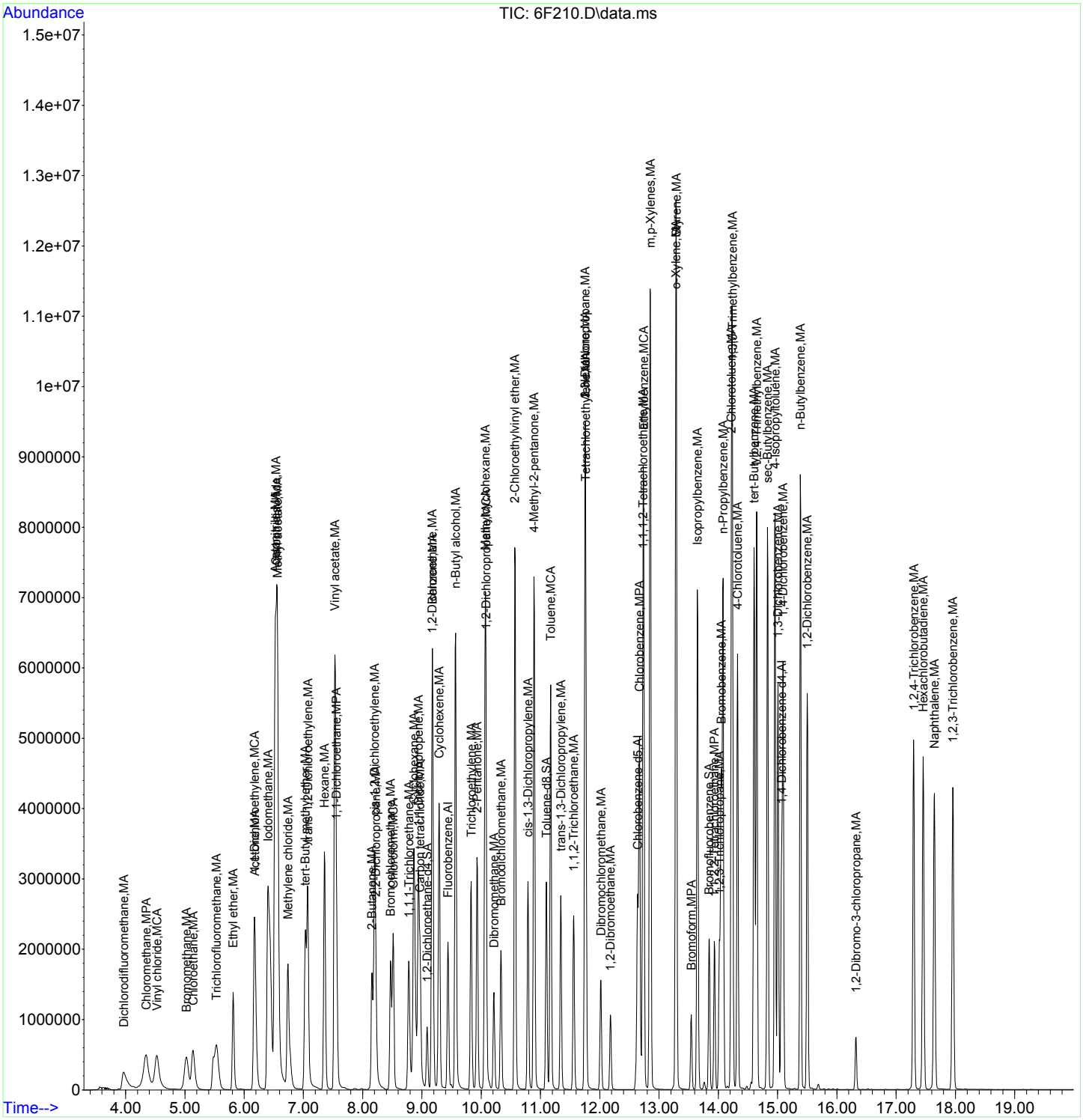
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.634	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.646	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.799	13.799	0.916	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		14.665	14.671	0.973	0m	N.D.	d
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.597	15.603	1.035	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F210.D
Acq On : 20 Oct 2020 17:02
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-09|ICAL|1|VOAF|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 15:28:37 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



Continuing Calibration Summary

Client SDG: 2021-130

Instrument ID: VOA6.I **Injection Date:** 20-OCT-20 17:53

Data File: 102020V6\6F212.D **Init. Cal. Date(s)** 20-OCT-20 13:37 - 20-OCT-20 17:0

Lab Sample ID W6VM201020-10 **Method:** 102020V6\VOA6-8260-102020DOE.M

Quant Type ISTD **Method Update:** 21-OCT-20 15:27

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type	
S	1,2-Dichloroethane-d4	0.3527	0.3545		.01		0.51035	60		Averaged	
S	Toluene-d8	1.3654	1.38691		.01		1.57536	60		Averaged	
S	Bromofluorobenzene	0.9573	0.99062		.01		3.48062	60		Averaged	
	Chloromethane	0.6558	0.65324		.1		-0.39036	60		Averaged	SPCC
	Vinyl chloride	0.5583	0.52764		.01		-5.49167	20		Averaged	CCC
	1,1-Dichloroethylene	0.5188	0.50138		.01		-3.35775	20		Averaged	CCC
	Methylene chloride	50	48.04	50			-3.92	60		Linear	
	1,1-Dichloroethane	0.5842	0.59513		.1		1.87093	60		Averaged	SPCC
	Chloroform	0.4567	0.45335		.01		-0.73352	20		Averaged	CCC
	1,1,1-Trichloroethane	0.3743	0.38996		.01		4.18381	60		Averaged	
	Carbon tetrachloride	0.2927	0.31671		.01		8.20294	60		Averaged	
	1,2-Dichloroethane	0.441	0.41704		.01		-5.43311	60		Averaged	
	Benzene	1.0399	1.01266		.01		-2.61948	60		Averaged	
	Trichloroethylene	0.2552	0.24888		.01		-2.47649	60		Averaged	
	1,2-Dichloropropane	0.3362	0.33671		.01		0.1517	20		Averaged	CCC
	Dibromomethane	0.1396	0.13671		.01		-2.0702	60		Averaged	
	Toluene	1.4067	1.38413		.01		-1.60446	20		Averaged	CCC
	1,1,2-Trichloroethane	0.2266	0.22311		.01		-1.54016	60		Averaged	
	Tetrachloroethylene	0.2727	0.26468		.01		-2.94096	60		Averaged	
	Chlorobenzene	0.9237	0.88058		.3		-4.66818	60		Averaged	SPCC
	Ethylbenzene	1.6081	1.61152		.01		0.21267	20		Averaged	CCC
	m,p-Xylenes	0.6234	0.62275		.01		-0.10427	60		Averaged	
	o-Xylene	1.3663	1.35355		.01		-0.93318	60		Averaged	
	Bromoform	0.2386	0.2836		.1		18.86002	60		Averaged	SPCC
	1,1,2,2-Tetrachloroethane	0.611	0.62506		.3		2.30115	60		Averaged	SPCC

MEL

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F212.D
Acq On : 20 Oct 2020 17:53
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-10|ICV|1|VOAF|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

10/21/2020

KP

10/21/2020

Quant Time: Oct 21 15:28:41 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1780858	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1350269	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	738420	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1780858	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1350269	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	739536	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	631320	50.26	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1872695	50.79	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	731493	51.74	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	3.969	3.969	0.420	590776	51.70	ug/L	99
3) Chloromethane	50	4.338	4.338	0.460	1163336	49.80	ug/L	100
4) Vinyl chloride	62	4.522	4.522	0.479	939646	47.25	ug/L	98
5) Bromomethane	94	5.020	5.020	0.532	483059	50.21	ug/L	100
6) Chloroethane	64	5.132	5.140	0.544	580071	48.84	ug/L	100
7) Trichlorofluoromethane	101	5.525	5.517	0.585	877081	50.20	ug/L	99
8) Ethyl ether	59	5.814	5.814	0.616	551469	47.84	ug/L	99
9) Acetone	43	6.178	6.179	0.654	713837	246.37	ug/L	100
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	892881	48.32	ug/L	100
11) Iodomethane	142	6.404	6.404	0.678	3649594	253.14	ug/L	100
12) Acetonitrile	41	6.526	6.526	0.691	1649951	1205.14	ug/L	100
13) Methyl acetate	43	6.563	6.563	0.695	1560425	228.84	ug/L	100
14) Carbon disulfide	76	6.538	6.538	0.693	8137987	283.85	ug/L	100
15) Methylene chloride	84	6.739	6.739	0.714	481986	48.04	ug/L	98
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	1288268	51.47	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	828530	47.02	ug/L	99
18) Hexane	57	7.355	7.355	0.779	1093322	54.48	ug/L	99
19) Vinyl acetate	43	7.532	7.532	0.798	5928389	271.62	ug/L	100
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	1059836	50.94	ug/L	100
21) 2-Butanone	43	8.154	8.160	0.864	1108444	252.95	ug/L	99
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	949365	47.66	ug/L	99
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	534432	51.30	ug/L	99
24) Bromochloromethane	128	8.471	8.471	0.897	215913	49.71	ug/L	98
25) Chloroform	83	8.513	8.514	0.902	807354	49.64	ug/L	99
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	694463	52.09	ug/L	100
27) Cyclohexane	56	8.867	8.867	0.939	1232802	48.08	ug/L	100
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	612105	48.86	ug/L	99
29) Carbon tetrachloride	117	8.965	8.965	0.950	564016	54.11	ug/L	99
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	742694	47.28	ug/L	100
32) Benzene	78	9.178	9.178	0.972	1803408	48.69	ug/L	99
33) Cyclohexene	67	9.288	9.288	0.984	1004328	51.13	ug/L	99
34) n-Butyl alcohol	56	9.568	9.568	1.014	1915011	6176.51	ug/L	99
35) Trichloroethylene	95	9.830	9.830	1.041	443217	48.75	ug/L	99
36) 2-Pentanone	43	9.928	9.928	1.052	1901792	274.18	ug/L	99
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	599626	50.07	ug/L	100
38) Methylcyclohexane	83	10.068	10.068	1.067	846457	48.43	ug/L	99
39) Dibromomethane	93	10.214	10.214	1.082	243469	48.97	ug/L	100
40) Bromodichloromethane	83	10.330	10.330	1.094	565642	46.53	ug/L	100
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	1840651	270.16	ug/L	100
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	728125	48.11	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F212.D
Acq On : 20 Oct 2020 17:53
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-10|ICV|1|VOAF|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 21 15:28:41 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	1086862	268.97	ug/L	99
46) Toluene	91	11.171	11.172	0.884	1868954	49.20	ug/L	100
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	650224	48.41	ug/L	98
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	301264	49.22	ug/L	100
49) 2-Hexanone	43	11.751	11.751	0.930	1625798	273.61	ug/L	99
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	668564	49.96	ug/L	99
51) Tetrachloroethylene	164	11.769	11.763	0.931	357384	48.53	ug/L	99
52) Dibromochloromethane	129	12.019	12.019	0.951	367213	48.26	ug/L	99
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	344889	51.94	ug/L	100
54) Chlorobenzene	112	12.671	12.671	1.003	1189014	47.67	ug/L	99
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	418657	52.11	ug/L	99
56) Ethylbenzene	91	12.738	12.738	1.008	2175983	50.11	ug/L	100
57) m,p-Xylenes	106	12.848	12.848	1.017	1681762	99.89	ug/L	99
58) o-Xylene	91	13.287	13.287	1.052	1827650	49.53	ug/L	99
59) Styrene	104	13.293	13.293	1.052	1410560	47.19	ug/L	100
61) Bromoform	173	13.543	13.543	0.899	209419	59.42	ug/L	99
62) Isopropylbenzene	105	13.647	13.647	0.906	2219364	51.63	ug/L	99
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	461556	51.15	ug/L	99
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	136099	49.15	ug/L	98
66) Bromobenzene	156	14.049	14.049	0.932	497291	50.21	ug/L	99
67) n-Propylbenzene	91	14.079	14.079	0.934	2610233	49.93	ug/L	100
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	1956231	50.27	ug/L	99
69) 2-Chlorotoluene	126	14.220	14.220	0.944	530015	50.52	ug/L	100
70) 4-Chlorotoluene	91	14.323	14.323	0.951	1615653	49.38	ug/L	99
71) tert-Butylbenzene	134	14.604	14.604	0.969	406285	49.59	ug/L	100
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	1966403	49.08	ug/L	100
73) sec-Butylbenzene	105	14.829	14.829	0.984	2517539	49.87	ug/L	100
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	2109657	49.34	ug/L	100
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	1005084	48.28	ug/L	100
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	1009615	47.44	ug/L	99
77) n-Butylbenzene	91	15.384	15.384	1.021	2145587	48.89	ug/L	99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1002114	49.14	ug/L	99
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	82158	54.13	ug/L	99
80) 1,2,4-Trichlorobenzene	180	17.298	17.292	1.148	828814	48.80	ug/L	99
81) Hexachlorobutadiene	225	17.457	17.457	1.159	520893	48.01	ug/L	99
82) Naphthalene	128	17.646	17.646	1.171	1752315	48.42	ug/L	100
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	762411	47.23	ug/L	100
85) Acrolein		0.000	6.008	0.000	0	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol		6.325	6.270	0.670	0m	N.D.	d	
88) Allyl chloride		6.526	6.593	0.691	0m	N.D.	d	
89) tert-Butyl Alcohol		6.764	6.758	0.716	0m	N.D.	d	
90) Acrylonitrile		7.038	7.001	0.746	0m	N.D.	d	
91) Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d	
92) 2-Chloro-1,3-butadiene		7.678	7.666	0.813	0m	N.D.	d	
93) Ethyl tert-butyl ether		7.867	7.952	0.833	0m	N.D.	d	
94) Ethyl acetate		8.154	8.172	0.864	0m	N.D.	d	
95) Propionitrile		8.154	8.233	0.864	0m	N.D.	d	
96) Methacrylonitrile		8.519	8.410	0.902	0m	N.D.	d	
97) Tetrahydrofuran		8.593	8.519	0.910	0m	N.D.	d	
98) Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d	
99) Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d	
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d	
101) 1,4-Dioxane		10.196	10.172	1.080	0m	N.D.	d	
102) 2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F212.D
Acq On : 20 Oct 2020 17:53
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-10|ICV|1|VOAF|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 21 15:28:41 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

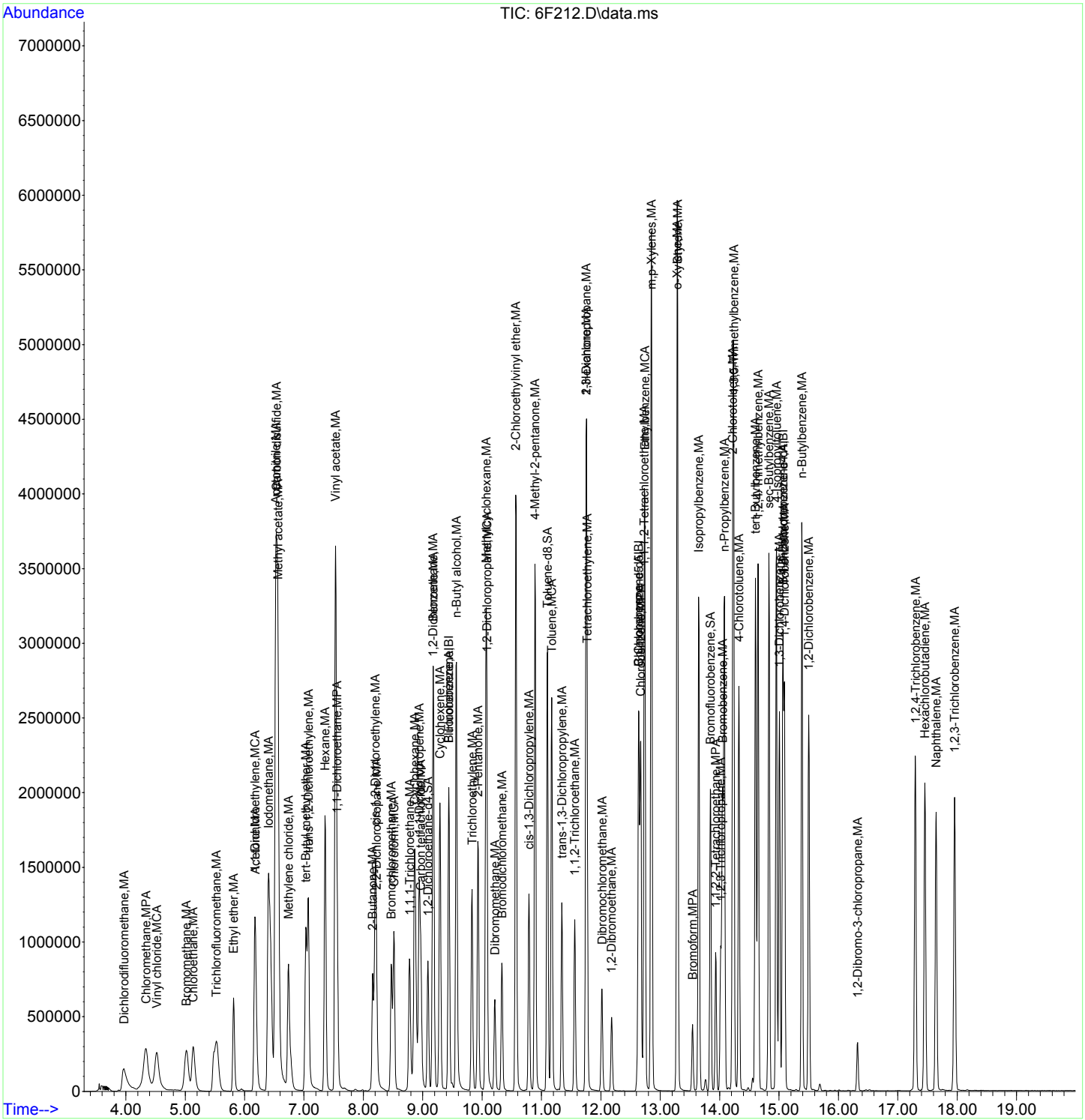
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.805	13.799	0.916	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.073	13.988	0.934	0m	N.D.	d
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.683	15.603	1.041	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\
Data File : 6F212.D
Acq On : 20 Oct 2020 17:53
Operator : MXL2
InstName : VOA6
Sample : |W6VM201020-10|ICV|1|VOAF|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 21 15:28:41 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



Continuing Calibration Summary

Client SDG: 2021-130

Instrument ID: VOA6.I **Injection Date:** 17-NOV-20 10:18

Data File: 111720V6\6J203.D **Init. Cal. Date(s)** 20-OCT-20 13:37 - 20-OCT-20 17:0

Lab Sample ID W6VM201117-02 **Method:** 102020V6\VOA6-8260-102020DOE.M

Quant Type ISTD **Method Update:** 21-OCT-20 15:27

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type	
S	1,2-Dichloroethane-d4	0.3527	0.36009		.01		2.09527	60		Averaged	
S	Toluene-d8	1.3654	1.36381		.01		-0.11645	60		Averaged	
S	Bromofluorobenzene	0.9573	0.98155		.01		2.53317	60		Averaged	
	Chloromethane	0.6558	0.71038		.1		8.32266	60		Averaged	SPCC
	Vinyl chloride	0.5583	0.46526		.01		-16.66488	20		Averaged	CCC
	1,1-Dichloroethylene	0.5188	0.53031		.01		2.21858	20		Averaged	CCC
	Methylene chloride	50	47.62	50			-4.76	60		Linear	
	1,1-Dichloroethane	0.5842	0.60877		.1		4.20575	60		Averaged	SPCC
	Chloroform	0.4567	0.43348		.01		-5.0843	20		Averaged	CCC
	1,1,1-Trichloroethane	0.3743	0.37573		.01		0.38205	60		Averaged	
	Carbon tetrachloride	0.2927	0.29783		.01		1.75265	60		Averaged	
	1,2-Dichloroethane	0.441	0.41318		.01		-6.30839	60		Averaged	
	Benzene	1.0399	0.97955		.01		-5.80344	60		Averaged	
	Trichloroethylene	0.2552	0.2414		.01		-5.40752	60		Averaged	
	1,2-Dichloropropane	0.3362	0.34343		.01		2.15051	20		Averaged	CCC
	Dibromomethane	0.1396	0.13224		.01		-5.27221	60		Averaged	
	Toluene	1.4067	1.37652		.01		-2.14545	20		Averaged	CCC
	1,1,2-Trichloroethane	0.2266	0.22222		.01		-1.93292	60		Averaged	
	Tetrachloroethylene	0.2727	0.258		.01		-5.39054	60		Averaged	
	Chlorobenzene	0.9237	0.87284		.3		-5.50612	60		Averaged	SPCC
	Ethylbenzene	1.6081	1.58118		.01		-1.67403	20		Averaged	CCC
	m,p-Xylenes	0.6234	0.60771		.01		-2.51684	60		Averaged	
	o-Xylene	1.3663	1.31685		.01		-3.61926	60		Averaged	
	Bromoform	0.2386	0.27635		.1		15.82146	60		Averaged	SPCC
	1,1,2,2-Tetrachloroethane	0.611	0.64556		.3		5.6563	60		Averaged	SPCC

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |W6VM201117-02|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV/LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 17 12:24:28 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1849348	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1379680	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	765395	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1849348	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1379680	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	765468	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	665938	51.05	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1881620	49.94	ug/L		0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	751273	51.27	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.977	3.969	0.421	535910	45.16	ug/L		100
3) Chloromethane	50	4.346	4.338	0.460	1313748	54.16	ug/L		97
4) Vinyl chloride	62	4.530	4.522	0.480	860422	41.67	ug/L		99
5) Bromomethane	94	5.036	5.020	0.533	437791	43.82	ug/L		100
6) Chloroethane	64	5.148	5.140	0.545	563449	45.68	ug/L		99
7) Trichlorofluoromethane	101	5.533	5.517	0.586	790390	43.57	ug/L		99
8) Ethyl ether	59	5.822	5.814	0.617	628121	52.48	ug/L		81
9) Acetone	43	6.179	6.179	0.654	928149	308.47	ug/L		94
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	980727	51.10	ug/L		97
11) Iodomethane	142	6.404	6.404	0.678	3647768	243.65	ug/L		100
12) Acetonitrile	41	6.532	6.526	0.692	2422466	1703.86	ug/L		100
13) Methyl acetate	43	6.563	6.563	0.695	2171001	306.60	ug/L		91
14) Carbon disulfide	76	6.532	6.538	0.692	8485602	285.01	ug/L		100
15) Methylene chloride	84	6.739	6.739	0.714	496316	47.62	ug/L	#	75
16) tert-Butyl methyl ether	73	7.038	7.032	0.746	1283137	49.37	ug/L		93
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	901524	49.27	ug/L		95
18) Hexane	57	7.361	7.355	0.780	1290960	61.95	ug/L		90
19) Vinyl acetate	43	7.532	7.532	0.798	7821390	345.08	ug/L		95
20) 1,1-Dichloroethane	63	7.562	7.556	0.801	1125832	52.11	ug/L		99
21) 2-Butanone	43	8.160	8.160	0.864	1504857	330.70	ug/L		89
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	1011958	48.92	ug/L		95
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	550325	50.87	ug/L		85
24) Bromochloromethane	128	8.477	8.471	0.898	208510	46.23	ug/L	#	66
25) Chloroform	83	8.513	8.514	0.902	801660	47.46	ug/L		100
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	694849	50.19	ug/L		97
27) Cyclohexane	56	8.867	8.867	0.939	1486996	55.85	ug/L		91
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	634122	48.74	ug/L		88
29) Carbon tetrachloride	117	8.971	8.965	0.950	550785	50.88	ug/L		100
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	764109	46.84	ug/L		99
32) Benzene	78	9.178	9.178	0.972	1811522	47.10	ug/L		95
33) Cyclohexene	67	9.288	9.288	0.984	1045674	51.26	ug/L		85
34) n-Butyl alcohol	56	9.568	9.568	1.014	2277610	7073.95	ug/L		88
35) Trichloroethylene	95	9.830	9.830	1.041	446436	47.29	ug/L		99
36) 2-Pentanone	43	9.928	9.928	1.052	2480306	344.34	ug/L		92
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	635113	51.07	ug/L		99
38) Methylcyclohexane	83	10.068	10.068	1.067	875960	48.26	ug/L		88
39) Dibromomethane	93	10.214	10.214	1.082	244555	47.37	ug/L		96
40) Bromodichloromethane	83	10.330	10.330	1.094	576772	45.69	ug/L		99
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	1933624	273.30	ug/L		98
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	747369	47.56	ug/L		91

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |W6VM201117-02|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV/LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 12:24:28 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	1209798	293.01	ug/L	#	75
46) Toluene	91	11.171	11.172	0.884	1899162	48.93	ug/L		100
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	664869	48.45	ug/L		91
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	306590	49.02	ug/L		99
49) 2-Hexanone	43	11.751	11.751	0.930	2100937	346.03	ug/L		89
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	665216	48.65	ug/L	#	76
51) Tetrachloroethylene	164	11.763	11.763	0.931	355960	47.31	ug/L		99
52) Dibromochloromethane	129	12.019	12.019	0.951	375194	48.26	ug/L		99
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	348203	51.32	ug/L		99
54) Chlorobenzene	112	12.671	12.671	1.003	1204245	47.25	ug/L		100
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	418698	51.00	ug/L		99
56) Ethylbenzene	91	12.738	12.738	1.008	2181518	49.16	ug/L		99
57) m,p-Xylenes	106	12.848	12.848	1.017	1676900	97.48	ug/L		99
58) o-Xylene	91	13.287	13.287	1.052	1816834	48.19	ug/L		99
59) Styrene	104	13.293	13.293	1.052	1365415	44.75	ug/L		99
61) Bromoform	173	13.543	13.543	0.899	211519	57.90	ug/L		98
62) Isopropylbenzene	105	13.647	13.647	0.906	2288349	51.36	ug/L		99
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	494110	52.83	ug/L		100
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	138908	48.40	ug/L		98
66) Bromobenzene	156	14.049	14.049	0.932	485609	47.30	ug/L		95
67) n-Propylbenzene	91	14.079	14.079	0.934	2728168	50.35	ug/L		99
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	2001939	49.64	ug/L		98
69) 2-Chlorotoluene	126	14.220	14.220	0.944	538345	49.51	ug/L		99
70) 4-Chlorotoluene	91	14.323	14.323	0.951	1640878	48.39	ug/L		100
71) tert-Butylbenzene	134	14.604	14.604	0.969	431757	50.85	ug/L	#	88
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	2059386	49.59	ug/L		99
73) sec-Butylbenzene	105	14.829	14.829	0.984	2739301	52.35	ug/L		99
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	2258664	50.96	ug/L		100
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	1040018	48.20	ug/L		99
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	1046078	47.42	ug/L		99
77) n-Butylbenzene	91	15.384	15.384	1.021	2400886	52.77	ug/L		99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1055330	49.92	ug/L		99
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	90191	57.33	ug/L		96
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	883325	50.18	ug/L		100
81) Hexachlorobutadiene	225	17.457	17.457	1.159	547963	48.72	ug/L		99
82) Naphthalene	128	17.646	17.646	1.171	1929909	51.45	ug/L		99
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	803312	48.01	ug/L		99
85) Acrolein		0.000	6.008	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87) Isopropyl Alcohol		6.203	6.270	0.657	0m	N.D.	d		
88) Allyl chloride		6.532	6.593	0.692	0m	N.D.	d		
89) tert-Butyl Alcohol		0.000	6.758	0.000	0	N.D.			
90) Acrylonitrile		7.038	7.001	0.746	0m	N.D.	d		
91) Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		7.672	7.666	0.813	0m	N.D.	d		
93) Ethyl tert-butyl ether		7.855	7.952	0.832	0m	N.D.	d		
94) Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d		
95) Propionitrile		8.154	8.233	0.864	0m	N.D.	d		
96) Methacrylonitrile		8.507	8.410	0.901	0m	N.D.	d		
97) Tetrahydrofuran		8.513	8.519	0.902	0m	N.D.	d		
98) Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d		
99) Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100) Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d		
101) 1,4-Dioxane		10.184	10.172	1.079	0m	N.D.	d		
102) 2-Nitropropane		10.476	10.550	1.110	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |W6VM201117-02|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV/LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 12:24:28 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

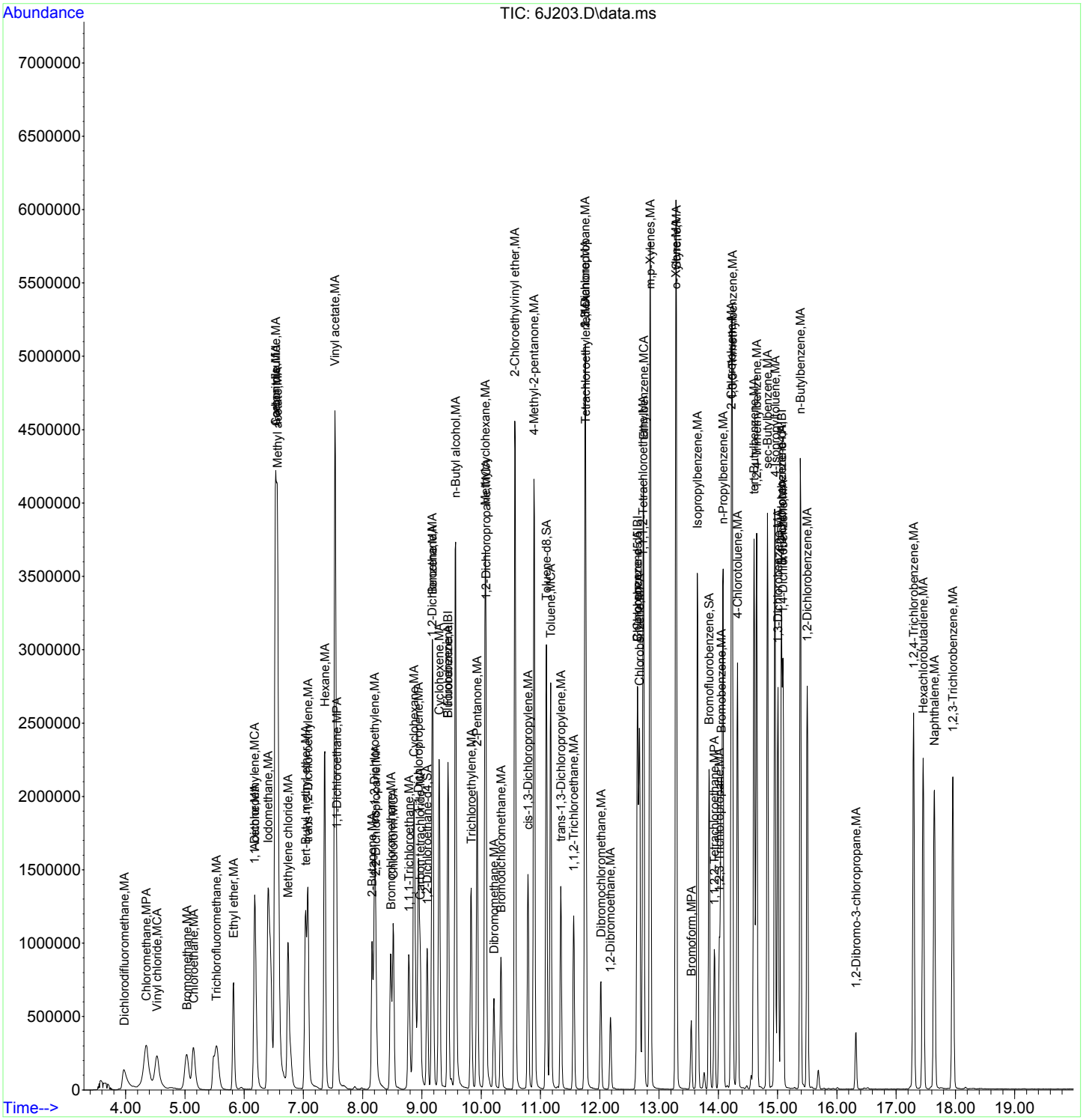
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.805	13.799	0.916	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.604	15.603	1.036	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |W6VM201117-02|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV/LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 12:24:28 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



Continuing Calibration Summary

Client SDG: 2021-130

Instrument ID: VOA6.I **Injection Date:** 18-NOV-20 10:45

Data File: 111820V6\6J302.D **Init. Cal. Date(s)** 20-OCT-20 13:37 - 20-OCT-20 17:0

Lab Sample ID W6VM201118-01 **Method:** 102020V6\VOA6-8260-102020DOE.M

Quant Type ISTD **Method Update:** 21-OCT-20 15:27

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type	
S	1,2-Dichloroethane-d4	0.3527	0.36701		.01		4.05727	60		Averaged	
S	Toluene-d8	1.3654	1.36118		.01		-0.30907	60		Averaged	
S	Bromofluorobenzene	0.9573	0.97718		.01		2.07667	60		Averaged	
	Chloromethane	0.6558	0.99025		.1		50.99878	60		Averaged	SPCC
	Vinyl chloride	0.5583	0.62951		.01		12.75479	20		Averaged	CCC
	1,1-Dichloroethylene	0.5188	0.50094		.01		-3.44256	20		Averaged	CCC
	Methylene chloride	50	42.23	50			-15.54	60		Linear	
	1,1-Dichloroethane	0.5842	0.54744		.1		-6.29237	60		Averaged	SPCC
	Chloroform	0.4567	0.39531		.01		-13.44208	20		Averaged	CCC
	1,1,1-Trichloroethane	0.3743	0.3389		.01		-9.45765	60		Averaged	
	Carbon tetrachloride	0.2927	0.27692		.01		-5.39119	60		Averaged	
	1,2-Dichloroethane	0.441	0.3872		.01		-12.19955	60		Averaged	
	Benzene	1.0399	0.91592		.01		-11.9223	60		Averaged	
	Trichloroethylene	0.2552	0.22324		.01		-12.52351	60		Averaged	
	1,2-Dichloropropane	0.3362	0.31847		.01		-5.27365	20		Averaged	CCC
	Dibromomethane	0.1396	0.12452		.01		-10.80229	60		Averaged	
	Toluene	1.4067	1.24034		.01		-11.82626	20		Averaged	CCC
	1,1,2-Trichloroethane	0.2266	0.20314		.01		-10.35305	60		Averaged	
	Tetrachloroethylene	0.2727	0.23146		.01		-15.12285	60		Averaged	
	Chlorobenzene	0.9237	0.8046		.3		-12.8938	60		Averaged	SPCC
	Ethylbenzene	1.6081	1.47712		.01		-8.14502	20		Averaged	CCC
	m,p-Xylenes	0.6234	0.55886		.01		-10.3529	60		Averaged	
	o-Xylene	1.3663	1.2477		.01		-8.68038	60		Averaged	
	Bromoform	0.2386	0.25214		.1		5.67477	60		Averaged	SPCC
	1,1,2,2-Tetrachloroethane	0.611	0.60389		.3		-1.16367	60		Averaged	SPCC

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J302.D
Acq On : 18 Nov 2020 10:45
Operator : WD1
InstName : VOA6
Sample : |W6VM201118-01|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 18 12:43:14 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.440	9.440	1.000	1672026	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.634	12.635	1.000	1267980	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	706948	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1672026	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.634	12.641	1.000	1267980	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	706948	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	613642	52.03	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1725946	49.84	ug/L		0.00
63) Bromofluorobenzene	95	13.841	13.842	0.919	690812	51.04	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	737056	68.70	ug/L		99
3) Chloromethane	50	4.330	4.338	0.459	1655716	75.50	ug/L		96
4) Vinyl chloride	62	4.522	4.522	0.479	1052553	56.38	ug/L		98
5) Bromomethane	94	5.028	5.020	0.533	495477	54.85	ug/L		100
6) Chloroethane	64	5.140	5.140	0.544	685749	61.50	ug/L		99
7) Trichlorofluoromethane	101	5.525	5.517	0.585	931247	56.77	ug/L		99
8) Ethyl ether	59	5.814	5.814	0.616	660681	61.05	ug/L		79
9) Acetone	43	6.172	6.179	0.654	702456	258.22	ug/L		92
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	837582	48.27	ug/L		97
11) Iodomethane	142	6.404	6.404	0.678	2891292	213.60	ug/L		99
12) Acetonitrile	41	6.526	6.526	0.691	2027977	1577.67	ug/L		100
13) Methyl acetate	43	6.556	6.563	0.695	1905988	297.72	ug/L		90
14) Carbon disulfide	76	6.532	6.538	0.692	6557140	243.59	ug/L		99
15) Methylene chloride	84	6.739	6.739	0.714	398942	42.23	ug/L	#	71
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	988753	42.08	ug/L		92
17) trans-1,2-Dichloroethy...	61	7.068	7.075	0.749	775265	46.86	ug/L		95
18) Hexane	57	7.355	7.355	0.779	1228015	65.18	ug/L		87
19) Vinyl acetate	43	7.526	7.532	0.797	7966272	388.74	ug/L		94
20) 1,1-Dichloroethane	63	7.556	7.556	0.800	915326	46.86	ug/L		98
21) 2-Butanone	43	8.154	8.160	0.864	1213593	294.97	ug/L		88
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	866010	46.31	ug/L		95
23) 2,2-Dichloropropane	77	8.215	8.221	0.870	440544	45.04	ug/L		80
24) Bromochloromethane	128	8.471	8.471	0.897	168540	41.33	ug/L	#	60
25) Chloroform	83	8.513	8.514	0.902	660967	43.28	ug/L		99
26) 1,1,1-Trichloroethane	97	8.775	8.776	0.930	566647	45.27	ug/L		97
27) Cyclohexane	56	8.861	8.867	0.939	1266267	52.60	ug/L		91
28) 1,1-Dichloropropene	75	8.934	8.940	0.946	529149	44.99	ug/L		86
29) Carbon tetrachloride	117	8.964	8.965	0.950	463018	47.31	ug/L		98
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	647411	43.90	ug/L		100
32) Benzene	78	9.178	9.178	0.972	1531445	44.04	ug/L		94
33) Cyclohexene	67	9.287	9.288	0.984	858187	46.53	ug/L		83
34) n-Butyl alcohol	56	9.562	9.568	1.013	1836906	6310.23	ug/L		85
35) Trichloroethylene	95	9.830	9.830	1.041	373269	43.73	ug/L		99
36) 2-Pentanone	43	9.928	9.928	1.052	2405850	369.43	ug/L		91
37) 1,2-Dichloropropane	63	10.074	10.080	1.067	532489	47.36	ug/L		100
38) Methylcyclohexane	83	10.062	10.068	1.066	740047	45.10	ug/L		87
39) Dibromomethane	93	10.208	10.214	1.081	208204	44.60	ug/L		94
40) Bromodichloromethane	83	10.330	10.330	1.094	485252	42.56	ug/L		100
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	1926142	301.11	ug/L		98
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	619843	43.67	ug/L		89

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J302.D
Acq On : 18 Nov 2020 10:45
Operator : WD1
InstName : VOA6
Sample : |W6VM201118-01|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 18 12:43:14 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	10.891	10.891	0.862	989158	260.67	ug/L	#	70
46)	Toluene	91	11.171	11.172	0.884	1572728	44.09	ug/L		100
47)	trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	561604	44.58	ug/L		90
48)	1,1,2-Trichloroethane	83	11.561	11.562	0.915	257578	44.82	ug/L		99
49)	2-Hexanone	43	11.750	11.751	0.930	1826443	327.32	ug/L		87
50)	1,3-Dichloropropane	76	11.750	11.751	0.930	565578	45.00	ug/L	#	74
51)	Tetrachloroethylene	164	11.763	11.763	0.931	293488	42.44	ug/L		98
52)	Dibromochloromethane	129	12.013	12.019	0.951	310372	43.51	ug/L		98
53)	1,2-Dibromoethane	107	12.177	12.177	0.964	286656	45.97	ug/L		100
54)	Chlorobenzene	112	12.671	12.671	1.003	1020222	43.56	ug/L		99
55)	1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	364210	48.27	ug/L		99
56)	Ethylbenzene	91	12.738	12.738	1.008	1872955	45.93	ug/L		99
57)	m,p-Xylenes	106	12.848	12.848	1.017	1417251	89.64	ug/L		98
58)	o-Xylene	91	13.287	13.287	1.052	1582055	45.66	ug/L		99
59)	Styrene	104	13.287	13.293	1.052	1172147	41.86	ug/L		98
61)	Bromoform	173	13.543	13.543	0.899	178247	52.83	ug/L		97
62)	Isopropylbenzene	105	13.646	13.647	0.906	1952705	47.45	ug/L		100
64)	1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	426917	49.42	ug/L		97
65)	1,2,3-Trichloropropane	110	14.018	14.019	0.930	121216	45.72	ug/L		96
66)	Bromobenzene	156	14.049	14.049	0.932	416915	43.97	ug/L		96
67)	n-Propylbenzene	91	14.079	14.079	0.934	2408793	48.13	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	1775811	47.67	ug/L		98
69)	2-Chlorotoluene	126	14.219	14.220	0.944	452698	45.07	ug/L		98
70)	4-Chlorotoluene	91	14.323	14.323	0.951	1457379	46.53	ug/L		100
71)	tert-Butylbenzene	134	14.604	14.604	0.969	375088	47.82	ug/L		100
72)	1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	1838709	47.93	ug/L		100
73)	sec-Butylbenzene	105	14.829	14.829	0.984	2380699	49.26	ug/L		99
74)	4-Isopropyltoluene	119	14.951	14.957	0.992	2017905	49.29	ug/L		99
75)	1,3-Dichlorobenzene	146	15.006	15.006	0.996	908229	45.57	ug/L		99
76)	1,4-Dichlorobenzene	146	15.091	15.091	1.002	921110	45.20	ug/L		99
77)	n-Butylbenzene	91	15.384	15.384	1.021	2170617	51.66	ug/L		99
78)	1,2-Dichlorobenzene	146	15.500	15.500	1.029	893865	45.78	ug/L		100
79)	1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	69484	47.82	ug/L		97
80)	1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	701649	43.15	ug/L		100
81)	Hexachlorobutadiene	225	17.457	17.457	1.159	454840	43.78	ug/L		99
82)	Naphthalene	128	17.646	17.646	1.171	1416044	40.87	ug/L		99
83)	1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	594910	38.49	ug/L		99
85)	Acrolein		6.032	6.008	0.639	0m	N.D.	d		
86)	Trichlorotrifluoroethane		6.160	6.154	0.653	0m	N.D.	d		
87)	Isopropyl Alcohol		6.337	6.270	0.671	0m	N.D.	d		
88)	Allyl chloride		6.526	6.593	0.691	0m	N.D.	d		
89)	tert-Butyl Alcohol		6.758	6.758	0.716	0m	N.D.	d		
90)	Acrylonitrile		7.032	7.001	0.745	0m	N.D.	d		
91)	Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		7.654	7.666	0.811	0m	N.D.	d		
93)	Ethyl tert-butyl ether		7.940	7.952	0.841	0m	N.D.	d		
94)	Ethyl acetate		8.154	8.172	0.864	0m	N.D.	d		
95)	Propionitrile		8.221	8.233	0.871	0m	N.D.	d		
96)	Methacrylonitrile		8.501	8.410	0.901	0m	N.D.	d		
97)	Tetrahydrofuran		8.525	8.519	0.903	0m	N.D.	d		
98)	Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d		
100)	Methyl methacrylate		10.062	10.068	1.066	0m	N.D.	d		
101)	1,4-Dioxane		10.178	10.172	1.078	0m	N.D.	d		
102)	2-Nitropropane		10.568	10.550	1.119	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J302.D
Acq On : 18 Nov 2020 10:45
Operator : WD1
InstName : VOA6
Sample : |W6VM201118-01|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 18 12:43:14 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

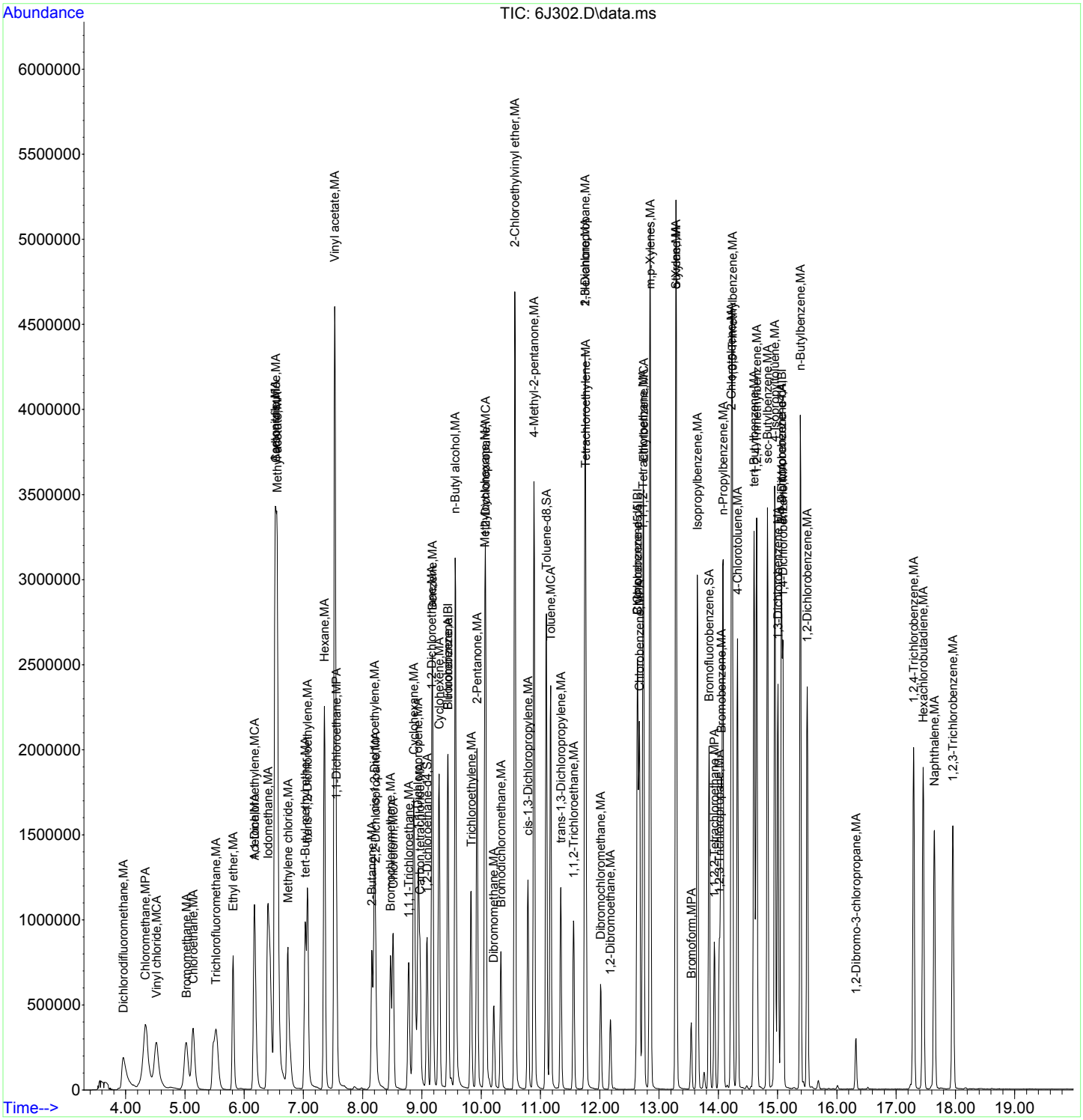
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.634	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.646	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.805	13.799	0.916	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.073	13.988	0.934	0m	N.D.	d
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.603	15.603	1.036	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J302.D
Acq On : 18 Nov 2020 10:45
Operator : WD1
InstName : VOA6
Sample : |W6VM201118-01|CCV|1|VOAF|1|VOA8260BL|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 18 12:43:14 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Calibration History Report VOA9
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

EH
09/16/2020

Cal Lvl:8 Amt:0.00 Last Updated with: C:\msdchem\1\data\090920V9\9I302.D

Injection Date	Mix	Calibration File
09 Sep 2020 20:00	A	C:\msdchem\1\data\090920V9\9I302.D

Cal Lvl:1 Amt:1.00 Last Updated with: C:\msdchem\1\data\090920V9\9I313.D

Injection Date	Mix	Calibration File
09 Sep 2020 20:26	A	C:\msdchem\1\data\090920V9\9I303.D
10 Sep 2020 00:54	B	C:\msdchem\1\data\090920V9\9I313.D

Cal Lvl:2 Amt:2.00 Last Updated with: C:\msdchem\1\data\090920V9\9I314.D

Injection Date	Mix	Calibration File
09 Sep 2020 20:53	A	C:\msdchem\1\data\090920V9\9I304.D
10 Sep 2020 01:20	B	C:\msdchem\1\data\090920V9\9I314.D

Cal Lvl:3 Amt:5.00 Last Updated with: C:\msdchem\1\data\090920V9\9I315.D

Injection Date	Mix	Calibration File
09 Sep 2020 21:20	A	C:\msdchem\1\data\090920V9\9I305.D
10 Sep 2020 01:47	B	C:\msdchem\1\data\090920V9\9I315.D

Cal Lvl:4 Amt:10.00 Last Updated with: C:\msdchem\1\data\090920V9\9I316.D

Injection Date	Mix	Calibration File
09 Sep 2020 21:47	A	C:\msdchem\1\data\090920V9\9I306.D
10 Sep 2020 02:13	B	C:\msdchem\1\data\090920V9\9I316.D

Cal Lvl:5 Amt:20.00 Last Updated with: C:\msdchem\1\data\090920V9\9I317.D

Injection Date	Mix	Calibration File
09 Sep 2020 22:14	A	C:\msdchem\1\data\090920V9\9I307.D
10 Sep 2020 02:40	B	C:\msdchem\1\data\090920V9\9I317.D

Cal Lvl:6 Amt:50.00 Last Updated with: C:\msdchem\1\data\090920V9\9I318.D

Injection Date	Mix	Calibration File
09 Sep 2020 22:41	A	C:\msdchem\1\data\090920V9\9I308.D
10 Sep 2020 03:06	B	C:\msdchem\1\data\090920V9\9I318.D

Cal Lvl:7 Amt:100.00 Last Updated with: C:\msdchem\1\data\090920V9\9I320.D

Injection Date	Mix	Calibration File
09 Sep 2020 23:34	A	C:\msdchem\1\data\090920V9\9I310.D
10 Sep 2020 04:00	B	C:\msdchem\1\data\090920V9\9I320.D

Cal Lvl:9 Amt:80.00 Last Updated with: C:\msdchem\1\data\090920V9\9I319.D

Injection Date	Mix	Calibration File
09 Sep 2020 23:07	A	C:\msdchem\1\data\090920V9\9I309.D

Calibration History Report VOA9
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

10 Sep 2020 03:33	B	C:\msdchem\1\data\090920V9\9I319.D

VOA9-8260-090920.M Thu Sep 10 19:08:56 2020

SDG: 2021-130

Response Factor Report VOA9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

JP 09/10/2020

09/16/2020

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	6	7	9							
2)MA Dichlorodifluoromethane		0.3489942	0.3242474	0.3713686	0.3503969	0.3482425				
	0.3333568	0.3282850	0.2432046				0.3310	AVRG		11.6409
3)MPA Chloromethane		0.5361025	0.4900654	0.4709390	0.4376599	0.4275164				
	0.4112142	0.3976002	0.3327967				0.4380	AVRG		14.1660
4)MCA Vinyl chloride		0.4671613	0.4308122	0.4447780	0.3999805	0.3907349				
	0.3906675	0.3659457	0.3116917				0.4002	AVRG		12.1660
5)MA Bromomethane		0.3418479	0.3176660	0.3018538	0.2987455	0.2953095				
	0.3042939	0.2962802	0.2353271				0.2989	AVRG		10.0329
6)MA Chloroethane		0.2545783	0.2583507	0.2501569	0.2369879	0.2315518				
	0.2410414	0.2384217	0.1919524				0.2379	AVRG		8.7158
7)MA Trichlorofluoromethane		0.5276110	0.5616329	0.5377547	0.5175511	0.5133095				
	0.5389604	0.5338782	0.4113758				0.5178	AVRG		8.7808
8)MA Ethyl ether		0.1681074	0.1787117	0.1779191	0.1763278	0.1782290				
	0.1886240	0.1923437	0.1532984				0.1767	AVRG		6.8195
9)MA Acetone		0.0586085	0.0544683	0.0505633	0.0482554	0.0507114				
	0.0517881	0.0528770	0.0490804				0.0520	AVRG		6.3659
10)MCA 1,1-Dichloroethylene		0.3946048	0.4314124	0.3895270	0.3670246	0.3992756				
	0.4184057	0.4221090	0.3973696				0.4025	AVRG		5.1432
11)MA Iodomethane		0.4448394	0.4749116	0.4439278	0.4340407	0.4846400				
	0.5324324	0.5823294	0.5278055				0.4906	AVRG		10.7030
12)MA Acetonitrile		0.0271276	0.0274125	0.0261772	0.0248818	0.0264617				
	0.0270579	0.0269745	0.0251028				0.0264	AVRG		3.6102
13)MA Methyl acetate		0.1207061	0.1249223	0.1205769	0.1173279	0.1240701				
	0.1243790	0.1232497	0.1165681				0.1215	AVRG		2.6562
14)MA Carbon disulfide		0.7942624	0.8724650	0.8170474	0.7982267	0.8698519				
	0.9087070	0.8917759	0.8492297				0.8502	AVRG		5.0617
15)MA Methylene chloride		22179	28579	46498	78471	147780		1/x		
0.0130 | 0.2532 | 0.00	349065	725789	529404					LINR	#	0.9985
16)MA tert-Butyl methyl ether		0.6041190	0.6403819	0.6174886	0.5944232	0.6408153				
	0.6555776	0.6711958	0.6250363				0.6311	AVRG		4.0980

SDG: 2021-130

Response Factor Report VOA9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
17)MA trans-1,2-Dichloroethyle		0.3616475	0.3909927	0.3814927	0.3478609	0.3786056				
	0.3810417	0.3793168	0.3644632				0.3732	AVRG		3.7424
18)MA Hexane				0.3833528	0.3688564	0.3640611				
	0.3981915	0.3797089	0.3793408				0.3789	AVRG		3.1535
19)MA Vinyl acetate		0.4092506	0.4268716	0.4464782	0.4558167	0.4503380				
	0.4820138	0.4710046	0.3829465				0.4406	AVRG		7.4271
20)MPA 1,1-Dichloroethane		0.4345823	0.4667408	0.4347568	0.4228039	0.4452691				
	0.4544961	0.4609135	0.4373844				0.4446	AVRG		3.3781
21)MA 2-Butanone		0.0827548	0.0831118	0.0796611	0.0779981	0.0808383				
	0.0826245	0.0830576	0.0773221				0.0809	AVRG		2.9064
22)MA cis-1,2-Dichloroethylene		0.3966646	0.4303776	0.4071947	0.3920618	0.4224159				
	0.4347157	0.4357062	0.4133272				0.4166	AVRG		4.0736
23)MA 2,2-Dichloropropane		0.4207520	0.4385939	0.3954796	0.3938561	0.4190841				
	0.4300505	0.4292978	0.4107179				0.4172	AVRG		3.8902
24)MA Bromochloromethane		0.1173683	0.1096071	0.1190032	0.1094609	0.1215667				
	0.1263705	0.1315401	0.1227153				0.1197	AVRG		6.3926
25)MCA Chloroform		0.4085191	0.4458376	0.4200892	0.4126227	0.4343265				
	0.4470726	0.4552158	0.4301232				0.4317	AVRG		3.9490
26)MA 1,1,1-Trichloroethane		0.4091076	0.4314745	0.4166221	0.4133831	0.4445807				
	0.4654225	0.4729149	0.4485932				0.4378	AVRG		5.5058
27)MA Cyclohexane		0.5371955	0.5518643	0.5189472	0.4901466	0.5206464				
	0.5326420	0.5302881	0.4986527				0.5225	AVRG		3.8771
28)MA 1,1-Dichloropropene		0.3501292	0.3440537	0.3253394	0.3210220	0.3358926				
	0.3399080	0.3367448	0.3218147				0.3344	AVRG		3.1935
29)MA Carbon tetrachloride		0.3497509	0.3569474	0.3494820	0.3563228	0.3900940				
	0.4096584	0.4160255	0.3933608				0.3777	AVRG		7.3222
30)SA 1,2-Dichloroethane-d4		0.2704331	0.2697618	0.2679417	0.2621037	0.2630446				
	0.2642799	0.2644336	0.2638990				0.2657	AVRG		1.1965
31)MA 1,2-Dichloroethane		0.3679951	0.3509662	0.3092390	0.2973221	0.3098692				
	0.3096543	0.3126355	0.2928302				0.3188	AVRG		8.2846

Response Factor Report VOA9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
32)MA Benzene		1.0043988	0.9901685	0.9586275	0.9393886	0.9826851				
	0.9999869	1.0102271	0.9455647				0.9789	AVRG		2.8112
33)MA Cyclohexene		0.5255091	0.5367560	0.5071371	0.4968816	0.5308150				
	0.5297043	0.5281982	0.5034960				0.5198	AVRG		2.8732
34)MA n-Butyl alcohol	0.0031553	0.0036984	0.0031102	0.0041159	0.0040938	0.0034063				
	0.0044515	0.0044094	0.0040626				0.0038	AVRG	#	13.3557
35)MA Trichloroethylene		0.2550827	0.2567778	0.2504023	0.2456707	0.2625844				
	0.2695428	0.2701811	0.2571440				0.2584	AVRG		3.3406
36)MA 2-Pentanone			0.1392813	0.1455031	0.1424100	0.1441628				
	0.1486773	0.1403877	0.1397875				0.1429	AVRG		2.4088
37)MCA 1,2-Dichloropropane		0.2459606	0.2475887	0.2461200	0.2462738	0.2566376				
	0.2633481	0.2607523	0.2466242				0.2517	AVRG		2.9207
38)MA Methylcyclohexane		0.4783432	0.5022141	0.4729496	0.4618955	0.4931245				
	0.5102394	0.5117575	0.4877438				0.4898	AVRG		3.6712
39)MA Dibromomethane		0.1157709	0.1244877	0.1249241	0.1263658	0.1344282				
	0.1377733	0.1406038	0.1326220				0.1296	AVRG		6.3217
40)MA Bromodichloromethane		0.2642048	0.2649735	0.2750911	0.2836947	0.3113735				
	0.3343164	0.3404365	0.3208503				0.2994	AVRG		10.3867
41)MA 2-Chloroethylvinyl ether		0.1160484	0.1190984	0.1328840	0.1352465	0.1360827				
	0.1386428	0.1264981	0.1048557				0.1262	AVRG		9.4169
42)MA cis-1,3-Dichloropropylen		0.3059900	0.3231505	0.3322259	0.3342823	0.3731533				
	0.3882007	0.3923918	0.3691193				0.3523	AVRG		9.1885
44)MA 4-Methyl-2-pentanone		0.0758234	0.0788846	0.0801703	0.0813643	0.0848875				
	0.0865595	0.0875317	0.0833033				0.0823	AVRG		4.8644
45)SA Toluene-d8		1.2289772	1.2378685	1.2211352	1.2061533	1.1914403				
	1.1988121	1.1951225	1.2153480				1.2119	AVRG		1.3834
46)MCA Toluene		1.3262740	1.3145824	1.2330663	1.2247469	1.2579865				
	1.2782103	1.2929434	1.2298878				1.2697	AVRG		3.1097
47)MA trans-1,3-Dichloropropyl		0.3085578	0.3325208	0.3480934	0.3548308	0.3868678				
	0.3976514	0.4080201	0.3822880				0.3649	AVRG		9.4512

SDG: 2021-130

Response Factor Report VOA9
GEL Laboratories, LLC

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Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
48)MA 1,1,2-Trichloroethane		0.1888714	0.1825097	0.1800923	0.1844405	0.1879447				
	0.1895620	0.1925537	0.1811602				0.1859	AVRG		2.4101
49)MA 2-Hexanone		0.1486535	0.1520965	0.1570846	0.1543496	0.1618774				
	0.1629765	0.1563860	0.1499231				0.1554	AVRG		3.3583
50)MA 1,3-Dichloropropane		0.3721427	0.3683936	0.3642522	0.3605548	0.3788057				
	0.3914446	0.3836241	0.3660566				0.3732	AVRG		2.8435
51)MA Tetrachloroethylene		0.2914524	0.2734601	0.2682210	0.2687600	0.2851434				
	0.2925302	0.3053880	0.2863235				0.2839	AVRG		4.5822
52)MA Dibromochloromethane		4035	8161	23512	51789	116245		1/x		
-0.0034 | 0.2886 | 0.00	313806	697740	496353					LINR	#	0.9966
53)MA 1,2-Dibromoethane		0.1882095	0.2111014	0.2077372	0.2143729	0.2270793				
	0.2347371	0.2371537	0.2228645				0.2179	AVRG		7.3724
54)MPA Chlorobenzene		0.8295576	0.8350441	0.8234373	0.8153006	0.8383524				
	0.8665960	0.8838451	0.8353265				0.8409	AVRG		2.7211
55)MA 1,1,1,2-Tetrachloroethan		0.2924706	0.3060095	0.2963127	0.3047345	0.3276123				
	0.3561234	0.3845354	0.3556917				0.3279	AVRG		10.3380
56)MCA Ethylbenzene		1.4349132	1.4881366	1.4481476	1.4336825	1.4894492				
	1.5328405	1.4871394	1.4343260				1.4686	AVRG		2.4731
57)MA m,p-Xylenes		0.5729013	0.5789622	0.5696485	0.5609984	0.4684815				
	0.6127738	0.6220728	0.5904916				0.5720	AVRG		8.2004
58)MA o-Xylene		0.5510869	0.5714782	0.5475930	0.5709012	0.5903521				
	0.6344548	0.6634603	0.6243451				0.5942	AVRG		7.0919
59)MA Styrene		0.8035942	0.8213191	0.8489786	0.8858565	0.9451181				
	1.0265302	1.0556142	1.0028074				0.9237	AVRG		10.5607
61)MPA Bromoform		2295	4482	13489	31493	73976		1/x		
-0.0049 | 0.3192 | 0.00	208793	471473	327748					LINR	#	0.9946
62)MA Isopropylbenzene		2.5206440	2.6439878	2.5266746	2.5507926	2.6294413				
	2.6824052	2.7732036	2.6224162				2.6187	AVRG		3.2720
63)SA Bromofluorobenzene		0.8302627	0.8248717	0.8397732	0.8307951	0.8112224				
	0.8034288	0.7902295	0.8029749				0.8167	AVRG		2.1091

Response Factor Report VOA9
GEL Laboratories, LLC

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Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
64)MPA 1,1,2,2-Tetrachloroethan		0.4222841	0.4670203	0.4613801	0.4673611	0.4794926				
	0.4862450	0.4883813	0.4587722				0.4664	AVRG		4.4973
65)MA 1,2,3-Trichloropropane		0.1119706	0.1367280	0.1363139	0.1339200	0.1391831				
	0.1393220	0.1394170	0.1312644				0.1335	AVRG		6.8659
66)MA Bromobenzene		0.6246321	0.6538110	0.6296908	0.6471041	0.6588372				
	0.7034807	0.7389474	0.6848195				0.6677	AVRG		5.8406
67)MA n-Propylbenzene		3.0965176	3.2147373	3.0962876	3.0797130	3.1317261				
	3.1640577	3.1004108	3.0183951				3.1127	AVRG		1.8841
68)MA 1,3,5-Trimethylbenzene		2.1515591	2.3243768	2.2384799	2.2363289	2.3341115				
	2.4266639	2.4908869	2.3635266				2.3207	AVRG		4.7401
69)MA 2-Chlorotoluene		0.6186244	0.6513361	0.6380337	0.6386201	0.6635729				
	0.7046958	0.7426649	0.6965853				0.6693	AVRG		6.2435
70)MA 4-Chlorotoluene		1.7823870	1.8417689	1.8157612	1.8230593	1.8423083				
	1.8777835	1.8304432	1.7628258				1.8220	AVRG		1.9785
71)MA tert-Butylbenzene		0.4319487	0.5001928	0.4640012	0.4729350	0.4873266				
	0.5191248	0.5676937	0.5237773				0.4959	AVRG		8.4181
72)MA 1,2,4-Trimethylbenzene		2.1488599	2.3281108	2.2490922	2.2718741	2.3408188				
	2.4054395	2.4321707	2.3412548				2.3147	AVRG		3.9067
73)MA sec-Butylbenzene		2.8455851	3.0890378	2.9493454	2.9646704	3.1021815				
	3.1870423	3.2927523	3.1137892				3.0681	AVRG		4.6524
74)MA 4-Isopropyltoluene		2.4487251	2.5943159	2.4972031	2.5516241	2.6632221				
	2.8133762	2.9343634	2.7325527				2.6544	AVRG		6.2234
75)MA 1,3-Dichlorobenzene		1.2294996	1.2554752	1.2385726	1.2704498	1.2850277				
	1.3573722	1.3892247	1.2992462				1.2906	AVRG		4.3803
76)MA 1,4-Dichlorobenzene		1.2790418	1.2938146	1.2401229	1.2658383	1.2996178				
	1.3708591	1.3937134	1.3260829				1.3086	AVRG		3.9934
77)MA n-Butylbenzene		2.4683156	2.5589724	2.4517651	2.4911426	2.5689625				
	2.6677686	2.6160777	2.5134638				2.5421	AVRG		2.9473
78)MA 1,2-Dichlorobenzene		1.1638497	1.2045875	1.1531626	1.1916607	1.2251723				
	1.2983718	1.3608119	1.2743273				1.2340	AVRG		5.8150

Response Factor Report VOA9
GEL Laboratories, LLC

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Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	6	7	9							
79)MA 1,2-Dibromo-3-chloroprop		771	1827	5170	11255	25917		1/x		
-0.0017 | 0.1156 | 0.00	75760	172562	117506					LINR	#	0.9934
80)MA 1,2,4-Trichlorobenzene		0.9994637	1.0659056	1.0039349	1.0041958	1.0673431				
	1.1678460	1.2882025	1.1553809				1.0940	AVRG		9.3693
81)MA Hexachlorobutadiene		0.6039968	0.6674447	0.6347413	0.6250703	0.6807205				
	0.7440770	0.8476204	0.7482717				0.6940	AVRG		11.7186
82)MA Naphthalene		1.9611394	2.1045003	1.9583243	1.9495885	2.1122470				
	2.2185371	2.4027110	2.1871579				2.1118	AVRG		7.4727
83)MA 1,2,3-Trichlorobenzene		0.9885800	1.0323423	0.9507454	0.9544695	1.0342345				
	1.1094383	1.2189202	1.1032528				1.0490	AVRG		8.6927
85)B Acrolein		0.0250829	0.0266265	0.0253469	0.0267902	0.0282145				
	0.0307215	0.0312729	0.0300701				0.0280	AVRG		8.6749
86)B Trichlorotrifluoroethane		0.1341203	0.1480260	0.1480836	0.1486394	0.1489170				
	0.1418892	0.1482314	0.1425066				0.1451	AVRG		3.6100
87)B Isopropyl Alcohol		0.0133274	0.0145338	0.0144837	0.0142372	0.0144009				
	0.0145307	0.0149317	0.0145027				0.0144	AVRG		3.2264
88)B Allyl chloride		0.4157114	0.4401683	0.4312097	0.4430731	0.4353586				
	0.4309829	0.4390219	0.4278904				0.4329	AVRG		2.0040
89)B tert-Butyl Alcohol		0.0232894	0.0248509	0.0249787	0.0251372	0.0253805				
	0.0253803	0.0260135	0.0253804				0.0251	AVRG		3.1677
90)B Acrylonitrile		0.0586992	0.0678609	0.0686586	0.0683251	0.0681250				
	0.0689771	0.0700998	0.0681359				0.0674	AVRG		5.2991
91)B Isopropyl ether		0.8160944	0.9163051	0.9083829	0.9278246	0.9296376				
	0.9213704	0.9590306	0.9110751				0.9112	AVRG		4.5602
92)B 2-Chloro-1,3-butadiene		0.3293446	0.3600230	0.3641784	0.3727383	0.3679301				
	0.3717731	0.3836282	0.3669085				0.3646	AVRG		4.3497
93)B Ethyl tert-butyl ether		0.7315107	0.7972491	0.8086766	0.8212447	0.8181028				
	0.8092306	0.8456564	0.8109069				0.8053	AVRG		4.0955
94)B Ethyl acetate		0.1844435	0.1882572	0.1839282	0.1871086	0.1813045				
	0.1781713	0.1678288	0.1650295				0.1795	AVRG		4.8439

SDG: 2021-1330

Response Factor Report VOA9
GEL Laboratories, LLC

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Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
95)B Propionitrile		0.0204754	0.0238667	0.0249065	0.0252149	0.0252302				
	0.0249111	0.0251787	0.0247974				0.0243	AVRG		6.6430
96)B Methacrylonitrile		0.1115172	0.1177911	0.1190356	0.1229678	0.1210844				
	0.1230990	0.1258627	0.1223458				0.1205	AVRG		3.6525
97)B Tetrahydrofuran		0.0623477	0.0599384	0.0595302	0.0588255	0.0578626				
	0.0580652	0.0592392	0.0581629				0.0592	AVRG		2.4575
98)B Isobutyl alcohol		0.0070222	0.0075514	0.0072354	0.0074922	0.0074849				
	0.0075118	0.0077129	0.0075343				0.0074	AVRG	#	2.8817
99)B Methyl tert-amyl ether		0.6190945	0.7001406	0.6771514	0.6983409	0.7006782				
	0.6974998	0.7381699	0.7010761				0.6915	AVRG		4.8764
100)B Methyl methacrylate		0.1468640	0.1348773	0.1233580	0.1292706	0.1289691				
	0.1336906	0.1386655	0.1340634				0.1337	AVRG		5.2760
101)B 1,4-Dioxane		0.0013306	0.0017047	0.0018543	0.0018581	0.0019056				
	0.0018775	0.0019907	0.0018759				0.0018	AVRG	#	11.4082
102)B 2-Nitropropane		0.0454160	0.0411115	0.0445603	0.0484379	0.0516717				
	0.0574202	0.0607380	0.0575937				0.0509	AVRG		14.0357
104)B Ethyl methacrylate		0.2731608	0.3094750	0.3243749	0.3347012	0.3318282				
	0.3407427	0.3441835	0.3350585				0.3242	AVRG		7.1691
106)B 1-Chlorohexane		0.5057999	0.5164073	0.5405890	0.5377116	0.5253411				
	0.5372151	0.5546965	0.5225796				0.5300	AVRG		2.9234
107)B cis-1,4-Dichloro-2-buten		0.1444121	0.1562355	0.1653118	0.1738520	0.1808964				
	0.1900052	0.2001290	0.1911490				0.1752	AVRG		10.8580
108)B Cyclohexanone		0.0119590	0.0110064	0.0113237	0.0113707	0.0124246				
	0.0128326	0.0127355	0.0121913				0.0120	AVRG		5.7227
109)B trans-1,4-Dichloro-2-but		0.1171855	0.1284826	0.1387845	0.1435153	0.1465941				
	0.1511395	0.1579780	0.1507481				0.1418	AVRG		9.4133
110)B Pentachloroethane		21830	45997	128712	284958	604165		1/x		
-0.0510 | 0.6076 | 0.00	1876958	4350331	2268413					LINR	#	0.9904
111)B Benzyl chloride		0.6920335	0.8053810	0.8871887	0.9423030	0.9794985				
	1.0263724	1.0544212	1.0087787				0.9245	AVRG		13.3935

SDG: 2021-130

Response Factor Report VOA9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Last Update : Thu Sep 10 19:05:57 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

Cor Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	8	1	2	3	4	5	Avg	Curve	Exp	%RSD/r2
b m1 m2	6	7	9							
(12)B bis(2-Chloroisopropyl)et		0.2181933	0.2541309	0.2601561	0.2566712	0.2572615				
	0.2630386	0.2716697	0.2650603				0.2558	AVRG		6.3197

(#) = Out of Range ($) = Individual RF Out of Range
AVRG = Average, LINR = Linear Regression, 1/x = the inverse of concentration, 1/x^2 = the inverse square of concentration

JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I302.D
Acq On : 09 Sep 2020 20:00
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-01|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:02 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.967	9.967	1.000	1277514	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1079244	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	610655	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	342481	50.44	ug/L		0.00
45) Toluene-d8	98	11.604	11.604	0.884	1326877	50.73	ug/L		0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	517354	51.87	ug/L		0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	5320	0.63	ug/L		73
3) Chloromethane	50	4.761	4.761	0.478	7796	0.70	ug/L		91
4) Vinyl chloride	62	4.963	4.963	0.498	6075	0.59	ug/L		99
5) Bromomethane		0.000	5.508	0.000	0	N.D.			
6) Chloroethane	64	5.627	5.627	0.565	3215	0.53	ug/L		71
7) Trichlorofluoromethane	101	6.042	6.042	0.606	8329	0.63	ug/L		98
8) Ethyl ether	59	6.339	6.327	0.636	2202	0.49	ug/L		98
9) Acetone	43	6.706	6.694	0.673	4251	3.20	ug/L		77
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	5237	0.51	ug/L		96
11) Iodomethane	142	6.943	6.955	0.697	28134	2.24	ug/L		99
12) Acetonitrile	41	7.074	7.050	0.710	8987	13.32	ug/L		89
13) Methyl acetate	43	7.097	7.086	0.712	7951	2.56	ug/L	#	82
14) Carbon disulfide	76	7.074	7.086	0.710	48806	2.25	ug/L		99
15) Methylene chloride	84	7.275	7.275	0.730	20437	N.D.			
16) tert-Butyl methyl ether	73	7.572	7.584	0.760	7509	0.47	ug/L		89
17) trans-1,2-Dichloroethy...	61	7.607	7.619	0.763	4664	0.49	ug/L		96
18) Hexane	57	7.892	7.904	0.792	10690	N.D.			
19) Vinyl acetate	43	8.058	8.058	0.808	33367	2.96	ug/L		99
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	5600	0.49	ug/L		87
21) 2-Butanone	43	8.687	8.675	0.872	5744	2.78	ug/L		72
22) cis-1,2-Dichloroethylene	61	8.722	8.734	0.875	5311	0.50	ug/L		88
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	5511	0.52	ug/L		97
24) Bromochloromethane	128	8.995	9.007	0.902	1551	0.51	ug/L		88
25) Chloroform	83	9.042	9.042	0.907	5871	0.53	ug/L		99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	5093	0.46	ug/L		96
27) Cyclohexane	56	9.410	9.410	0.944	7407	0.55	ug/L		79
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	4293	0.50	ug/L		81
29) Carbon tetrachloride	117	9.505	9.517	0.954	4589	0.48	ug/L		97
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	5532	0.68	ug/L		97
32) Benzene	78	9.706	9.706	0.974	12883	0.52	ug/L	#	77
33) Cyclohexene	67	9.825	9.825	0.986	6327	0.48	ug/L		98
34) n-Butyl alcohol	41	10.062	10.062	1.010	4031	41.15	ug/L		95
35) Trichloroethylene	95	10.347	10.347	1.038	3154	0.48	ug/L		91
36) 2-Pentanone	43	10.442	10.430	1.048	9713	N.D.			
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	3393	0.53	ug/L		99
38) Methylcyclohexane	83	10.596	10.607	1.063	6137	0.49	ug/L		94
39) Dibromomethane	93	10.726	10.726	1.076	1369	0.41	ug/L		86
40) Bromodichloromethane	83	10.845	10.845	1.088	3521	0.46	ug/L	#	95
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	8524	2.64	ug/L		96
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	3939	0.44	ug/L		84

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I302.D
Acq On : 09 Sep 2020 20:00
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-01|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 10 19:10:02 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44) 4-Methyl-2-pentanone	58	11.390	11.390	0.867	4194	2.36	ug/L		99
46) Toluene	91	11.675	11.687	0.889	14519	0.53	ug/L		99
47) trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	3406	0.43	ug/L		84
48) 1,1,2-Trichloroethane	83	12.054	12.054	0.918	1698	0.42	ug/L		95
49) 2-Hexanone	43	12.244	12.232	0.932	8830	2.63	ug/L		92
50) 1,3-Dichloropropane	76	12.244	12.244	0.932	3984	0.49	ug/L		93
51) Tetrachloroethylene	164	12.280	12.280	0.935	2908	0.47	ug/L		87
52) Dibromochloromethane	129	12.517	12.517	0.953	2512	0.99	ug/L		95
53) 1,2-Dibromoethane	107	12.683	12.683	0.966	2141	0.46	ug/L		99
54) Chlorobenzene	112	13.169	13.169	1.003	9358	0.52	ug/L	#	2
55) 1,1,1,2-Tetrachloroethane	131	13.216	13.228	1.006	3465	0.49	ug/L		87
56) Ethylbenzene	91	13.228	13.228	1.007	16508	0.52	ug/L		97
57) m,p-Xylenes	106	13.335	13.347	1.015	11874	0.96	ug/L		88
58) o-Xylene	106	13.774	13.774	1.049	6070	0.47	ug/L		96
59) Styrene	104	13.774	13.774	1.049	8415	0.42	ug/L		90
61) Bromoform	173	14.035	14.035	0.903	1329	1.11	ug/L		81
62) Isopropylbenzene	105	14.130	14.129	0.909	15761	0.49	ug/L		97
64) 1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	2704	0.47	ug/L		91
65) 1,2,3-Trichloropropane	110	14.485	14.497	0.932	615	0.38	ug/L	#	6
66) Bromobenzene	156	14.533	14.533	0.935	3983	0.49	ug/L		89
67) n-Propylbenzene	91	14.556	14.556	0.937	18672	0.49	ug/L		98
68) 1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	13089	N.D.			
69) 2-Chlorotoluene	126	14.699	14.711	0.946	3854	0.47	ug/L		92
70) 4-Chlorotoluene	91	14.806	14.805	0.953	11249	0.51	ug/L		95
71) tert-Butylbenzene	134	15.078	15.078	0.970	2793	0.46	ug/L		94
72) 1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	12724	0.45	ug/L		99
73) sec-Butylbenzene	105	15.304	15.303	0.985	17517	0.47	ug/L		96
74) 4-Isopropyltoluene	119	15.422	15.422	0.992	14982	0.46	ug/L		99
75) 1,3-Dichlorobenzene	146	15.481	15.481	0.996	7700	0.49	ug/L		93
76) 1,4-Dichlorobenzene	146	15.564	15.564	1.002	7789	0.49	ug/L	#	19
77) n-Butylbenzene	91	15.861	15.861	1.021	14432	0.46	ug/L		97
78) 1,2-Dichlorobenzene	146	15.980	15.979	1.028	7296	0.48	ug/L		99
79) 1,2-Dibromo-3-chloropr...		0.000	16.833	0.000	0	N.D.			
80) 1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	6179	0.46	ug/L		99
81) Hexachlorobutadiene	225	18.031	18.031	1.160	3675	0.43	ug/L		95
82) Naphthalene	128	18.221	18.221	1.172	11446	0.44	ug/L		97
83) 1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	5818	0.45	ug/L		98
85) Acrolein		0.000	6.516	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87) Isopropyl Alcohol		0.000	6.777	0.000	0	N.D.			
88) Allyl chloride		7.074	7.133	0.710	0m	N.D.	d		
89) tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90) Acrylonitrile		0.000	7.524	0.000	0	N.D.			
91) Isopropyl ether		0.000	8.082	0.000	0	N.D.			
92) 2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93) Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94) Ethyl acetate		8.687	8.687	0.872	0m	N.D.	d		
95) Propionitrile		0.000	8.746	0.000	0	N.D.			
96) Methacrylonitrile		8.746	8.924	0.877	0m	N.D.	d		
97) Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98) Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99) Methyl tert-amyl ether		0.000	9.730	0.000	0	N.D.			
100) Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d		
101) 1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102) 2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I302.D
Acq On : 09 Sep 2020 20:00
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-01|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 10 19:10:02 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

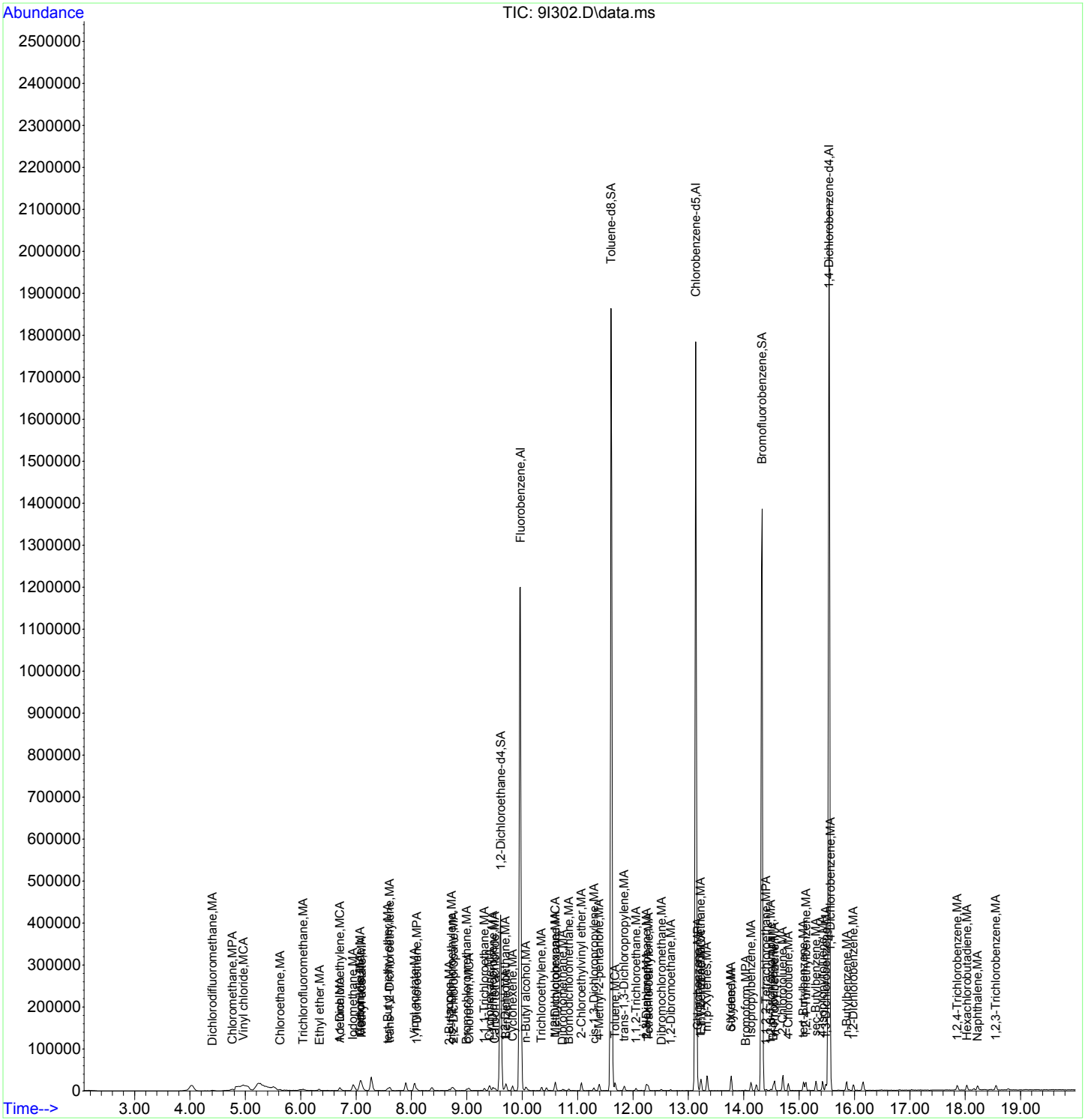
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.841	11.841	0.902	0m	N.D.	d
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	14.165	0.000	0	N.D.	
108) Cyclohexanone		0.000	14.284	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	14.450	0.000	0	N.D.	
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I302.D
Acq On : 09 Sep 2020 20:00
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-01|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD0005 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 10 19:10:02 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I303.D
Acq On : 09 Sep 2020 20:26
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-02|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:06 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1189418	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	982150	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	574258	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	321658	50.88	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1207040	50.71	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	476785	50.83	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	8302	1.05	ug/L	90
3) Chloromethane	50	4.761	4.761	0.478	12753	1.22	ug/L	97
4) Vinyl chloride	62	4.963	4.963	0.498	11113	1.17	ug/L	100
5) Bromomethane	94	5.520	5.508	0.554	8132	1.14	ug/L	87
6) Chloroethane	64	5.639	5.627	0.566	6056	1.07	ug/L	95
7) Trichlorofluoromethane	101	6.042	6.042	0.606	12551	1.02	ug/L	98
8) Ethyl ether	59	6.339	6.327	0.636	3999	0.95	ug/L	98
9) Acetone	43	6.706	6.694	0.673	6971	5.63	ug/L	88
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	9387	0.98	ug/L	96
11) Iodomethane	142	6.955	6.955	0.698	52910	4.53	ug/L	100
12) Acetonitrile	41	7.074	7.050	0.710	16133	25.69	ug/L	73
13) Methyl acetate	43	7.097	7.086	0.712	14357	4.97	ug/L	94
14) Carbon disulfide	76	7.086	7.086	0.711	94471	4.67	ug/L	99
15) Methylene chloride	84	7.275	7.275	0.730	22179	N.D.		
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	14371	0.96	ug/L	97
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	8603	0.97	ug/L	97
18) Hexane	57	7.904	7.904	0.793	10210	N.D.		
19) Vinyl acetate	43	8.058	8.058	0.808	48677	4.64	ug/L	100
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	10338	0.98	ug/L	97
21) 2-Butanone	43	8.687	8.675	0.872	9843	5.11	ug/L	91
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	9436	0.95	ug/L	95
23) 2,2-Dichloropropane	77	8.770	8.758	0.880	10009	1.01	ug/L	98
24) Bromochloromethane	128	9.007	9.007	0.904	2792	0.98	ug/L	93
25) Chloroform	83	9.042	9.042	0.907	9718	0.95	ug/L	100
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	9732	0.93	ug/L	96
27) Cyclohexane	56	9.410	9.410	0.944	12779	1.03	ug/L	94
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	8329	1.05	ug/L	90
29) Carbon tetrachloride	117	9.517	9.517	0.955	8320	0.93	ug/L	96
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	8754	1.15	ug/L	98
32) Benzene	78	9.718	9.706	0.975	23893	1.03	ug/L	97
33) Cyclohexene	67	9.825	9.825	0.986	12501	1.01	ug/L	99
34) n-Butyl alcohol	41	10.074	10.062	1.011	8798	96.47	ug/L	94
35) Trichloroethylene	95	10.347	10.347	1.038	6068	0.99	ug/L	96
36) 2-Pentanone	43	10.442	10.430	1.048	16554	4.87	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	5851	0.98	ug/L	96
38) Methylcyclohexane	83	10.608	10.607	1.064	11379	0.98	ug/L	93
39) Dibromomethane	93	10.726	10.726	1.076	2754	0.89	ug/L	93
40) Bromodichloromethane	83	10.845	10.845	1.088	6285	0.88	ug/L	96
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	13803	4.60	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	7279	0.87	ug/L	86

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I303.D
Acq On : 09 Sep 2020 20:26
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-02|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 10 19:10:06 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	7447	4.61	ug/L		93
46)	Toluene	91	11.687	11.687	0.890	26052	1.04	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	6061	0.85	ug/L		91
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	3710	1.02	ug/L		89
49)	2-Hexanone	43	12.244	12.232	0.932	14600	4.78	ug/L		99
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	7310	1.00	ug/L		97
51)	Tetrachloroethylene	164	12.280	12.280	0.935	5725	1.03	ug/L		97
52)	Dibromochloromethane	129	12.517	12.517	0.953	4035	1.30	ug/L		95
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	3697	0.86	ug/L		98
54)	Chlorobenzene	112	13.169	13.169	1.003	16295	0.99	ug/L	#	48
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	5745	0.89	ug/L		93
56)	Ethylbenzene	91	13.228	13.228	1.007	28186	0.98	ug/L		98
57)	m,p-Xylenes	106	13.347	13.347	1.016	22507	2.00	ug/L		97
58)	o-Xylene	106	13.774	13.774	1.049	10825	0.93	ug/L		93
59)	Styrene	104	13.774	13.774	1.049	15785	0.87	ug/L		94
61)	Bromoform	173	14.023	14.035	0.902	2295	1.40	ug/L		84
62)	Isopropylbenzene	105	14.130	14.129	0.909	28950	0.96	ug/L		100
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	4850	0.91	ug/L		94
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	1286	0.84	ug/L	#	36
66)	Bromobenzene	156	14.533	14.533	0.935	7174	0.94	ug/L		90
67)	n-Propylbenzene	91	14.556	14.556	0.937	35564	0.99	ug/L		97
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	24711	0.93	ug/L		99
69)	2-Chlorotoluene	126	14.711	14.711	0.947	7105	0.92	ug/L		90
70)	4-Chlorotoluene	91	14.806	14.805	0.953	20471	0.98	ug/L		97
71)	tert-Butylbenzene	134	15.078	15.078	0.970	4961	0.87	ug/L	#	86
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	24680	0.93	ug/L		94
73)	sec-Butylbenzene	105	15.304	15.303	0.985	32682	0.93	ug/L		100
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	28124	0.92	ug/L		95
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	14121	0.95	ug/L		98
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	14690	0.98	ug/L	#	63
77)	n-Butylbenzene	91	15.861	15.861	1.021	28349	0.97	ug/L		99
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	13367	0.94	ug/L		99
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	771	1.33	ug/L		88
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	11479	0.91	ug/L		98
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	6937	0.87	ug/L		98
82)	Naphthalene	128	18.221	18.221	1.172	22524	0.93	ug/L		98
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	11354	0.94	ug/L		98
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.074	7.133	0.710	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		0.000	7.524	0.000	0	N.D.			
91)	Isopropyl ether		0.000	8.082	0.000	0	N.D.			
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.687	8.687	0.872	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		0.000	9.730	0.000	0	N.D.			
100)	Methyl methacrylate		10.608	10.572	1.064	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I303.D
Acq On : 09 Sep 2020 20:26
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-02|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 10 19:10:06 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

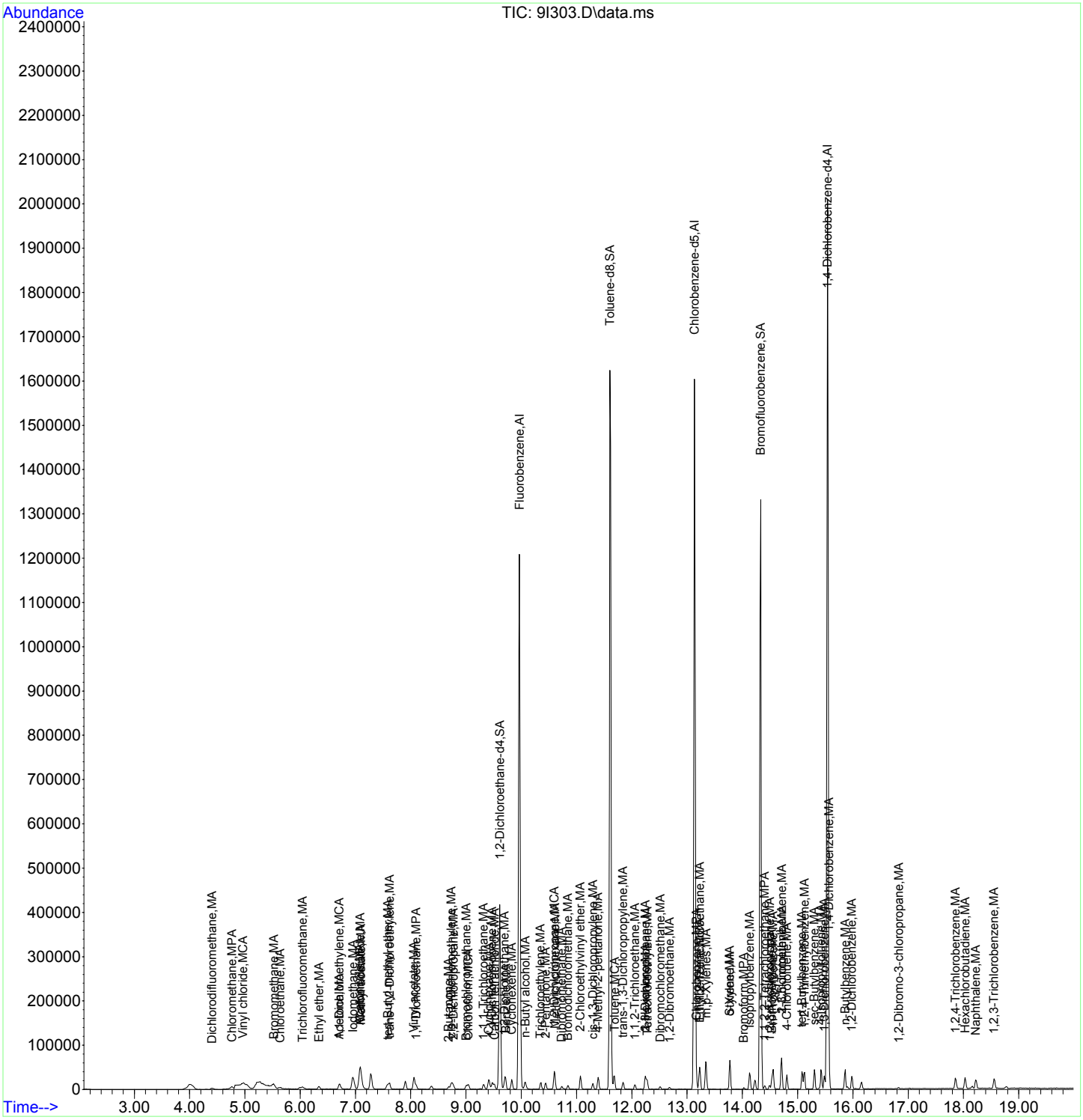
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.782	11.841	0.897	0m	N.D.	d
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		0.000	14.165	0.000	0	N.D.	
108) Cyclohexanone		0.000	14.284	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		0.000	14.450	0.000	0	N.D.	
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I303.D
Acq On : 09 Sep 2020 20:26
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-02|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD001 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 10 19:10:06 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I304.D
Acq On : 09 Sep 2020 20:53
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-03|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:09 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1207951	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	985427	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	575778	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.612	9.611	0.964	325859	50.76	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1219829	51.07	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	474943	50.50	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	15667	1.96	ug/L	91
3) Chloromethane	50	4.761	4.761	0.478	23679	2.24	ug/L	98
4) Vinyl chloride	62	4.975	4.963	0.499	20816	2.15	ug/L	98
5) Bromomethane	94	5.520	5.508	0.554	15349	2.13	ug/L	95
6) Chloroethane	64	5.639	5.627	0.566	12483	2.17	ug/L	95
7) Trichlorofluoromethane	101	6.042	6.042	0.606	27137	2.17	ug/L	97
8) Ethyl ether	59	6.339	6.327	0.636	8635	2.02	ug/L	98
9) Acetone	43	6.706	6.694	0.673	13159	10.47	ug/L	98
10) 1,1-Dichloroethylene	61	6.718	6.706	0.674	20845	2.14	ug/L	97
11) Iodomethane	142	6.955	6.955	0.698	114734	9.68	ug/L	99
12) Acetonitrile	41	7.062	7.050	0.709	33113	51.92	ug/L	86
13) Methyl acetate	43	7.098	7.086	0.712	30180	10.28	ug/L	97
14) Carbon disulfide	76	7.086	7.086	0.711	210779	10.26	ug/L	100
15) Methylene chloride	84	7.275	7.275	0.730	28579	2.10	ug/L	99
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	30942	2.03	ug/L	96
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	18892	2.10	ug/L	98
18) Hexane	57	7.904	7.904	0.793	24755	2.70	ug/L	98
19) Vinyl acetate	43	8.058	8.058	0.808	103128	9.69	ug/L	99
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	22552	2.10	ug/L	98
21) 2-Butanone	43	8.687	8.675	0.872	20079	10.27	ug/L	94
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	20795	2.07	ug/L	97
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	21192	2.10	ug/L	97
24) Bromochloromethane	128	9.007	9.007	0.904	5296	1.83	ug/L	88
25) Chloroform	83	9.042	9.042	0.907	21542	2.07	ug/L	99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	20848	1.97	ug/L	98
27) Cyclohexane	56	9.410	9.410	0.944	26665	2.11	ug/L	96
28) 1,1-Dichloropropene	75	9.481	9.469	0.951	16624	2.06	ug/L	94
29) Carbon tetrachloride	117	9.517	9.517	0.955	17247	1.89	ug/L	98
31) 1,2-Dichloroethane	62	9.695	9.694	0.973	16958	2.20	ug/L	99
32) Benzene	78	9.718	9.706	0.975	47843	2.02	ug/L	96
33) Cyclohexene	67	9.825	9.825	0.986	25935	2.07	ug/L	99
34) n-Butyl alcohol	41	10.062	10.062	1.010	18785	202.82	ug/L	94
35) Trichloroethylene	95	10.347	10.347	1.038	12407	1.99	ug/L	97
36) 2-Pentanone	43	10.442	10.430	1.048	33649	9.75	ug/L	96
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	11963	1.97	ug/L	97
38) Methylcyclohexane	83	10.608	10.607	1.064	24266	2.05	ug/L	98
39) Dibromomethane	93	10.726	10.726	1.076	6015	1.92	ug/L	93
40) Bromodichloromethane	83	10.845	10.845	1.088	12803	1.77	ug/L	97
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	28773	9.44	ug/L	98
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	15614	1.83	ug/L	91

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I304.D
Acq On : 09 Sep 2020 20:53
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-03|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 10 19:10:09 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	15547	9.58	ug/L		95
46)	Toluene	91	11.687	11.687	0.890	51817	2.07	ug/L		98
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	13107	1.82	ug/L		92
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	7194	1.96	ug/L		97
49)	2-Hexanone	43	12.244	12.232	0.932	29976	9.79	ug/L		98
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	14521	1.97	ug/L		100
51)	Tetrachloroethylene	164	12.280	12.280	0.935	10779	1.93	ug/L		94
52)	Dibromochloromethane	129	12.517	12.517	0.953	8161	2.02	ug/L		98
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	8321	1.94	ug/L		100
54)	Chlorobenzene	112	13.169	13.169	1.003	32915	1.99	ug/L	#	72
55)	1,1,1,2-Tetrachloroethane	131	13.217	13.228	1.006	12062	1.87	ug/L		97
56)	Ethylbenzene	91	13.228	13.228	1.007	58658	2.03	ug/L		99
57)	m,p-Xylenes	106	13.347	13.347	1.016	45642	4.05	ug/L		93
58)	o-Xylene	106	13.774	13.774	1.049	22526	1.92	ug/L		93
59)	Styrene	104	13.774	13.774	1.049	32374	1.78	ug/L		90
61)	Bromoform	173	14.035	14.035	0.903	4482	1.99	ug/L		97
62)	Isopropylbenzene	105	14.130	14.129	0.909	60894	2.02	ug/L		100
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	10756	2.00	ug/L		98
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	3149	2.05	ug/L	#	83
66)	Bromobenzene	156	14.533	14.533	0.935	15058	1.96	ug/L		96
67)	n-Propylbenzene	91	14.557	14.556	0.937	74039	2.07	ug/L		98
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	53533	2.00	ug/L		93
69)	2-Chlorotoluene	126	14.711	14.711	0.947	15001	1.95	ug/L		97
70)	4-Chlorotoluene	91	14.806	14.805	0.953	42418	2.02	ug/L		98
71)	tert-Butylbenzene	134	15.078	15.078	0.970	11520	2.02	ug/L	#	92
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	53619	2.01	ug/L		97
73)	sec-Butylbenzene	105	15.304	15.303	0.985	71144	2.01	ug/L		99
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	59750	1.95	ug/L		97
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	28915	1.95	ug/L		95
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	29798	1.98	ug/L		82
77)	n-Butylbenzene	91	15.861	15.861	1.021	58936	2.01	ug/L		99
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	27743	1.95	ug/L		98
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	1827	2.13	ug/L		87
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	24549	1.95	ug/L		99
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	15372	1.92	ug/L		98
82)	Naphthalene	128	18.221	18.221	1.172	48469	1.99	ug/L		99
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	23776	1.97	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.742	6.777	0.676	0m	N.D.	d		
88)	Allyl chloride		7.062	7.133	0.709	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		0.000	7.524	0.000	0	N.D.			
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.687	8.687	0.872	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.718	9.730	0.975	0m	N.D.	d		
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I304.D
Acq On : 09 Sep 2020 20:53
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-03|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 10 19:10:09 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

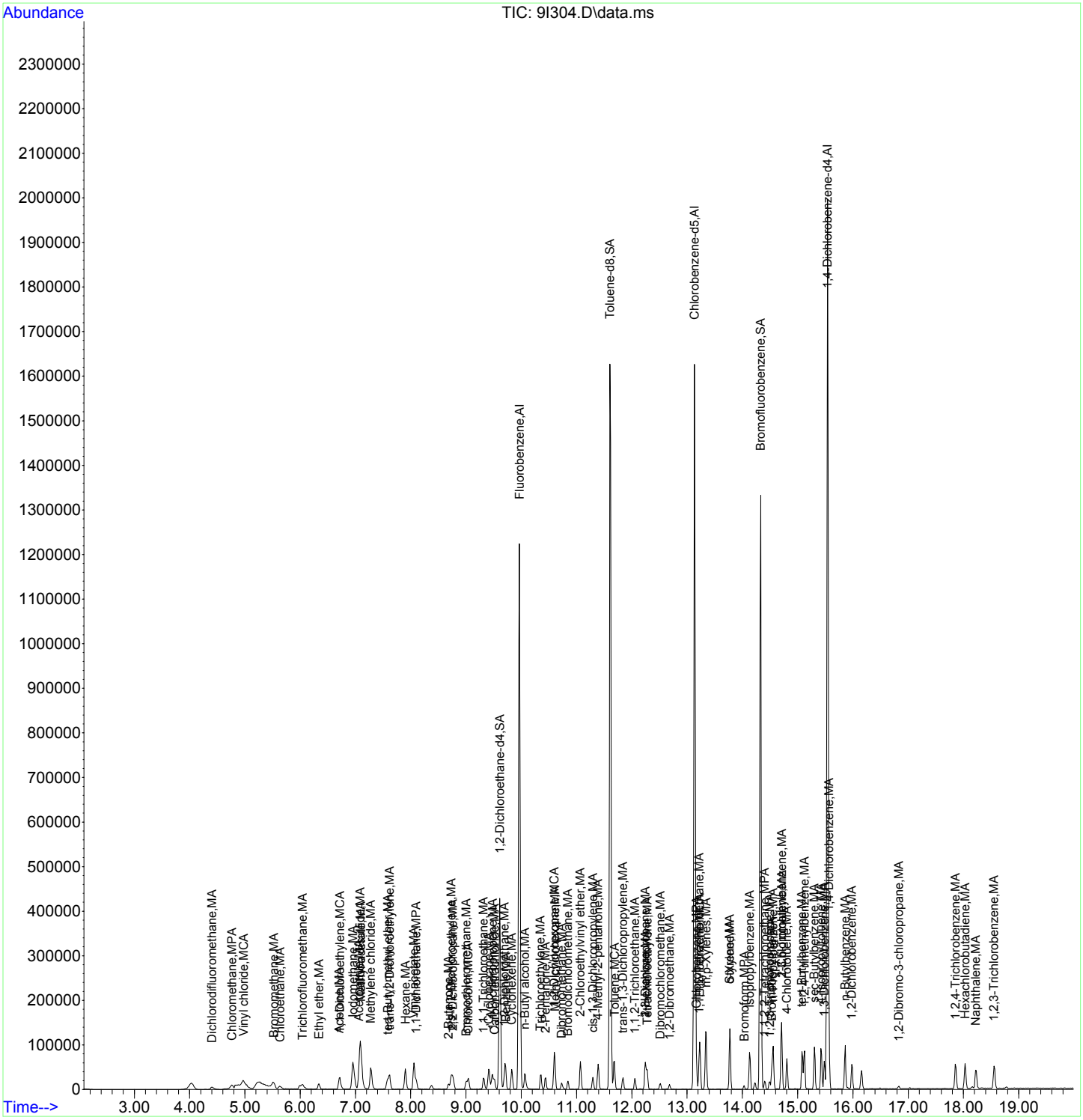
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.841	0.000	0	N.D.	
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		0.000	14.284	0.000	0	N.D.	
109) trans-1,4-Dichloro-2-b...		14.557	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.157	16.074	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I304.D
Acq On : 09 Sep 2020 20:53
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-03|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD002 5UL/5ML N/A MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 10 19:10:09 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I305.D
Acq On : 09 Sep 2020 21:20
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-04|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:12 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1263327	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1074338	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	625688	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	338498	50.41	ug/L	0.00
45) Toluene-d8	98	11.615	11.604	0.884	1311912	50.38	ug/L	0.01
63) Bromofluorobenzene	95	14.331	14.331	0.922	525436	51.41	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.404	4.405	0.442	46916	5.61	ug/L	95
3) Chloromethane	50	4.761	4.761	0.478	59495	5.38	ug/L	99
4) Vinyl chloride	62	4.975	4.963	0.499	56190	5.56	ug/L	98
5) Bromomethane	94	5.520	5.508	0.554	38134	5.05	ug/L	98
6) Chloroethane	64	5.627	5.627	0.565	31603	5.26	ug/L	96
7) Trichlorofluoromethane	101	6.042	6.042	0.606	67936	5.19	ug/L	100
8) Ethyl ether	59	6.338	6.327	0.636	22477	5.03	ug/L	96
9) Acetone	43	6.706	6.694	0.673	31939	24.29	ug/L	96
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	49210	4.84	ug/L	99
11) Iodomethane	142	6.955	6.955	0.698	280413	22.62	ug/L	100
12) Acetonitrile	41	7.062	7.050	0.709	82676	123.95	ug/L	93
13) Methyl acetate	43	7.097	7.086	0.712	76164	24.82	ug/L	99
14) Carbon disulfide	76	7.085	7.086	0.711	516099	24.03	ug/L	100
15) Methylene chloride	84	7.275	7.275	0.730	46498	4.70	ug/L	100
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	78009	4.89	ug/L	98
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	48195	5.11	ug/L	96
18) Hexane	57	7.904	7.904	0.793	48430	5.06	ug/L	98
19) Vinyl acetate	43	8.058	8.058	0.808	282024	25.33	ug/L	99
20) 1,1-Dichloroethane	63	8.093	8.093	0.812	54924	4.89	ug/L	99
21) 2-Butanone	43	8.686	8.675	0.872	50319	24.61	ug/L	97
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	51442	4.89	ug/L	98
23) 2,2-Dichloropropane	77	8.769	8.758	0.880	49962	4.74	ug/L	97
24) Bromochloromethane	128	9.007	9.007	0.904	15034	4.97	ug/L	92
25) Chloroform	83	9.042	9.042	0.907	53071	4.87	ug/L	98
26) 1,1,1-Trichloroethane	97	9.327	9.315	0.936	52633	4.76	ug/L	98
27) Cyclohexane	56	9.410	9.410	0.944	65560	4.97	ug/L	96
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	41101	4.87	ug/L	97
29) Carbon tetrachloride	117	9.516	9.517	0.955	44151	4.63	ug/L	95
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	39067	4.85	ug/L	98
32) Benzene	78	9.718	9.706	0.975	121106	4.90	ug/L	98
33) Cyclohexene	67	9.825	9.825	0.986	64068	4.88	ug/L	97
34) n-Butyl alcohol	41	10.062	10.062	1.010	51997	536.80	ug/L	96
35) Trichloroethylene	95	10.358	10.347	1.039	31634	4.84	ug/L	97
36) 2-Pentanone	43	10.441	10.430	1.048	91909	25.46	ug/L	100
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	31093	4.89	ug/L	100
38) Methylcyclohexane	83	10.607	10.607	1.064	59749	4.83	ug/L	96
39) Dibromomethane	93	10.726	10.726	1.076	15782	4.82	ug/L	96
40) Bromodichloromethane	83	10.845	10.845	1.088	34753	4.59	ug/L	99
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	83938	26.33	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	41971	4.71	ug/L	93

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I305.D
Acq On : 09 Sep 2020 21:20
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-04|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 10 19:10:12 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	43065	24.35	ug/L		98
46)	Toluene	91	11.687	11.687	0.890	132473	4.86	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	37397	4.77	ug/L		95
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	19348	4.84	ug/L		99
49)	2-Hexanone	43	12.244	12.232	0.932	84381	25.27	ug/L		98
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	39133	4.88	ug/L		97
51)	Tetrachloroethylene	164	12.280	12.280	0.935	28816	4.72	ug/L		97
52)	Dibromochloromethane	129	12.517	12.517	0.953	23512	4.38	ug/L		97
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	22318	4.77	ug/L		97
54)	Chlorobenzene	112	13.169	13.169	1.003	88465	4.90	ug/L		88
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	31834	4.52	ug/L		99
56)	Ethylbenzene	91	13.228	13.228	1.007	155580	4.93	ug/L		98
57)	m,p-Xylenes	106	13.347	13.347	1.016	122399	9.96	ug/L		96
58)	o-Xylene	106	13.774	13.774	1.049	58830	4.61	ug/L		91
59)	Styrene	104	13.774	13.774	1.049	91209	4.60	ug/L		91
61)	Bromoform	173	14.035	14.035	0.903	13489	4.15	ug/L		94
62)	Isopropylbenzene	105	14.129	14.129	0.909	158091	4.82	ug/L		100
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	28868	4.95	ug/L		100
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	8529	5.10	ug/L	#	85
66)	Bromobenzene	156	14.533	14.533	0.935	39399	4.72	ug/L		93
67)	n-Propylbenzene	91	14.556	14.556	0.937	193731	4.97	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	140059	4.82	ug/L		96
69)	2-Chlorotoluene	126	14.711	14.711	0.947	39921	4.77	ug/L		98
70)	4-Chlorotoluene	91	14.805	14.805	0.953	113610	4.98	ug/L		99
71)	tert-Butylbenzene	134	15.078	15.078	0.970	29032	4.68	ug/L		96
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	140723	4.86	ug/L		97
73)	sec-Butylbenzene	105	15.303	15.303	0.985	184537	4.81	ug/L		99
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	156247	4.70	ug/L		97
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	77496	4.80	ug/L		98
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	77593	4.74	ug/L		91
77)	n-Butylbenzene	91	15.861	15.861	1.021	153404	4.82	ug/L		99
78)	1,2-Dichlorobenzene	146	15.979	15.979	1.028	72152	4.67	ug/L		98
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	5170	4.33	ug/L		98
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	62815	4.59	ug/L		100
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	39715	4.57	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	122530	4.64	ug/L		99
83)	1,2,3-Trichlorobenzene	180	18.565	18.553	1.195	59487	4.53	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.742	6.777	0.676	0m	N.D.	d		
88)	Allyl chloride		7.062	7.133	0.709	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		7.584	7.524	0.761	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.686	8.687	0.872	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.066	9.054	0.910	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.706	9.730	0.974	0m	N.D.	d		
100)	Methyl methacrylate		10.607	10.572	1.064	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I305.D
Acq On : 09 Sep 2020 21:20
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-04|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 10 19:10:12 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

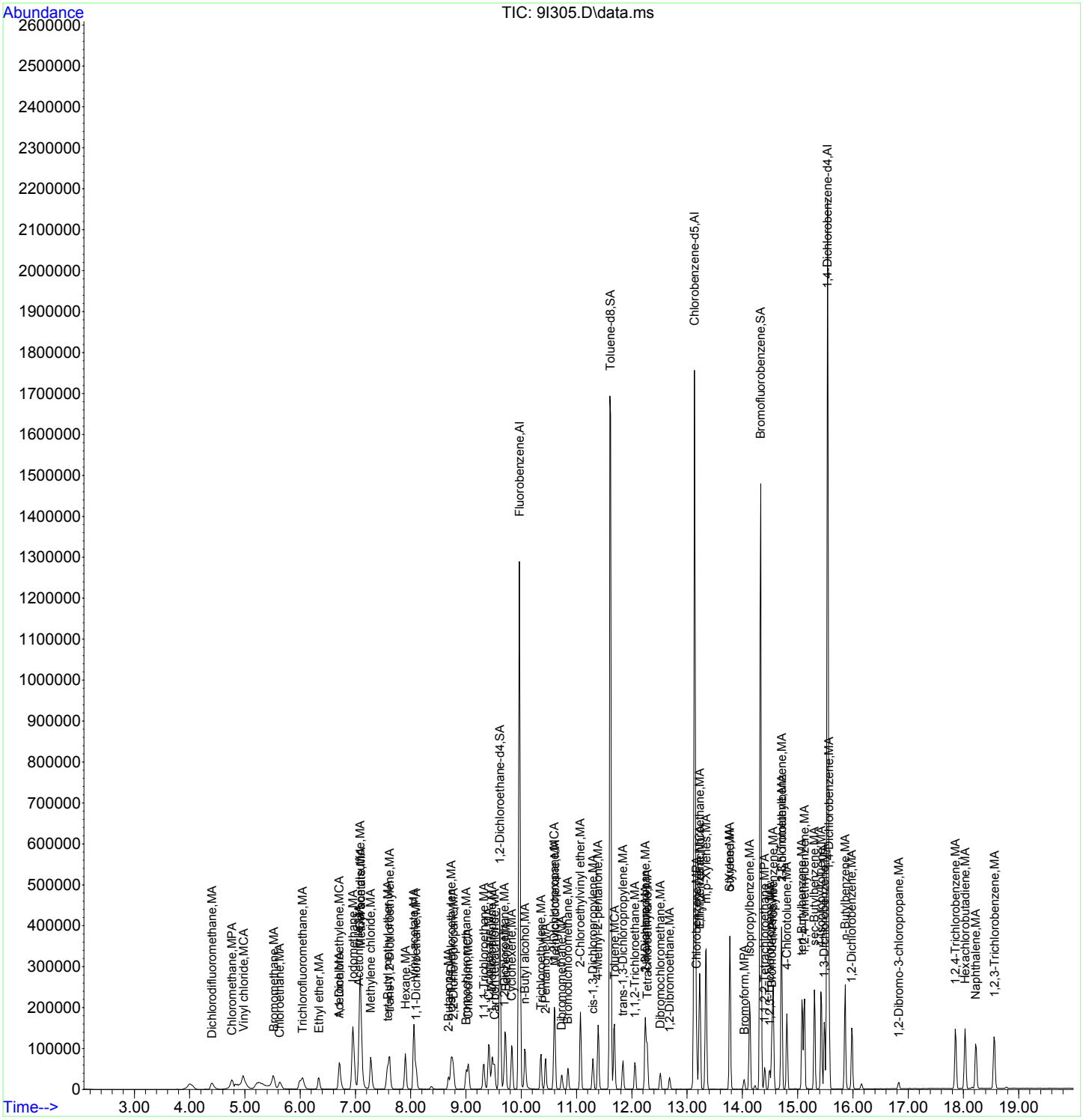
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.841	0.000	0	N.D.	
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.129	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.129	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.145	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I305.D
Acq On : 09 Sep 2020 21:20
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-04|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD005 5UL/5ML N/A MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 10 19:10:12 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I306.D
Acq On : 09 Sep 2020 21:47
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-05|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:15 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1334815	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.134	13.133	1.000	1116349	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	649455	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.134	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.612	9.611	0.964	349860	49.32	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1346488	49.76	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	539564	50.86	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.390	4.405	0.440	93543	10.59	ug/L	98
3) Chloromethane	50	4.761	4.761	0.478	116839	9.99	ug/L	99
4) Vinyl chloride	62	4.963	4.963	0.498	106780	9.99	ug/L	94
5) Bromomethane	94	5.509	5.508	0.553	79754	9.99	ug/L	97
6) Chloroethane	64	5.627	5.627	0.565	63267	9.96	ug/L	100
7) Trichlorofluoromethane	101	6.030	6.042	0.605	138167	10.00	ug/L	100
8) Ethyl ether	59	6.327	6.327	0.635	47073	9.98	ug/L	97
9) Acetone	43	6.694	6.694	0.672	64412	46.36	ug/L	99
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	97982	9.12	ug/L	99
11) Iodomethane	142	6.943	6.955	0.697	579364	44.23	ug/L	99
12) Acetonitrile	41	7.050	7.050	0.707	166063	235.63	ug/L	95
13) Methyl acetate	43	7.086	7.086	0.711	156611	48.29	ug/L	99
14) Carbon disulfide	76	7.074	7.086	0.710	1065485	46.94	ug/L	99
15) Methylene chloride	84	7.276	7.275	0.730	78471	9.04	ug/L	99
16) tert-Butyl methyl ether	73	7.572	7.584	0.760	158689	9.42	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.608	7.619	0.763	92866	9.32	ug/L	100
18) Hexane	57	7.904	7.904	0.793	98471	9.73	ug/L	100
19) Vinyl acetate	43	8.058	8.058	0.808	608431	51.73	ug/L	99
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	112873	9.51	ug/L	99
21) 2-Butanone	43	8.675	8.675	0.870	104113	48.19	ug/L	98
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	104666	9.41	ug/L	98
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	105145	9.44	ug/L	95
24) Bromochloromethane	128	9.007	9.007	0.904	29222	9.14	ug/L	96
25) Chloroform	83	9.042	9.042	0.907	110155	9.56	ug/L	100
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	110358	9.44	ug/L	99
27) Cyclohexane	56	9.410	9.410	0.944	130851	9.38	ug/L	99
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	85701	9.60	ug/L	94
29) Carbon tetrachloride	117	9.505	9.517	0.954	95125	9.43	ug/L	99
31) 1,2-Dichloroethane	62	9.695	9.694	0.973	79374	9.33	ug/L	99
32) Benzene	78	9.707	9.706	0.974	250782	9.60	ug/L	98
33) Cyclohexene	67	9.825	9.825	0.986	132649	9.56	ug/L	97
34) n-Butyl alcohol	41	10.062	10.062	1.010	109289	1067.84	ug/L	98
35) Trichloroethylene	95	10.359	10.347	1.039	65585	9.51	ug/L	99
36) 2-Pentanone	43	10.430	10.430	1.046	190091	49.83	ug/L	100
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	65746	9.79	ug/L	100
38) Methylcyclohexane	83	10.596	10.607	1.063	123309	9.43	ug/L	97
39) Dibromomethane	93	10.726	10.726	1.076	33735	9.75	ug/L	96
40) Bromodichloromethane	83	10.845	10.845	1.088	75736	9.48	ug/L	98
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	180529	53.60	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.296	11.295	1.133	89241	9.49	ug/L	97

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I306.D
Acq On : 09 Sep 2020 21:47
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-05|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 10 19:10:15 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	90831	49.42	ug/L		98
46)	Toluene	91	11.687	11.687	0.890	273449	9.65	ug/L		100
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	79223	9.73	ug/L		96
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	41180	9.92	ug/L		96
49)	2-Hexanone	43	12.232	12.232	0.931	172308	49.66	ug/L		99
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	80501	9.66	ug/L		99
51)	Tetrachloroethylene	164	12.280	12.280	0.935	60006	9.47	ug/L		97
52)	Dibromochloromethane	129	12.517	12.517	0.953	51789	8.63	ug/L		99
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	47863	9.84	ug/L		97
54)	Chlorobenzene	112	13.169	13.169	1.003	182032	9.70	ug/L		95
55)	1,1,1,2-Tetrachloroethane	131	13.217	13.228	1.006	68038	9.29	ug/L		98
56)	Ethylbenzene	91	13.228	13.228	1.007	320098	9.76	ug/L		99
57)	m,p-Xylenes	106	13.347	13.347	1.016	250508	19.61	ug/L		95
58)	o-Xylene	106	13.774	13.774	1.049	127465	9.61	ug/L		95
59)	Styrene	104	13.774	13.774	1.049	197785	9.59	ug/L		93
61)	Bromoform	173	14.035	14.035	0.903	31493	8.37	ug/L		97
62)	Isopropylbenzene	105	14.130	14.129	0.909	331325	9.74	ug/L		99
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	60706	10.02	ug/L		100
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	17395	10.03	ug/L	#	84
66)	Bromobenzene	156	14.533	14.533	0.935	84053	9.69	ug/L		98
67)	n-Propylbenzene	91	14.557	14.556	0.937	400027	9.89	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	290479	9.64	ug/L		98
69)	2-Chlorotoluene	126	14.711	14.711	0.947	82951	9.54	ug/L		97
70)	4-Chlorotoluene	91	14.806	14.805	0.953	236799	10.01	ug/L		100
71)	tert-Butylbenzene	134	15.078	15.078	0.970	61430	9.54	ug/L		95
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	295096	9.81	ug/L		98
73)	sec-Butylbenzene	105	15.304	15.303	0.985	385084	9.66	ug/L		99
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	331433	9.61	ug/L		98
75)	1,3-Dichlorobenzene	146	15.482	15.481	0.996	165020	9.84	ug/L		99
76)	1,4-Dichlorobenzene	146	15.565	15.564	1.002	164421	9.67	ug/L		97
77)	n-Butylbenzene	91	15.861	15.861	1.021	323577	9.80	ug/L		100
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	154786	9.66	ug/L		99
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	11255	8.25	ug/L		99
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	130436	9.18	ug/L		98
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	81191	9.01	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	253234	9.23	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	123977	9.10	ug/L		100
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		7.572	7.524	0.760	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.707	9.730	0.974	0m	N.D.	d		
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I306.D
Acq On : 09 Sep 2020 21:47
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-05|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 10 19:10:15 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

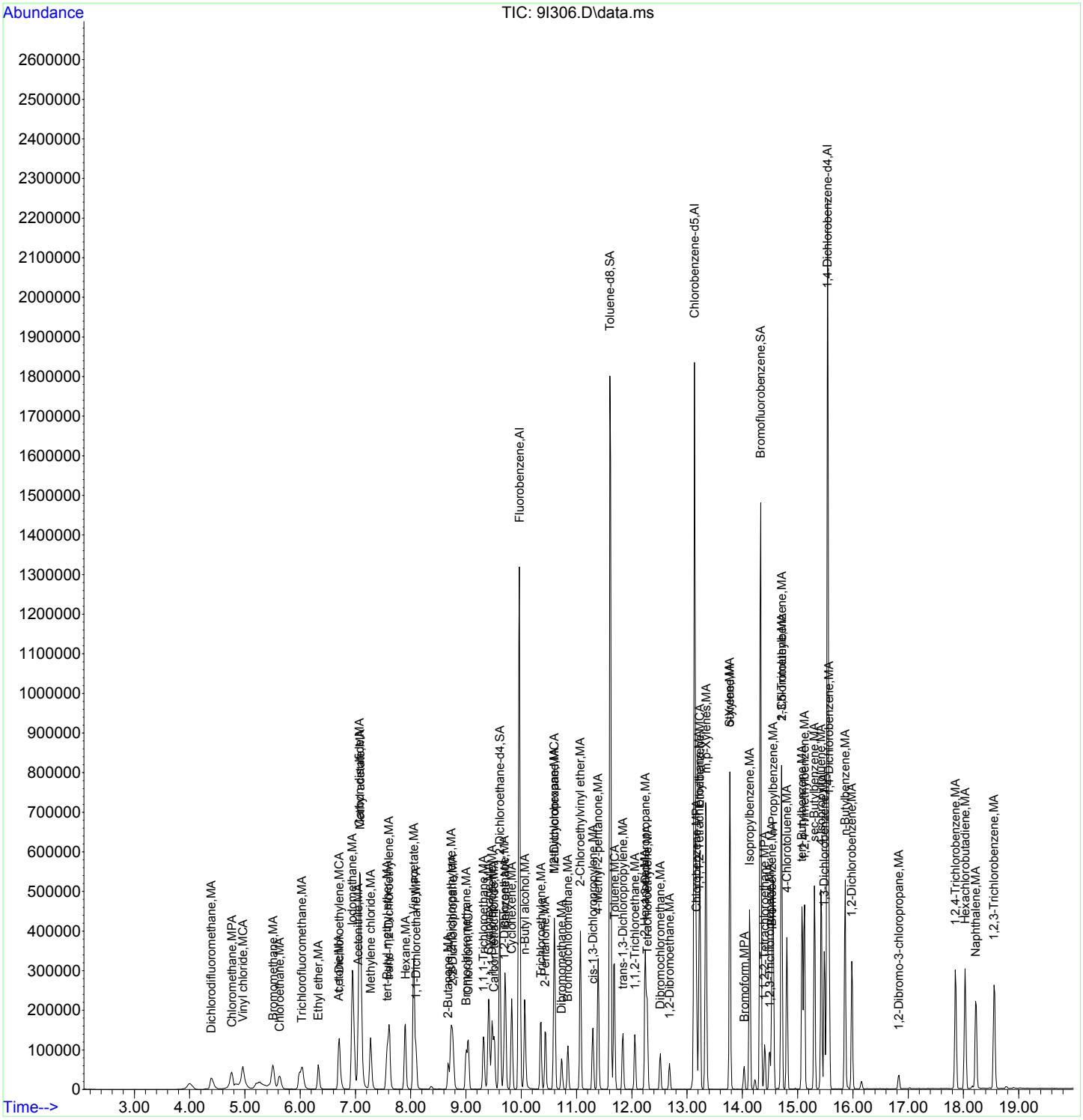
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.877	11.841	0.904	0m	N.D.	d
106) 1-Chlorohexane		13.134	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.557	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I306.D
Acq On : 09 Sep 2020 21:47
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-05|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD010 5UL/5ML N/A MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 10 19:10:15 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I307.D
Acq On : 09 Sep 2020 22:14
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-06|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

09/21/2020

Quant Time: Sep 10 19:10:18 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1314587	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1124706	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	665688	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	345795	49.49	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1340020	49.16	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	540021	49.66	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.390	4.405	0.440	183118	21.04	ug/L	98
3) Chloromethane	50	4.761	4.761	0.478	224803	19.52	ug/L	100
4) Vinyl chloride	62	4.963	4.963	0.498	205462	19.53	ug/L	96
5) Bromomethane	94	5.508	5.508	0.553	155284	19.76	ug/L	96
6) Chloroethane	64	5.627	5.627	0.565	121758	19.47	ug/L	99
7) Trichlorofluoromethane	101	6.042	6.042	0.606	269916	19.83	ug/L	100
8) Ethyl ether	59	6.327	6.327	0.635	93719	20.17	ug/L	96
9) Acetone	43	6.694	6.694	0.672	133329	97.44	ug/L	99
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	209953	19.84	ug/L	98
11) Iodomethane	142	6.955	6.955	0.698	1274203	98.78	ug/L	99
12) Acetonitrile	41	7.050	7.050	0.707	347862	501.18	ug/L	99
13) Methyl acetate	43	7.086	7.086	0.711	326202	102.14	ug/L	99
14) Carbon disulfide	76	7.086	7.086	0.711	2286992	102.31	ug/L	100
15) Methylene chloride	84	7.275	7.275	0.730	147780	19.63	ug/L	99
16) tert-Butyl methyl ether	73	7.572	7.584	0.760	336963	20.31	ug/L	99
17) trans-1,2-Dichloroethy...	61	7.607	7.619	0.763	199084	20.29	ug/L	100
18) Hexane	57	7.904	7.904	0.793	191436	19.22	ug/L	99
19) Vinyl acetate	43	8.058	8.058	0.808	1184017	102.21	ug/L	99
20) 1,1-Dichloroethane	63	8.093	8.093	0.812	234138	20.03	ug/L	99
21) 2-Butanone	43	8.675	8.675	0.870	212538	99.90	ug/L	100
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	222121	20.28	ug/L	99
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	220369	20.09	ug/L	93
24) Bromochloromethane	128	9.007	9.007	0.904	63924	20.31	ug/L	98
25) Chloroform	83	9.042	9.042	0.907	228384	20.12	ug/L	99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	233776	20.31	ug/L	99
27) Cyclohexane	56	9.410	9.410	0.944	273774	19.93	ug/L	99
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	176624	20.09	ug/L	99
29) Carbon tetrachloride	117	9.517	9.517	0.955	205125	20.66	ug/L	100
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	162940	19.44	ug/L	100
32) Benzene	78	9.706	9.706	0.974	516730	20.08	ug/L	99
33) Cyclohexene	67	9.825	9.825	0.986	279121	20.42	ug/L	98
34) n-Butyl alcohol	41	10.062	10.062	1.010	223893	2221.27	ug/L	97
35) Trichloroethylene	95	10.347	10.347	1.038	138076	20.32	ug/L	99
36) 2-Pentanone	43	10.430	10.430	1.046	379029	100.89	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	134949	20.40	ug/L	99
38) Methylcyclohexane	83	10.608	10.607	1.064	259302	20.14	ug/L	98
39) Dibromomethane	93	10.726	10.726	1.076	70687	20.74	ug/L	96
40) Bromodichloromethane	83	10.845	10.845	1.088	163731	20.80	ug/L	97
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	357785	107.86	ug/L	100
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	196217	21.18	ug/L	97

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I307.D
Acq On : 09 Sep 2020 22:14
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-06|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 10 19:10:18 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	190947	103.12	ug/L		98
46)	Toluene	91	11.687	11.687	0.890	565946	19.82	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	174045	21.21	ug/L		97
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	84553	20.22	ug/L		99
49)	2-Hexanone	43	12.244	12.232	0.932	364129	104.16	ug/L		98
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	170418	20.30	ug/L		99
51)	Tetrachloroethylene	164	12.280	12.280	0.935	128281	20.09	ug/L		97
52)	Dibromochloromethane	129	12.517	12.517	0.953	116245	18.50	ug/L		100
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	102159	20.84	ug/L		96
54)	Chlorobenzene	112	13.169	13.169	1.003	377160	19.94	ug/L		97
55)	1,1,1,2-Tetrachloroethane	131	13.216	13.228	1.006	147387	19.98	ug/L		99
56)	Ethylbenzene	91	13.228	13.228	1.007	670077	20.28	ug/L		100
57)	m,p-Xylenes	106	13.347	13.347	1.016	526904	40.95	ug/L		95
58)	o-Xylene	106	13.774	13.774	1.049	265589	19.87	ug/L		96
59)	Styrene	104	13.774	13.774	1.049	425192	20.46	ug/L		95
61)	Bromoform	173	14.035	14.035	0.903	73976	18.18	ug/L		98
62)	Isopropylbenzene	105	14.129	14.129	0.909	700155	20.08	ug/L		100
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	127677	20.56	ug/L		98
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	37061	20.85	ug/L	#	91
66)	Bromobenzene	156	14.533	14.533	0.935	175432	19.74	ug/L		99
67)	n-Propylbenzene	91	14.556	14.556	0.937	833901	20.12	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	621516	20.12	ug/L		98
69)	2-Chlorotoluene	126	14.711	14.711	0.947	176693	19.83	ug/L		100
70)	4-Chlorotoluene	91	14.805	14.805	0.953	490561	20.22	ug/L		100
71)	tert-Butylbenzene	134	15.078	15.078	0.970	129763	19.66	ug/L		97
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	623302	20.23	ug/L		98
73)	sec-Butylbenzene	105	15.303	15.303	0.985	826034	20.22	ug/L		98
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	709150	20.07	ug/L		98
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	342171	19.91	ug/L		99
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	346056	19.86	ug/L		98
77)	n-Butylbenzene	91	15.861	15.861	1.021	684051	20.21	ug/L		99
78)	1,2-Dichlorobenzene	146	15.979	15.979	1.028	326233	19.86	ug/L		99
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	25917	17.60	ug/L		98
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	284207	19.51	ug/L		99
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	181259	19.62	ug/L		98
82)	Naphthalene	128	18.221	18.221	1.172	562439	20.00	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	275391	19.72	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		7.584	7.524	0.761	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		0.000	8.746	0.000	0	N.D.			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.042	9.054	0.907	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.706	9.730	0.974	0m	N.D.	d		
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d		
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I307.D
Acq On : 09 Sep 2020 22:14
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-06|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 10 19:10:18 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

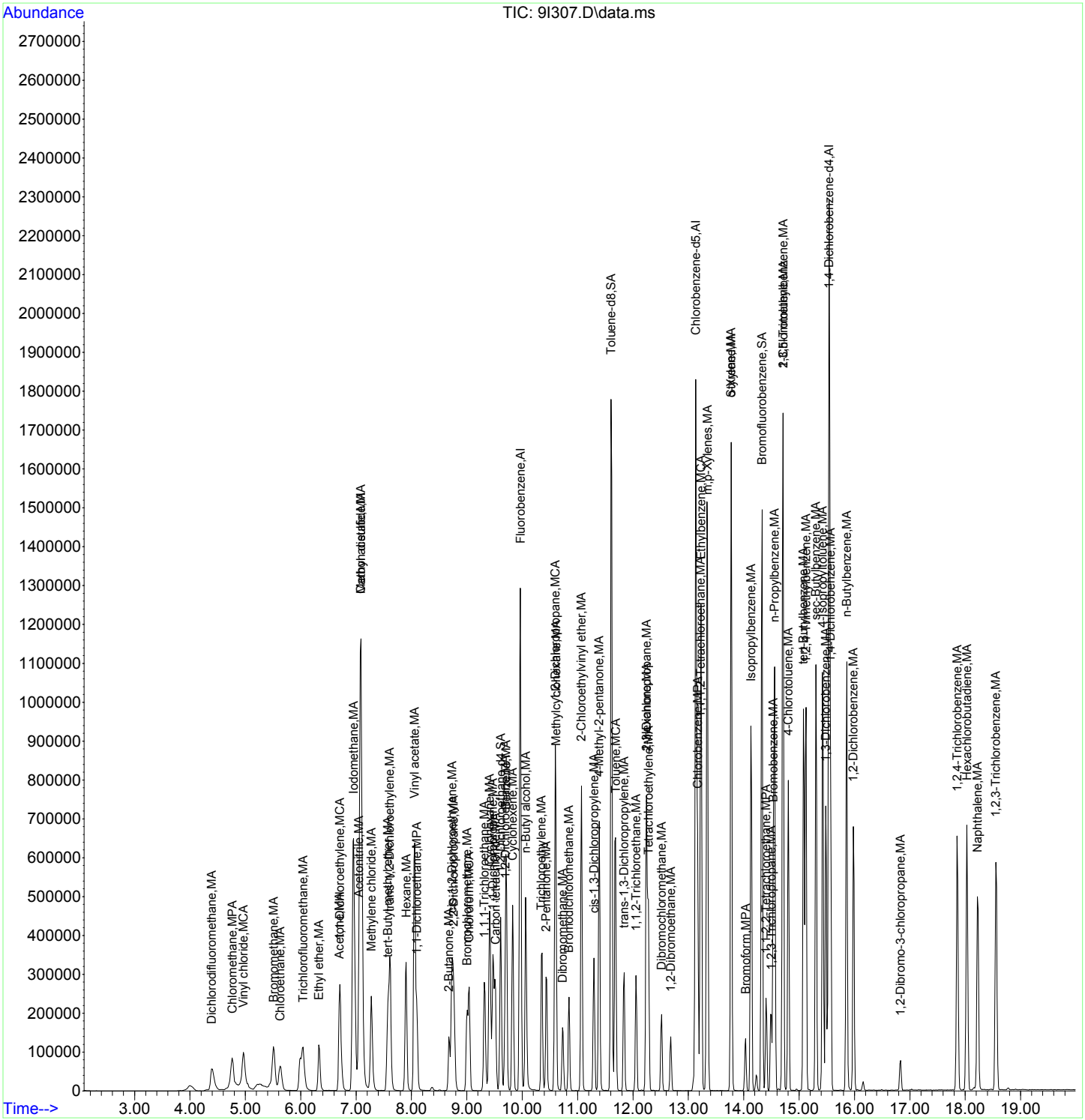
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.912	11.841	0.907	0m	N.D.	d
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.129	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.129	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		0.000	15.149	0.000	0	N.D.	
111) Benzyl chloride		15.541	15.683	1.000	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.157	16.074	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I307.D
Acq On : 09 Sep 2020 22:14
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-06|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD020 5UL/5ML N/A MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 10 19:10:18 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I308.D
Acq On : 09 Sep 2020 22:41
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-07|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

EH
09/16/2020

Quant Time: Sep 10 19:10:21 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1293197	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1106361	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	671538	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	341766	49.73	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1326319	49.46	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	539533	49.19	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	431096	50.35	ug/L	99
3) Chloromethane	50	4.761	4.761	0.478	531781	46.94	ug/L	100
4) Vinyl chloride	62	4.963	4.963	0.498	505210	48.81	ug/L	100
5) Bromomethane	94	5.508	5.508	0.553	393512	50.90	ug/L	98
6) Chloroethane	64	5.627	5.627	0.565	311714	50.66	ug/L	100
7) Trichlorofluoromethane	101	6.042	6.042	0.606	696982	52.05	ug/L	99
8) Ethyl ether	59	6.327	6.327	0.635	243928	53.38	ug/L	96
9) Acetone	43	6.694	6.694	0.672	334861	248.77	ug/L	100
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	541081	51.98	ug/L	99
11) Iodomethane	142	6.955	6.955	0.698	3442700	271.31	ug/L	98
12) Acetonitrile	41	7.050	7.050	0.707	874780	1281.17	ug/L	98
13) Methyl acetate	43	7.086	7.086	0.711	804233	255.98	ug/L	99
14) Carbon disulfide	76	7.086	7.086	0.711	5875686	267.21	ug/L	99
15) Methylene chloride	84	7.275	7.275	0.730	349065	50.74	ug/L	99
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	847791	51.94	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	492762	51.05	ug/L	99
18) Hexane	57	7.904	7.904	0.793	514940	52.54	ug/L	98
19) Vinyl acetate	43	8.058	8.058	0.808	3116694	273.50	ug/L	99
20) 1,1-Dichloroethane	63	8.093	8.093	0.812	587753	51.11	ug/L	100
21) 2-Butanone	43	8.675	8.675	0.870	534249	255.26	ug/L	99
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	562173	52.18	ug/L	99
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	556140	51.54	ug/L	92
24) Bromochloromethane	128	9.007	9.007	0.904	163422	52.78	ug/L	97
25) Chloroform	83	9.042	9.042	0.907	578153	51.78	ug/L	98
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	601883	53.16	ug/L	99
27) Cyclohexane	56	9.410	9.410	0.944	688811	50.97	ug/L	100
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	439568	50.83	ug/L	99
29) Carbon tetrachloride	117	9.517	9.517	0.955	529769	54.23	ug/L	99
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	400444	48.56	ug/L	100
32) Benzene	78	9.706	9.706	0.974	1293180	51.08	ug/L	99
33) Cyclohexene	67	9.825	9.825	0.986	685012	50.95	ug/L	98
34) n-Butyl alcohol	41	10.062	10.062	1.010	575664	5805.69	ug/L	98
35) Trichloroethylene	95	10.347	10.347	1.038	348572	52.15	ug/L	100
36) 2-Pentanone	43	10.430	10.430	1.046	961345	260.13	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	340561	52.32	ug/L	100
38) Methylcyclohexane	83	10.607	10.607	1.064	659840	52.09	ug/L	98
39) Dibromomethane	93	10.726	10.726	1.076	178168	53.14	ug/L	94
40) Bromodichloromethane	83	10.845	10.845	1.088	432337	55.84	ug/L	99
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	896462	274.72	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	502020	55.09	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I308.D
Acq On : 09 Sep 2020 22:41
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-07|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 10 19:10:21 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	478830	262.89	ug/L		96
46)	Toluene	91	11.687	11.687	0.890	1414162	50.33	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	439946	54.49	ug/L		98
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	209724	50.99	ug/L		98
49)	2-Hexanone	43	12.232	12.232	0.931	901554	262.16	ug/L		98
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	433079	52.45	ug/L		96
51)	Tetrachloroethylene	164	12.280	12.280	0.935	323644	51.52	ug/L		95
52)	Dibromochloromethane	129	12.517	12.517	0.953	313806	49.73	ug/L		100
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	259704	53.86	ug/L		97
54)	Chlorobenzene	112	13.169	13.169	1.003	958768	51.53	ug/L		100
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	394001	54.30	ug/L		98
56)	Ethylbenzene	91	13.228	13.228	1.007	1695875	52.19	ug/L		100
57)	m,p-Xylenes	106	13.347	13.347	1.016	1355898	107.12	ug/L		99
58)	o-Xylene	106	13.774	13.774	1.049	701936	53.39	ug/L		100
59)	Styrene	104	13.774	13.774	1.049	1135713	55.56	ug/L		98
61)	Bromoform	173	14.035	14.035	0.903	208793	49.48	ug/L		99
62)	Isopropylbenzene	105	14.129	14.129	0.909	1801337	51.22	ug/L		99
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	326532	52.13	ug/L		99
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	93560	52.17	ug/L	#	91
66)	Bromobenzene	156	14.533	14.533	0.935	472414	52.68	ug/L		96
67)	n-Propylbenzene	91	14.556	14.556	0.937	2124785	50.82	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1629597	52.28	ug/L		99
69)	2-Chlorotoluene	126	14.711	14.711	0.947	473230	52.65	ug/L		94
70)	4-Chlorotoluene	91	14.805	14.805	0.953	1261003	51.53	ug/L		99
71)	tert-Butylbenzene	134	15.078	15.078	0.970	348612	52.34	ug/L		93
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	1615344	51.96	ug/L		100
73)	sec-Butylbenzene	105	15.303	15.303	0.985	2140220	51.94	ug/L		98
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	1889289	52.99	ug/L		99
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	911527	52.59	ug/L		98
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	920584	52.38	ug/L		99
77)	n-Butylbenzene	91	15.861	15.861	1.021	1791508	52.47	ug/L		99
78)	1,2-Dichlorobenzene	146	15.979	15.979	1.028	871906	52.61	ug/L		99
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	75760	49.57	ug/L		95
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	784253	53.37	ug/L		100
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	499676	53.61	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	1489832	52.53	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	745030	52.88	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		7.572	7.524	0.760	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		8.200	8.200	0.823	0m	N.D.	d		
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		8.675	8.746	0.870	0m	N.D.	d		
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.718	9.730	0.975	0m	N.D.	d		
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d		
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d		
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I308.D
Acq On : 09 Sep 2020 22:41
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-07|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 10 19:10:21 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

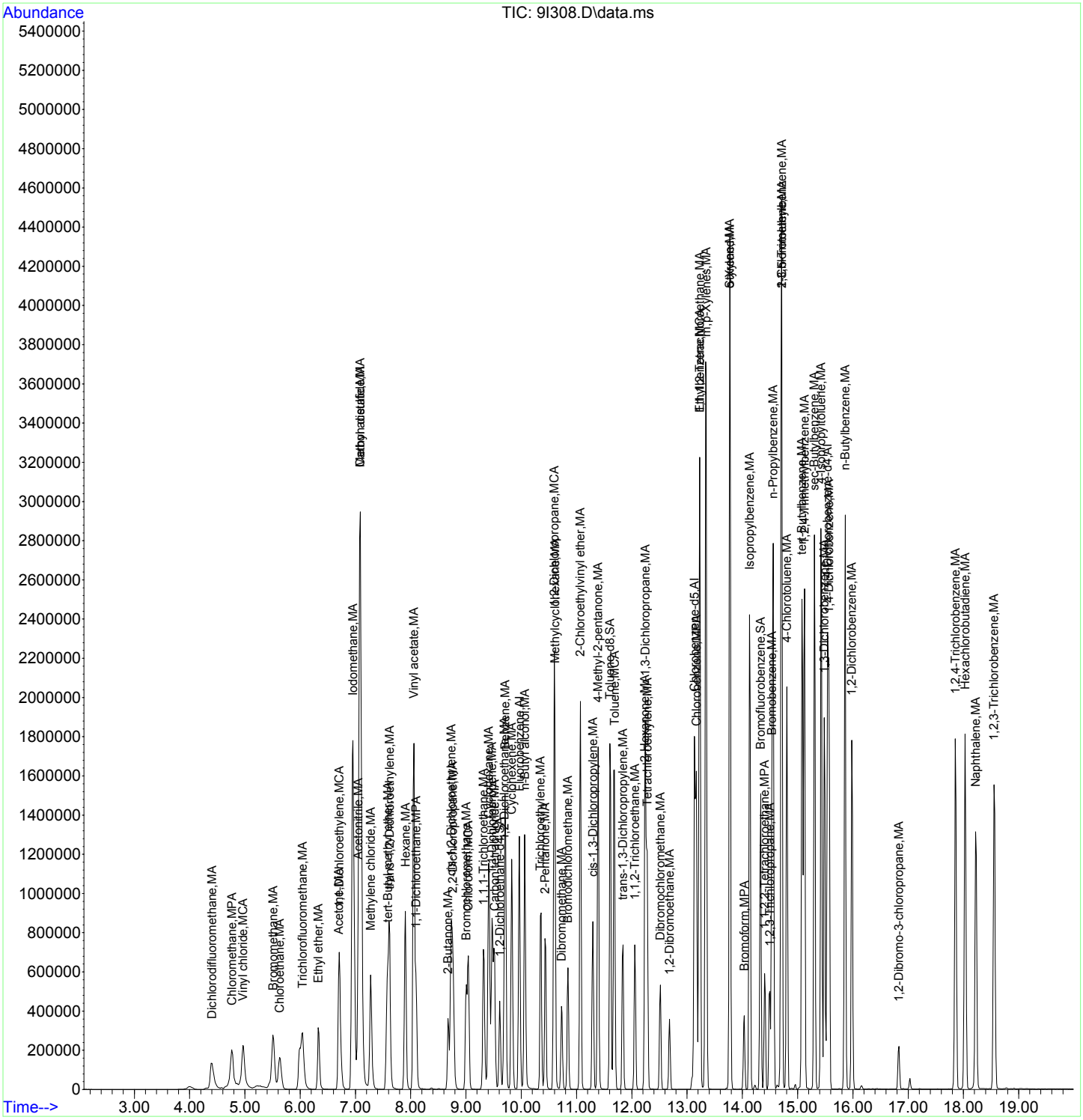
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.841	0.000	0	N.D.	
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.129	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.129	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.149	15.149	0.975	0m	N.D.	d
111) Benzyl chloride		15.754	15.683	1.014	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.157	16.074	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I308.D
Acq On : 09 Sep 2020 22:41
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-07|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD050 5UL/5ML N/A MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 10 19:10:21 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I309.D
Acq On : 09 Sep 2020 23:07
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-08|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:24 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1309016	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1109929	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	667717	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	345448	49.65	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1348950	50.14	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	536160	49.16	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	509374	58.78	ug/L	99
3) Chloromethane	50	4.776	4.761	0.479	697018	60.79	ug/L	99
4) Vinyl chloride	62	4.975	4.963	0.499	652815	62.30	ug/L	100
5) Bromomethane	94	5.520	5.508	0.554	492875	62.98	ug/L	97
6) Chloroethane	64	5.639	5.627	0.566	402030	64.55	ug/L	99
7) Trichlorofluoromethane	101	6.042	6.042	0.606	861596	63.56	ug/L	100
8) Ethyl ether	59	6.339	6.327	0.636	321072	69.41	ug/L	97
9) Acetone	43	6.706	6.694	0.673	513976	377.22	ug/L	99
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	832261	78.99	ug/L	99
11) Iodomethane	142	6.955	6.955	0.698	5527247	430.32	ug/L	96
12) Acetonitrile	41	7.050	7.050	0.707	1314399	1901.76	ug/L	99
13) Methyl acetate	43	7.086	7.086	0.711	1220716	383.84	ug/L	100
14) Carbon disulfide	76	7.086	7.086	0.711	8893242	399.55	ug/L	99
15) Methylene chloride	84	7.275	7.275	0.730	529404	77.30	ug/L	99
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	1309092	79.23	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	763341	78.13	ug/L	99
18) Hexane	57	7.904	7.904	0.793	794501	80.09	ug/L	99
19) Vinyl acetate	43	8.058	8.058	0.808	4010265	347.67	ug/L	98
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	916069	78.70	ug/L	99
21) 2-Butanone	43	8.675	8.675	0.870	809727	382.21	ug/L	99
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	865683	79.38	ug/L	100
23) 2,2-Dichloropropane	77	8.770	8.758	0.880	860218	78.75	ug/L	91
24) Bromochloromethane	128	9.007	9.007	0.904	257018	82.01	ug/L	97
25) Chloroform	83	9.042	9.042	0.907	900861	79.70	ug/L	99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	939545	81.98	ug/L	99
27) Cyclohexane	56	9.410	9.410	0.944	1044391	76.34	ug/L	100
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	674017	77.00	ug/L	99
29) Carbon tetrachloride	117	9.517	9.517	0.955	823865	83.32	ug/L	99
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	613311	73.48	ug/L	99
32) Benzene	78	9.718	9.706	0.975	1980415	77.28	ug/L	99
33) Cyclohexene	67	9.825	9.825	0.986	1054535	77.49	ug/L	98
34) n-Butyl alcohol	41	10.062	10.062	1.010	850888	8477.68	ug/L	97
35) Trichloroethylene	95	10.359	10.347	1.039	538569	79.60	ug/L	99
36) 2-Pentanone	43	10.430	10.430	1.046	1463873	391.32	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	516536	78.40	ug/L	99
38) Methylcyclohexane	83	10.608	10.607	1.064	1021543	79.67	ug/L	98
39) Dibromomethane	93	10.726	10.726	1.076	277767	81.85	ug/L	93
40) Bromodichloromethane	83	10.845	10.845	1.088	671997	85.74	ug/L	99
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	1098062	332.43	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	773093	83.82	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I309.D
Acq On : 09 Sep 2020 23:07
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-08|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 10 19:10:24 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	739686	404.80	ug/L		94
46)	Toluene	91	11.687	11.687	0.890	2184141	77.49	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	678900	83.82	ug/L		99
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	321720	77.96	ug/L		98
49)	2-Hexanone	43	12.244	12.232	0.932	1331232	385.86	ug/L		97
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	650075	78.48	ug/L		96
51)	Tetrachloroethylene	164	12.280	12.280	0.935	508478	80.68	ug/L		95
52)	Dibromochloromethane	129	12.517	12.517	0.953	496353	78.07	ug/L		100
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	395782	81.82	ug/L		97
54)	Chlorobenzene	112	13.169	13.169	1.003	1483445	79.47	ug/L		99
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	631668	86.77	ug/L		98
56)	Ethylbenzene	91	13.228	13.228	1.007	2547200	78.13	ug/L		99
57)	m,p-Xylenes	106	13.347	13.347	1.016	2097292	165.16	ug/L		99
58)	o-Xylene	106	13.774	13.774	1.049	1108766	84.06	ug/L		98
59)	Styrene	104	13.774	13.774	1.049	1780872	86.85	ug/L		100
61)	Bromoform	173	14.035	14.035	0.903	327748	77.67	ug/L		99
62)	Isopropylbenzene	105	14.130	14.129	0.909	2801651	80.11	ug/L		99
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	490128	78.70	ug/L		98
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	140236	78.65	ug/L	#	89
66)	Bromobenzene	156	14.533	14.533	0.935	731625	82.06	ug/L		94
67)	n-Propylbenzene	91	14.556	14.556	0.937	3224694	77.58	ug/L		98
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	2525067	81.47	ug/L		99
69)	2-Chlorotoluene	126	14.711	14.711	0.947	744195	83.27	ug/L		89
70)	4-Chlorotoluene	91	14.806	14.805	0.953	1883310	77.40	ug/L		97
71)	tert-Butylbenzene	134	15.078	15.078	0.970	559576	84.50	ug/L		89
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	2501273	80.92	ug/L		99
73)	sec-Butylbenzene	105	15.304	15.303	0.985	3326608	81.19	ug/L		97
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	2919315	82.35	ug/L		98
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	1388046	80.54	ug/L		98
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	1416717	81.07	ug/L		98
77)	n-Butylbenzene	91	15.861	15.861	1.021	2685252	79.10	ug/L		98
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	1361424	82.61	ug/L		98
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	117506	76.90	ug/L		96
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	1234348	84.49	ug/L		100
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	799414	86.26	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	2336644	82.86	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.565	18.553	1.195	1178657	84.14	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89)	tert-Butyl Alcohol		7.287	7.275	0.731	0m	N.D.	d		
90)	Acrylonitrile		7.572	7.524	0.760	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		8.046	8.200	0.807	0m	N.D.	d		
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		8.687	8.746	0.872	0m	N.D.	d		
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.042	9.054	0.907	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.718	9.730	0.975	0m	N.D.	d		
100)	Methyl methacrylate		10.608	10.572	1.064	0m	N.D.	d		
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d		
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I309.D
Acq On : 09 Sep 2020 23:07
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-08|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 10 19:10:24 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

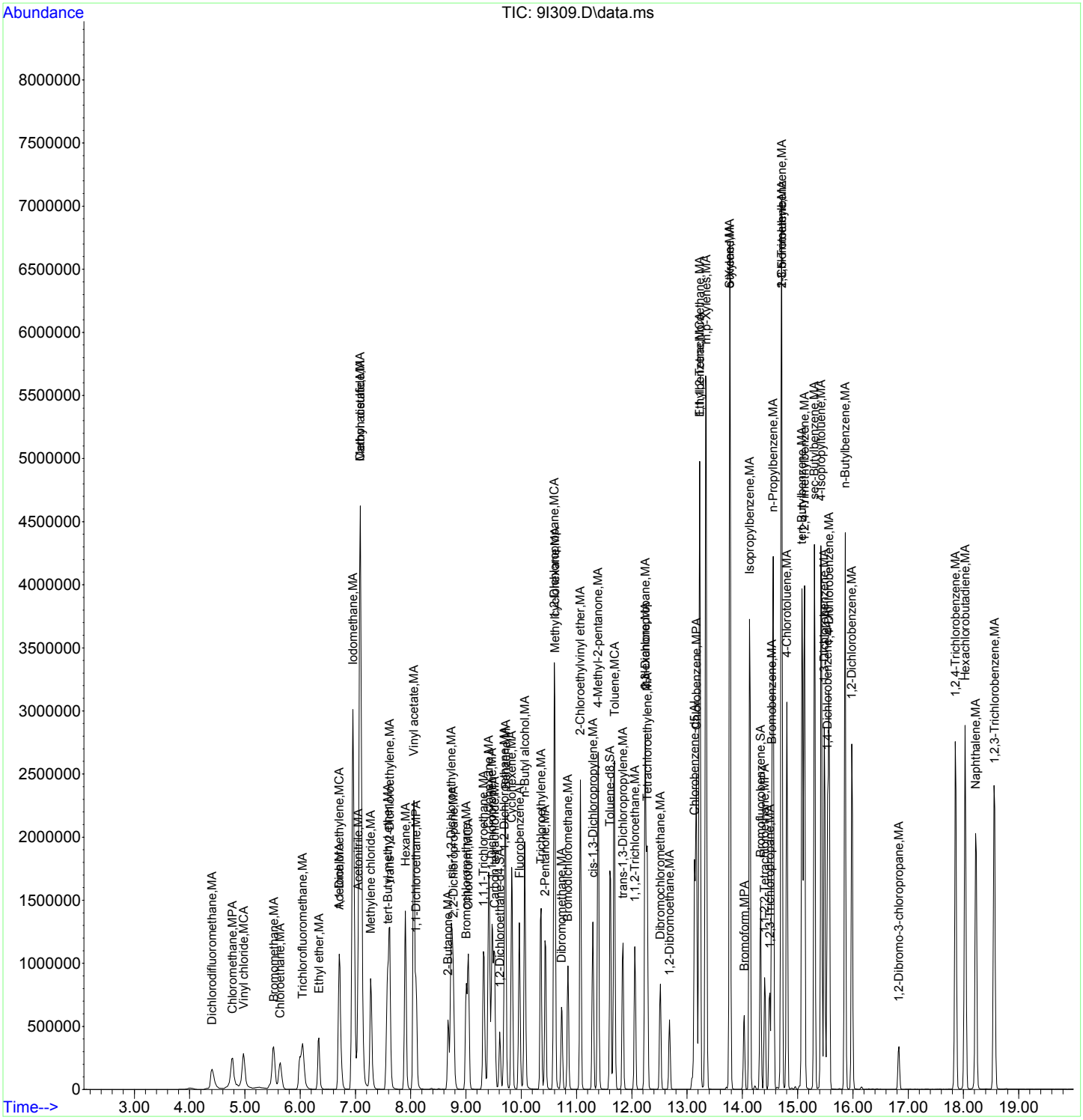
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.841	0.000	0	N.D.	
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.149	15.149	0.975	0m	N.D.	d
111) Benzyl chloride		15.671	15.683	1.008	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.157	16.074	1.040	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I309.D
Acq On : 09 Sep 2020 23:07
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-08|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD080 4UL/5ML N/A MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 10 19:10:24 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



JP
09/10/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I310.D
Acq On : 09 Sep 2020 23:34
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-09|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

EH
09/21/2020

Quant Time: Sep 10 19:10:27 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.967	9.967	1.000	1352922	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1153834	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	696852	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	0m	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	0m	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	0m	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	357758	49.75	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1378973	49.31	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	550673	48.38	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	888288	99.18	ug/L	100
3) Chloromethane	50	4.776	4.761	0.479	1075844	90.78	ug/L	100
4) Vinyl chloride	62	4.975	4.963	0.499	990192	91.44	ug/L	100
5) Bromomethane	94	5.520	5.508	0.554	801688	99.12	ug/L	98
6) Chloroethane	64	5.639	5.627	0.566	645132	100.23	ug/L	100 A
7) Trichlorofluoromethane	101	6.042	6.042	0.606	1444591	103.11	ug/L	100 A
8) Ethyl ether	59	6.339	6.327	0.636	520452	108.86	ug/L	95 A
9) Acetone	43	6.706	6.694	0.673	715385	508.00	ug/L	98 A
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	1142161	104.88	ug/L	98 A
11) Iodomethane	142	6.955	6.955	0.698	7878462	593.47	ug/L	95 A
12) Acetonitrile	41	7.050	7.050	0.707	1824719	2554.45	ug/L	98 A
13) Methyl acetate	43	7.097	7.086	0.712	1667472	507.30	ug/L	99 A
14) Carbon disulfide	76	7.086	7.086	0.711	12065032	524.45	ug/L	99 A
15) Methylene chloride	84	7.275	7.275	0.730	725789	103.38	ug/L	99 A
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	1816151	106.35	ug/L	100 A
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	1026372	101.65	ug/L	98 A
18) Hexane	57	7.904	7.904	0.793	1027433	100.21	ug/L	98 A
19) Vinyl acetate	43	8.058	8.058	0.808	6372325	534.52	ug/L	98 A
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	1247160	103.66	ug/L	99 A
21) 2-Butanone	43	8.675	8.675	0.870	1123705	513.20	ug/L	99 A
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	1178953	104.60	ug/L	99 A
23) 2,2-Dichloropropane	77	8.770	8.758	0.880	1161613	102.89	ug/L	90 A
24) Bromochloromethane	128	9.007	9.007	0.904	355927	109.89	ug/L	96 A
25) Chloroform	83	9.042	9.042	0.907	1231743	105.44	ug/L	99 A
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	1279634	108.03	ug/L	99 A
27) Cyclohexane	56	9.410	9.410	0.944	1434877	101.48	ug/L	100 A
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	911179	100.71	ug/L	99 A
29) Carbon tetrachloride	117	9.517	9.517	0.955	1125700	110.15	ug/L	99 A
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	845943	98.06	ug/L	99
32) Benzene	78	9.718	9.706	0.975	2733517	103.20	ug/L	99 A
33) Cyclohexene	67	9.825	9.825	0.986	1429222	101.61	ug/L	98 A
34) n-Butyl alcohol	41	10.062	10.062	1.010	1193119	11501.66	ug/L	96 A
35) Trichloroethylene	95	10.359	10.347	1.039	731068	104.55	ug/L	99 A
36) 2-Pentanone	43	10.430	10.430	1.046	1899336	491.25	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	705555	103.61	ug/L	99 A
38) Methylcyclohexane	83	10.608	10.607	1.064	1384736	104.49	ug/L	99 A
39) Dibromomethane	93	10.726	10.726	1.076	380452	108.47	ug/L	92 A
40) Bromodichloromethane	83	10.845	10.845	1.088	921168	113.72	ug/L	99 A
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	1711420	501.30	ug/L	98 A
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	1061751	111.38	ug/L	99 A

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I310.D
Acq On : 09 Sep 2020 23:34
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-09|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 10 19:10:27 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units			
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	1009970	531.68	ug/L		94	A
46)	Toluene	91	11.687	11.687	0.890	2983684	101.83	ug/L		98	A
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	941575	111.83	ug/L		99	A
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	444350	103.58	ug/L		98	A
49)	2-Hexanone	43	12.232	12.232	0.931	1804435	503.11	ug/L		96	A
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	885277	102.80	ug/L		96	A
51)	Tetrachloroethylene	164	12.280	12.280	0.935	704734	107.57	ug/L		93	A
52)	Dibromochloromethane	129	12.517	12.517	0.953	697740	105.37	ug/L		100	A
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	547272	108.83	ug/L		97	A
54)	Chlorobenzene	112	13.169	13.169	1.003	2039621	105.10	ug/L		99	A
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	887380	117.26	ug/L		98	A
56)	Ethylbenzene	91	13.228	13.228	1.007	3431824	101.26	ug/L		98	A
57)	m,p-Xylenes	106	13.347	13.347	1.016	2871075	217.49	ug/L		96	A
58)	o-Xylene	106	13.774	13.774	1.049	1531046	111.65	ug/L		95	A
59)	Styrene	104	13.774	13.774	1.049	2436007	114.28	ug/L		98	A
61)	Bromoform	173	14.035	14.035	0.903	471473	106.76	ug/L		98	A
62)	Isopropylbenzene	105	14.130	14.129	0.909	3865025	105.90	ug/L		98	A
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	680659	104.72	ug/L		99	A
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	194306	104.42	ug/L	#	93	A
66)	Bromobenzene	156	14.533	14.533	0.935	1029874	110.68	ug/L		91	A
67)	n-Propylbenzene	91	14.556	14.556	0.937	4321055	99.60	ug/L		97	
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	3471559	107.33	ug/L		97	A
69)	2-Chlorotoluene	126	14.711	14.711	0.947	1035055	110.97	ug/L	#	85	A
70)	4-Chlorotoluene	91	14.806	14.805	0.953	2551096	100.46	ug/L		96	A
71)	tert-Butylbenzene	134	15.078	15.078	0.970	791197	114.48	ug/L	#	86	A
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	3389726	105.07	ug/L		98	A
73)	sec-Butylbenzene	105	15.304	15.303	0.985	4589122	107.32	ug/L		96	A
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	4089634	110.55	ug/L		98	A
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	1936168	107.64	ug/L		97	A
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	1942424	106.50	ug/L		97	A
77)	n-Butylbenzene	91	15.861	15.861	1.021	3646038	102.91	ug/L		97	A
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	1896569	110.28	ug/L		98	A
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	172562	107.90	ug/L		95	A
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	1795373	117.75	ug/L		100	A
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	1181332	122.14	ug/L		99	A
82)	Naphthalene	128	18.221	18.221	1.172	3348668	113.78	ug/L		100	A
83)	1,2,3-Trichlorobenzene	180	18.565	18.553	1.195	1698814	116.20	ug/L		99	A
85)	Acrolein		0.000	6.516	0.000	0	N.D.				
86)	Trichlorotrifluoroethane		6.706	6.694	0.673	0m	N.D.	d			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d			
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d			
89)	tert-Butyl Alcohol		7.275	7.275	0.730	0m	N.D.	d			
90)	Acrylonitrile		7.584	7.524	0.761	0m	N.D.	d			
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d			
92)	2-Chloro-1,3-butadiene		8.058	8.200	0.808	0m	N.D.	d			
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.				
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d			
95)	Propionitrile		8.687	8.746	0.872	0m	N.D.	d			
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d			
97)	Tetrahydrofuran		9.042	9.054	0.907	0m	N.D.	d			
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d			
99)	Methyl tert-amyl ether		9.718	9.730	0.975	0m	N.D.	d			
100)	Methyl methacrylate		10.608	10.572	1.064	0m	N.D.	d			
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d			
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d			

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I310.D
Acq On : 09 Sep 2020 23:34
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-09|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 10 19:10:27 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

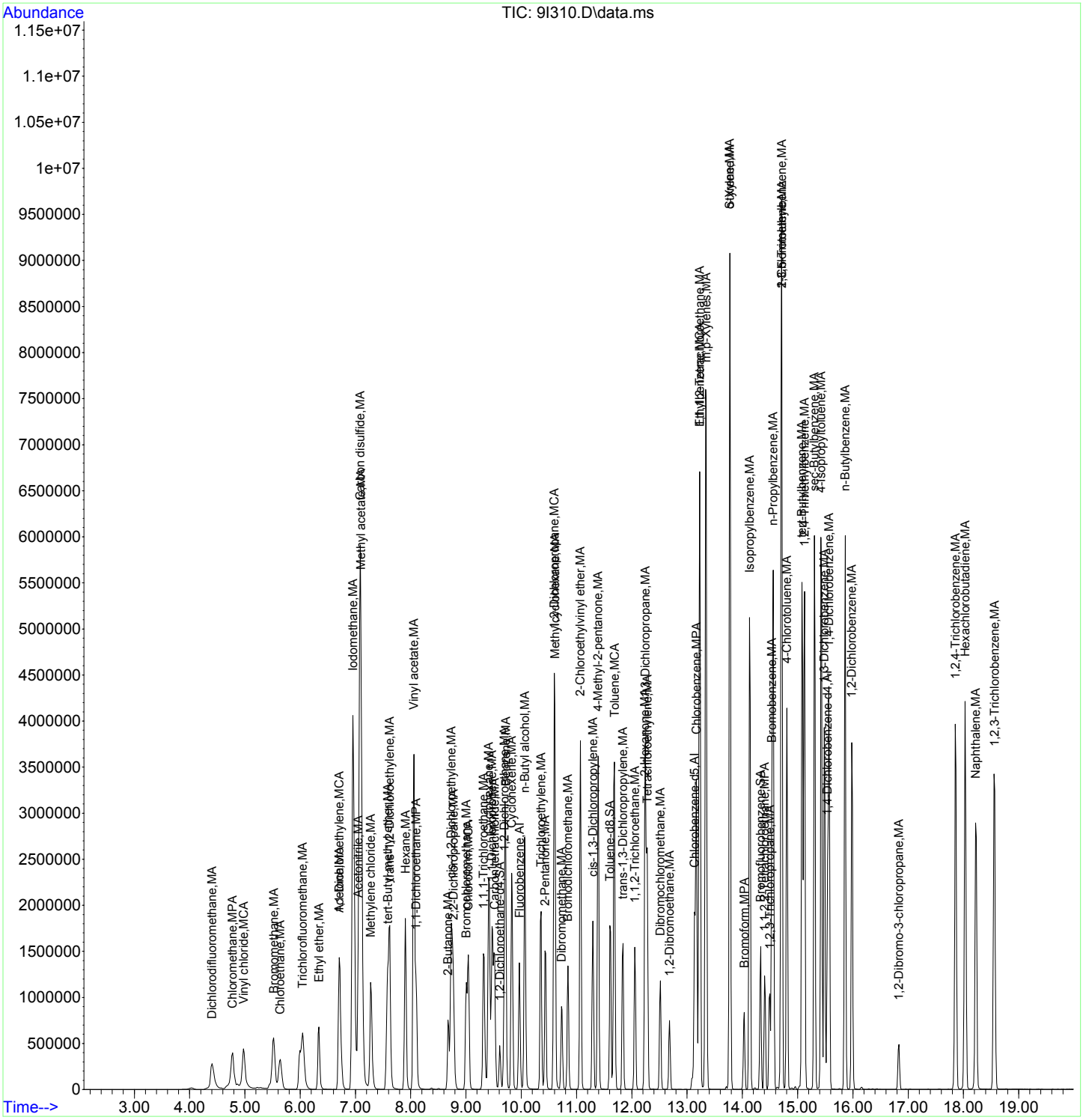
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		0.000	11.841	0.000	0	N.D.	
106) 1-Chlorohexane		13.133	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.149	15.149	0.975	0m	N.D.	d
111) Benzyl chloride		15.659	15.683	1.008	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I310.D
Acq On : 09 Sep 2020 23:34
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-09|ICAL|1|VOA|1|VOA8260BL|
Misc : VSTD100 5UL/5ML N/A MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 10 19:10:27 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Continuing Calibration Summary

Client SDG: 2021-130

Instrument ID: VOA9.I **Injection Date:** 10-SEP-20 00:27

Data File: 090920V9\9I312.D **Init. Cal. Date(s)** 09-SEP-20 20:00 - 09-SEP-20 23:34

Lab Sample ID W9VM200909-10 **Method:** 090920V9\VOA9-8260-090920.M

Quant Type ISTD **Method Update:** 10-SEP-20 19:05

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type	
S	1,2-Dichloroethane-d4	0.2657	0.26518		.01		-0.19571	60		Averaged	
S	Toluene-d8	1.2119	1.21387		.01		0.16255	60		Averaged	
S	Bromofluorobenzene	0.8167	0.79704		.01		-2.40725	60		Averaged	
	Chloromethane	0.438	0.45888		.1		4.76712	60		Averaged	SPCC
	Vinyl chloride	0.4002	0.43399		.01		8.44328	20		Averaged	CCC
	1,1-Dichloroethylene	0.4025	0.40659		.01		1.01615	20		Averaged	CCC
	Methylene chloride	50	49.21	50			-1.58	60		Linear	
	1,1-Dichloroethane	0.4446	0.47872		.1		7.67431	60		Averaged	SPCC
	Chloroform	0.4317	0.45867		.01		6.24739	20		Averaged	CCC
	1,1,1-Trichloroethane	0.4378	0.49585		.01		13.25948	60		Averaged	
	Carbon tetrachloride	0.3777	0.4414		.01		16.86524	60		Averaged	
	1,2-Dichloroethane	0.3188	0.29681		.01		-6.89774	60		Averaged	
	Benzene	0.9789	1.00596		.01		2.76433	60		Averaged	
	Trichloroethylene	0.2584	0.2693		.01		4.21827	60		Averaged	
	1,2-Dichloropropane	0.2517	0.25845		.01		2.68176	20		Averaged	CCC
	Dibromomethane	0.1296	0.13542		.01		4.49074	60		Averaged	
	Toluene	1.2697	1.32906		.01		4.67512	20		Averaged	CCC
	1,1,2-Trichloroethane	0.1859	0.18792		.01		1.08661	60		Averaged	
	Tetrachloroethylene	0.2839	0.31516		.01		11.01092	60		Averaged	
	Chlorobenzene	0.8409	0.87073		.3		3.54739	60		Averaged	SPCC
	Ethylbenzene	1.4686	1.54785		.01		5.3963	20		Averaged	CCC
	m,p-Xylenes	0.572	0.63172		.01		10.44056	60		Averaged	
	o-Xylene	0.5942	0.63792		.01		7.35779	60		Averaged	
	Bromoform	50	49.35	50			-1.3	60		Linear	SPCC
	1,1,2,2-Tetrachloroethane	0.4664	0.47768		.3		2.41852	60		Averaged	SPCC

JP
09/10/2020

KP
09/11/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I312.D
Acq On : 10 Sep 2020 00:27
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-10|ICV|1|VOA|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 10 19:10:33 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) Fluorobenzene	96	9.967	9.967	1.000	1299584	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.134	13.133	1.000	1085307	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	647462	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	1299584	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.134	13.134	1.000	1085307	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	647462	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.612	9.611	0.964	344626	49.90	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1317418	50.08	ug/L	0.00
63) Bromofluorobenzene	95	14.331	14.331	0.922	516051	48.80	ug/L	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	510546	59.34	ug/L	100
3) Chloromethane	50	4.761	4.761	0.478	596358	52.39	ug/L	100
4) Vinyl chloride	62	4.975	4.963	0.499	564003	54.22	ug/L	100
5) Bromomethane	94	5.508	5.508	0.553	448988	57.79	ug/L	98
6) Chloroethane	64	5.639	5.627	0.566	317461	51.34	ug/L	100
7) Trichlorofluoromethane	101	6.042	6.042	0.606	733116	54.48	ug/L	99
8) Ethyl ether	59	6.339	6.327	0.636	222120	48.36	ug/L	96
9) Acetone	43	6.706	6.694	0.673	342455	253.16	ug/L	99
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	528403	50.51	ug/L	98
11) Iodomethane	142	6.955	6.955	0.698	3678253	288.45	ug/L	97
12) Acetonitrile	41	7.050	7.050	0.707	868221	1265.32	ug/L	99
13) Methyl acetate	43	7.098	7.086	0.712	858995	272.06	ug/L	99
14) Carbon disulfide	76	7.086	7.086	0.711	6244624	282.59	ug/L	99
15) Methylene chloride	84	7.275	7.275	0.730	340758	49.21	ug/L	99
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	865184	52.74	ug/L	100
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	487174	50.23	ug/L	98
18) Hexane	57	7.904	7.904	0.793	520799	52.88	ug/L	98
19) Vinyl acetate	43	8.058	8.058	0.808	2949881	257.59	ug/L	99
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	622141	53.84	ug/L	99
21) 2-Butanone	43	8.675	8.675	0.870	527218	250.67	ug/L	98
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	556907	51.44	ug/L	99
23) 2,2-Dichloropropane	77	8.770	8.758	0.880	614528	56.67	ug/L	91
24) Bromochloromethane	128	9.007	9.007	0.904	166103	53.39	ug/L	97
25) Chloroform	83	9.042	9.042	0.907	596081	53.12	ug/L	99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	644397	56.63	ug/L	99
27) Cyclohexane	56	9.410	9.410	0.944	633705	46.66	ug/L	99
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	455441	52.41	ug/L	99
29) Carbon tetrachloride	117	9.517	9.517	0.955	573634	58.43	ug/L	100
31) 1,2-Dichloroethane	62	9.695	9.694	0.973	385734	46.55	ug/L	100
32) Benzene	78	9.718	9.706	0.975	1307333	51.38	ug/L	99
33) Cyclohexene	67	9.825	9.825	0.986	740755	54.83	ug/L	98
34) n-Butyl alcohol	41	10.062	10.062	1.010	575154	5772.04	ug/L	97
35) Trichloroethylene	95	10.359	10.347	1.039	349975	52.10	ug/L	99
36) 2-Pentanone	43	10.430	10.430	1.046	896053	241.27	ug/L	99
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	335875	51.35	ug/L	100
38) Methylcyclohexane	83	10.608	10.607	1.064	619222	48.64	ug/L	99
39) Dibromomethane	93	10.726	10.726	1.076	175987	52.24	ug/L	92
40) Bromodichloromethane	83	10.845	10.845	1.088	418325	53.76	ug/L	99
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	840746	256.38	ug/L	99
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	504146	55.05	ug/L	99

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I312.D
Acq On : 10 Sep 2020 00:27
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-10|ICV|1|VOA|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 10 19:10:33 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	472670	264.54	ug/L		96
46)	Toluene	91	11.687	11.687	0.890	1442440	52.34	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.841	11.841	0.902	433419	54.73	ug/L		99
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	203951	50.55	ug/L		99
49)	2-Hexanone	43	12.232	12.232	0.931	857064	254.06	ug/L		98
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	412322	50.90	ug/L		97
51)	Tetrachloroethylene	164	12.280	12.280	0.935	342049	55.50	ug/L		95
52)	Dibromochloromethane	129	12.517	12.517	0.953	315990	51.04	ug/L		100
53)	1,2-Dibromoethane	107	12.683	12.683	0.966	252253	53.33	ug/L		97
54)	Chlorobenzene	112	13.169	13.169	1.003	945014	51.77	ug/L		100
55)	1,1,1,2-Tetrachloroethane	131	13.228	13.228	1.007	386673	54.32	ug/L		98
56)	Ethylbenzene	91	13.228	13.228	1.007	1679892	52.70	ug/L		99
57)	m,p-Xylenes	106	13.347	13.347	1.016	1371213	110.43	ug/L		99
58)	o-Xylene	106	13.774	13.774	1.049	692335	53.68	ug/L		100
59)	Styrene	104	13.774	13.774	1.049	1105622	55.14	ug/L		98
61)	Bromoform	173	14.035	14.035	0.903	200769	49.35	ug/L		99
62)	Isopropylbenzene	105	14.130	14.129	0.909	1890112	55.74	ug/L		99
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	309278	51.21	ug/L		99
65)	1,2,3-Trichloropropane	110	14.497	14.497	0.933	89447	51.74	ug/L	#	87
66)	Bromobenzene	156	14.533	14.533	0.935	457934	52.97	ug/L		96
67)	n-Propylbenzene	91	14.557	14.556	0.937	2086690	51.77	ug/L		99
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1609331	53.55	ug/L		100
69)	2-Chlorotoluene	126	14.711	14.711	0.947	476500	54.98	ug/L		94
70)	4-Chlorotoluene	91	14.806	14.805	0.953	1210317	51.30	ug/L		99
71)	tert-Butylbenzene	134	15.078	15.078	0.970	354709	55.24	ug/L		93
72)	1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	1555880	51.91	ug/L		100
73)	sec-Butylbenzene	105	15.304	15.303	0.985	2185992	55.02	ug/L		97
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	1865594	54.28	ug/L		98
75)	1,3-Dichlorobenzene	146	15.482	15.481	0.996	896515	53.64	ug/L		98
76)	1,4-Dichlorobenzene	146	15.565	15.564	1.002	895109	52.82	ug/L		98
77)	n-Butylbenzene	91	15.861	15.861	1.021	1753118	53.26	ug/L		99
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	854371	53.47	ug/L		98
79)	1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	73995	50.20	ug/L		96
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	800493	56.50	ug/L		100
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	527435	58.69	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	1439100	52.63	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	750807	55.27	ug/L		99
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89)	tert-Butyl Alcohol		0.000	7.275	0.000	0	N.D.			
90)	Acrylonitrile		7.584	7.524	0.761	0m	N.D.	d		
91)	Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		8.058	8.200	0.808	0m	N.D.	d		
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		8.675	8.746	0.870	0m	N.D.	d		
96)	Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97)	Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.706	9.730	0.974	0m	N.D.	d		
100)	Methyl methacrylate		10.608	10.572	1.064	0m	N.D.	d		
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d		
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I312.D
Acq On : 10 Sep 2020 00:27
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-10|ICV|1|VOA|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 10 19:10:33 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

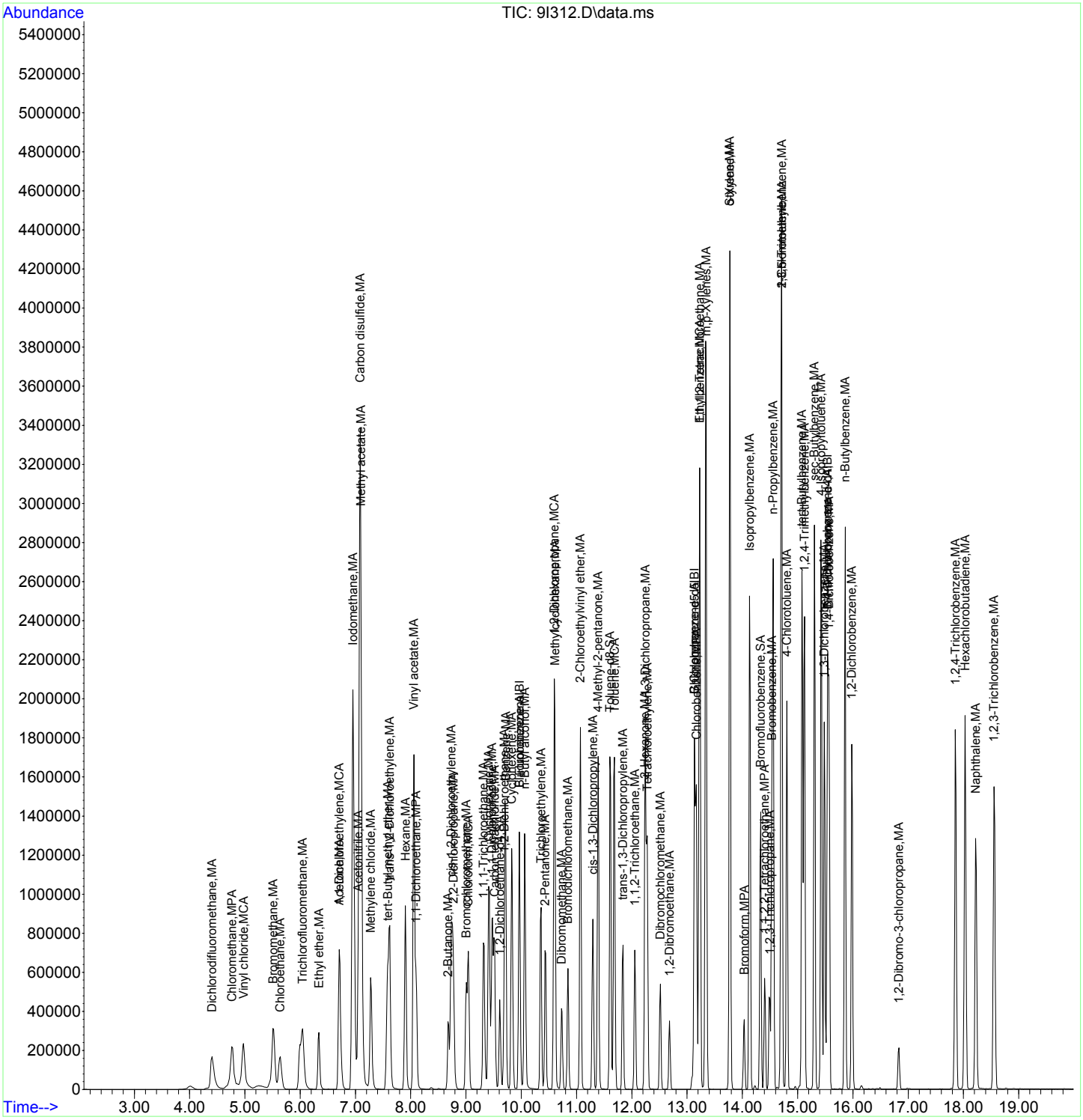
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.971	11.841	0.912	0m	N.D.	d
106) 1-Chlorohexane		13.134	13.039	0.845	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.557	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.149	15.149	0.975	0m	N.D.	d
111) Benzyl chloride		15.659	15.683	1.008	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I312.D
Acq On : 10 Sep 2020 00:27
Operator : JP1
InstName : VOA9
Sample : |W9VM200909-10|ICV|1|VOA|1|VOA8260BL|
Misc : ICV050 5UL/5ML N/A MIX[A]
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 10 19:10:33 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Continuing Calibration Summary

Client SDG: 2021-130

Instrument ID: VOA9.I **Injection Date:** 19-NOV-20 14:07

Data File: 111920V9\9S402.D **Init. Cal. Date(s)** 09-SEP-20 20:00 - 09-SEP-20 23:34

Lab Sample ID W9VM201119-01 **Method:** 090920V9\VOA9-8260-090920.M

Quant Type ISTD **Method Update:** 10-SEP-20 19:05

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type	
S	1,2-Dichloroethane-d4	0.2657	0.26337		.01		-0.87693	60		Averaged	
S	Toluene-d8	1.2119	1.18629		.01		-2.11321	60		Averaged	
S	Bromofluorobenzene	0.8167	0.70935		.01		-13.14436	60		Averaged	
	Chloromethane	0.438	0.39356		.1		-10.14612	60		Averaged	SPCC
	Vinyl chloride	0.4002	0.36701		.01		-8.29335	20		Averaged	CCC
	1,1-Dichloroethylene	0.4025	0.32701		.01		-18.75528	20		Averaged	CCC
	Methylene chloride	50	45.86	50			-8.28	60		Linear	
	1,1-Dichloroethane	0.4446	0.39599		.1		-10.93342	60		Averaged	SPCC
	Chloroform	0.4317	0.42128		.01		-2.41371	20		Averaged	CCC
	1,1,1-Trichloroethane	0.4378	0.40993		.01		-6.36592	60		Averaged	
	Carbon tetrachloride	0.3777	0.37274		.01		-1.31321	60		Averaged	
	1,2-Dichloroethane	0.3188	0.28357		.01		-11.05082	60		Averaged	
	Benzene	0.9789	0.90235		.01		-7.82	60		Averaged	
	Trichloroethylene	0.2584	0.24398		.01		-5.5805	60		Averaged	
	1,2-Dichloropropane	0.2517	0.22408		.01		-10.97338	20		Averaged	CCC
	Dibromomethane	0.1296	0.1364		.01		5.24691	60		Averaged	
	Toluene	1.2697	1.10774		.01		-12.75577	20		Averaged	CCC
	1,1,2-Trichloroethane	0.1859	0.17893		.01		-3.74933	60		Averaged	
	Tetrachloroethylene	0.2839	0.2858		.01		0.66925	60		Averaged	
	Chlorobenzene	0.8409	0.8036		.3		-4.43572	60		Averaged	SPCC
	Ethylbenzene	1.4686	1.29006		.01		-12.15716	20		Averaged	CCC
	m,p-Xylenes	0.572	0.54453		.01		-4.80245	60		Averaged	
	o-Xylene	0.5942	0.56681		.01		-4.60956	60		Averaged	
	Bromoform	50	50.8	50			1.6	60		Linear	SPCC
	1,1,2,2-Tetrachloroethane	0.4664	0.41771		.3		-10.43954	60		Averaged	SPCC

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S402.D
Acq On : 19 Nov 2020 14:07
Operator : WD1
InstName : VOA9
Sample : |W9VM201119-01|CCV|1|VOA|1|VOA8260|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

GEL 11/20/2020

Quant Time: Nov 19 14:29:46 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
Internal Standards									Dev(Min)
1) Fluorobenzene	96	9.955	9.967	1.000	1444383	50.00	ug/L		-0.01
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1275869	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	865998	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.955	9.967	1.000	1444383	50.00	ug/L		-0.01
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	1275869	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	865998	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.600	9.611	0.964	380400	49.55	ug/L		-0.01
45) Toluene-d8	98	11.604	11.604	0.884	1513546	48.94	ug/L		0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	614294	43.43	ug/L		-0.01
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue	
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	539549	56.43	ug/L		100
3) Chloromethane	50	4.761	4.761	0.478	568446	44.93	ug/L		99
4) Vinyl chloride	62	4.963	4.963	0.499	530098	45.85	ug/L		100
5) Bromomethane	94	5.508	5.508	0.553	461830	53.48	ug/L		98
6) Chloroethane	64	5.627	5.627	0.565	317844	46.25	ug/L		100
7) Trichlorofluoromethane	101	6.030	6.042	0.606	735111	49.15	ug/L		100
8) Ethyl ether	59	6.327	6.327	0.636	274259	53.73	ug/L		91
9) Acetone	43	6.694	6.694	0.672	353774	235.31	ug/L		97
10) 1,1-Dichloroethylene	61	6.706	6.706	0.674	472334	40.63	ug/L		93
11) Iodomethane	142	6.943	6.955	0.697	3790444	267.45	ug/L		95
12) Acetonitrile	41	7.050	7.050	0.708	893012	1170.98	ug/L		99
13) Methyl acetate	43	7.086	7.086	0.712	858624	244.68	ug/L		96
14) Carbon disulfide	76	7.074	7.086	0.711	5328112	216.94	ug/L		99
15) Methylene chloride	84	7.263	7.275	0.730	354228	45.86	ug/L		91
16) tert-Butyl methyl ether	73	7.572	7.584	0.761	907209	49.76	ug/L		97
17) trans-1,2-Dichloroethy...	61	7.607	7.619	0.764	460814	42.75	ug/L		89
18) Hexane	57	7.892	7.904	0.793	460118	42.03	ug/L		94
19) Vinyl acetate	43	8.046	8.058	0.808	3261781	256.28	ug/L		95
20) 1,1-Dichloroethane	63	8.094	8.093	0.813	571960	44.53	ug/L		99
21) 2-Butanone	43	8.663	8.675	0.870	544600	232.97	ug/L		94
22) cis-1,2-Dichloroethylene	61	8.722	8.734	0.876	540227	44.89	ug/L		91
23) 2,2-Dichloropropane	77	8.758	8.758	0.880	537402	44.59	ug/L		85
24) Bromochloromethane	128	8.995	9.007	0.904	202469	58.55	ug/L	#	80
25) Chloroform	83	9.030	9.042	0.907	608494	48.79	ug/L		99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.936	592100	46.82	ug/L		98
27) Cyclohexane	56	9.410	9.410	0.945	581621	38.53	ug/L		91
28) 1,1-Dichloropropene	75	9.469	9.469	0.951	417621	43.24	ug/L		93
29) Carbon tetrachloride	117	9.505	9.517	0.955	538381	49.34	ug/L		99
31) 1,2-Dichloroethane	62	9.683	9.694	0.973	409584	44.47	ug/L		99
32) Benzene	78	9.706	9.706	0.975	1303343	46.09	ug/L		99
33) Cyclohexene	67	9.825	9.825	0.987	626778	41.74	ug/L		99
34) n-Butyl alcohol	41	10.050	10.062	1.010	549243	4959.43	ug/L		92
35) Trichloroethylene	95	10.347	10.347	1.039	352397	47.21	ug/L		95
36) 2-Pentanone	43	10.430	10.430	1.048	928521	224.95	ug/L		93
37) 1,2-Dichloropropane	63	10.584	10.596	1.063	323655	44.52	ug/L		99
38) Methylcyclohexane	83	10.596	10.607	1.064	621649	43.94	ug/L		94
39) Dibromomethane	93	10.726	10.726	1.077	197017	52.62	ug/L	#	80
40) Bromodichloromethane	83	10.833	10.845	1.088	440710	50.96	ug/L		98
41) 2-Chloroethylvinyl ether	63	11.058	11.070	1.111	1019127	279.62	ug/L		96
42) cis-1,3-Dichloropropylene	75	11.284	11.295	1.133	502816	49.40	ug/L		94

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S402.D
Acq On : 19 Nov 2020 14:07
Operator : WD1
InstName : VOA9
Sample : |W9VM201119-01|CCV|1|VOA|1|VOA8260|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 14:29:46 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
44)	4-Methyl-2-pentanone	58	11.390	11.390	0.867	498569	237.36	ug/L		87
46)	Toluene	91	11.675	11.687	0.889	1413329	43.62	ug/L		99
47)	trans-1,3-Dichloroprop...	75	11.829	11.841	0.901	452558	48.61	ug/L		95
48)	1,1,2-Trichloroethane	83	12.054	12.054	0.918	228295	48.13	ug/L		94
49)	2-Hexanone	43	12.232	12.232	0.931	883291	222.72	ug/L		94
50)	1,3-Dichloropropane	76	12.244	12.244	0.932	444436	46.67	ug/L		89
51)	Tetrachloroethylene	164	12.268	12.280	0.934	364649	50.33	ug/L		89
52)	Dibromochloromethane	129	12.505	12.517	0.952	368168	50.59	ug/L		100
53)	1,2-Dibromoethane	107	12.671	12.683	0.965	302052	54.32	ug/L		97
54)	Chlorobenzene	112	13.157	13.169	1.002	1025293	47.78	ug/L		95
55)	1,1,1,2-Tetrachloroethane	131	13.216	13.228	1.006	436231	52.13	ug/L		97
56)	Ethylbenzene	91	13.228	13.228	1.007	1645948	43.92	ug/L		97
57)	m,p-Xylenes	106	13.335	13.347	1.015	1389493	95.19	ug/L		96
58)	o-Xylene	106	13.774	13.774	1.049	723171	47.69	ug/L		96
59)	Styrene	104	13.774	13.774	1.049	1191252	50.54	ug/L		97
61)	Bromoform	173	14.023	14.035	0.902	276555	50.80	ug/L		99
62)	Isopropylbenzene	105	14.130	14.129	0.909	1827125	40.28	ug/L		97
64)	1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	361737	44.78	ug/L		98
65)	1,2,3-Trichloropropane	110	14.485	14.497	0.932	114515	49.52	ug/L	#	73
66)	Bromobenzene	156	14.533	14.533	0.935	568845	49.19	ug/L	#	82
67)	n-Propylbenzene	91	14.556	14.556	0.937	2050114	38.03	ug/L		96
68)	1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1628863	40.52	ug/L		97
69)	2-Chlorotoluene	126	14.699	14.711	0.946	515271	44.45	ug/L	#	80
70)	4-Chlorotoluene	91	14.806	14.805	0.953	1269559	40.23	ug/L		92
71)	tert-Butylbenzene	134	15.078	15.078	0.970	367519	42.79	ug/L	#	86
72)	1,2,4-Trimethylbenzene	105	15.114	15.126	0.973	1680235	41.91	ug/L		98
73)	sec-Butylbenzene	105	15.304	15.303	0.985	2187582	41.17	ug/L		94
74)	4-Isopropyltoluene	119	15.422	15.422	0.992	1955272	42.53	ug/L		96
75)	1,3-Dichlorobenzene	146	15.481	15.481	0.996	1084353	48.51	ug/L		96
76)	1,4-Dichlorobenzene	146	15.564	15.564	1.002	1098282	48.46	ug/L		96
77)	n-Butylbenzene	91	15.849	15.861	1.020	1686343	38.30	ug/L		97
78)	1,2-Dichlorobenzene	146	15.980	15.979	1.028	1037833	48.56	ug/L		96
79)	1,2-Dibromo-3-chloropr...	157	16.821	16.833	1.082	97581	49.51	ug/L		86
80)	1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	917212	48.41	ug/L		100
81)	Hexachlorobutadiene	225	18.031	18.031	1.160	580345	48.28	ug/L		99
82)	Naphthalene	128	18.221	18.221	1.172	1783170	48.75	ug/L		100
83)	1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	916553	50.45	ug/L		98
85)	Acrolein		0.000	6.516	0.000	0	N.D.			
86)	Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87)	Isopropyl Alcohol		6.706	6.777	0.674	0m	N.D.	d		
88)	Allyl chloride		7.050	7.133	0.708	0m	N.D.	d		
89)	tert-Butyl Alcohol		7.275	7.275	0.731	0m	N.D.	d		
90)	Acrylonitrile		7.572	7.524	0.761	0m	N.D.	d		
91)	Isopropyl ether		8.046	8.082	0.808	0m	N.D.	d		
92)	2-Chloro-1,3-butadiene		8.046	8.200	0.808	0m	N.D.	d		
93)	Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94)	Ethyl acetate		8.663	8.687	0.870	0m	N.D.	d		
95)	Propionitrile		8.663	8.746	0.870	0m	N.D.	d		
96)	Methacrylonitrile		8.758	8.924	0.880	0m	N.D.	d		
97)	Tetrahydrofuran		9.042	9.054	0.908	0m	N.D.	d		
98)	Isobutyl alcohol		9.410	9.374	0.945	0m	N.D.	d		
99)	Methyl tert-amyl ether		9.706	9.730	0.975	0m	N.D.	d		
100)	Methyl methacrylate		10.596	10.572	1.064	0m	N.D.	d		
101)	1,4-Dioxane		10.714	10.679	1.076	0m	N.D.	d		
102)	2-Nitropropane		11.058	11.046	1.111	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S402.D
Acq On : 19 Nov 2020 14:07
Operator : WD1
InstName : VOA9
Sample : |W9VM201119-01|CCV|1|VOA|1|VOA8260|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 14:29:46 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

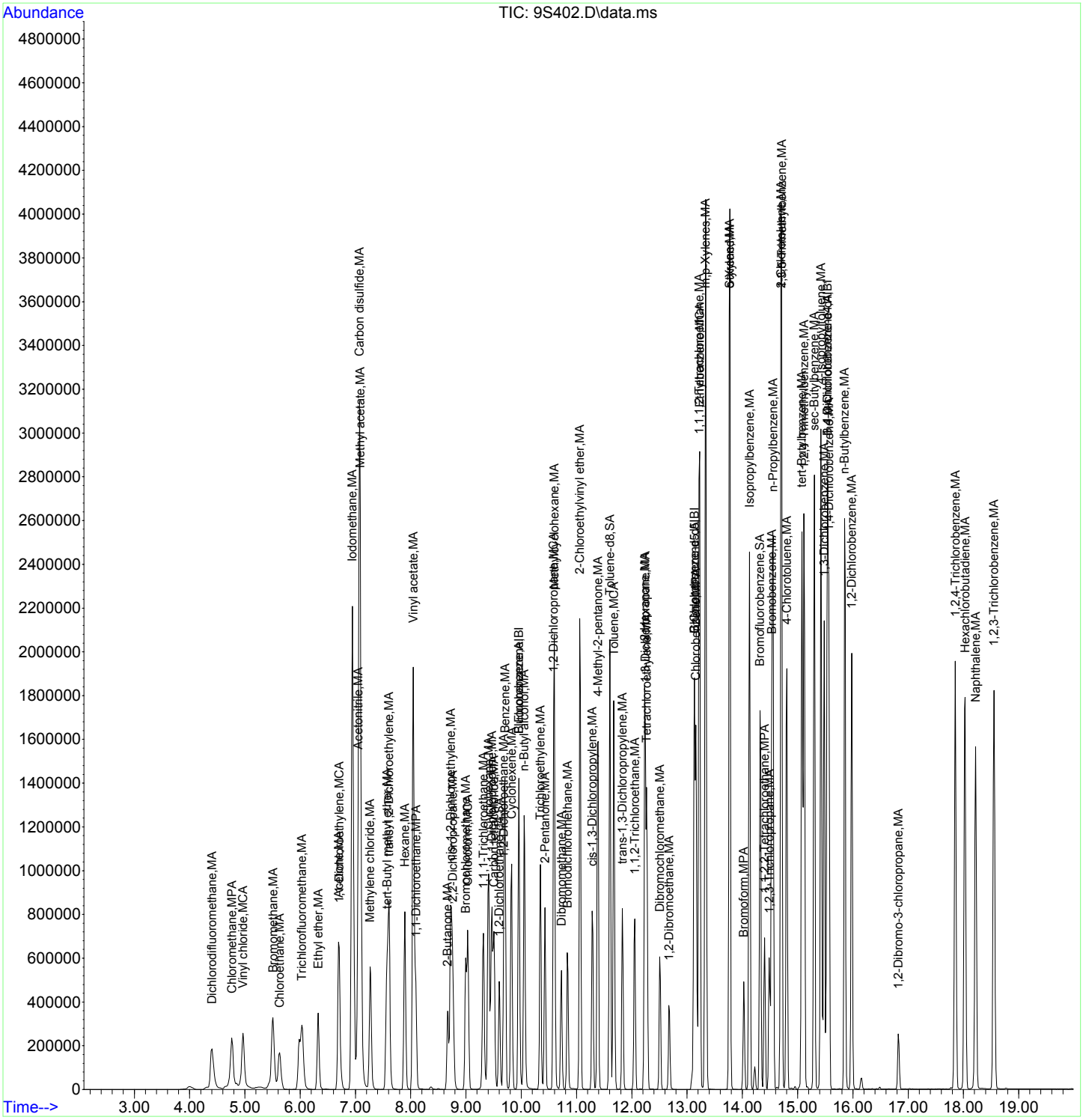
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
104) Ethyl methacrylate		11.841	11.841	0.902	0m	N.D.	d
106) 1-Chlorohexane		13.122	13.039	0.844	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108) Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.	d
110) Pentachloroethane		15.138	15.149	0.974	0m	N.D.	d
111) Benzyl chloride		15.659	15.683	1.008	0m	N.D.	d
112) bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S402.D
Acq On : 19 Nov 2020 14:07
Operator : WD1
InstName : VOA9
Sample : |W9VM201119-01|CCV|1|VOA|1|VOA8260|
Misc : CCV 5UL/5ML N/A MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 14:29:46 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Quality Control Data

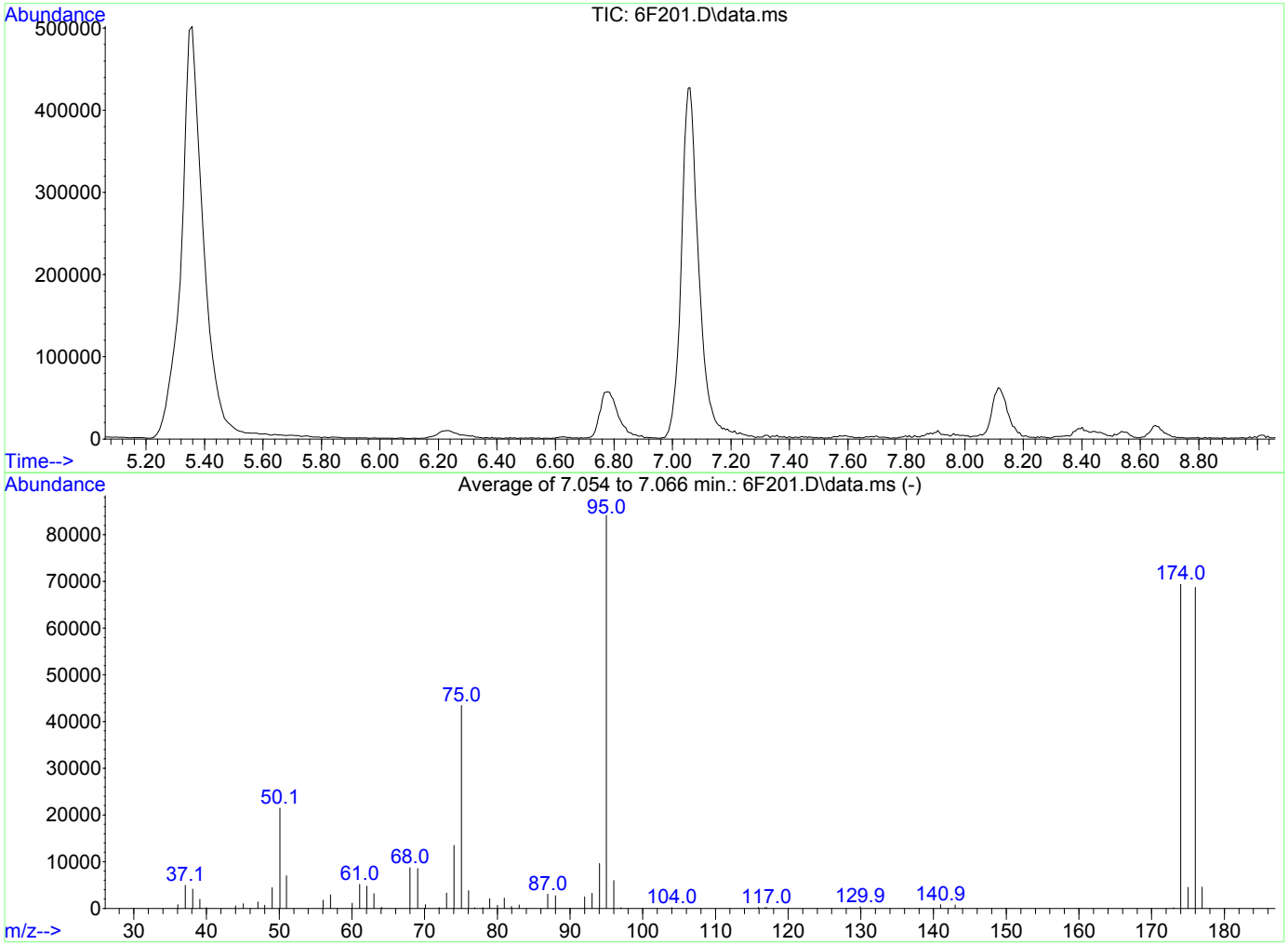
MEL

Tune Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102020V6\ 10/21/2020
Data File : 6F201.D
Acq On : 20 Oct 2020 13:12
Operator : MXL2
Sample : |IVM201012-01|BFB|1|VOAF|1|VOA8260BL|
Misc : BFB 1UL/10ML N/A
ALS Vial : 1 Sample Multiplier: 1 10/21/2020

Integration File:

Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Title : Volatile Organics SubList :
Last Update : Wed Oct 21 15:27:57 2020



Spectrum Information: Average of 7.054 to 7.066 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.5	21440	PASS
75	95	30	60	51.6	43443	PASS
95	95	100	100	100.0	84200	PASS
96	95	5	9	7.1	5967	PASS
173	174	0.00	2	0.3	180	PASS
174	95	50	100	82.4	69392	PASS
175	174	5	9	6.5	4488	PASS
176	174	95	101	99.1	68741	PASS
177	176	5	9	6.6	4538	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Tune Report
GEL Laboratories, LLC

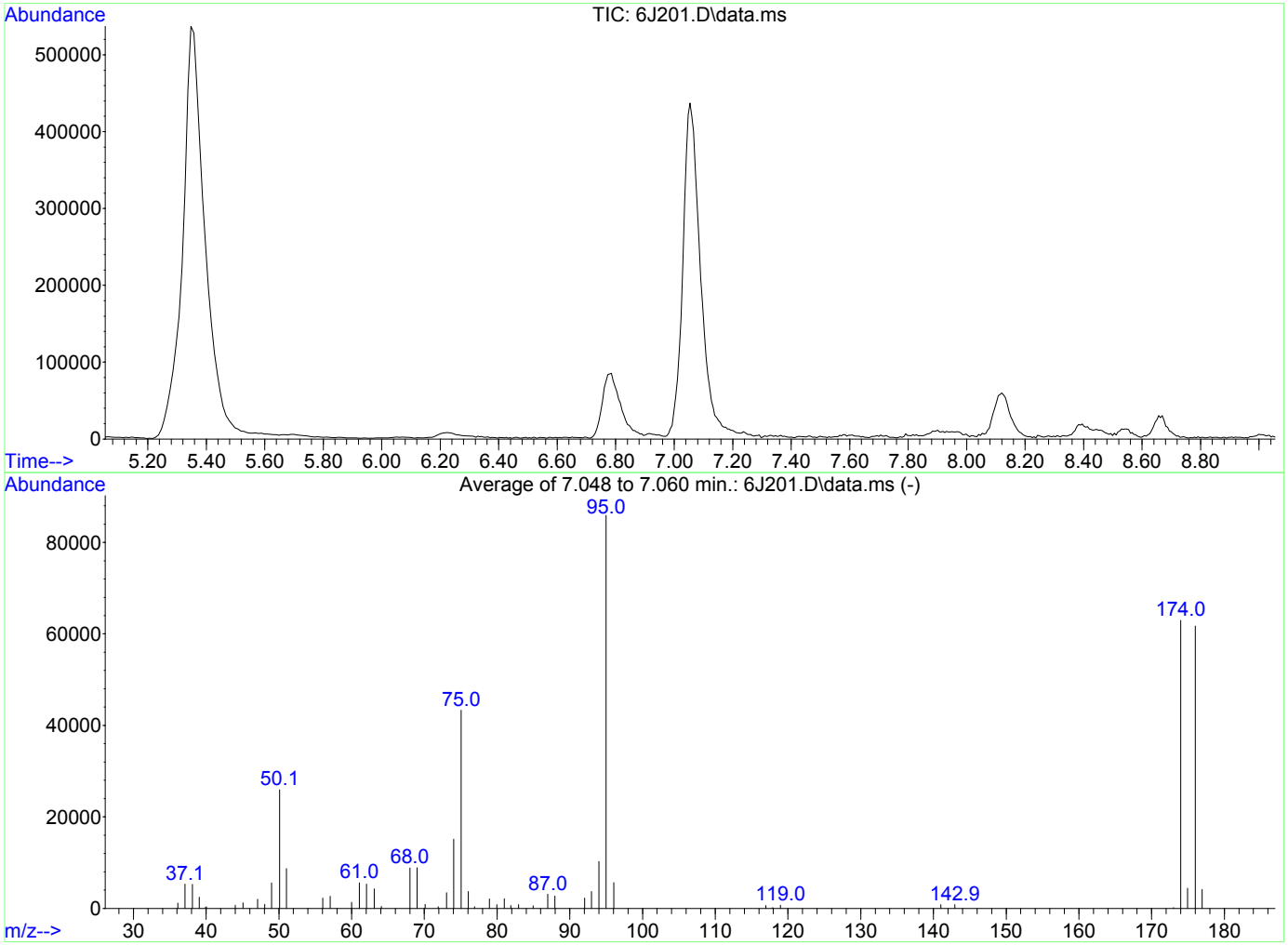
WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J201.D
Acq On : 17 Nov 2020 09:27
Operator : WD1
Sample : |IVM201112-01|BFB|1|VOAF|1|VOA8260BL|
Misc : BFB 1UL/10ML N/A
ALS Vial : 1 Sample Multiplier: 1

EH 11/20/2020

Integration File: default.P

Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Title : Volatile Organics SubList :
Last Update : Wed Oct 21 15:27:57 2020



AutoFind: Scans 360, 361, 362; Background Corrected with Scan 345

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	30.1	25912	PASS
75	95	30	60	50.4	43328	PASS
95	95	100	100	100.0	85955	PASS
96	95	5	9	6.6	5644	PASS
173	174	0.00	2	0.3	175	PASS
174	95	50	100	73.3	62976	PASS
175	174	5	9	7.0	4420	PASS
176	174	95	101	98.1	61752	PASS
177	176	5	9	6.7	4118	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Tune Report
GEL Laboratories, LLC

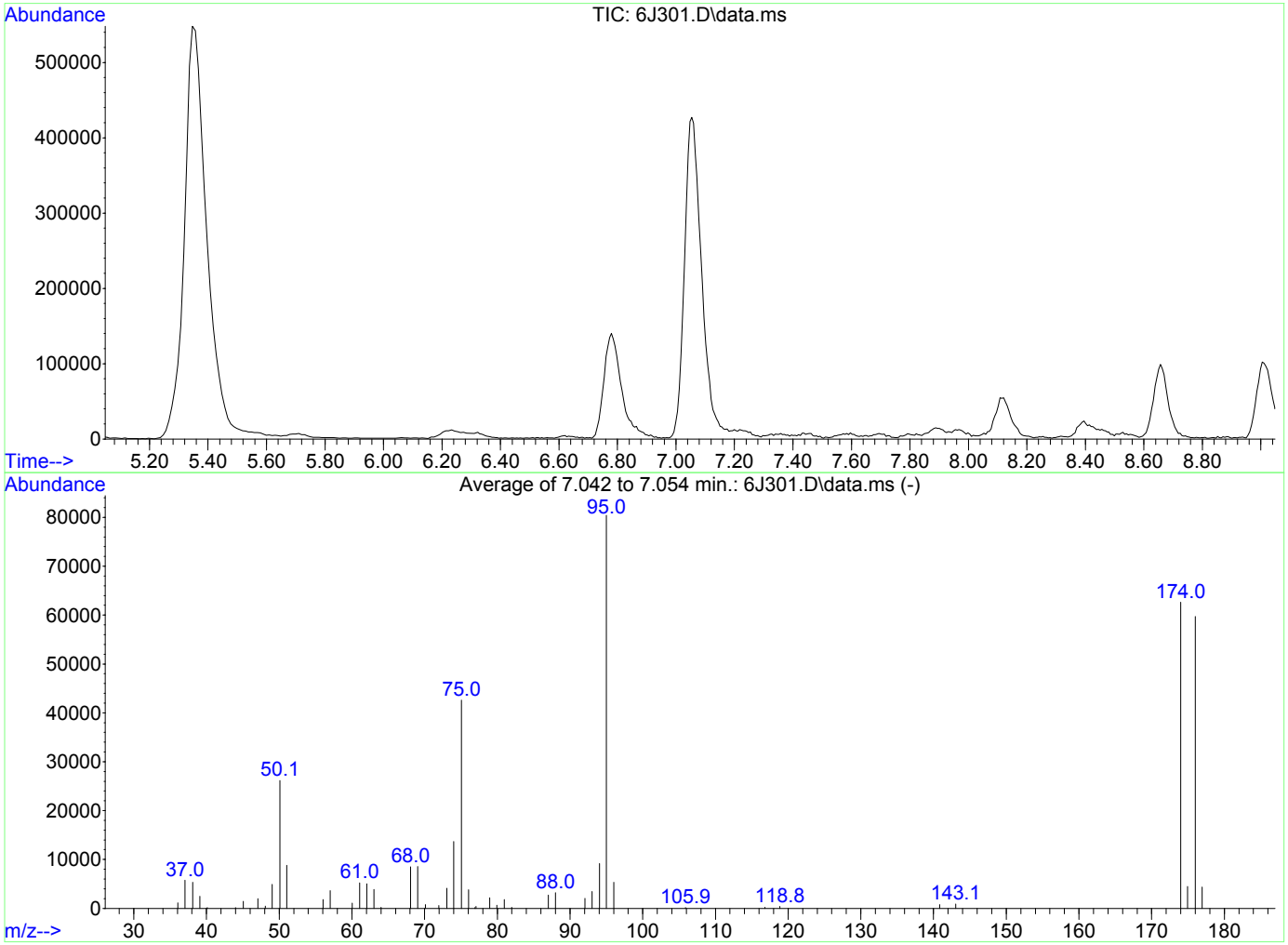
WMD 11/20/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J301.D
Acq On : 18 Nov 2020 10:19
Operator : WD1
Sample : |IVM201112-01|BFB|1|VOAF|1|VOA8260BL|
Misc : BFB 1UL/10ML N/A
ALS Vial : 1 Sample Multiplier: 1

EH 11/20/2020

Integration File: default.P

Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Title : Volatile Organics SubList :
Last Update : Wed Oct 21 15:27:57 2020



AutoFind: Scans 359, 360, 361; Background Corrected with Scan 346

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	32.5	26181	PASS
75	95	30	60	53.0	42613	PASS
95	95	100	100	100.0	80448	PASS
96	95	5	9	6.6	5331	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	77.8	62608	PASS
175	174	5	9	7.2	4493	PASS
176	174	95	101	95.3	59688	PASS
177	176	5	9	7.3	4361	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

JP
09/10/2020

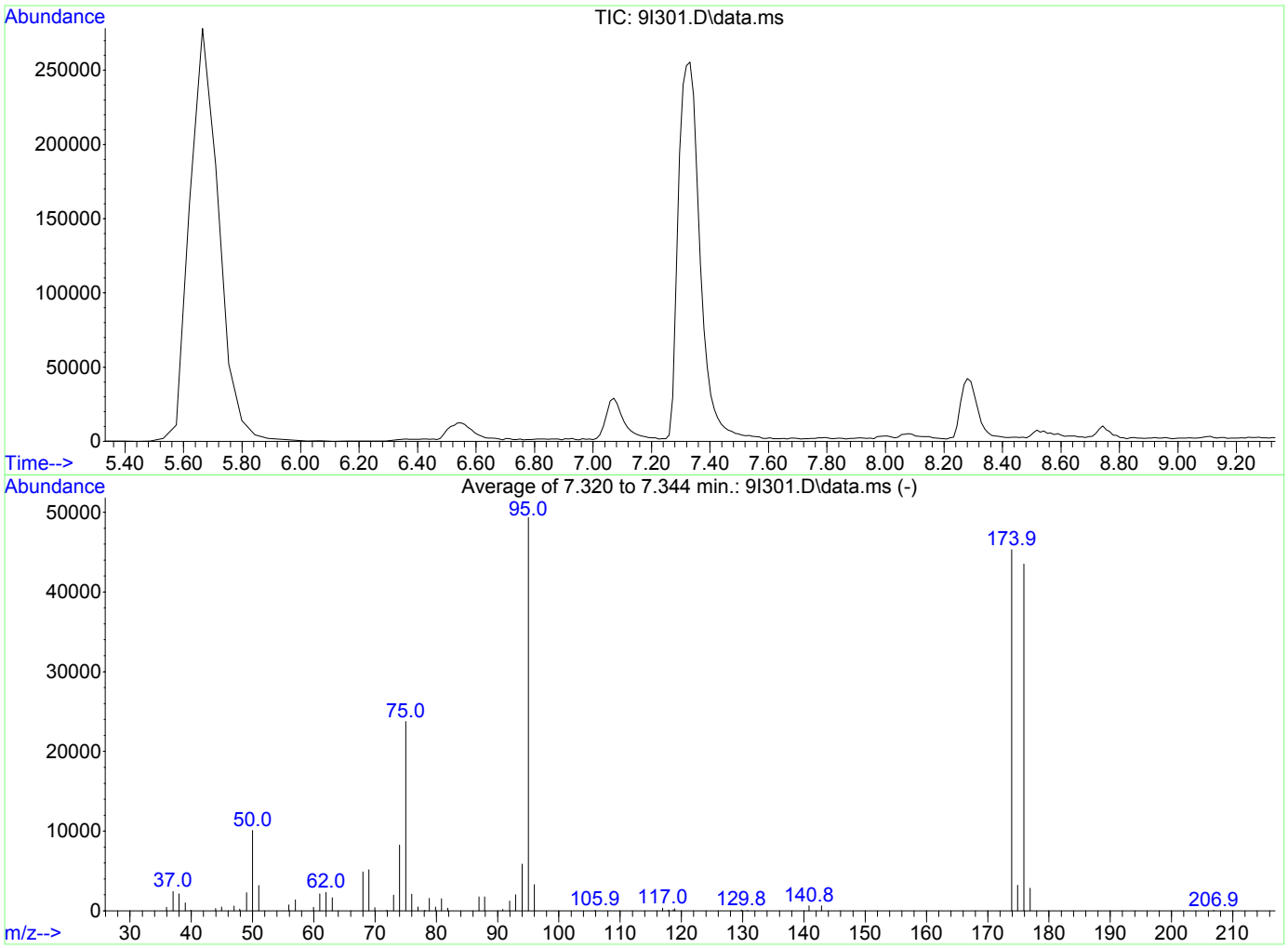
Tune Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\090920V9\
Data File : 9I301.D
Acq On : 09 Sep 2020 19:34
Operator : JP1
Sample : |IVM200814-01|BFB|1|VOA|1|VOA8260BL|
Misc : GEL 5mL n/a
ALS Vial : 1 Sample Multiplier: 1

GH
09/21/2020

Integration File:

Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Title : Volatile Organics SubList :
Last Update : Thu Sep 10 19:05:57 2020



AutoFind: Scans 179, 180, 181; Background Corrected with Scan 171

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.4	10077	PASS
75	95	30	60	48.1	23739	PASS
95	95	100	100	100.0	49325	PASS
96	95	5	9	6.6	3274	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	91.8	45283	PASS
175	174	5	9	7.1	3231	PASS
176	174	95	101	96.0	43485	PASS
177	176	5	9	6.5	2833	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Tune Report
GEL Laboratories, LLC

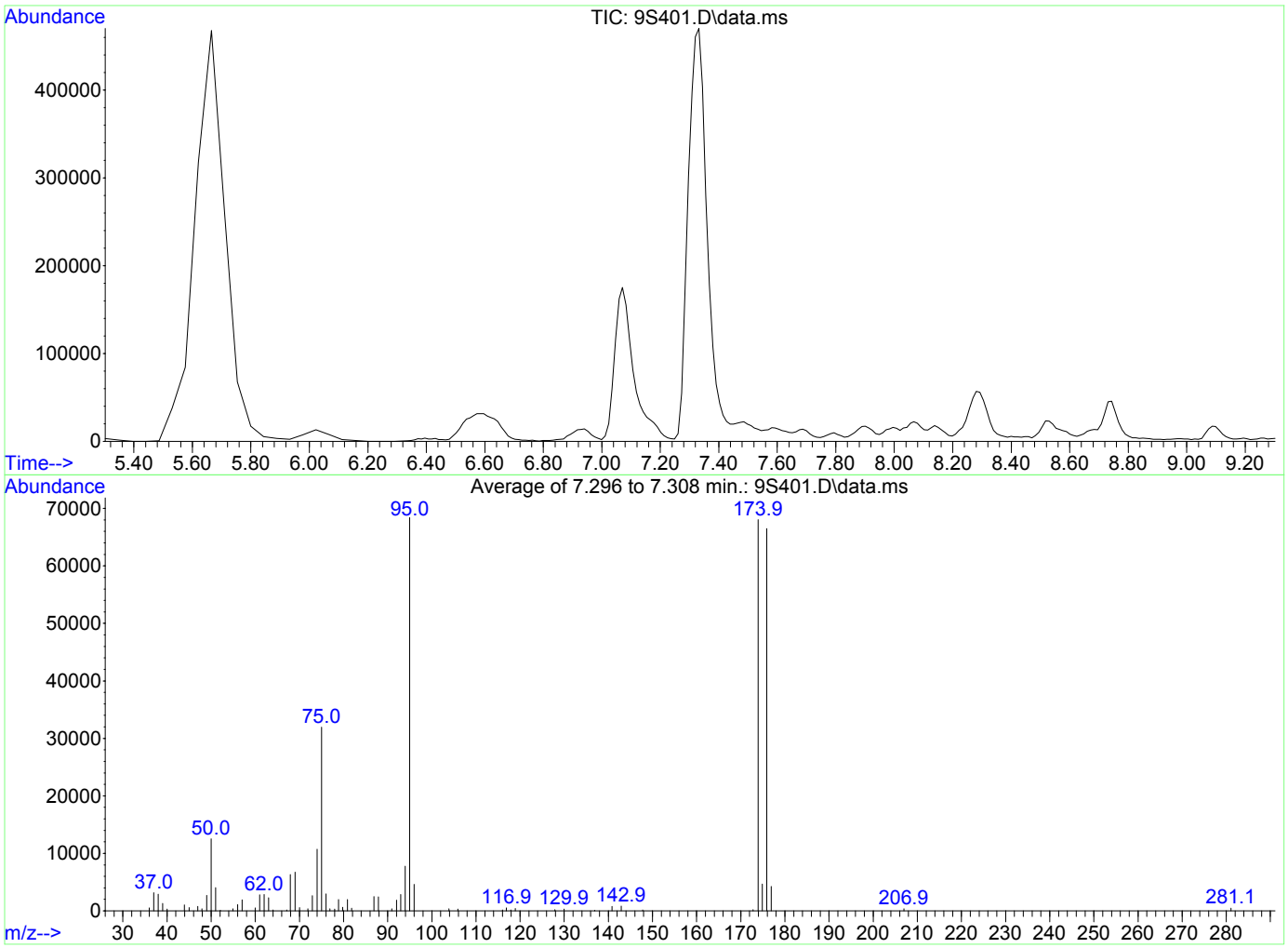
WMD 11/20/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S401.D
Acq On : 19 Nov 2020 13:43
Operator : WD1
Sample : |IVM201112-01|BFB|1|VOA|1|VOA8260BL|
Misc : GEL 1UL/10ML N/A
ALS Vial : 1 Sample Multiplier: 1

EH 11/20/2020

Integration File: ron.P

Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Title : Volatile Organics SubList :
Last Update : Thu Sep 10 19:05:57 2020



Spectrum Information: Average of 7.296 to 7.308 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	12511	PASS
75	95	30	60	46.7	31928	PASS
95	95	100	100	100.0	68404	PASS
96	95	5	9	6.7	4615	PASS
173	174	0.00	2	0.3	197	PASS
174	95	50	100	99.5	68052	PASS
175	174	5	9	6.9	4673	PASS
176	174	95	101	97.7	66476	PASS
177	176	5	9	6.4	4271	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**			**Matrix:**	**WATER**
Lab Sample ID:	**1204696631**				
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2063772**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 11:35**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 11:35**				
Data File:	**111720V6\6J206A.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	51.2	50.0	ug/L	102	(71%-134%)
Bromofluorobenzene	52.8	50.0	ug/L	106	(70%-131%)
Toluene-d8	51.0	50.0	ug/L	102	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
InstName : VOA6
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

GEL 11/20/2020

Quant Time: Nov 20 09:32:50 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	2005499	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.641	12.635	1.000	1433569	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	768461	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	2005499	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.641	12.641	1.000	1434334	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	768945	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	724007	51.18	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1995760	50.98	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	777313	52.83	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	102%
45) Toluene-d8	50.000	74 - 124	102%
63) Bromofluorobenzene	50.000	70 - 131	106%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane	50	4.474	4.338	0.474	2399	N.D.		
4) Vinyl chloride		0.000	4.522	0.000	0	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.184	6.179	0.655	4789	N.D.		
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0	N.D.		
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.556	6.526	0.695	1863	N.D.		
13) Methyl acetate	43	6.569	6.563	0.696	610	N.D.		
14) Carbon disulfide	76	6.526	6.538	0.691	1463	N.D.		
15) Methylene chloride	84	6.739	6.739	0.714	3169	Below Cal	#	69
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.361	7.355	0.780	649	N.D.		
19) Vinyl acetate	43	7.581	7.532	0.803	996	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.190	8.160	0.868	5405	N.D.		
22) cis-1,2-Dichloroethylene	61	8.184	8.197	0.867	246	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform		0.000	8.514	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane	56	8.849	8.867	0.937	170	N.D.		
28) 1,1-Dichloropropene		0.000	8.940	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.159	9.172	0.970	670	N.D.		
32) Benzene	78	9.184	9.178	0.973	635	N.D.		
33) Cyclohexene		0.000	9.288	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene		0.000	9.830	0.000	0	N.D.		
36) 2-Pentanone	43	9.946	9.928	1.054	1877	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
InstName : VOA6
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 20 09:32:50 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
39) Dibromomethane		0.000	10.214	0.000	0	N.D.		
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.		
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.		
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.		
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	252	N.D.		
46) Toluene	91	11.171	11.172	0.884	989	N.D.		
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.		
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.		
49) 2-Hexanone	43	11.781	11.751	0.932	864	N.D.		
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.		
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.		
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.		
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.		
54) Chlorobenzene	112	12.653	12.671	1.001	247	N.D.		
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.		
56) Ethylbenzene	91	12.738	12.738	1.008	621	N.D.		
57) m,p-Xylenes		0.000	12.848	0.000	0	N.D.		
58) o-Xylene	91	13.299	13.287	1.052	364	N.D.		
59) Styrene		0.000	13.293	0.000	0m	N.D.	d	
61) Bromoform		0.000	13.543	0.000	0	N.D.		
62) Isopropylbenzene	105	13.646	13.647	0.906	390	N.D.		
64) 1,1,2,2-Tetrachloroethane	83	13.939	13.933	0.925	829	N.D.		
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.		
66) Bromobenzene		0.000	14.049	0.000	0	N.D.		
67) n-Propylbenzene	91	14.073	14.079	0.934	495	N.D.		
68) 1,3,5-Trimethylbenzene	105	14.244	14.238	0.945	452	N.D.		
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.		
70) 4-Chlorotoluene	91	14.335	14.323	0.951	1019	N.D.		
71) tert-Butylbenzene	134	14.610	14.604	0.970	116	N.D.		
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	929	N.D.		
73) sec-Butylbenzene	105	14.829	14.829	0.984	351	N.D.		
74) 4-Isopropyltoluene	119	14.963	14.957	0.993	925	N.D.		
75) 1,3-Dichlorobenzene	146	15.012	15.006	0.996	776	N.D.		
76) 1,4-Dichlorobenzene	146	15.067	15.091	1.000	718	N.D.		
77) n-Butylbenzene	91	15.390	15.384	1.021	1238	N.D.		
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1469	N.D.		
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.		
80) 1,2,4-Trichlorobenzene	180	17.304	17.292	1.148	5387	N.D.		
81) Hexachlorobutadiene	225	17.463	17.457	1.159	1700	N.D.		
82) Naphthalene	128	17.646	17.646	1.171	21991	0.58	ug/L	95
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	11202	0.67	ug/L	99
85) Acrolein	56	6.002	6.008	0.636	267	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol	45	6.270	6.270	0.664	2816	N.D.		
88) Allyl chloride	41	6.556	6.593	0.695	1863	N.D.		
89) tert-Butyl Alcohol	59	6.758	6.758	0.716	2952	N.D.		
90) Acrylonitrile	53	7.014	7.001	0.743	1243	N.D.		
91) Isopropyl ether		0.000	7.544	0.000	0	N.D.		
92) 2-Chloro-1,3-butadiene	53	7.672	7.666	0.813	187	N.D.		
93) Ethyl tert-butyl ether	59	7.855	7.952	0.832	655	N.D.		
94) Ethyl acetate	43	8.190	8.172	0.868	5405	N.D.		
95) Propionitrile	54	8.257	8.233	0.875	319	N.D.		
96) Methacrylonitrile	41	8.525	8.410	0.903	1597	N.D.		
97) Tetrahydrofuran	42	8.525	8.519	0.903	2593	N.D.		
98) Isobutyl alcohol	41	8.873	8.867	0.940	2128	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
InstName : VOA6
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 20 09:32:50 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

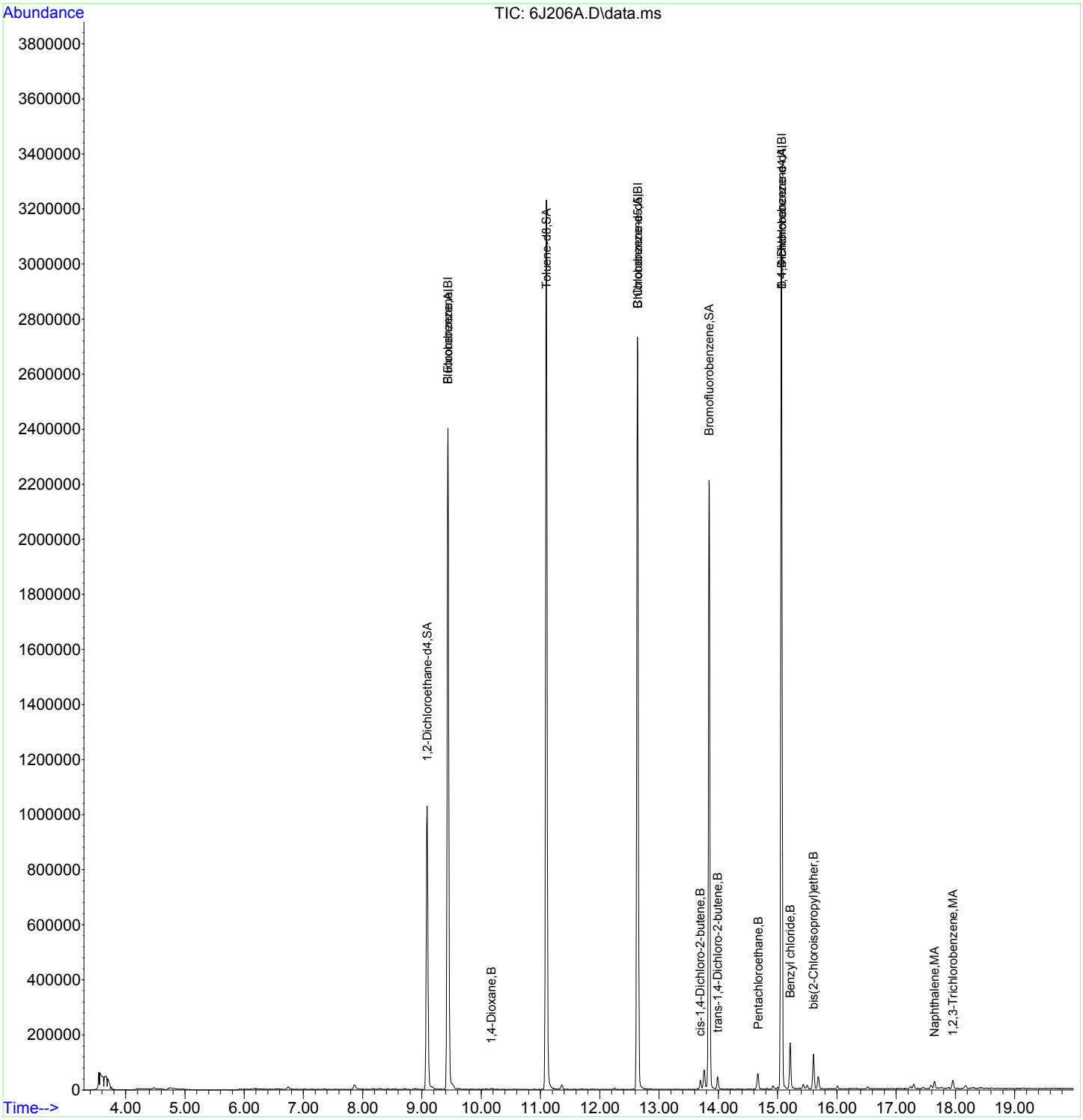
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
99)	Methyl tert-amyl ether		0.000	9.208	0.000	0	N.D.		
100)	Methyl methacrylate	69	10.068	10.068	1.067	672	N.D.		
101)	1,4-Dioxane	88	10.171	10.172	1.077	2563	25.19	ug/L	78
102)	2-Nitropropane		0.000	10.550	0.000	0m	N.D.	d	
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.		
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d	
107)	cis-1,4-Dichloro-2-butene	53	13.695	13.695	0.909	10975	6.20	ug/L	71
108)	Cyclohexanone	42	13.805	13.799	0.916	4065	N.D.		
109)	trans-1,4-Dichloro-2-b...	53	13.988	13.988	0.928	13828	6.80	ug/L #	72
110)	Pentachloroethane	167	14.671	14.671	0.974	8672	3.68	ug/L #	50
111)	Benzyl chloride	91	15.213	15.213	1.010	115909	7.65	ug/L	97
112)	bis(2-Chloroisopropyl)...	45	15.603	15.603	1.036	90277	14.06	ug/L	87

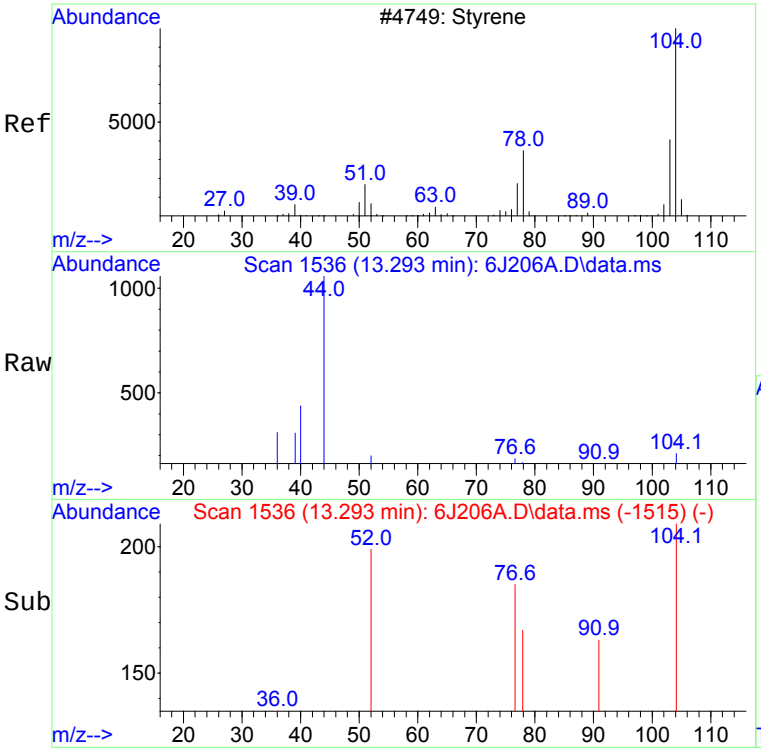
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
InstName : VOA6
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 20 09:32:50 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

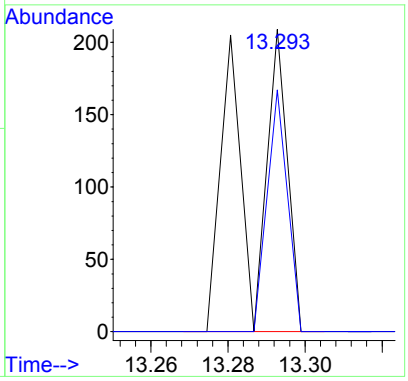


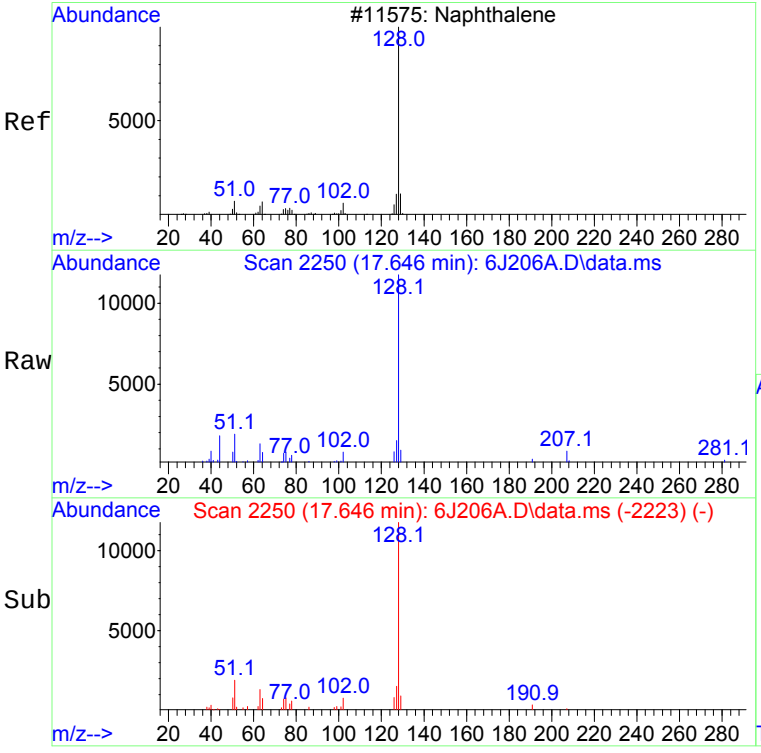


#59 BEFORE analyst DELETION
Styrene
Concen: 0.86 ug/L
RT: 13.293 min Scan# 1536
Delta R.T. -0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion:104 Resp: 151

Ion	Ratio	Lower	Upper
104	100		
78	0.0	22.7	82.7#

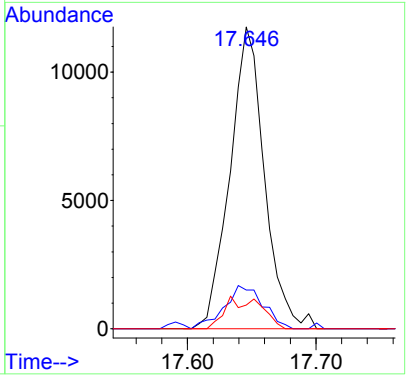


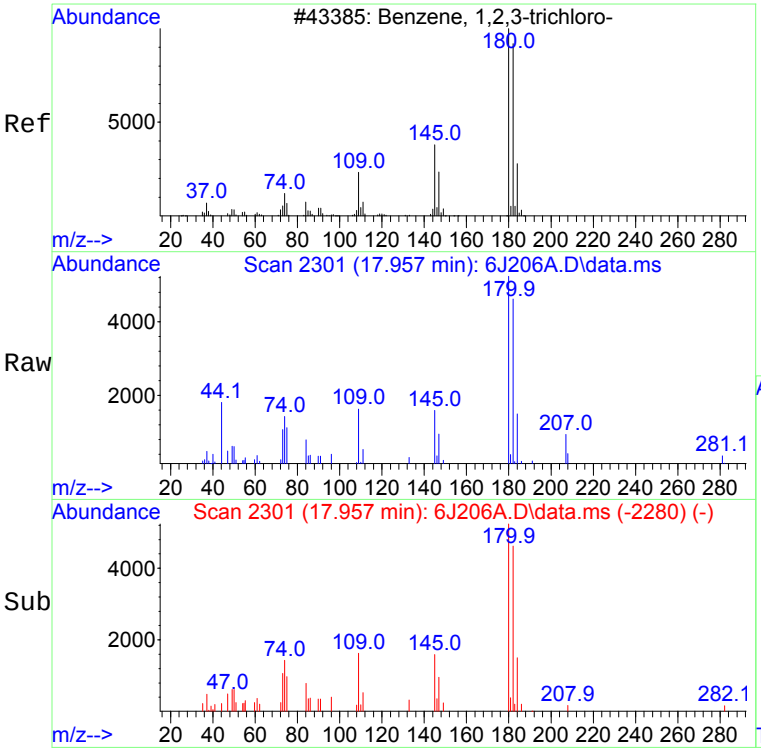


#82
Naphthalene
Concen: 0.58 ug/L
RT: 17.646 min Scan# 2250
Delta R.T. -0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion:128 Resp: 21991

Ion	Ratio	Lower	Upper
128	100		
127	16.1	0.0	42.4
129	11.0	0.0	40.9

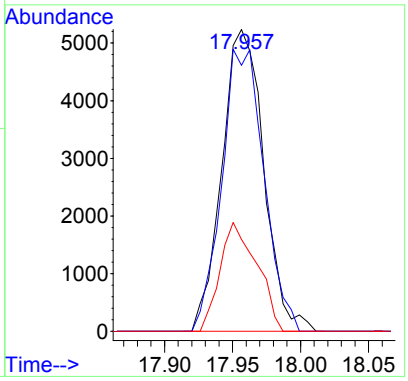


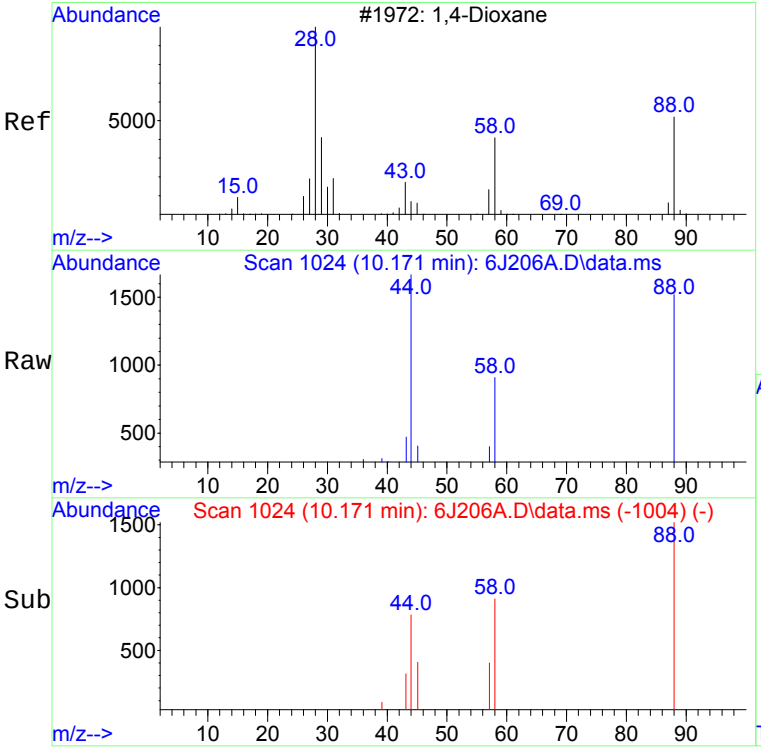


#83
1,2,3-Trichlorobenzene
Concen: 0.67 ug/L
RT: 17.957 min Scan# 2301
Delta R.T. -0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion:180 Resp: 11202

Ion	Ratio	Lower	Upper
180	100		
182	93.8	65.3	125.3
145	31.9	1.5	61.5

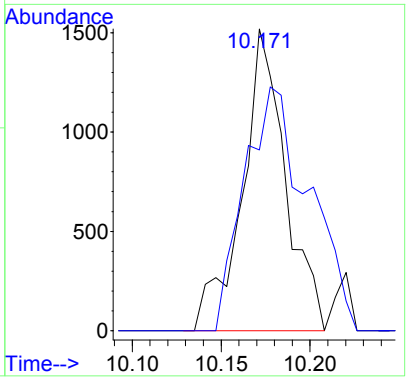


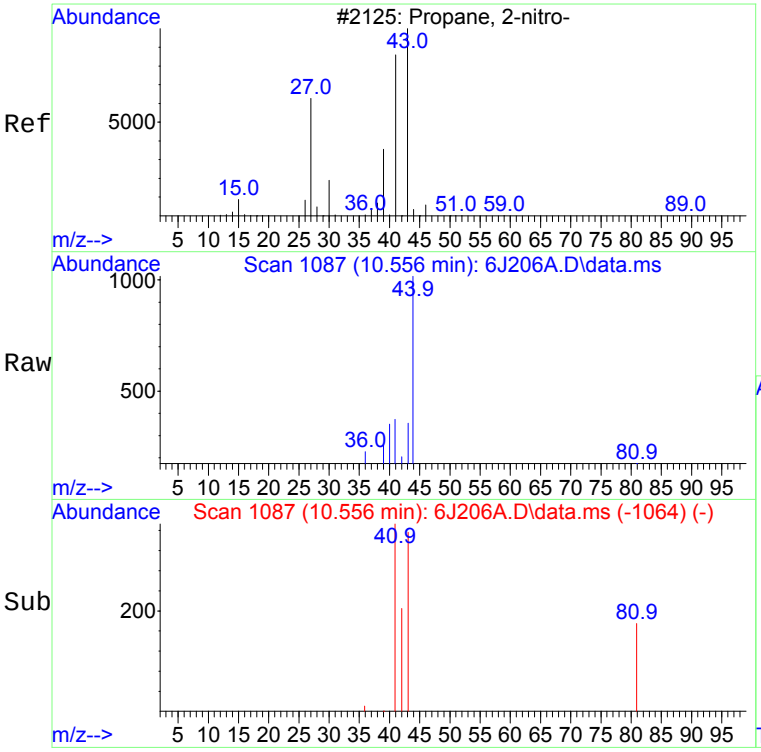


#101
1,4-Dioxane
Concen: 25.19 ug/L
RT: 10.171 min Scan# 1024
Delta R.T. -0.001 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 88 Resp: 2563

Ion	Ratio	Lower	Upper
88	100		
58	120.5	68.7	128.7

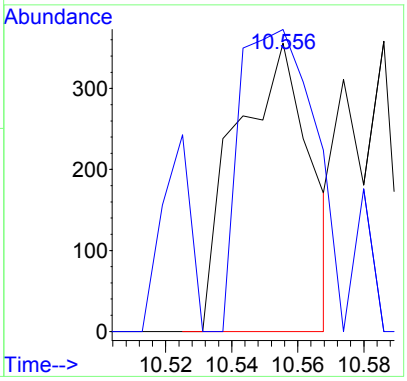


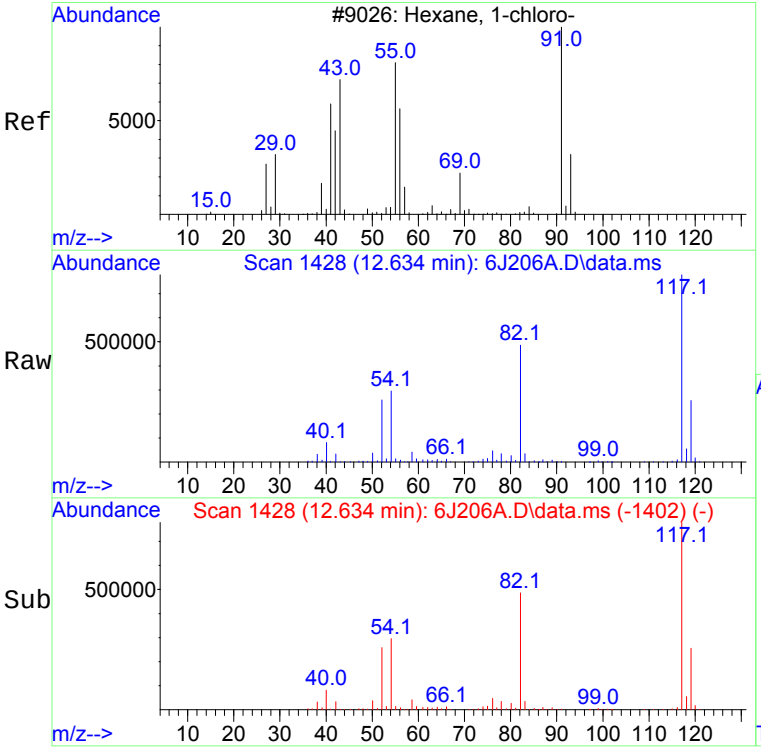


#102 BEFORE analyst DELETION
2-Nitropropane
Concen: 4.43 ug/L
RT: 10.556 min Scan# 1087
Delta R.T. 0.006 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 43 Resp: 560

Ion	Ratio	Lower	Upper
43	100		
41	117.0	52.3	112.3#

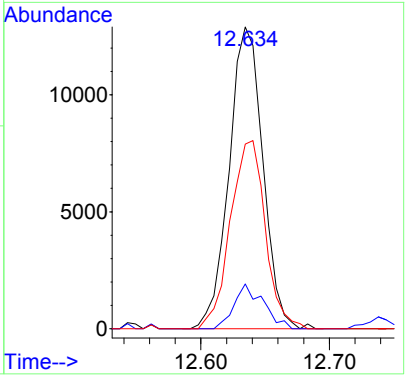


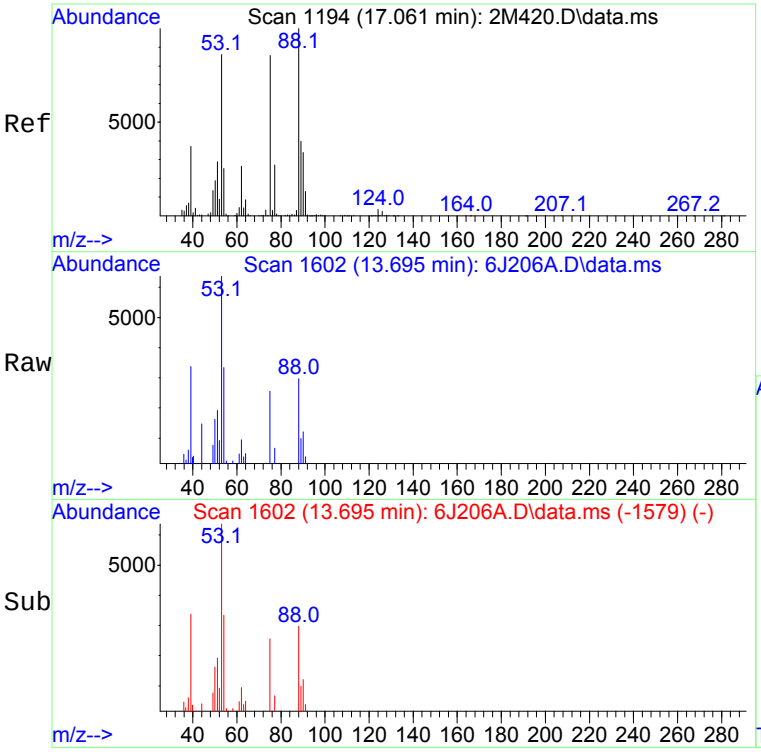


#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.78 ug/L
RT: 12.634 min Scan# 1428
Delta R.T. 0.085 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 55 Resp: 23643

Ion	Ratio	Lower	Upper
55	100		
91	12.8	65.1	125.1#
56	64.3	30.4	90.4

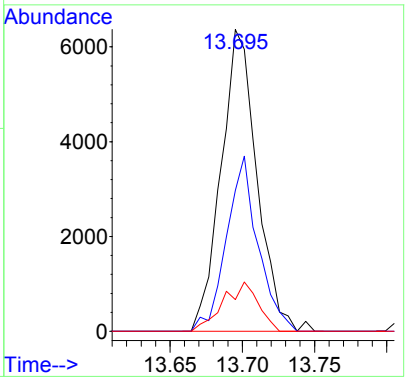


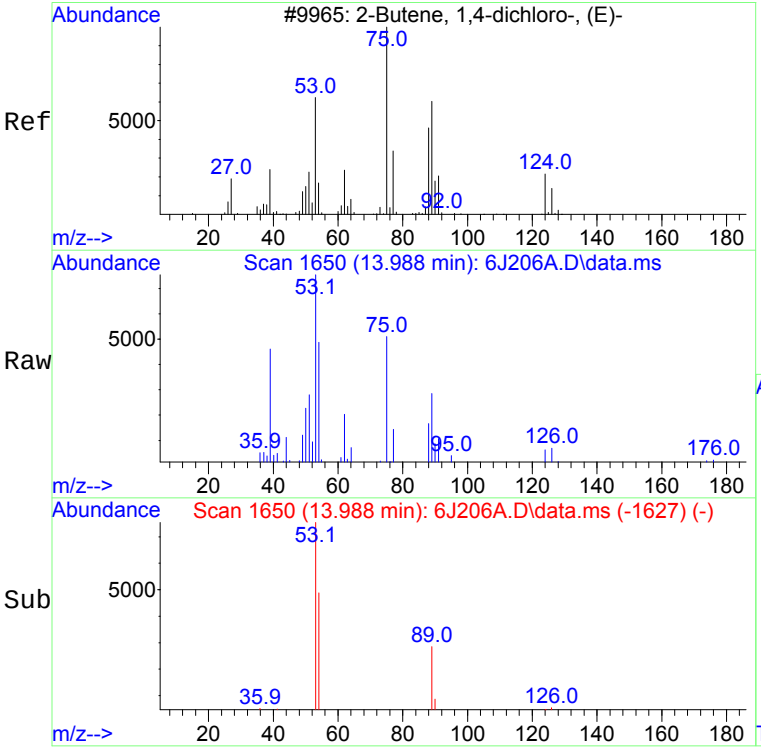


#107
cis-1,4-Dichloro-2-butene
Concen: 6.20 ug/L
RT: 13.695 min Scan# 1602
Delta R.T. 0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 53 Resp: 10975

Ion	Ratio	Lower	Upper
53	100		
88	50.9	50.1	110.1
77	16.0	0.0	54.4

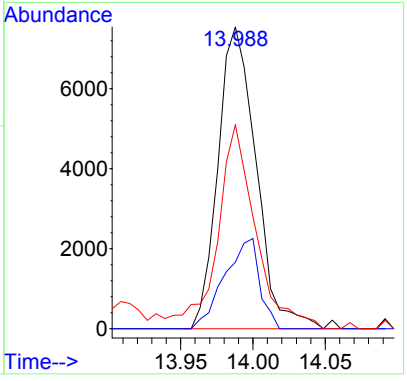


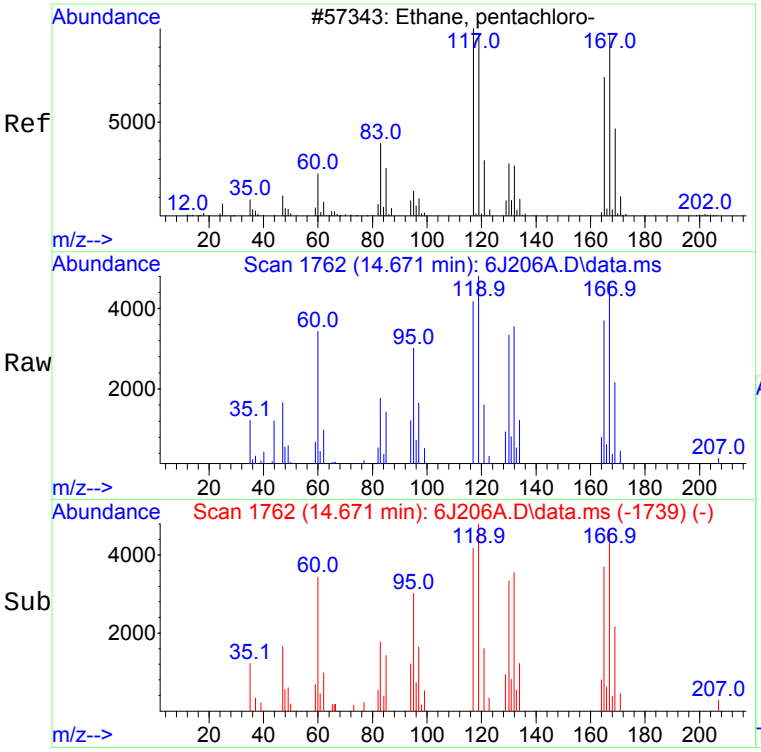


#109
trans-1,4-Dichloro-2-butene
Concen: 6.80 ug/L
RT: 13.988 min Scan# 1650
Delta R.T. -0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 53 Resp: 13828

Ion	Ratio	Lower	Upper
53	100		
88	27.4	7.9	67.9
75	64.1	65.4	125.4#

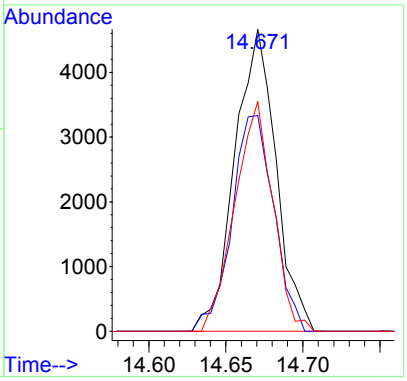


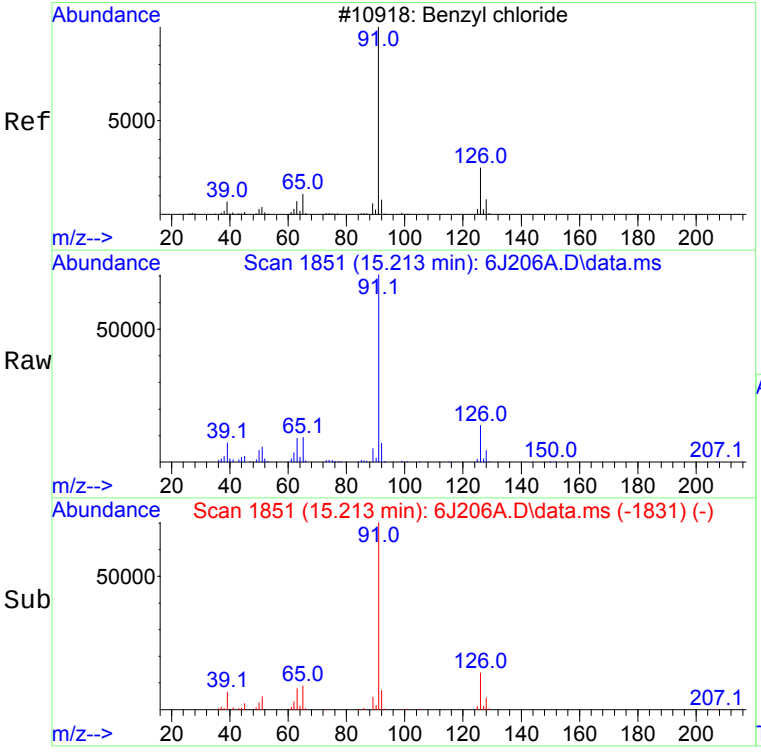


#110
Pentachloroethane
Concen: 3.68 ug/L
RT: 14.671 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion:167 Resp: 8672

Ion	Ratio	Lower	Upper
167	100		
130	72.7	11.0	71.0#
132	70.4	9.7	69.7#

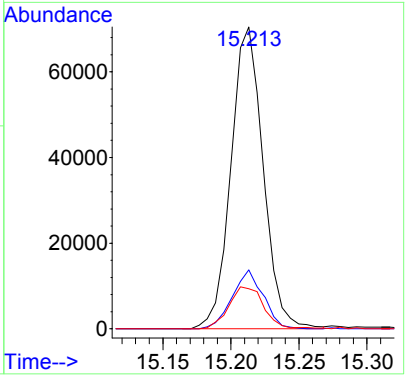


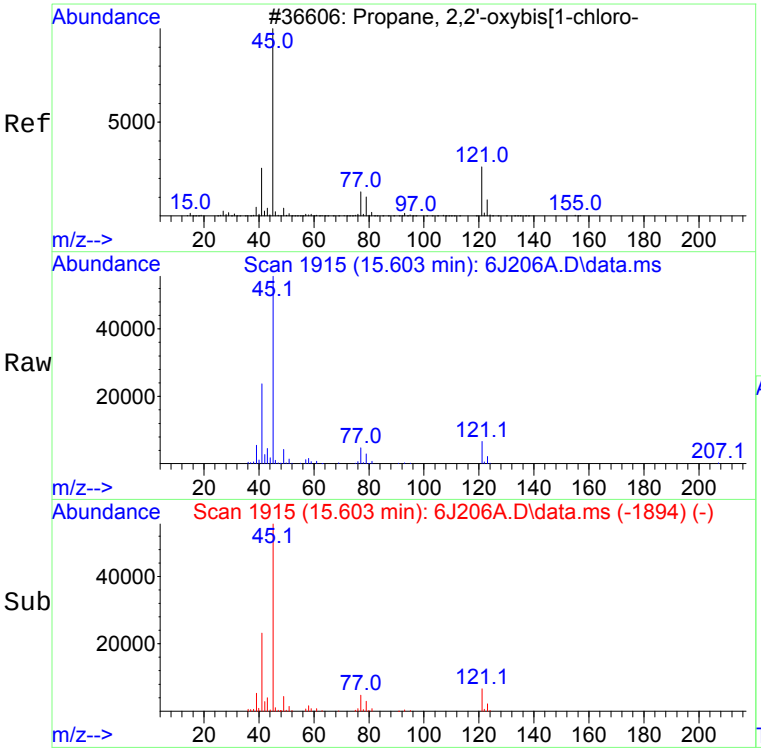


#111
Benzyl chloride
Concen: 7.65 ug/L
RT: 15.213 min Scan# 1851
Delta R.T. 0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 91 Resp: 115909

Ion	Ratio	Lower	Upper
91	100		
126	18.7	0.0	50.7
65	15.1	0.0	44.9

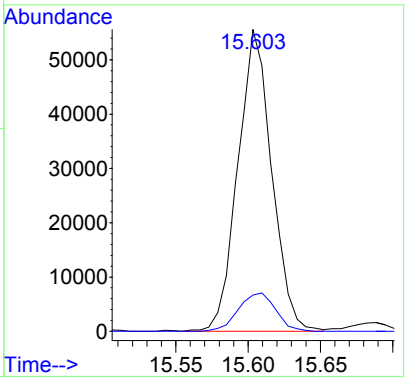




#112
bis(2-Chloroisopropyl)ether
Concen: 14.06 ug/L
RT: 15.603 min Scan# 1915
Delta R.T. 0.000 min
Lab File: 6J206A.D
Acq: 17 Nov 2020 11:35

Tgt Ion: 45 Resp: 90277

Ion	Ratio	Lower	Upper
45	100		
121	13.9	0.0	49.7



Library Search Compound Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

EH 11/20/2020

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J206A.D
Acq On : 17 Nov 2020 11:35
Operator : WD1
Sample : |1204696631|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**			**Matrix:**	**WATER**
Lab Sample ID:	**1204699777**				
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2063772**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 12:28**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/18/2020 12:28**				
Data File:	**111820V6\6J306A.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	51.6	50.0	ug/L	103	(71%-134%)
Bromofluorobenzene	50.3	50.0	ug/L	101	(70%-131%)
Toluene-d8	51.2	50.0	ug/L	102	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	3.56	7.13	ug/L		J

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J306A.D
Acq On : 18 Nov 2020 12:28
Operator : WD1
InstName : VOA6
Sample : |1204699777|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

GH 11/20/2020

Quant Time: Nov 19 10:24:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.440	9.440	1.000	1759046	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1257452	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	710334	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1759046	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1258537	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	711713	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.087	9.087	0.963	640656	51.63	ug/L	0.00
45) Toluene-d8	98	11.098	11.098	0.878	1757781	51.19	ug/L	0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	683479	50.26	ug/L	0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	103%
45) Toluene-d8	50.000	74 - 124	102%
63) Bromofluorobenzene	50.000	70 - 131	101%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	3.969	0.000	0	N.D.		
3) Chloromethane		0.000	4.338	0.000	0	N.D.		
4) Vinyl chloride		0.000	4.522	0.000	0	N.D.		
5) Bromomethane		0.000	5.020	0.000	0	N.D.		
6) Chloroethane		0.000	5.140	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	5.517	0.000	0	N.D.		
8) Ethyl ether		0.000	5.814	0.000	0	N.D.		
9) Acetone	43	6.191	6.179	0.656	3596	N.D.		
10) 1,1-Dichloroethylene		0.000	6.173	0.000	0	N.D.		
11) Iodomethane		0.000	6.404	0.000	0	N.D.		
12) Acetonitrile	41	6.508	6.526	0.689	339	N.D.		
13) Methyl acetate	43	6.569	6.563	0.696	517	N.D.		
14) Carbon disulfide	76	6.514	6.538	0.690	741	N.D.		
15) Methylene chloride	84	6.739	6.739	0.714	2294	Below Cal		87
16) tert-Butyl methyl ether		0.000	7.032	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.075	0.000	0	N.D.		
18) Hexane	57	7.343	7.355	0.778	153	N.D.		
19) Vinyl acetate	43	7.550	7.532	0.800	730	N.D.		
20) 1,1-Dichloroethane		0.000	7.556	0.000	0	N.D.		
21) 2-Butanone	43	8.178	8.160	0.866	4520	N.D.		
22) cis-1,2-Dichloroethylene		0.000	8.197	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.221	0.000	0	N.D.		
24) Bromochloromethane		0.000	8.471	0.000	0	N.D.		
25) Chloroform		0.000	8.514	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	8.776	0.000	0	N.D.		
27) Cyclohexane		0.000	8.867	0.000	0	N.D.		
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	126	N.D.		
29) Carbon tetrachloride		0.000	8.965	0.000	0	N.D.		
31) 1,2-Dichloroethane	62	9.166	9.172	0.971	191	N.D.		
32) Benzene	78	9.184	9.178	0.973	195	N.D.		
33) Cyclohexene	67	9.282	9.288	0.983	466	N.D.		
34) n-Butyl alcohol		0.000	9.568	0.000	0	N.D.		
35) Trichloroethylene		0.000	9.830	0.000	0	N.D.		
36) 2-Pentanone	43	9.958	9.928	1.055	934	N.D.		
37) 1,2-Dichloropropane		0.000	10.080	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.068	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J306A.D
Acq On : 18 Nov 2020 12:28
Operator : WD1
InstName : VOA6
Sample : |1204699777|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 10:24:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
39) Dibromomethane		0.000	10.214	0.000	0	N.D.		
40) Bromodichloromethane		0.000	10.330	0.000	0	N.D.		
41) 2-Chloroethylvinyl ether		0.000	10.568	0.000	0	N.D.		
42) cis-1,3-Dichloropropylene		0.000	10.787	0.000	0	N.D.		
44) 4-Methyl-2-pentanone		0.000	10.891	0.000	0	N.D.		
46) Toluene	91	11.172	11.172	0.884	635	N.D.		
47) trans-1,3-Dichloroprop...		0.000	11.342	0.000	0	N.D.		
48) 1,1,2-Trichloroethane		0.000	11.562	0.000	0	N.D.		
49) 2-Hexanone	43	11.763	11.751	0.931	741	N.D.		
50) 1,3-Dichloropropane		0.000	11.751	0.000	0	N.D.		
51) Tetrachloroethylene		0.000	11.763	0.000	0	N.D.		
52) Dibromochloromethane		0.000	12.019	0.000	0	N.D.		
53) 1,2-Dibromoethane		0.000	12.177	0.000	0	N.D.		
54) Chlorobenzene	112	12.671	12.671	1.003	167	N.D.		
55) 1,1,1,2-Tetrachloroethane		0.000	12.726	0.000	0	N.D.		
56) Ethylbenzene	91	12.738	12.738	1.008	482	N.D.		
57) m,p-Xylenes	106	12.848	12.848	1.017	352	N.D.		
58) o-Xylene	91	13.293	13.287	1.052	159	N.D.		
59) Styrene		0.000	13.293	0.000	0	N.D.		
61) Bromoform		0.000	13.543	0.000	0	N.D.		
62) Isopropylbenzene		0.000	13.647	0.000	0	N.D.		
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	531	N.D.		
65) 1,2,3-Trichloropropane		0.000	14.019	0.000	0	N.D.		
66) Bromobenzene	156	14.061	14.049	0.933	122	N.D.		
67) n-Propylbenzene	91	14.079	14.079	0.934	502	N.D.		
68) 1,3,5-Trimethylbenzene	105	14.244	14.238	0.945	193	N.D.		
69) 2-Chlorotoluene		0.000	14.220	0.000	0	N.D.		
70) 4-Chlorotoluene	91	14.323	14.323	0.951	700	N.D.		
71) tert-Butylbenzene	134	14.671	14.604	0.974	1823	N.D.		
72) 1,2,4-Trimethylbenzene	105	14.714	14.646	0.977	534	N.D.		
73) sec-Butylbenzene	105	14.823	14.829	0.984	277	N.D.		
74) 4-Isopropyltoluene	119	14.951	14.957	0.992	545	N.D.		
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	782	N.D.		
76) 1,4-Dichlorobenzene	146	15.061	15.091	1.000	376	N.D.		
77) n-Butylbenzene		0.000	15.384	0.000	0	N.D.		
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1157	N.D.		
79) 1,2-Dibromo-3-chloropr...		0.000	16.323	0.000	0	N.D.		
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	5101	N.D.		
81) Hexachlorobutadiene	225	17.469	17.457	1.159	1166	N.D.		
82) Naphthalene	128	17.646	17.646	1.171	19495	0.56	ug/L	99
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	9704	0.62	ug/L	91
85) Acrolein		0.000	6.008	0.000	0	N.D.		
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.		
87) Isopropyl Alcohol	45	6.380	6.270	0.676	440	N.D.		
88) Allyl chloride	41	6.508	6.593	0.689	339	N.D.		
89) tert-Butyl Alcohol	59	6.758	6.758	0.716	2743	N.D.		
90) Acrylonitrile	53	7.026	7.001	0.744	1103	N.D.		
91) Isopropyl ether	45	7.538	7.544	0.799	143	N.D.		
92) 2-Chloro-1,3-butadiene		0.000	7.666	0.000	0	N.D.		
93) Ethyl tert-butyl ether	59	7.947	7.952	0.842	213	N.D.		
94) Ethyl acetate	43	8.178	8.172	0.866	4520	N.D.		
95) Propionitrile	54	8.251	8.233	0.874	356	N.D.		
96) Methacrylonitrile	41	8.416	8.410	0.892	1845	N.D.		
97) Tetrahydrofuran	42	8.532	8.519	0.904	2017	N.D.		
98) Isobutyl alcohol	41	8.898	8.867	0.943	2628	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J306A.D
Acq On : 18 Nov 2020 12:28
Operator : WD1
InstName : VOA6
Sample : |1204699777|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 10:24:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

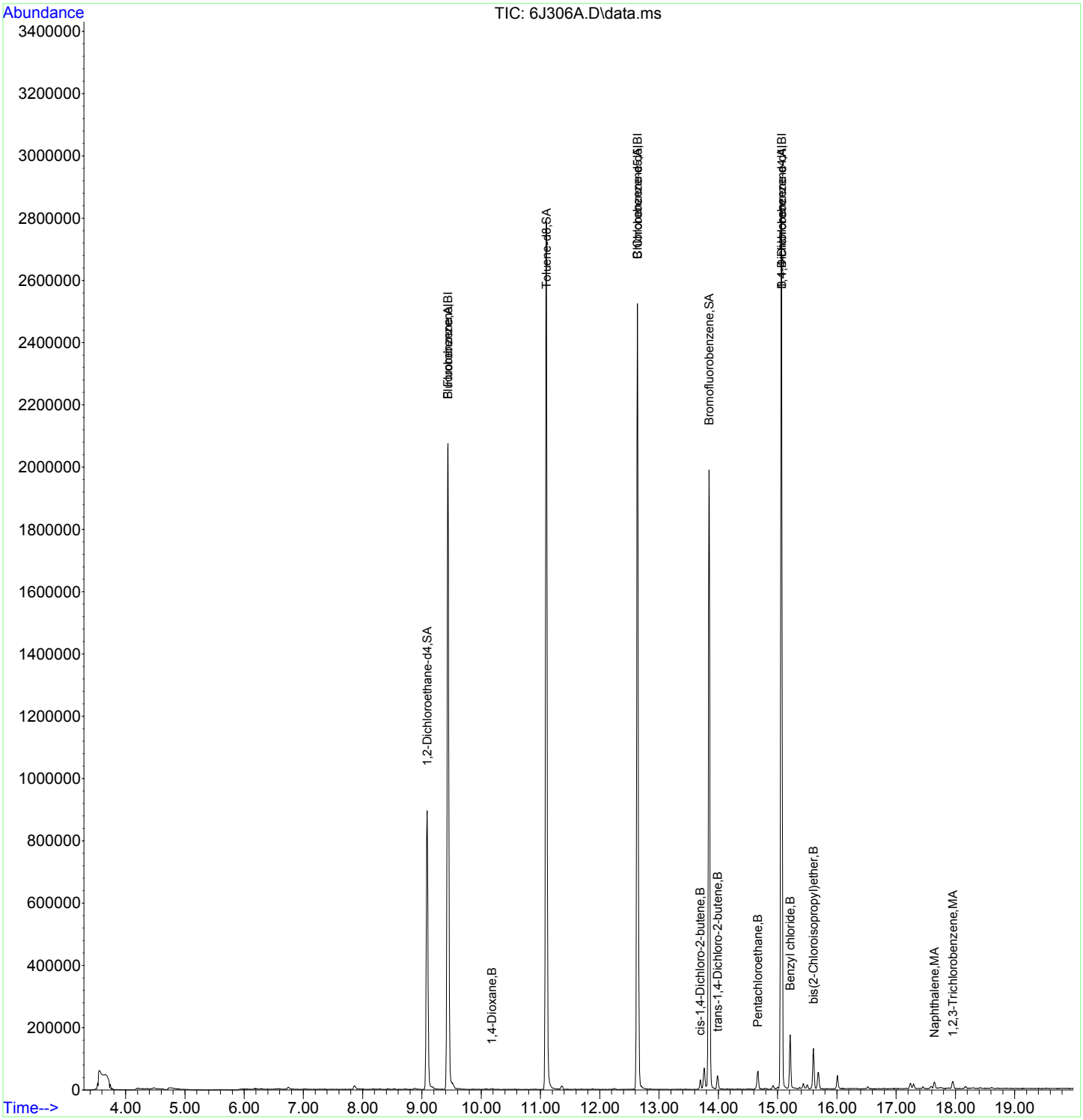
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
99)	Methyl tert-amyl ether	73	9.209	9.208	0.975	138	N.D.			
100)	Methyl methacrylate	69	10.086	10.068	1.068	814	N.D.			
101)	1,4-Dioxane	88	10.178	10.172	1.078	1866	20.91	ug/L		87
102)	2-Nitropropane		0.000	10.550	0.000	0m	N.D.	d		
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.			
106)	1-Chlorohexane		0.000	12.549	0.000	0m	N.D.	d		
107)	cis-1,4-Dichloro-2-butene	53	13.695	13.695	0.909	9135	5.99	ug/L		74
108)	Cyclohexanone	42	13.799	13.799	0.916	3424	N.D.			
109)	trans-1,4-Dichloro-2-b...	53	13.988	13.988	0.928	14059	7.11	ug/L	#	69
110)	Pentachloroethane	167	14.665	14.671	0.973	8289	3.72	ug/L	#	44
111)	Benzyl chloride	91	15.213	15.213	1.010	116516	8.14	ug/L		97
112)	bis(2-Chloroisopropyl)...	45	15.604	15.603	1.036	91995	15.48	ug/L		87

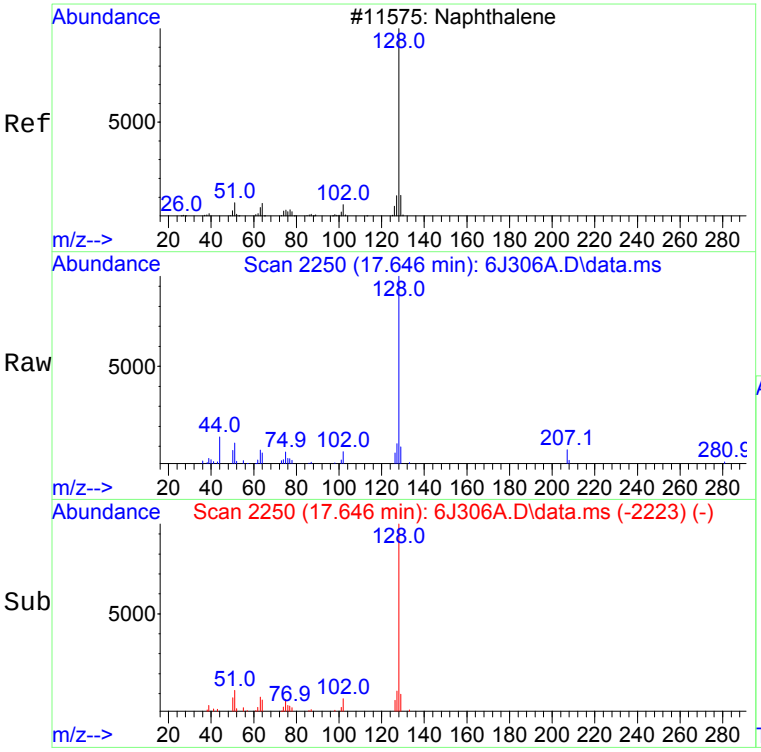
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J306A.D
Acq On : 18 Nov 2020 12:28
Operator : WD1
InstName : VOA6
Sample : |1204699777|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 10:24:31 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

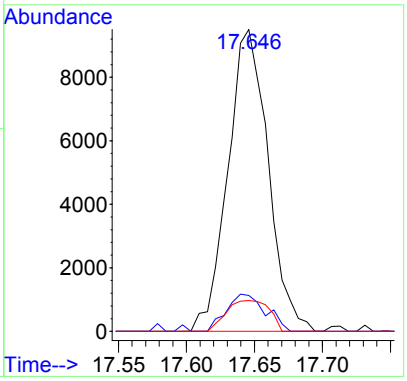


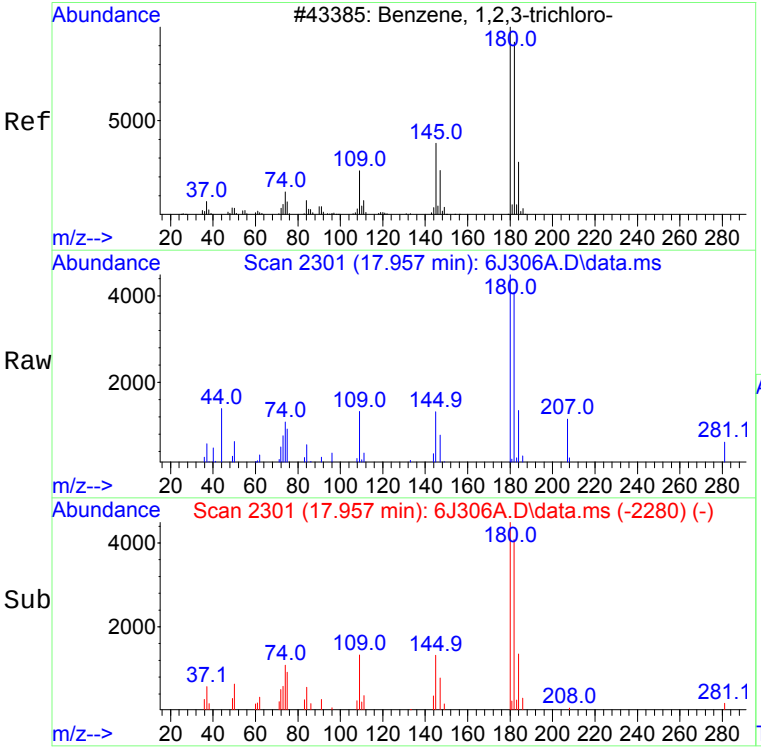


#82
Naphthalene
Concen: 0.56 ug/L
RT: 17.646 min Scan# 2250
Delta R.T. -0.000 min
Lab File: 6J306A.D
Acq: 18 Nov 2020 12:28

Tgt Ion:128 Resp: 19495

Ion	Ratio	Lower	Upper
128	100		
127	12.0	0.0	42.4
129	10.9	0.0	40.9

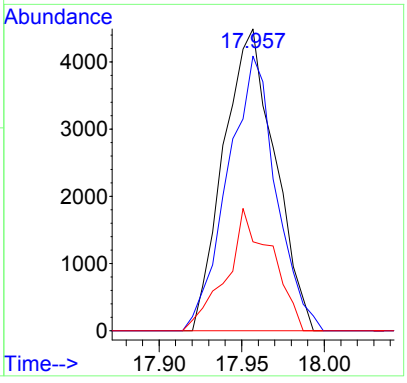


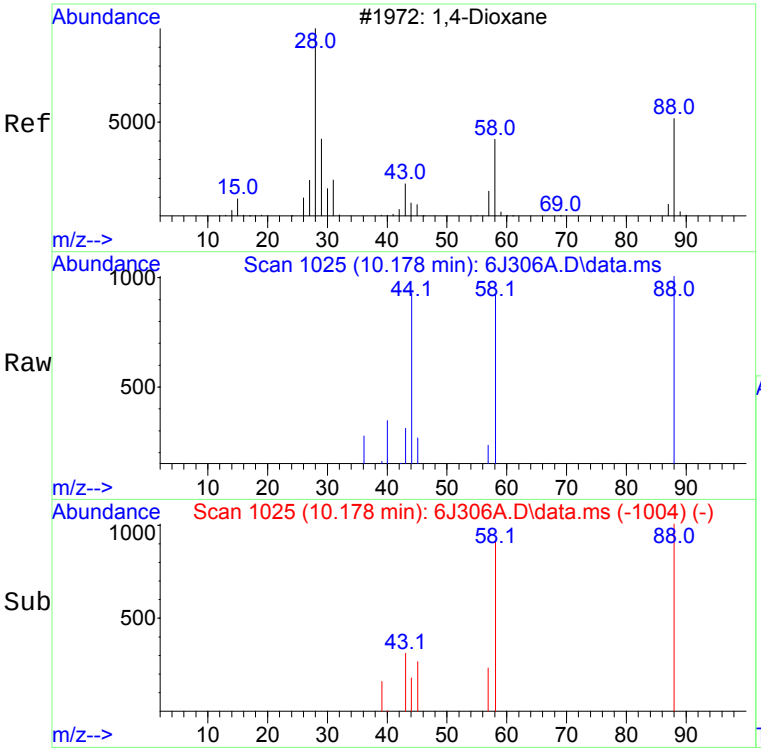


#83
1,2,3-Trichlorobenzene
Concen: 0.62 ug/L
RT: 17.957 min Scan# 2301
Delta R.T. -0.000 min
Lab File: 6J306A.D
Acq: 18 Nov 2020 12:28

Tgt Ion:180 Resp: 9704

Ion	Ratio	Lower	Upper
180	100		
182	86.2	65.3	125.3
145	35.7	1.5	61.5

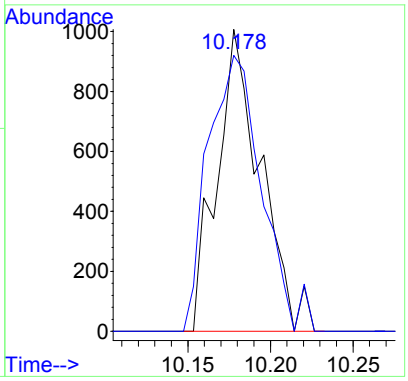


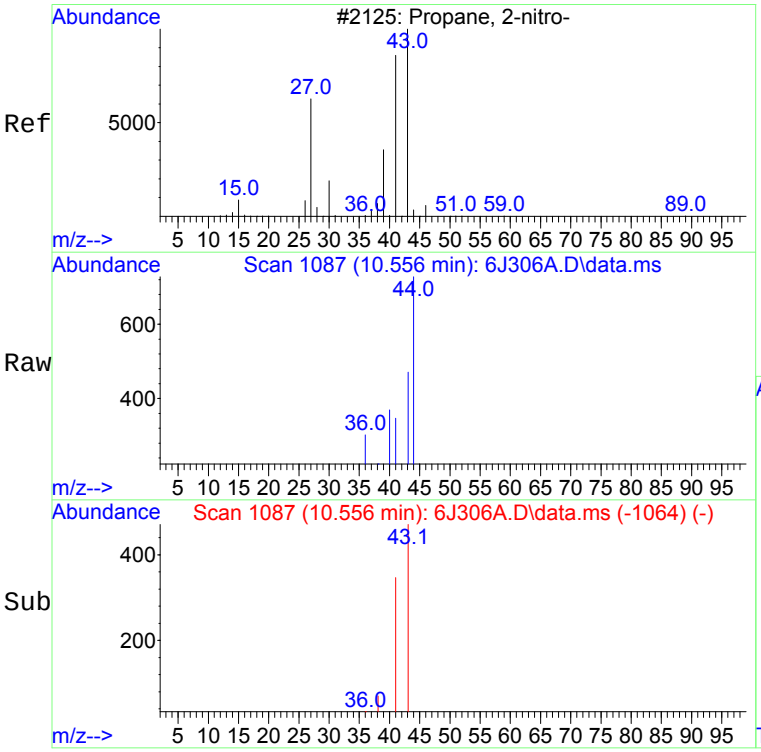


#101
1,4-Dioxane
Concen: 20.91 ug/L
RT: 10.178 min Scan# 1025
Delta R.T. 0.006 min
Lab File: 6J306A.D
Acq: 18 Nov 2020 12:28

Tgt Ion: 88 Resp: 1866

Ion	Ratio	Lower	Upper
88	100		
58	111.3	68.7	128.7

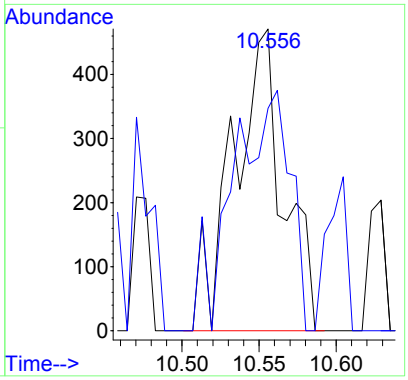


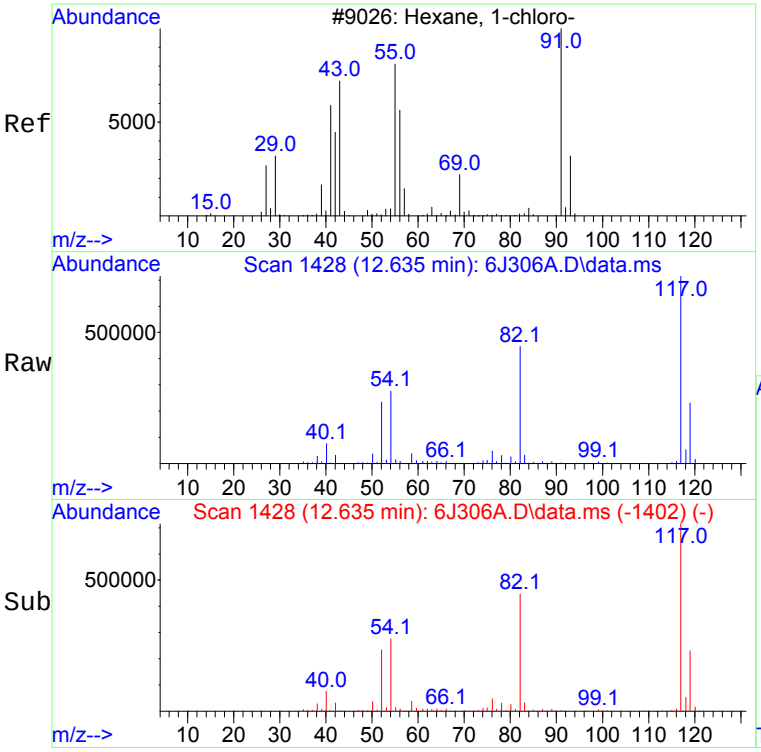


#102 BEFORE analyst DELETION
2-Nitropropane
Concen: 4.62 ug/L
RT: 10.556 min Scan# 1087
Delta R.T. 0.006 min
Lab File: 6J306A.D
Acq: 18 Nov 2020 12:28

Tgt Ion: 43 Resp: 1066

Ion	Ratio	Lower	Upper
43	100		
41	90.9	52.3	112.3

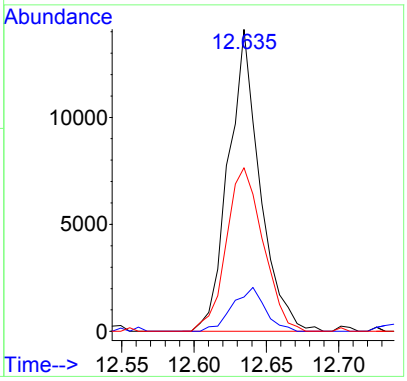


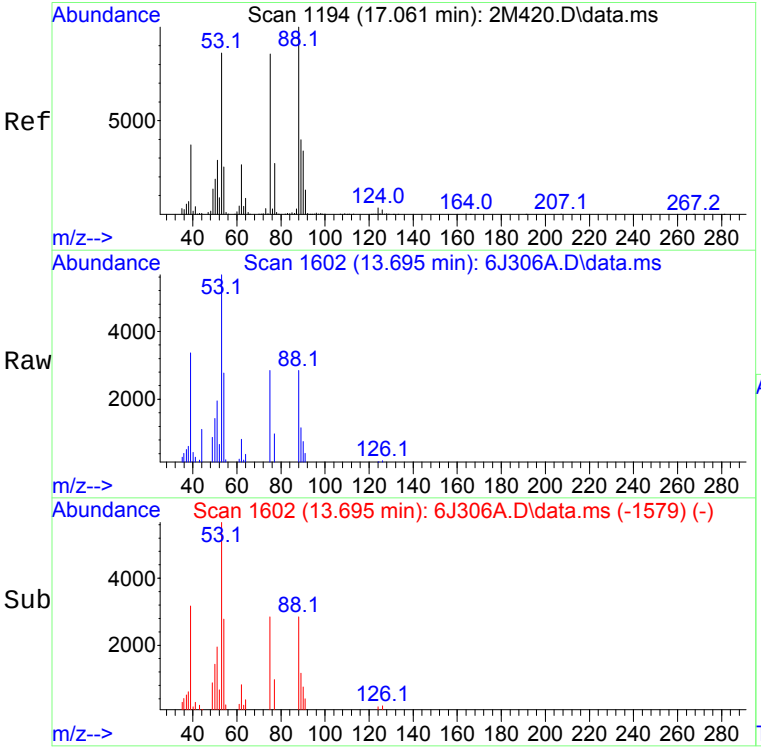


#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.74 ug/L
RT: 12.635 min Scan# 1428
Delta R.T. 0.086 min
Lab File: 6J306A.D
Acq: 18 Nov 2020 12:28

Tgt Ion: 55 Resp: 21372

Ion	Ratio	Lower	Upper
55	100		
91	15.1	65.1	125.1#
56	63.3	30.4	90.4

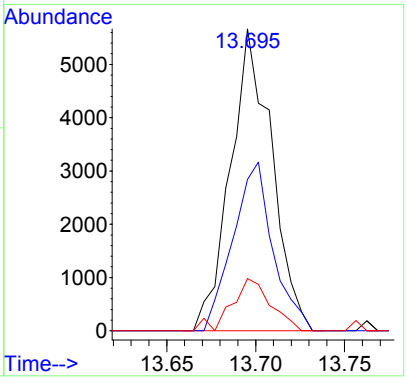


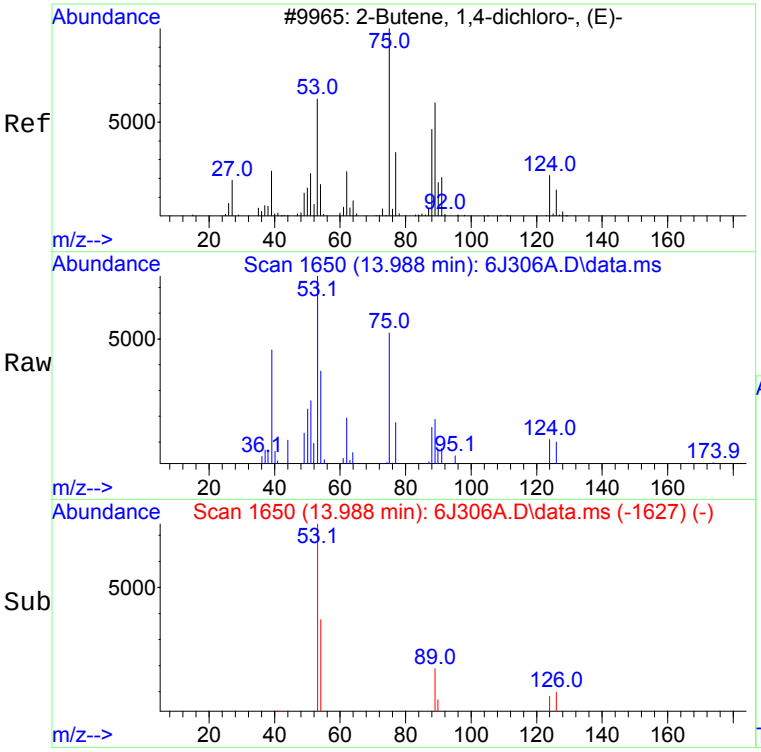


#107
cis-1,4-Dichloro-2-butene
Concen: 5.99 ug/L
RT: 13.695 min Scan# 1602
Delta R.T. 0.000 min
Lab File: 6J306A.D
Acq: 18 Nov 2020 12:28

Tgt Ion: 53 Resp: 9135

Ion	Ratio	Lower	Upper
53	100		
88	54.0	50.1	110.1
77	16.4	0.0	54.4

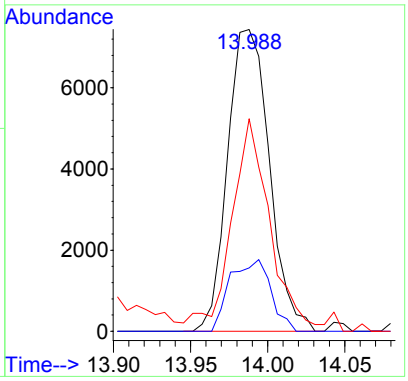


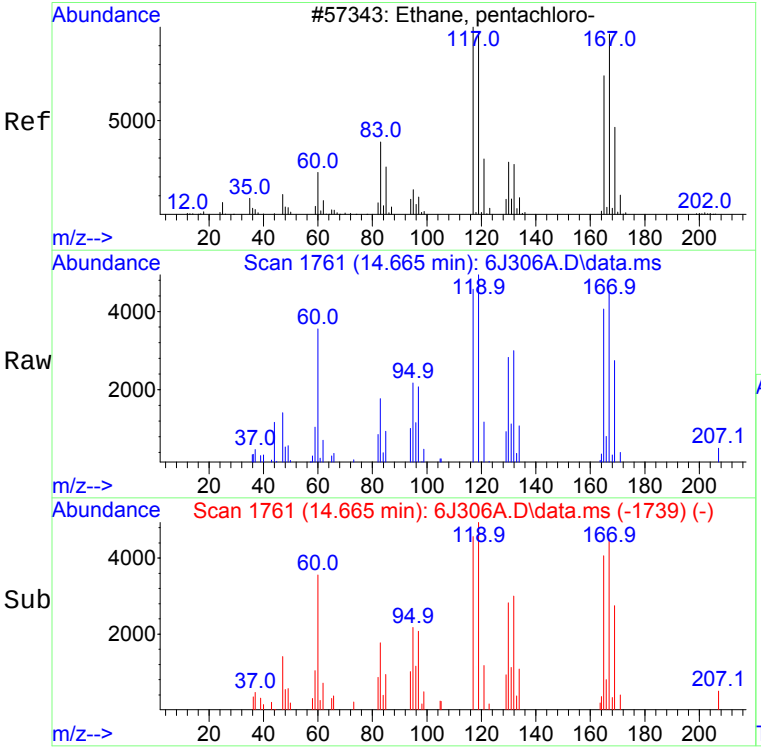


#109
trans-1,4-Dichloro-2-butene
Concen: 7.11 ug/L
RT: 13.988 min Scan# 1650
Delta R.T. 0.000 min
Lab File: 6J306A.D
Acq: 18 Nov 2020 12:28

Tgt Ion: 53 Resp: 14059

Ion	Ratio	Lower	Upper
53	100		
88	23.0	7.9	67.9
75	62.8	65.4	125.4#

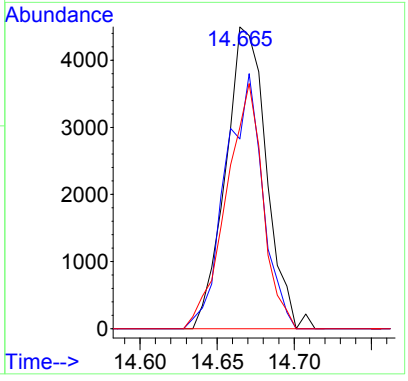


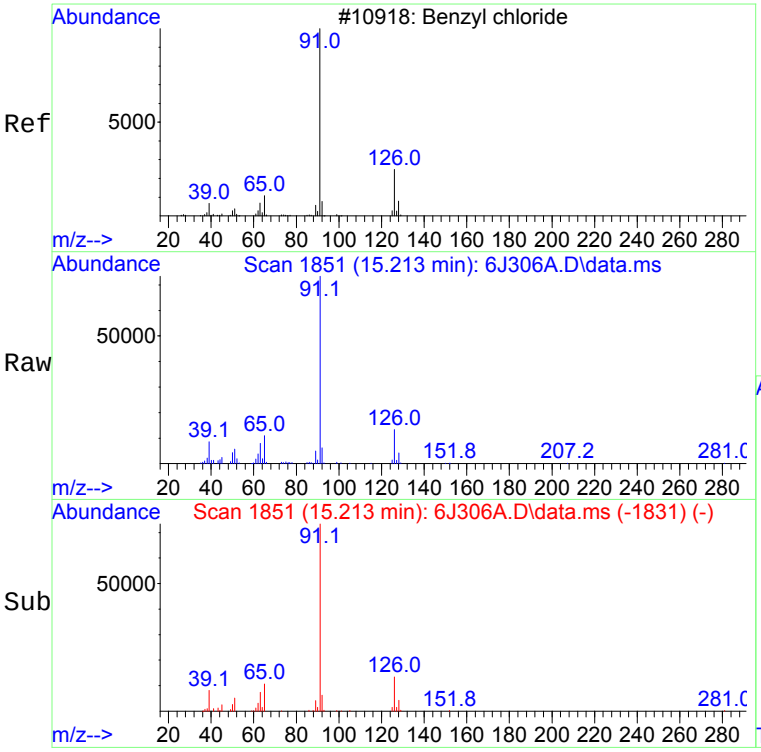


#110
Pentachloroethane
Concen: 3.72 ug/L
RT: 14.665 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 6J306A.D
Acq: 18 Nov 2020 12:28

Tgt Ion:167 Resp: 8289

Ion	Ratio	Lower	Upper
167	100		
130	77.4	11.0	71.0#
132	73.2	9.7	69.7#

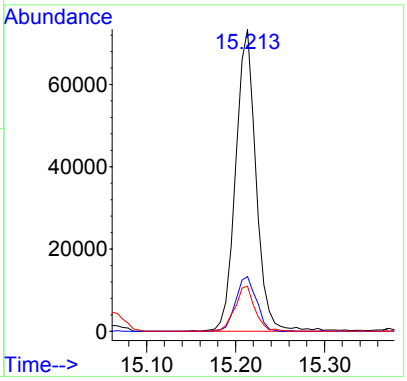


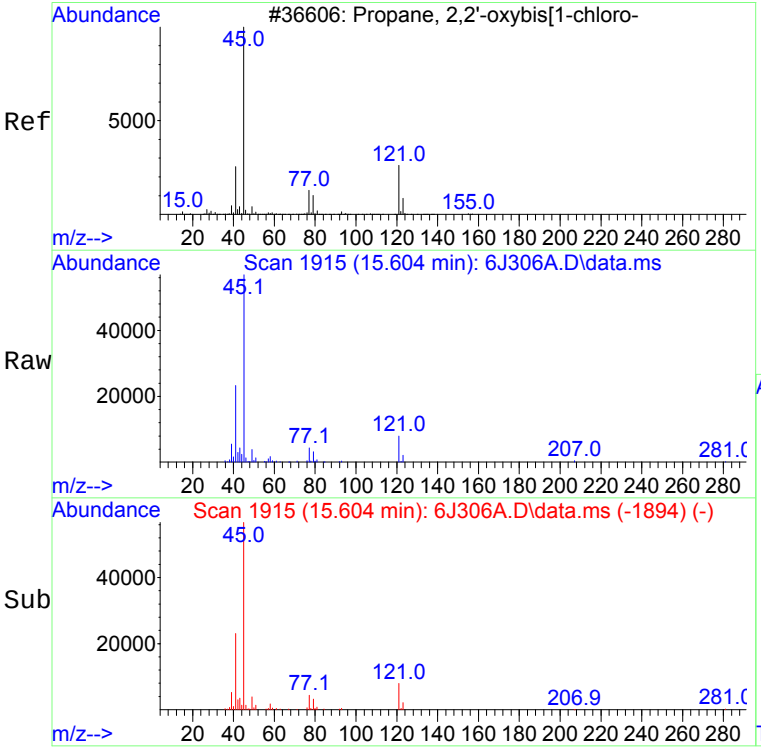


#111
Benzyl chloride
Concen: 8.14 ug/L
RT: 15.213 min Scan# 1851
Delta R.T. 0.000 min
Lab File: 6J306A.D
Acq: 18 Nov 2020 12:28

Tgt Ion: 91 Resp: 116516

Ion	Ratio	Lower	Upper
91	100		
126	18.4	0.0	50.7
65	14.7	0.0	44.9

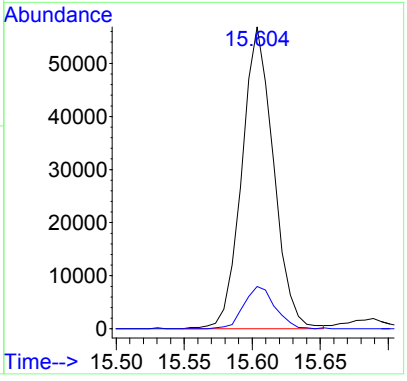




#112
bis(2-Chloroisopropyl)ether
Concen: 15.48 ug/L
RT: 15.604 min Scan# 1915
Delta R.T. 0.001 min
Lab File: 6J306A.D
Acq: 18 Nov 2020 12:28

Tgt Ion: 45 Resp: 91995

Ion	Ratio	Lower	Upper
45	100		
121	13.9	0.0	49.7



Library Search Compound Report
GEL Laboratories, LLC

WMD
11/20/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J306A.D
Acq On : 18 Nov 2020 12:28
Operator : WD1
Sample : |1204699777|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

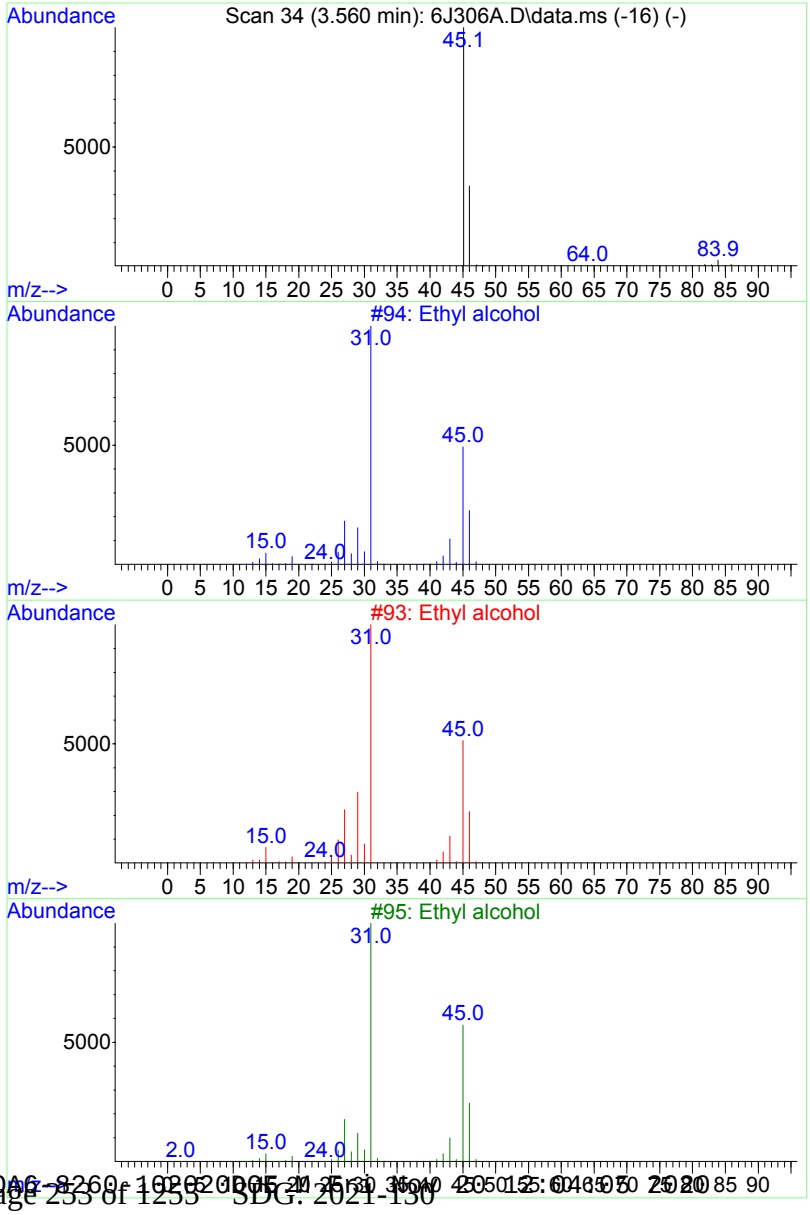
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

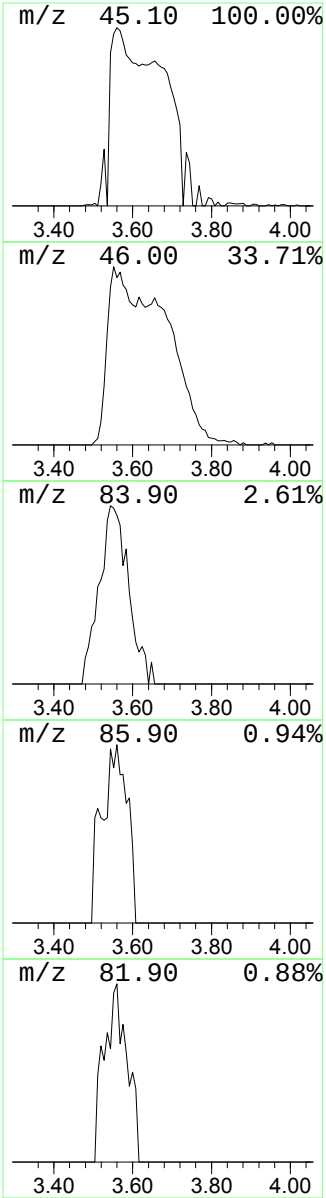
****

Peak Number 1 Unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.560	7.13 ug/L	594442	Fluorobenzene	9.440

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethyl alcohol	46	C2H6O	000064-17-5	4
2	Ethyl alcohol	46	C2H6O	000064-17-5	4
3	Ethyl alcohol	46	C2H6O	000064-17-5	4
4	Dimethyl ether	46	C2H6O	000115-10-6	4
5	Dimethyl ether	46	C2H6O	000115-10-6	4





Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J306A.D
Acq On : 18 Nov 2020 12:28
Operator : WD1
Sample : |1204699777|2063772|1|VOAF|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard			
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
Unknown	000064-17-5	3.560	7.1	594442	1	9.440	4168780	50.0

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**			**Matrix:**	**WATER**
Lab Sample ID:	**1204699778**				
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2063772**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA9.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 15:50**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/19/2020 15:50**				
Data File:	**111920V9\9S406A.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride	U	0.300	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene	U	0.300	ug/L	0.300	1.00
75-09-2	Methylene chloride	U	1.00	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane	U	0.300	ug/L	0.300	1.00
67-66-3	Chloroform	U	0.300	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	0.300	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride	U	0.300	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane	U	0.300	ug/L	0.300	1.00
71-43-2	Benzene	U	0.300	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	0.300	ug/L	0.300	1.00
74-95-3	Dibromomethane	U	0.300	ug/L	0.300	1.00
108-88-3	Toluene	U	0.300	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane	U	0.300	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene	U	0.300	ug/L	0.300	1.00
100-41-4	Ethylbenzene	U	0.300	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	0.300	ug/L	0.300	1.00
1330-20-7	Xylenes (total)	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	49.4	50.0	ug/L	99	(71%-134%)
Bromofluorobenzene	46.3	50.0	ug/L	93	(70%-131%)
Toluene-d8	48.2	50.0	ug/L	96	(74%-124%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	Estimated RT	Units	Fit	Qual
	No Tentatively Identified Compounds Found		ug/L		

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
InstName : VOA9
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

GH 11/20/2020

Quant Time: Nov 19 17:38:00 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) Fluorobenzene	96	9.967	9.967	1.000	1373130	50.00	ug/L	0.00
43) Chlorobenzene-d5	117	13.134	13.133	1.000	1195212	50.00	ug/L	0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	747344	50.00	ug/L	0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	1373130	50.00	ug/L	0.00
103) B Chlorobenzene-d5	117	13.134	13.134	1.000	1195212	50.00	ug/L	0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	747344	50.00	ug/L	0.00
System Monitoring Compounds								Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.612	9.611	0.964	360487	49.40	ug/L	0.00
45) Toluene-d8	98	11.604	11.604	0.884	1397287	48.23	ug/L	0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	565236	46.30	ug/L	-0.01

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	99%
45) Toluene-d8	50.000	74 - 124	96%
63) Bromofluorobenzene	50.000	70 - 131	93%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) Dichlorodifluoromethane		0.000	4.405	0.000	0	N.D.		
3) Chloromethane		0.000	4.761	0.000	0	N.D.		
4) Vinyl chloride		0.000	4.963	0.000	0	N.D.		
5) Bromomethane	94	5.414	5.508	0.543	181	N.D.		
6) Chloroethane		0.000	5.627	0.000	0	N.D.		
7) Trichlorofluoromethane		0.000	6.042	0.000	0	N.D.		
8) Ethyl ether		0.000	6.327	0.000	0	N.D.		
9) Acetone		0.000	6.694	0.000	0m	N.D.	d	
10) 1,1-Dichloroethylene		0.000	6.706	0.000	0	N.D.		
11) Iodomethane		0.000	6.955	0.000	0	N.D.		
12) Acetonitrile	41	7.133	7.050	0.716	567	N.D.		
13) Methyl acetate		0.000	7.086	0.000	0	N.D.		
14) Carbon disulfide	76	7.074	7.086	0.710	2280	N.D.		
15) Methylene chloride	84	7.275	7.275	0.730	3042	Below Cal		93
16) tert-Butyl methyl ether		0.000	7.584	0.000	0	N.D.		
17) trans-1,2-Dichloroethy...		0.000	7.619	0.000	0	N.D.		
18) Hexane		0.000	7.904	0.000	0	N.D.		
19) Vinyl acetate	43	8.058	8.058	0.808	200	N.D.		
20) 1,1-Dichloroethane		0.000	8.093	0.000	0	N.D.		
21) 2-Butanone	43	8.698	8.675	0.873	2111	N.D.		
22) cis-1,2-Dichloroethylene		0.000	8.734	0.000	0	N.D.		
23) 2,2-Dichloropropane		0.000	8.758	0.000	0	N.D.		
24) Bromochloromethane		0.000	9.007	0.000	0	N.D.		
25) Chloroform		0.000	9.042	0.000	0	N.D.		
26) 1,1,1-Trichloroethane		0.000	9.315	0.000	0	N.D.		
27) Cyclohexane		0.000	9.410	0.000	0	N.D.		
28) 1,1-Dichloropropene		0.000	9.469	0.000	0	N.D.		
29) Carbon tetrachloride		0.000	9.517	0.000	0	N.D.		
31) 1,2-Dichloroethane		0.000	9.694	0.000	0	N.D.		
32) Benzene	78	9.718	9.706	0.975	535	N.D.		
33) Cyclohexene		0.000	9.825	0.000	0	N.D.		
34) n-Butyl alcohol		0.000	10.062	0.000	0	N.D.		
35) Trichloroethylene		0.000	10.347	0.000	0	N.D.		
36) 2-Pentanone	43	10.442	10.430	1.048	223	N.D.		
37) 1,2-Dichloropropane		0.000	10.596	0.000	0	N.D.		
38) Methylcyclohexane		0.000	10.607	0.000	0	N.D.		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
InstName : VOA9
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 17:38:00 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
39) Dibromomethane		0.000	10.726	0.000	0	N.D.	
40) Bromodichloromethane		0.000	10.845	0.000	0	N.D.	
41) 2-Chloroethylvinyl ether		0.000	11.070	0.000	0	N.D.	
42) cis-1,3-Dichloropropylene		0.000	11.295	0.000	0	N.D.	
44) 4-Methyl-2-pentanone		0.000	11.390	0.000	0	N.D.	
46) Toluene	91	11.687	11.687	0.890	880	N.D.	
47) trans-1,3-Dichloroprop...		0.000	11.841	0.000	0	N.D.	
48) 1,1,2-Trichloroethane		0.000	12.054	0.000	0	N.D.	
49) 2-Hexanone	43	12.232	12.232	0.931	409	N.D.	
50) 1,3-Dichloropropane		0.000	12.244	0.000	0	N.D.	
51) Tetrachloroethylene		0.000	12.280	0.000	0	N.D.	
52) Dibromochloromethane		0.000	12.517	0.000	0	N.D.	
53) 1,2-Dibromoethane		0.000	12.683	0.000	0	N.D.	
54) Chlorobenzene	112	13.169	13.169	1.003	1321	N.D.	
55) 1,1,1,2-Tetrachloroethane		0.000	13.228	0.000	0	N.D.	
56) Ethylbenzene	91	13.228	13.228	1.007	1029	N.D.	
57) m,p-Xylenes	106	13.335	13.347	1.015	1065	N.D.	
58) o-Xylene		0.000	13.774	0.000	0	N.D.	
59) Styrene	104	13.774	13.774	1.049	800	N.D.	
61) Bromoform		0.000	14.035	0.000	0	N.D.	
62) Isopropylbenzene		0.000	14.129	0.000	0	N.D.	
64) 1,1,2,2-Tetrachloroethane		0.000	14.402	0.000	0	N.D.	
65) 1,2,3-Trichloropropane		0.000	14.497	0.000	0	N.D.	
66) Bromobenzene	156	14.533	14.533	0.935	835	N.D.	
67) n-Propylbenzene	91	14.557	14.556	0.937	1061	N.D.	
68) 1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	315	N.D.	
69) 2-Chlorotoluene		0.000	14.711	0.000	0	N.D.	
70) 4-Chlorotoluene	91	14.806	14.805	0.953	1788	N.D.	
71) tert-Butylbenzene		0.000	15.078	0.000	0	N.D.	
72) 1,2,4-Trimethylbenzene	105	15.126	15.126	0.973	1118	N.D.	
73) sec-Butylbenzene		0.000	15.303	0.000	0	N.D.	
74) 4-Isopropyltoluene	119	15.422	15.422	0.992	287	N.D.	
75) 1,3-Dichlorobenzene	146	15.482	15.481	0.996	1889	N.D.	
76) 1,4-Dichlorobenzene	146	15.565	15.564	1.002	2875	N.D.	
77) n-Butylbenzene	91	15.861	15.861	1.021	960	N.D.	
78) 1,2-Dichlorobenzene	146	15.980	15.979	1.028	1471	N.D.	
79) 1,2-Dibromo-3-chloropr...		0.000	16.833	0.000	0	N.D.	
80) 1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	2435	N.D.	
81) Hexachlorobutadiene		0.000	18.031	0.000	0	N.D.	
82) Naphthalene	128	18.221	18.221	1.172	7348	N.D.	
83) 1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	1710	N.D.	
85) Acrolein		0.000	6.516	0.000	0	N.D.	
86) Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.	
87) Isopropyl Alcohol		0.000	6.777	0.000	0	N.D.	
88) Allyl chloride	41	7.133	7.133	0.716	567	N.D.	
89) tert-Butyl Alcohol	59	7.299	7.275	0.732	672	N.D.	
90) Acrylonitrile	53	7.548	7.524	0.757	731	N.D.	
91) Isopropyl ether		0.000	8.082	0.000	0	N.D.	
92) 2-Chloro-1,3-butadiene		0.000	8.200	0.000	0	N.D.	
93) Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.	
94) Ethyl acetate	43	8.698	8.687	0.873	2111	N.D.	
95) Propionitrile		0.000	8.746	0.000	0	N.D.	
96) Methacrylonitrile	41	8.936	8.924	0.896	953	N.D.	
97) Tetrahydrofuran	42	9.054	9.054	0.908	944	N.D.	
98) Isobutyl alcohol		0.000	9.374	0.000	0	N.D.	

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
InstName : VOA9
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 17:38:00 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

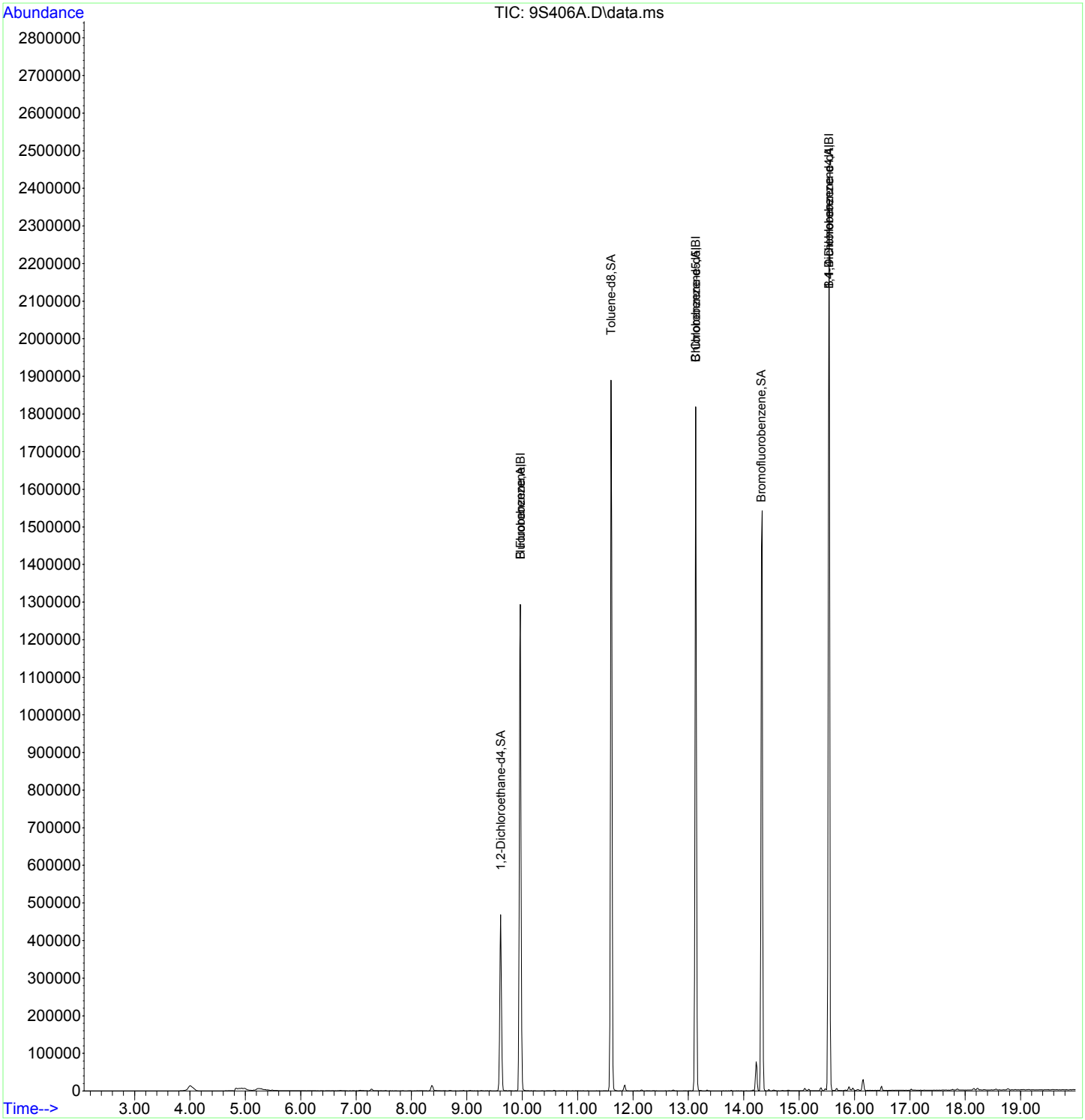
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		0.000	9.730	0.000	0	N.D.	
100)	Methyl methacrylate	69	10.572	10.572	1.061	938	N.D.	
101)	1,4-Dioxane		0.000	10.679	0.000	0	N.D.	
102)	2-Nitropropane		0.000	11.046	0.000	0	N.D.	
104)	Ethyl methacrylate	69	11.841	11.841	0.902	1576	N.D.	
106)	1-Chlorohexane		0.000	13.039	0.000	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene	53	14.177	14.165	0.912	792	N.D.	
108)	Cyclohexanone	42	14.284	14.284	0.919	226	N.D.	
109)	trans-1,4-Dichloro-2-b...	53	14.450	14.450	0.930	827	N.D.	
110)	Pentachloroethane		0.000	15.149	0.000	0m	N.D.	d
111)	Benzyl chloride	91	15.683	15.683	1.009	6797	N.D.	
112)	bis(2-Chloroisopropyl)...	45	16.074	16.074	1.034	1454	N.D.	

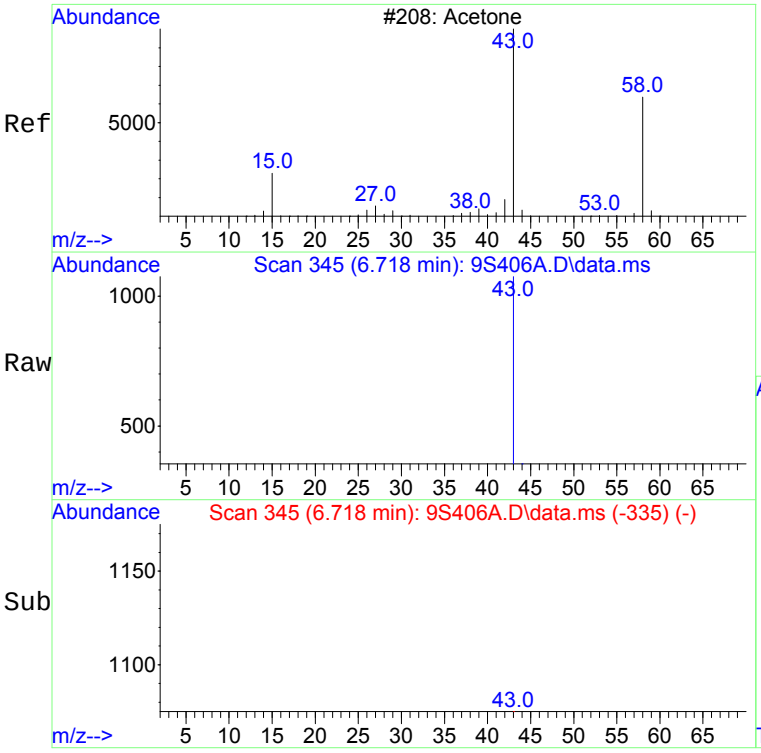
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
InstName : VOA9
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 17:38:00 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

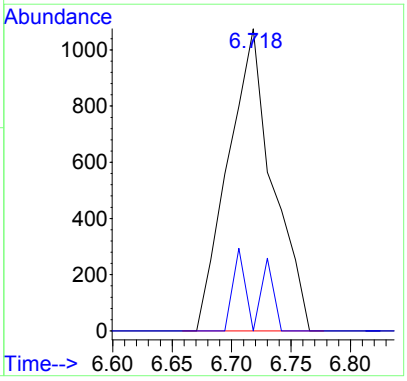


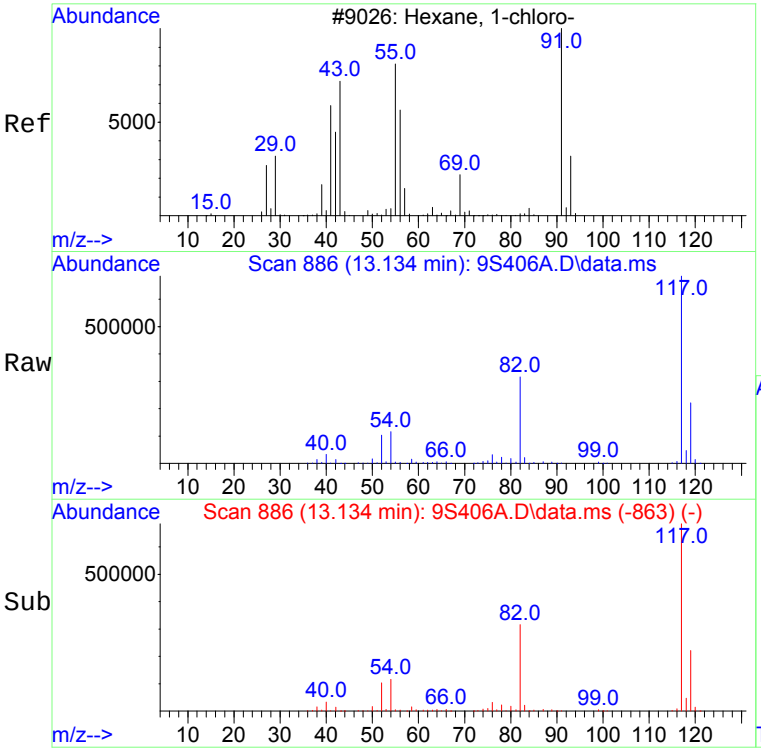


#9 BEFORE analyst DELETION
Acetone
Concen: 1.96 ug/L
RT: 6.718 min Scan# 345
Delta R.T. 0.024 min
Lab File: 9S406A.D
Acq: 19 Nov 2020 15:50

Tgt Ion: 43 Resp: 2798

Ion	Ratio	Lower	Upper
43	100		
58	14.0	0.0	58.4

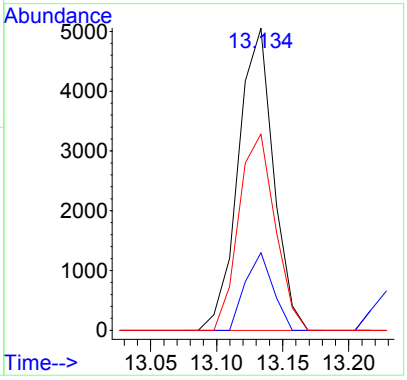


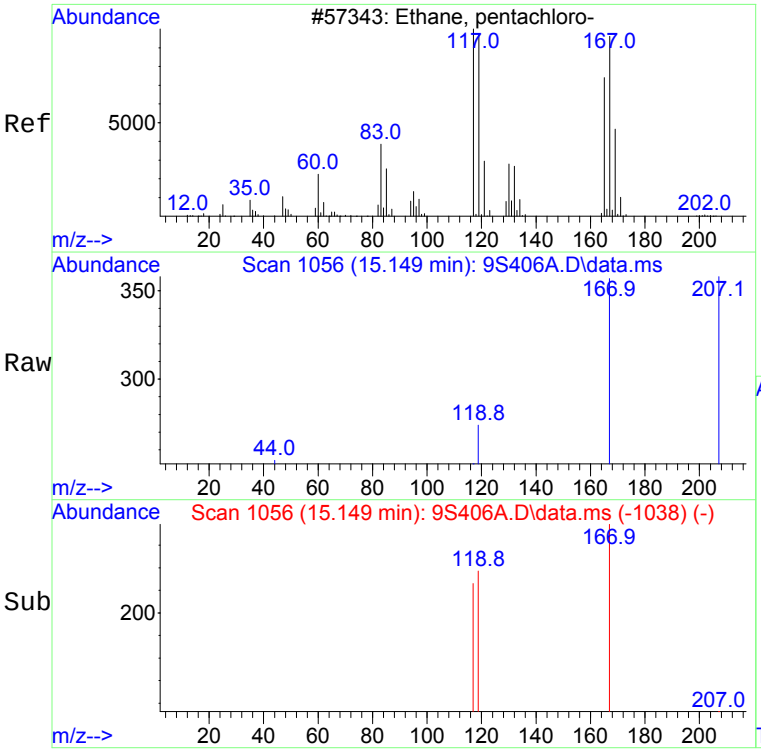


#106 BEFORE analyst DELETION
1-Chlorohexane
Concen: 1.18 ug/L
RT: 13.134 min Scan# 886
Delta R.T. 0.095 min
Lab File: 9S406A.D
Acq: 19 Nov 2020 15:50

Tgt Ion: 55 Resp: 9377

Ion	Ratio	Lower	Upper
55	100		
91	20.2	111.6	171.6#
56	66.9	29.9	89.9

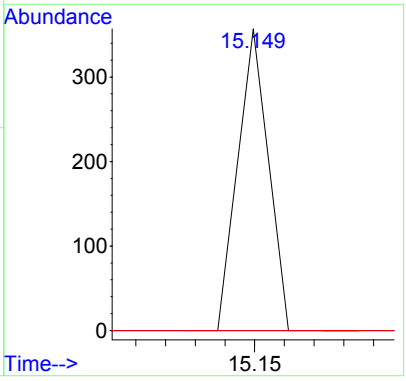




#110 BEFORE analyst DELETION
Pentachloroethane
Concen: 4.22 ug/L
RT: 15.149 min Scan# 1056
Delta R.T. -0.000 min
Lab File: 9S406A.D
Acq: 19 Nov 2020 15:50

Tgt Ion:167 Resp: 254

Ion	Ratio	Lower	Upper
167	100		
130	0.0	10.6	70.6#
132	0.0	9.5	69.5#



Library Search Compound Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

11/20/2020

Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S406A.D
Acq On : 19 Nov 2020 15:50
Operator : WD1
Sample : |1204699778|2063772|1|VOA|1|VOA8260LFD|
Misc : BLANK 5ML N/A
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard			
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**			**Matrix:**	**WATER**
Lab Sample ID:	**1204696632**				
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2063772**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 10:18**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/17/2020 10:18**				
Data File:	**111720V6\6J203A.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride		41.7	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		51.1	ug/L	0.300	1.00
75-09-2	Methylene chloride		47.6	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane		52.1	ug/L	0.300	1.00
67-66-3	Chloroform		47.5	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		50.2	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride		50.9	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		46.8	ug/L	0.300	1.00
71-43-2	Benzene		47.1	ug/L	0.300	1.00
79-01-6	Trichloroethylene		47.3	ug/L	0.300	1.00
74-95-3	Dibromomethane		47.4	ug/L	0.300	1.00
108-88-3	Toluene		48.9	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		49.0	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		47.3	ug/L	0.300	1.00
100-41-4	Ethylbenzene		49.2	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		52.8	ug/L	0.300	1.00
1330-20-7	Xylenes (total)		146	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	51.1	50.0	ug/L	102	(71%-134%)
Bromofluorobenzene	51.3	50.0	ug/L	103	(70%-131%)
Toluene-d8	49.9	50.0	ug/L	100	(74%-124%)

Quantitation Report
GEL Laboratories, LLC

WMD 11/17/2020

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203A.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |1204696632|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 17 16:27:30 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		Dev(Min)
Internal Standards									
1) Fluorobenzene	96	9.440	9.440	1.000	1849348	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1379680	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	765395	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.440	9.440	1.000	1849348	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1379680	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.067	15.067	1.000	765468	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	665938	51.05	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1881620	49.94	ug/L		0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	751273	51.27	ug/L		0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	102%
45) Toluene-d8	50.000	74 - 124	100%
63) Bromofluorobenzene	50.000	70 - 131	103%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.977	3.969	0.421	535910	45.16	ug/L		100
3) Chloromethane	50	4.346	4.338	0.460	1313748	54.16	ug/L		97
4) Vinyl chloride	62	4.530	4.522	0.480	860422	41.67	ug/L		99
5) Bromomethane	94	5.036	5.020	0.533	437791	43.82	ug/L		100
6) Chloroethane	64	5.148	5.140	0.545	563449	45.68	ug/L		99
7) Trichlorofluoromethane	101	5.533	5.517	0.586	790390	43.57	ug/L		99
8) Ethyl ether	59	5.822	5.814	0.617	628121	52.48	ug/L		81
9) Acetone	43	6.179	6.179	0.654	928149	308.47	ug/L		94
10) 1,1-Dichloroethylene	61	6.172	6.173	0.654	980727	51.10	ug/L		97
11) Iodomethane	142	6.404	6.404	0.678	3647768	243.65	ug/L		100
12) Acetonitrile	41	6.532	6.526	0.692	2422466	1703.86	ug/L		100
13) Methyl acetate	43	6.563	6.563	0.695	2171001	306.60	ug/L		91
14) Carbon disulfide	76	6.532	6.538	0.692	8485602	285.01	ug/L		100
15) Methylene chloride	84	6.739	6.739	0.714	496316	47.62	ug/L	#	75
16) tert-Butyl methyl ether	73	7.038	7.032	0.746	1283137	49.37	ug/L		93
17) trans-1,2-Dichloroethy...	61	7.075	7.075	0.749	901524	49.27	ug/L		95
18) Hexane	57	7.361	7.355	0.780	1290960	61.95	ug/L		90
19) Vinyl acetate	43	7.532	7.532	0.798	7821390	345.08	ug/L		95
20) 1,1-Dichloroethane	63	7.562	7.556	0.801	1125832	52.11	ug/L		99
21) 2-Butanone	43	8.160	8.160	0.864	1504857	330.70	ug/L		89
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.868	1011958	48.92	ug/L		95
23) 2,2-Dichloropropane	77	8.221	8.221	0.871	550325	50.87	ug/L		85
24) Bromochloromethane	128	8.477	8.471	0.898	208510	46.23	ug/L	#	66
25) Chloroform	83	8.513	8.514	0.902	801660	47.46	ug/L		100
26) 1,1,1-Trichloroethane	97	8.782	8.776	0.930	694849	50.19	ug/L		97
27) Cyclohexane	56	8.867	8.867	0.939	1486996	55.85	ug/L		91
28) 1,1-Dichloropropene	75	8.940	8.940	0.947	634122	48.74	ug/L		88
29) Carbon tetrachloride	117	8.971	8.965	0.950	550785	50.88	ug/L		100
31) 1,2-Dichloroethane	62	9.172	9.172	0.972	764109	46.84	ug/L		99
32) Benzene	78	9.178	9.178	0.972	1811522	47.10	ug/L		95
33) Cyclohexene	67	9.288	9.288	0.984	1045674	51.26	ug/L		85
34) n-Butyl alcohol	56	9.568	9.568	1.014	2277610	7073.95	ug/L		88
35) Trichloroethylene	95	9.830	9.830	1.041	446436	47.29	ug/L		99
36) 2-Pentanone	43	9.928	9.928	1.052	2480306	344.34	ug/L		92
37) 1,2-Dichloropropane	63	10.080	10.080	1.068	635113	51.07	ug/L		99
38) Methylcyclohexane	83	10.068	10.068	1.067	875960	48.26	ug/L		88

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203A.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |1204696632|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 16:27:30 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
39) Dibromomethane	93	10.214	10.214	1.082	244555	47.37	ug/L		96
40) Bromodichloromethane	83	10.330	10.330	1.094	576772	45.69	ug/L		99
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.119	1933624	273.30	ug/L		98
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	747369	47.56	ug/L		91
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	1209798	293.01	ug/L	#	75
46) Toluene	91	11.171	11.172	0.884	1899162	48.93	ug/L		100
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	664869	48.45	ug/L		91
48) 1,1,2-Trichloroethane	83	11.562	11.562	0.915	306590	49.02	ug/L		99
49) 2-Hexanone	43	11.751	11.751	0.930	2100937	346.03	ug/L		89
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	665216	48.65	ug/L	#	76
51) Tetrachloroethylene	164	11.763	11.763	0.931	355960	47.31	ug/L		99
52) Dibromochloromethane	129	12.019	12.019	0.951	375194	48.26	ug/L		99
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	348203	51.32	ug/L		99
54) Chlorobenzene	112	12.671	12.671	1.003	1204245	47.25	ug/L		100
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	418698	51.00	ug/L		99
56) Ethylbenzene	91	12.738	12.738	1.008	2181518	49.16	ug/L		99
57) m,p-Xylenes	106	12.848	12.848	1.017	1676900	97.48	ug/L		99
58) o-Xylene	91	13.287	13.287	1.052	1816834	48.19	ug/L		99
59) Styrene	104	13.293	13.293	1.052	1365415	44.75	ug/L		99
61) Bromoform	173	13.543	13.543	0.899	211519	57.90	ug/L		98
62) Isopropylbenzene	105	13.647	13.647	0.906	2288349	51.36	ug/L		99
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	494110	52.83	ug/L		100
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.930	138908	48.40	ug/L		98
66) Bromobenzene	156	14.049	14.049	0.932	485609	47.30	ug/L		95
67) n-Propylbenzene	91	14.079	14.079	0.934	2728168	50.35	ug/L		99
68) 1,3,5-Trimethylbenzene	105	14.238	14.238	0.945	2001939	49.64	ug/L		98
69) 2-Chlorotoluene	126	14.220	14.220	0.944	538345	49.51	ug/L		99
70) 4-Chlorotoluene	91	14.323	14.323	0.951	1640878	48.39	ug/L		100
71) tert-Butylbenzene	134	14.604	14.604	0.969	431757	50.85	ug/L	#	88
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	2059386	49.59	ug/L		99
73) sec-Butylbenzene	105	14.829	14.829	0.984	2739301	52.35	ug/L		99
74) 4-Isopropyltoluene	119	14.957	14.957	0.993	2258664	50.96	ug/L		100
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	1040018	48.20	ug/L		99
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	1046078	47.42	ug/L		99
77) n-Butylbenzene	91	15.384	15.384	1.021	2400886	52.77	ug/L		99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	1055330	49.92	ug/L		99
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.083	90191	57.33	ug/L		96
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	883325	50.18	ug/L		100
81) Hexachlorobutadiene	225	17.457	17.457	1.159	547963	48.72	ug/L		99
82) Naphthalene	128	17.646	17.646	1.171	1929909	51.45	ug/L		99
83) 1,2,3-Trichlorobenzene	180	17.957	17.957	1.192	803312	48.01	ug/L		99
85) Acrolein		0.000	6.008	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.154	0.000	0	N.D.			
87) Isopropyl Alcohol		6.203	6.270	0.657	0m	N.D.	d		
88) Allyl chloride		6.532	6.593	0.692	0m	N.D.	d		
89) tert-Butyl Alcohol		0.000	6.758	0.000	0	N.D.			
90) Acrylonitrile		7.038	7.001	0.746	0m	N.D.	d		
91) Isopropyl ether		7.532	7.544	0.798	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		7.672	7.666	0.813	0m	N.D.	d		
93) Ethyl tert-butyl ether		7.855	7.952	0.832	0m	N.D.	d		
94) Ethyl acetate		8.160	8.172	0.864	0m	N.D.	d		
95) Propionitrile		8.154	8.233	0.864	0m	N.D.	d		
96) Methacrylonitrile		8.507	8.410	0.901	0m	N.D.	d		
97) Tetrahydrofuran		8.513	8.519	0.902	0m	N.D.	d		
98) Isobutyl alcohol		8.867	8.867	0.939	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203A.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |1204696632|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 16:27:30 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

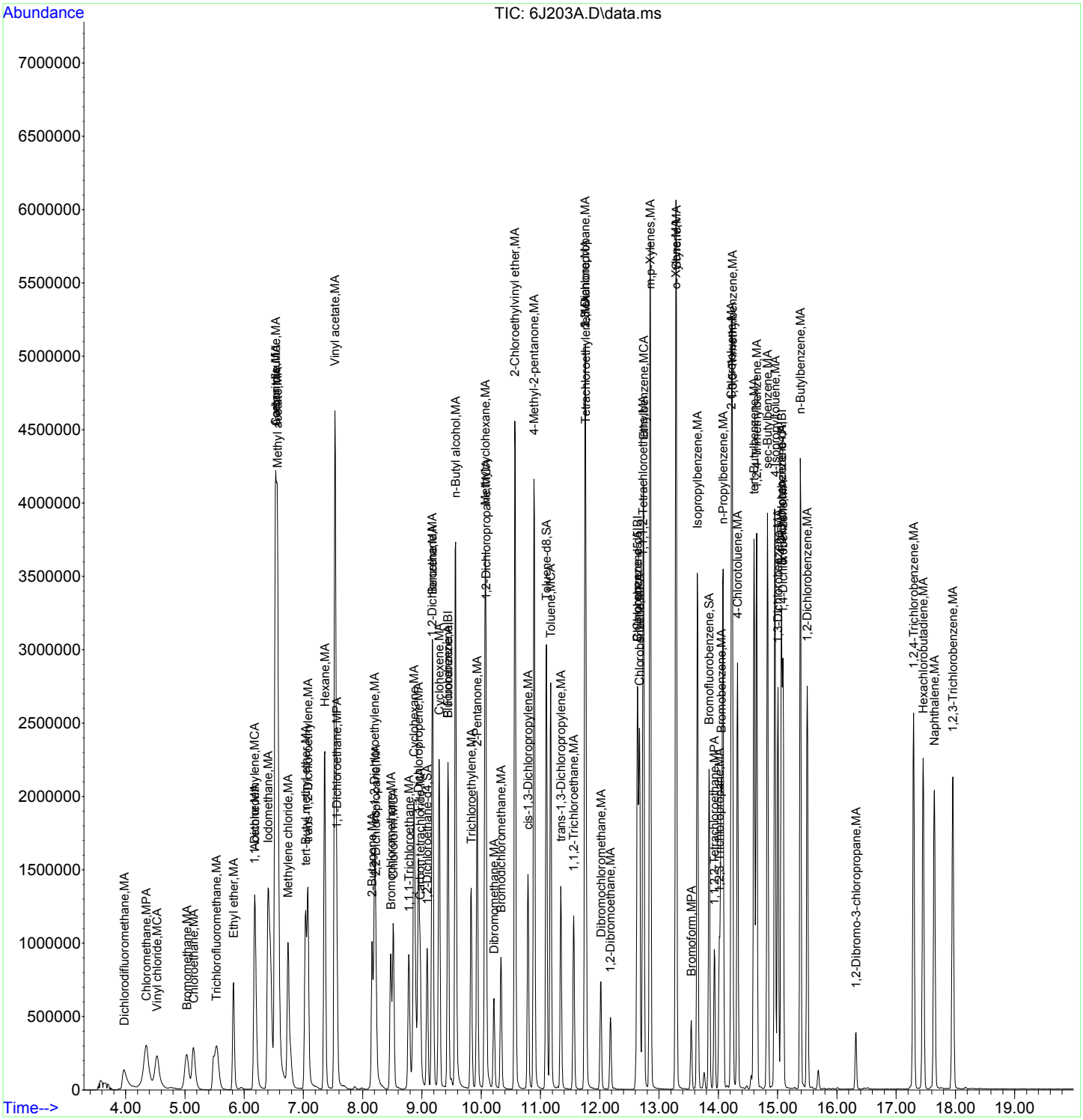
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		9.178	9.208	0.972	0m	N.D.	d
100)	Methyl methacrylate		10.068	10.068	1.067	0m	N.D.	d
101)	1,4-Dioxane		10.184	10.172	1.079	0m	N.D.	d
102)	2-Nitropropane		10.476	10.550	1.110	0m	N.D.	d
104)	Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106)	1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108)	Cyclohexanone		13.805	13.799	0.916	0m	N.D.	d
109)	trans-1,4-Dichloro-2-b...		0.000	13.988	0.000	0	N.D.	
110)	Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111)	Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112)	bis(2-Chloroisopropyl)...		15.604	15.603	1.036	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111720V6\
Data File : 6J203A.D
Acq On : 17 Nov 2020 10:18
Operator : WD1
InstName : VOA6
Sample : |1204696632|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 16:27:30 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**			**Matrix:**	**WATER**
Lab Sample ID:	**1204699779**				
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2063772**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA6.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 11:11**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/18/2020 11:11**				
Data File:	**111820V6\6J303A.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride		35.9	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		45.9	ug/L	0.300	1.00
75-09-2	Methylene chloride		43.4	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane		48.4	ug/L	0.300	1.00
67-66-3	Chloroform		44.1	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		45.9	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride		47.8	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		43.8	ug/L	0.300	1.00
71-43-2	Benzene		43.8	ug/L	0.300	1.00
79-01-6	Trichloroethylene		43.9	ug/L	0.300	1.00
74-95-3	Dibromomethane		44.6	ug/L	0.300	1.00
108-88-3	Toluene		44.7	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		45.8	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		42.2	ug/L	0.300	1.00
100-41-4	Ethylbenzene		45.5	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		48.6	ug/L	0.300	1.00
1330-20-7	Xylenes (total)		133	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	51.1	50.0	ug/L	102	(71%-134%)
Bromofluorobenzene	51.1	50.0	ug/L	102	(70%-131%)
Toluene-d8	49.5	50.0	ug/L	99	(74%-124%)

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J303A.D
Acq On : 18 Nov 2020 11:11
Operator : WD1
InstName : VOA6
Sample : |1204699779|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 18 12:47:12 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		Dev(Min)
Internal Standards									
1) Fluorobenzene	96	9.434	9.440	1.000	1879663	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	12.635	12.635	1.000	1431892	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.061	15.067	1.000	791742	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.434	9.440	1.000	1879663	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	12.635	12.641	1.000	1431892	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.061	15.067	1.000	791742	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.086	9.087	0.963	677980	51.13	ug/L		0.00
45) Toluene-d8	98	11.098	11.098	0.878	1936159	49.51	ug/L		0.00
63) Bromofluorobenzene	95	13.842	13.842	0.919	774045	51.06	ug/L		0.00

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	102%
45) Toluene-d8	50.000	74 - 124	99%
63) Bromofluorobenzene	50.000	70 - 131	102%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	3.961	3.969	0.420	443593	36.78	ug/L		99
3) Chloromethane	50	4.338	4.338	0.460	1143283	46.37	ug/L		98
4) Vinyl chloride	62	4.522	4.522	0.479	752447	35.85	ug/L		98
5) Bromomethane	94	5.020	5.020	0.532	384994	37.91	ug/L		100
6) Chloroethane	64	5.132	5.140	0.544	511940	40.84	ug/L		99
7) Trichlorofluoromethane	101	5.525	5.517	0.586	716457	38.85	ug/L		100
8) Ethyl ether	59	5.814	5.814	0.616	604535	49.69	ug/L		80
9) Acetone	43	6.172	6.179	0.654	857268	280.32	ug/L		93
10) 1,1-Dichloroethylene	61	6.166	6.173	0.654	895635	45.92	ug/L		97
11) Iodomethane	142	6.404	6.404	0.679	3274362	215.18	ug/L		100
12) Acetonitrile	41	6.520	6.526	0.691	2222933	1538.30	ug/L		100
13) Methyl acetate	43	6.556	6.563	0.695	2068800	287.45	ug/L		91
14) Carbon disulfide	76	6.532	6.538	0.692	7520882	248.53	ug/L		99
15) Methylene chloride	84	6.733	6.739	0.714	460998	43.44	ug/L	#	75
16) tert-Butyl methyl ether	73	7.032	7.032	0.745	1179603	44.65	ug/L		92
17) trans-1,2-Dichloroethy...	61	7.069	7.075	0.749	849957	45.70	ug/L		95
18) Hexane	57	7.355	7.355	0.780	1355554	64.00	ug/L		90
19) Vinyl acetate	43	7.526	7.532	0.798	7619610	330.75	ug/L		94
20) 1,1-Dichloroethane	63	7.556	7.556	0.801	1063128	48.41	ug/L		98
21) 2-Butanone	43	8.154	8.160	0.864	1446096	312.66	ug/L		89
22) cis-1,2-Dichloroethylene	61	8.196	8.197	0.869	952519	45.31	ug/L		96
23) 2,2-Dichloropropane	77	8.215	8.221	0.871	518063	47.12	ug/L		85
24) Bromochloromethane	128	8.471	8.471	0.898	199750	43.57	ug/L	#	66
25) Chloroform	83	8.507	8.514	0.902	756803	44.08	ug/L		100
26) 1,1,1-Trichloroethane	97	8.776	8.776	0.930	646437	45.94	ug/L		98
27) Cyclohexane	56	8.861	8.867	0.939	1365537	50.46	ug/L		91
28) 1,1-Dichloropropene	75	8.934	8.940	0.947	590825	44.68	ug/L		89
29) Carbon tetrachloride	117	8.965	8.965	0.950	525560	47.77	ug/L		99
31) 1,2-Dichloroethane	62	9.166	9.172	0.972	725721	43.77	ug/L		100
32) Benzene	78	9.178	9.178	0.973	1712009	43.79	ug/L		94
33) Cyclohexene	67	9.288	9.288	0.984	979609	47.25	ug/L		84
34) n-Butyl alcohol	56	9.562	9.568	1.014	2143663	6550.55	ug/L		86
35) Trichloroethylene	95	9.824	9.830	1.041	420876	43.86	ug/L		99
36) 2-Pentanone	43	9.928	9.928	1.052	2709677	370.12	ug/L		92
37) 1,2-Dichloropropane	63	10.074	10.080	1.068	607023	48.02	ug/L		98
38) Methylcyclohexane	83	10.062	10.068	1.067	809473	43.88	ug/L		88

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J303A.D
Acq On : 18 Nov 2020 11:11
Operator : WD1
InstName : VOA6
Sample : |1204699779|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 18 12:47:12 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
39) Dibromomethane	93	10.208	10.214	1.082	233967	44.58	ug/L		96
40) Bromodichloromethane	83	10.330	10.330	1.095	541014	42.21	ug/L		99
41) 2-Chloroethylvinyl ether	63	10.568	10.568	1.120	1933932	268.93	ug/L		97
42) cis-1,3-Dichloropropylene	75	10.787	10.787	1.143	723072	45.29	ug/L		92
44) 4-Methyl-2-pentanone	58	10.891	10.891	0.862	1179686	275.30	ug/L	#	74
46) Toluene	91	11.171	11.172	0.884	1800530	44.70	ug/L		100
47) trans-1,3-Dichloroprop...	75	11.342	11.342	0.898	643964	45.25	ug/L		92
48) 1,1,2-Trichloroethane	83	11.556	11.562	0.915	297125	45.78	ug/L		99
49) 2-Hexanone	43	11.751	11.751	0.930	2148734	341.00	ug/L		89
50) 1,3-Dichloropropane	76	11.751	11.751	0.930	645670	45.50	ug/L	#	75
51) Tetrachloroethylene	164	11.763	11.763	0.931	329626	42.21	ug/L		95
52) Dibromochloromethane	129	12.013	12.019	0.951	361564	44.86	ug/L		100
53) 1,2-Dibromoethane	107	12.177	12.177	0.964	336701	47.82	ug/L		99
54) Chlorobenzene	112	12.671	12.671	1.003	1149561	43.46	ug/L		100
55) 1,1,1,2-Tetrachloroethane	131	12.726	12.726	1.007	387498	45.48	ug/L		99
56) Ethylbenzene	91	12.738	12.738	1.008	2096993	45.53	ug/L		99
57) m,p-Xylenes	106	12.848	12.848	1.017	1589890	89.05	ug/L		99
58) o-Xylene	91	13.281	13.287	1.051	1709077	43.68	ug/L		100
59) Styrene	104	13.287	13.293	1.052	1305442	41.29	ug/L		99
61) Bromoform	173	13.543	13.543	0.899	205488	54.38	ug/L		100
62) Isopropylbenzene	105	13.647	13.647	0.906	2141415	46.46	ug/L		100
64) 1,1,2,2-Tetrachloroethane	83	13.933	13.933	0.925	470368	48.62	ug/L		99
65) 1,2,3-Trichloropropane	110	14.018	14.019	0.931	132800	44.73	ug/L		98
66) Bromobenzene	156	14.049	14.049	0.933	463742	43.67	ug/L		95
67) n-Propylbenzene	91	14.073	14.079	0.934	2578642	46.00	ug/L		99
68) 1,3,5-Trimethylbenzene	105	14.232	14.238	0.945	1858762	44.55	ug/L		98
69) 2-Chlorotoluene	126	14.220	14.220	0.944	502138	44.64	ug/L		98
70) 4-Chlorotoluene	91	14.323	14.323	0.951	1580960	45.07	ug/L		99
71) tert-Butylbenzene	134	14.604	14.604	0.970	399615	45.49	ug/L		99
72) 1,2,4-Trimethylbenzene	105	14.646	14.646	0.972	1912826	44.52	ug/L		99
73) sec-Butylbenzene	105	14.829	14.829	0.985	2531393	46.76	ug/L		99
74) 4-Isopropyltoluene	119	14.951	14.957	0.993	2091411	45.62	ug/L		100
75) 1,3-Dichlorobenzene	146	15.006	15.006	0.996	994072	44.54	ug/L		100
76) 1,4-Dichlorobenzene	146	15.091	15.091	1.002	996877	43.68	ug/L		99
77) n-Butylbenzene	91	15.384	15.384	1.021	2228500	47.36	ug/L		99
78) 1,2-Dichlorobenzene	146	15.500	15.500	1.029	990123	45.28	ug/L		100
79) 1,2-Dibromo-3-chloropr...	157	16.323	16.323	1.084	86649	53.24	ug/L		98
80) 1,2,4-Trichlorobenzene	180	17.292	17.292	1.148	818792	44.96	ug/L		98
81) Hexachlorobutadiene	225	17.457	17.457	1.159	504776	43.39	ug/L		99
82) Naphthalene	128	17.640	17.646	1.171	1758108	45.31	ug/L		100
83) 1,2,3-Trichlorobenzene	180	17.951	17.957	1.192	731304	42.25	ug/L		100
85) Acrolein		5.929	6.008	0.628	0m	N.D.	d		
86) Trichlorotrifluoroethane		6.160	6.154	0.653	0m	N.D.	d		
87) Isopropyl Alcohol		6.191	6.270	0.656	0m	N.D.	d		
88) Allyl chloride		6.520	6.593	0.691	0m	N.D.	d		
89) tert-Butyl Alcohol		0.000	6.758	0.000	0	N.D.			
90) Acrylonitrile		7.032	7.001	0.745	0m	N.D.	d		
91) Isopropyl ether		7.526	7.544	0.798	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		7.678	7.666	0.814	0m	N.D.	d		
93) Ethyl tert-butyl ether		7.861	7.952	0.833	0m	N.D.	d		
94) Ethyl acetate		8.154	8.172	0.864	0m	N.D.	d		
95) Propionitrile		8.160	8.233	0.865	0m	N.D.	d		
96) Methacrylonitrile		8.513	8.410	0.902	0m	N.D.	d		
97) Tetrahydrofuran		8.513	8.519	0.902	0m	N.D.	d		
98) Isobutyl alcohol		8.861	8.867	0.939	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J303A.D
Acq On : 18 Nov 2020 11:11
Operator : WD1
InstName : VOA6
Sample : |1204699779|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 18 12:47:12 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE

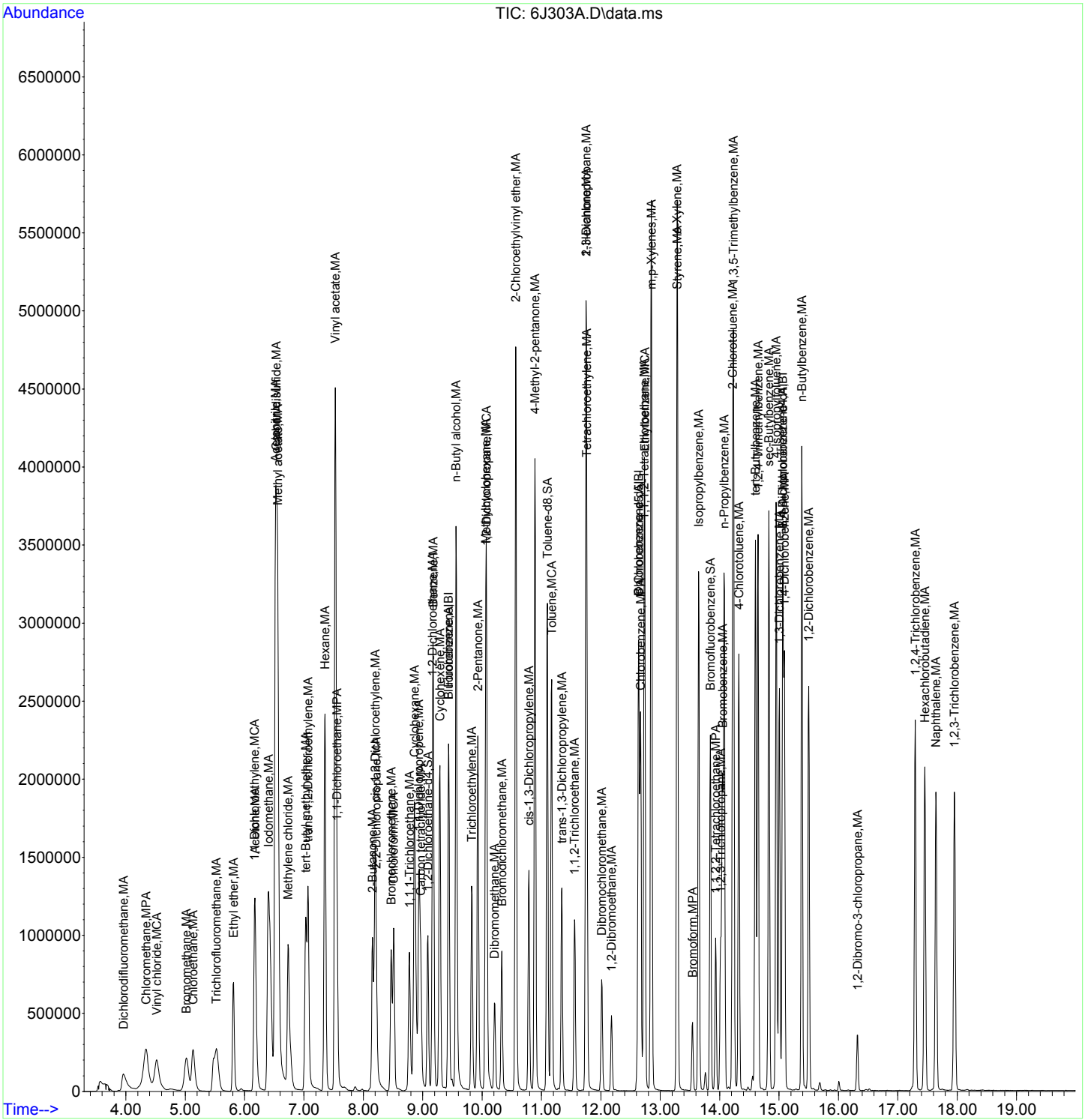
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99) Methyl tert-amyl ether		9.178	9.208	0.973	0m	N.D.	d
100) Methyl methacrylate		10.062	10.068	1.067	0m	N.D.	d
101) 1,4-Dioxane		10.172	10.172	1.078	0m	N.D.	d
102) 2-Nitropropane		10.568	10.550	1.120	0m	N.D.	d
104) Ethyl methacrylate		0.000	11.354	0.000	0	N.D.	
106) 1-Chlorohexane		12.635	12.549	0.839	0m	N.D.	d
107) cis-1,4-Dichloro-2-butene		13.647	13.695	0.906	0m	N.D.	d
108) Cyclohexanone		13.775	13.799	0.915	0m	N.D.	d
109) trans-1,4-Dichloro-2-b...		14.073	13.988	0.934	0m	N.D.	d
110) Pentachloroethane		0.000	14.671	0.000	0	N.D.	
111) Benzyl chloride		0.000	15.213	0.000	0	N.D.	
112) bis(2-Chloroisopropyl)...		15.591	15.603	1.035	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111820V6\
Data File : 6J303A.D
Acq On : 18 Nov 2020 11:11
Operator : WD1
InstName : VOA6
Sample : |1204699779|2063772|1|VOAF|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 18 12:47:12 2020
Quant Method : C:\msdchem\1\data\102020V6\VOA6-8260-102020DOE.M
Quant Title : Volatile Organics SubList :
QLast Update : Wed Oct 21 15:27:57 2020
Response via : Initial Calibration
Integrator: RTE



Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**			**Matrix:**	**WATER**
Lab Sample ID:	**1204699780**				
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2063772**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA9.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 14:33**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/19/2020 14:33**				
Data File:	**111920V9\9S403A.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride		36.0	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		40.2	ug/L	0.300	1.00
75-09-2	Methylene chloride		47.0	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane		46.2	ug/L	0.300	1.00
67-66-3	Chloroform		49.0	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		48.5	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride		50.9	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		43.6	ug/L	0.300	1.00
71-43-2	Benzene		45.7	ug/L	0.300	1.00
79-01-6	Trichloroethylene		46.9	ug/L	0.300	1.00
74-95-3	Dibromomethane		53.6	ug/L	0.300	1.00
108-88-3	Toluene		44.7	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		48.8	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		52.2	ug/L	0.300	1.00
100-41-4	Ethylbenzene		44.9	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		45.1	ug/L	0.300	1.00
1330-20-7	Xylenes (total)		145	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.3	50.0	ug/L	97	(71%-134%)
Bromofluorobenzene	44.4	50.0	ug/L	89	(70%-131%)
Toluene-d8	49.7	50.0	ug/L	99	(74%-124%)

Quantitation Report
GEL Laboratories, LLC

WMD 11/20/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
InstName : VOA9
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 19 14:53:40 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		Dev(Min)
Internal Standards									
1) Fluorobenzene	96	9.967	9.967	1.000	1457913	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1262810	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	847529	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	1457913	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	1262810	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	847529	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	374304	48.31	ug/L		0.00
45) Toluene-d8	98	11.604	11.604	0.884	1520194	49.67	ug/L		0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	614229	44.37	ug/L		-0.01

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	97%
45) Toluene-d8	50.000	74 - 124	99%
63) Bromofluorobenzene	50.000	70 - 131	89%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	449473	46.57	ug/L		100
3) Chloromethane	50	4.761	4.761	0.478	489676	38.34	ug/L		99
4) Vinyl chloride	62	4.975	4.963	0.499	420349	36.02	ug/L		100
5) Bromomethane	94	5.508	5.508	0.553	404591	46.42	ug/L		97
6) Chloroethane	64	5.627	5.627	0.565	261592	37.71	ug/L		100
7) Trichlorofluoromethane	101	6.042	6.042	0.606	626223	41.48	ug/L		99
8) Ethyl ether	59	6.327	6.327	0.635	245495	47.65	ug/L		91
9) Acetone	43	6.694	6.694	0.672	374576	246.84	ug/L		96
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	471744	40.20	ug/L		92
11) Iodomethane	142	6.955	6.955	0.698	4026648	281.48	ug/L		94
12) Acetonitrile	41	7.050	7.050	0.707	895260	1163.03	ug/L		98
13) Methyl acetate	43	7.086	7.086	0.711	787017	222.20	ug/L		95
14) Carbon disulfide	76	7.086	7.086	0.711	5823938	234.93	ug/L		99
15) Methylene chloride	84	7.275	7.275	0.730	365638	46.96	ug/L		91
16) tert-Butyl methyl ether	73	7.572	7.584	0.760	935571	50.84	ug/L		97
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	450833	41.43	ug/L		89
18) Hexane	57	7.904	7.904	0.793	452232	40.93	ug/L		93
19) Vinyl acetate	43	8.046	8.058	0.807	3057996	238.03	ug/L		95
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	598336	46.15	ug/L		99
21) 2-Butanone	43	8.675	8.675	0.870	558477	236.69	ug/L		93
22) cis-1,2-Dichloroethylene	61	8.722	8.734	0.875	534501	44.01	ug/L		91
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	559121	45.96	ug/L		84
24) Bromochloromethane	128	9.007	9.007	0.904	204083	58.47	ug/L	#	81
25) Chloroform	83	9.042	9.042	0.907	616192	48.95	ug/L		99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	618726	48.47	ug/L		98
27) Cyclohexane	56	9.410	9.410	0.944	586148	38.47	ug/L		92
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	414956	42.56	ug/L		95
29) Carbon tetrachloride	117	9.505	9.517	0.954	561026	50.94	ug/L		99
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	405046	43.57	ug/L		100
32) Benzene	78	9.706	9.706	0.974	1303921	45.68	ug/L		98
33) Cyclohexene	67	9.825	9.825	0.986	649443	42.85	ug/L		97
34) n-Butyl alcohol	41	10.062	10.062	1.010	597814	5347.91	ug/L		92
35) Trichloroethylene	95	10.347	10.347	1.038	353732	46.94	ug/L		94
36) 2-Pentanone	43	10.430	10.430	1.046	911382	218.75	ug/L		93
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	327973	44.69	ug/L		99
38) Methylcyclohexane	83	10.596	10.607	1.063	629777	44.10	ug/L		94

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
InstName : VOA9
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 14:53:40 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
39) Dibromomethane	93	10.726	10.726	1.076	202403	53.55	ug/L	#	83
40) Bromodichloromethane	83	10.845	10.845	1.088	434881	49.82	ug/L		97
41) 2-Chloroethylvinyl ether	63	11.070	11.070	1.111	960314	261.03	ug/L		96
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	510760	49.72	ug/L		94
44) 4-Methyl-2-pentanone	58	11.390	11.390	0.867	516908	248.64	ug/L		86
46) Toluene	91	11.675	11.687	0.889	1432211	44.66	ug/L		99
47) trans-1,3-Dichloroprop...	75	11.829	11.841	0.901	449346	48.76	ug/L		95
48) 1,1,2-Trichloroethane	83	12.054	12.054	0.918	229128	48.80	ug/L		97
49) 2-Hexanone	43	12.232	12.232	0.931	896108	228.29	ug/L		93
50) 1,3-Dichloropropane	76	12.244	12.244	0.932	449862	47.73	ug/L		89
51) Tetrachloroethylene	164	12.280	12.280	0.935	374513	52.23	ug/L		90
52) Dibromochloromethane	129	12.517	12.517	0.953	379777	52.70	ug/L		99
53) 1,2-Dibromoethane	107	12.683	12.683	0.966	302321	54.93	ug/L		96
54) Chlorobenzene	112	13.169	13.169	1.003	1022645	48.15	ug/L		96
55) 1,1,1,2-Tetrachloroethane	131	13.216	13.228	1.006	435640	52.60	ug/L		97
56) Ethylbenzene	91	13.228	13.228	1.007	1666243	44.92	ug/L		97
57) m,p-Xylenes	106	13.335	13.347	1.015	1408141	97.47	ug/L		96
58) o-Xylene	106	13.774	13.774	1.049	716181	47.72	ug/L		96
59) Styrene	104	13.774	13.774	1.049	1180541	50.60	ug/L		97
61) Bromoform	173	14.023	14.035	0.902	276072	51.80	ug/L		100
62) Isopropylbenzene	105	14.130	14.129	0.909	1884632	42.46	ug/L		97
64) 1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	356476	45.09	ug/L		98
65) 1,2,3-Trichloropropane	110	14.485	14.497	0.932	120231	53.13	ug/L	#	75
66) Bromobenzene	156	14.533	14.533	0.935	612059	54.08	ug/L	#	81
67) n-Propylbenzene	91	14.556	14.556	0.937	2109966	39.99	ug/L		95
68) 1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1656157	42.10	ug/L		97
69) 2-Chlorotoluene	126	14.699	14.711	0.946	535347	47.19	ug/L	#	81
70) 4-Chlorotoluene	91	14.806	14.805	0.953	1256853	40.70	ug/L		91
71) tert-Butylbenzene	134	15.078	15.078	0.970	389323	46.32	ug/L	#	82
72) 1,2,4-Trimethylbenzene	105	15.114	15.126	0.973	1654376	42.17	ug/L		98
73) sec-Butylbenzene	105	15.304	15.303	0.985	2221348	42.71	ug/L		94
74) 4-Isopropyltoluene	119	15.422	15.422	0.992	1953485	43.42	ug/L		97
75) 1,3-Dichlorobenzene	146	15.481	15.481	0.996	1085889	49.64	ug/L		95
76) 1,4-Dichlorobenzene	146	15.564	15.564	1.002	1070271	48.25	ug/L		96
77) n-Butylbenzene	91	15.861	15.861	1.021	1678921	38.96	ug/L		96
78) 1,2-Dichlorobenzene	146	15.980	15.979	1.028	1105595	52.86	ug/L		96
79) 1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	100209	51.91	ug/L		87
80) 1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	968263	52.21	ug/L		100
81) Hexachlorobutadiene	225	18.031	18.031	1.160	608627	51.74	ug/L		99
82) Naphthalene	128	18.221	18.221	1.172	1815524	50.72	ug/L		100
83) 1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	957173	53.83	ug/L		98
85) Acrolein		0.000	6.516	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87) Isopropyl Alcohol		6.718	6.777	0.674	0m	N.D.	d		
88) Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89) tert-Butyl Alcohol		7.335	7.275	0.736	0m	N.D.	d		
90) Acrylonitrile		7.572	7.524	0.760	0m	N.D.	d		
91) Isopropyl ether		8.046	8.082	0.807	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		8.058	8.200	0.808	0m	N.D.	d		
93) Ethyl tert-butyl ether		0.000	8.485	0.000	0	N.D.			
94) Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95) Propionitrile		8.675	8.746	0.870	0m	N.D.	d		
96) Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97) Tetrahydrofuran		9.042	9.054	0.907	0m	N.D.	d		
98) Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
InstName : VOA9
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 14:53:40 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

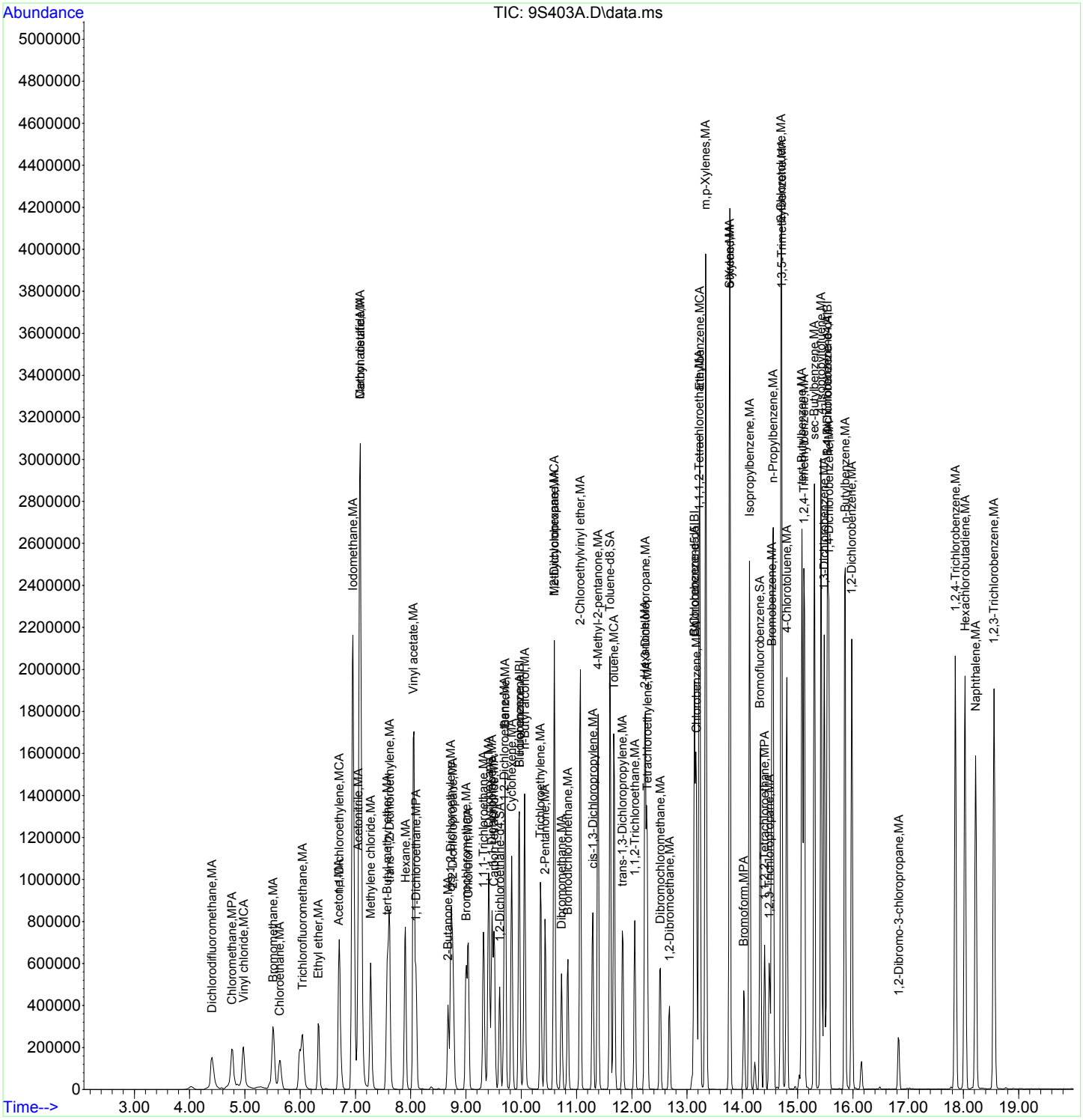
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
99)	Methyl tert-amyl ether		9.706	9.730	0.974	0m	N.D.		d
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.		d
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.		d
102)	2-Nitropropane		11.070	11.046	1.111	0m	N.D.		d
104)	Ethyl methacrylate		11.841	11.841	0.902	0m	N.D.		d
106)	1-Chlorohexane		13.133	13.039	0.845	0m	N.D.		d
107)	cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.		d
108)	Cyclohexanone		14.130	14.284	0.909	0m	N.D.		d
109)	trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.		d
110)	Pentachloroethane		15.149	15.149	0.975	0m	N.D.		d
111)	Benzyl chloride		15.659	15.683	1.008	0m	N.D.		d
112)	bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.		d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
InstName : VOA9
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 14:53:40 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Library Search Compound Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S403A.D
Acq On : 19 Nov 2020 14:33
Operator : WD1
Sample : |1204699780|2063772|1|VOA|1|VOA8260LFD|
Misc : LCS 5UL/5ML N/A MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: default.P

			(ug/L)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	# RT	Resp	Conc

Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**1204696633**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209991PS**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA9.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 17:08**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/19/2020 17:08**				
Data File:	**111920V9\9S409.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride		39.2	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		40.5	ug/L	0.300	1.00
75-09-2	Methylene chloride		47.6	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane		46.1	ug/L	0.300	1.00
67-66-3	Chloroform		48.3	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		48.6	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride		50.6	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		42.9	ug/L	0.300	1.00
71-43-2	Benzene		45.0	ug/L	0.300	1.00
79-01-6	Trichloroethylene		46.2	ug/L	0.300	1.00
74-95-3	Dibromomethane		53.3	ug/L	0.300	1.00
108-88-3	Toluene		44.3	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		48.3	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		52.0	ug/L	0.300	1.00
100-41-4	Ethylbenzene		45.1	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		45.6	ug/L	0.300	1.00
1330-20-7	Xylenes (total)		147	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.2	50.0	ug/L	96	(71%-134%)
Bromofluorobenzene	44.7	50.0	ug/L	89	(70%-131%)
Toluene-d8	49.4	50.0	ug/L	99	(74%-124%)

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S409.D
Acq On : 19 Nov 2020 17:08
Operator : WD1
InstName : VOA9
Sample : |1204696633|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PS
ALS Vial : 9 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 19 17:42:13 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		Dev(Min)
Internal Standards									
1) Fluorobenzene	96	9.967	9.967	1.000	1370868	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	13.134	13.133	1.000	1193147	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	786343	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	1370868	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	13.134	13.134	1.000	1193147	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	786343	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.612	9.611	0.964	351225	48.21	ug/L		0.00
45) Toluene-d8	98	11.604	11.604	0.884	1429820	49.44	ug/L		0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	573806	44.67	ug/L		-0.01

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	96%
45) Toluene-d8	50.000	74 - 124	99%
63) Bromofluorobenzene	50.000	70 - 131	89%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	439199	48.39	ug/L		99
3) Chloromethane	50	4.776	4.761	0.479	479363	39.92	ug/L		99
4) Vinyl chloride	62	4.975	4.963	0.499	430230	39.21	ug/L		99
5) Bromomethane	94	5.520	5.508	0.554	395797	48.29	ug/L		99
6) Chloroethane	64	5.639	5.627	0.566	250463	38.40	ug/L		100
7) Trichlorofluoromethane	101	6.042	6.042	0.606	595709	41.96	ug/L		100
8) Ethyl ether	59	6.339	6.327	0.636	233908	48.28	ug/L		91
9) Acetone	43	6.694	6.694	0.672	344913	241.72	ug/L		96
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	447312	40.54	ug/L		94
11) Iodomethane	142	6.955	6.955	0.698	3747918	278.63	ug/L		95
12) Acetonitrile	41	7.050	7.050	0.707	851095	1175.86	ug/L		98
13) Methyl acetate	43	7.086	7.086	0.711	733350	220.19	ug/L		95
14) Carbon disulfide	76	7.086	7.086	0.711	5516620	236.66	ug/L		99
15) Methylene chloride	84	7.276	7.275	0.730	348148	47.59	ug/L		91
16) tert-Butyl methyl ether	73	7.584	7.584	0.761	882470	51.00	ug/L		96
17) trans-1,2-Dichloroethy...	61	7.619	7.619	0.764	425256	41.56	ug/L		90
18) Hexane	57	7.904	7.904	0.793	1070	N.D.			
19) Vinyl acetate	43	8.058	8.058	0.808	2946292	243.90	ug/L		95
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	562090	46.11	ug/L		98
21) 2-Butanone	43	8.675	8.675	0.870	513649	231.52	ug/L		94
22) cis-1,2-Dichloroethylene	61	8.734	8.734	0.876	505735	44.28	ug/L		93
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	539807	47.19	ug/L		85
24) Bromochloromethane	128	9.007	9.007	0.904	190192	57.95	ug/L	#	81
25) Chloroform	83	9.042	9.042	0.907	571527	48.28	ug/L		98
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	583415	48.61	ug/L		98
27) Cyclohexane	56	9.410	9.410	0.944	556740	38.86	ug/L		92
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	386374	42.15	ug/L		95
29) Carbon tetrachloride	117	9.505	9.517	0.954	524347	50.63	ug/L		99
31) 1,2-Dichloroethane	62	9.695	9.694	0.973	374563	42.85	ug/L		99
32) Benzene	78	9.707	9.706	0.974	1206398	44.95	ug/L		98
33) Cyclohexene	67	9.825	9.825	0.986	604006	42.38	ug/L		99
34) n-Butyl alcohol	41	10.062	10.062	1.010	552458	5255.97	ug/L		92
35) Trichloroethylene	95	10.347	10.347	1.038	327528	46.23	ug/L		95
36) 2-Pentanone	43	10.430	10.430	1.046	1947	N.D.			
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	306523	44.42	ug/L		99
38) Methylcyclohexane	83	10.596	10.607	1.063	599041	44.61	ug/L		94

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S409.D
Acq On : 19 Nov 2020 17:08
Operator : WD1
InstName : VOA9
Sample : |1204696633|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PS
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 17:42:13 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
39) Dibromomethane	93	10.726	10.726	1.076	189460	53.31	ug/L	#	83
40) Bromodichloromethane	83	10.845	10.845	1.088	401537	48.92	ug/L		98
41) 2-Chloroethylvinyl ether		0.000	11.070	0.000	0	N.D.			
42) cis-1,3-Dichloropropylene	75	11.296	11.295	1.133	477851	49.47	ug/L		94
44) 4-Methyl-2-pentanone	58	11.390	11.390	0.867	484924	246.87	ug/L		87
46) Toluene	91	11.675	11.687	0.889	1342752	44.32	ug/L		99
47) trans-1,3-Dichloroprop...	75	11.829	11.841	0.901	429144	49.29	ug/L		94
48) 1,1,2-Trichloroethane	83	12.054	12.054	0.918	214260	48.30	ug/L		96
49) 2-Hexanone	43	12.232	12.232	0.931	855365	230.63	ug/L		94
50) 1,3-Dichloropropane	76	12.244	12.244	0.932	423600	47.57	ug/L		89
51) Tetrachloroethylene	164	12.280	12.280	0.935	352068	51.97	ug/L		89
52) Dibromochloromethane	129	12.517	12.517	0.953	349227	51.30	ug/L		100
53) 1,2-Dibromoethane	107	12.683	12.683	0.966	291137	55.99	ug/L		98
54) Chlorobenzene	112	13.169	13.169	1.003	973315	48.50	ug/L		96
55) 1,1,1,2-Tetrachloroethane	131	13.217	13.228	1.006	404215	51.65	ug/L		98
56) Ethylbenzene	91	13.228	13.228	1.007	1581811	45.14	ug/L		97
57) m,p-Xylenes	106	13.335	13.347	1.015	1348264	98.77	ug/L		96
58) o-Xylene	106	13.774	13.774	1.049	680561	48.00	ug/L		96
59) Styrene	104	13.774	13.774	1.049	1125511	51.06	ug/L		97
61) Bromoform	173	14.023	14.035	0.902	253639	51.30	ug/L		98
62) Isopropylbenzene	105	14.130	14.129	0.909	1760768	42.75	ug/L		97
64) 1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	334661	45.63	ug/L		98
65) 1,2,3-Trichloropropane	110	14.485	14.497	0.932	106234	50.59	ug/L	#	81
66) Bromobenzene	156	14.533	14.533	0.935	539780	51.41	ug/L	#	83
67) n-Propylbenzene	91	14.557	14.556	0.937	1936250	39.55	ug/L		96
68) 1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1527804	41.86	ug/L		98
69) 2-Chlorotoluene	126	14.699	14.711	0.946	496788	47.20	ug/L	#	81
70) 4-Chlorotoluene	91	14.806	14.805	0.953	1182926	41.28	ug/L		93
71) tert-Butylbenzene	134	15.078	15.078	0.970	347647	44.58	ug/L	#	85
72) 1,2,4-Trimethylbenzene	105	15.114	15.126	0.973	1531676	42.08	ug/L		99
73) sec-Butylbenzene	105	15.304	15.303	0.985	2024265	41.95	ug/L		94
74) 4-Isopropyltoluene	119	15.422	15.422	0.992	1803517	43.20	ug/L		97
75) 1,3-Dichlorobenzene	146	15.482	15.481	0.996	1006504	49.59	ug/L		96
76) 1,4-Dichlorobenzene	146	15.565	15.564	1.002	1010417	49.10	ug/L		96
77) n-Butylbenzene	91	15.849	15.861	1.020	1586366	39.68	ug/L		97
78) 1,2-Dichlorobenzene	146	15.980	15.979	1.028	991778	51.10	ug/L		97
79) 1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	94415	52.70	ug/L		89
80) 1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	951384	55.29	ug/L		100
81) Hexachlorobutadiene	225	18.031	18.031	1.160	591598	54.20	ug/L		98
82) Naphthalene	128	18.221	18.221	1.172	1736650	52.29	ug/L		100
83) 1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	963084	58.38	ug/L		98
85) Acrolein		0.000	6.516	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87) Isopropyl Alcohol		6.730	6.777	0.675	0m	N.D.	d		
88) Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89) tert-Butyl Alcohol		7.276	7.275	0.730	0m	N.D.	d		
90) Acrylonitrile		7.572	7.524	0.760	0m	N.D.	d		
91) Isopropyl ether		8.058	8.082	0.808	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		8.046	8.200	0.807	0m	N.D.	d		
93) Ethyl tert-butyl ether		8.366	8.485	0.839	0m	N.D.	d		
94) Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95) Propionitrile		8.675	8.746	0.870	0m	N.D.	d		
96) Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97) Tetrahydrofuran		9.054	9.054	0.908	0m	N.D.	d		
98) Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S409.D
Acq On : 19 Nov 2020 17:08
Operator : WD1
InstName : VOA9
Sample : |1204696633|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PS
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 17:42:13 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

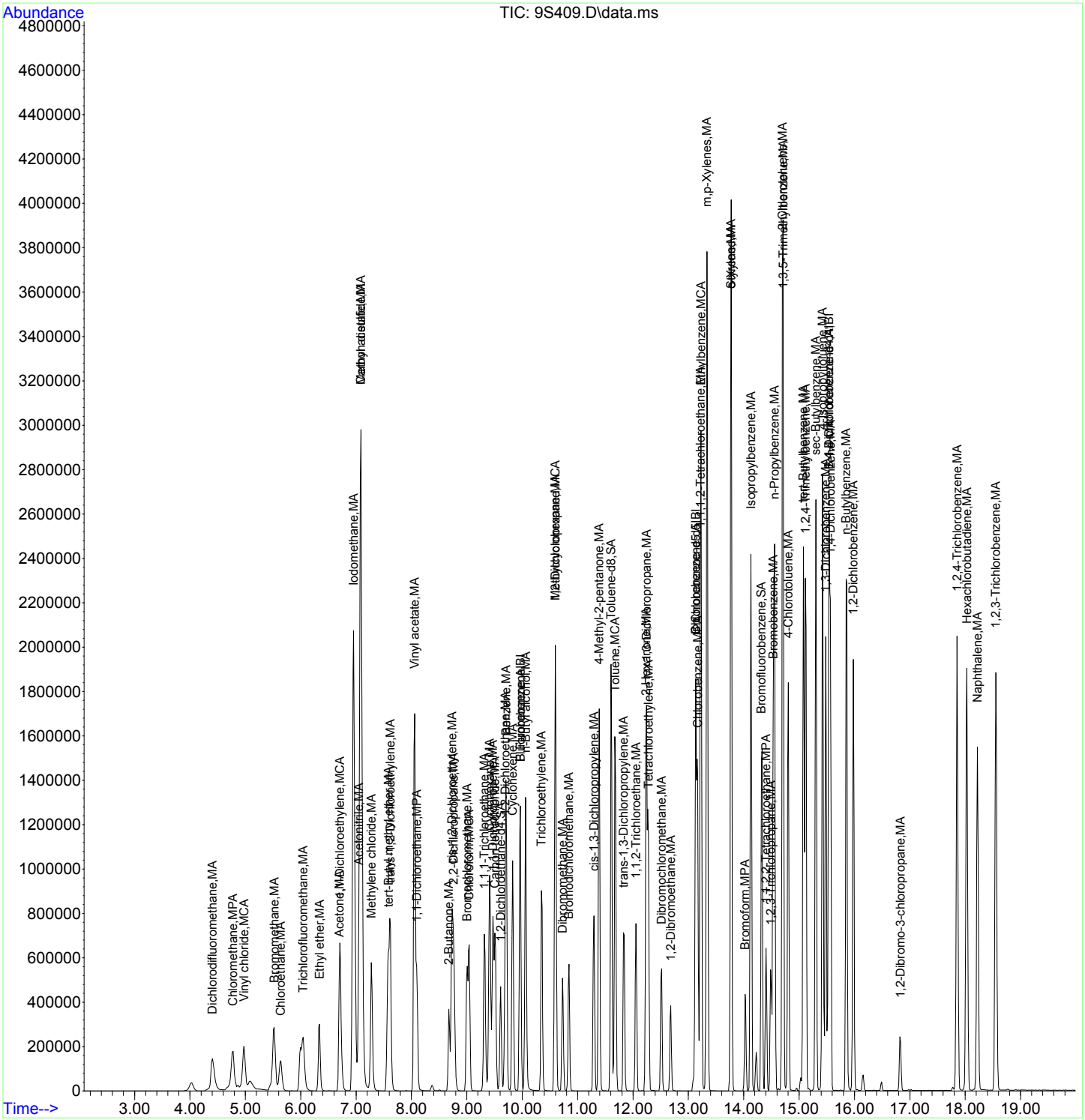
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units
99)	Methyl tert-amyl ether		9.707	9.730	0.974	0m	N.D.	d
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.	d
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.	d
102)	2-Nitropropane		0.000	11.046	0.000	0	N.D.	
104)	Ethyl methacrylate		11.841	11.841	0.902	0m	N.D.	d
106)	1-Chlorohexane		13.134	13.039	0.845	0m	N.D.	d
107)	cis-1,4-Dichloro-2-butene		14.130	14.165	0.909	0m	N.D.	d
108)	Cyclohexanone		14.130	14.284	0.909	0m	N.D.	d
109)	trans-1,4-Dichloro-2-b...		14.557	14.450	0.937	0m	N.D.	d
110)	Pentachloroethane		15.138	15.149	0.974	0m	N.D.	d
111)	Benzyl chloride		15.671	15.683	1.008	0m	N.D.	d
112)	bis(2-Chloroisopropyl)...		16.146	16.074	1.039	0m	N.D.	d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S409.D
Acq On : 19 Nov 2020 17:08
Operator : WD1
InstName : VOA9
Sample : |1204696633|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PS
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 17:42:13 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**1204696634**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**QC for batch 2063772**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209991PSD**	**Method:**	**SW-846:8260B**	**SOP Ref:**	**GL-OA-E-038**
Batch ID:	**2063772**	**Inst:**	**VOA9.I**	**Dilution:**	**1**
Run Date:	**11/19/2020 17:33**	**Analyst:**	**WD1**	**Purge Vol:**	**5 mL**
Prep Date:	**11/19/2020 17:33**				
Data File:	**111920V9\9S410.D**	**Column:**	**DB-624**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-01-4	Vinyl chloride		37.7	ug/L	0.300	1.00
75-35-4	1,1-Dichloroethylene		38.4	ug/L	0.300	1.00
75-09-2	Methylene chloride		45.4	ug/L	1.00	10.0
75-34-3	1,1-Dichloroethane		44.2	ug/L	0.300	1.00
67-66-3	Chloroform		46.6	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane		46.2	ug/L	0.300	1.00
56-23-5	Carbon tetrachloride		48.2	ug/L	0.300	1.00
107-06-2	1,2-Dichloroethane		41.3	ug/L	0.300	1.00
71-43-2	Benzene		43.1	ug/L	0.300	1.00
79-01-6	Trichloroethylene		44.8	ug/L	0.300	1.00
74-95-3	Dibromomethane		51.0	ug/L	0.300	1.00
108-88-3	Toluene		42.2	ug/L	0.300	1.00
79-00-5	1,1,2-Trichloroethane		45.7	ug/L	0.300	1.00
127-18-4	Tetrachloroethylene		48.3	ug/L	0.300	1.00
100-41-4	Ethylbenzene		42.6	ug/L	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		44.3	ug/L	0.300	1.00
1330-20-7	Xylenes (total)		138	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	48.9	50.0	ug/L	98	(71%-134%)
Bromofluorobenzene	45.3	50.0	ug/L	91	(70%-131%)
Toluene-d8	49.0	50.0	ug/L	98	(74%-124%)

Quantitation Report
GEL Laboratories, LLC

WMD 11/19/2020

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S410.D
Acq On : 19 Nov 2020 17:33
Operator : WD1
InstName : VOA9
Sample : |1204696634|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PSD
ALS Vial : 10 Sample Multiplier: 1

EH 11/20/2020

Quant Time: Nov 19 19:37:55 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		Dev(Min)
Internal Standards									
1) Fluorobenzene	96	9.967	9.967	1.000	1423623	50.00	ug/L		0.00
43) Chlorobenzene-d5	117	13.133	13.133	1.000	1258951	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	836989	50.00	ug/L		0.00
84) B Fluorobenzene	96	9.967	9.967	1.000	1423623	50.00	ug/L		0.00
103) B Chlorobenzene-d5	117	13.133	13.134	1.000	1258951	50.00	ug/L		0.00
105) B 1,4-Dichlorobenzene-d4	152	15.541	15.541	1.000	836989	50.00	ug/L		0.00
System Monitoring Compounds									Dev(Min)
30) 1,2-Dichloroethane-d4	65	9.611	9.611	0.964	369929	48.89	ug/L		0.00
45) Toluene-d8	98	11.604	11.604	0.884	1494152	48.97	ug/L		0.00
63) Bromofluorobenzene	95	14.319	14.331	0.921	619892	45.34	ug/L		-0.01

Compound	Amount	Range	Recovery
30) 1,2-Dichloroethane-d4	50.000	71 - 134	98%
45) Toluene-d8	50.000	74 - 124	98%
63) Bromofluorobenzene	50.000	70 - 131	91%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		QValue
2) Dichlorodifluoromethane	85	4.405	4.405	0.442	429397	45.56	ug/L		100
3) Chloromethane	50	4.761	4.761	0.478	471926	37.84	ug/L		99
4) Vinyl chloride	62	4.975	4.963	0.499	429278	37.67	ug/L		99
5) Bromomethane	94	5.508	5.508	0.553	386895	45.46	ug/L		97
6) Chloroethane	64	5.627	5.627	0.565	252222	37.24	ug/L		100
7) Trichlorofluoromethane	101	6.042	6.042	0.606	589791	40.01	ug/L		100
8) Ethyl ether	59	6.327	6.327	0.635	233414	46.40	ug/L		90
9) Acetone	43	6.694	6.694	0.672	342790	231.33	ug/L		97
10) 1,1-Dichloroethylene	61	6.706	6.706	0.673	440457	38.44	ug/L		93
11) Iodomethane	142	6.955	6.955	0.698	3712642	265.78	ug/L		95
12) Acetonitrile	41	7.050	7.050	0.707	847028	1126.88	ug/L		99
13) Methyl acetate	43	7.086	7.086	0.711	725961	209.89	ug/L		96
14) Carbon disulfide	76	7.086	7.086	0.711	5431828	224.39	ug/L		99
15) Methylene chloride	84	7.275	7.275	0.730	346009	45.43	ug/L		91
16) tert-Butyl methyl ether	73	7.572	7.584	0.760	879838	48.96	ug/L		96
17) trans-1,2-Dichloroethy...	61	7.607	7.619	0.763	423082	39.82	ug/L		90
18) Hexane	57	7.892	7.904	0.792	1032	N.D.			
19) Vinyl acetate	43	8.046	8.058	0.807	2909012	231.89	ug/L		95
20) 1,1-Dichloroethane	63	8.094	8.093	0.812	559976	44.23	ug/L		99
21) 2-Butanone	43	8.675	8.675	0.870	524072	227.46	ug/L		94
22) cis-1,2-Dichloroethylene	61	8.722	8.734	0.875	497686	41.96	ug/L		92
23) 2,2-Dichloropropane	77	8.758	8.758	0.879	535838	45.11	ug/L		84
24) Bromochloromethane	128	9.007	9.007	0.904	190093	55.77	ug/L	#	81
25) Chloroform	83	9.042	9.042	0.907	572721	46.59	ug/L		99
26) 1,1,1-Trichloroethane	97	9.315	9.315	0.935	575666	46.19	ug/L		98
27) Cyclohexane	56	9.410	9.410	0.944	550979	37.03	ug/L		93
28) 1,1-Dichloropropene	75	9.469	9.469	0.950	383590	40.29	ug/L		94
29) Carbon tetrachloride	117	9.505	9.517	0.954	518316	48.20	ug/L		99
31) 1,2-Dichloroethane	62	9.694	9.694	0.973	374601	41.27	ug/L		100
32) Benzene	78	9.706	9.706	0.974	1200472	43.07	ug/L		98
33) Cyclohexene	67	9.825	9.825	0.986	595243	40.22	ug/L		98
34) n-Butyl alcohol	41	10.062	10.062	1.010	548253	5022.68	ug/L		92
35) Trichloroethylene	95	10.347	10.347	1.038	329363	44.76	ug/L		95
36) 2-Pentanone	43	10.430	10.430	1.046	2389	N.D.			
37) 1,2-Dichloropropane	63	10.596	10.596	1.063	306828	42.82	ug/L		100
38) Methylcyclohexane	83	10.596	10.607	1.063	580314	41.61	ug/L		94

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S410.D
Acq On : 19 Nov 2020 17:33
Operator : WD1
InstName : VOA9
Sample : |1204696634|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PSD
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 19 19:37:55 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
39) Dibromomethane	93	10.726	10.726	1.076	188365	51.04	ug/L	#	83
40) Bromodichloromethane	83	10.845	10.845	1.088	402234	47.19	ug/L		98
41) 2-Chloroethylvinyl ether		0.000	11.070	0.000	0	N.D.			
42) cis-1,3-Dichloropropylene	75	11.295	11.295	1.133	478531	47.70	ug/L		94
44) 4-Methyl-2-pentanone	58	11.390	11.390	0.867	491280	237.03	ug/L		87
46) Toluene	91	11.675	11.687	0.889	1347524	42.15	ug/L		100
47) trans-1,3-Dichloroprop...	75	11.829	11.841	0.901	428716	46.67	ug/L		94
48) 1,1,2-Trichloroethane	83	12.054	12.054	0.918	213681	45.65	ug/L		96
49) 2-Hexanone	43	12.232	12.232	0.931	862507	220.40	ug/L		93
50) 1,3-Dichloropropane	76	12.244	12.244	0.932	424480	45.18	ug/L		90
51) Tetrachloroethylene	164	12.280	12.280	0.935	345330	48.31	ug/L		90
52) Dibromochloromethane	129	12.517	12.517	0.953	348848	48.60	ug/L		100
53) 1,2-Dibromoethane	107	12.683	12.683	0.966	290782	53.00	ug/L		98
54) Chlorobenzene	112	13.169	13.169	1.003	972769	45.94	ug/L		96
55) 1,1,1,2-Tetrachloroethane	131	13.216	13.228	1.006	403019	48.81	ug/L		97
56) Ethylbenzene	91	13.228	13.228	1.007	1573230	42.55	ug/L		97
57) m,p-Xylenes	106	13.335	13.347	1.015	1331205	92.42	ug/L		96
58) o-Xylene	106	13.774	13.774	1.049	676449	45.21	ug/L		95
59) Styrene	104	13.774	13.774	1.049	1115446	47.96	ug/L		97
61) Bromoform	173	14.023	14.035	0.902	256041	48.69	ug/L		100
62) Isopropylbenzene	105	14.129	14.129	0.909	1734539	39.57	ug/L		98
64) 1,1,2,2-Tetrachloroethane	83	14.402	14.402	0.927	345764	44.29	ug/L		98
65) 1,2,3-Trichloropropane	110	14.485	14.497	0.932	109830	49.14	ug/L	#	78
66) Bromobenzene	156	14.533	14.533	0.935	546044	48.86	ug/L	#	84
67) n-Propylbenzene	91	14.556	14.556	0.937	1972242	37.85	ug/L		95
68) 1,3,5-Trimethylbenzene	105	14.711	14.711	0.947	1558719	40.12	ug/L		98
69) 2-Chlorotoluene	126	14.699	14.711	0.946	511069	45.62	ug/L	#	80
70) 4-Chlorotoluene	91	14.805	14.805	0.953	1208135	39.61	ug/L		93
71) tert-Butylbenzene	134	15.078	15.078	0.970	355816	42.87	ug/L	#	83
72) 1,2,4-Trimethylbenzene	105	15.114	15.126	0.973	1546490	39.91	ug/L		99
73) sec-Butylbenzene	105	15.303	15.303	0.985	2025310	39.43	ug/L		95
74) 4-Isopropyltoluene	119	15.422	15.422	0.992	1800768	40.53	ug/L		97
75) 1,3-Dichlorobenzene	146	15.481	15.481	0.996	1038456	48.07	ug/L		95
76) 1,4-Dichlorobenzene	146	15.564	15.564	1.002	1016185	46.39	ug/L		97
77) n-Butylbenzene	91	15.861	15.861	1.021	1644302	38.64	ug/L		97
78) 1,2-Dichlorobenzene	146	15.979	15.979	1.028	1067380	51.67	ug/L		96
79) 1,2-Dibromo-3-chloropr...	157	16.833	16.833	1.083	107301	56.22	ug/L		85
80) 1,2,4-Trichlorobenzene	180	17.853	17.853	1.149	915475	49.99	ug/L		99
81) Hexachlorobutadiene	225	18.031	18.031	1.160	569162	48.99	ug/L		99
82) Naphthalene	128	18.221	18.221	1.172	1725226	48.80	ug/L		100
83) 1,2,3-Trichlorobenzene	180	18.553	18.553	1.194	890563	50.72	ug/L		98
85) Acrolein		0.000	6.516	0.000	0	N.D.			
86) Trichlorotrifluoroethane		0.000	6.694	0.000	0	N.D.			
87) Isopropyl Alcohol		6.718	6.777	0.674	0m	N.D.	d		
88) Allyl chloride		7.050	7.133	0.707	0m	N.D.	d		
89) tert-Butyl Alcohol		7.287	7.275	0.731	0m	N.D.	d		
90) Acrylonitrile		7.584	7.524	0.761	0m	N.D.	d		
91) Isopropyl ether		8.046	8.082	0.807	0m	N.D.	d		
92) 2-Chloro-1,3-butadiene		8.046	8.200	0.807	0m	N.D.	d		
93) Ethyl tert-butyl ether		8.366	8.485	0.839	0m	N.D.	d		
94) Ethyl acetate		8.675	8.687	0.870	0m	N.D.	d		
95) Propionitrile		8.675	8.746	0.870	0m	N.D.	d		
96) Methacrylonitrile		8.758	8.924	0.879	0m	N.D.	d		
97) Tetrahydrofuran		9.042	9.054	0.907	0m	N.D.	d		
98) Isobutyl alcohol		9.410	9.374	0.944	0m	N.D.	d		

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S410.D
Acq On : 19 Nov 2020 17:33
Operator : WD1
InstName : VOA9
Sample : |1204696634|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PSD
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 19 19:37:55 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE

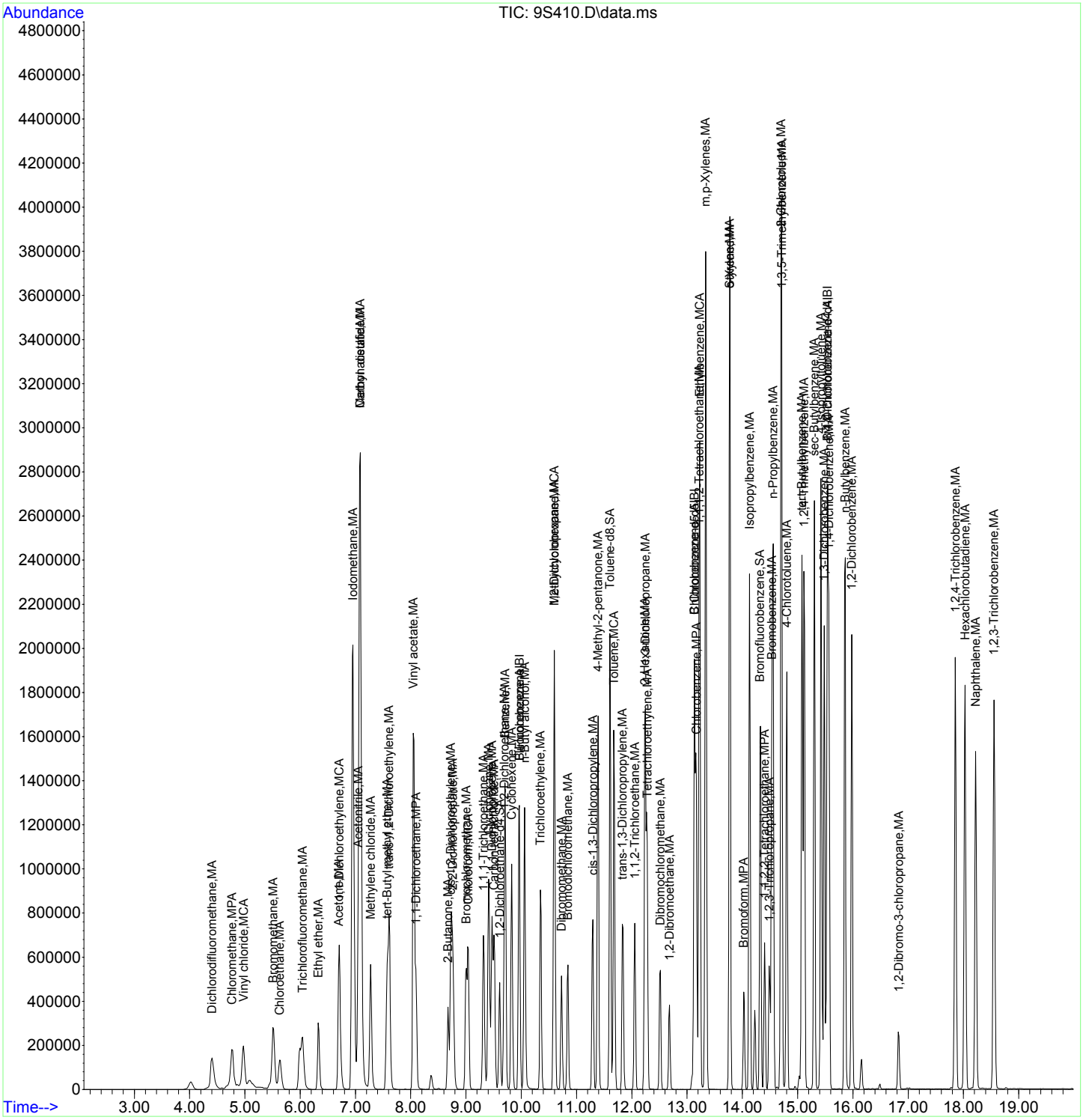
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
99)	Methyl tert-amyl ether		9.706	9.730	0.974	0m	N.D.		d
100)	Methyl methacrylate		10.596	10.572	1.063	0m	N.D.		d
101)	1,4-Dioxane		10.726	10.679	1.076	0m	N.D.		d
102)	2-Nitropropane		0.000	11.046	0.000	0	N.D.		
104)	Ethyl methacrylate		11.841	11.841	0.902	0m	N.D.		d
106)	1-Chlorohexane		13.133	13.039	0.845	0m	N.D.		d
107)	cis-1,4-Dichloro-2-butene		14.129	14.165	0.909	0m	N.D.		d
108)	Cyclohexanone		14.129	14.284	0.909	0m	N.D.		d
109)	trans-1,4-Dichloro-2-b...		14.556	14.450	0.937	0m	N.D.		d
110)	Pentachloroethane		15.137	15.149	0.974	0m	N.D.		d
111)	Benzyl chloride		15.671	15.683	1.008	0m	N.D.		d
112)	bis(2-Chloroisopropyl)...		16.145	16.074	1.039	0m	N.D.		d

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\111920V9\
Data File : 9S410.D
Acq On : 19 Nov 2020 17:33
Operator : WD1
InstName : VOA9
Sample : |1204696634|2063772|1|VOA|1|VOA8260LFD|
Misc : ARSL 5ML PH<2 MIX[A] 527510011PSD
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 19 19:37:55 2020
Quant Method : C:\msdchem\1\data\090920V9\VOA9-8260-090920.M
Quant Title : Volatile Organics SubList :
QLast Update : Thu Sep 10 19:05:57 2020
Response via : Initial Calibration
Integrator: RTE



Miscellaneous

GEL Laboratories, LLC
Revision:11/22/04

ORGANIC RUN LOG - INSTRUMENT ID#VOA6

MEL
10/22/2020

KP
10/21/2020

Date: 10/20/2020 Method 8260/624 Operator: MXL2

REVIEWED BY: _____
DATE: _____

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY No# 1

Daily Instrument Readings:
Multiplier Voltage: 1871

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 10/20/2020

Daily Standard Volume Added for Purge (ul)

(See pg. 60 for ICAL Std. Ids)	Solution ID#	Blk/ Smpl	CCV	MS/ LCS	BFB
	CCV N/A		5+5		
	IS UVM200820-01	1	1	1	
	SS UVM200806-10	1	1	1	
	ICV W6VM201020-10			5+5	
Cl test lot # 85161C	BFB IVM201012-01				1
	SHORT CCV N/A		5	5	
Sequence Number: 102020V6	SHORT LCS W6VM201020-19				

Purge Amount

5ML	Water Purge Vol:
5G	Soil Purge Wt.
	Mid level ext. MeOH Vol:
	ul
	Methanol Lot #
X	Heated Purge

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	Cl test (Y/N)	Acceptable(O/X)	Comments
10/20/2020	13:12	6F201.D	IVM201012-01	GEL	BFB	10ML	1	N/A	1	W	MXL2	N/A	O	
10/20/2020	13:37	6F202.D	W6VM201020-01	VSTD0005	ICAL	5UL/5ML	1	N/A	2	W	MXL2	N/A	O	MIX[A] UVM200921-01/ UVM200625-11D
10/20/2020	14:03	6F203.D	W6VM201020-02	VSTD001	ICAL	5UL/5ML	1	N/A	3	W	MXL2	N/A	O	MIX[A] UVM200921-02/ UVM200625-12D
10/20/2020	14:28	6F204.D	W6VM201020-03	VSTD002	ICAL	5UL/5ML	1	N/A	4	W	MXL2	N/A	O	MIX[A] UVM200921-03/ UVM200625-13D/ UVM200618-03C
10/20/2020	14:54	6F205.D	W6VM201020-04	VSTD005	ICAL	5UL/5ML	1	N/A	5	W	MXL2	N/A	O	MIX[A] UVM200921-04/ UVM200625-14D/ UVM200618-04C
10/20/2020	15:20	6F206.D	W6VM201020-05	VSTD010	ICAL	5UL/5ML	1	N/A	6	W	MXL2	N/A	O	MIX[A] UVM200921-05/ UVM200625-15D/ UVM200618-05C
10/20/2020	15:46	6F207.D	W6VM201020-06	VSTD020	ICAL	5UL/5ML	1	N/A	7	W	MXL2	N/A	O	MIX[A] UVM200921-06/ UVM200625-16D/ UVM200618-06C
10/20/2020	16:11	6F208.D	W6VM201020-07	VSTD050	ICAL	5UL/5ML	1	N/A	8	W	MXL2	N/A	O	MIX[A] UVM200921-07/ UVM200625-17D/ UVM200618-07C
10/20/2020	16:37	6F209.D	W6VM201020-08	VSTD080	ICAL	4UL/5ML	1	N/A	9	W	MXL2	N/A	O	MIX[A] UVM200921-08/ UVM200625-18D/ UVM200618-08C
10/20/2020	17:02	6F210.D	W6VM201020-09	VSTD100	ICAL	5UL/5ML	1	N/A	10	W	MXL2	N/A	O	MIX[A] UVM200921-08/ UVM200625-18D/ UVM200618-08C
10/20/2020	17:28	6F211.D	120446	BLANK	BLANK	5ML	1	N/A	11	W	MXL2	N/A	O	
10/20/2020	17:53	6F212.D	W6VM201020-10	ICV050	ICV	5UL/5ML	1	N/A	12	W	MXL2	N/A	O	MIX[A] UVM200625-20H/ UVM200723-10B/ UVM201007-01B
10/20/2020	18:19	6F213.D	W6VM201020-11	VSTD005	ICAL	5UL/5ML	1	N/A	13	W	MXL2	N/A	O	MIX[B] UVM200904-01B/ UVM200925-01A
10/20/2020	18:44	6F214.D	W6VM201020-12	VSTD010	ICAL	5UL/5ML	1	N/A	14	W	MXL2	N/A	O	MIX[B] UVM200904-02B/ UVM200925-02A
10/20/2020	19:10	6F215.D	W6VM201020-13	VSTD025	ICAL	5UL/5ML	1	N/A	15	W	MXL2	N/A	O	MIX[B] UVM200904-03B/ UVM200925-03A
10/20/2020	19:36	6F216.D	W6VM201020-14	VSTD050	ICAL	5UL/5ML	1	N/A	16	W	MXL2	N/A	O	MIX[B] UVM200904-04B/ UVM200925-04A
10/20/2020	20:02	6F217.D	W6VM201020-15	VSTD100	ICAL	5UL/5ML	1	N/A	17	W	MXL2	N/A	O	MIX[B] UVM200904-05B/ UVM200925-05A
10/20/2020	20:27	6F218.D	W6VM201020-16	VSTD250	ICAL	5UL/5ML	1	N/A	18	W	MXL2	N/A	O	MIX[B] UVM200904-06B/ UVM200925-06A
10/20/2020	20:53	6F219.D	W6VM201020-17	VSTD300	ICAL	3UL/5ML	1	N/A	19	W	MXL2	N/A	O	MIX[B] UVM200904-07B/ UVM200925-07A
10/20/2020	21:19	6F220.D	W6VM201020-18	VSTD500	ICAL	5UL/5ML	1	N/A	20	W	MXL2	N/A	O	MIX[B] UVM200904-07B/ UVM200925-07A
10/20/2020	21:44	6F221.D	120446	BLANK	BLANK	5ML	1	N/A	21	W	MXL2	N/A	O	
10/20/2020	22:10	6F222.D	W6VM201020-19	ICV250	ICAL	5UL/5ML	1	N/A	22	W	MXL2	N/A	O	MIX[B] UVM200904-08E/ UVM200925-08G

GEL Laboratories, LLC
Revision:11/22/04

ORGANIC RUN LOG - INSTRUMENT ID#VOA6

WMD
11/20/2020

Date: 11/17/2020 Method 8260/624 Operator: WD1

REVIEWED BY:
DATE:

11/20/2020

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY No# 1

Daily Instrument Readings:
Multiplier Voltage: 2094

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 10/20/2020

(See pg. 60 for ICAL Std. Ids)

Cl test lot # 85161C

Sequence Number: 11/17/20V6

Daily Standard Volume Added for Purge (ul)

	Solution ID#	Blk/ Smpl	CCV	MS/ LCS	BFB
CCV	W6VM201117-01		5+5		
IS	UVM200820-01	1	1	1	
SS	UVM200806-10	1	1	1	
LCS/MS	W6VM201117-02			5+5	
BFB	IVM201112-01				1
SHORT CCV	W6VM201117-03		5	5	
SHORT LCS	W6VM201117-04				

Purge Amount

5ML	Water Purge Vol:
5G	Soil Purge Wt.
	Mid level ext. MeOH Vol:
	ul
	Methanol Lot #
X	Heated Purge

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	Cl test (Y/N)	Acceptable(O/X)	Comments
11/17/2020	9:27	6J201.D	IVM201112-01	GEL	BFB	10ML	1	N/A	1	W	WD1	N/A	O	
11/17/2020	9:52	6J202.D	W6VM201117-01	GEL	CCV	5UL/5ML	1	N/A	2	W	WD1	N/A	O	MIX[A] UVM200820-09F/UVM200625-17G/UVM201007-01D
11/17/2020	10:18	6J203.D	W6VM201117-02	GEL	CCV	5UL/5ML	1	N/A	3	W	WD1	N/A	O	MIX[A] UVM200723-10E/UVM200821-10B/UVM201007-01D
11/17/2020	10:44	6J204.D	W6VM201117-03	GEL	CCV	5ML	1	N/A	4	W	WD1	N/A	O	MIX[B] UVM201029-06C/UVM201029-12C
11/17/2020	11:09	6J205.D	W6VM201117-04	GEL	LCS	5ML	1	N/A	5	W	WD1	N/A	O	MIX[B] UVM201029-08B/UVM201029-16A
11/17/2020	11:35	6J206.D	120468	BLANK	BLANK	5ML	1	N/A	6	w	WD1	N/A	O	
11/17/2020	12:01	6J207.D	1204694152	TVAC	2062767	5ML	1	PH<2	7	w	WD1	N/A	O	MIX[A] 526338001PS
11/17/2020	12:26	6J208.D	1204694153	TVAC	2062767	5ML	1	PH<2	8	w	WD1	N/A	O	MIX[A] 526338001PSD
11/17/2020	12:52	6J209.D	1204692046	FRNP	2061829	5ML	1	PH<2	9	w	WD1	N/A	O	MIX[A] 526265005PS
11/17/2020	13:18	6J210.D	1204692047	FRNP	2061829	5ML	1	PH<2	10	w	WD1	N/A	O	MIX[A] 526265005PSD
11/17/2020	13:44	6J211.D	526587001	FRNP	2063756	5ML	1	PH<2	11	w	WD1	N/A	O	
11/17/2020	14:09	6J212.D	526587002	FRNP	2063756	5ML	1	PH<2	12	w	WD1	N/A	O	
11/17/2020	14:35	6J213.D	526587003	FRNP	2063756	5ML	1	PH<2	13	w	WD1	N/A	O	
11/17/2020	15:01	6J214.D	526587004	FRNP	2063756	5ML	1	PH<2	14	w	WD1	N/A	O	
11/17/2020	15:26	6J215.D	526587005	FRNP	2063756	5ML	1	PH<2	15	w	WD1	N/A	O	
11/17/2020	15:52	6J216.D	526596001	FRNP	2063756	5ML	1	PH<2	16	w	WD1	N/A	O	
11/17/2020	16:18	6J217.D	526596002	FRNP	2063756	5ML	1	PH<2	17	w	WD1	N/A	O	
11/17/2020	16:43	6J218.D	526596003	FRNP	2063756	5ML	1	PH<2	18	w	WD1	N/A	O	
11/17/2020	17:09	6J219.D	526596004	FRNP	2063756	5ML	1	PH<2	19	w	WD1	N/A	O	
11/17/2020	17:35	6J220.D	526596005	FRNP	2063756	5ML	1	PH<2	20	w	WD1	N/A	O	
11/17/2020	18:00	6J221.D	527509003	ARSL	2063772	5ML	1	PH<2	21	w	WD1	N/A	O	
11/17/2020	18:26	6J222.D	527509005	ARSL	2063772	5ML	1	PH<2	22	w	WD1	N/A	O	
11/17/2020	18:52	6J223.D	527509008	ARSL	2063772	5ML	1	PH<2	23	w	WD1	N/A	O	
11/17/2020	19:17	6J224.D	527509012	ARSL	2063772	5ML	1	PH7	24	w	WD1	N/A	O	
11/17/2020	19:43	6J225.D	527509014	ARSL	2063772	5ML	1	PH<2	25	w	WD1	N/A	O	
11/17/2020	20:08	6J226.D	527510003	ARSL	2063772	5ML	1	PH7	26	w	WD1	N/A	O	
11/17/2020	20:34	6J227.D	527510005	ARSL	2063772	5ML	1	PH<2	27	w	WD1	N/A	O	
11/17/2020	20:59	6J228.D	1204696604	FRNP	2063756	5ML	1	PH<2	28	w	WD1	N/A	O	MIX[A] 526587001PS
11/17/2020	21:25	6J229.D	1204696604	FRNP	2063756	5ML	1	PH<2	29	w	WD1	N/A	O	MIX[A] 526587001PSD

GEL Laboratories, LLC
Revision:11/22/04

ORGANIC RUN LOG - INSTRUMENT ID#VOA6

WMD

11/20/2020

Date: 11/18/2020 Method 8260/624 Operator: WD1

REVIEWED BY: _____
DATE: _____

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY No# 1

Daily Instrument Readings:
Multiplier Voltage: 2106

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 10/20/2020

Daily Standard

(See pg. 60 for ICAL Std. Ids)

Cl test lot # 85161C

Sequence Number: 11/1820V6

Solution ID#		Volume Added for Purge (ul) Blk/ Smpl	CCV	MS/ LCS	BFB
CCV	W6VM201118-01		5+5		
IS	UVM200820-01	1	1	1	
SS	UVM200806-10	1	1	1	
LCS/MS	W6VM201118-02			5+5	
BFB	IVM201112-01				1
SHORT CCV	W6VM201118-03		5	5	
SHORT LCS	W6VM201118-04				

Purge Amount

5ML	Water Purge Vol:
5G	Soil Purge Wt.
	Mid level ext. MeOH Vol:
	ul
	Methanol Lot #
X	Heated Purge

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	Cl test (Y/N)	Acceptable(O/X)	Comments
11/18/2020	10:19	6J301.D	IVM201112-01	GEL	BFB	10ML	1	N/A	1	W	WD1	N/A	O	
11/18/2020	10:45	6J302.D	W6VM201118-01	GEL	CCV	5UL/5ML	1	N/A	2	W	WD1	N/A	O	MIX[A] UVM200820-09F/UVM200625-17G/UVM201007-01D
11/18/2020	11:11	6J303.D	W6VM201118-02	GEL	LCS	5UL/5ML	1	N/A	3	W	WD1	N/A	O	MIX[A] UVM200723-10E/UVM200821-10B/UVM201007-01D
11/18/2020	11:36	6J304.D	W6VM201118-03	GEL	CCV	5UL/5ML	1	N/A	4	W	WD1	N/A	O	MIX[B] UVM201029-06C/UVM201029-12C
11/18/2020	12:02	6J305.D	W6VM201118-04	GEL	LCS	5UL/5ML	1	N/A	5	W	WD1	N/A	O	MIX[B] UVM201029-08B/UVM201029-16A
11/18/2020	12:28	6J306.D	120468	BLANK	BLANK	5ML	1	N/A	6	w	WD1	N/A	O	
11/18/2020	12:53	6J307.D	1204696633	ARSL	2063772	5ML	1	PH<2	7	w	WD1	N	X	MIX[A] 527509003PS SPIKE FAILED
11/18/2020	13:19	6J308.D	1204696634	ARSL	2063772	5ML	1	PH<2	8	w	WD1	N	X	MIX[A] 527509003PSD SPIKE FAILED
11/18/2020	13:45	6J309.D	1204696636	ARSL	2063772	5ML	1	PH<2	9	w	WD1	N	X	MIX[A] 527509003PS NOT NEEDED
11/18/2020	14:10	6J310.D	1204696637	ARSL	2063772	5ML	1	PH<2	10	w	WD1	N	X	MIX[A] 527509003PSD NOT NEEDED
11/18/2020	14:36	6J311.D	527509012	ARSL	2063772	2.5ML	2	PH7	11	w	WD1	N	X	RE-ANALYSIS NOT NEEDED
11/18/2020	15:01	6J312.D	527510009	ARSL	2063772	5ML	1	PH7	12	w	WD1	N	O	
11/18/2020	15:27	6J313.D	527510011	ARSL	2063772	5ML	1	PH<2	13	w	WD1	N	O	
11/18/2020	15:53	6J314.D	527510015	ARSL	2063772	5ML	1	PH7	14	w	WD1	N	O	
11/18/2020	16:18	6J315.D	527510017	ARSL	2063772	5ML	1	PH<2	15	w	WD1	N	O	
11/18/2020	16:44	6J316.D	526908001	FRNP	2064371	5ML	1	PH<2	16	w	WD1	N	O	
11/18/2020	17:10	6J317.D	526908002	FRNP	2064371	5ML	1	PH<2	17	w	WD1	N	O	
11/18/2020	17:35	6J318.D	526908003	FRNP	2064371	5ML	1	PH<2	18	w	WD1	N	O	
11/18/2020	18:01	6J319.D	526908004	FRNP	2064371	5ML	1	PH<2	19	w	WD1	N	O	
11/18/2020	18:26	6J320.D	526922001	FRNP	2064371	5ML	1	PH<2	20	w	WD1	N	O	
11/18/2020	18:52	6J321.D	526922002	FRNP	2064371	5ML	1	PH<2	21	w	WD1	N	O	
11/18/2020	19:18	6J322.D	526915001	FRNP	2064373	5ML	1	PH<2	22	w	WD1	N	O	
11/18/2020	19:43	6J323.D	526915002	FRNP	2064373	5ML	1	PH<2	23	w	WD1	N	O	
11/18/2020	20:09	6J324.D	526915003	FRNP	2064373	1.25ML	4	PH<2	24	w	WD1	N	O	
11/18/2020	20:34	6J325.D	526915004	FRNP	2064373	2.5ML	2	PH<2	25	w	WD1	N	O	
11/18/2020	21:00	6J326.D	1204697971	FRNP	2064373	5ML	1	PH<2	26	w	WD1	N	O	MIX[A] 526922001PS
11/18/2020	21:26	6J327.D	1204697972	FRNP	2064373	5ML	1	PH<2	27	w	WD1	N	O	MIX[A] 526922001PSD
11/18/2020	21:51	6J328.D	1204697979	FRNP	2064373	5ML	1	PH<2	28	w	WD1	N	O	MIX[A] 526915002PS
11/18/2020	22:17	6J329.D	1204697979	FRNP	2064373	5ML	1	PH<2	29	w	WD1	N	O	MIX[A] 526915002PSD

GEL Laboratories, LLC.
Revision:03/22/07

ORGANIC RUN LOG - INSTRUMENT ID#VOA9

JP 09/10/2020

09/21/2020

Date: 9/9/2020 Method: 8260/6200/624.1 Operator: JP1

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY: Log VO-M-021 PAC Daily Instrument Readings:

Multiplier Voltage: 1329

CALIBRATION & CC INFORMATION:

Initial Calibration Date 9/9/2020

NaHSO4 lot # N/A

CI test lot # 9130B

Sequence Number: 090920V9

Daily Standard

Volume Added for Purge (ul)

Solution ID#		BIN/ Smpl	MS/ CCV	MS/ LCS	BFB
CCV		5 uL ea.			
IS	UVM200729-01	1	1	1	
SS	UVM200625-22	1	1	1	
LCS/MS			5 uL ea.		
BFB	IVM200814-01				1
SHORT		5 uL ea.			
SHORT			5 uL ea.		

Purge Amount

5ml	Water Purge Vol:
N/A	Soil Purge Wt.
N/A	Mid level ext. MeOH Vol:
N/A	ul
N/A	Methanol Lot #
X	Heated Purge

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	CI test (Y/N)	Acceptable(O/X)	Comments
9 Sep 2020	19:34	9I301.D	IVM200814-01	GEL	BFB	5UL/5ML	1	N/A	1	W	JP1	N/A	O	
9 Sep 2020	20:00	9I302.D	W9VM200909-01	VSTD0005	ICAL	5UL/5ML	1	N/A	2	W	JP1	N/A	O	MIX[A] UVM200820-03/UVM200529-01C/UVM200618-01B
9 Sep 2020	20:26	9I303.D	W9VM200909-02	VSTD001	ICAL	5UL/5ML	1	N/A	3	W	JP1	N/A	O	MIX[A] UVM200820-04/UVM200529-02C/UVM200618-02B
9 Sep 2020	20:53	9I304.D	W9VM200909-03	VSTD002	ICAL	5UL/5ML	1	N/A	4	W	JP1	N/A	O	MIX[A] UVM200820-05/UVM200529-03C/UVM200618-03B
9 Sep 2020	21:20	9I305.D	W9VM200909-04	VSTD005	ICAL	5UL/5ML	1	N/A	5	W	JP1	N/A	O	MIX[A] UVM200820-06/UVM200529-04C/UVM200618-04B
9 Sep 2020	21:47	9I306.D	W9VM200909-05	VSTD010	ICAL	5UL/5ML	1	N/A	6	W	JP1	N/A	O	MIX[A] UVM200820-07/UVM200529-05C/UVM200618-05B
9 Sep 2020	22:14	9I307.D	W9VM200909-06	VSTD020	ICAL	5UL/5ML	1	N/A	7	W	JP1	N/A	O	MIX[A] UVM200820-08/UVM200529-06C/UVM200618-06B
9 Sep 2020	22:41	9I308.D	W9VM200909-07	VSTD050	ICAL	5UL/5ML	1	N/A	8	W	JP1	N/A	O	MIX[A] UVM200820-09(417575)/UVM200529-07C(411580)/UVM200618-07B(384915)
9 Sep 2020	23:07	9I309.D	W9VM200909-08	VSTD080	ICAL	4UL/5ML	1	N/A	9	W	JP1	N/A	O	MIX[A] UVM200820-10/UVM200529-08C/UVM200618-08B
9 Sep 2020	23:34	9I310.D	W9VM200909-09	VSTD100	ICAL	5UL/5ML	1	N/A	10	W	JP1	N	O	MIX[A] UVM200820-10/UVM200529-08C/UVM200618-08B
9/10/2020	0:01	9I311.D	1204------	BLANK	BLANK	5ML	1	N/A	11	W	JP1	N	X	
9/10/2020	0:27	9I312.D	W9VM200909-10	ICV050	ICV	5UL/5ML	1	N/A	12	W	JP1	N	O	MIX[A] UVM200422-10Y/UVM200529-10F/UVM200618-09G
9/10/2020	0:54	9I313.D	W9VM200909-11	VSTD005	ICAL	5UL/5ML	1	N/A	13	W	JP1	N	O	MIX[B] UVM200904-01A/UVM200827-01A
9/10/2020	1:20	9I314.D	W9VM200909-12	VSTD010	ICAL	5UL/5ML	1	N/A	14	W	JP1	N	O	MIX[B] UVM200904-02A/UVM200827-02A
9/10/2020	1:47	9I315.D	W9VM200909-13	VSTD025	ICAL	5UL/5ML	1	N/A	15	W	JP1	N	O	MIX[B] UVM200904-03A/UVM200827-03A
9/10/2020	2:13	9I316.D	W9VM200909-14	VSTD050	ICAL	5UL/5ML	1	N/A	16	W	JP1	N	O	MIX[B] UVM200904-04A/UVM200827-04A
9/10/2020	2:40	9I317.D	W9VM200909-15	VSTD100	ICAL	5UL/5ML	1	N/A	17	W	JP1	N	O	MIX[B] UVM200904-05A/UVM200827-05A
9/10/2020	3:06	9I318.D	W9VM200909-16	VSTD250	ICAL	5UL/5ML	1	N/A	18	W	JP1	N	O	MIX[B] UVM200904-06A(420713)/UVM200827-06A(421118)
9/10/2020	3:33	9I319.D	W9VM200909-17	VSTD300	ICAL	3UL/5ML	1	N/A	19	W	JP1	N	O	MIX[B] UVM200904-07A/UVM200827-07A
9/10/2020	4:00	9I320.D	W9VM200909-18	VSTD500	ICAL	5UL/5ML	1	N/A	20	W	JP1	N	O	MIX[B] UVM200904-07A/UVM200827-07A
9/10/2020	4:27	9I321.D	1204------	BLANK	BLANK	5ML	1	N/A	21	W	JP1	N	X	
9/10/2020	4:54	9I322.D	W9VM200909-19	ICV250	ICV	5UL/5ML	1	N/A	22	W	JP1	N	O	MIX[B] UVM200904-08A/UVM200827-08F

GEL Laboratories, LLC.
Revision:03/22/07

ORGANIC RUN LOG - INSTRUMENT ID#VOA9

WMD

11/19/2020

11/20/2020

Date: 11/19/2020 Method 8260/6200/624.1 Operator: WD1

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY: Log VO-M-021 PAGE # Daily Instrument Readings:

Multiplier Voltage: 1447

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 9/9/2020

NaHSO4 lot # N/A

Cl test lot # 9130B

Sequence Number: 11/19/20V9

Daily Standard Volume Added for Purge (ul)

Solution ID#		BIN/ Smpl	CCV	MS/ LCS	BFB
CCV	W9VM201119-01	5 uL ea.			
IS	UVM201008-01	1	1	1	
SS	UVM200820-02	1	1	1	
LCS/MS	W9VM201119-02		5 uL ea.		
BFB	IVM201112-01				1
SHORT	W9VM201119-03	5 uL ea.			
SHORT	W9VM201119-04		5 uL ea.		

Purge Amount

5ml	Water Purge Vol:
N/A	Soil Purge Wt.
N/A	Mid level ext. MeOH Vol:
N/A	ul
N/A	Methanol Lot #
X	Heated Purge

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil. Factor	pH	AS Slot #	Matrix w or s	Analyst	Cl test (Y/N)	Acceptable(O/X)	Comments
11/19/2020	13:43	9S401.D	IVM201112-01	GEL	BFB	5UL/5ML	1	N/A	1	W	WD1	N/A	O	
11/19/2020	14:07	9S402.D	W9VM201119-01	GEL	CCV	5UL/5ML	1	N/A	2	W	WD1	N/A	O	MIX[A] UVM200820-09G/UVM200821-07E/UVM201007-01D
11/19/2020	14:33	9S403.D	W9VM201119-02	GEL	LCS	5UL/5ML	1	N/A	3	W	WD1	N/A	O	MIX[A] UVM200820-12C/UVM200821-10C/UVM201007-01D
11/19/2020	14:59	9S404.D	W9VM201119-03	GEL	CCV	5UL/5ML	1	N/A	4	W	WD1	N/A	O	MIX[B] UVM201029-06D/UVM201029-12D
11/19/2020	15:25	9S405.D	W9VM201119-04	GEL	LCS	5UL/5ML	1	N/A	5	W	WD1	N/A	O	MIX[B] UVM201029-08B/UVM201029-16B
11/19/2020	15:50	9S406.D	1204------	BLANK	BLANK	5ML	1	N/A	6	w	WD1	N/A	O	
11/19/2020	15:50	9S407.D	1204------	BLANK	BLANK	5ML	1	N/A	6	w	WD1	N/A	O	
11/19/2020	16:42	9S408.D	527510011	ARSL	2063772	5ML	1	PH<2	8	w	WD1	N	O	
11/19/2020	17:08	9S409.D	1204696633	ARSL	2063772	5ML	1	PH<2	9	w	WD1	N	O	MIX[A] 527510011PS
11/19/2020	17:33	9S410.D	1204696634	ARSL	2063772	5ML	1	PH<2	10	w	WD1	N	O	MIX[A] 527510011PSD

Semi-Volatile Analysis

Case Narrative

GC/MS Semivolatile
Technical Case Narrative
ARS International, LLC
SDG #: 2021-130
Work Order #: 527510

Product: **Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry**
Analytical Method: SW846 3510C/8270D
Analytical Procedure: GL-OA-E-009 REV# 45
Analytical Batch: 2063409

Preparation Method: SW846 3510C
Preparation Procedure: GL-OA-E-013 REV# 34
Preparation Batch: 2063408

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527510003	SMEB03-20-209979
527510006	SMEB03-20-209994
527510009	SMEB04-20-209982
527510015	SMEB05-20-209985
527510018	SMEB05-20-209995
1204695847	Method Blank (MB)
1204695848	Laboratory Control Sample (LCS)
1204695853	527509003(SMEB01-20-209972) Matrix Spike (MS)
1204695854	527509003(SMEB01-20-209972) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

CCV Requirements
All Calibration Verification Standards (CCV) did not meet the acceptance criteria as outlined in Method 8270D/E for samples 527510003 (SMEB03-20-209979), 527510006 (SMEB03-20-209994), 527510009 (SMEB04-20-209982) and 527510018 (SMEB05-20-209995) and the associated QC. However, the method allows for a designated number of outliers dependent on the requested analyte list. This SDG satisfied the 8270D/E outlier acceptance criteria. If required, a CRDL was analyzed after the CCVs to demonstrate that there is adequate sensitivity to detect the failed compounds at the applicable lower quantitation limit.

Quality Control (QC) Information

Surrogate Recoveries
Samples (See Below) did not meet surrogate recovery acceptance criteria. The surrogate failures were confirmed by re-extraction and analysis. The original extraction results have been reported.

Sample	Analyte	Value
527510003 (SMEB03-20-209979)	2-Fluorobiphenyl	19* (31%-107%)
	p-Terphenyl-d14	7* (35%-134%)
527510009 (SMEB04-20-209982)	2-Fluorobiphenyl	26* (31%-107%)
	p-Terphenyl-d14	7* (35%-134%)
527510015 (SMEB05-20-209985)	p-Terphenyl-d14	14* (35%-134%)

Samples (See Below) did not meet surrogate recovery acceptance criteria. Since the parent sample and associated MS/MSD pair displayed similar recoveries, the failures were attributed to matrix interference and the data results are reported.

Sample	Analyte	Value
1204695853 (SMEB01-20-209972MS)	p-Terphenyl-d14	31* (35%-134%)
1204695854 (SMEB01-20-209972MSD)	p-Terphenyl-d14	34* (35%-134%)

Miscellaneous Information

Manual Integrations
Samples (See Below) required manual integration in order to properly identify one or more peaks and/or to correctly position the baseline as set in the calibration standard injections.

Sample	Analyte	Value
1204695847 (MB)	2-Fluorobiphenyl	Result 47.5ug/L
527510009 (SMEB04-20-209982)	2-Fluorobiphenyl	Result 12.5ug/L

TIC Comment
Tentatively identified compounds (TIC) were requested for samples 527510003 (SMEB03-20-209979), 527510006 (SMEB03-20-209994), 527510009 (SMEB04-20-209982), 527510015 (SMEB05-20-209985) and 527510018 (SMEB05-20-209995) in this SDG in this batch.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-130 GEL Work Order: 527510

The Qualifiers in this report are defined as follows:

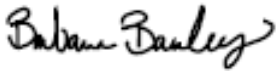
* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Barbara Bailey**

Date: 20 NOV 2020 **Title: Data Validator**

Sample Data Summary

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209979**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 22:29**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**978.97 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1720.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.06	ug/L	3.06	10.2
91-57-6	2-Methylnaphthalene	U	0.306	ug/L	0.306	1.02
91-20-3	Naphthalene	U	0.306	ug/L	0.306	1.02
90-12-0	1-Methylnaphthalene	U	0.306	ug/L	0.306	1.02
86-73-7	Fluorene	U	0.306	ug/L	0.306	1.02
85-01-8	Phenanthrene	U	0.306	ug/L	0.306	1.02
120-12-7	Anthracene	U	0.306	ug/L	0.306	1.02
206-44-0	Fluoranthene	U	0.306	ug/L	0.306	1.02
129-00-0	Pyrene	U	0.306	ug/L	0.306	1.02
205-99-2	Benzo(b)fluoranthene	U	0.306	ug/L	0.306	1.02
207-08-9	Benzo(k)fluoranthene	U	0.306	ug/L	0.306	1.02
50-32-8	Benzo(a)pyrene	U	0.306	ug/L	0.306	1.02

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	37.0	102	ug/L	36		(32%-122%)
2-Fluorobiphenyl	9.64	51.1	ug/L	19	*	(31%-107%)
2-Fluorophenol	42.0	102	ug/L	41		(15%-88%)
Nitrobenzene-d5	33.1	51.1	ug/L	65		(35%-113%)
Phenol-d5	42.7	102	ug/L	42		(15%-91%)
p-Terphenyl-d14	3.35	51.1	ug/L	7	*	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.895	19.8	ug/L	0	J
	Unknown Aldol Condensate	3.366	6.83	ug/L		AJ
	unknown	3.441	14.2	ug/L	0	J
000116-53-0	Butanoic acid, 2-methyl-	3.543	5.54	ug/L	90	NJ
	unknown	3.842	8.12	ug/L	0	J
000067-71-0	Dimethyl sulfone	4.195	23.7	ug/L	94	NJ
	unknown	5.805	6.65	ug/L	0	J
	unknown	5.976	8.4	ug/L	0	J
	unknown	6.019	9.99	ug/L	0	J
000060-12-8	Phenylethyl Alcohol	6.479	8.22	ug/L	86	NJ
	unknown	7.661	11	ug/L	0	J
	unknown	7.87	6.72	ug/L	0	J
	unknown	8.169	9.81	ug/L	0	J
	unknown	8.255	6.91	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209979**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 22:29**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**978.97 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1720.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	8.533	8.11	ug/L	0	J
	unknown	8.977	8.69	ug/L	0	J
	unknown	9.105	6.67	ug/L	0	J
	unknown	9.153	7.88	ug/L	0	J
	unknown	9.217	12.5	ug/L	0	J
	unknown	9.378	5.48	ug/L	0	J
000143-24-8	2,5,8,11,14-Pentaoxapentadecane	9.485	45	ug/L	90	NJ
	unknown	9.64	22.8	ug/L	0	J
	unknown	9.661	16.5	ug/L	0	J
015356-74-8	2(4H)-Benzofuranone, 5,6,7,7a-tetrahydro-4,4,7a-tr	9.865	14	ug/L	94	NJ
	unknown	10.271	29.1	ug/L	0	J
	unknown	11.089	6.29	ug/L	0	J
	unknown	11.138	5.38	ug/L	0	J
	unknown	11.303	5.4	ug/L	0	J
	unknown	11.796	9.39	ug/L	0	J
	unknown	22.803	6.64	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 09:00**	**Matrix:**	**W**
Lab Sample ID:	**527510006**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209994**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 22:58**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**852.82 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1721.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.52	ug/L	3.52	11.7
91-57-6	2-Methylnaphthalene	U	0.352	ug/L	0.352	1.17
91-20-3	Naphthalene	U	0.352	ug/L	0.352	1.17
90-12-0	1-Methylnaphthalene	U	0.352	ug/L	0.352	1.17
86-73-7	Fluorene	U	0.352	ug/L	0.352	1.17
85-01-8	Phenanthrene	U	0.352	ug/L	0.352	1.17
120-12-7	Anthracene	U	0.352	ug/L	0.352	1.17
206-44-0	Fluoranthene	U	0.352	ug/L	0.352	1.17
129-00-0	Pyrene	U	0.352	ug/L	0.352	1.17
205-99-2	Benzo(b)fluoranthene	U	0.352	ug/L	0.352	1.17
207-08-9	Benzo(k)fluoranthene	U	0.352	ug/L	0.352	1.17
50-32-8	Benzo(a)pyrene	U	0.352	ug/L	0.352	1.17

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	127	117	ug/L	108	(32%-122%)
2-Fluorobiphenyl	56.0	58.6	ug/L	96	(31%-107%)
2-Fluorophenol	56.6	117	ug/L	48	(15%-88%)
Nitrobenzene-d5	53.2	58.6	ug/L	91	(35%-113%)
Phenol-d5	40.1	117	ug/L	34	(15%-91%)
p-Terphenyl-d14	43.8	58.6	ug/L	75	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.906	33.1	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510009**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209982**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 23:27**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1035.38 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1722.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	2.90	ug/L	2.90	9.66
91-57-6	2-Methylnaphthalene	U	0.290	ug/L	0.290	0.966
91-20-3	Naphthalene	U	0.290	ug/L	0.290	0.966
90-12-0	1-Methylnaphthalene	U	0.290	ug/L	0.290	0.966
86-73-7	Fluorene	U	0.290	ug/L	0.290	0.966
85-01-8	Phenanthrene	U	0.290	ug/L	0.290	0.966
120-12-7	Anthracene	U	0.290	ug/L	0.290	0.966
206-44-0	Fluoranthene	U	0.290	ug/L	0.290	0.966
129-00-0	Pyrene	U	0.290	ug/L	0.290	0.966
205-99-2	Benzo(b)fluoranthene	U	0.290	ug/L	0.290	0.966
207-08-9	Benzo(k)fluoranthene	U	0.290	ug/L	0.290	0.966
50-32-8	Benzo(a)pyrene	U	0.290	ug/L	0.290	0.966

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	36.3	96.6	ug/L	38		(32%-122%)
2-Fluorobiphenyl	12.5	48.3	ug/L	26	*	(31%-107%)
2-Fluorophenol	35.6	96.6	ug/L	37		(15%-88%)
Nitrobenzene-d5	36.2	48.3	ug/L	75		(35%-113%)
Phenol-d5	36.5	96.6	ug/L	38		(15%-91%)
p-Terphenyl-d14	3.35	48.3	ug/L	7	*	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.901	23.3	ug/L	0	J
000513-86-0	2-Butanone, 3-hydroxy-	2.12	34.5	ug/L	86	NJ
	unknown	3.842	4.1	ug/L	0	J
000067-71-0	Dimethyl sulfone	4.2	24.3	ug/L	94	NJ
	unknown	5.136	5.51	ug/L	0	J
	unknown	5.805	14.1	ug/L	0	J
	unknown	6.019	20.1	ug/L	0	J
	unknown	6.147	6.16	ug/L	0	J
000078-40-0	Triethyl phosphate	6.468	8.62	ug/L	95	NJ
	unknown	6.72	5.01	ug/L	0	J
	unknown	7.308	4.95	ug/L	0	J
	unknown	7.495	4.35	ug/L	0	J
	unknown	7.795	4.45	ug/L	0	J
	unknown	7.875	7.69	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510009**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209982**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 23:27**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1035.38 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1722.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	8.164	13	ug/L	0	J
	unknown	8.255	5.46	ug/L	0	J
	unknown	8.806	4.76	ug/L	0	J
	unknown	8.87	10.5	ug/L	0	J
	unknown	8.987	7	ug/L	0	J
	unknown	9.105	6.43	ug/L	0	J
	unknown	9.217	13.4	ug/L	0	J
000050-84-0	Benzoic acid, 2,4-dichloro-	9.667	37	ug/L	99	NJ
015356-74-8	2(4H)-Benzofuranone, 5,6,7,7a-tetr	9.865	5.51	ug/L	91	NJ
	unknown	10.282	28.1	ug/L	0	J
	unknown	11.105	6.39	ug/L	0	J
	unknown	11.143	7.5	ug/L	0	J
	unknown	11.303	7.93	ug/L	0	J
	unknown	11.79	6.16	ug/L	0	J
	unknown	13.347	5	ug/L	0	J
	unknown	16.374	16.8	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 14:40**	**Matrix:**	**W**
Lab Sample ID:	**527510015**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB05-20-209985**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 13:01**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**999.98 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1810.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.00	ug/L	3.00	10.0
91-57-6	2-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
91-20-3	Naphthalene	U	0.300	ug/L	0.300	1.00
90-12-0	1-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
86-73-7	Fluorene	U	0.300	ug/L	0.300	1.00
85-01-8	Phenanthrene	U	0.300	ug/L	0.300	1.00
120-12-7	Anthracene	U	0.300	ug/L	0.300	1.00
206-44-0	Fluoranthene	U	0.300	ug/L	0.300	1.00
129-00-0	Pyrene	U	0.300	ug/L	0.300	1.00
205-99-2	Benzo(b)fluoranthene	U	0.300	ug/L	0.300	1.00
207-08-9	Benzo(k)fluoranthene	U	0.300	ug/L	0.300	1.00
50-32-8	Benzo(a)pyrene	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	51.7	100	ug/L	52		(32%-122%)
2-Fluorobiphenyl	20.6	50.0	ug/L	41		(31%-107%)
2-Fluorophenol	22.6	100	ug/L	23		(15%-88%)
Nitrobenzene-d5	25.3	50.0	ug/L	51		(35%-113%)
Phenol-d5	16.3	100	ug/L	16		(15%-91%)
p-Terphenyl-d14	7.16	50.0	ug/L	14	*	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.895	12.6	ug/L	0	J
	unknown	5.591	5.54	ug/L	0	J
000112-36-7	Ethane, 1,1'-oxybis[2-ethoxy-]	6.008	18.8	ug/L	90	NJ
	unknown	8.859	13	ug/L	0	J
000143-24-8	2,5,8,11,14-Pentaoxapentadecane	9.469	6.19	ug/L	90	NJ
000050-84-0	Benzoic acid, 2,4-dichloro-	9.672	115	ug/L	99	NJ
000529-00-0	Cyclohexanone, 5-methyl-2-(1-methy	10.207	4.08	ug/L	55	J
002734-47-6	5,8,11,14,17-Eicosapentaenoic acid	12.635	9.04	ug/L	90	NJ
1000210-38-4	17-(1,5-Dimethylhexyl)-10,13-dimet	20.53	11	ug/L	98	NJ
	unknown	21.787	12	ug/L	0	J
	unknown	22.632	6.54	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 13:48**	**Matrix:**	**W**
Lab Sample ID:	**527510018**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB05-20-209995**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 00:26**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**954.62 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1724.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.14	ug/L	3.14	10.5
91-57-6	2-Methylnaphthalene	U	0.314	ug/L	0.314	1.05
91-20-3	Naphthalene	U	0.314	ug/L	0.314	1.05
90-12-0	1-Methylnaphthalene	U	0.314	ug/L	0.314	1.05
86-73-7	Fluorene	U	0.314	ug/L	0.314	1.05
85-01-8	Phenanthrene	U	0.314	ug/L	0.314	1.05
120-12-7	Anthracene	U	0.314	ug/L	0.314	1.05
206-44-0	Fluoranthene	U	0.314	ug/L	0.314	1.05
129-00-0	Pyrene	U	0.314	ug/L	0.314	1.05
205-99-2	Benzo(b)fluoranthene	U	0.314	ug/L	0.314	1.05
207-08-9	Benzo(k)fluoranthene	U	0.314	ug/L	0.314	1.05
50-32-8	Benzo(a)pyrene	U	0.314	ug/L	0.314	1.05

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	107	105	ug/L	102	(32%-122%)
2-Fluorobiphenyl	48.5	52.4	ug/L	93	(31%-107%)
2-Fluorophenol	41.7	105	ug/L	40	(15%-88%)
Nitrobenzene-d5	43.2	52.4	ug/L	82	(35%-113%)
Phenol-d5	28.8	105	ug/L	28	(15%-91%)
p-Terphenyl-d14	35.8	52.4	ug/L	68	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.895	25.7	ug/L	0	J

Quality Control Summary

Surrogate Recovery Report

SDG Number: 2021-130

Matrix Type: LIQUID

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1204695847	MB for batch 2063408	47	34	88	95	107	64
1204695848	LCS for batch 2063408	36	26	73	83	101	64
527510003	SMEB03-20-209979	41	42	65	19 *	36	7 *
527510006	SMEB03-20-209994	48	34	91	96	108	75
527510009	SMEB04-20-209982	37	38	75	26 *	38	7 *
527510018	SMEB05-20-209995	40	28	82	93	102	68
1204695853	SMEB01-20-209972MS	50	45	69	63	78	31 *
1204695854	SMEB01-20-209972MSD	43	46	60	61	91	34 *
527510015	SMEB05-20-209985	23	16	51	41	52	14 *

Surrogate	Parmname	Acceptance Limits
2FP	= 2-Fluorophenol	(15%-88%)
PHL	= Phenol-d5	(15%-91%)
NBZ	= Nitrobenzene-d5	(35%-113%)
FBP	= 2-Fluorobiphenyl	(31%-107%)
TBP	= 2,4,6-Tribromophenol	(32%-122%)
TPH	= p-Terphenyl-d14	(35%-134%)

* Recovery outside Acceptance Limits

\# Column to be used to flag recovery values

D Sample Diluted

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-130
Sample Type: Laboratory Control Sample
Client ID: LCS for batch 2063408
Matrix: WATER
Lab Sample ID 1204695848
Instrument: MSD4.I
Analysis Date: 11/17/2020 16:37
Dilution: 1
Analyst: LOF
Prep Batch ID: 2063408
Inj. Vol: 1 uL
Batch ID: 2063409

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
108-95-2	LCS	Phenol	50.0	0.0	13.1	26	12-90
91-57-6	LCS	2-Methylnaphthalene	50.0	0.0	34.1	68	43-97
91-20-3	LCS	Naphthalene	50.0	0.0	35.7	71	44-98
90-12-0	LCS	1-Methylnaphthalene	50.0	0.0	36.9	74	45-100
86-73-7	LCS	Fluorene	50.0	0.0	42.0	84	54-101
85-01-8	LCS	Phenanthrene	50.0	0.0	41.7	83	55-102
120-12-7	LCS	Anthracene	50.0	0.0	38.2	76	54-107
206-44-0	LCS	Fluoranthene	50.0	0.0	47.0	94	52-112
129-00-0	LCS	Pyrene	50.0	0.0	33.9	68	45-126
205-99-2	LCS	Benzo(b)fluoranthene	50.0	0.0	40.6	81	52-106
207-08-9	LCS	Benzo(k)fluoranthene	50.0	0.0	42.8	86	48-115
50-32-8	LCS	Benzo(a)pyrene	50.0	0.0	35.7	71	47-110

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-130
Sample Type: Matrix Spike
Client ID: SMEB01-20-209972MS
Matrix: W
Lab Sample ID 1204695853
Instrument: MSD4.I
Analysis Date: 11/18/2020 11:34
Dilution: 1
Analyst: JMB3
Prep Batch ID: 2063408
Inj. Vol: 1 uL
Batch ID: 2063409

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits
108-95-2	MS	Phenol	116	0.000	U	52.0	45	19-78
91-57-6	MS	2-Methylnaphthalene	116	0.000	U	71.9	62	30-101
91-20-3	MS	Naphthalene	116	0.000	U	78.9	68	32-98
90-12-0	MS	1-Methylnaphthalene	116	0.000	U	77.4	67	31-99
86-73-7	MS	Fluorene	116	0.000	U	78.3	67	39-108
85-01-8	MS	Phenanthrene	116	0.000	U	71.1	61	41-108
120-12-7	MS	Anthracene	116	0.000	U	66.3	57	39-112
206-44-0	MS	Fluoranthene	116	0.000	U	71.4	61	42-113
129-00-0	MS	Pyrene	116	0.000	U	57.1	49	33-121
205-99-2	MS	Benzo(b)fluoranthene	116	0.000	U	60.6	52	41-109
207-08-9	MS	Benzo(k)fluoranthene	116	0.000	U	60.9	52	41-113
50-32-8	MS	Benzo(a)pyrene	116	0.000	U	54.8	47	41-109

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-130
Sample Type: Matrix Spike Duplicate
Client ID: SMEB01-20-209972MSD
Matrix: W
Lab Sample ID 1204695854
Instrument: MSD4.I
Analysis Date: 11/18/2020 12:03
Dilution: 1
Analyst: JMB3
Prep Batch ID: 2063408
Inj. Vol: 1 uL
Batch ID: 2063409

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
108-95-2	MSD	Phenol	116	0.000	U	53.2	46	19-78	2	0-30
91-57-6	MSD	2-Methylnaphthalene	116	0.000	U	63.5	55	30-101	12	0-30
91-20-3	MSD	Naphthalene	116	0.000	U	67.7	58	32-98	15	0-30
90-12-0	MSD	1-Methylnaphthalene	116	0.000	U	69.6	60	31-99	11	0-30
86-73-7	MSD	Fluorene	116	0.000	U	78.8	68	39-108	1	0-30
85-01-8	MSD	Phenanthrene	116	0.000	U	78.1	67	41-108	9	0-30
120-12-7	MSD	Anthracene	116	0.000	U	72.4	62	39-112	9	0-30
206-44-0	MSD	Fluoranthene	116	0.000	U	79.8	69	42-113	11	0-30
129-00-0	MSD	Pyrene	116	0.000	U	64.0	55	33-121	11	0-30
205-99-2	MSD	Benzo(b)fluoranthene	116	0.000	U	67.2	58	41-109	10	0-30
207-08-9	MSD	Benzo(k)fluoranthene	116	0.000	U	70.0	60	41-113	14	0-30
50-32-8	MSD	Benzo(a)pyrene	116	0.000	U	64.1	55	41-109	16	0-30

Method Blank Summary

SDG Number:	**2021-130**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2063408**	**Instrument ID:**	**MSD4.I**	**Data File:**	**s111720.B\s4k1707.D**
Lab Sample ID:	**1204695847**	**Prep Date:**	**11/17/2020 09:45**	**Analyzed:**	**11/17/20 16:08**
Column:	**DB-5ms**				

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 2063408	1204695848	s111720.B\s4k1708.D	11/17/20	1637
02	SMEB03-20-209979	527510003	s111720.B\s4k1720.D	11/17/20	2229
03	SMEB03-20-209994	527510006	s111720.B\s4k1721.D	11/17/20	2258
04	SMEB04-20-209982	527510009	s111720.B\s4k1722.D	11/17/20	2327
05	SMEB05-20-209995	527510018	s111720.B\s4k1724.D	11/18/20	0026
06	SMEB01-20-209972MS	1204695853	s111820.B\s4k1807.D	11/18/20	1134
07	SMEB01-20-209972MSD	1204695854	s111820.B\s4k1808.D	11/18/20	1203
08	SMEB05-20-209985	527510015	s111820.B\s4k1810.D	11/18/20	1301

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 2021-130

Instrument ID: MSD4.I **Injection Date/Time:** 19-OCT-20 13:03

Column Description: DB-5ms **Lab File ID** s101920.B\s4j1906.D

m/e	Ion Abundance Criteria	% Relative Abundance
51	10 - 80% of mass 198	50.3
68	Less than 2% of mass 69	1.5
69	Mass 69 Relative Abundance	42.8
70	Less than 2% of mass 69	0.6
127	10 - 80% of mass 198	49.8
197	Less than 2% of mass 198	0.7
198	Base Peak, 100% Relative Abundance	100
199	5 - 9% of mass 198	6.4
275	10 - 60% of mass 198	23.7
365	Greater than 1% of mass 198	3.2
441	Less than 24% of mass 442	15.7
442	Greater than 50% of mass 198	77.3
443	15 - 24% of mass 442	19.3

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
ICALMIX[A]	WBN201013-01	s101920.B\s4j1907.D	19-OCT-20 13:22
ICALMIX[A]	WBN201013-02	s101920.B\s4j1908.D	19-OCT-20 13:54
ICALMIX[A]	WBN201013-03	s101920.B\s4j1909.D	19-OCT-20 14:26
ICALMIX[A]	WBN201013-04	s101920.B\s4j1910.D	19-OCT-20 14:57
ICALMIX[A]	WBN201013-05	s101920.B\s4j1911.D	19-OCT-20 15:29
ICALMIX[A]	WBN201013-06	s101920.B\s4j1912.D	19-OCT-20 16:00
ICALMIX[A]	WBN201013-07	s101920.B\s4j1913.D	19-OCT-20 16:32
ICALMIX[A]	WBN201013-08	s101920.B\s4j1914.D	19-OCT-20 17:04
ICVMIX[A]01	WBN201012-09	s101920.B\s4j1915.D	19-OCT-20 17:35

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 2021-130

Instrument ID: MSD4.I **Injection Date/Time:** 17-NOV-20 13:25

Column Description: DB-5ms **Lab File ID** s111720.B\s4k1701.D

m/e	Ion Abundance Criteria	% Relative Abundance
51	10 - 80% of mass 198	45.4
68	Less than 2% of mass 69	1.5
69	Mass 69 Relative Abundance	41.2
70	Less than 2% of mass 69	0.6
127	10 - 80% of mass 198	50.2
197	Less than 2% of mass 198	0
198	Base Peak, 100% Relative Abundance	100
199	5 - 9% of mass 198	6.3
275	10 - 60% of mass 198	22.7
365	Greater than 1% of mass 198	3.2
441	Less than 24% of mass 442	15.3
442	Greater than 50% of mass 198	70
443	15 - 24% of mass 442	19.4

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
CCVMIX[A]01	WBN201013-04.2	s111720.B\s4k1702.D	17-NOV-20 13:42
BLK01	1204695847	s111720.B\s4k1707.D	17-NOV-20 16:08
BLK01LCS	1204695848	s111720.B\s4k1708.D	17-NOV-20 16:37
SMEB03-20-209979	527510003	s111720.B\s4k1720.D	17-NOV-20 22:29
SMEB03-20-209994	527510006	s111720.B\s4k1721.D	17-NOV-20 22:58
SMEB04-20-209982	527510009	s111720.B\s4k1722.D	17-NOV-20 23:27
SMEB05-20-209995	527510018	s111720.B\s4k1724.D	18-NOV-20 00:26

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC **Client SDG:** 2021-130

Instrument ID: MSD4.I **Injection Date/Time:** 18-NOV-20 08:50

Column Description: DB-5ms **Lab File ID** s111820.B\s4k1801.D

m/e	Ion Abundance Criteria	% Relative Abundance
51	10 - 80% of mass 198	43.1
68	Less than 2% of mass 69	1.5
69	Mass 69 Relative Abundance	40.2
70	Less than 2% of mass 69	0.6
127	10 - 80% of mass 198	48.9
197	Less than 2% of mass 198	0
198	Base Peak, 100% Relative Abundance	100
199	5 - 9% of mass 198	6.5
275	10 - 60% of mass 198	22.5
365	Greater than 1% of mass 198	3
441	Less than 24% of mass 442	14.6
442	Greater than 50% of mass 198	74.6
443	15 - 24% of mass 442	18.4

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, LCS, LCSD,BLANKS AND STANDARDS

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
CCVMIX[A]02	WBN201013-04.2	s111820.B\s4k1805.D	18-NOV-20 10:31
SMEB01-20-209972MS	1204695853	s111820.B\s4k1807.D	18-NOV-20 11:34
SMEB01-20-209972MSD	1204695854	s111820.B\s4k1808.D	18-NOV-20 12:03
SMEB05-20-209985	527510015	s111820.B\s4k1810.D	18-NOV-20 13:01

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 2021-130

Instrument: MSD4.I

STD Analysis Time: 17-NOV-20 13:42

GC Column: DB-5ms

Data File: s111720.B\s4k1702.D

	1,4-Dichlorobenzene-d4		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10		Chrysene-d12		Perylene-d12	
	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #
12 Hour STD	992303	5.42	3707027	7.21	1935447	9.54	2880955	11.4	1828068	14.9	1267281	18.1
Upper Limit	1984606	5.92	7414054	7.71	3870894	10.0	5761910	11.9	3656136	15.4	2534562	18.6
Lower Limit	496152	4.92	1853514	6.71	967724	9.04	1440478	10.9	914034	14.4	633641	17.6
Sample ID												
BLK01	806145	5.41	2988728	7.21	1528368	9.54	2550024	11.4	1609501	14.9	1176909	18.1
BLK01LCS	916732	5.41	3442167	7.21	1764051	9.54	2905022	11.4	1868518	14.9	1196313	18.1
SMEB03-20-209979	893424	5.41	3397333	7.21	1690882	9.54	2909096	11.4	1513972	14.9	829418	18.1
SMEB03-20-209994	928637	5.41	3568641	7.2	1836960	9.53	3229820	11.4	2089139	14.9	1319752	18.1
SMEB04-20-209982	957255	5.41	3703191	7.21	1875759	9.54	3277509	11.4	1475563	14.9	787146	18.1
SMEB05-20-209995	881953	5.41	3373782	7.2	1713305	9.53	3021357	11.4	1971603	14.9	1251483	18.1

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT
RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Value outside of QC Limits

Internal Standard
Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 2021-130

Instrument: MSD4.I

STD Analysis Time: 18-NOV-20 10:31

GC Column: DB-5ms

Data File: s111820.B\s4k1805.D

	1,4-Dichlorobenzene-d4		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10		Chrysene-d12		Perylene-d12	
	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #	Area #	RT #
12 Hour STD	1032624	5.41	3972400	7.21	2178002	9.54	3544897	11.4	2081807	14.9	1156727	18.1
Upper Limit	2065248	5.91	7944800	7.71	4356004	10.0	7089794	11.9	4163614	15.4	2313454	18.6
Lower Limit	516312	4.91	1986200	6.71	1089001	9.04	1772449	10.9	1040904	14.4	578364	17.6
Sample ID												
SMEB01-20-209972MS	881036	5.4	3368738	7.21	1761070	9.53	2973963	11.4	1689378	14.9	935841	18.1
SMEB01-20-209972MSD	837228	5.4	3270074	7.2	1679345	9.53	2816536	11.4	1634723	14.9	1018834	18.1
SMEB05-20-209985	830950	5.4	3179453	7.2	1633348	9.53	2863556	11.4	1377957	14.9	771472	18.1

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT
RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Value outside of QC Limits

Sample Data

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209979**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 22:29**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**978.97 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1720.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.06	ug/L	3.06	10.2
91-57-6	2-Methylnaphthalene	U	0.306	ug/L	0.306	1.02
91-20-3	Naphthalene	U	0.306	ug/L	0.306	1.02
90-12-0	1-Methylnaphthalene	U	0.306	ug/L	0.306	1.02
86-73-7	Fluorene	U	0.306	ug/L	0.306	1.02
85-01-8	Phenanthrene	U	0.306	ug/L	0.306	1.02
120-12-7	Anthracene	U	0.306	ug/L	0.306	1.02
206-44-0	Fluoranthene	U	0.306	ug/L	0.306	1.02
129-00-0	Pyrene	U	0.306	ug/L	0.306	1.02
205-99-2	Benzo(b)fluoranthene	U	0.306	ug/L	0.306	1.02
207-08-9	Benzo(k)fluoranthene	U	0.306	ug/L	0.306	1.02
50-32-8	Benzo(a)pyrene	U	0.306	ug/L	0.306	1.02

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	37.0	102	ug/L	36		(32%-122%)
2-Fluorobiphenyl	9.64	51.1	ug/L	19	*	(31%-107%)
2-Fluorophenol	42.0	102	ug/L	41		(15%-88%)
Nitrobenzene-d5	33.1	51.1	ug/L	65		(35%-113%)
Phenol-d5	42.7	102	ug/L	42		(15%-91%)
p-Terphenyl-d14	3.35	51.1	ug/L	7	*	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.895	19.8	ug/L	0	J
	Unknown Aldol Condensate	3.366	6.83	ug/L		AJ
	unknown	3.441	14.2	ug/L	0	J
000116-53-0	Butanoic acid, 2-methyl-	3.543	5.54	ug/L	90	NJ
	unknown	3.842	8.12	ug/L	0	J
000067-71-0	Dimethyl sulfone	4.195	23.7	ug/L	94	NJ
	unknown	5.805	6.65	ug/L	0	J
	unknown	5.976	8.4	ug/L	0	J
	unknown	6.019	9.99	ug/L	0	J
000060-12-8	Phenylethyl Alcohol	6.479	8.22	ug/L	86	NJ
	unknown	7.661	11	ug/L	0	J
	unknown	7.87	6.72	ug/L	0	J
	unknown	8.169	9.81	ug/L	0	J
	unknown	8.255	6.91	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510003**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209979**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 22:29**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**978.97 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1720.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	8.533	8.11	ug/L	0	J
	unknown	8.977	8.69	ug/L	0	J
	unknown	9.105	6.67	ug/L	0	J
	unknown	9.153	7.88	ug/L	0	J
	unknown	9.217	12.5	ug/L	0	J
	unknown	9.378	5.48	ug/L	0	J
000143-24-8	2,5,8,11,14-Pentaoxapentadecane	9.485	45	ug/L	90	NJ
	unknown	9.64	22.8	ug/L	0	J
	unknown	9.661	16.5	ug/L	0	J
015356-74-8	2(4H)-Benzofuranone, 5,6,7,7a-tetrahydro-4,4,7a-tr	9.865	14	ug/L	94	NJ
	unknown	10.271	29.1	ug/L	0	J
	unknown	11.089	6.29	ug/L	0	J
	unknown	11.138	5.38	ug/L	0	J
	unknown	11.303	5.4	ug/L	0	J
	unknown	11.796	9.39	ug/L	0	J
	unknown	22.803	6.64	ug/L	0	J

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 18 09:10:24 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	893424	40.00	ng/uL	-0.02
22) A Naphthalene-d8	136	7.206	7.228	1.000	3397333	40.00	ng/uL	-0.02
39) A Acenaphthene-d10	164	9.538	9.555	1.000	1690882	40.00	ng/uL	-0.02
64) A Phenanthrene-d10	188	11.416	11.432	1.000	2909096	40.00	ng/uL	-0.02
78) A Chrysene-d12	240	14.887	14.914	1.000	1513972	40.00	ng/uL	-0.03
88) A Perylene-d12	264	18.086	18.139	1.000	829418	40.00	ng/uL	-0.05
96) B 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	893424	40.00	ng/uL	-0.02
112) B Naphthalene-d8	136	7.206	7.228	1.000	3397333	40.00	ng/uL	-0.02
120) B Acenaphthene-d10	164	9.538	9.555	1.000	1690882	40.00	ng/uL	-0.02
129) B Phenanthrene-d10	188	11.416	11.432	1.000	2909096	40.00	ng/uL	-0.02
142) B Chrysene-d12	240	14.887	14.914	1.000	1513972	40.00	ng/uL	-0.03
148) B Perylene-d12	264	18.086	18.139	1.000	830632	40.00	ng/uL	-0.05
151) J Naphthalene-d8	136	7.206	7.228	1.000	3397333	40.00	ng/uL	-0.02
153) J Phenanthrene-d10	188	11.416	11.432	1.000	2909096	40.00	ng/uL	-0.02
156) J Chrysene-d12	240	14.887	14.914	1.000	1513972	40.00	ng/uL	-0.03
159) D Naphthalene-d8	136	7.206	7.228	1.000	3397333	40.00	ng/uL	-0.02
161) D Acenaphthene-d10	164	9.538	9.555	1.000	1690882	40.00	ng/uL	-0.02
164) D Phenanthrene-d10	188	11.416	11.432	1.000	2909096	40.00	ng/uL	-0.02
171) D Chrysene-d12	240	14.887	14.914	1.000	1513972	40.00	ng/uL	-0.03
173) E Naphthalene-d8	136	7.206	7.228	1.000	3397333	40.00	ng/uL	-0.02
175) E Perylene-d12	264	18.086	18.139	1.000	829418	40.00	ng/uL	-0.05
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.740	3.735	0.691	1104857	41.10	ng/uL	0.00
8) Phenol-d5	99	4.890	4.906	0.904	1364713	41.76	ng/uL	-0.02
23) Nitrobenzene-d5	82	6.195	6.222	0.860	933540	32.38	ng/uL	-0.03
44) 2-Fluorobiphenyl	172	8.661	8.736	0.908	496438	9.44	ng/uL	-0.07
63) 2,4,6-Tribromophenol	330	10.544	10.555	1.105	216623	36.23	ng/uL	-0.01
80) p-Terphenyl-d14	244	13.405	13.422	0.900	164774	3.28	ng/uL	-0.02

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	41%
8) Phenol-d5	100.000	15 - 91	42%
23) Nitrobenzene-d5	50.000	35 - 113	65%
44) 2-Fluorobiphenyl	50.000	31 - 107	19%#
63) 2,4,6-Tribromophenol	100.000	32 - 122	36%
80) p-Terphenyl-d14	50.000	35 - 134	7%#

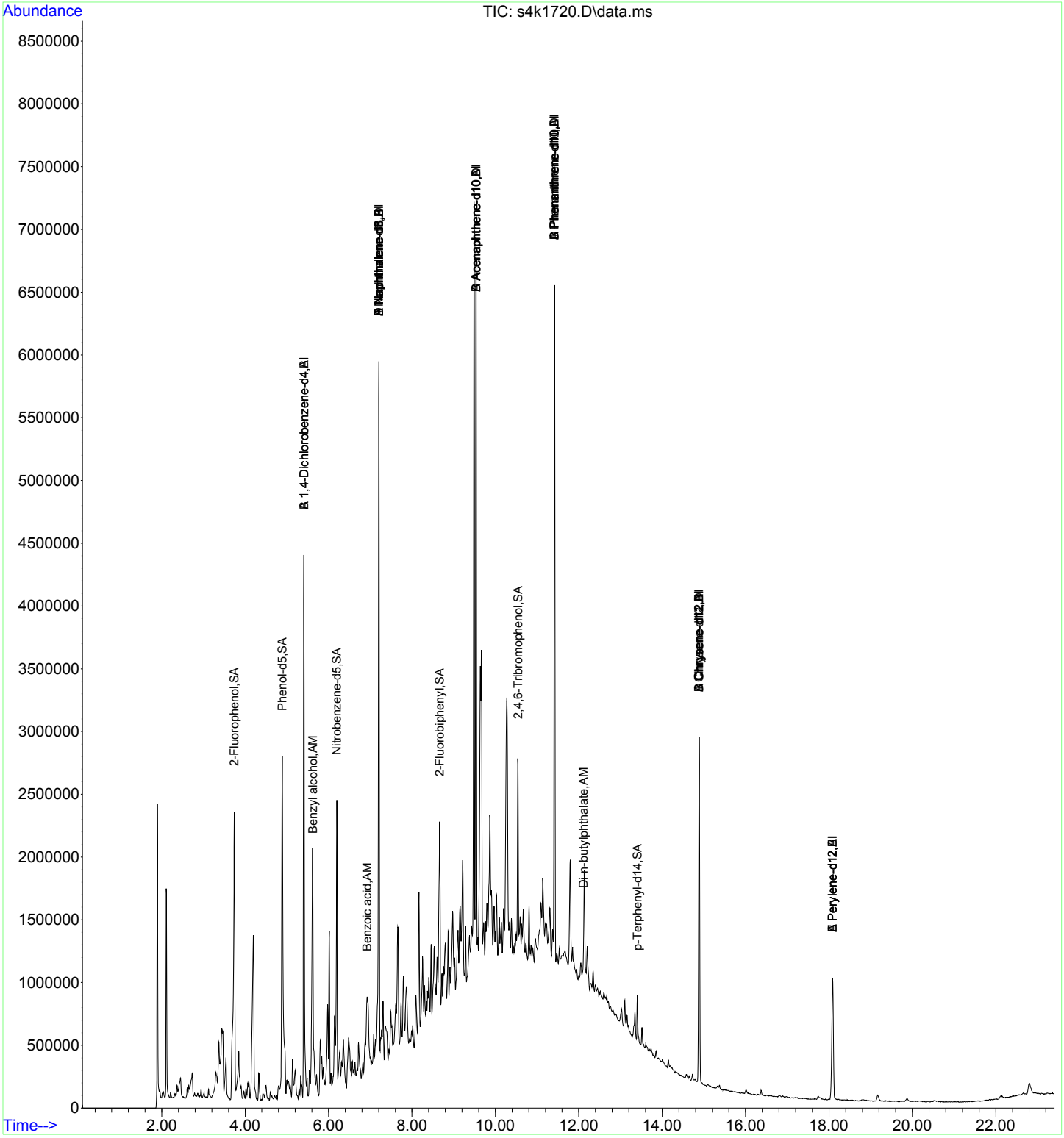
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
17) Benzyl alcohol	108	5.623	5.629	1.040	101452m	5.13	ng/uL	
30) Benzoic acid	105	6.923	6.923	0.961	200953	24.46	ng/uL	99
76) Di-n-butylphthalate	149	12.116	12.170	1.061	84473	0.98	ng/uL	95

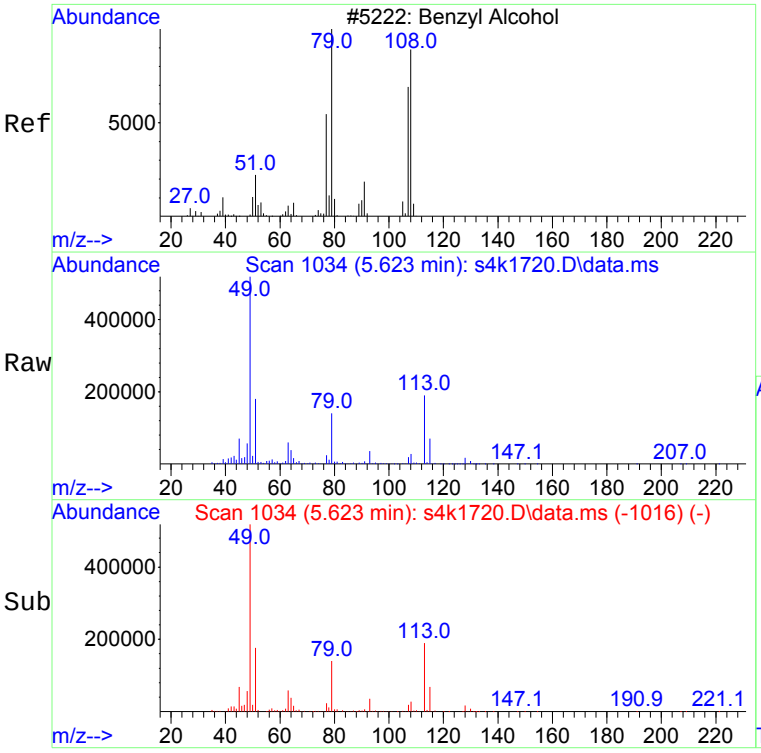
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Nov 18 09:10:24 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

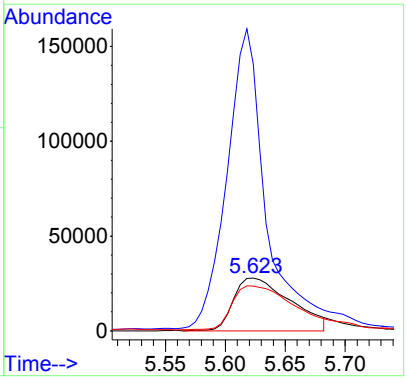


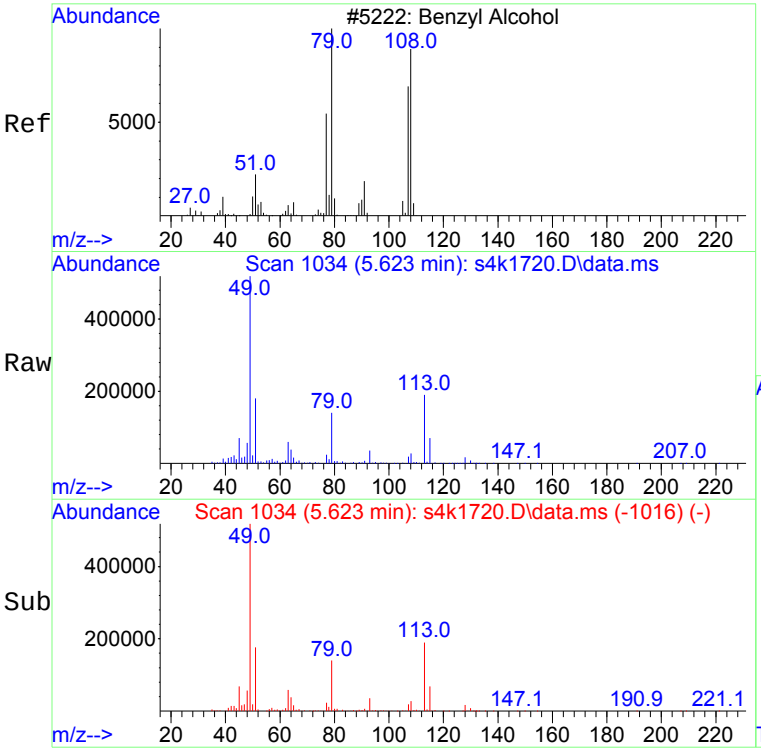


#17 BEFORE analyst integration
Benzyl alcohol
Concen: 4.66 ng/uL
RT: 5.623 min Scan# 1034
Delta R.T. -0.005 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:108 Resp: 92213

Ion	Ratio	Lower	Upper
108	100		
79	380.9	101.6	161.6#
77	87.5	50.1	110.1

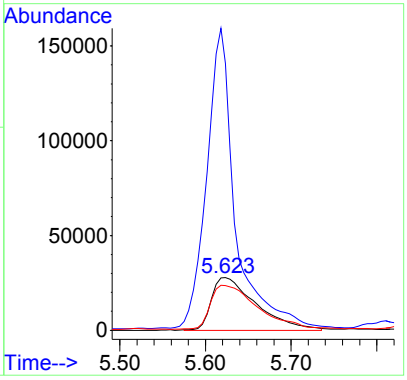


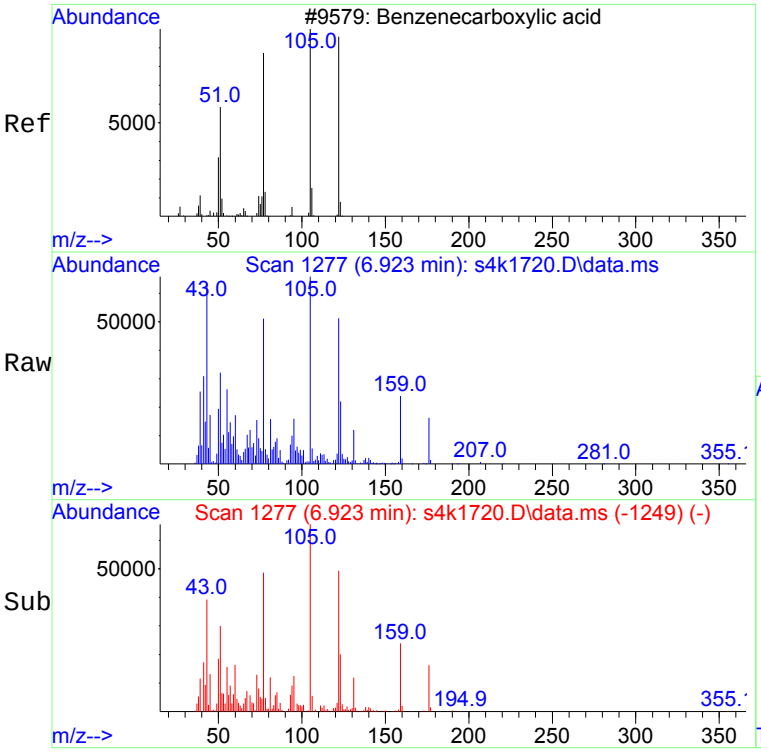


#17 AFTER analyst integration
Benzyl alcohol AB
Concen: 5.13 ng/uL MANUALLY INTEGRATED
RT: 5.623 min Scan# 1034
Delta R.T. -0.005 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:108 Resp: 101452

Ion	Ratio	Lower	Upper
108	100		
79	346.2	101.6	161.6#
77	79.5	50.1	110.1

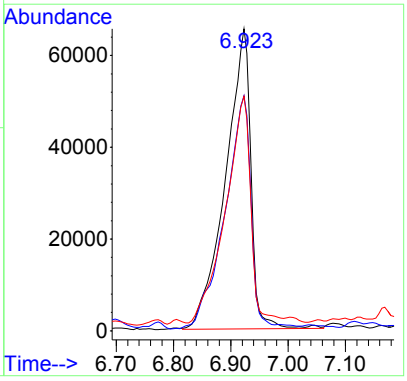


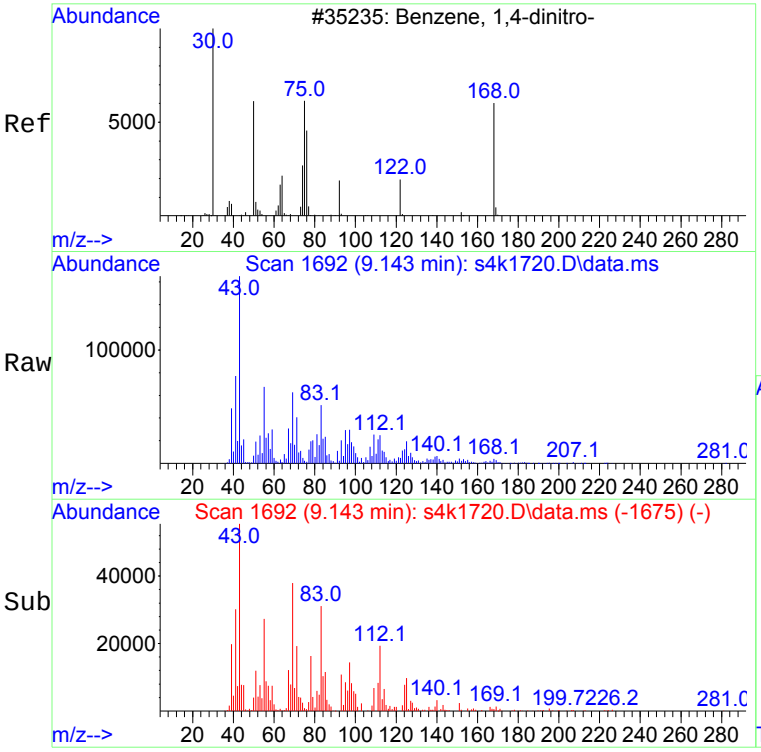


#30
Benzoic acid
Concen: 24.46 ng/uL
RT: 6.923 min Scan# 1277
Delta R.T. -0.000 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:105 Resp: 200953

Ion	Ratio	Lower	Upper
105	100		
122	80.8	51.3	111.3
77	76.0	45.6	105.6

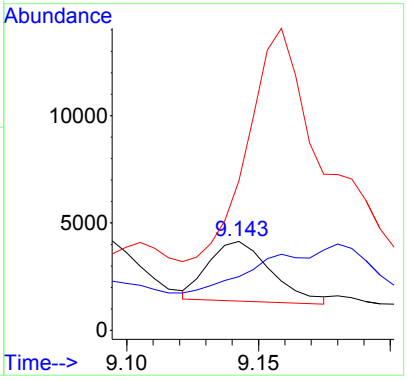


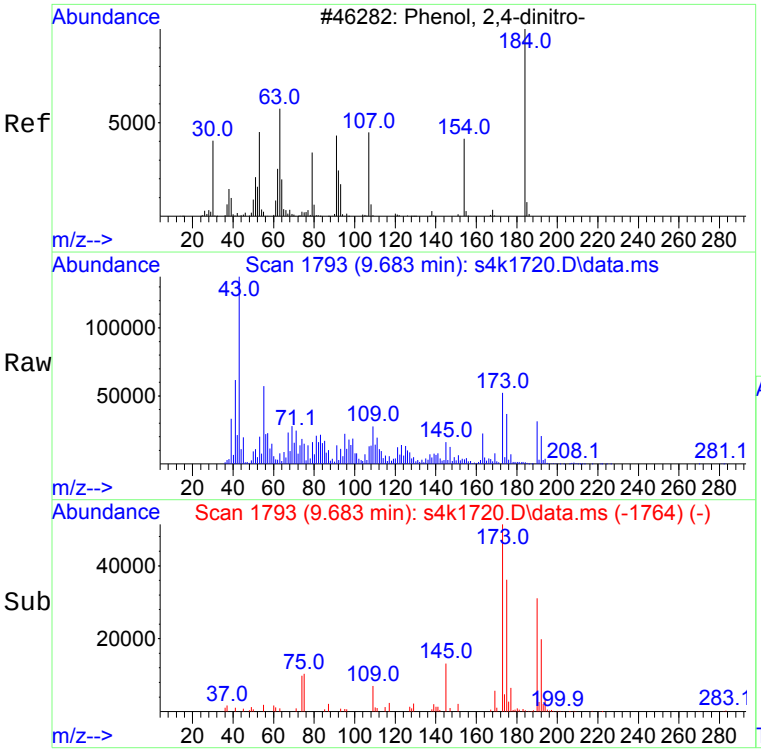


#47 BEFORE analyst DELETION
1,4-Dinitrobenzene
Concen: 4.61 ng/uL
RT: 9.143 min Scan# 1692
Delta R.T. -0.011 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:168 Resp: 4591

Ion	Ratio	Lower	Upper
168	100		
75	77.2	89.3	149.3#
50	395.5	83.7	143.7#

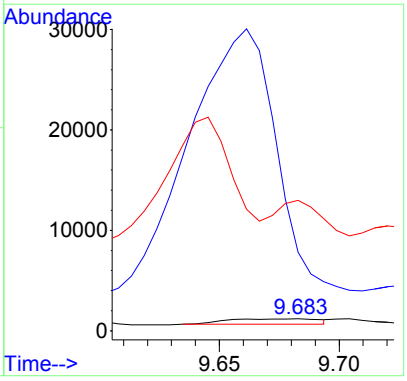


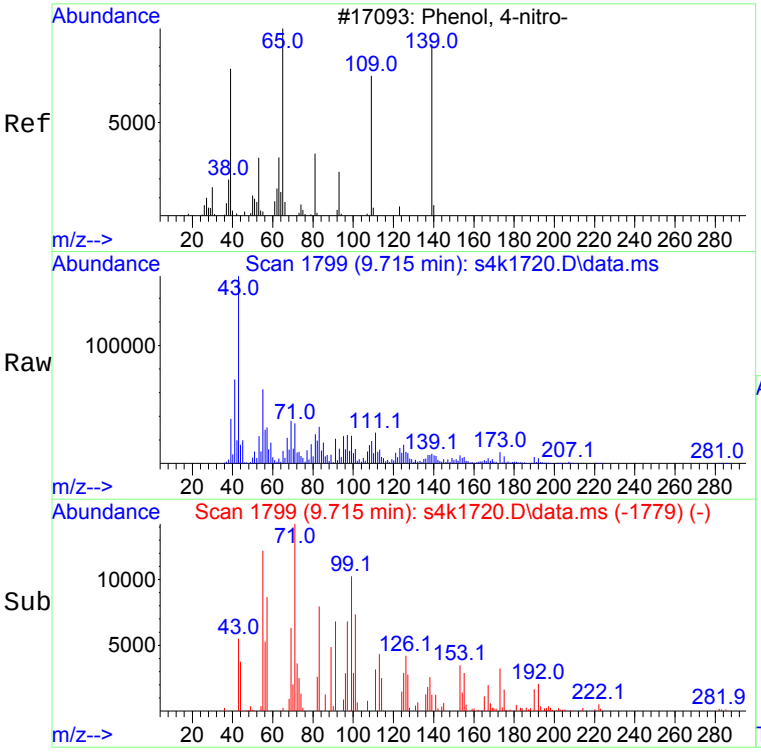


#55 BEFORE analyst DELETION
2,4-Dinitrophenol
Concen: 11.86 ng/uL
RT: 9.683 min Scan# 1793
Delta R.T. 0.053 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:184 Resp: 1467

Ion	Ratio	Lower	Upper
184	100		
63	4522.1	175.8	235.8#
107	1994.7	10.9	70.9#

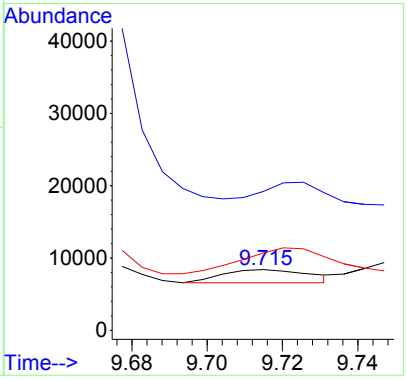


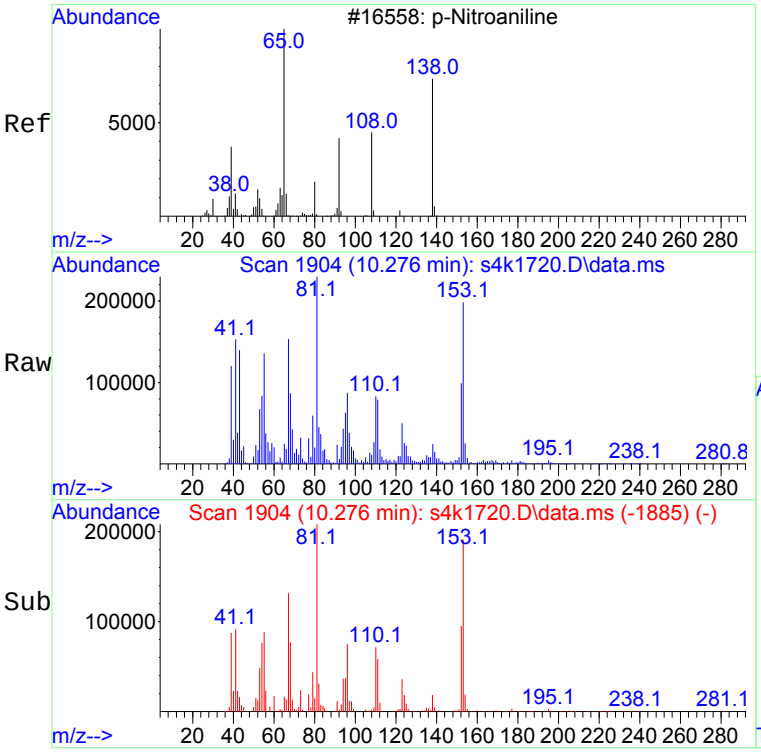


#59 BEFORE analyst DELETION
4-Nitrophenol
Concen: 3.74 ng/uL
RT: 9.715 min Scan# 1799
Delta R.T. 0.005 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:139 Resp: 2874

Ion	Ratio	Lower	Upper
139	100		
109	124.8	34.9	94.9#
65	221.5	64.7	124.7#

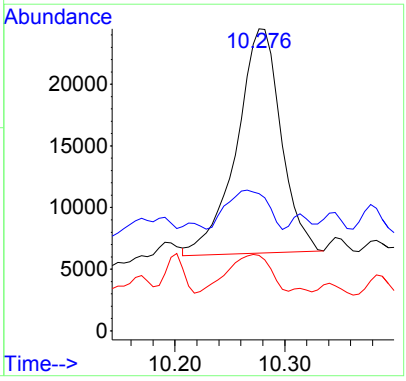


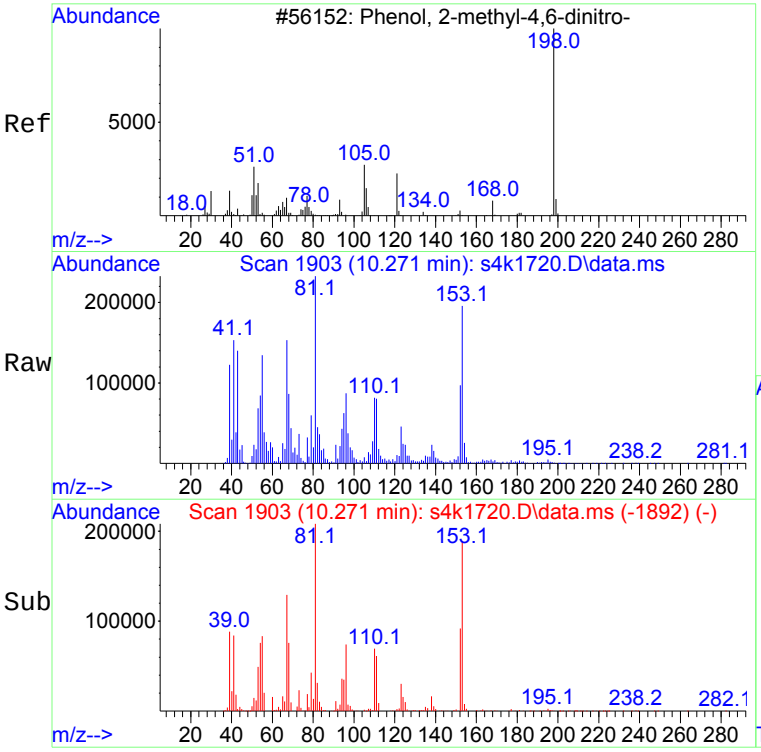


#62 BEFORE analyst DELETION
p-Nitroaniline
Concen: 4.99 ng/uL
RT: 10.276 min Scan# 1904
Delta R.T. -0.000 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:138 Resp: 51319

Ion	Ratio	Lower	Upper
138	100		
108	15.8	32.5	92.5#
92	16.5	16.6	76.6#

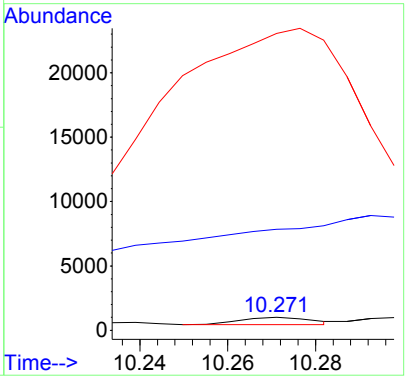


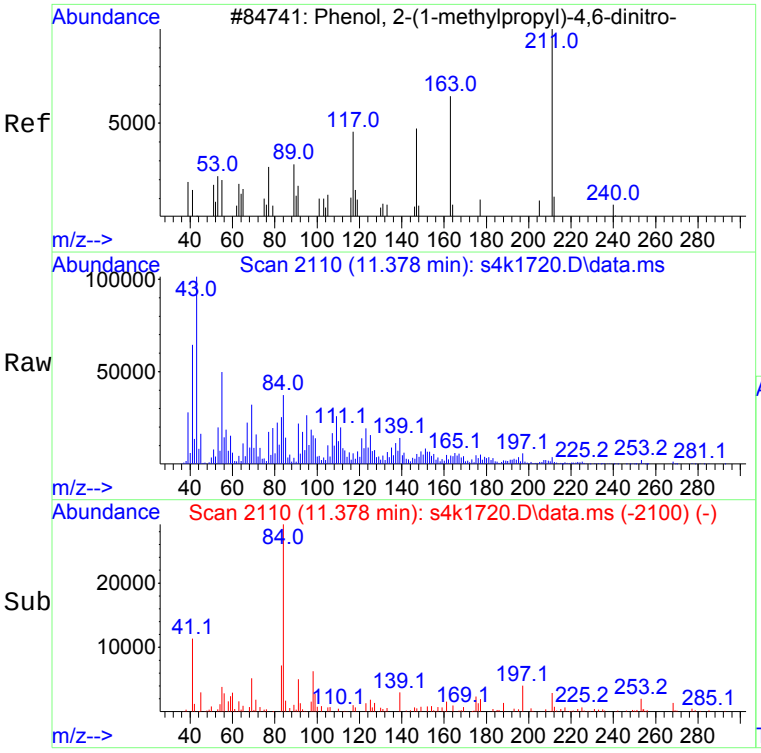


#65 BEFORE analyst DELETION
2-Methyl-4,6-dinitrophenol
Concen: 8.57 ng/uL
RT: 10.271 min Scan# 1903
Delta R.T. -0.043 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:198 Resp: 664

Ion	Ratio	Lower	Upper
198	100		
105	1692.3	13.1	73.1#
51	7065.8	25.5	85.5#

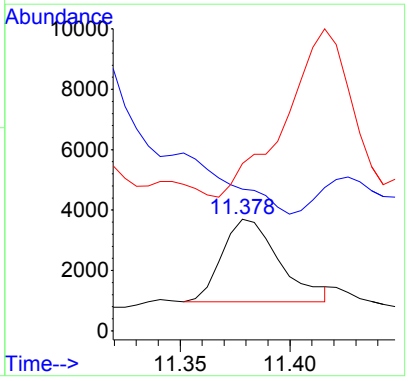


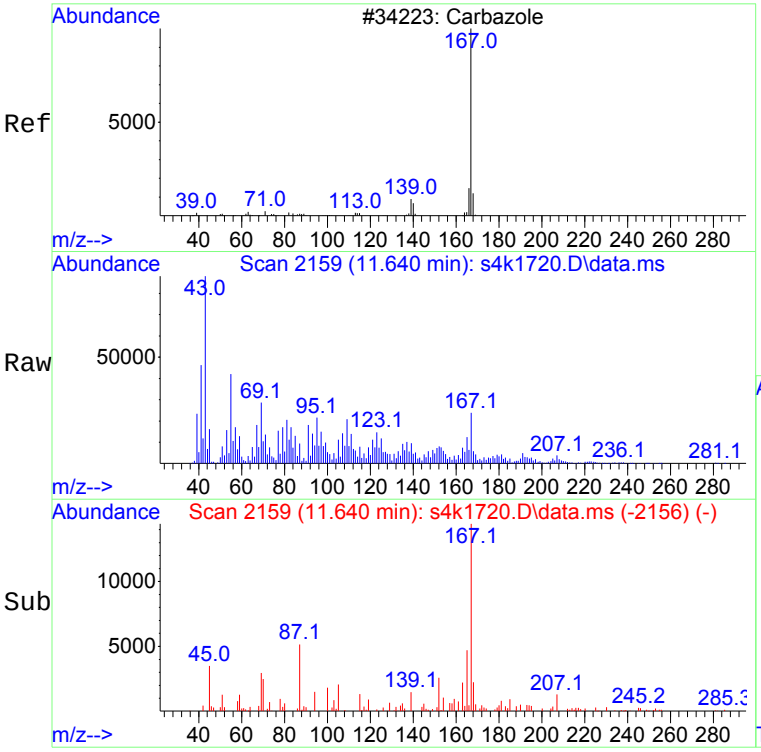


#72 BEFORE analyst DELETION
Dinoseb
Concen: 8.85 ng/uL
RT: 11.378 min Scan# 2110
Delta R.T. -0.048 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:211 Resp: 4955

Ion	Ratio	Lower	Upper
211	100		
163	44.2	16.9	76.9
147	230.8	3.8	63.8#

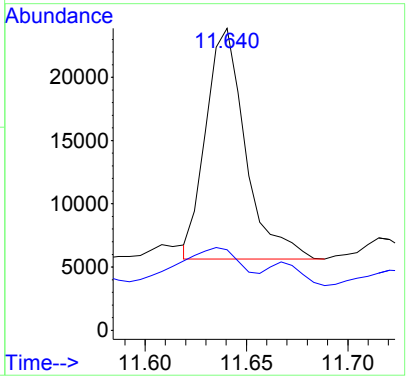


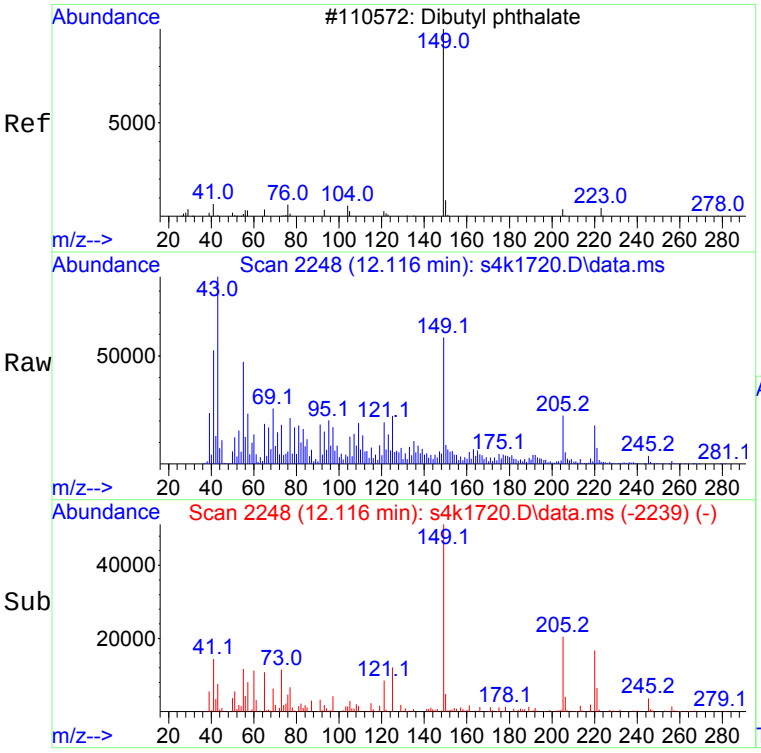


#75 BEFORE analyst DELETION
Carbazole
Concen: 0.39 ng/uL
RT: 11.640 min Scan# 2159
Delta R.T. -0.086 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:167 Resp: 24762

Ion	Ratio	Lower	Upper
167	100		
166	10.6	0.0	49.6

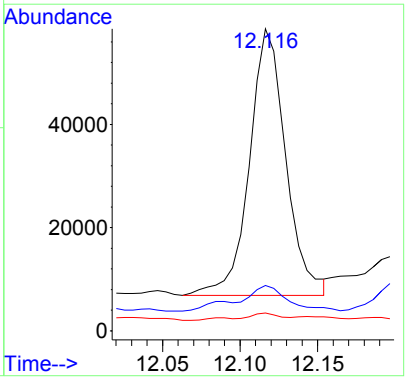


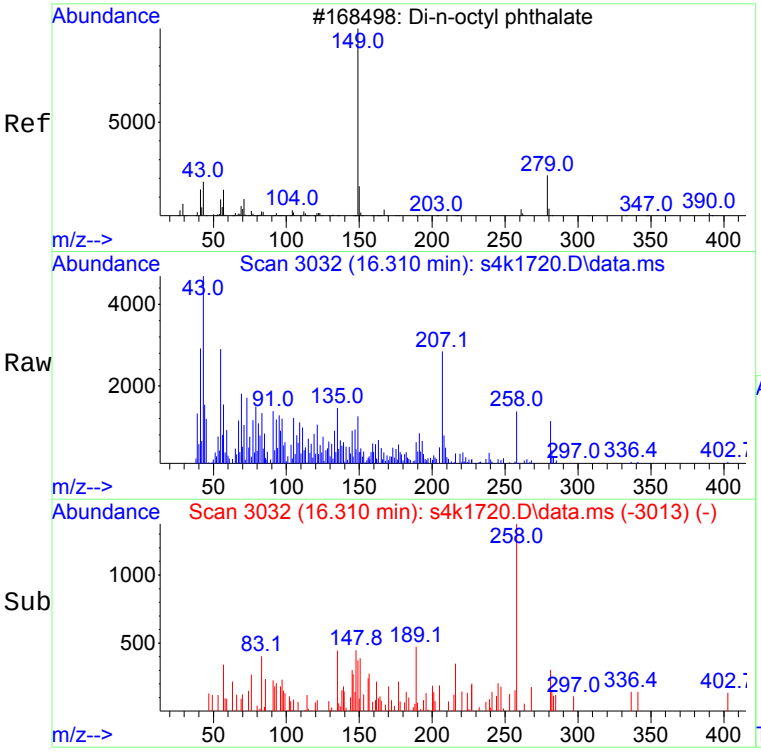


#76
Di-n-butylphthalate
Concen: 0.98 ng/uL
RT: 12.116 min Scan# 2248
Delta R.T. -0.054 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:149 Resp: 84473

Ion	Ratio	Lower	Upper
149	100		
150	9.7	0.0	38.6
104	1.5	0.0	34.6

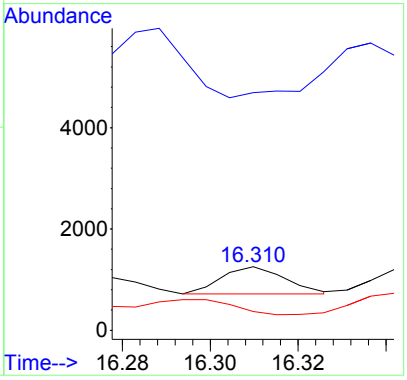


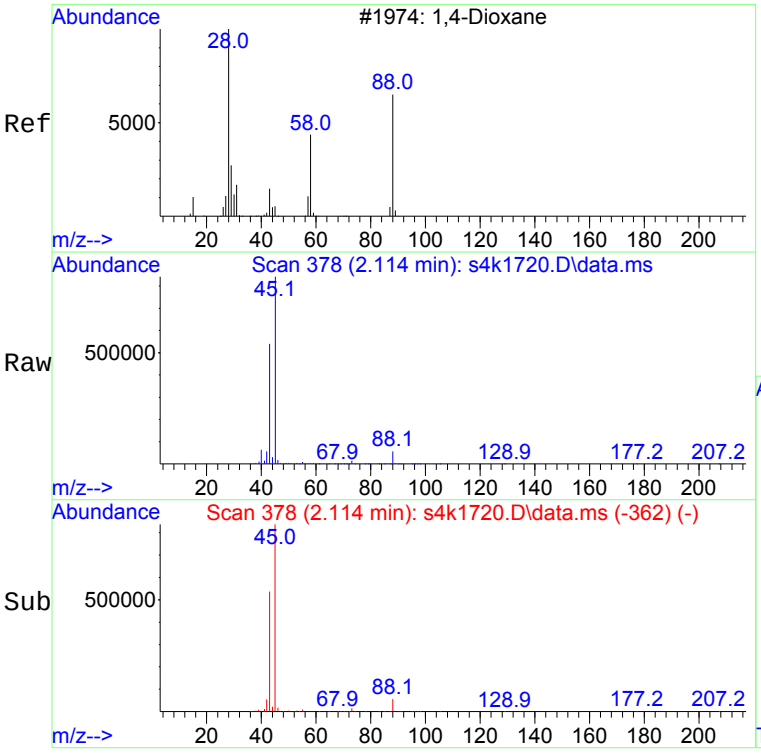


#87 BEFORE analyst DELETION
Di-n-octylphthalate
Concen: 0.39 ng/uL
RT: 16.310 min Scan# 3032
Delta R.T. -0.000 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:149 Resp: 544

Ion	Ratio	Lower	Upper
149	100		
43	267.8	0.0	42.3#
167	0.0	0.0	31.5

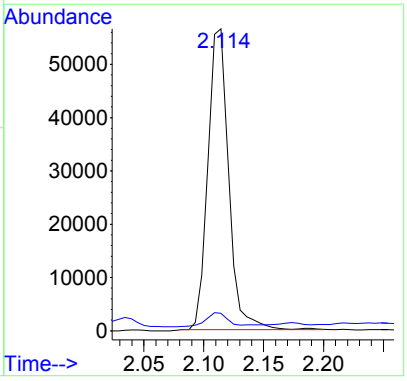


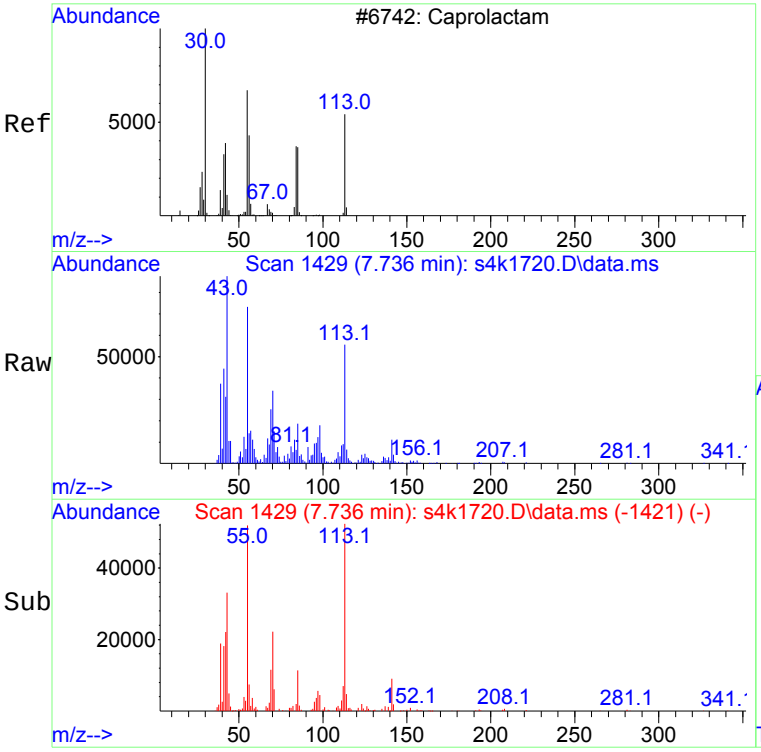


#97 BEFORE analyst DELETION
1,4-Dioxane
Concen: 6.03 ng/uL
RT: 2.114 min Scan# 378
Delta R.T. -0.016 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion: 88 Resp: 68504

Ion	Ratio	Lower	Upper
88	100		
58	7.6	61.9	121.9#

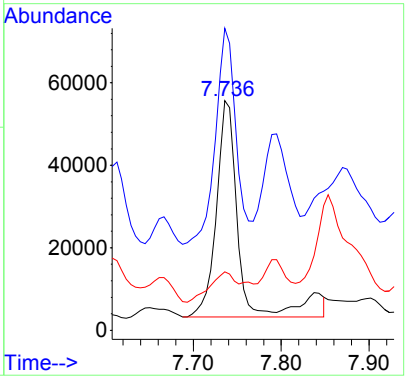


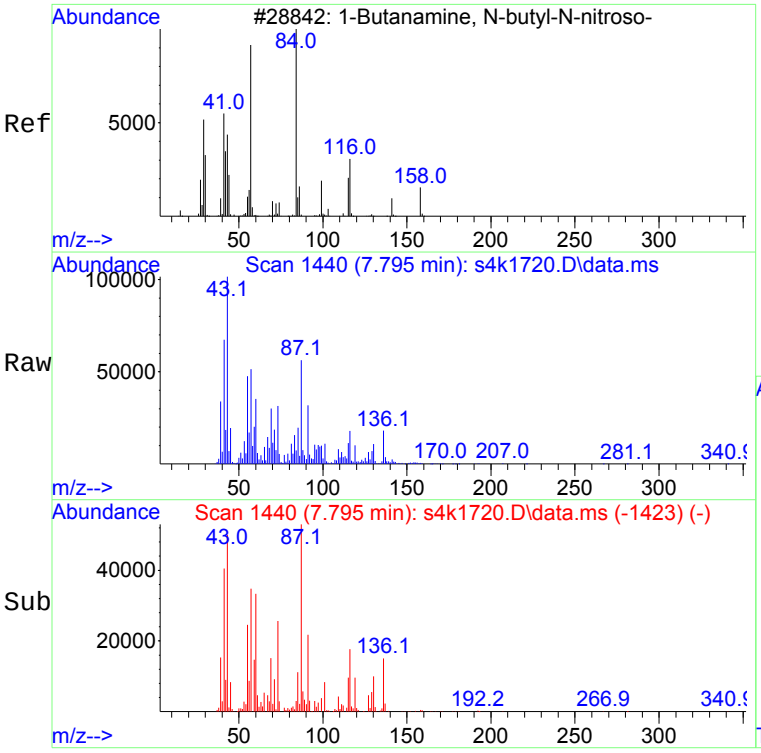


#117 BEFORE analyst DELETION
Caprolactam
Concen: 10.48 ng/uL
RT: 7.736 min Scan# 1429
Delta R.T. -0.059 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion:113 Resp: 94127

Ion	Ratio	Lower	Upper
113	100		
55	90.6	196.3	256.3#
56	0.0	136.2	196.2#

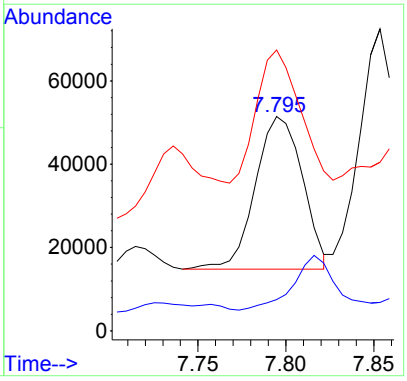




#118 BEFORE analyst DELETION
N-Nitrosodi-n-butylamine
Concen: 3.43 ng/uL
RT: 7.795 min Scan# 1440
Delta R.T. -0.011 min
Lab File: s4k1720.D
Acq: 17 Nov 2020 22:29

Tgt Ion: 57 Resp: 68544

Ion	Ratio	Lower	Upper
57	100		
84	32.1	98.6	158.6#
41	86.5	90.6	150.6#



Library Search Compound Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

RAB 11/19/2020

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

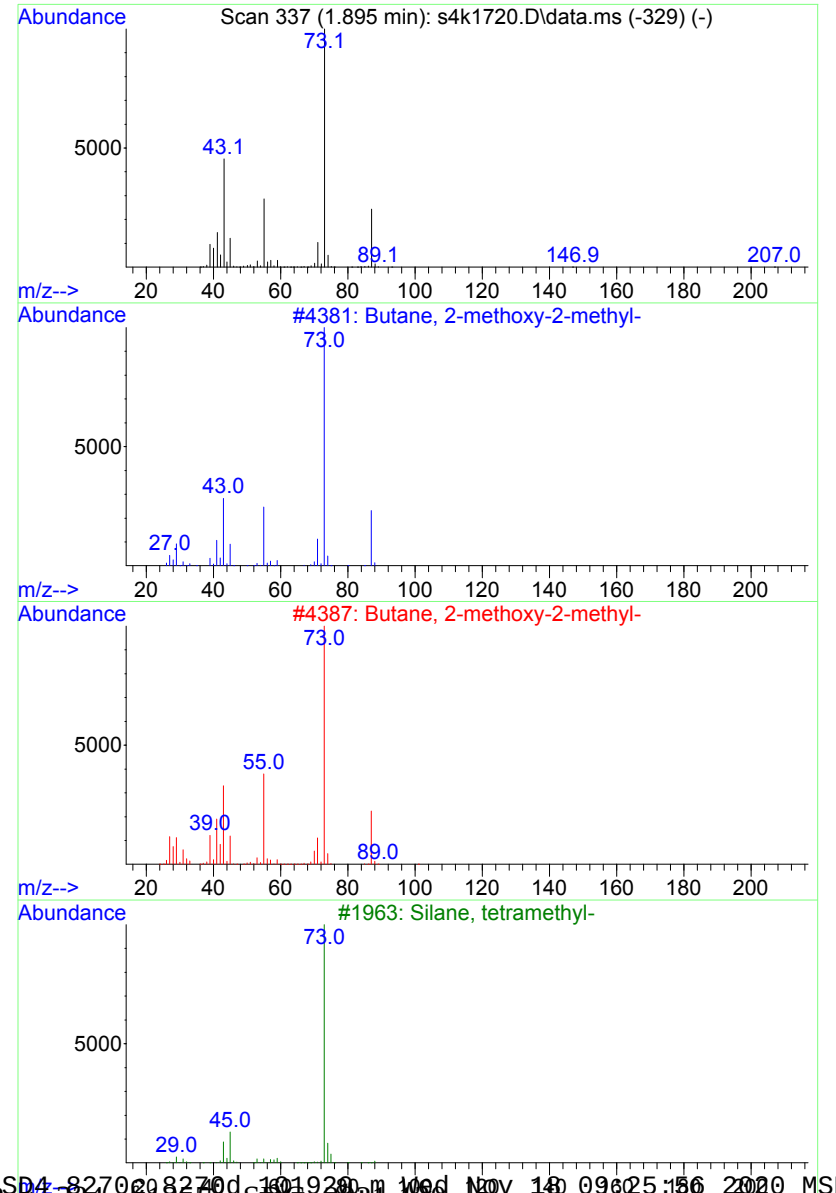
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

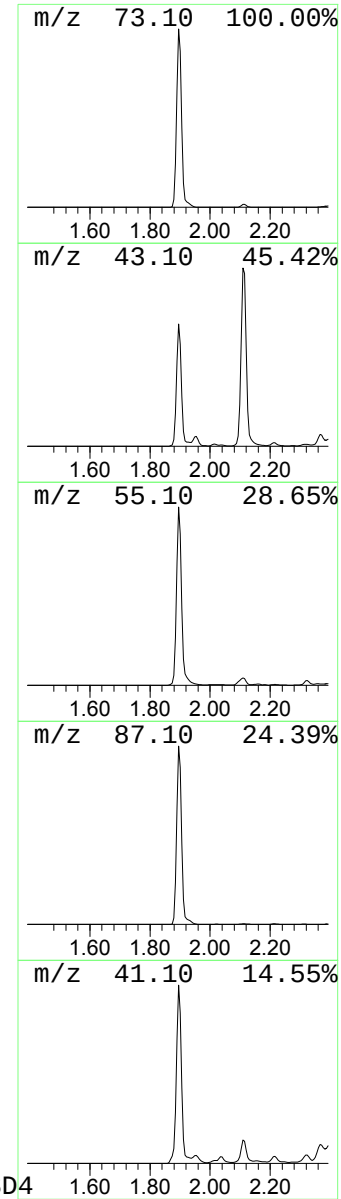
****

Peak Number 1 unknown Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.895	19.40 ng/uL	3084960	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	83
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
3	Silane, tetramethyl-	88	C4H12Si	000075-76-3	38
4	Silane, tetramethyl-	88	C4H12Si	000075-76-3	32
5	1,3-Dioxolane, 2-methyl-	88	C4H8O2	000497-26-7	32





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

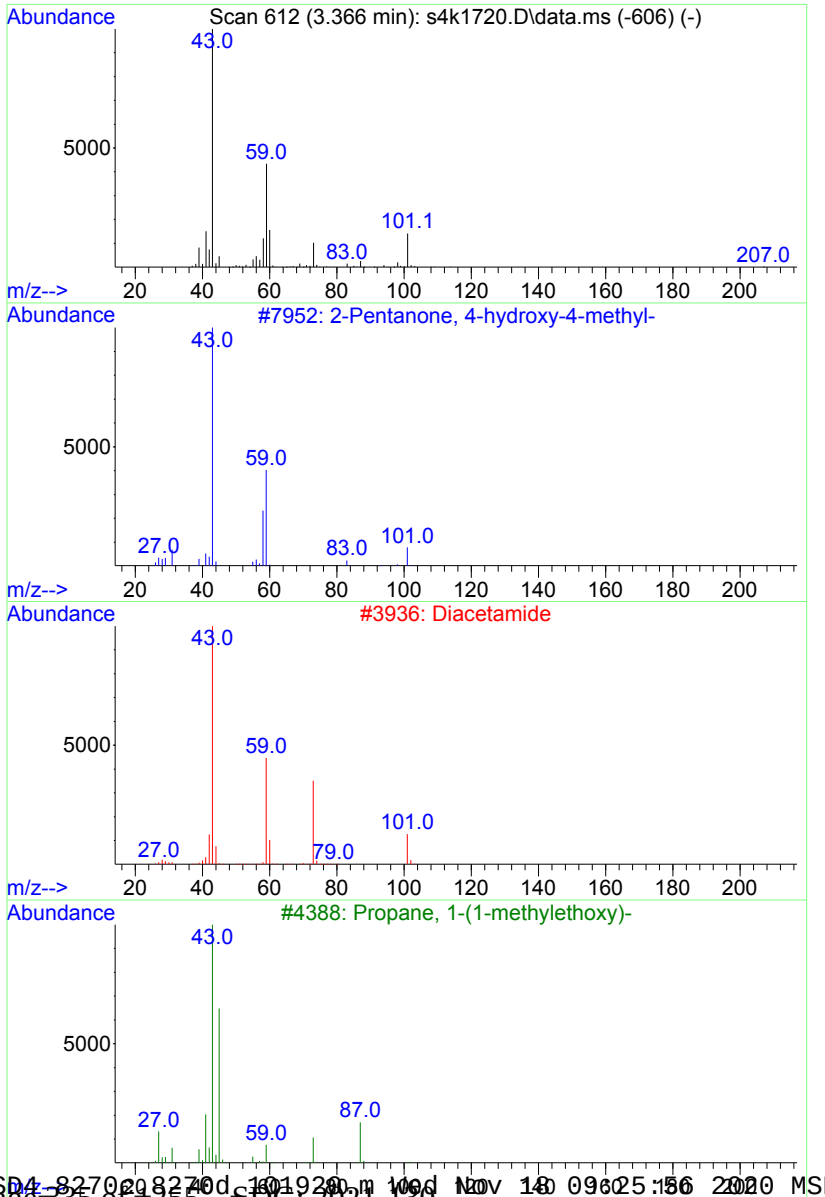
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

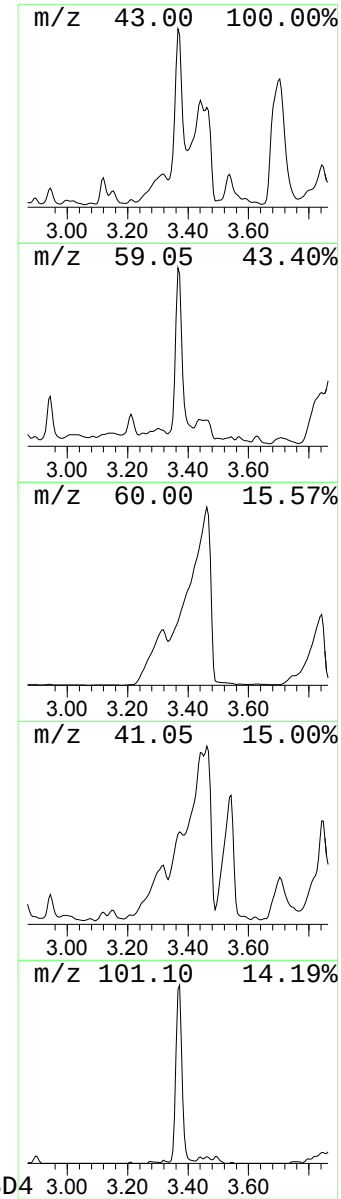
****

Peak Number 2 Unknown Aldol Condensate Concentration Rank 21

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.366	6.69 ng/uL	1064000	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Unknown Aldol Condensate	116	C6H12O2	000123-42-2	50
2	Diacetamide	101	C4H7NO2	000625-77-4	36
3	Propane, 1-(1-methylethoxy)-	102	C6H14O	000627-08-7	10
4	2,3-Butanedione, monooxime	101	C4H7NO2	000057-71-6	9
5	1,3-Dioxane, 4-methyl-	102	C5H10O2	001120-97-4	9





Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

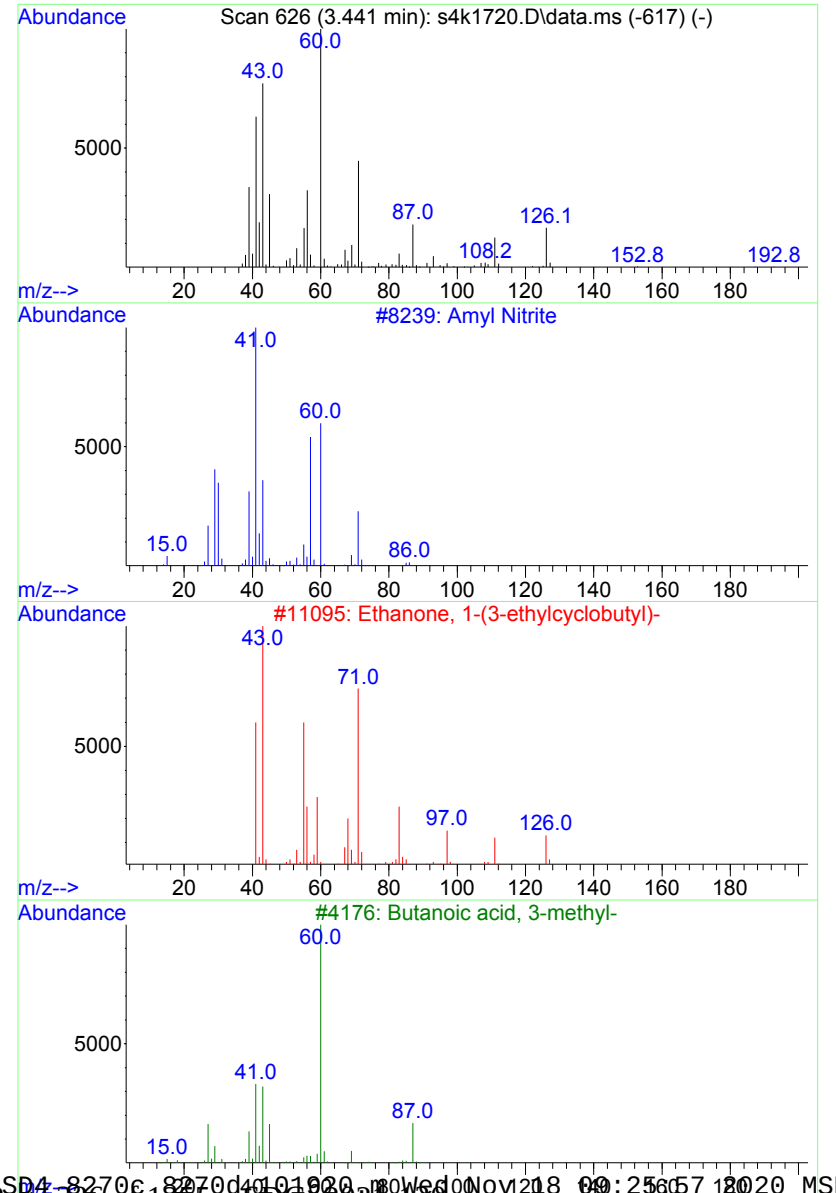
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

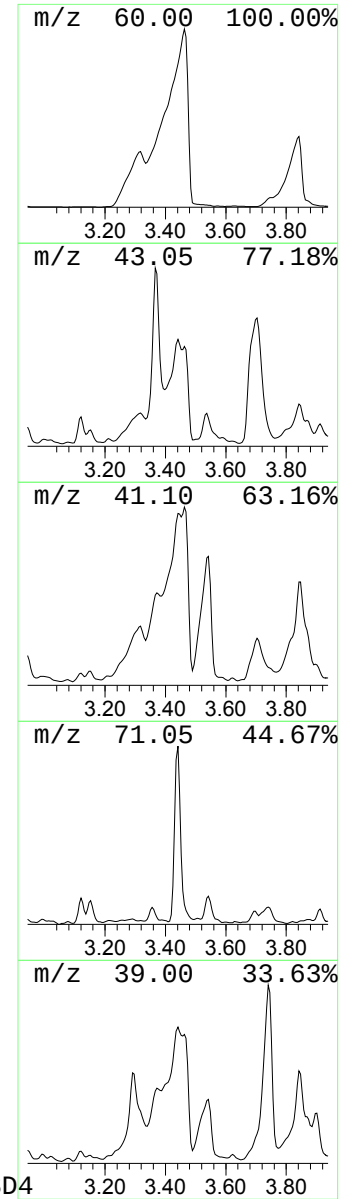
****

Peak Number 3 unknown Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.441	13.95 ng/uL	2219190	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Amyl Nitrite	117	C5H11NO2	000110-46-3	28
2	Ethanone, 1-(3-ethylcyclobutyl)-	126	C8H14O	056335-71-8	27
3	Butanoic acid, 3-methyl-	102	C5H10O2	000503-74-2	25
4	4-Bromobutyric acid	166	C4H7BrO2	002623-87-2	17
5	Ethanedioic acid, bis(3-methylbu...	230	C12H22O4	002051-00-5	12





Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

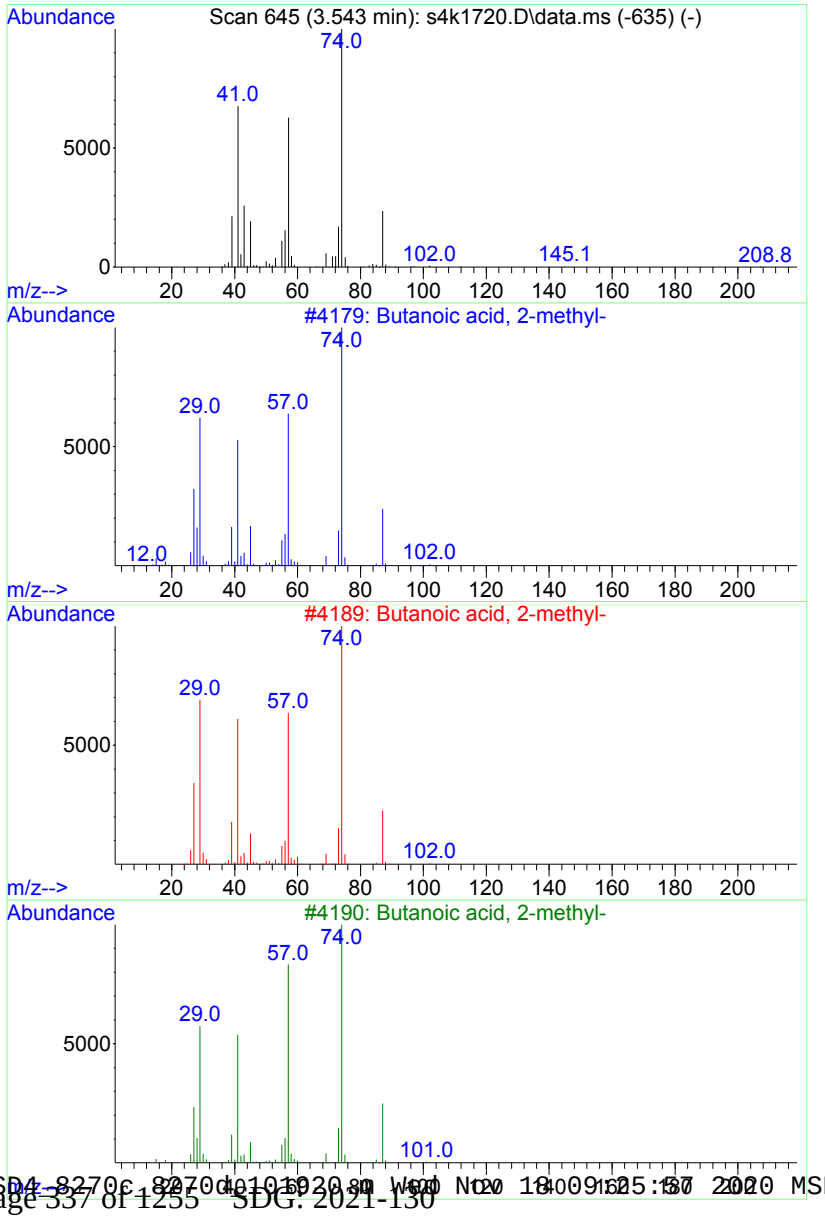
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

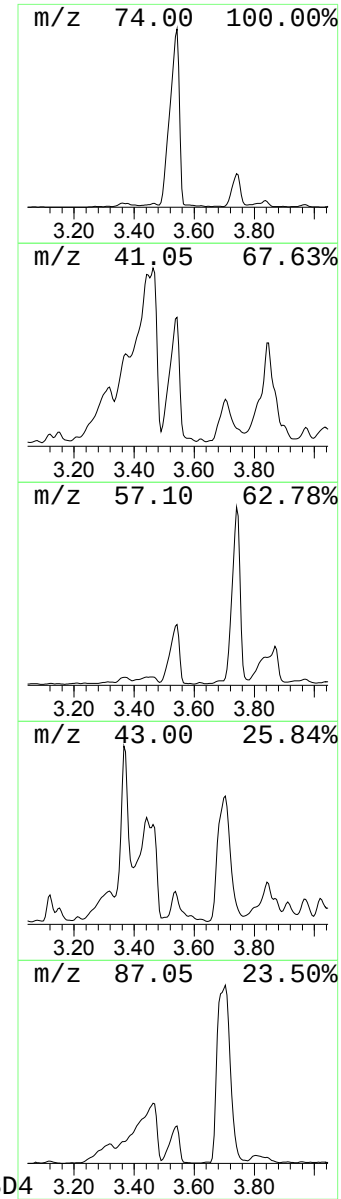
****

Peak Number 4 Butanoic acid, 2-methyl- Concentration Rank 27

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.543	5.42 ng/uL	862516	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butanoic acid, 2-methyl-	102	C5H10O2	000116-53-0	90
2	Butanoic acid, 2-methyl-	102	C5H10O2	000116-53-0	80
3	Butanoic acid, 2-methyl-	102	C5H10O2	000116-53-0	64
4	Pentanoic acid, 2-methyl-	116	C6H12O2	000097-61-0	45
5	2-Methylheptanoic acid	144	C8H16O2	001188-02-9	38





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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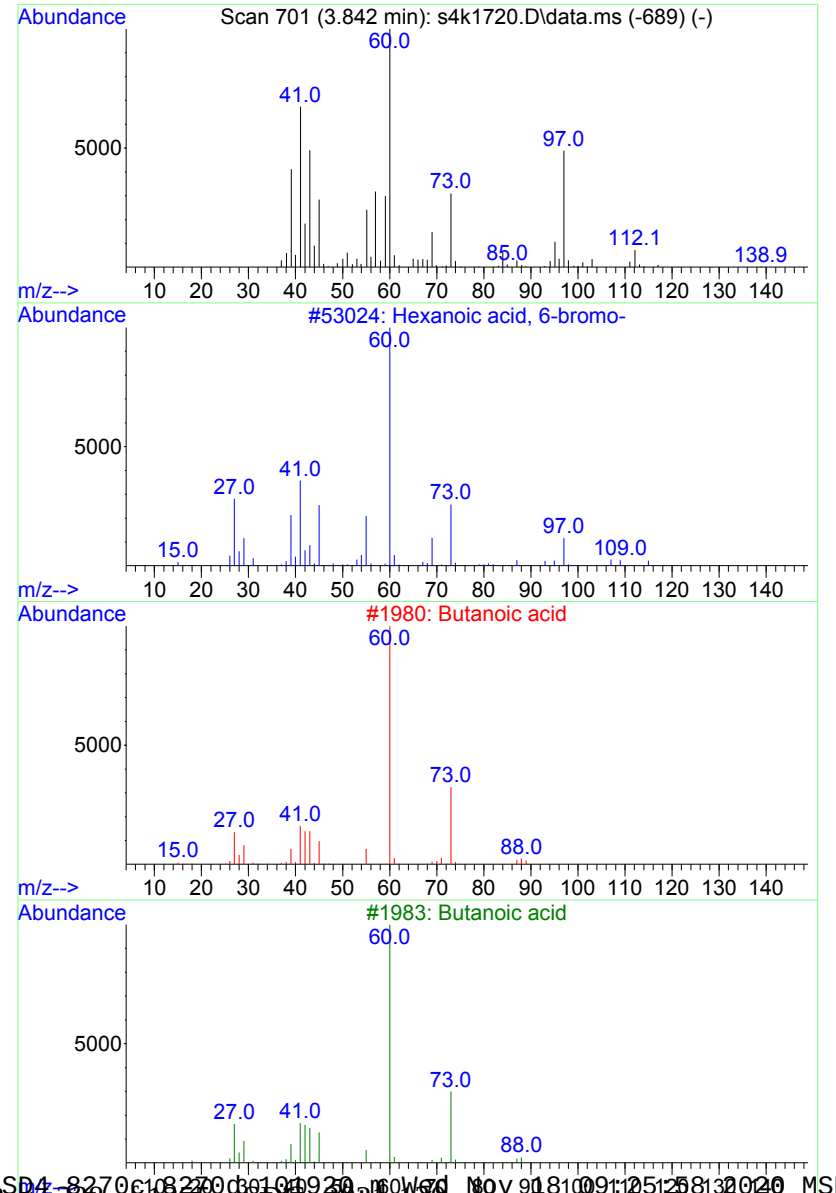
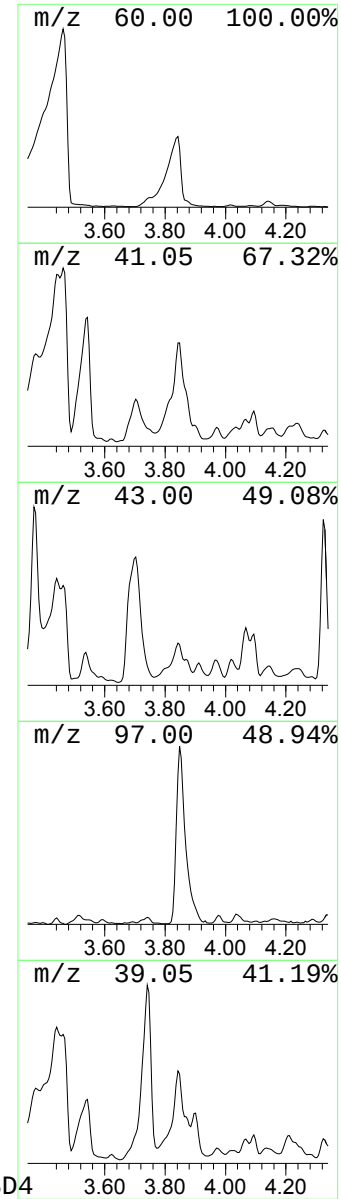
Peak Number 5 unknown Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.842	7.95 ng/uL	1264430	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexanoic acid, 6-bromo-	194	C6H11BrO2	004224-70-8	37
2	Butanoic acid	88	C4H8O2	000107-92-6	35
3	Butanoic acid	88	C4H8O2	000107-92-6	35
4	1,3,4-Thiadiazol-2-amine, 5-ethyl-	129	C4H7N3S	014068-53-2	25
5	Pentanoic acid	102	C5H10O2	000109-52-4	25





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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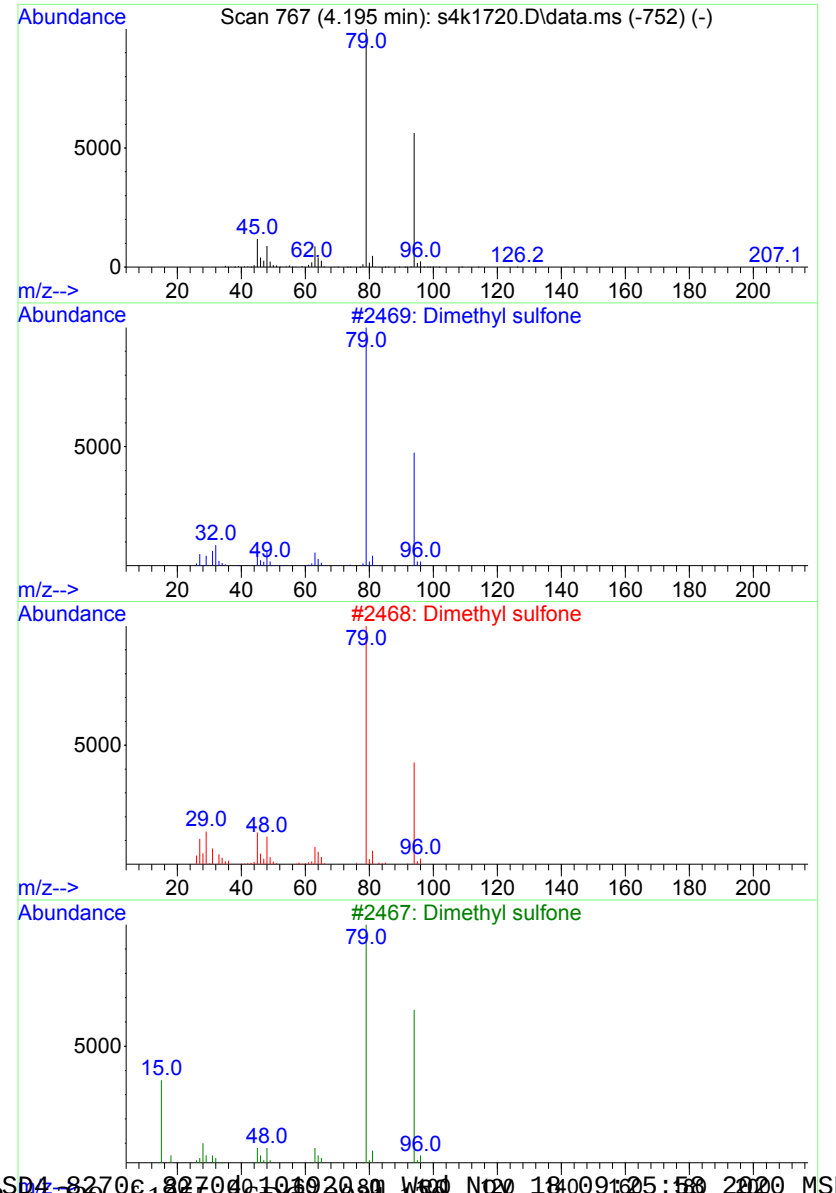
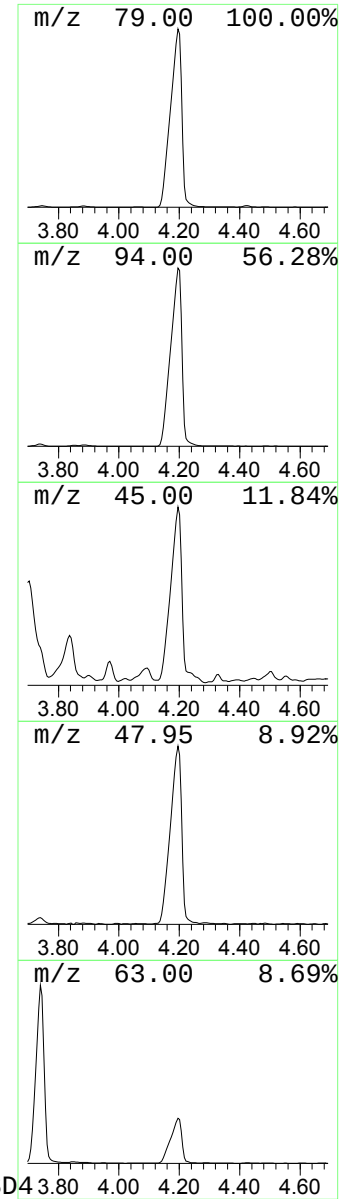
Peak Number 6 Dimethyl sulfone Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.195	23.16 ng/uL	3683520	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl sulfone	94	C2H6O2S	000067-71-0	94
2	Dimethyl sulfone	94	C2H6O2S	000067-71-0	91
3	Dimethyl sulfone	94	C2H6O2S	000067-71-0	78
4	Dimethyl sulfone	94	C2H6O2S	000067-71-0	72
5	Methanesulfonyl chloride	114	CH3ClO2S	000124-63-0	47





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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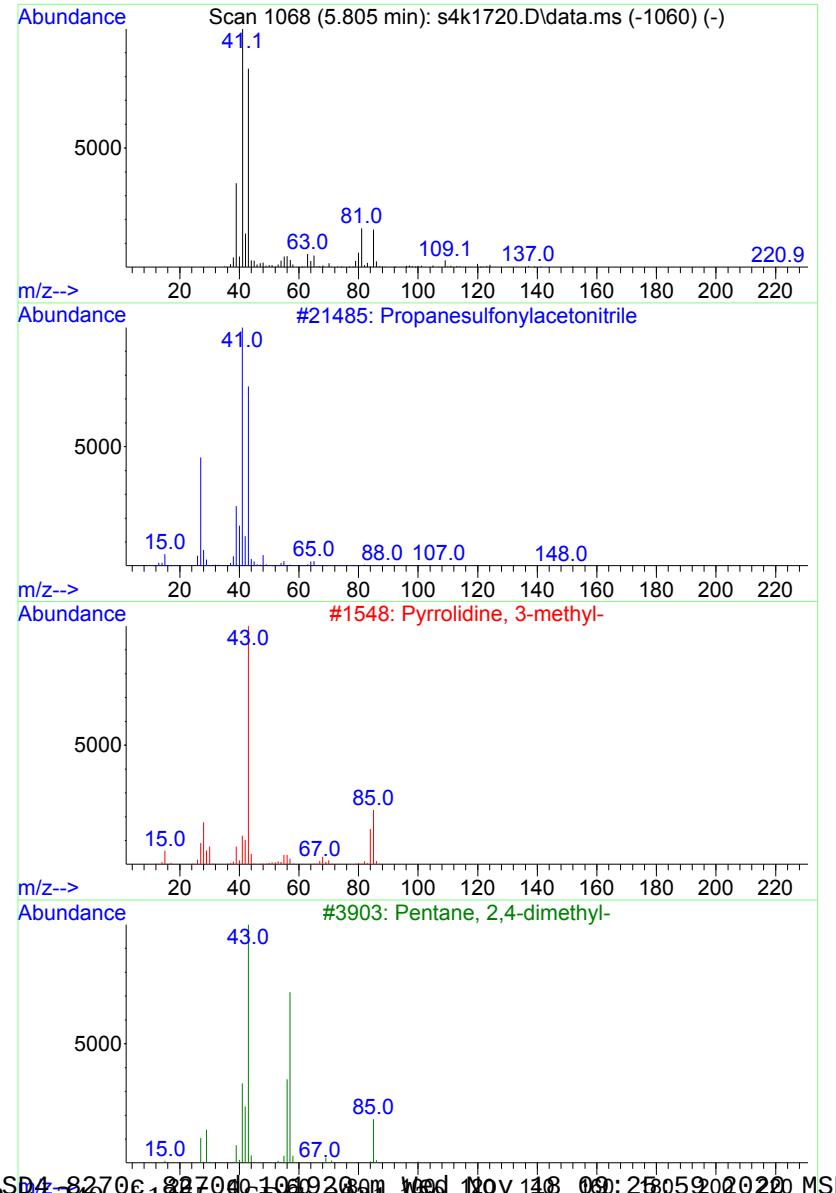
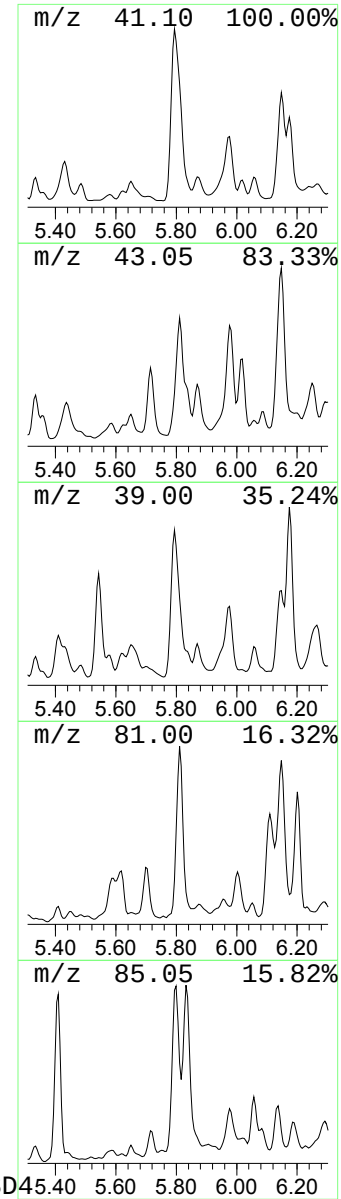
Peak Number 7 unknown Concentration Rank 24

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.805	6.51 ng/uL	1035370	B 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Propanesulfonylacetonitrile	147	C5H9NO2S	175137-61-8	38
2	Pyrrolidine, 3-methyl-	85	C5H11N	034375-89-8	35
3	Pentane, 2,4-dimethyl-	100	C7H16	000108-08-7	32
4	dl-Aspartic acid, N-acetyl-	175	C6H9NO5	002545-40-6	17
5	Acetyl chloride	78	C2H3ClO	000075-36-5	12





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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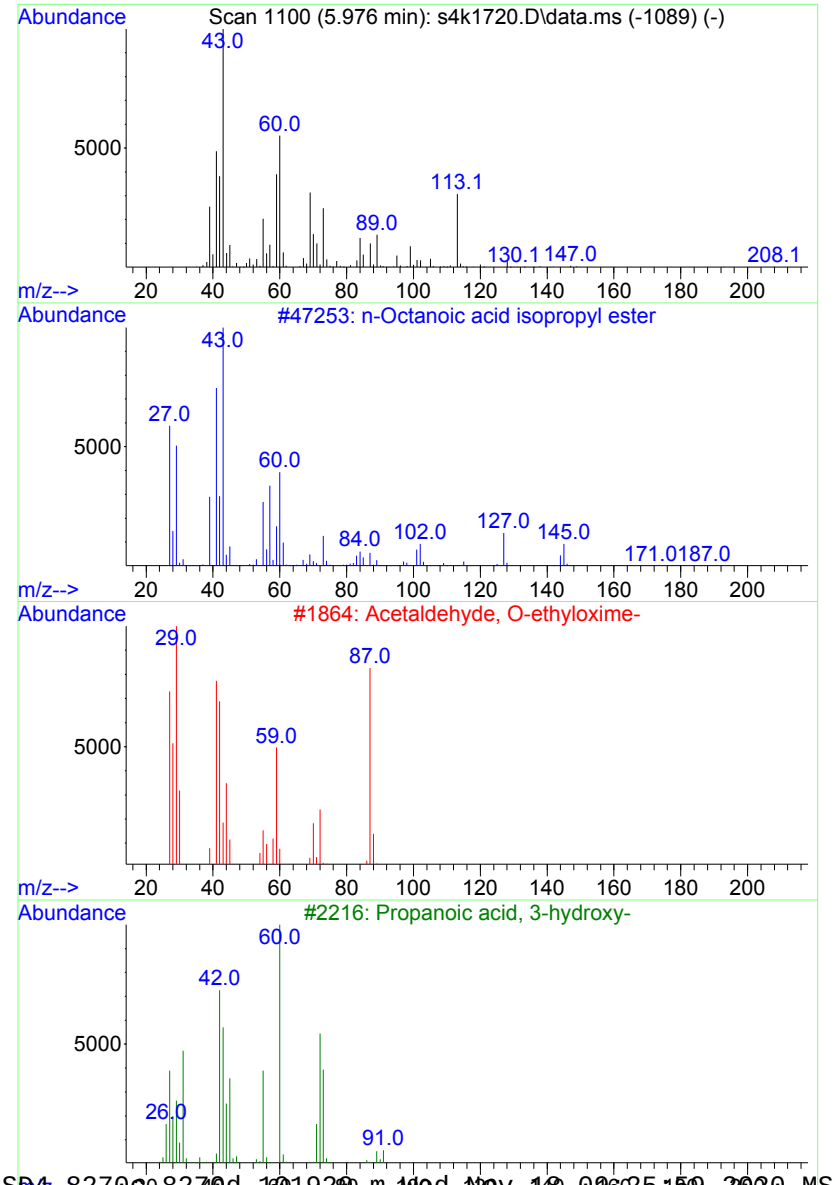
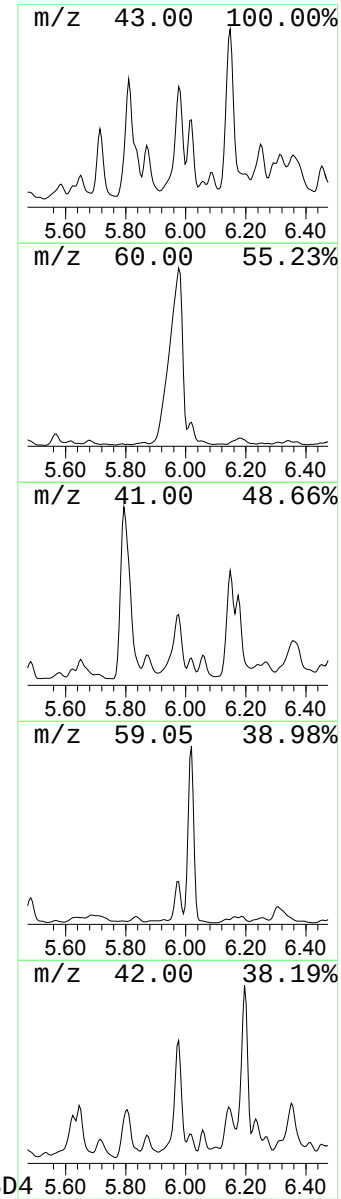
Peak Number 8 unknown Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.976	8.22 ng/uL	1307410	B 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Octanoic acid isopropyl ester	186	C11H22O2	005458-59-3	38
2	Acetaldehyde, O-ethyloxime-	87	C4H9NO	1000288-34-6	35
3	Propanoic acid, 3-hydroxy-	90	C3H6O3	000503-66-2	32
4	Thiirane	60	C2H4S	000420-12-2	27
5	Heptanoic acid	130	C7H14O2	000111-14-8	25





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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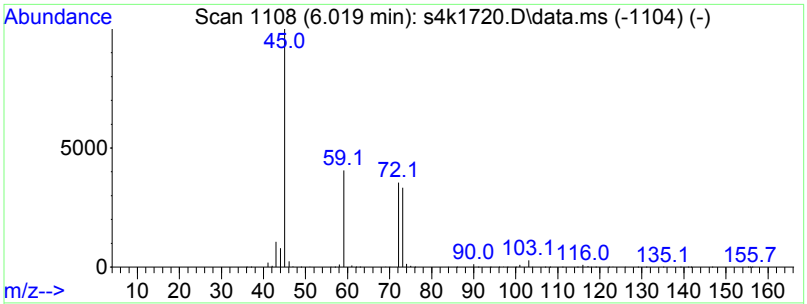
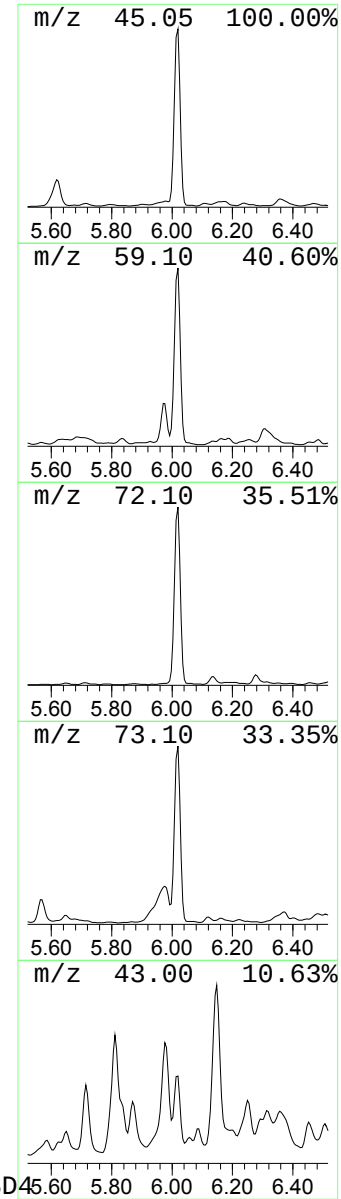
Peak Number 9 unknown Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.019	9.78 ng/uL	1554830	B 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	83
2	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	59
3	2-Propanol, 1-(1-methylethoxy)-	118	C6H14O2	003944-36-3	38
4	2-Propanol, 1-(1-methylethoxy)-	118	C6H14O2	003944-36-3	38
5	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	36





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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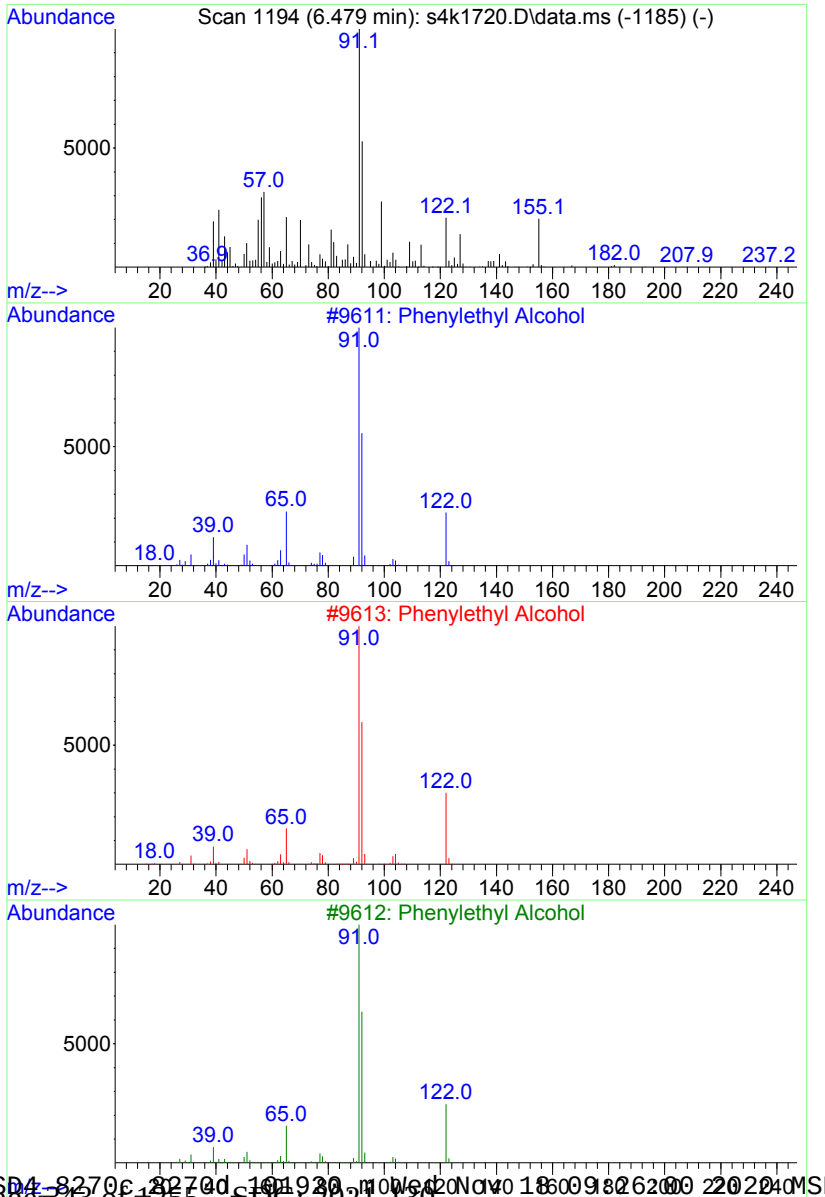
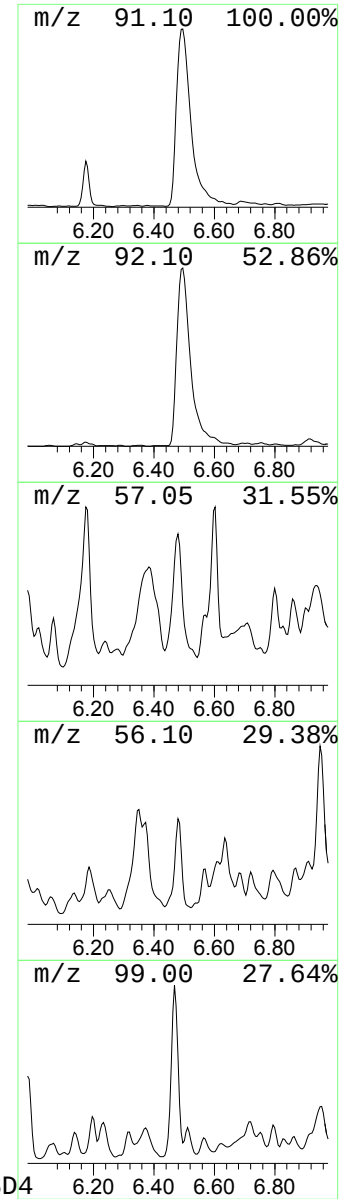
Peak Number 10 Phenylethyl Alcohol Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.479	8.05 ng/uL	1585170	A Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phenylethyl Alcohol	122	C8H10O	000060-12-8	86
2	Phenylethyl Alcohol	122	C8H10O	000060-12-8	46
3	Phenylethyl Alcohol	122	C8H10O	000060-12-8	38
4	Toluene	92	C7H8	000108-88-3	25
5	Cyclobutene, 2-propenylidene-	92	C7H8	052097-85-5	25





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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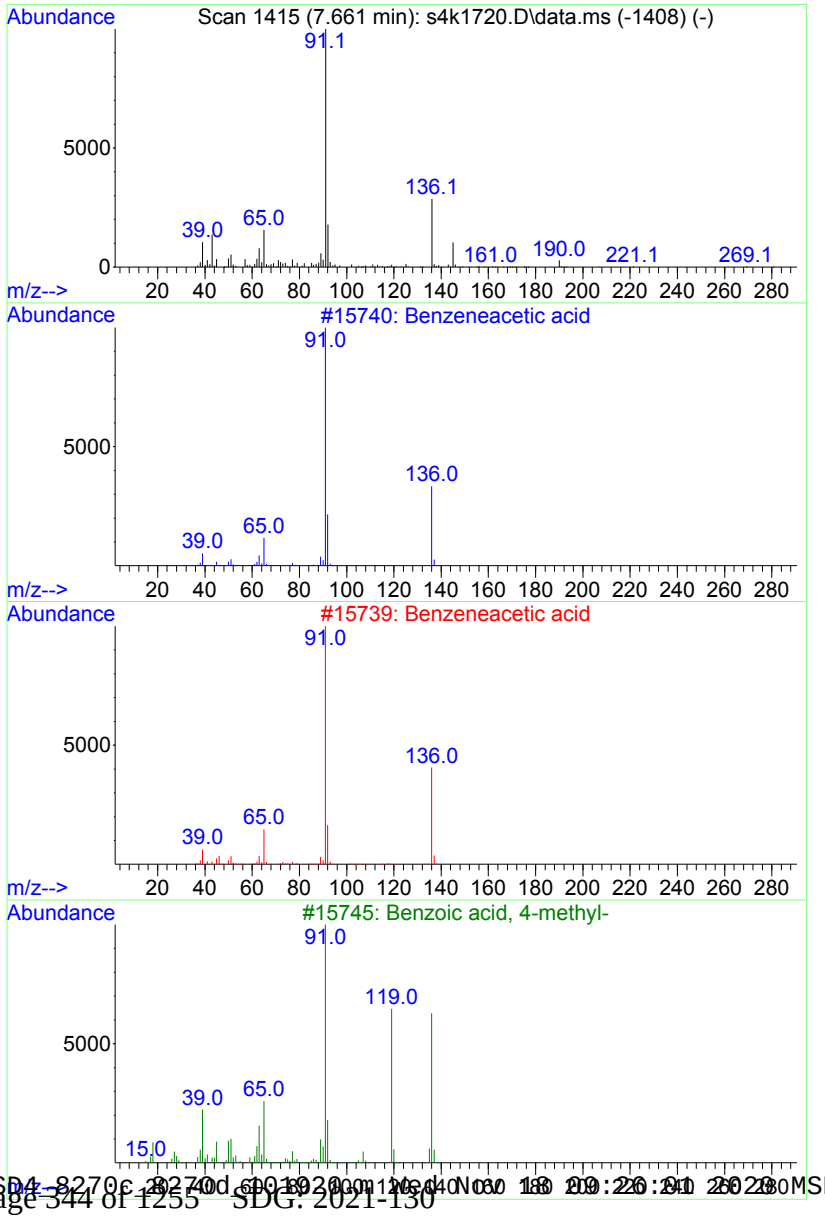
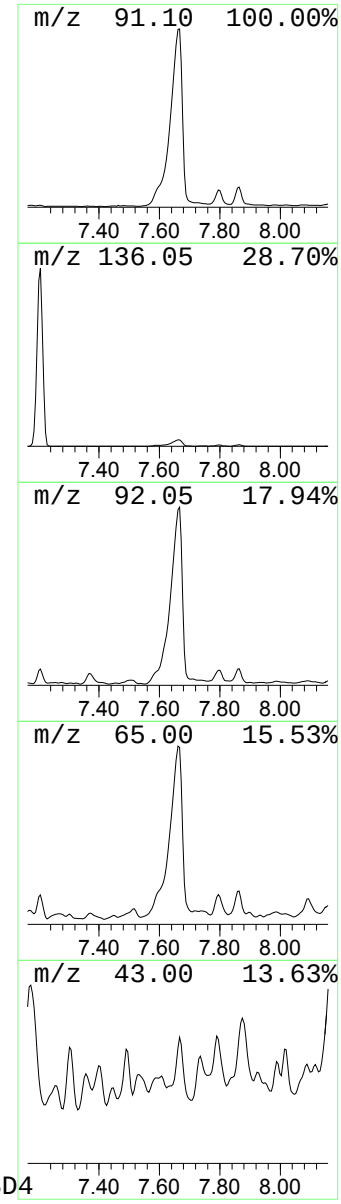
Peak Number 11 unknown Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.661	10.72 ng/uL	2111330	E Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzeneacetic acid	136	C8H8O2	000103-82-2	74
2	Benzeneacetic acid	136	C8H8O2	000103-82-2	68
3	Benzoic acid, 4-methyl-	136	C8H8O2	000099-94-5	47
4	Benzaldehyde, 3-benzyloxy-2,6-di...	248	C14H10F2O2	152434-87-2	43
5	Benzeneacetaldehyde	120	C8H8O	000122-78-1	43





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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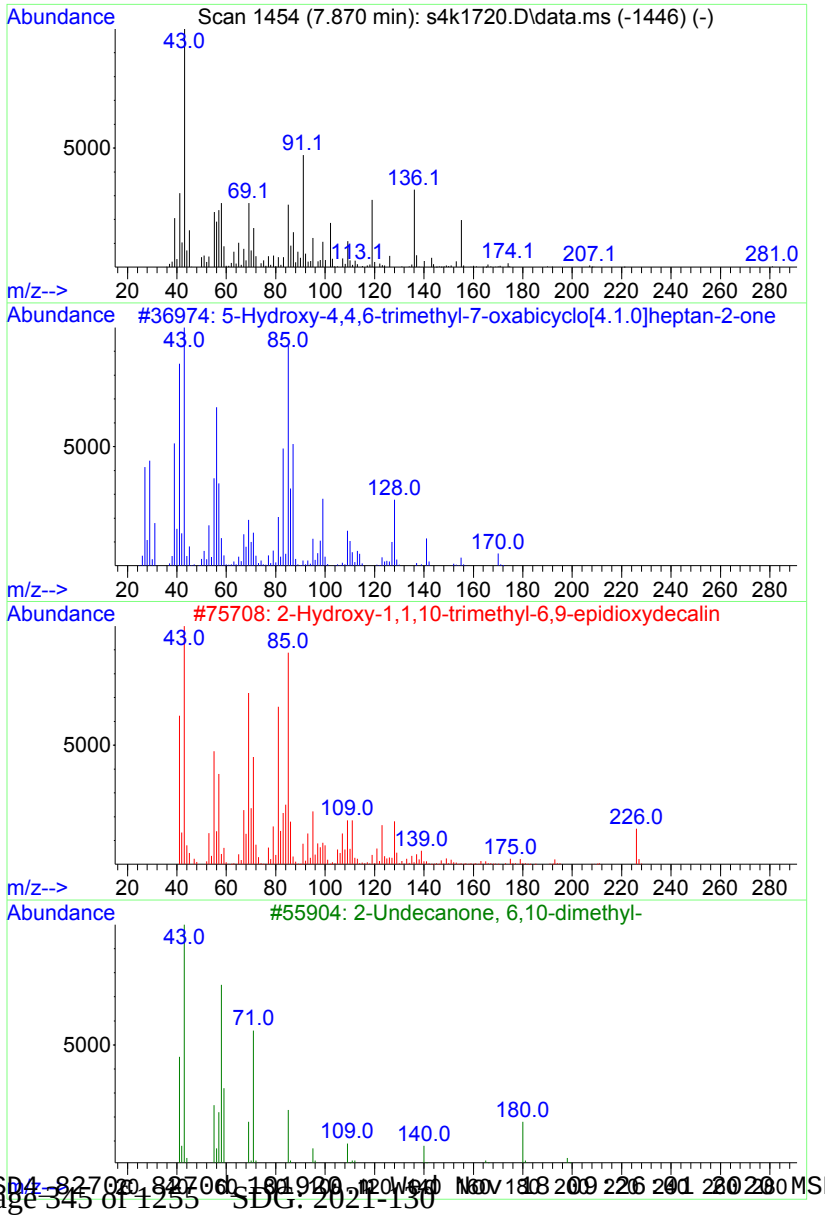
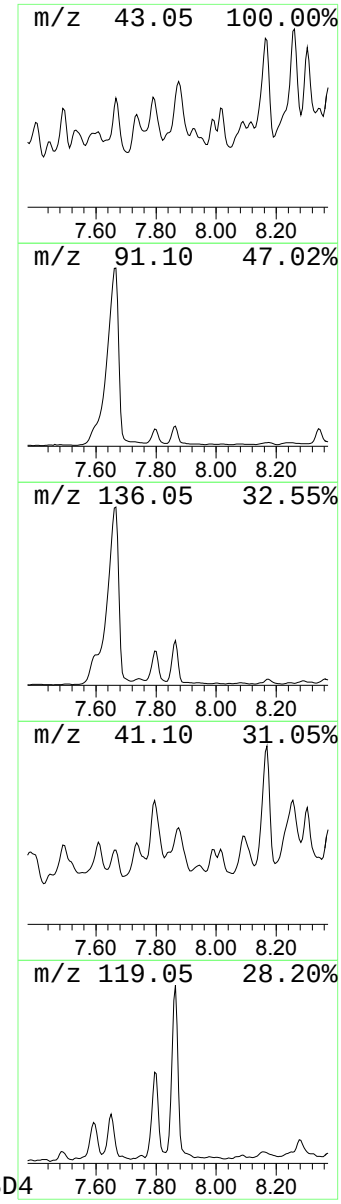
Peak Number 12 unknown Concentration Rank 22

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.870	6.58 ng/uL	1296840	E Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	5-Hydroxy-4,4,6-trimethyl-7-oxab...	170	C9H14O3	201733-12-2	27
2	2-Hydroxy-1,1,10-trimethyl-6,9-e...	226	C13H22O3	108511-85-9	12
3	2-Undecanone, 6,10-dimethyl-	198	C13H26O	001604-34-8	10
4	Cyclohexanol, 2-methyl-3-(1-meth...	196	C12H20O2	054845-29-3	10
5	1,6-Hexanediamine	116	C6H16N2	000124-09-4	10





Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

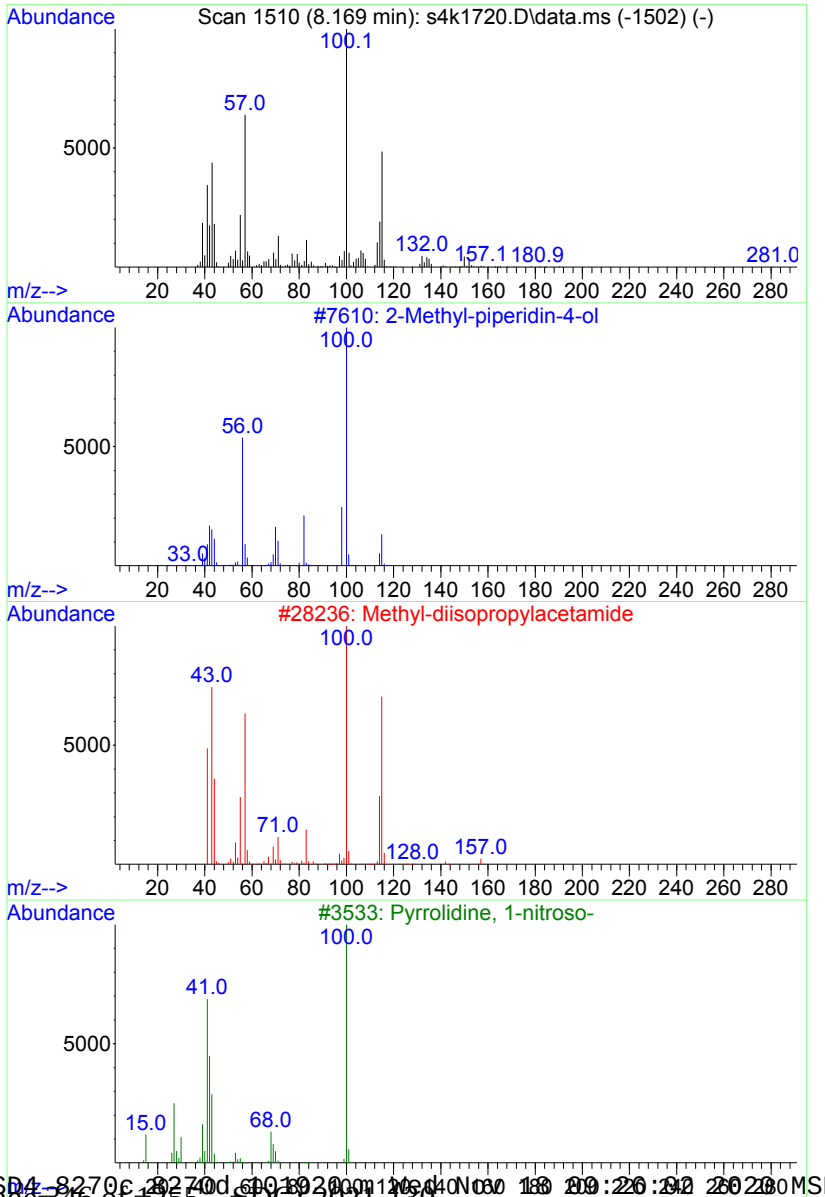
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

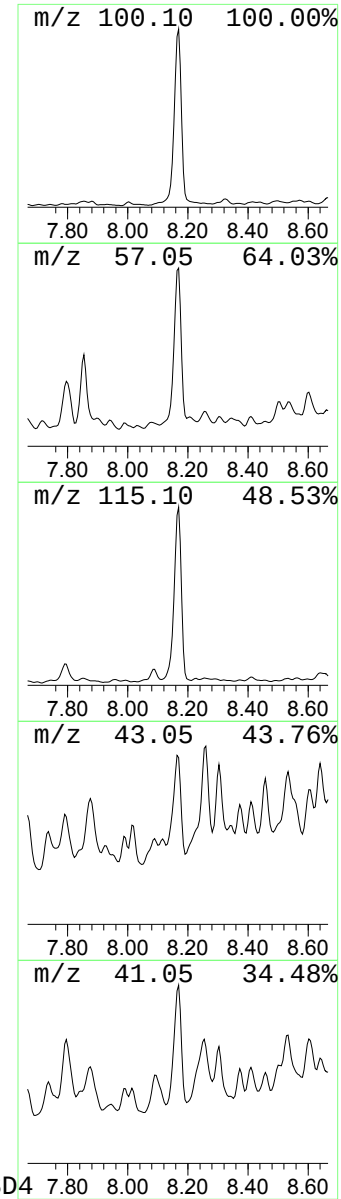
****

Peak Number 13 unknown Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.169	9.60 ng/uL	1890480	E Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Methyl-piperidin-4-ol	115	C6H13NO	1000300-70-1	45
2	Methyl-diisopropylacetamide	157	C9H19NO	102450-54-4	40
3	Pyrrolidine, 1-nitroso-	100	C4H8N2O	000930-55-2	38
4	Hexanamide, 2-methylamino-N-(2,3...	276	C16H24N2O2	1000263-95-5	38
5	1H-Phosphole, 2,5-dihydro-1-methyl-	100	C5H9P	000872-37-7	35





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

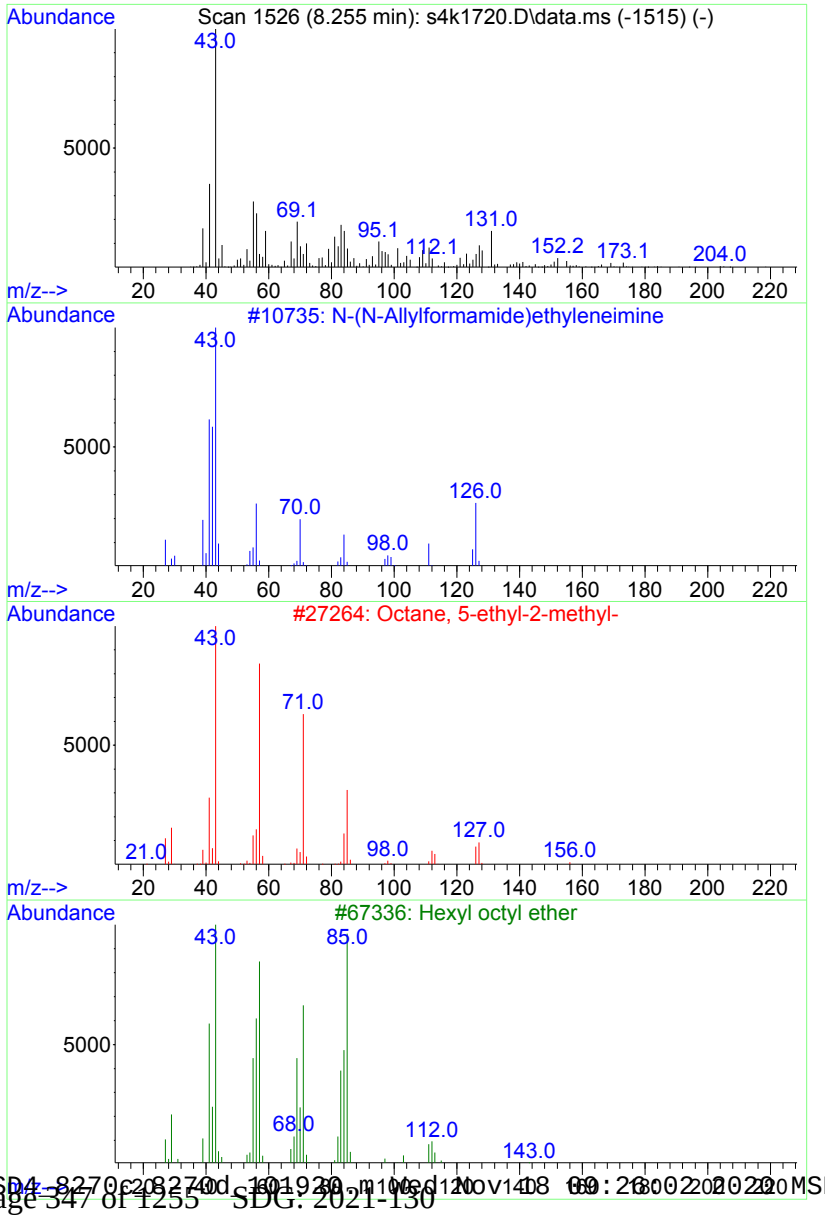
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

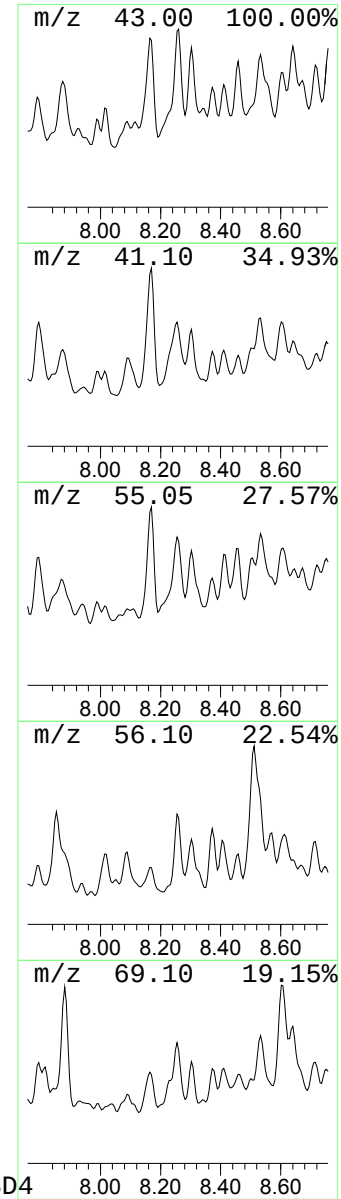
****

Peak Number 14 unknown Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.255	6.76 ng/uL	1331680	E Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	N-(N-Allylformamide)ethyleneimine	126	C6H10N2O	030530-01-9	22
2	Octane, 5-ethyl-2-methyl-	156	C11H24	062016-18-6	22
3	Hexyl octyl ether	214	C14H30O	017071-54-4	22
4	Lysine	146	C6H14N2O2	000056-87-1	16
5	2-Undecene, 8-methyl-, (Z)-	168	C12H24	074630-44-7	14





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

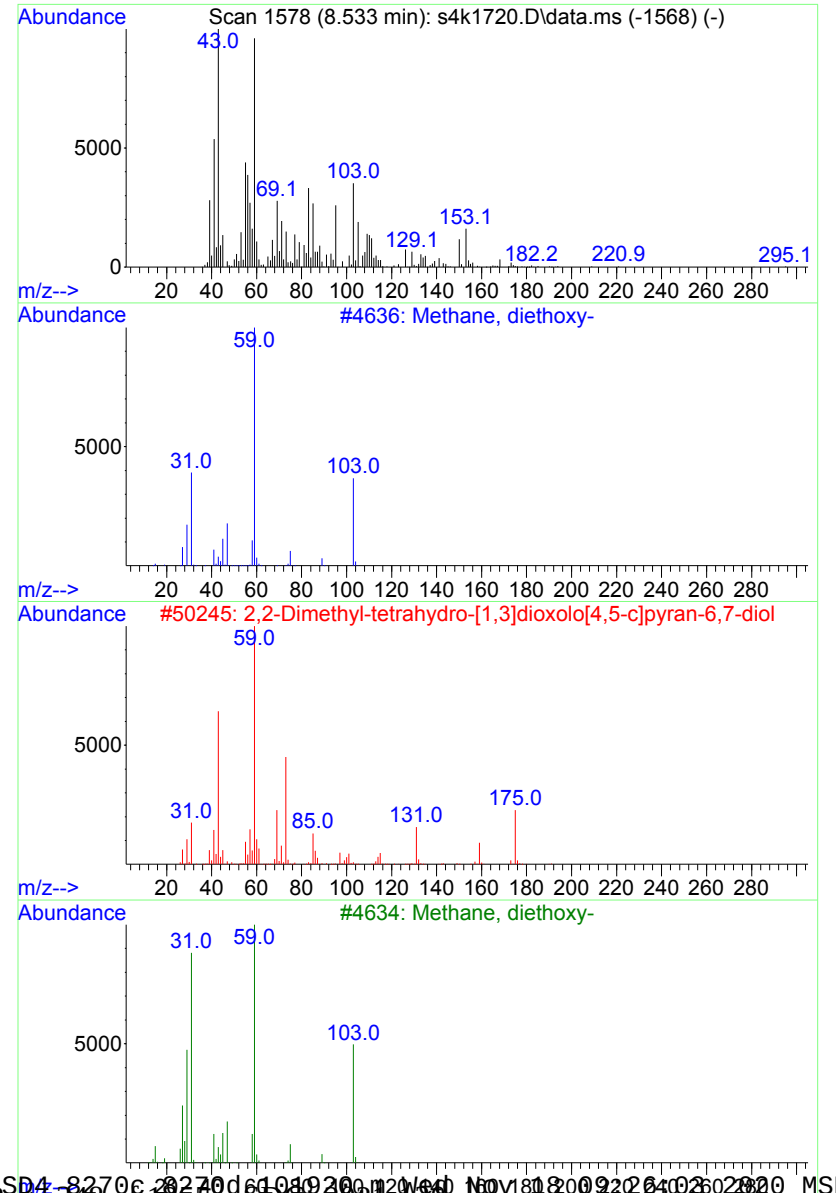
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

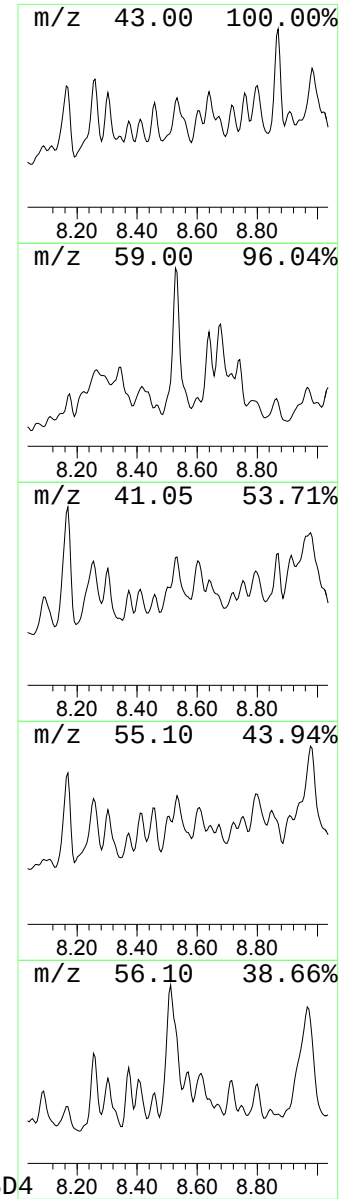
****

Peak Number 15 unknown Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.533	7.94 ng/uL	1530190	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Methane, diethoxy-	104	C5H12O2	000462-95-3	27
2	2,2-Dimethyl-tetrahydro-[1,3]dio...	190	C8H14O5	1000194-40-4	27
3	Methane, diethoxy-	104	C5H12O2	000462-95-3	27
4	Methane, diethoxy-	104	C5H12O2	000462-95-3	27
5	trans-2,7-Dimethyl-3,6-octadien-...	154	C10H18O	038092-33-0	27





Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

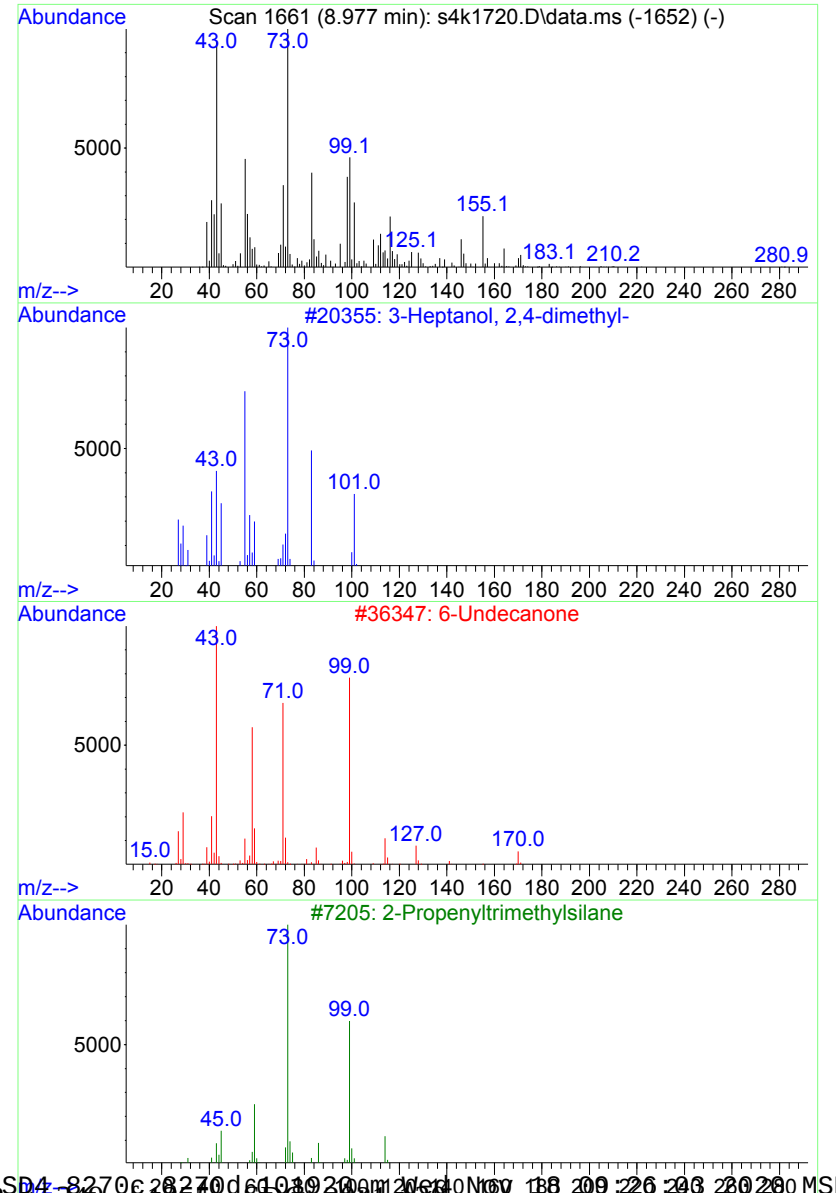
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

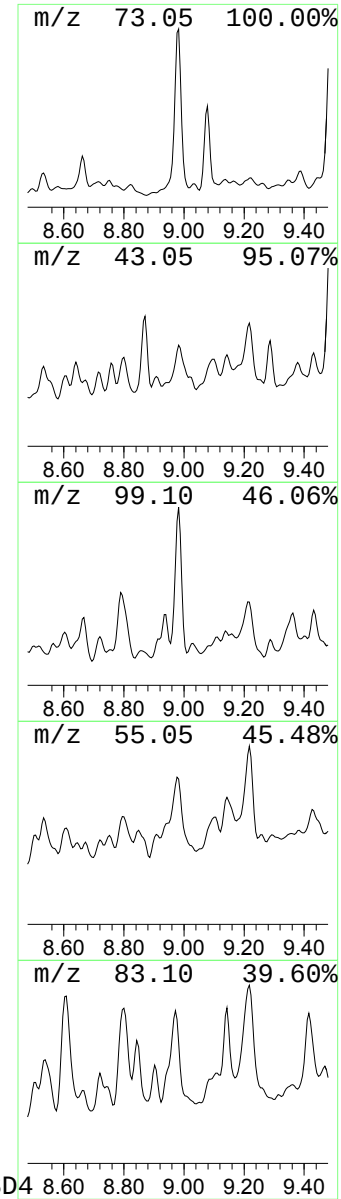
****

Peak Number 16 unknown Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.977	8.51 ng/uL	1640990	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Heptanol, 2,4-dimethyl-	144	C9H20O	019549-72-5	16
2	6-Undecanone	170	C11H22O	000927-49-1	15
3	2-Propenyltrimethylsilane	114	C6H14Si	018163-07-0	14
4	3,4-Dimethyl-3-hexanol	130	C8H18O	019550-08-4	14
5	n-Heptyl hexanoate	214	C13H26O2	006976-72-3	12





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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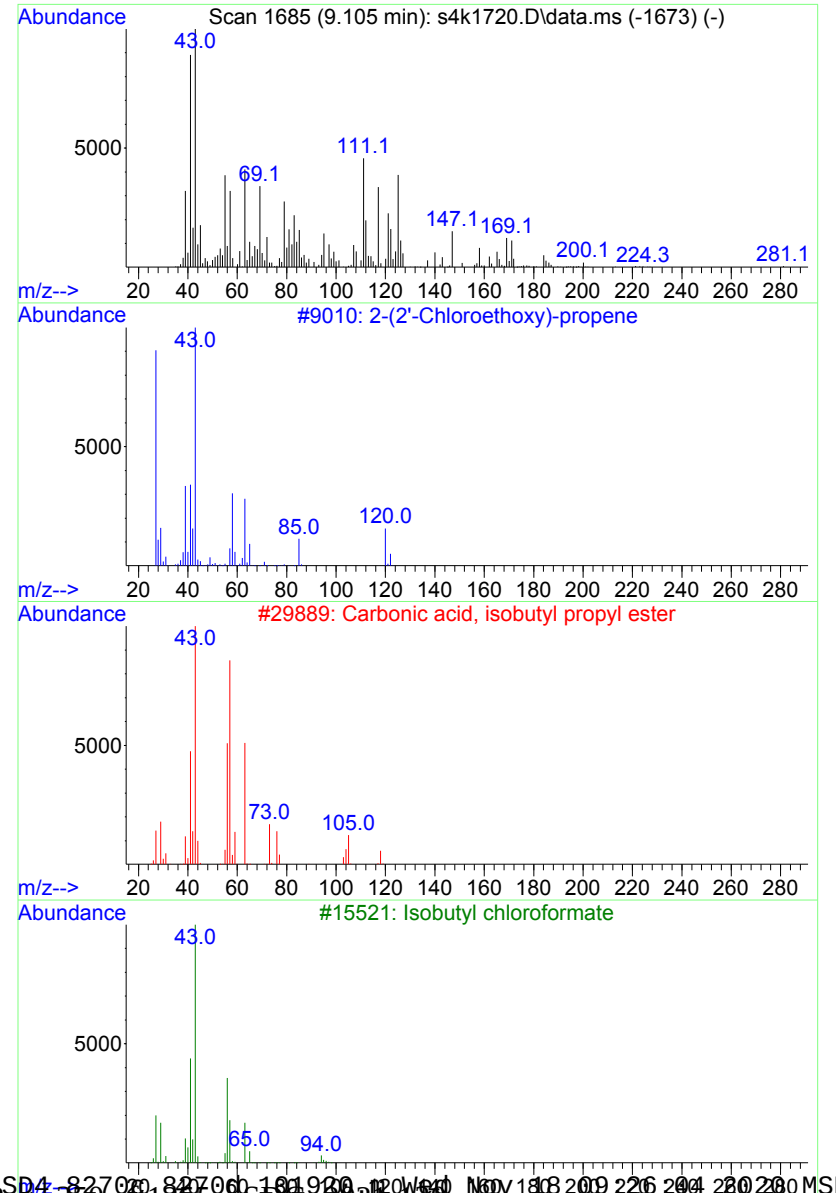
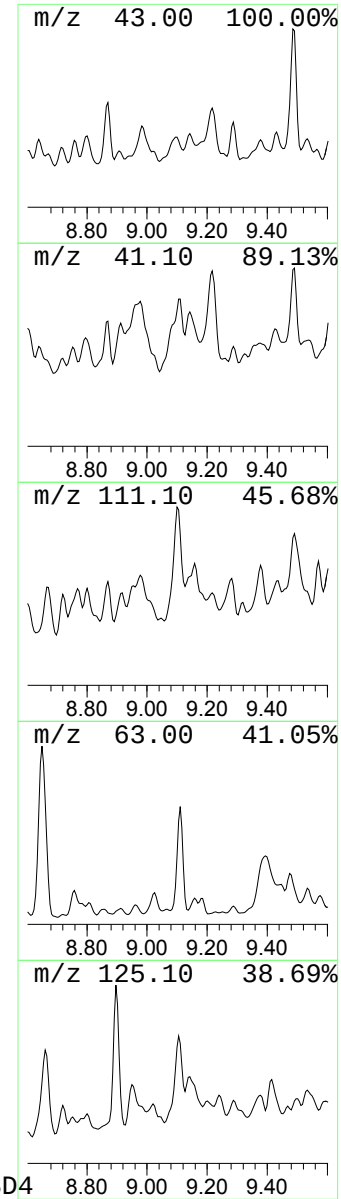
Peak Number 17 unknown Concentration Rank 23

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.105	6.53 ng/uL	1258300	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-(2'-Chloroethoxy)-propene	120	C5H9ClO	099586-46-6	38
2	Carbonic acid, isobutyl propyl e...	160	C8H16O3	1000314-53-0	23
3	Isobutyl chloroformate	136	C5H9ClO2	000543-27-1	23
4	Thiocyanic acid, 2,4-dinitrophen...	225	C7H3N3O4S	001594-56-5	9
5	(3-Chloropropionamido)sulfur pen...	233	C3H5ClF5NOS	080409-44-5	9





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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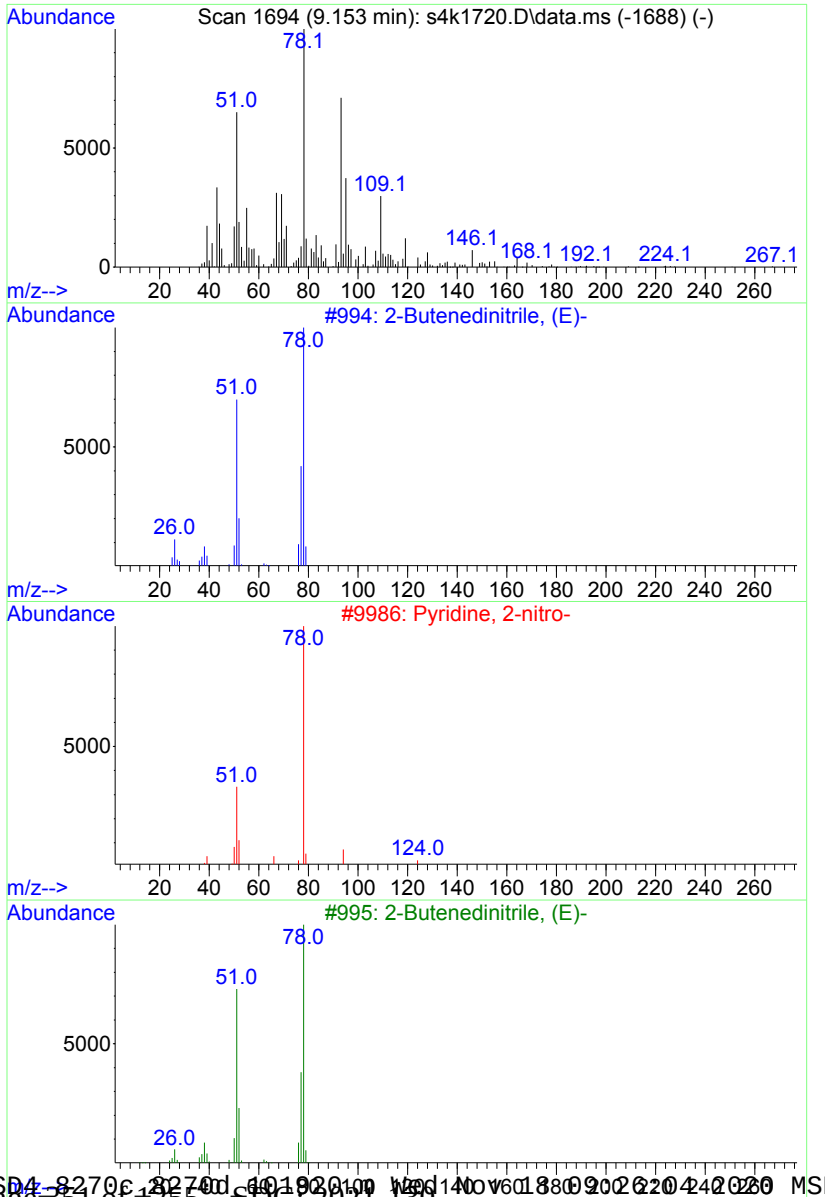
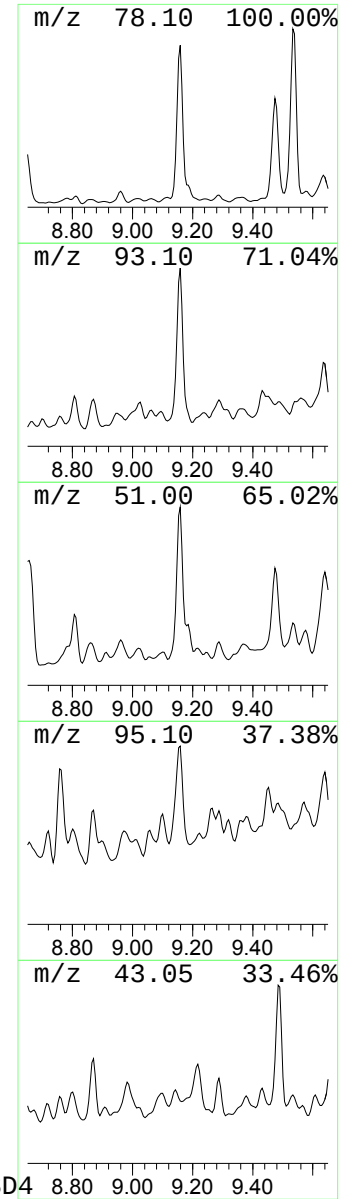
Peak Number 18 unknown Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.153	7.71 ng/uL	1487650	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Butenedinitrile, (E)-	78	C4H2N2	000764-42-1	58
2	Pyridine, 2-nitro-	124	C5H4N2O2	015009-91-3	53
3	2-Butenedinitrile, (E)-	78	C4H2N2	000764-42-1	53
4	Benzene	78	C6H6	000071-43-2	52
5	Pyridine, 2-chloro-	113	C5H4ClN	000109-09-1	45





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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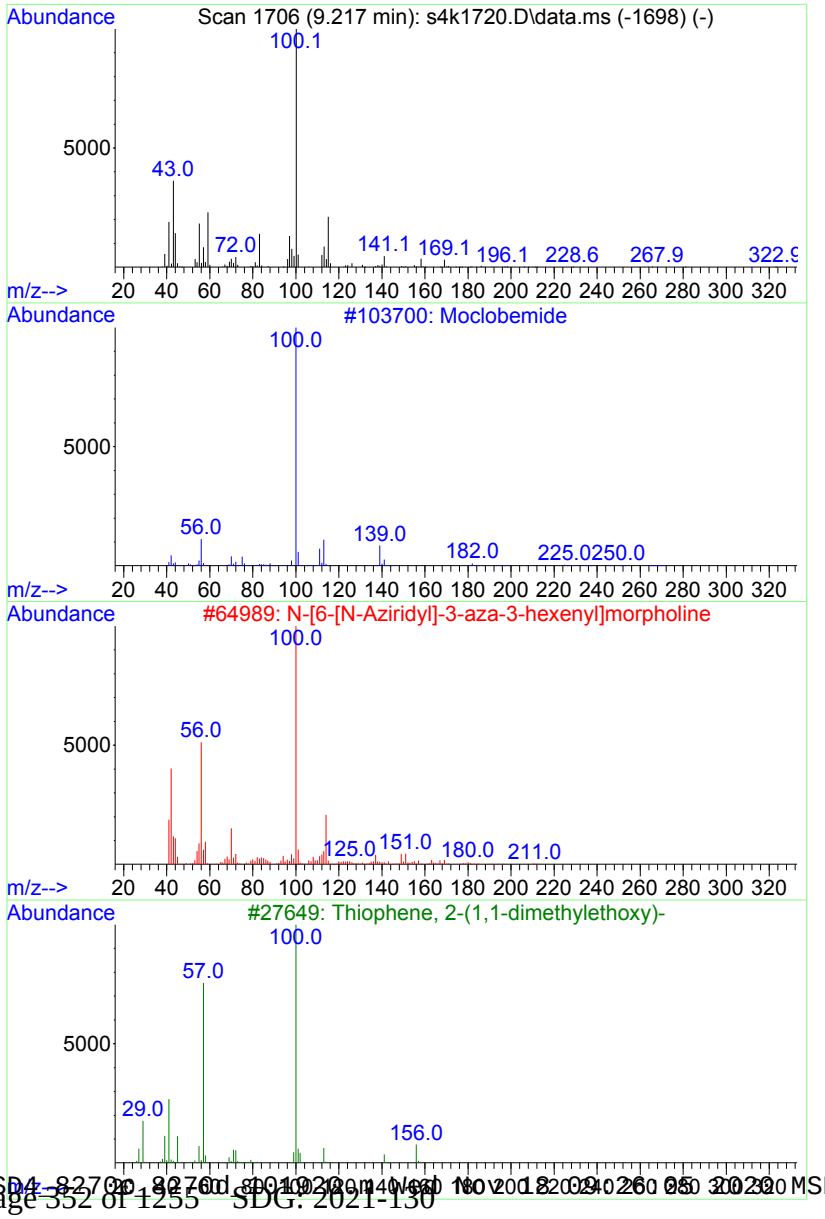
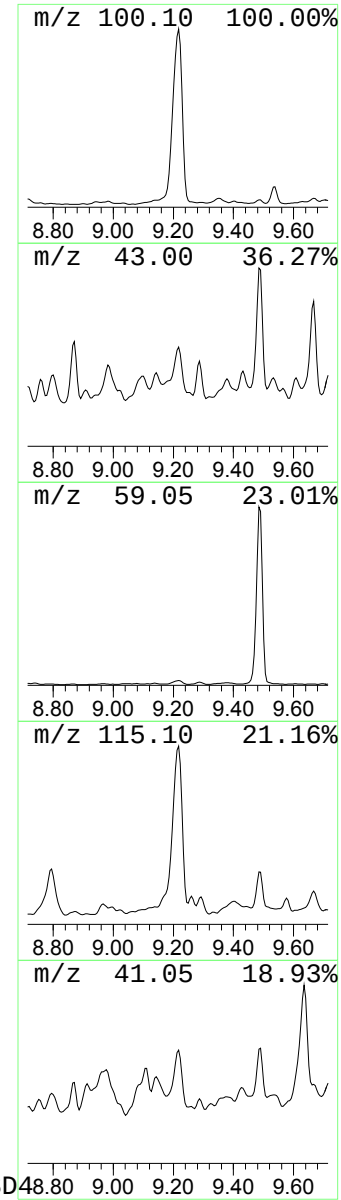
Peak Number 19 unknown Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.217	12.25 ng/uL	2362990	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Moclobemide	268	C13H17ClN2O2	071320-77-9	47
2	N-[6-[N-Aziridyl]-3-aza-3-hexeny...	211	C11H21N3O	1000256-50-7	38
3	Thiophene, 2-(1,1-dimethylethoxy)-	156	C8H12OS	023290-55-3	38
4	4-Amino-4,5(1H)-dihydro-1,2,4-tr...	100	C2H4N4O	001003-23-2	32
5	2-Butenoic acid, 2-methyl-	100	C5H8O2	013201-46-2	32





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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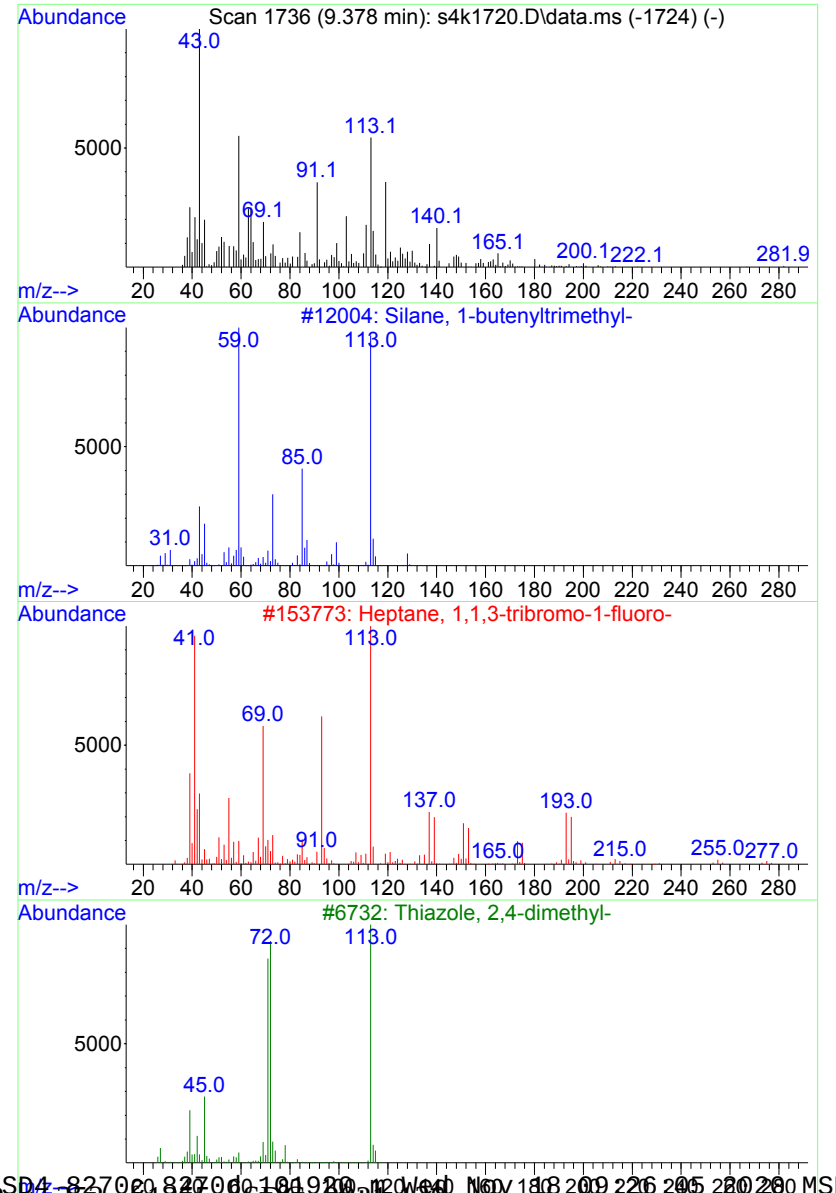
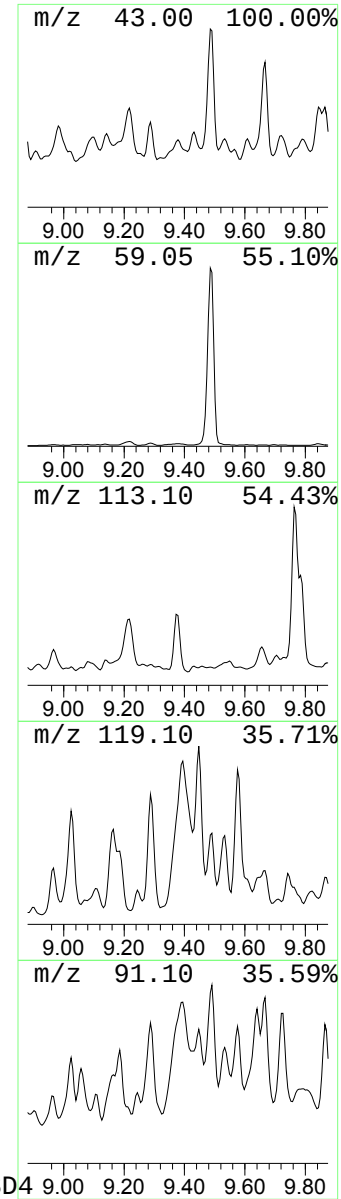
Peak Number 20 unknown Concentration Rank 28

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.378	5.36 ng/uL	1033590	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Silane, 1-butenyltrimethyl-	128	C7H16Si	018291-95-7	35
2	Heptane, 1,1,3-tribromo-1-fluoro-	352	C7H12Br3F	202526-04-3	14
3	Thiazole, 2,4-dimethyl-	113	C5H7NS	000541-58-2	11
4	Thiazole, 2,4-dimethyl-	113	C5H7NS	000541-58-2	11
5	Acetic acid, 4-methyl-3-oxopent-...	156	C8H12O3	1000191-76-4	11





Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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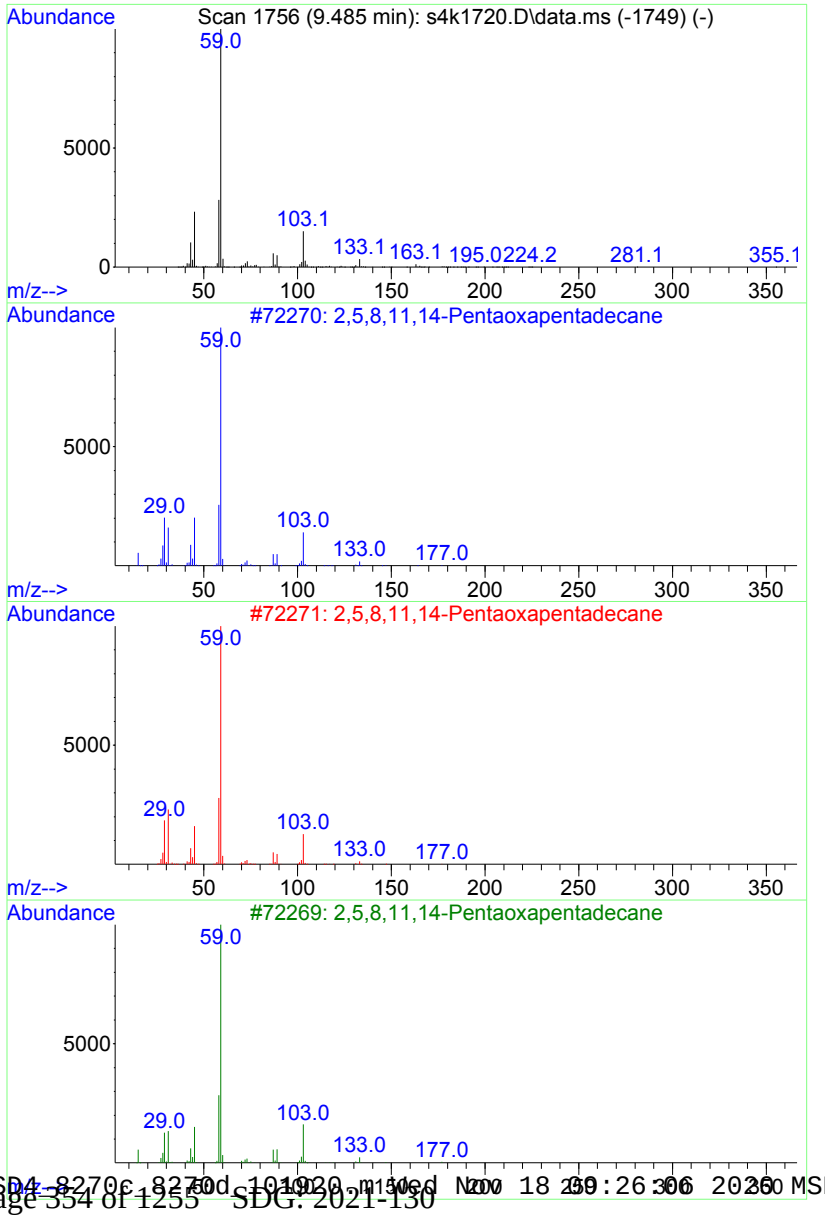
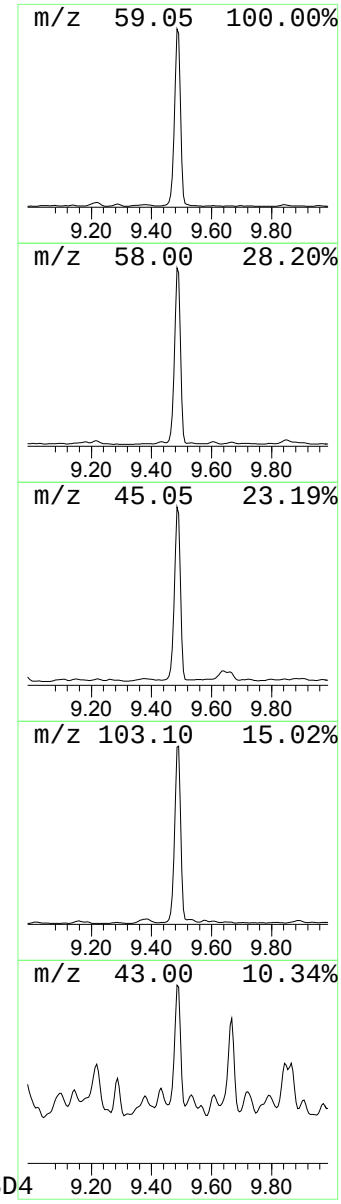
Peak Number 21 2,5,8,11,14-Pentaoxapentade... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.485	44.03 ng/uL	8490180	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	90
2	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	90
3	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	86
4	2,5,8,11-Tetraoxadodecane	178	C8H18O4	000112-49-2	78
5	2,5,8,11-Tetraoxadodecane	178	C8H18O4	000112-49-2	72





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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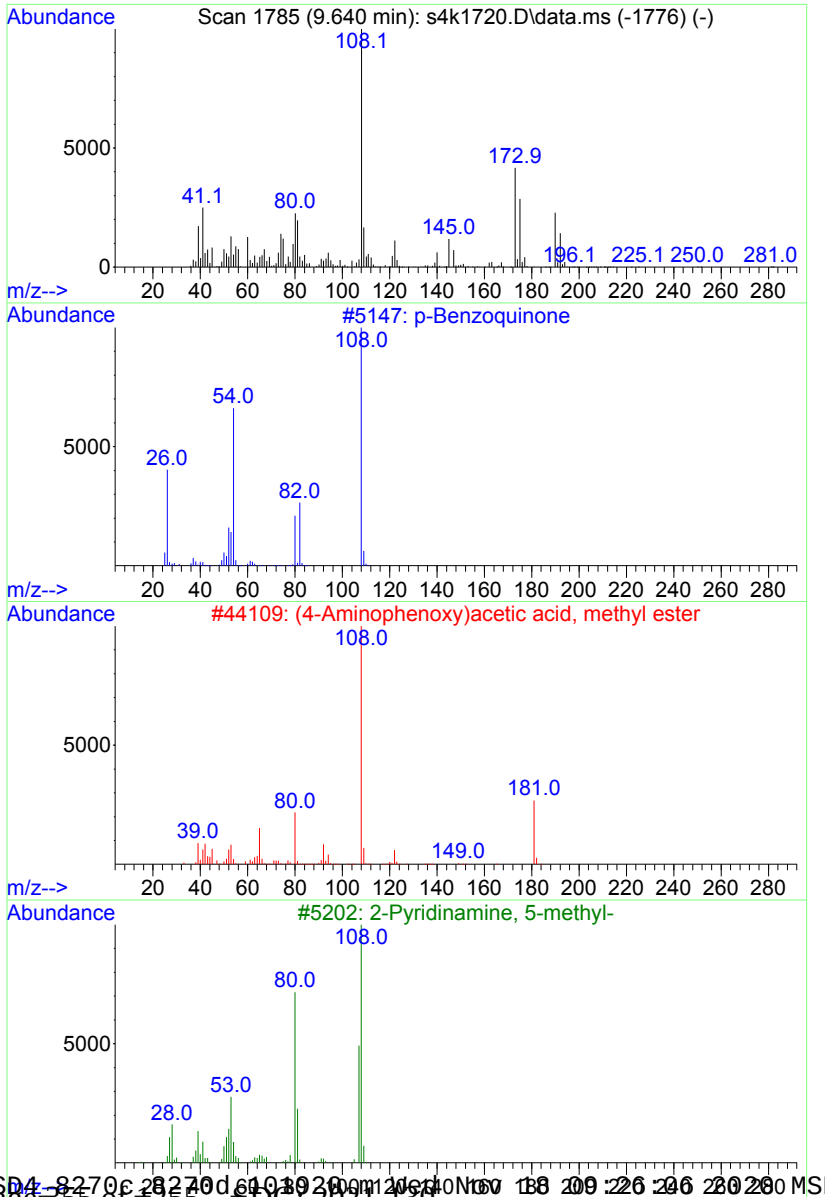
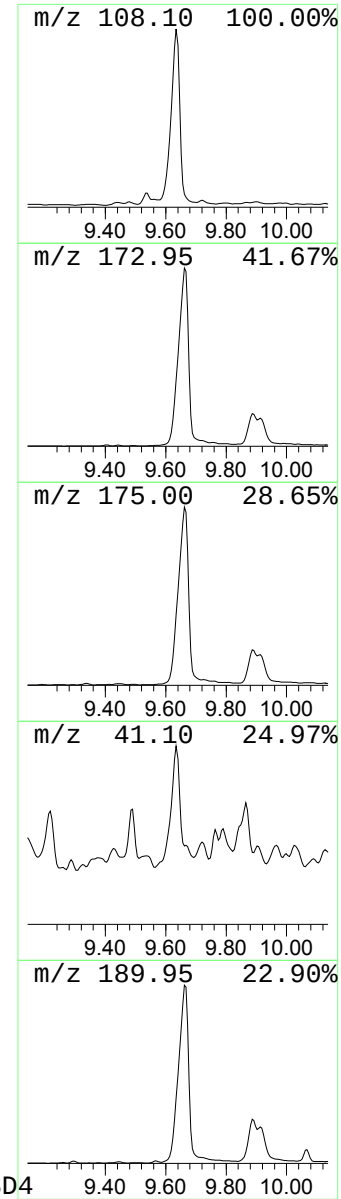
Peak Number 22 unknown Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.640	22.34 ng/uL	4307290	D Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	p-Benzoquinone	108	C6H4O2	000106-51-4	41
2	(4-Aminophenoxy)acetic acid, met...	181	C9H11NO3	1000309-99-8	38
3	2-Pyridinamine, 5-methyl-	108	C6H8N2	001603-41-4	38
4	1,4-Benzenediamine	108	C6H8N2	000106-50-3	35
5	1,3-Benzenediamine	108	C6H8N2	000108-45-2	35





Library Search Compound Report

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Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On    : 17 Nov 2020  22:29
Operator  : LOF
Sample    : |527510003|2063409|1|SVM|1|ARSL|||
Misc      : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial  : 20   Sample Multiplier: 1

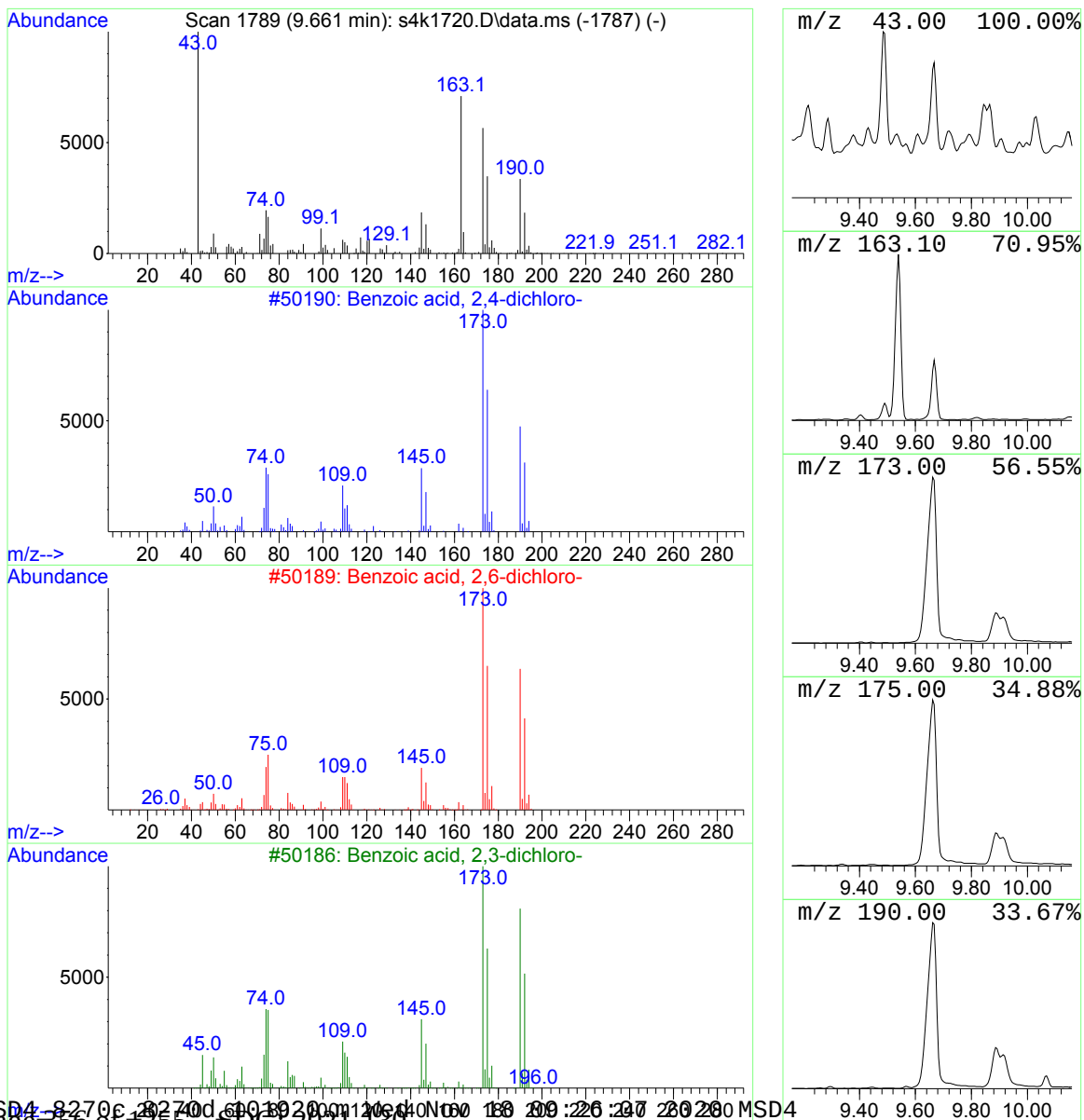
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title  : BNA01

TIC Library    : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

*********************************************************************
Peak Number 23  unknown                          Concentration Rank  6

  R.T.     EstConc          Area       Relative to ISTD         R.T.
---------------------------------------------------------------------
  9.661   16.15 ng/uL     3113270   D Acenaphthene-d10          9.538

 Hit# of  5    Tentative ID              MW  MolForm       CAS#       Qual
---------------------------------------------------------------------
 1 Benzoic acid, 2,4-dichloro-          190 C7H4Cl2O2      000050-84-0 83
 2 Benzoic acid, 2,6-dichloro-          190 C7H4Cl2O2      000050-30-6 64
 3 Benzoic acid, 2,3-dichloro-          190 C7H4Cl2O2      000050-45-3 64
 4 Benzoic acid, 2,5-dichloro-          190 C7H4Cl2O2      000050-79-3 60
 5 Benzoic acid, 2,4-dichloro-          190 C7H4Cl2O2      000050-84-0 60
```



Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

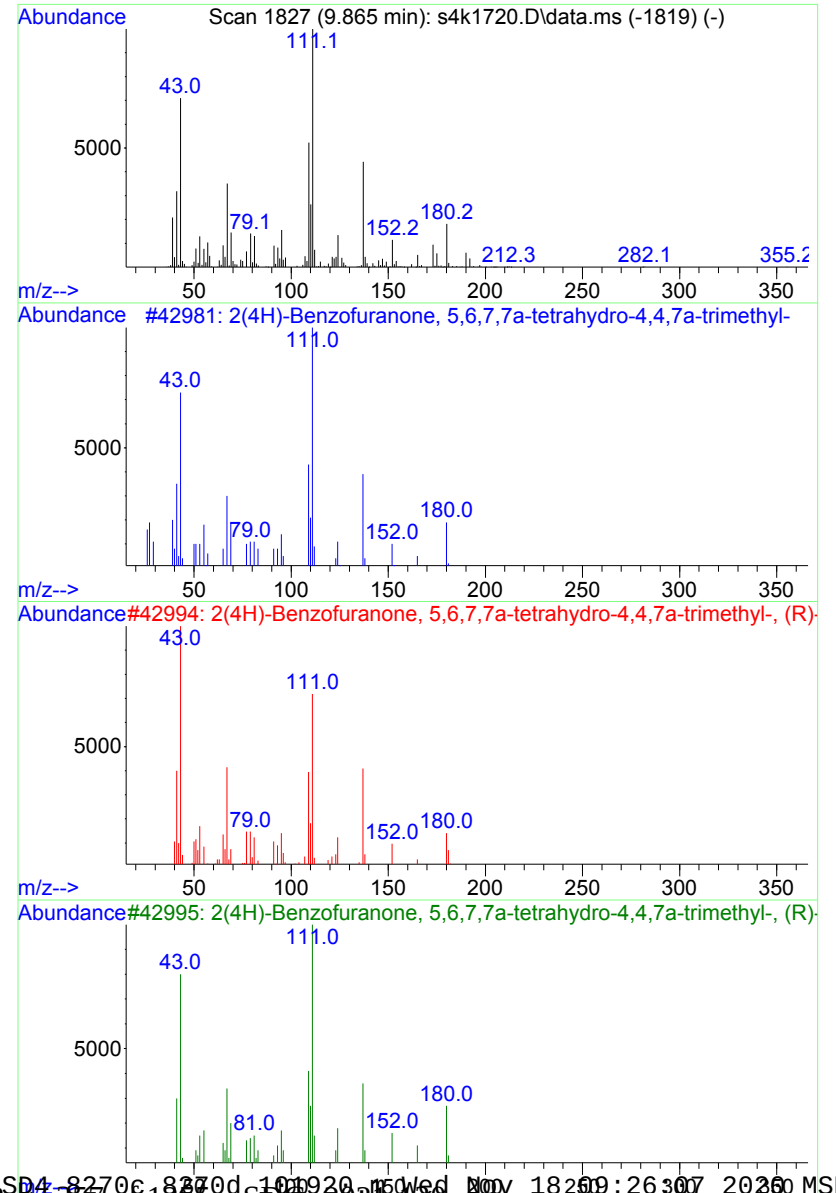
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

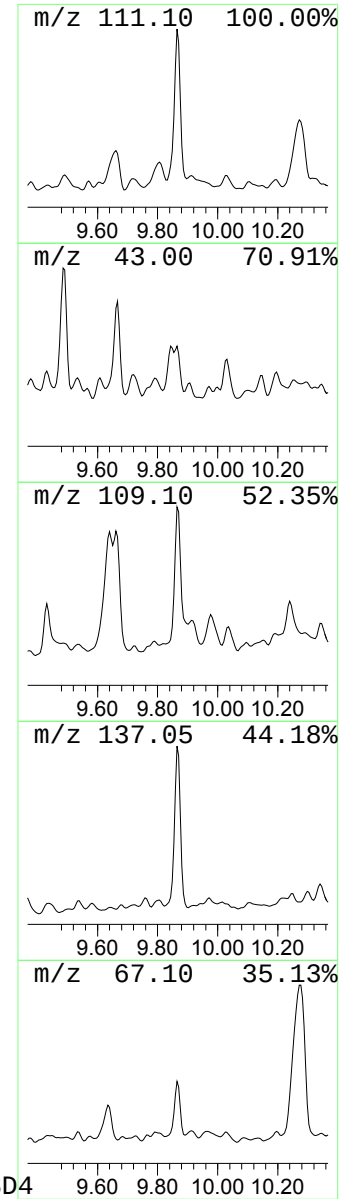
****

Peak Number 24 2(4H)-Benzofuranone, 5,6,7,... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.865	13.70 ng/uL	2641530	D Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2(4H)-Benzofuranone, 5,6,7,7a-te...	180	C11H16O2	015356-74-8	94
2	2(4H)-Benzofuranone, 5,6,7,7a-te...	180	C11H16O2	017092-92-1	90
3	2(4H)-Benzofuranone, 5,6,7,7a-te...	180	C11H16O2	017092-92-1	43
4	2(4H)-Benzofuranone, 5,6,7,7a-te...	180	C11H16O2	017092-92-1	35
5	Cyclohexene, 3,3,5-trimethyl-	124	C9H16	000503-45-7	25





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

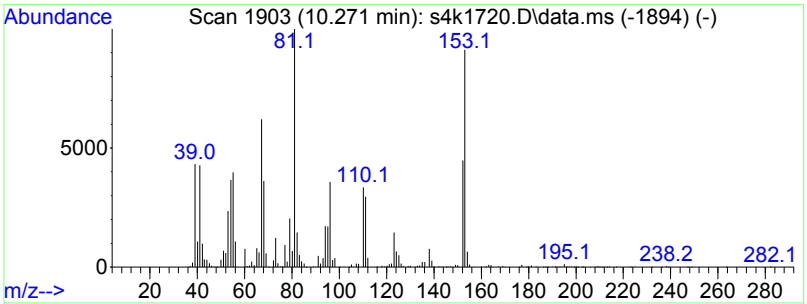
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

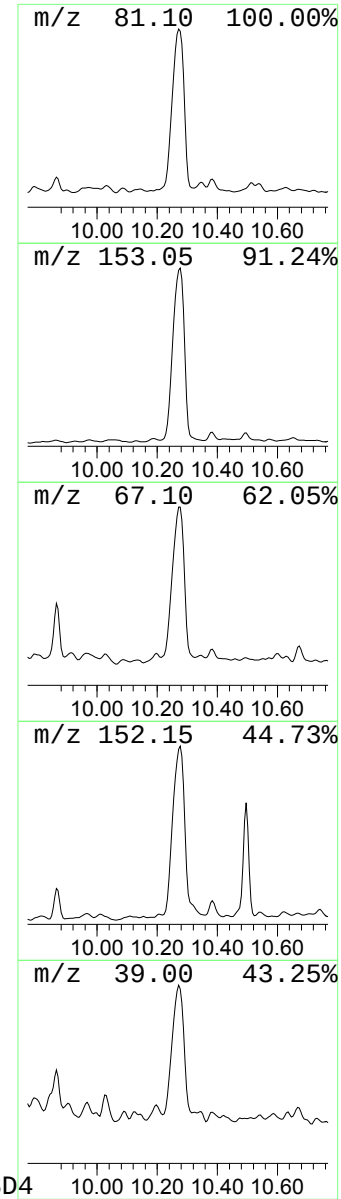
****

Peak Number 25 unknown Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.271	28.44 ng/uL	5484790	D Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Bicyclo[3.3.1]nonane	124	C9H16	000280-65-9	46
2	Cyclohexene, 1-butyl-	138	C10H18	003282-53-9	46
3	Cyclohexane, methylene-	96	C7H12	001192-37-6	42
4	Cyclohexane, methylene-	96	C7H12	001192-37-6	42
5	Cyclohexane, ethylidene-	110	C8H14	001003-64-1	41





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

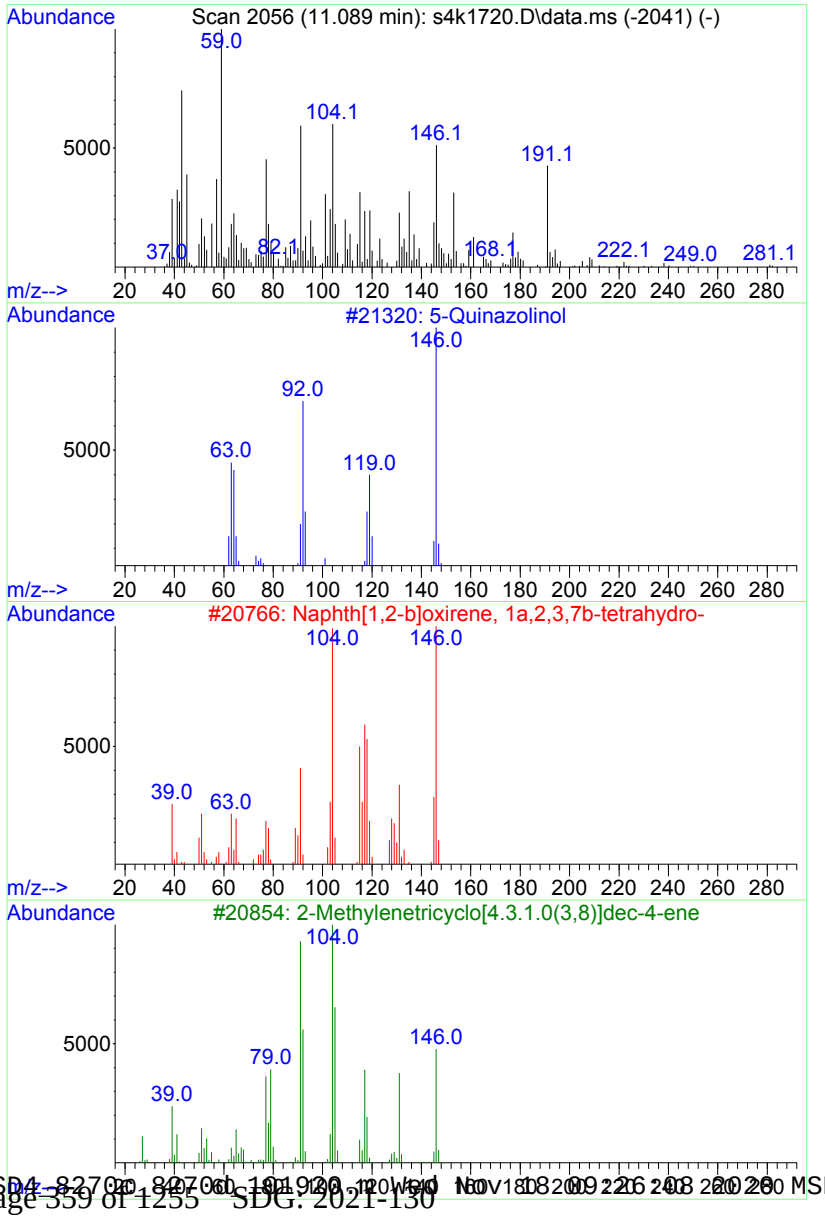
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

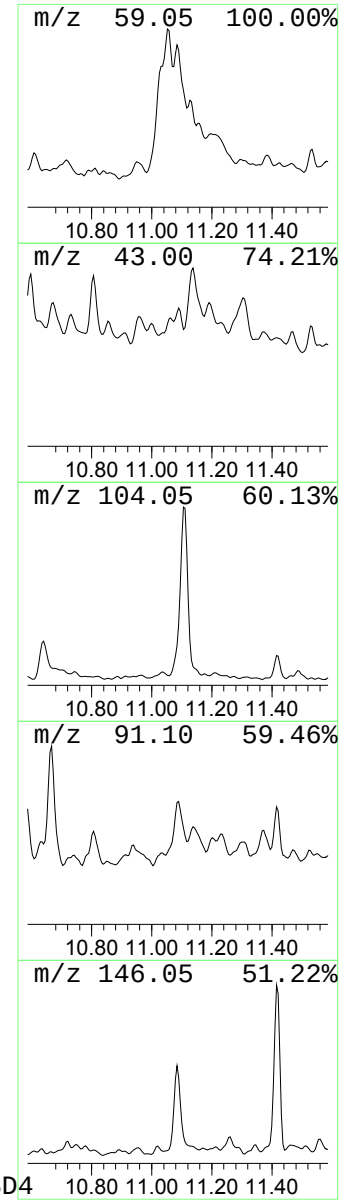
****

Peak Number 26 unknown Concentration Rank 26

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.089	6.16 ng/uL	1121430	A Phenanthrene-d10	11.416

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	5-Quinazolinol	146	C8H6N2O	007556-88-9	25
2	Naphth[1,2-b]oxirene, 1a,2,3,7b-...	146	C10H10O	002461-34-9	22
3	2-Methylenetricyclo[4.3.1.0(3,8)...	146	C11H14	033566-64-2	22
4	Ethyl p-aminocinnamate	191	C11H13NO2	005048-82-8	20
5	Butanamide, 3,3-dimethyl-	115	C6H13NO	000926-04-5	18





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

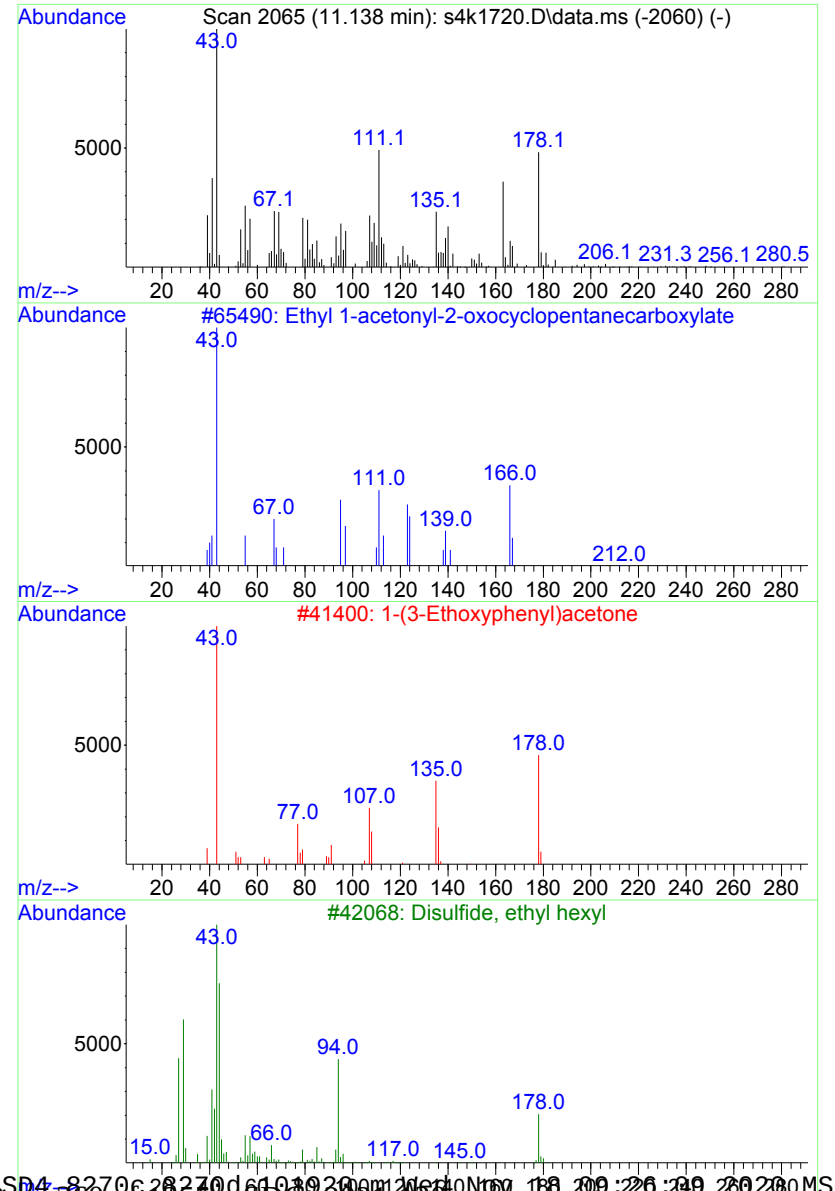
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

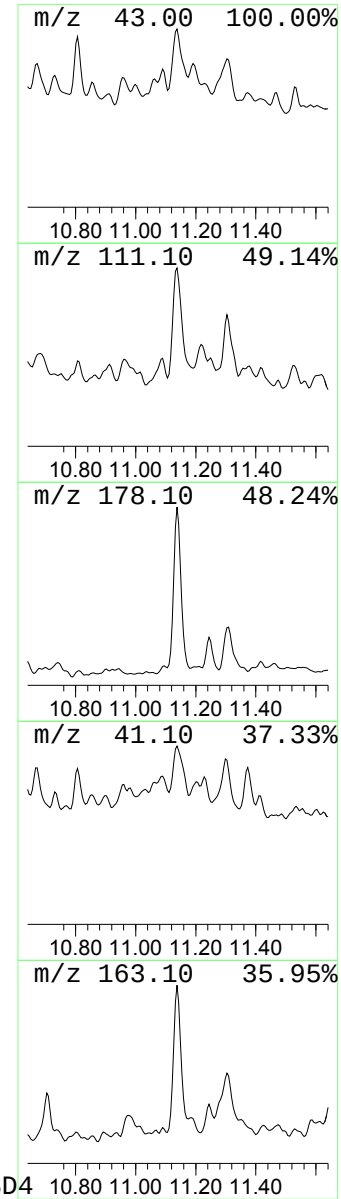
****

Peak Number 27 unknown Concentration Rank 30

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.138	5.27 ng/uL	958552	A Phenanthrene-d10	11.416

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethyl 1-acetonyl-2-oxocyclopenta...	212	C11H16O4	061771-77-5	25
2	1-(3-Ethoxyphenyl)acetone	178	C11H14O2	023037-47-0	10
3	Disulfide, ethyl hexyl	178	C8H18S2	1000075-51-2	9
4	2,4,4-Trimethylbut-2-enolide	126	C7H10O2	004182-41-6	9
5	1-Propanone, 1-(3-acetyl-2,2-dim...	182	C11H18O2	077142-84-8	9





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

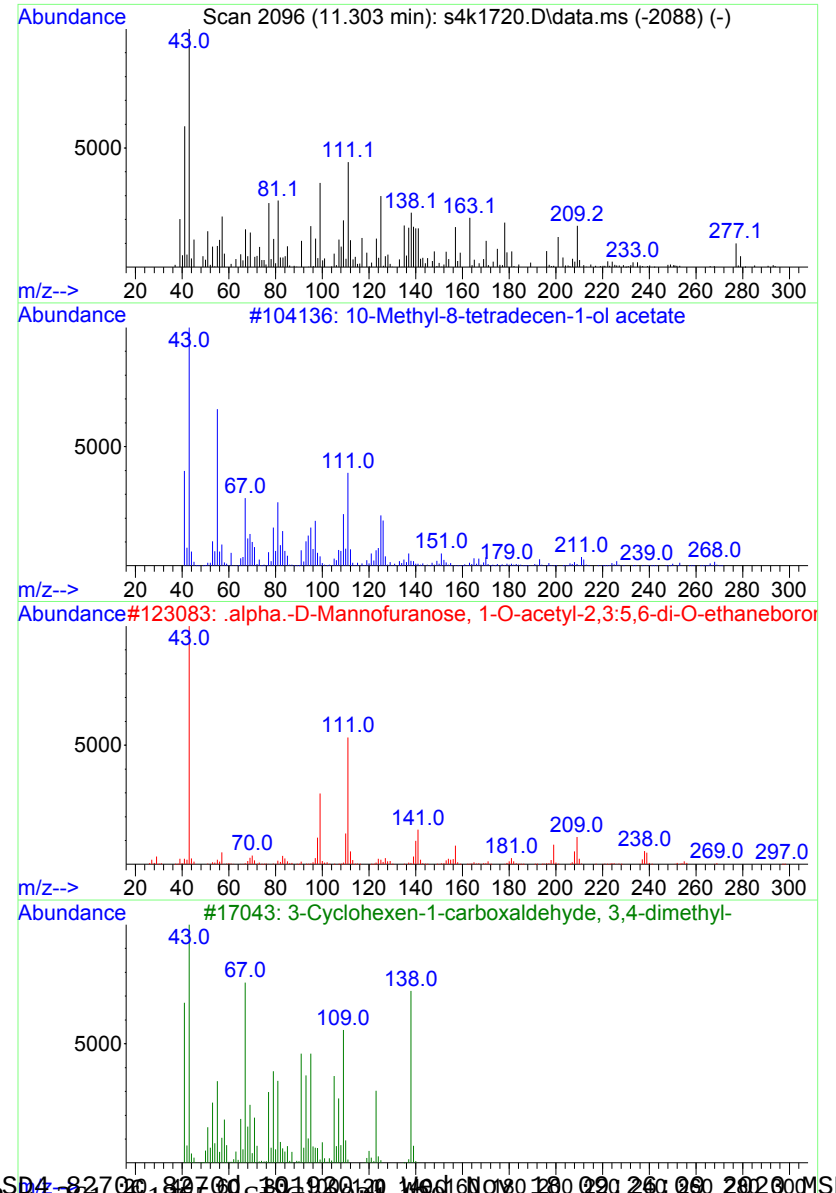
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

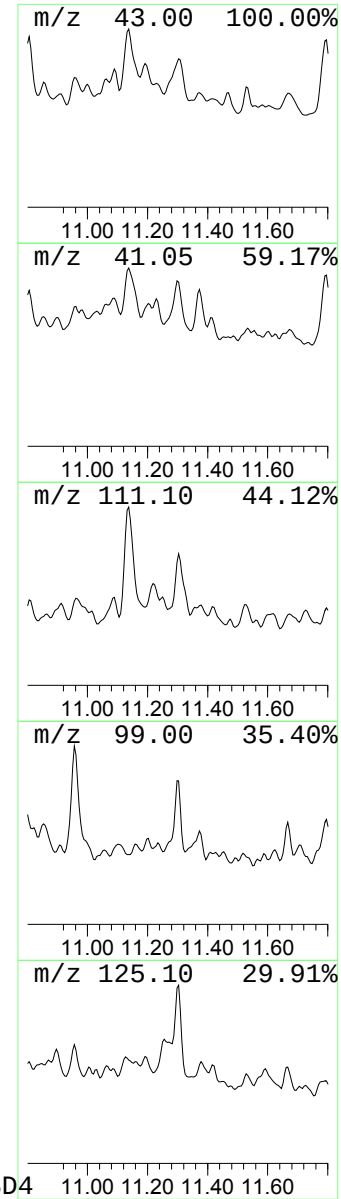
****

Peak Number 28 unknown Concentration Rank 29

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.303	5.29 ng/uL	963562	A Phenanthrene-d10	11.416

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	10-Methyl-8-tetradecen-1-ol acetate	268	C17H32O2	1000131-36-1	17
2	.alpha.-D-Mannofuranose, 1-O-ace...	298	C12H20B2O7	1000159-48-8	16
3	3-Cyclohexen-1-carboxaldehyde, 3...	138	C9H14O	1000131-99-4	11
4	Oxazole, trimethyl-	111	C6H9NO	020662-84-4	10
5	2-Hydroxy-1,2,5,5,6,7exo-hexamet...	212	C12H20O3	132305-29-4	10





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

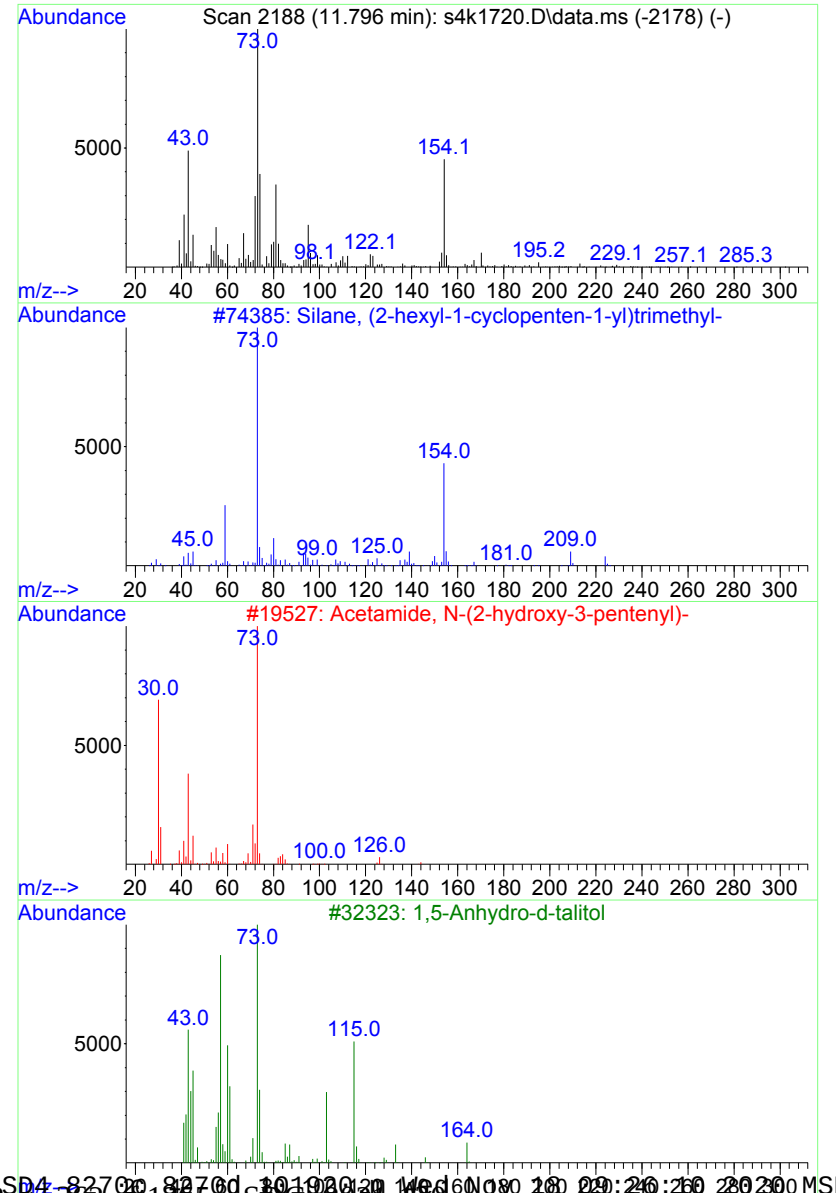
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

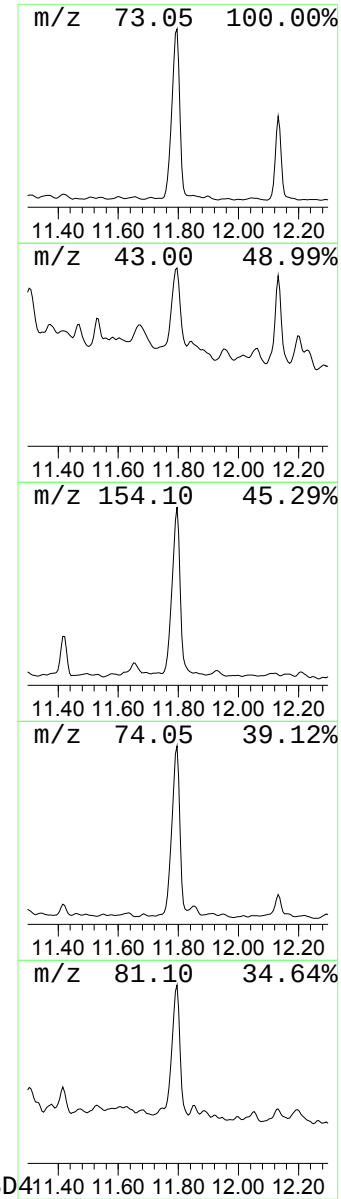
****

Peak Number 29 unknown Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.796	9.19 ng/uL	1672380	D Phenanthrene-d10	11.416

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Silane, (2-hexyl-1-cyclopenten-1...	224	C14H28Si	086994-24-3	17
2	Acetamide, N-(2-hydroxy-3-penten...	143	C7H13NO2	093393-95-4	10
3	1,5-Anhydro-d-talitol	164	C6H12O5	1000130-12-5	9
4	Acetamide, N-(2-oxo-5-hexenyl)-	155	C8H13NO2	093393-92-1	9
5	Silane, (2-ethyl-1-methyl-1-bute...	170	C10H22Si	041784-60-5	9





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

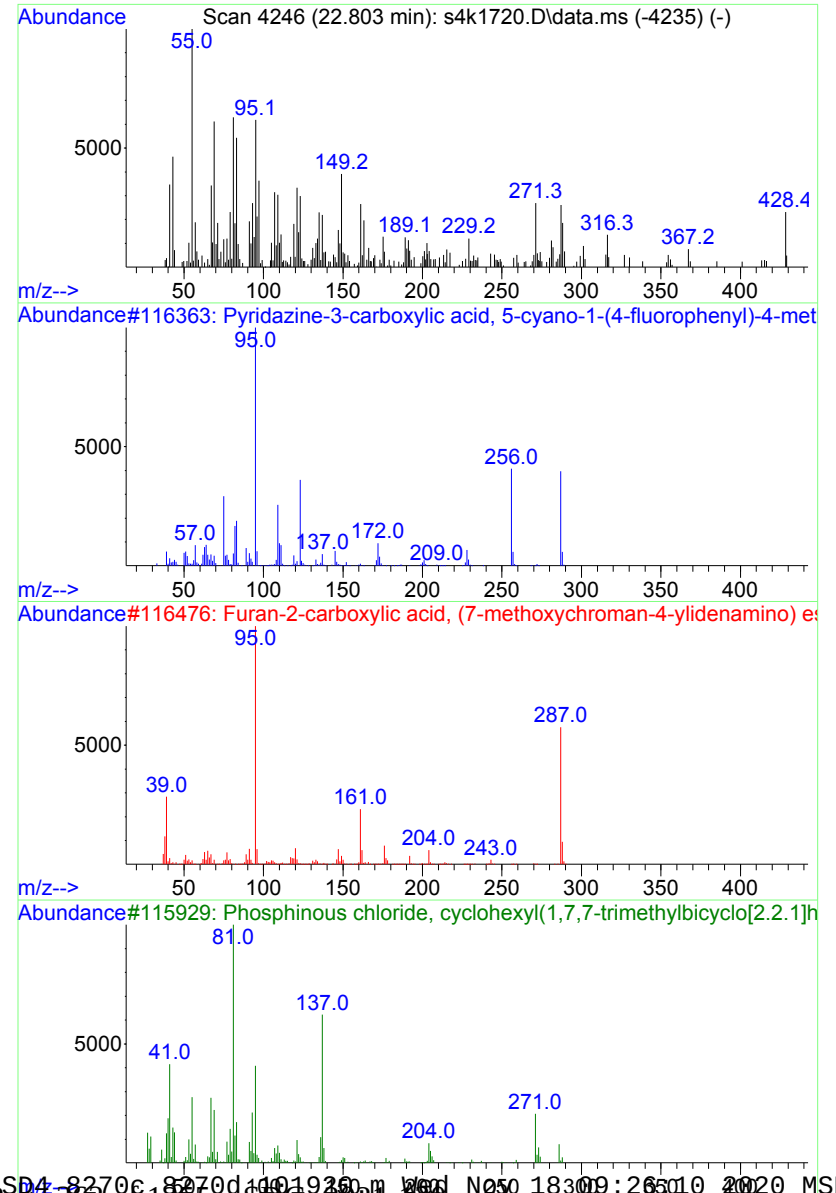
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

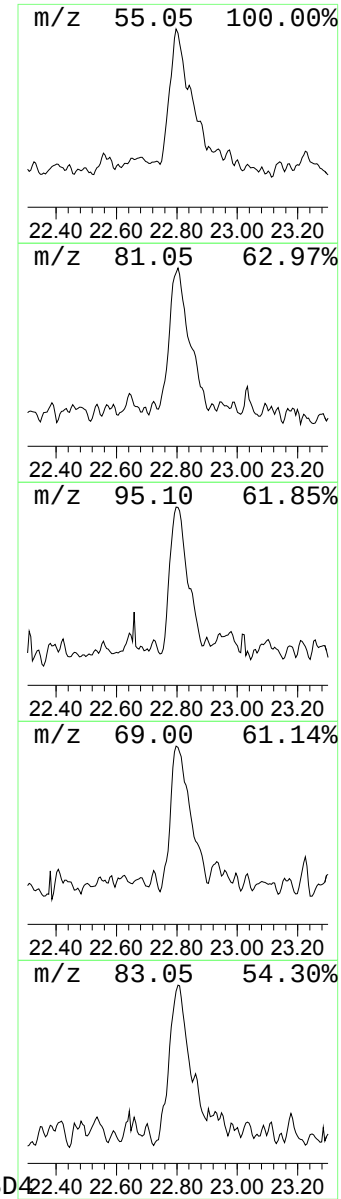
****

Peak Number 30 unknown Concentration Rank 25

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.803	6.50 ng/uL	400290	E Perylene-d12	18.086

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pyridazine-3-carboxylic acid, 5-...	287	C13H10FN5O2	1000302-17-2	18
2	Furan-2-carboxylic acid, (7-meth...	287	C15H13NO5	332129-52-9	14
3	Phosphinous chloride, cyclohexyl...	286	C16H28ClP	074630-28-7	10
4	5-(2-Fluoroanilino)furazano[3,4-...	271	C11H6FN7O	327983-20-0	10
5	Chol-23-ene, (5.beta.)-	328	C24H40	054411-82-4	9





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1720.D
Acq On : 17 Nov 2020 22:29
Operator : LOF
Sample : |527510003|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209979|MIX[A,B,D,E,J]||
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
unknown		1.895	19.4	3084960	1	5.409	6361540	40.0
Unknown Aldol Condensate	000123-42-2	3.366	6.7	1064000	1	5.409	6361540	40.0
unknown		3.441	13.9	2219190	1	5.409	6361540	40.0
Butanoic acid, 2-methyl-	000116-53-0	3.543	5.4	862516	1	5.409	6361540	40.0
unknown		3.842	8.0	1264430	1	5.409	6361540	40.0
Dimethyl sulfone	000067-71-0	4.195	23.2	3683520	1	5.409	6361540	40.0
unknown		5.805	6.5	1035370	2	5.409	6361540	40.0
unknown		5.976	8.2	1307410	2	5.409	6361540	40.0
unknown		6.019	9.8	1554830	2	5.409	6361540	40.0
Phenylethyl Alcohol	000060-12-8	6.479	8.1	1585170	3	7.206	7878120	40.0
unknown		7.661	10.7	2111330	7	7.206	7878120	40.0
unknown		7.870	6.6	1296840	7	7.206	7878120	40.0
unknown		8.169	9.6	1890480	7	7.206	7878120	40.0
unknown		8.255	6.8	1331680	7	7.206	7878120	40.0
unknown		8.533	7.9	1530190	8	9.538	7713100	40.0
unknown		8.977	8.5	1640990	8	9.538	7713100	40.0
unknown		9.105	6.5	1258300	8	9.538	7713100	40.0
unknown		9.153	7.7	1487650	8	9.538	7713100	40.0
unknown		9.217	12.3	2362990	8	9.538	7713100	40.0
unknown		9.378	5.4	1033590	8	9.538	7713100	40.0
2,5,8,11,14-Pentaoxapentade...	000143-24-8	9.485	44.0	8490180	8	9.538	7713100	40.0
unknown		9.640	22.3	4307290	10	9.538	7713100	40.0
unknown		9.661	16.1	3113270	10	9.538	7713100	40.0
2(4H)-Benzofuranone, 5,6,7,...	015356-74-8	9.865	13.7	2641530	10	9.538	7713100	40.0
unknown		10.271	28.4	5484790	10	9.538	7713100	40.0
unknown		11.089	6.2	1121430	11	11.416	7281060	40.0
unknown		11.138	5.3	958552	11	11.416	7281060	40.0
unknown		11.303	5.3	963562	11	11.416	7281060	40.0
unknown		11.796	9.2	1672380	14	11.416	7281060	40.0
unknown		22.803	6.5	400290	21	18.086	2465010	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 09:00**	**Matrix:**	**W**
Lab Sample ID:	**527510006**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209994**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 22:58**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**852.82 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1721.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.52	ug/L	3.52	11.7
91-57-6	2-Methylnaphthalene	U	0.352	ug/L	0.352	1.17
91-20-3	Naphthalene	U	0.352	ug/L	0.352	1.17
90-12-0	1-Methylnaphthalene	U	0.352	ug/L	0.352	1.17
86-73-7	Fluorene	U	0.352	ug/L	0.352	1.17
85-01-8	Phenanthrene	U	0.352	ug/L	0.352	1.17
120-12-7	Anthracene	U	0.352	ug/L	0.352	1.17
206-44-0	Fluoranthene	U	0.352	ug/L	0.352	1.17
129-00-0	Pyrene	U	0.352	ug/L	0.352	1.17
205-99-2	Benzo(b)fluoranthene	U	0.352	ug/L	0.352	1.17
207-08-9	Benzo(k)fluoranthene	U	0.352	ug/L	0.352	1.17
50-32-8	Benzo(a)pyrene	U	0.352	ug/L	0.352	1.17

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	127	117	ug/L	108	(32%-122%)
2-Fluorobiphenyl	56.0	58.6	ug/L	96	(31%-107%)
2-Fluorophenol	56.6	117	ug/L	48	(15%-88%)
Nitrobenzene-d5	53.2	58.6	ug/L	91	(35%-113%)
Phenol-d5	40.1	117	ug/L	34	(15%-91%)
p-Terphenyl-d14	43.8	58.6	ug/L	75	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.906	33.1	ug/L	0	J

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1721.D
Acq On : 17 Nov 2020 22:58
Operator : LOF
Sample : |527510006|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209994|MIX[A,B,D,E,J]||
ALS Vial : 21 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 18 09:10:26 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	928637	40.00	ng/uL	-0.02
22) A Naphthalene-d8	136	7.201	7.228	1.000	3568641	40.00	ng/uL	-0.03
39) A Acenaphthene-d10	164	9.533	9.555	1.000	1836960	40.00	ng/uL	-0.02
64) A Phenanthrene-d10	188	11.411	11.432	1.000	3229820	40.00	ng/uL	-0.02
78) A Chrysene-d12	240	14.887	14.914	1.000	2089139	40.00	ng/uL	-0.03
88) A Perylene-d12	264	18.091	18.139	1.000	1319752	40.00	ng/uL	-0.05
96) B 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	928637	40.00	ng/uL	-0.02
112) B Naphthalene-d8	136	7.201	7.228	1.000	3568641	40.00	ng/uL	-0.03
120) B Acenaphthene-d10	164	9.533	9.555	1.000	1836960	40.00	ng/uL	-0.02
129) B Phenanthrene-d10	188	11.411	11.432	1.000	3229820	40.00	ng/uL	-0.02
142) B Chrysene-d12	240	14.887	14.914	1.000	2089139	40.00	ng/uL	-0.03
148) B Perylene-d12	264	18.091	18.139	1.000	1319752	40.00	ng/uL	-0.05
151) J Naphthalene-d8	136	7.201	7.228	1.000	3568641	40.00	ng/uL	-0.03
153) J Phenanthrene-d10	188	11.411	11.432	1.000	3229820	40.00	ng/uL	-0.02
156) J Chrysene-d12	240	14.887	14.914	1.000	2089139	40.00	ng/uL	-0.03
159) D Naphthalene-d8	136	7.201	7.228	1.000	3568641	40.00	ng/uL	-0.03
161) D Acenaphthene-d10	164	9.533	9.555	1.000	1836960	40.00	ng/uL	-0.02
164) D Phenanthrene-d10	188	11.411	11.432	1.000	3229820	40.00	ng/uL	-0.02
171) D Chrysene-d12	240	14.887	14.914	1.000	2089139	40.00	ng/uL	-0.03
173) E Naphthalene-d8	136	7.201	7.228	1.000	3568641	40.00	ng/uL	-0.03
175) E Perylene-d12	264	18.091	18.139	1.000	1319752	40.00	ng/uL	-0.05
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.719	3.735	0.688	1347540	48.23	ng/uL	-0.02
8) Phenol-d5	99	4.875	4.906	0.901	1162278	34.22	ng/uL	-0.03
23) Nitrobenzene-d5	82	6.196	6.222	0.860	1374625	45.39	ng/uL	-0.03
44) 2-Fluorobiphenyl	172	8.661	8.736	0.909	2728785	47.77	ng/uL	-0.07
63) 2,4,6-Tribromophenol	330	10.533	10.555	1.105	702547	108.15	ng/uL	-0.02
80) p-Terphenyl-d14	244	13.406	13.422	0.900	2593989	37.38	ng/uL	-0.02

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	48%
8) Phenol-d5	100.000	15 - 91	34%
23) Nitrobenzene-d5	50.000	35 - 113	91%
44) 2-Fluorobiphenyl	50.000	31 - 107	96%
63) 2,4,6-Tribromophenol	100.000	32 - 122	108%
80) p-Terphenyl-d14	50.000	35 - 134	75%

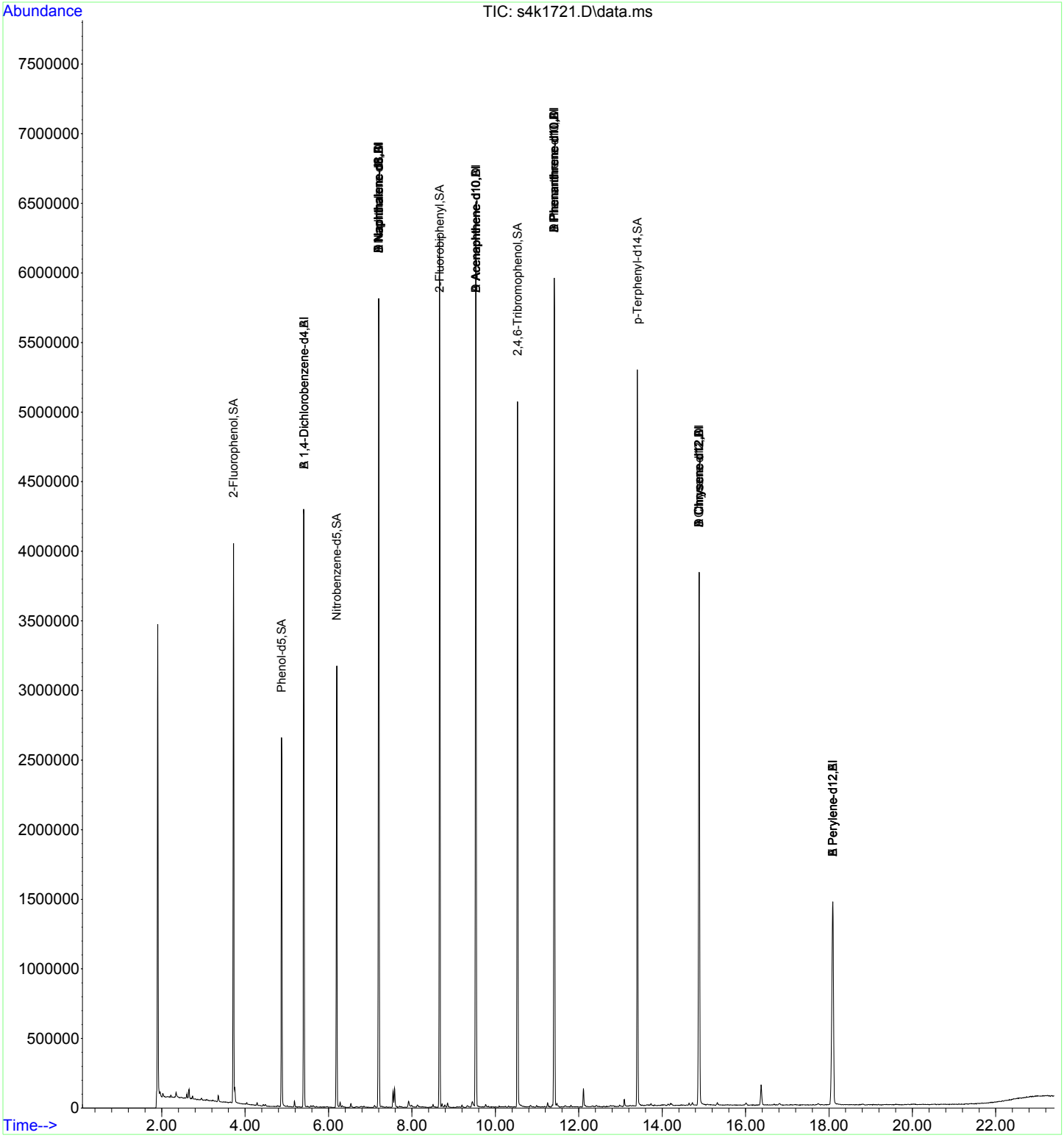
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

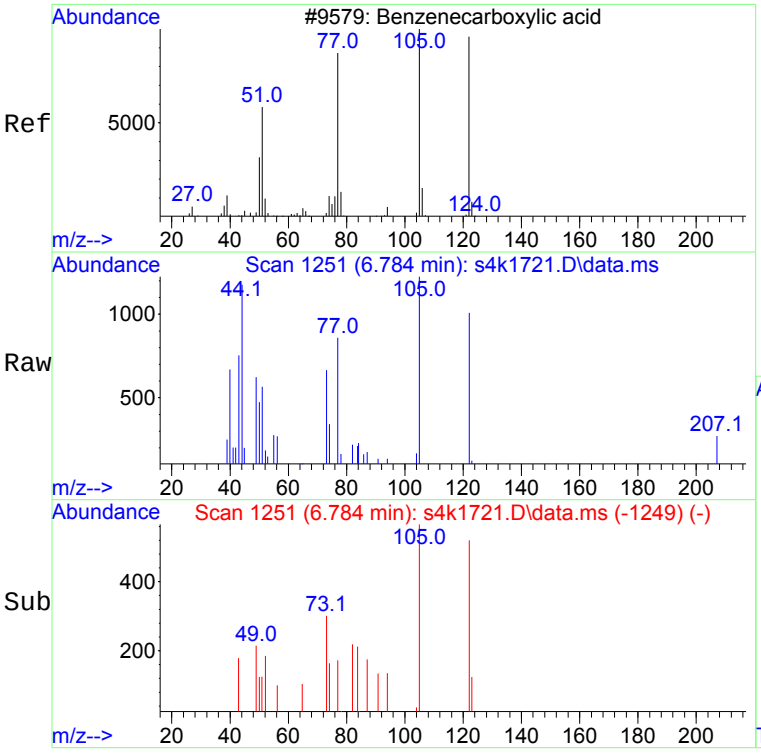
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1721.D
Acq On : 17 Nov 2020 22:58
Operator : LOF
Sample : |527510006|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209994|MIX[A,B,D,E,J]||
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 18 09:10:26 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

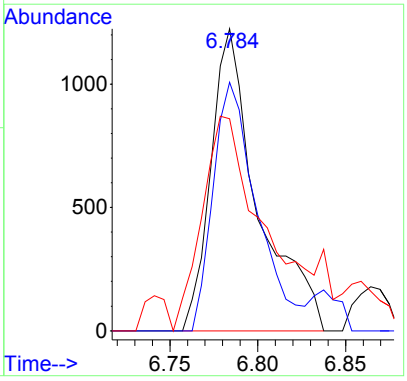


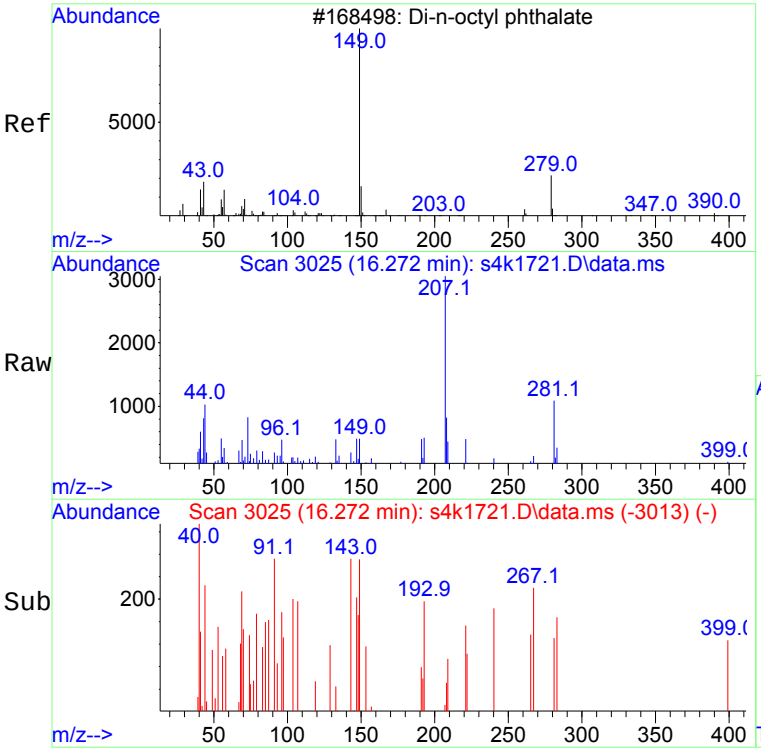


#30 BEFORE analyst DELETION
Benzoic acid
Concen: 11.69 ng/uL
RT: 6.784 min Scan# 1251
Delta R.T. -0.139 min
Lab File: s4k1721.D
Acq: 17 Nov 2020 22:58

Tgt Ion:105 Resp: 2276

Ion	Ratio	Lower	Upper
105	100		
122	84.7	51.3	111.3
77	111.3	45.6	105.6#

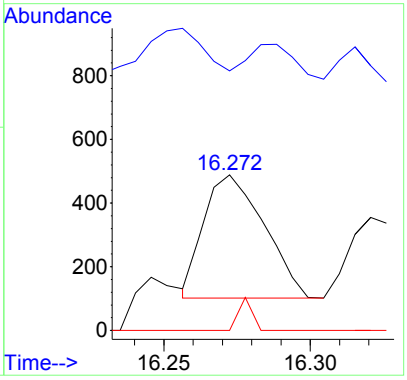




#87 BEFORE analyst DELETION
Di-n-octylphthalate
Concen: 0.39 ng/uL
RT: 16.272 min Scan# 3025
Delta R.T. -0.037 min
Lab File: s4k1721.D
Acq: 17 Nov 2020 22:58

Tgt Ion:149 Resp: 552

Ion	Ratio	Lower	Upper
149	100		
43	115.4	0.0	42.3#
167	0.0	0.0	31.5



Library Search Compound Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1721.D
Acq On : 17 Nov 2020 22:58
Operator : LOF
Sample : |527510006|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209994|MIX[A,B,D,E,J]||
ALS Vial : 21 Sample Multiplier: 1

RAB 11/19/2020

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

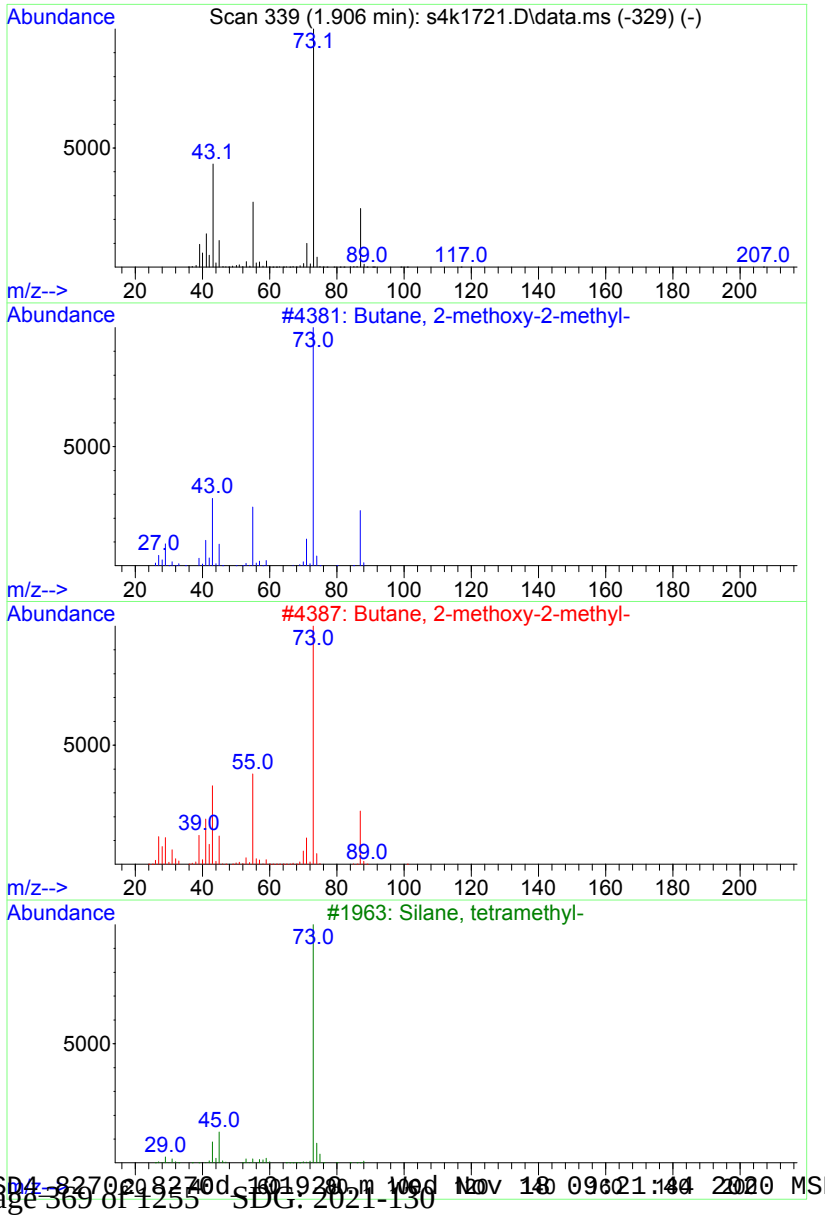
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

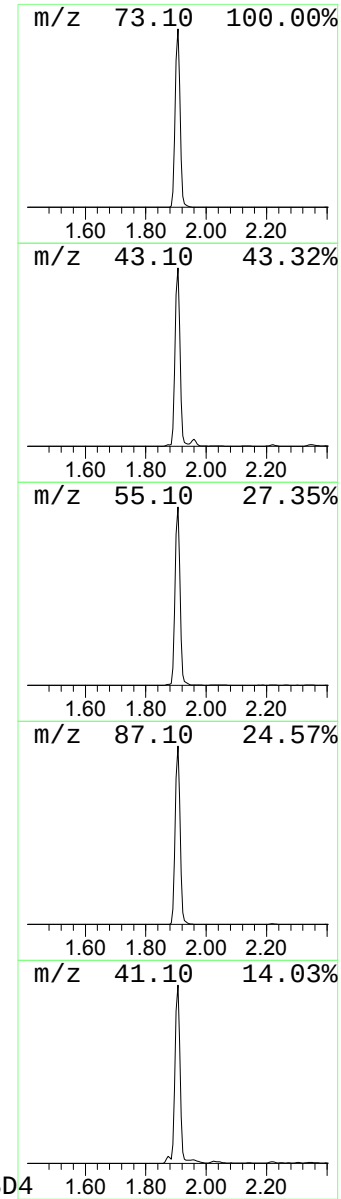
****

Peak Number 1 unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.906	28.24 ng/uL	4120880	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	83
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
3	Silane, tetramethyl-	88	C4H12Si	000075-76-3	35
4	Silane, tetramethyl-	88	C4H12Si	000075-76-3	32
5	1,3-Dioxolane, 2-methyl-	88	C4H8O2	000497-26-7	32





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1721.D
Acq On : 17 Nov 2020 22:58
Operator : LOF
Sample : |527510006|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB03-20-209994|MIX[A,B,D,E,J]||
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
unknown		1.906	28.2	4120880	1	5.409	5836290	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510009**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209982**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 23:27**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1035.38 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1722.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	2.90	ug/L	2.90	9.66
91-57-6	2-Methylnaphthalene	U	0.290	ug/L	0.290	0.966
91-20-3	Naphthalene	U	0.290	ug/L	0.290	0.966
90-12-0	1-Methylnaphthalene	U	0.290	ug/L	0.290	0.966
86-73-7	Fluorene	U	0.290	ug/L	0.290	0.966
85-01-8	Phenanthrene	U	0.290	ug/L	0.290	0.966
120-12-7	Anthracene	U	0.290	ug/L	0.290	0.966
206-44-0	Fluoranthene	U	0.290	ug/L	0.290	0.966
129-00-0	Pyrene	U	0.290	ug/L	0.290	0.966
205-99-2	Benzo(b)fluoranthene	U	0.290	ug/L	0.290	0.966
207-08-9	Benzo(k)fluoranthene	U	0.290	ug/L	0.290	0.966
50-32-8	Benzo(a)pyrene	U	0.290	ug/L	0.290	0.966

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	36.3	96.6	ug/L	38		(32%-122%)
2-Fluorobiphenyl	12.5	48.3	ug/L	26	*	(31%-107%)
2-Fluorophenol	35.6	96.6	ug/L	37		(15%-88%)
Nitrobenzene-d5	36.2	48.3	ug/L	75		(35%-113%)
Phenol-d5	36.5	96.6	ug/L	38		(15%-91%)
p-Terphenyl-d14	3.35	48.3	ug/L	7	*	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.901	23.3	ug/L	0	J
000513-86-0	2-Butanone, 3-hydroxy-	2.12	34.5	ug/L	86	NJ
	unknown	3.842	4.1	ug/L	0	J
000067-71-0	Dimethyl sulfone	4.2	24.3	ug/L	94	NJ
	unknown	5.136	5.51	ug/L	0	J
	unknown	5.805	14.1	ug/L	0	J
	unknown	6.019	20.1	ug/L	0	J
	unknown	6.147	6.16	ug/L	0	J
000078-40-0	Triethyl phosphate	6.468	8.62	ug/L	95	NJ
	unknown	6.72	5.01	ug/L	0	J
	unknown	7.308	4.95	ug/L	0	J
	unknown	7.495	4.35	ug/L	0	J
	unknown	7.795	4.45	ug/L	0	J
	unknown	7.875	7.69	ug/L	0	J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510009**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209982**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 23:27**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1035.38 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1722.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	8.164	13	ug/L	0	J
	unknown	8.255	5.46	ug/L	0	J
	unknown	8.806	4.76	ug/L	0	J
	unknown	8.87	10.5	ug/L	0	J
	unknown	8.987	7	ug/L	0	J
	unknown	9.105	6.43	ug/L	0	J
	unknown	9.217	13.4	ug/L	0	J
000050-84-0	Benzoic acid, 2,4-dichloro-	9.667	37	ug/L	99	NJ
015356-74-8	2(4H)-Benzofuranone, 5,6,7,7a-tetr	9.865	5.51	ug/L	91	NJ
	unknown	10.282	28.1	ug/L	0	J
	unknown	11.105	6.39	ug/L	0	J
	unknown	11.143	7.5	ug/L	0	J
	unknown	11.303	7.93	ug/L	0	J
	unknown	11.79	6.16	ug/L	0	J
	unknown	13.347	5	ug/L	0	J
	unknown	16.374	16.8	ug/L	0	J

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 18 09:10:28 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	957255	40.00	ng/uL	-0.02
22) A Naphthalene-d8	136	7.206	7.228	1.000	3703191	40.00	ng/uL	-0.02
39) A Acenaphthene-d10	164	9.538	9.555	1.000	1875759	40.00	ng/uL	-0.02
64) A Phenanthrene-d10	188	11.421	11.432	1.000	3277509	40.00	ng/uL	-0.01
78) A Chrysene-d12	240	14.887	14.914	1.000	1475563	40.00	ng/uL	-0.03
88) A Perylene-d12	264	18.086	18.139	1.000	787146	40.00	ng/uL	-0.05
96) B 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	957255	40.00	ng/uL	-0.02
112) B Naphthalene-d8	136	7.206	7.228	1.000	3703191	40.00	ng/uL	-0.02
120) B Acenaphthene-d10	164	9.538	9.555	1.000	1875759	40.00	ng/uL	-0.02
129) B Phenanthrene-d10	188	11.421	11.432	1.000	3277509	40.00	ng/uL	-0.01
142) B Chrysene-d12	240	14.887	14.914	1.000	1473853	40.00	ng/uL	-0.03
148) B Perylene-d12	264	18.086	18.139	1.000	788157	40.00	ng/uL	-0.05
151) J Naphthalene-d8	136	7.206	7.228	1.000	3703191	40.00	ng/uL	-0.02
153) J Phenanthrene-d10	188	11.421	11.432	1.000	3277509	40.00	ng/uL	-0.01
156) J Chrysene-d12	240	14.887	14.914	1.000	1475563	40.00	ng/uL	-0.03
159) D Naphthalene-d8	136	7.206	7.228	1.000	3703191	40.00	ng/uL	-0.02
161) D Acenaphthene-d10	164	9.538	9.555	1.000	1875759	40.00	ng/uL	-0.02
164) D Phenanthrene-d10	188	11.421	11.432	1.000	3277509	40.00	ng/uL	-0.01
171) D Chrysene-d12	240	14.887	14.914	1.000	1473853	40.00	ng/uL	-0.03
173) E Naphthalene-d8	136	7.206	7.228	1.000	3703191	40.00	ng/uL	-0.02
175) E Perylene-d12	264	18.086	18.139	1.000	787146	40.00	ng/uL	-0.05
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.735	3.735	0.691	1060929	36.84	ng/uL	0.00
8) Phenol-d5	99	4.890	4.906	0.904	1323977	37.81	ng/uL	-0.02
23) Nitrobenzene-d5	82	6.201	6.222	0.860	1177882	37.48	ng/uL	-0.02
44) 2-Fluorobiphenyl	172	8.667	8.736	0.909	752990m	12.91	ng/uL	-0.07
63) 2,4,6-Tribromophenol	330	10.544	10.555	1.105	249616	37.63	ng/uL	-0.01
80) p-Terphenyl-d14	244	13.405	13.422	0.900	169972	3.47	ng/uL	-0.02

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	37%
8) Phenol-d5	100.000	15 - 91	38%
23) Nitrobenzene-d5	50.000	35 - 113	75%
44) 2-Fluorobiphenyl	50.000	31 - 107	26%#
63) 2,4,6-Tribromophenol	100.000	32 - 122	38%
80) p-Terphenyl-d14	50.000	35 - 134	7%#

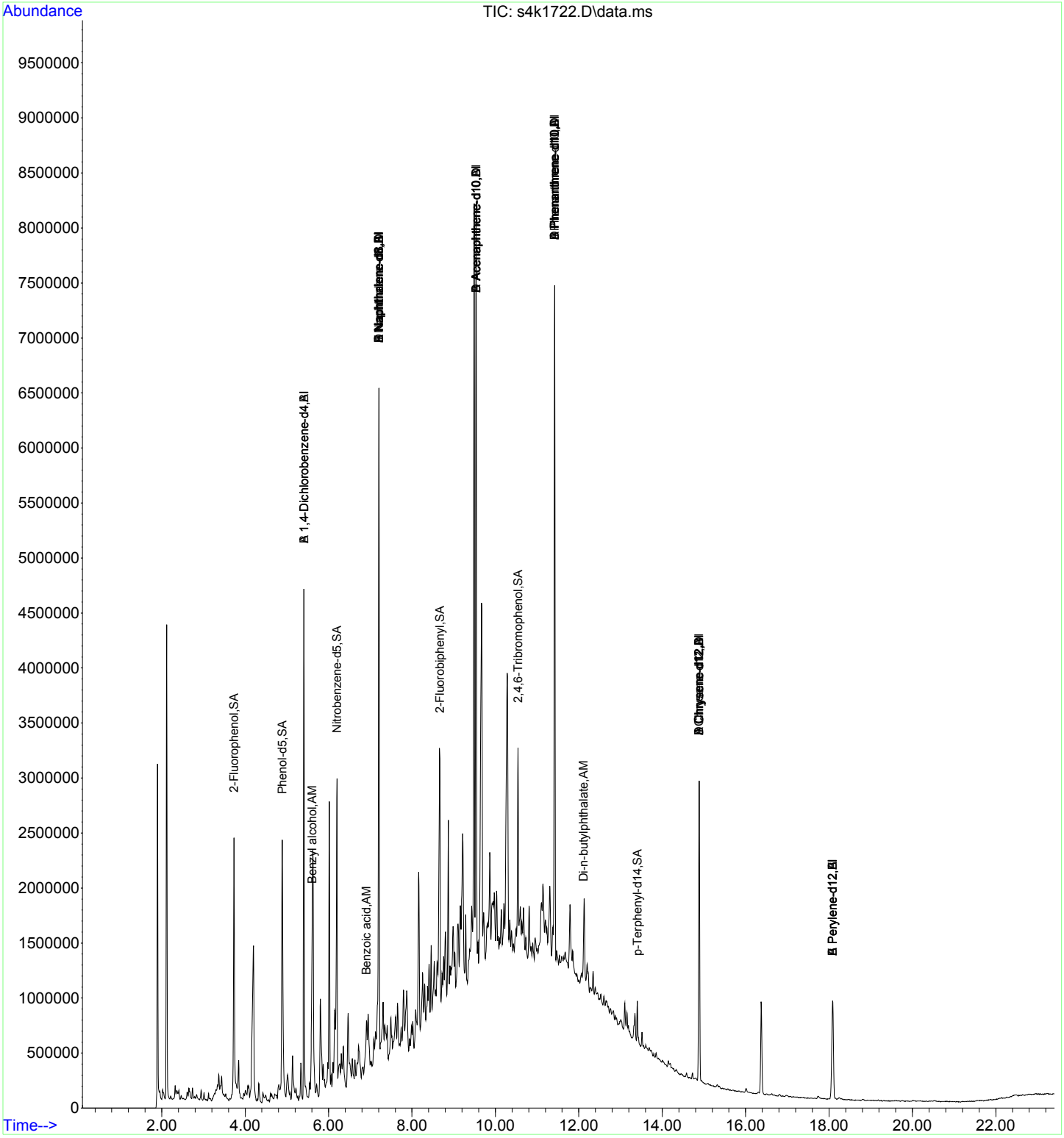
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
17) Benzyl alcohol	108	5.607	5.629	1.037	92374	4.36	ng/uL#	1
30) Benzoic acid	105	6.907	6.923	0.958	106222	17.81	ng/uL	99
76) Di-n-butylphthalate	149	12.116	12.170	1.061	79429	0.82	ng/uL	87

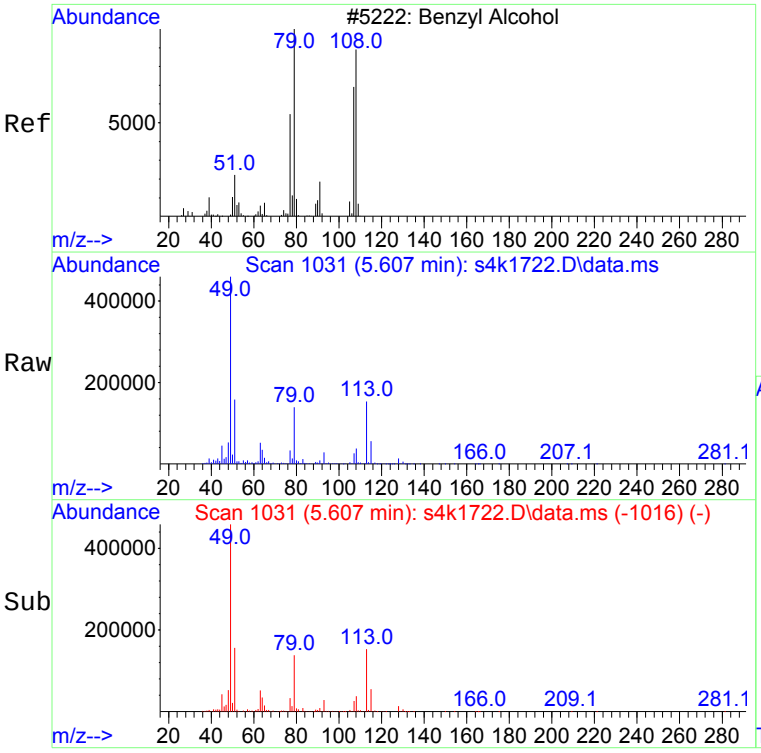
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 18 09:10:28 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

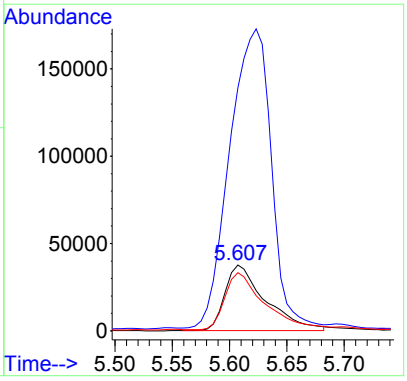


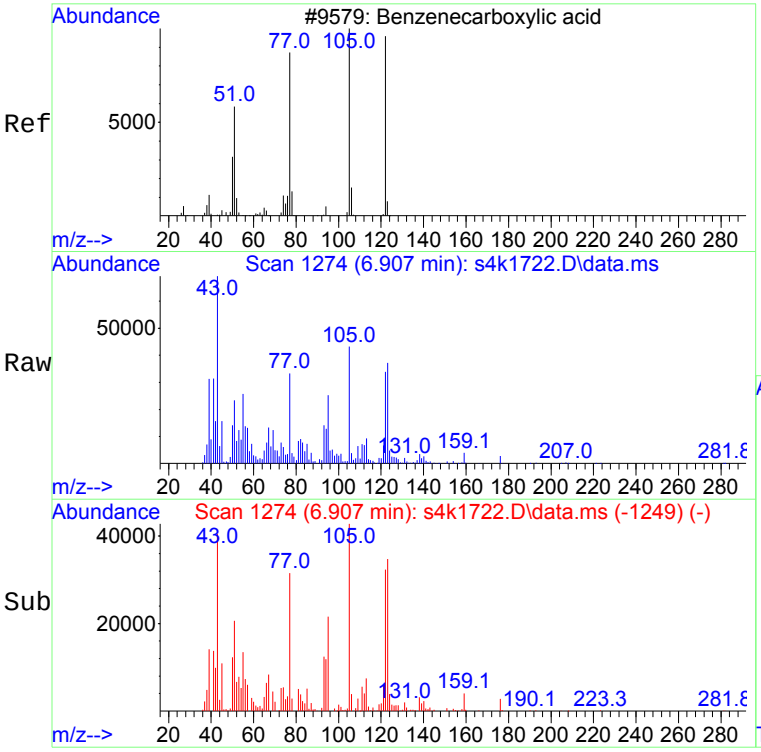


#17
Benzyl alcohol
Concen: 4.36 ng/uL
RT: 5.607 min Scan# 1031
Delta R.T. -0.021 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:108 Resp: 92374

Ion	Ratio	Lower	Upper
108	100		
79	467.8	101.6	161.6#
77	85.1	50.1	110.1

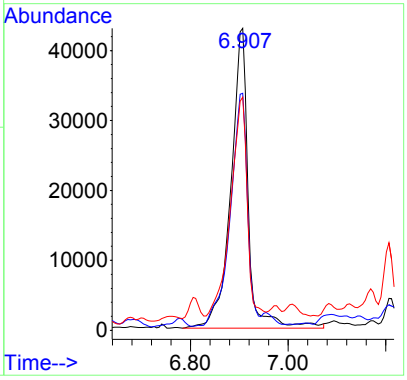


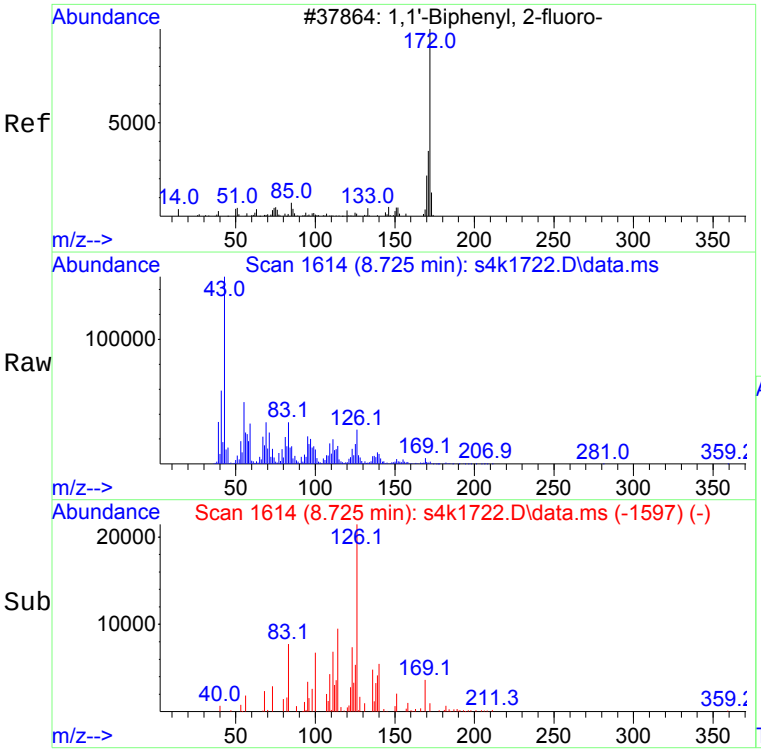


#30
Benzoic acid
Concen: 17.81 ng/uL
RT: 6.907 min Scan# 1274
Delta R.T. -0.016 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:105 Resp: 106222

Ion	Ratio	Lower	Upper
105	100		
122	79.1	51.3	111.3
77	75.5	45.6	105.6

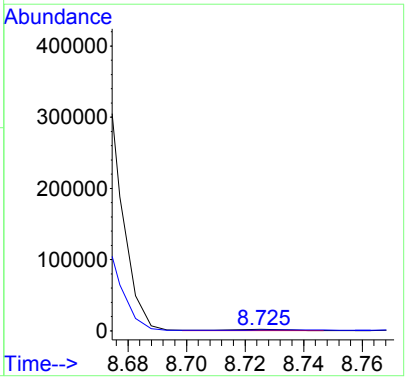


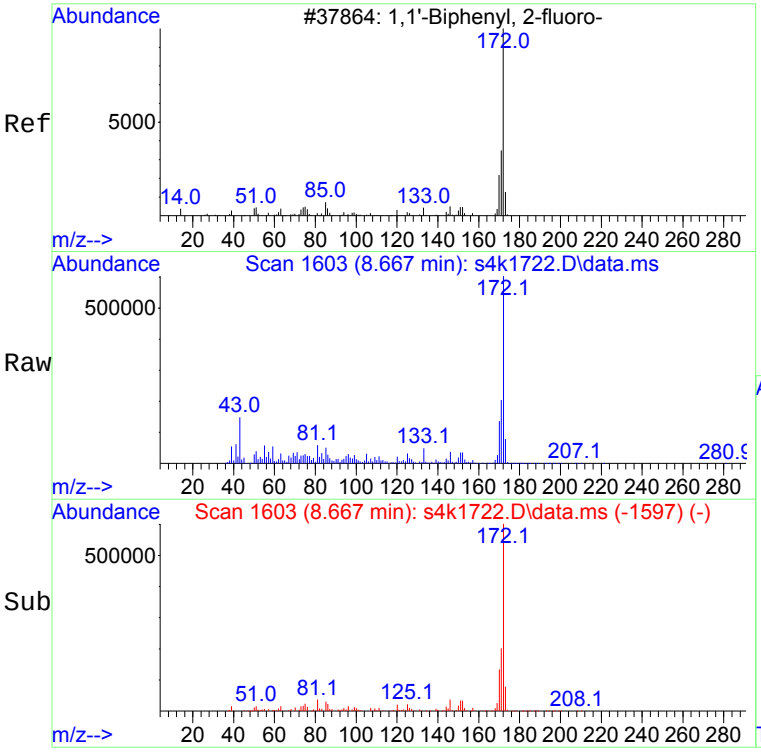


#44 BEFORE analyst integration
2-Fluorobiphenyl
Concen: 0.04 ng/uL
RT: 8.725 min Scan# 1614
Delta R.T. -0.011 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:172 Resp: 2426

Ion	Ratio	Lower	Upper
172	100		
171	47.1	2.5	62.5

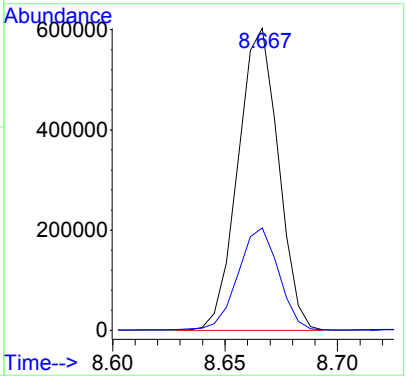


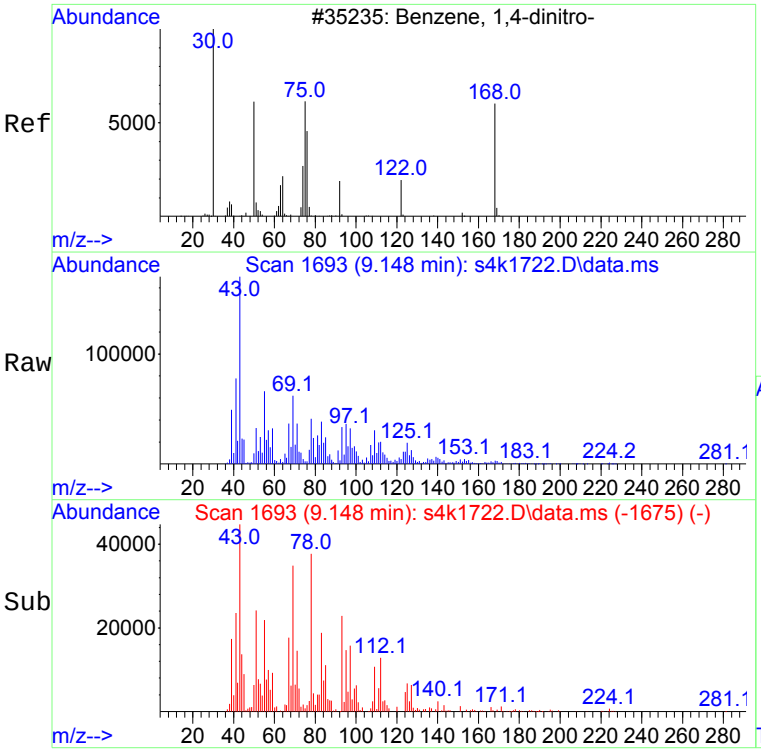


#44 AFTER analyst integration
2-Fluorobiphenyl AB
Concen: 12.91 ng/uL MANUALLY INTEGRATED
RT: 8.667 min Scan# 1603
Delta R.T. -0.070 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:172 Resp: 752990

Ion	Ratio	Lower	Upper
172	100		
171	34.5	2.5	62.5

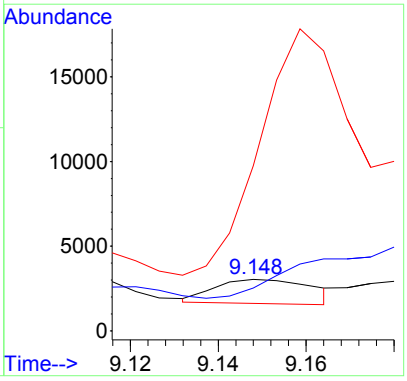


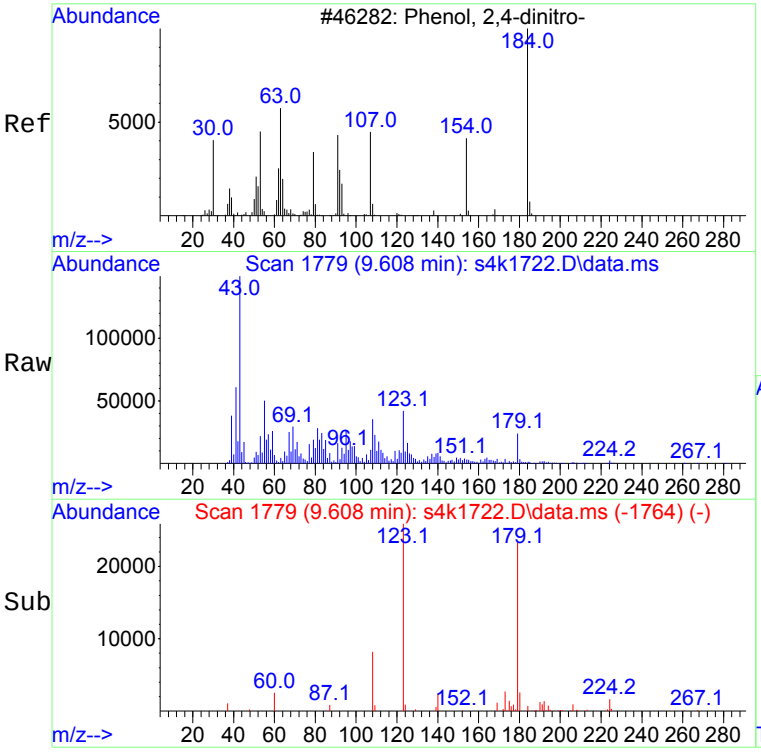


#47 BEFORE analyst DELETION
1,4-Dinitrobenzene
Concen: 4.28 ng/uL
RT: 9.148 min Scan# 1693
Delta R.T. -0.005 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:168 Resp: 2194

Ion	Ratio	Lower	Upper
168	100		
75	146.3	89.3	149.3
50	942.0	83.7	143.7#

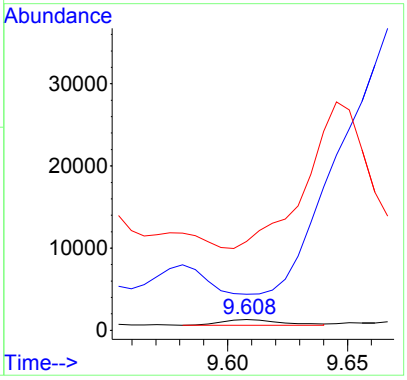


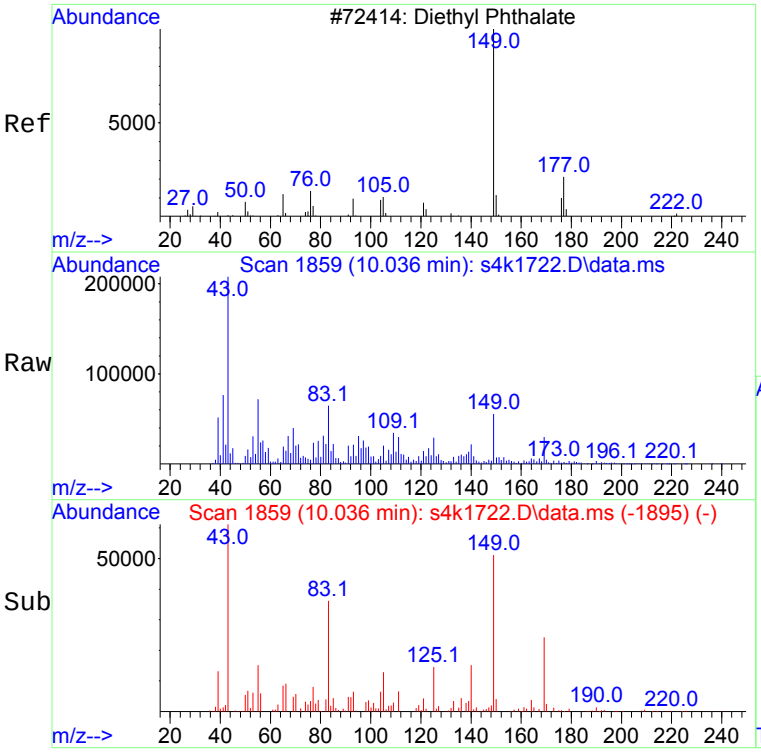


#55 BEFORE analyst DELETION
2,4-Dinitrophenol
Concen: 11.78 ng/uL
RT: 9.608 min Scan# 1779
Delta R.T. -0.021 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:184 Resp: 1182

Ion	Ratio	Lower	Upper
184	100		
63	414.7	175.8	235.8#
107	0.0	10.9	70.9#

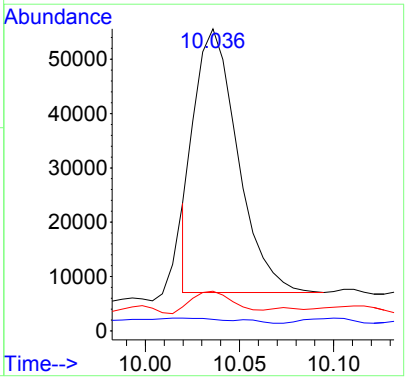


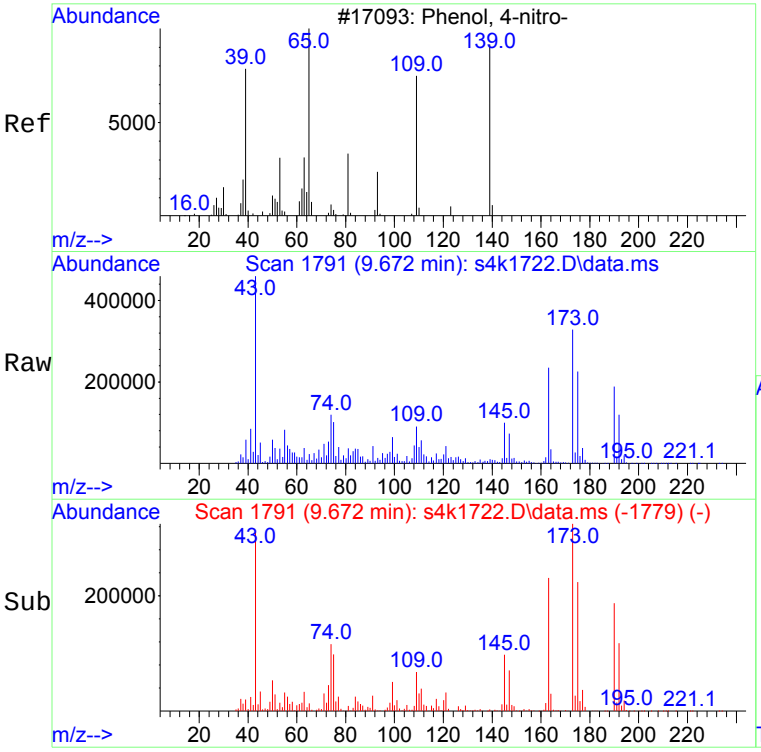


#58 BEFORE analyst DELETION
Diethylphthalate
Concen: 1.29 ng/uL
RT: 10.036 min Scan# 1859
Delta R.T. -0.091 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:149 Resp: 77691

Ion	Ratio	Lower	Upper
149	100		
177	0.6	0.0	51.6
150	5.8	0.0	41.9

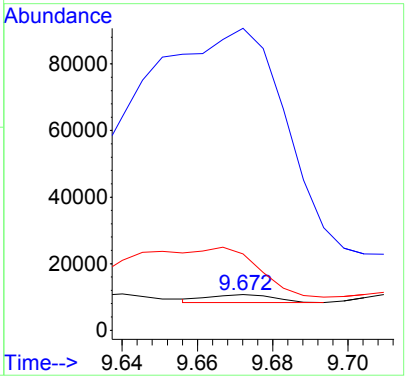


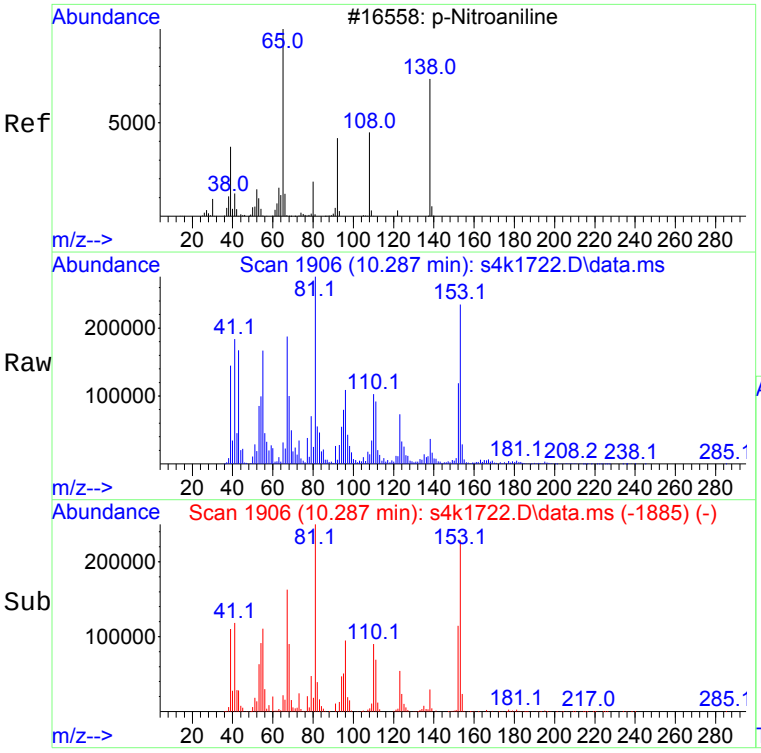


#59 BEFORE analyst DELETION
4-Nitrophenol
Concen: 3.71 ng/uL
RT: 9.672 min Scan# 1791
Delta R.T. -0.037 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:139 Resp: 2912

Ion	Ratio	Lower	Upper
139	100		
109	3640.8	34.9	94.9#
65	655.2	64.7	124.7#

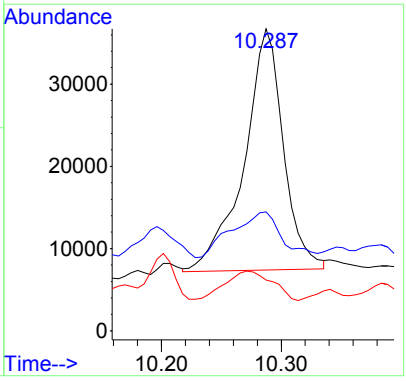


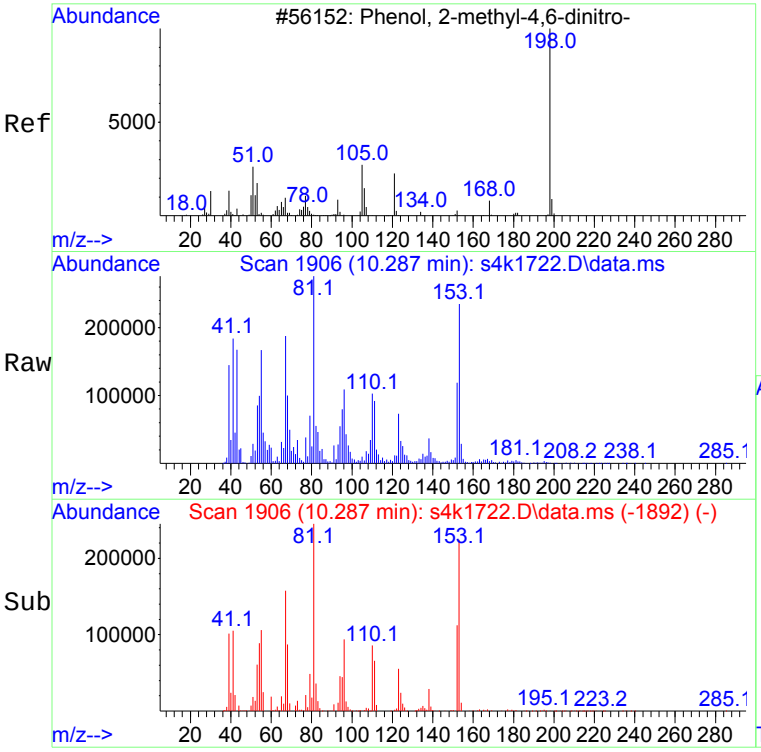


#62 BEFORE analyst DELETION
p-Nitroaniline
Concen: 5.87 ng/uL
RT: 10.287 min Scan# 1906
Delta R.T. 0.011 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:138 Resp: 66996

Ion	Ratio	Lower	Upper
138	100		
108	22.1	32.5	92.5#
92	14.6	16.6	76.6#

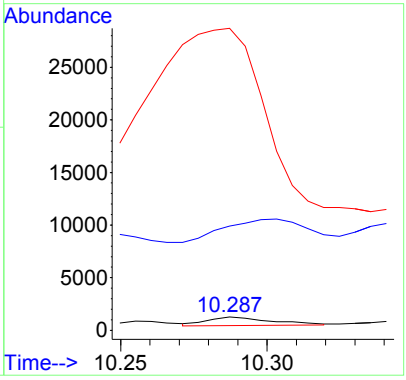


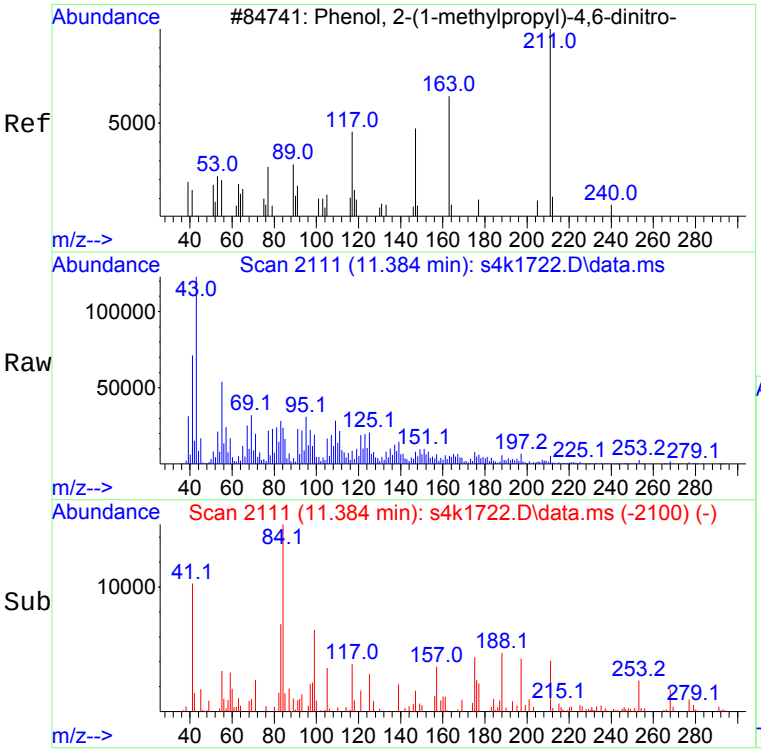


#65 BEFORE analyst DELETION
2-Methyl-4,6-dinitrophenol
Concen: 8.63 ng/uL
RT: 10.287 min Scan# 1906
Delta R.T. -0.027 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:198 Resp: 1273

Ion	Ratio	Lower	Upper
198	100		
105	355.1	13.1	73.1#
51	4776.3	25.5	85.5#

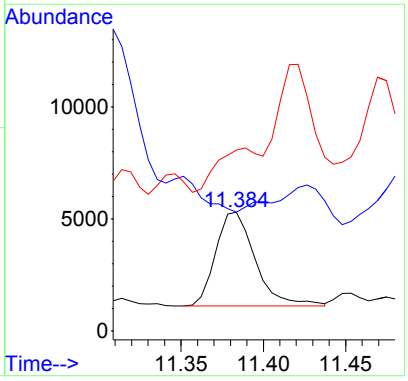


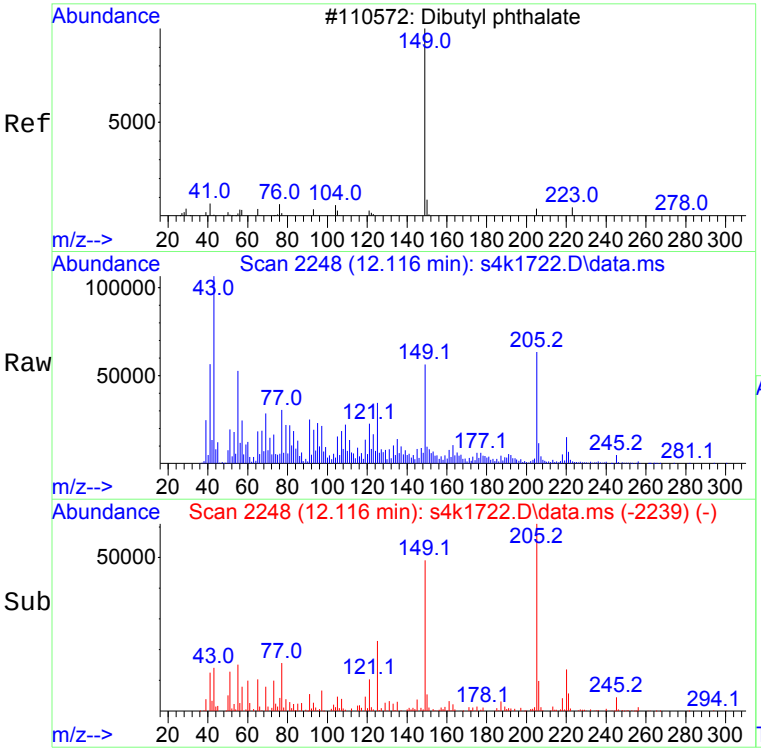


#72 BEFORE analyst DELETION
Dinoseb
Concen: 8.96 ng/uL
RT: 11.384 min Scan# 2111
Delta R.T. -0.043 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:211 Resp: 6992

Ion	Ratio	Lower	Upper
211	100		
163	0.0	16.9	76.9#
147	52.2	3.8	63.8

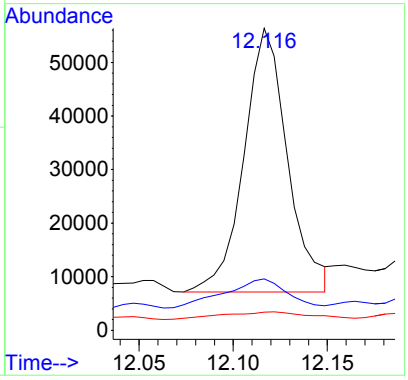


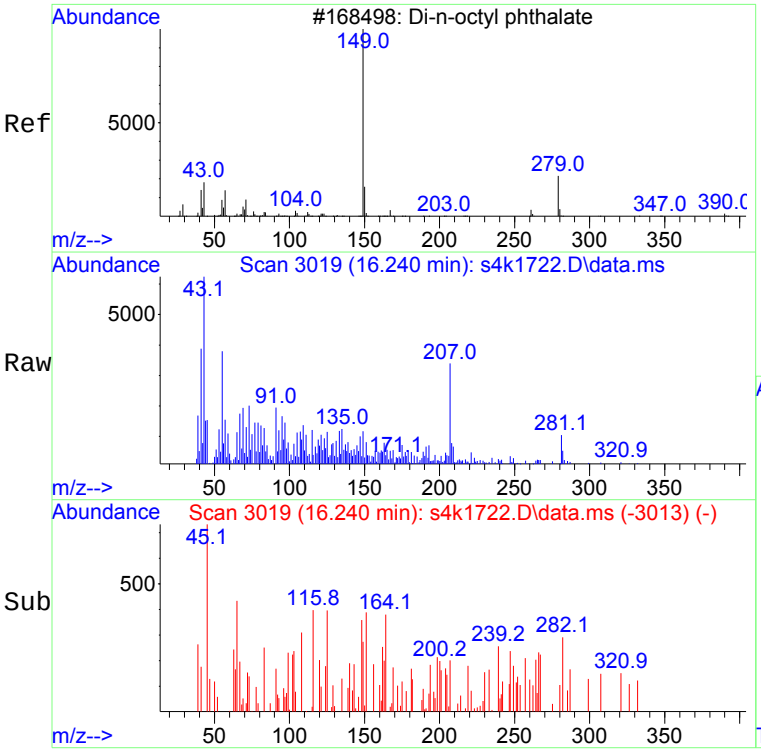


#76
Di-n-butylphthalate
Concen: 0.82 ng/uL
RT: 12.116 min Scan# 2248
Delta R.T. -0.053 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:149 Resp: 79429

Ion	Ratio	Lower	Upper
149	100		
150	15.3	0.0	38.6
104	5.5	0.0	34.6

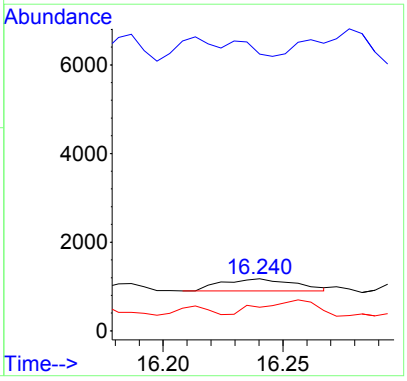


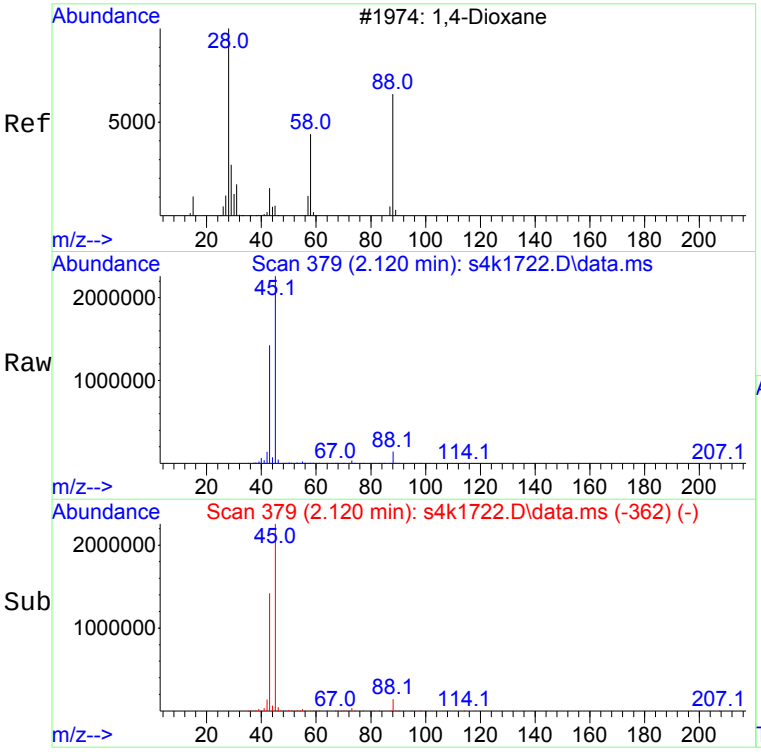


#87 BEFORE analyst DELETION
Di-n-octylphthalate
Concen: 0.39 ng/uL
RT: 16.240 min Scan# 3019
Delta R.T. -0.070 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:149 Resp: 587

Ion	Ratio	Lower	Upper
149	100		
43	101.2	0.0	42.3#
167	0.0	0.0	31.5

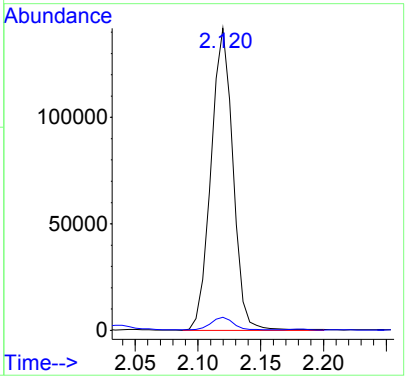


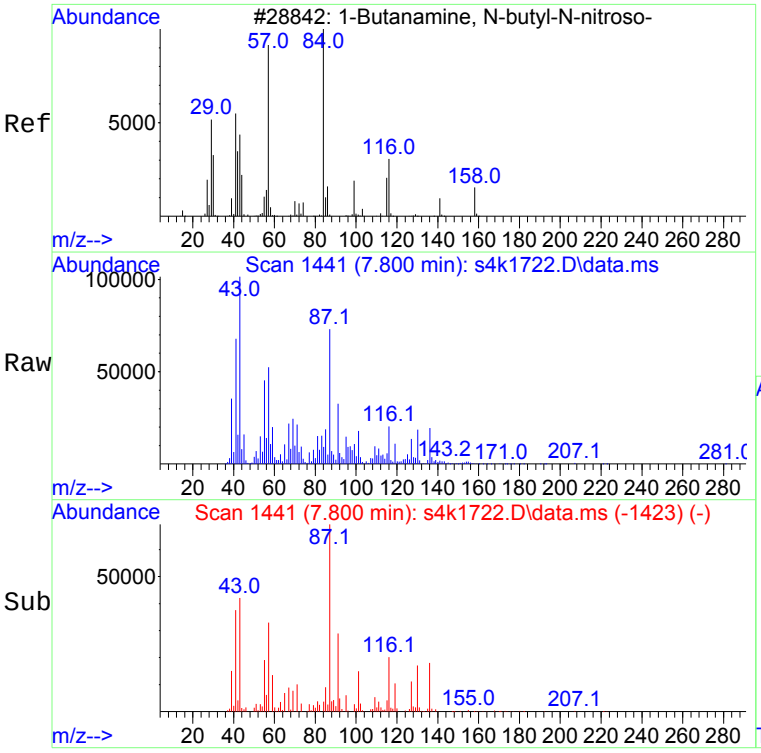


#97 BEFORE analyst DELETION
1,4-Dioxane
Concen: 14.21 ng/uL
RT: 2.120 min Scan# 379
Delta R.T. -0.011 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion: 88 Resp: 172852

Ion	Ratio	Lower	Upper
88	100		
58	4.2	61.9	121.9#

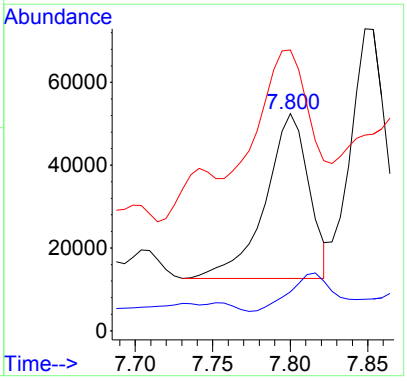


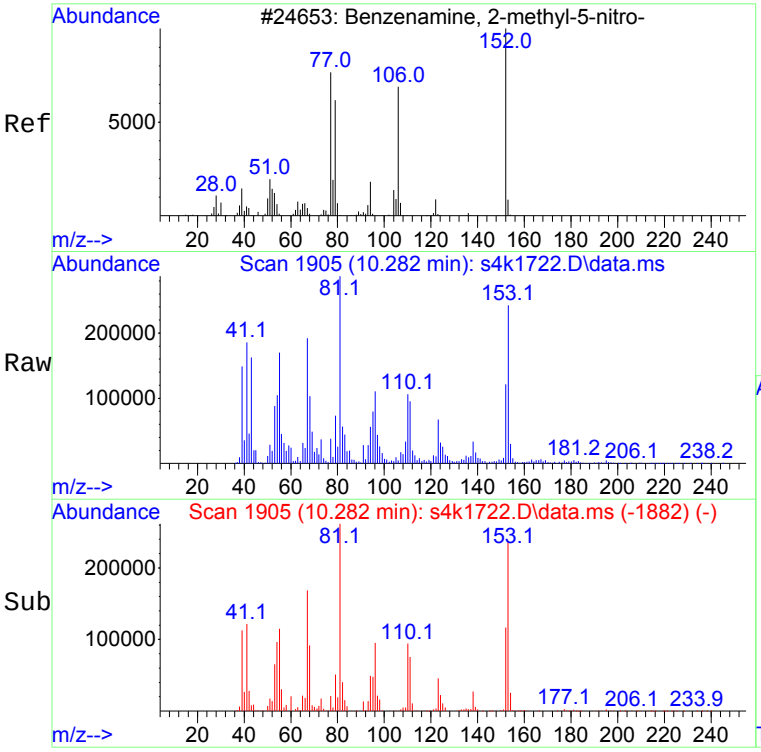


#118 BEFORE analyst DELETION
N-Nitrosodi-n-butylamine
Concen: 3.57 ng/uL
RT: 7.800 min Scan# 1441
Delta R.T. -0.005 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion: 57 Resp: 77718

Ion	Ratio	Lower	Upper
57	100		
84	24.0	98.6	158.6#
41	89.0	90.6	150.6#

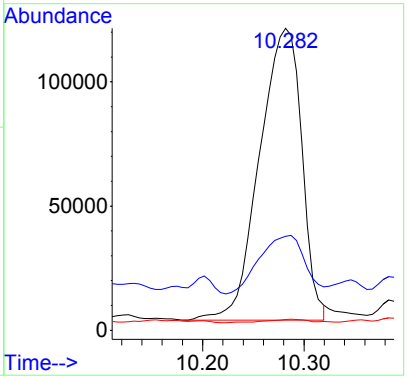




#128 BEFORE analyst DELETION
5-Nitro-o-toluidine
Concen: 22.40 ng/uL
RT: 10.282 min Scan# 1905
Delta R.T. 0.022 min
Lab File: s4k1722.D
Acq: 17 Nov 2020 23:27

Tgt Ion:152 Resp: 340286

Ion	Ratio	Lower	Upper
152	100		
77	21.2	56.3	116.3#
106	0.8	42.8	102.8#



Library Search Compound Report

JMB 11/18/2020

RAB 11/19/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

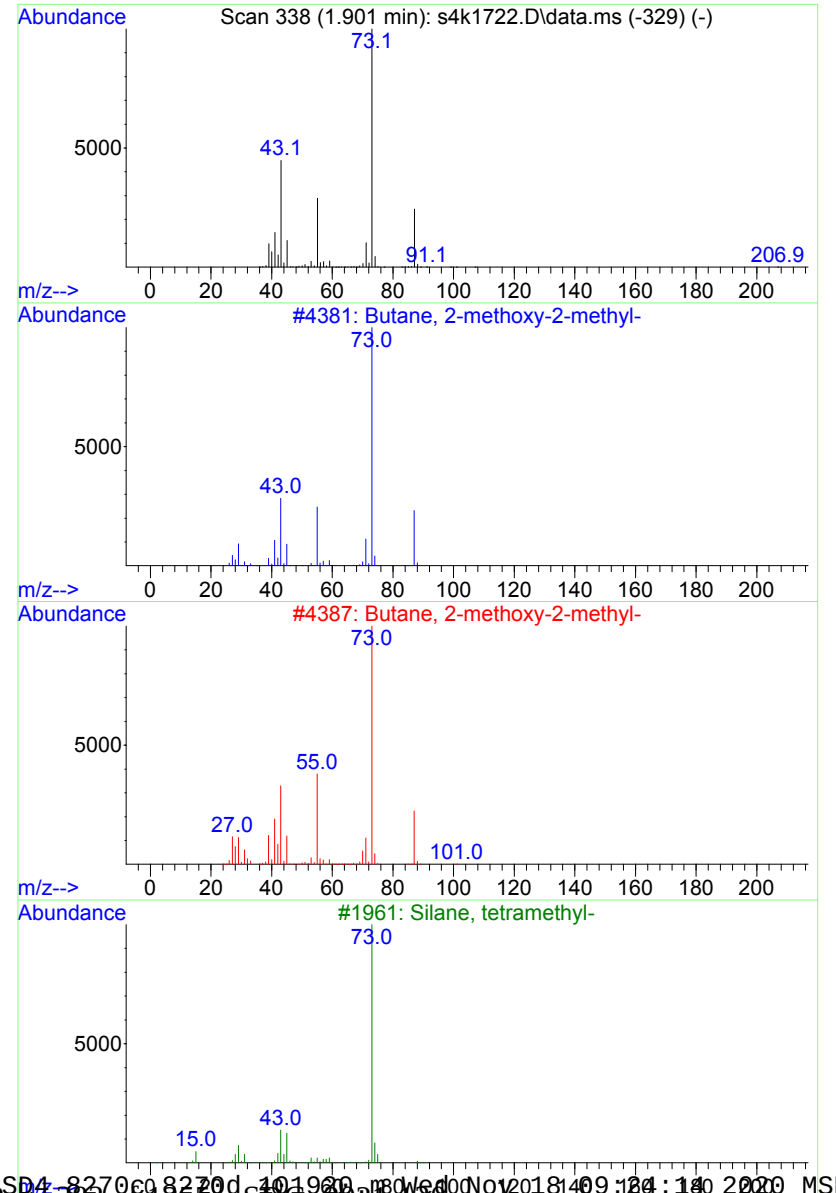
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

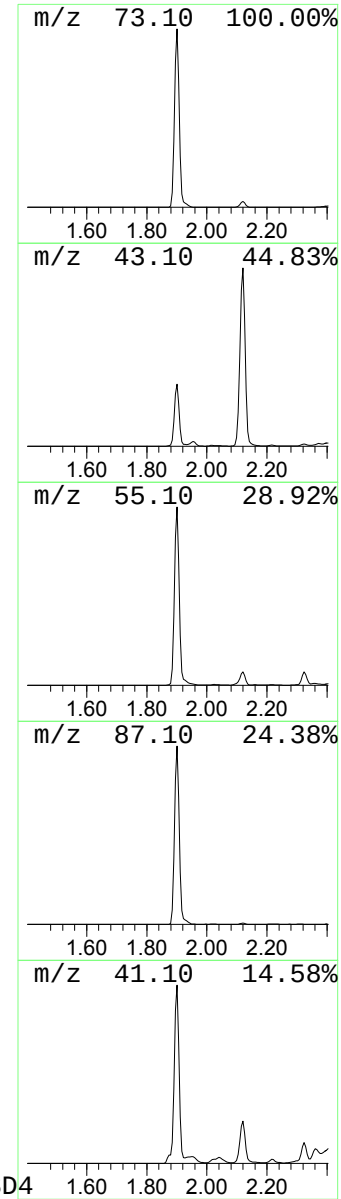
****

Peak Number 1 unknown Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.901	24.10 ng/uL	3828710	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	78
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
3	Silane, tetramethyl-	88	C4H12Si	000075-76-3	38
4	Silane, tetramethyl-	88	C4H12Si	000075-76-3	35
5	1,3-Dioxolane, 2-methyl-	88	C4H8O2	000497-26-7	32





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

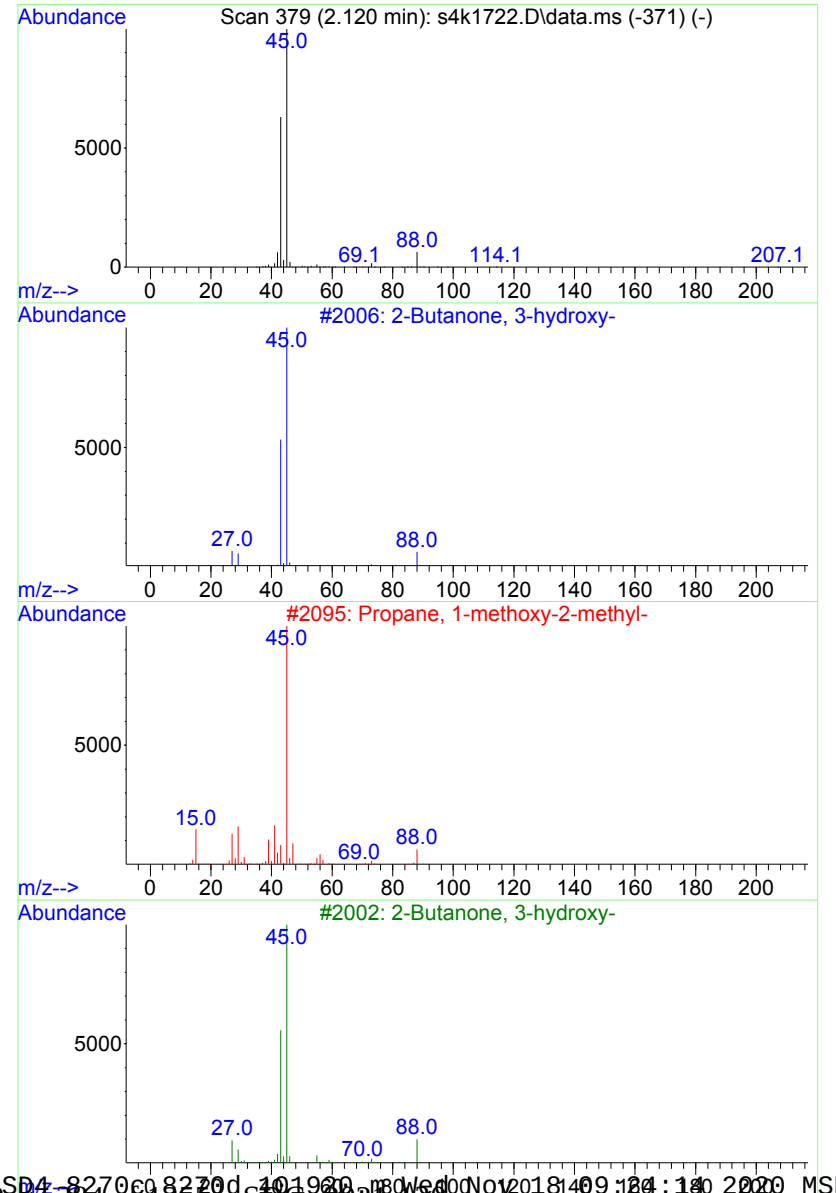
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

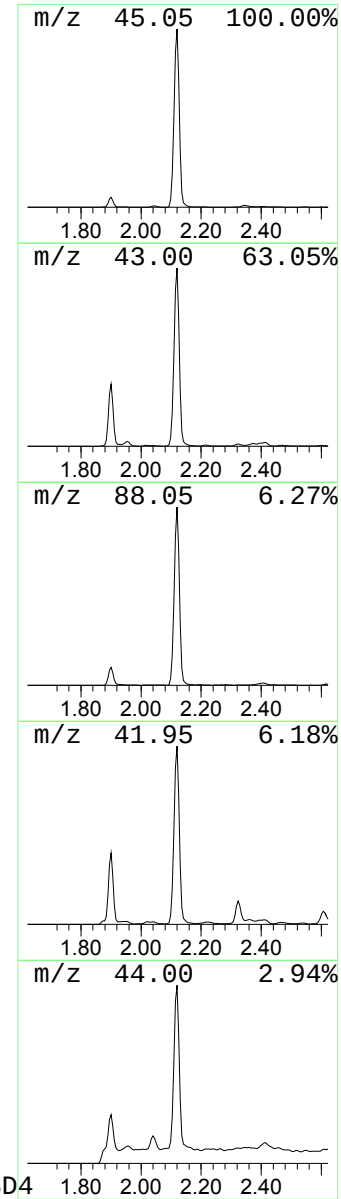
****

Peak Number 2 2-Butanone, 3-hydroxy- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.120	35.77 ng/uL	5683520	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Butanone, 3-hydroxy-	88	C4H8O2	000513-86-0	86
2	Propane, 1-methoxy-2-methyl-	88	C5H12O	000625-44-5	56
3	2-Butanone, 3-hydroxy-	88	C4H8O2	000513-86-0	9
4	Ethanol, 2-(vinyloxy)-	88	C4H8O2	000764-48-7	9
5	2-Propanone, 1-methoxy-	88	C4H8O2	005878-19-3	9





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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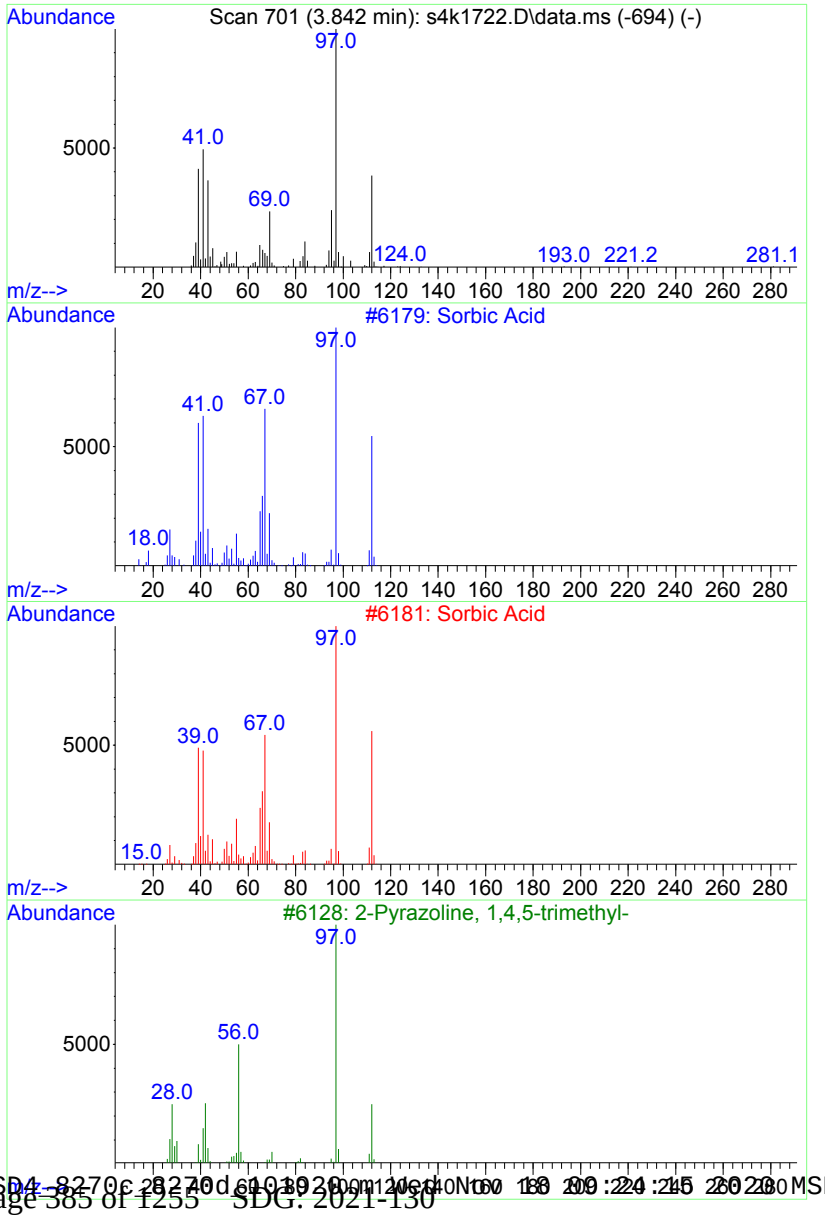
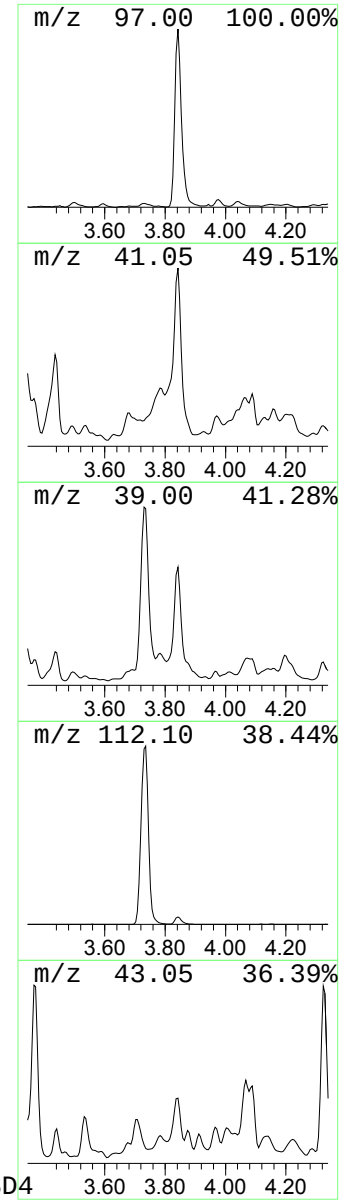
Peak Number 3 unknown Concentration Rank 30

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.842	4.24 ng/uL	673313	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Sorbic Acid	112	C6H8O2	000110-44-1	52
2	Sorbic Acid	112	C6H8O2	000110-44-1	50
3	2-Pyrazoline, 1,4,5-trimethyl-	112	C6H12N2	007423-11-2	49
4	1H-Pyrazole, 4,5-dihydro-3,4,5-t...	112	C6H12N2	022591-95-3	49
5	Thiophene, 2-ethyl-	112	C6H8S	000872-55-9	49





Library Search Compound Report

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Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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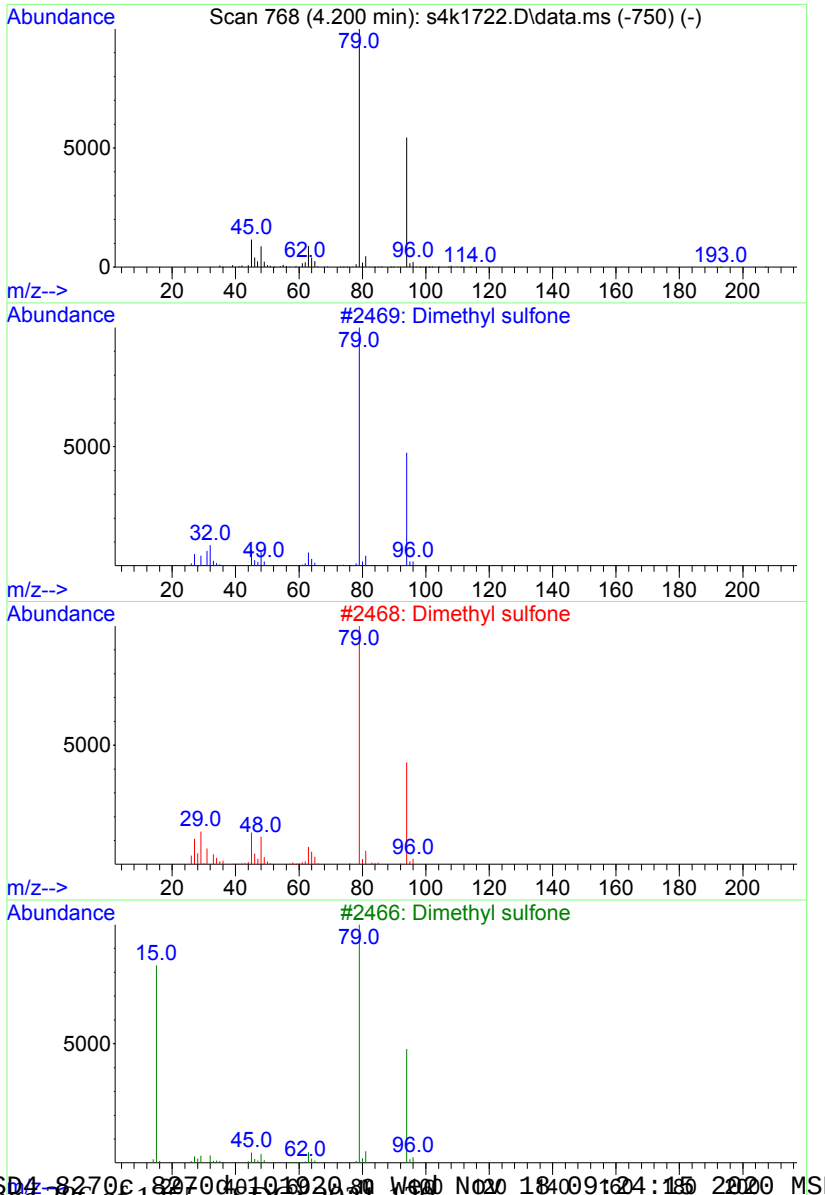
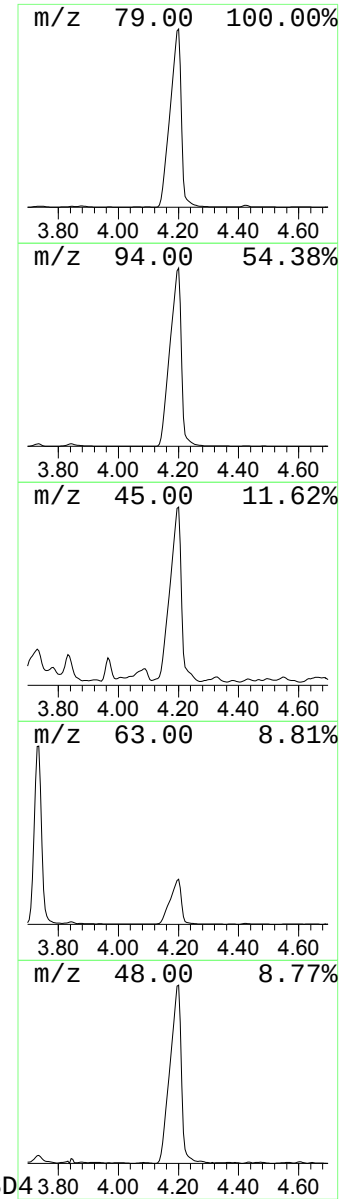
Peak Number 4 Dimethyl sulfone Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.200	25.18 ng/uL	4000830	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dimethyl sulfone	94	C2H6O2S	000067-71-0	94
2	Dimethyl sulfone	94	C2H6O2S	000067-71-0	91
3	Dimethyl sulfone	94	C2H6O2S	000067-71-0	64
4	Dimethyl sulfone	94	C2H6O2S	000067-71-0	52
5	Methanesulfonyl chloride	114	CH3ClO2S	000124-63-0	47





Library Search Compound Report

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ALS Vial : 22 Sample Multiplier: 1

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Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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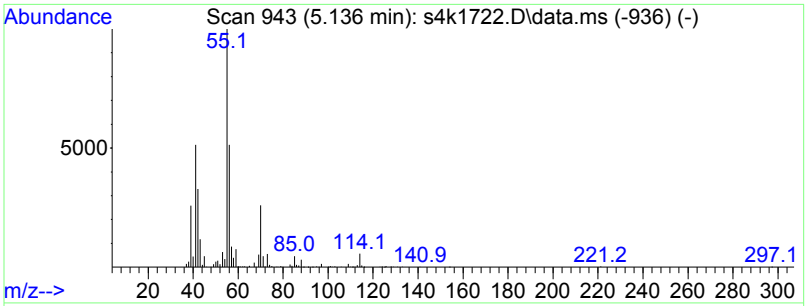
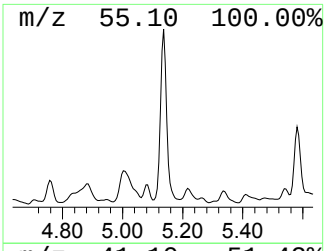
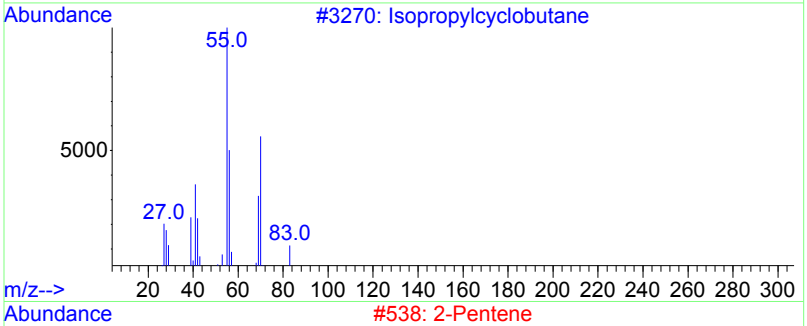
Peak Number 5 unknown Concentration Rank 21

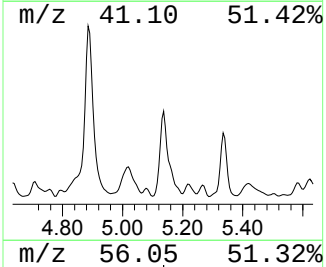
R.T.	EstConc	Area	Relative to ISTD	R.T.
5.136	5.70 ng/uL	905422	A 1,4-Dichlorobenzene-d4	5.409

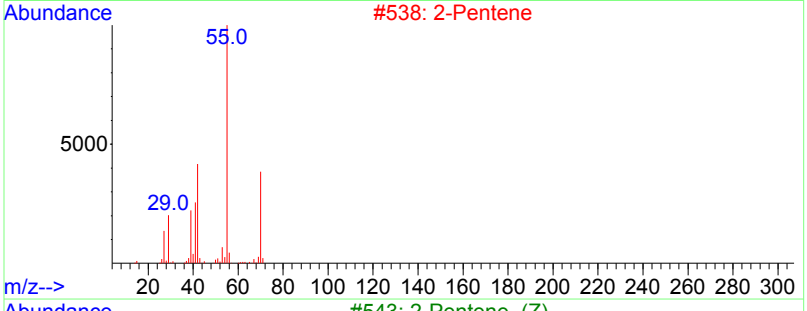
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Isopropylcyclobutane	98	C7H14	000872-56-0	64
2	2-Pentene	70	C5H10	000109-68-2	43
3	2-Pentene, (Z)-	70	C5H10	000627-20-3	43
4	2-Pentene, (E)-	70	C5H10	000646-04-8	43
5	1-Methylpentyl cyclopropane	126	C9H18	006976-28-9	43

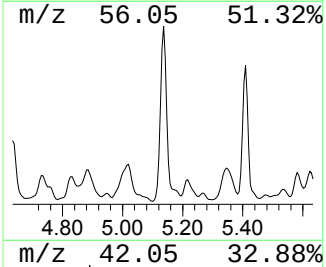


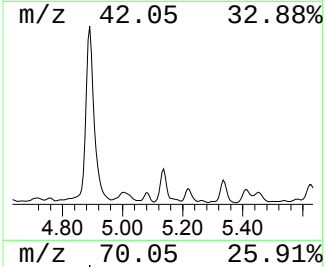


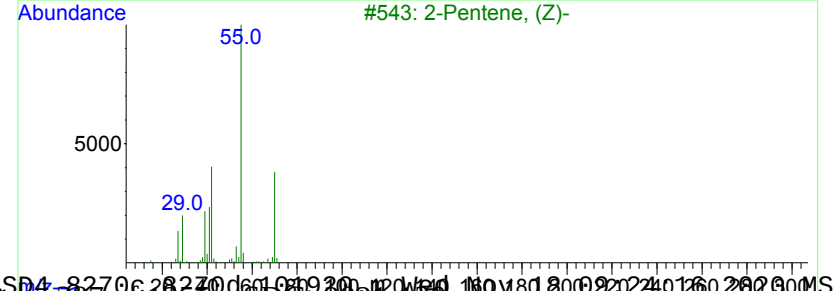


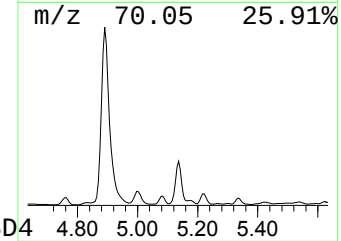












Library Search Compound Report

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Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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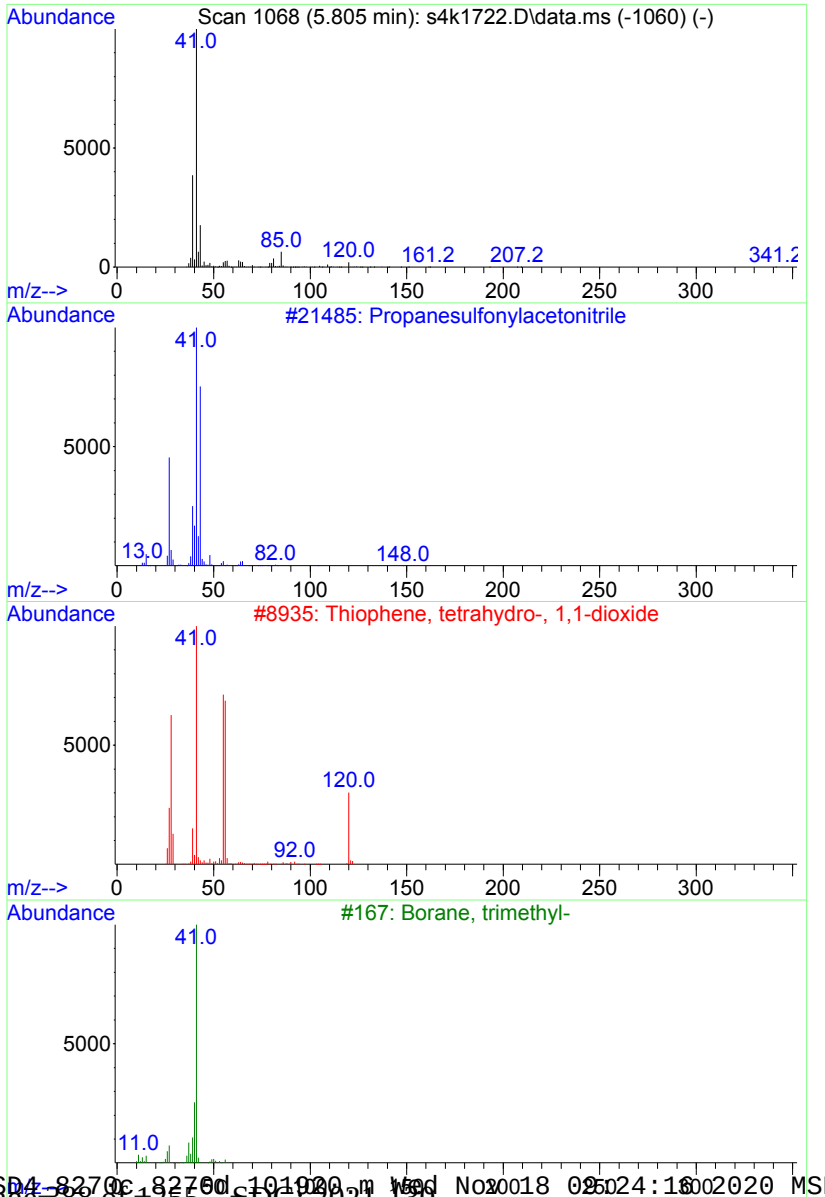
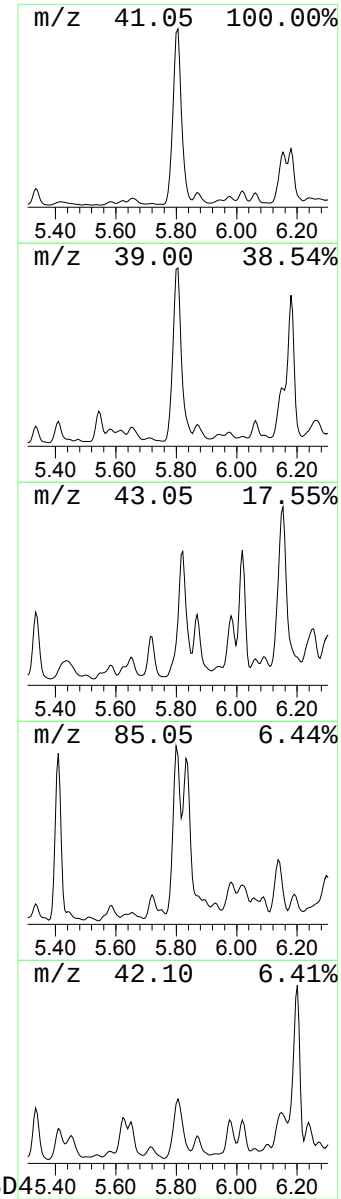
Peak Number 6 unknown Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.805	14.55 ng/uL	2312080	B 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Propanesulfonylacetonitrile	147	C5H9NO2S	175137-61-8	9
2	Thiophene, tetrahydro-, 1,1-dioxide	120	C4H8O2S	000126-33-0	9
3	Borane, trimethyl-	56	C3H9B	000593-90-8	4
4	Borane, trimethyl-	56	C3H9B	000593-90-8	4
5	Propanamide, 2,2-dimethyl-	101	C5H11NO	000754-10-9	2





Library Search Compound Report

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Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
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Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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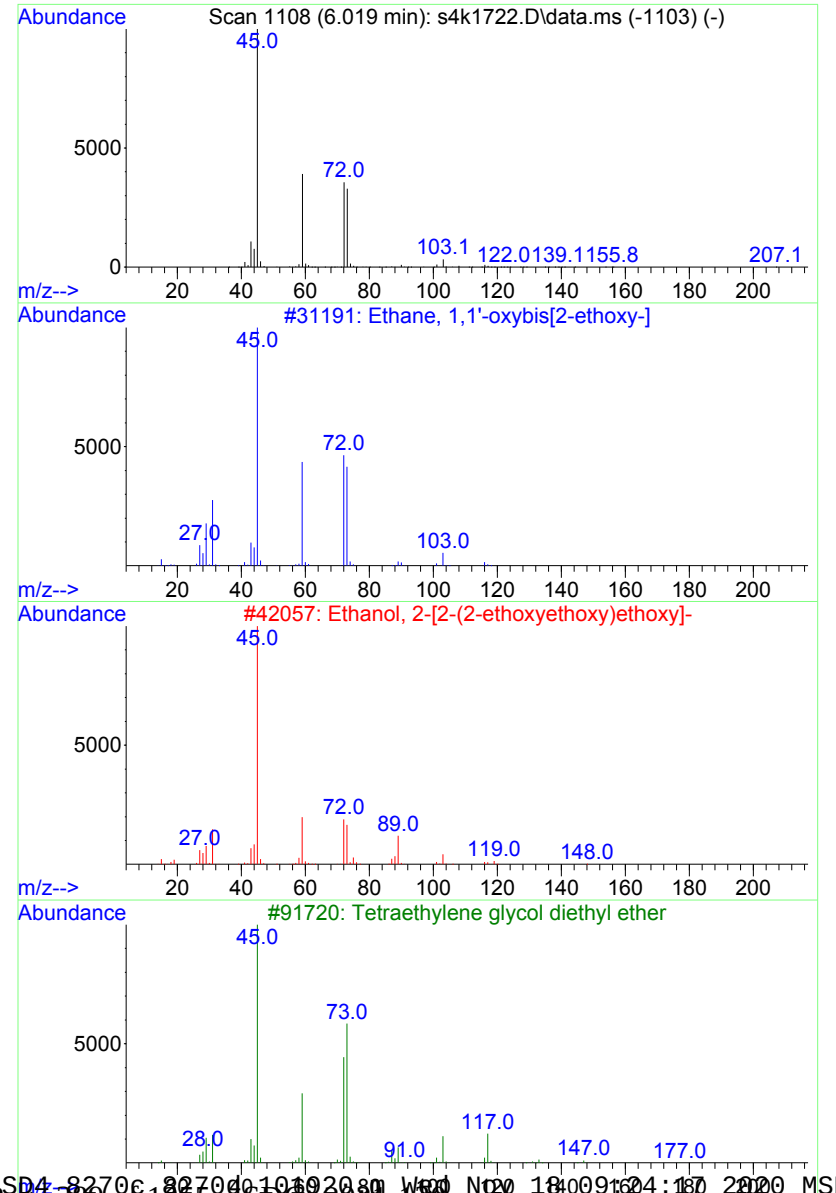
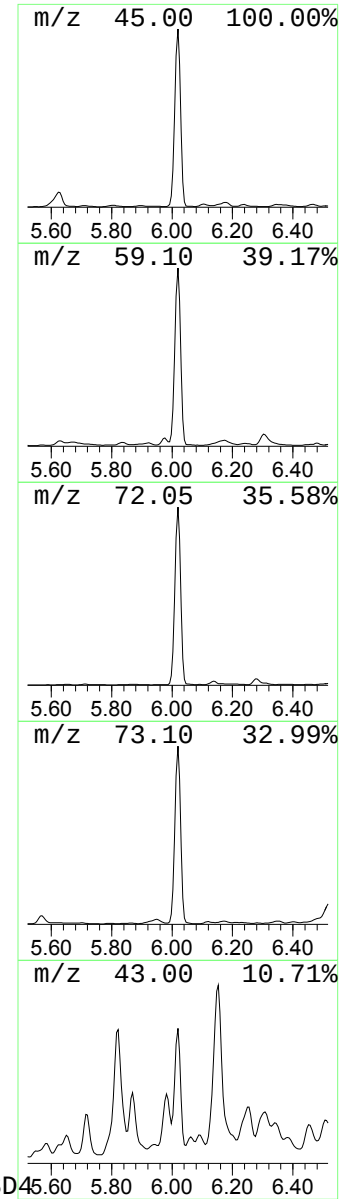
Peak Number 7 unknown Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.019	20.86 ng/uL	3314470	B 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	83
2	Ethanol, 2-[2-(2-ethoxyethoxy)et...	178	C8H18O4	000112-50-5	83
3	Tetraethylene glycol diethyl ether	250	C12H26O5	004353-28-0	72
4	2-Propanol, 1-(1-methylethoxy)-	118	C6H14O2	003944-36-3	50
5	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	40





Library Search Compound Report

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Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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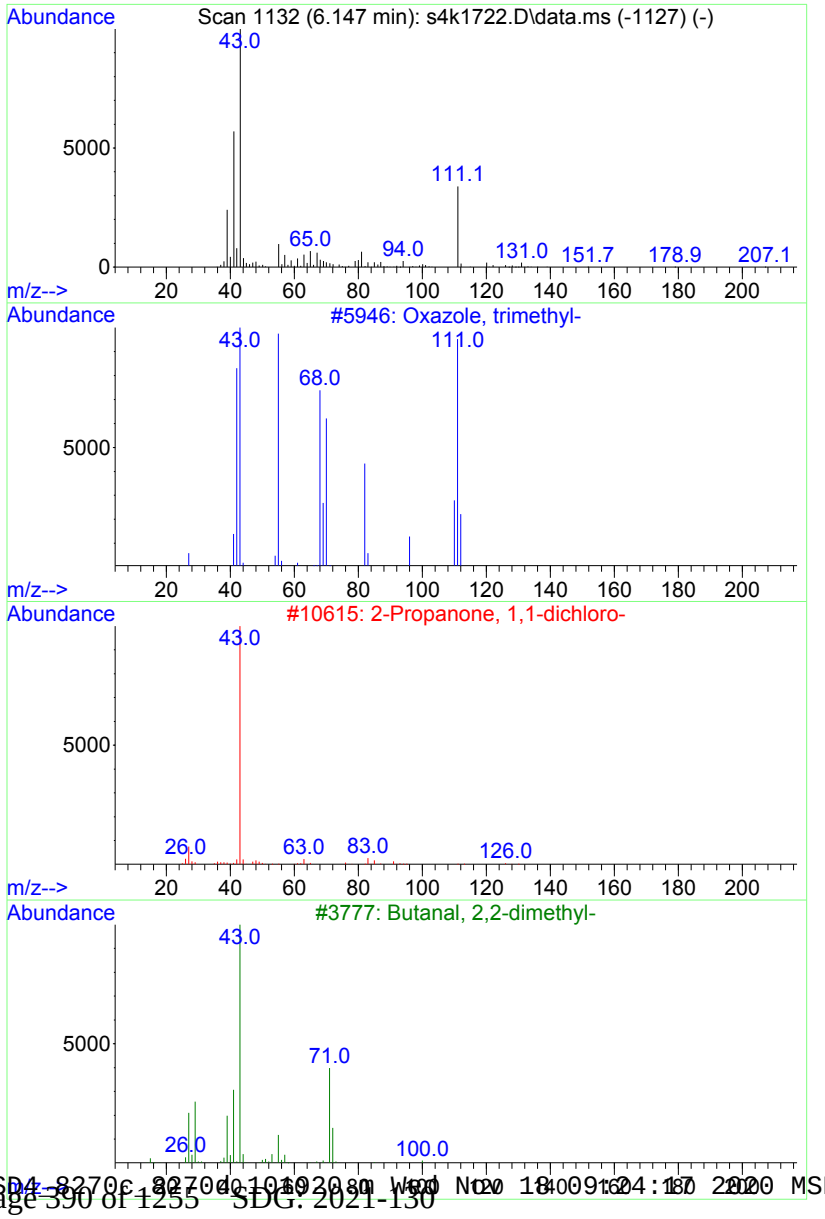
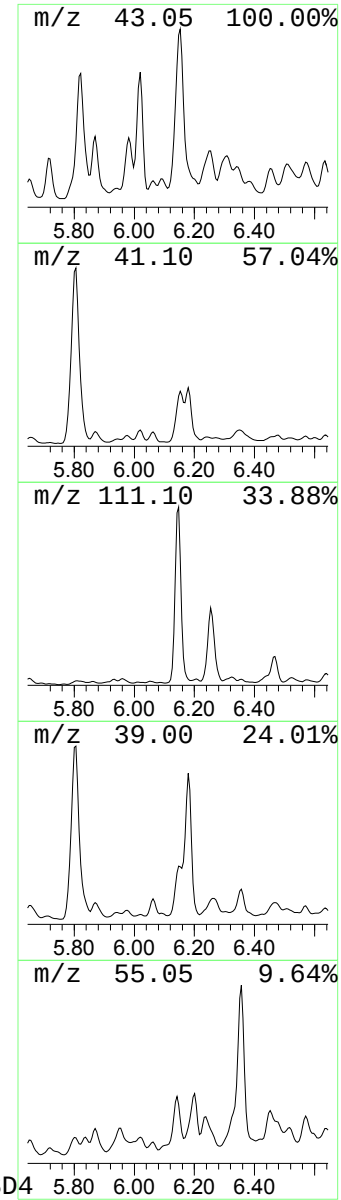
Peak Number 8 unknown Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.147	6.38 ng/uL	1013720	B 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Oxazole, trimethyl-	111	C6H9NO	020662-84-4	42
2	2-Propanone, 1,1-dichloro-	126	C3H4Cl2O	000513-88-2	27
3	Butanal, 2,2-dimethyl-	100	C6H12O	002094-75-9	12
4	Acetic acid, butyl ester	116	C6H12O2	000123-86-4	10
5	2-Propanone, 1,1-dichloro-	126	C3H4Cl2O	000513-88-2	9





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ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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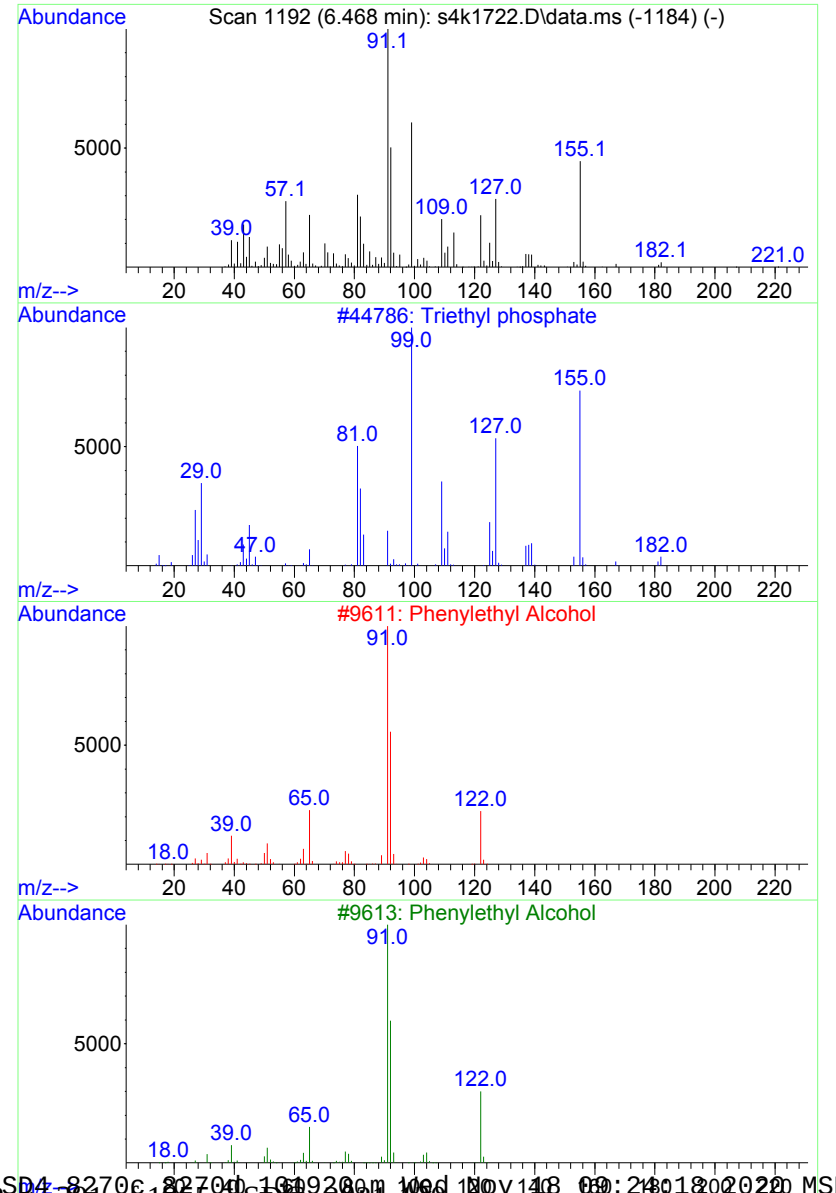
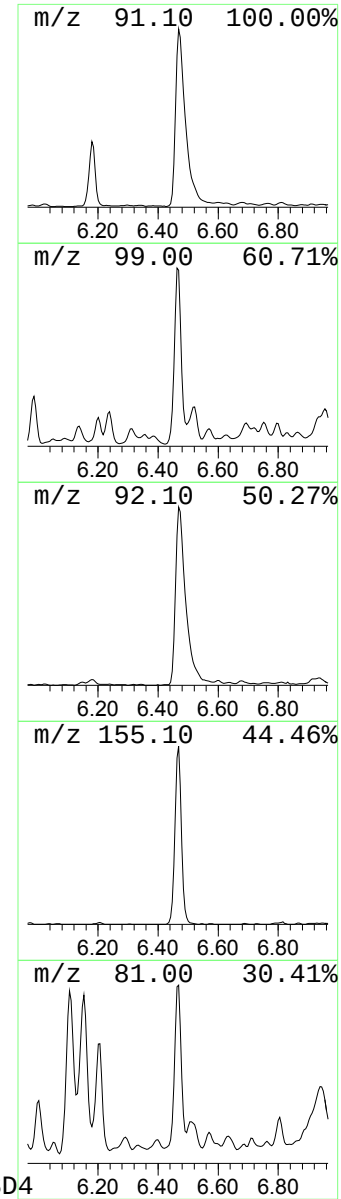
Peak Number 9 Triethyl phosphate Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.468	8.93 ng/uL	1923820	A Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Triethyl phosphate	182	C6H15O4P	000078-40-0	95
2	Phenylethyl Alcohol	122	C8H10O	000060-12-8	68
3	Phenylethyl Alcohol	122	C8H10O	000060-12-8	43
4	Triethyl phosphate	182	C6H15O4P	000078-40-0	43
5	Phenylethyl Alcohol	122	C8H10O	000060-12-8	35





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ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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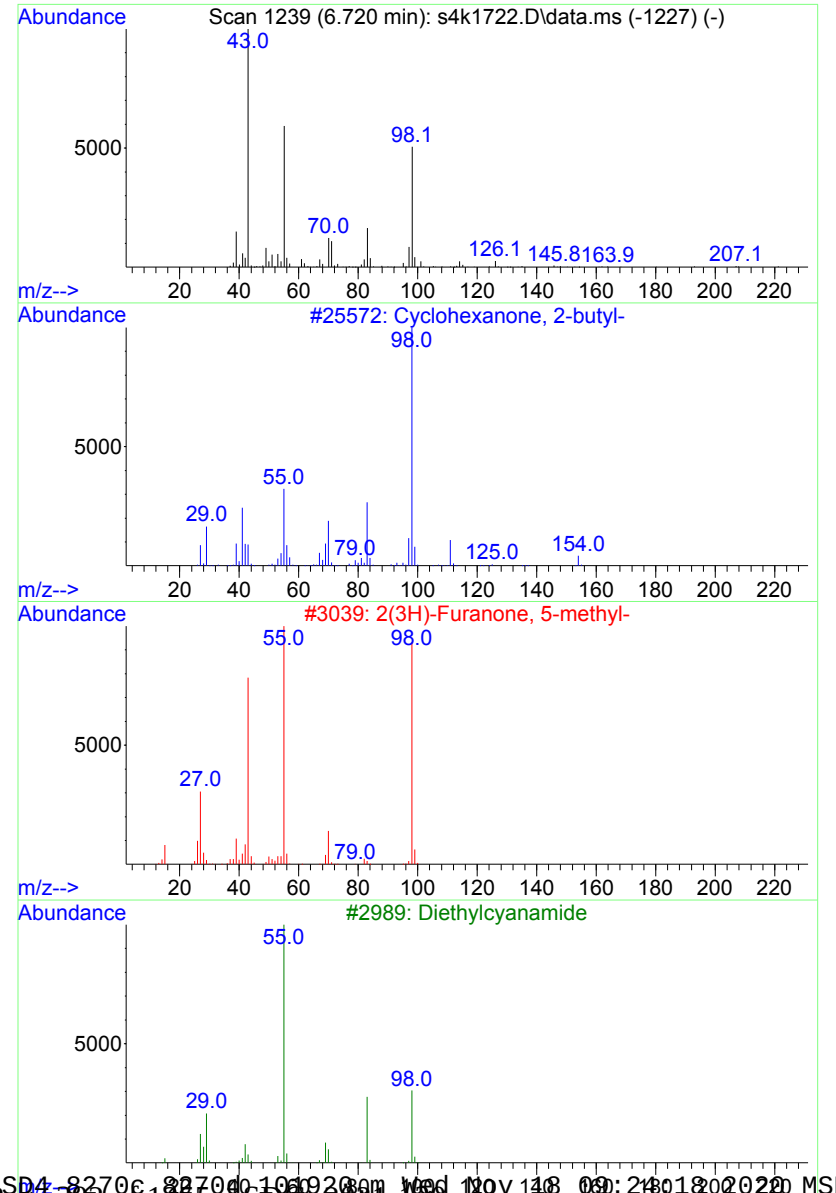
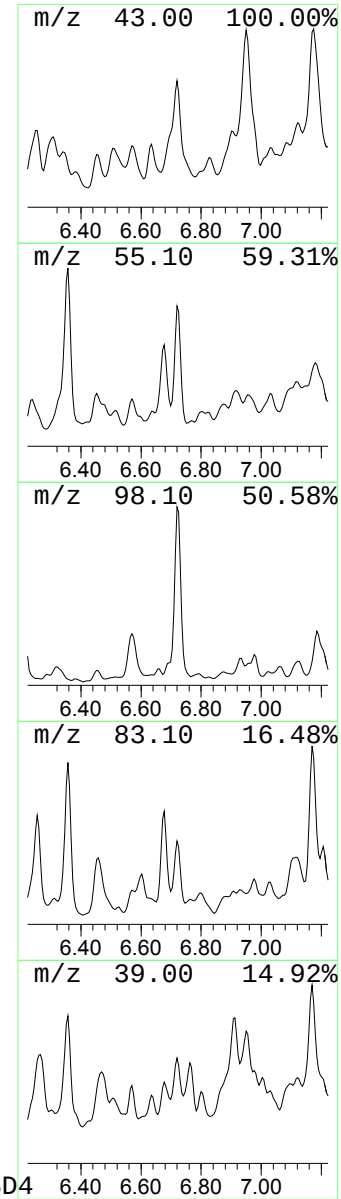
Peak Number 10 unknown Concentration Rank 24

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.720	5.19 ng/uL	1118110	A Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexanone, 2-butyl-	154	C10H18O	001126-18-7	53
2	2(3H)-Furanone, 5-methyl-	98	C5H6O2	000591-12-8	47
3	Diethylcyanamide	98	C5H10N2	000617-83-4	43
4	Bicyclo[6.2.0]decan-9-one, 10,10...	220	C10H14Cl2O	022374-13-6	42
5	1,3-Cyclopentanedione	98	C5H6O2	003859-41-4	40





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ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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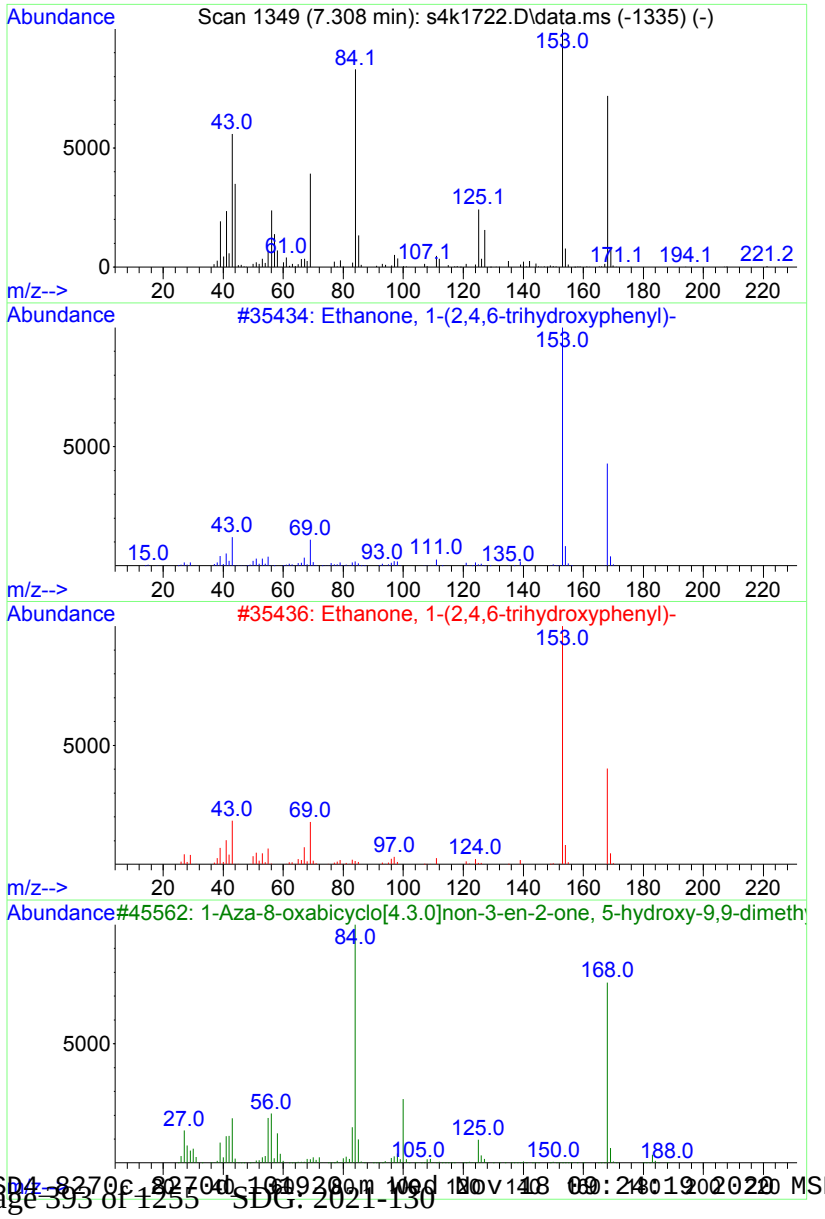
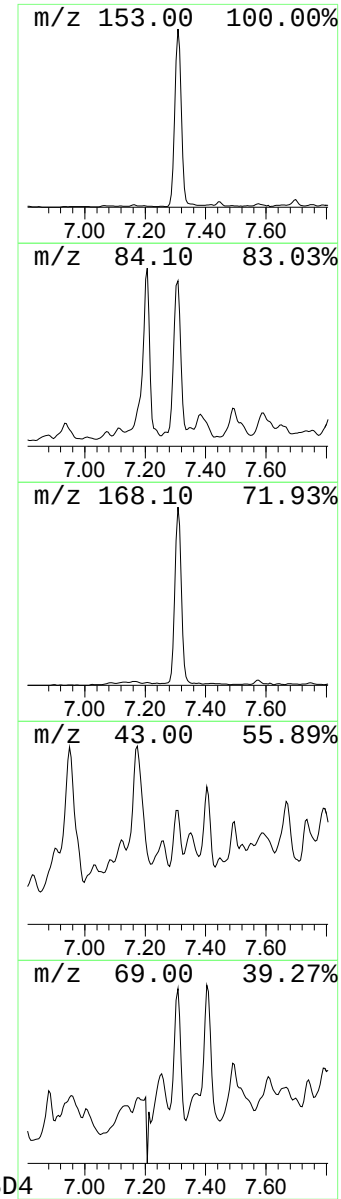
Peak Number 11 unknown Concentration Rank 26

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.308	5.12 ng/uL	1103350	E Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethanone, 1-(2,4,6-trihydroxyphe...	168	C8H8O4	000480-66-0	46
2	Ethanone, 1-(2,4,6-trihydroxyphe...	168	C8H8O4	000480-66-0	38
3	1-Aza-8-oxabicyclo[4.3.0]non-3-e...	183	C9H13NO3	1000163-35-1	38
4	Acetophenone, 3'-fluoro-4'-methoxy-	168	C9H9FO2	000455-91-4	38
5	Glycyl-l-glutamine	203	C7H13N3O4	013115-71-4	32





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ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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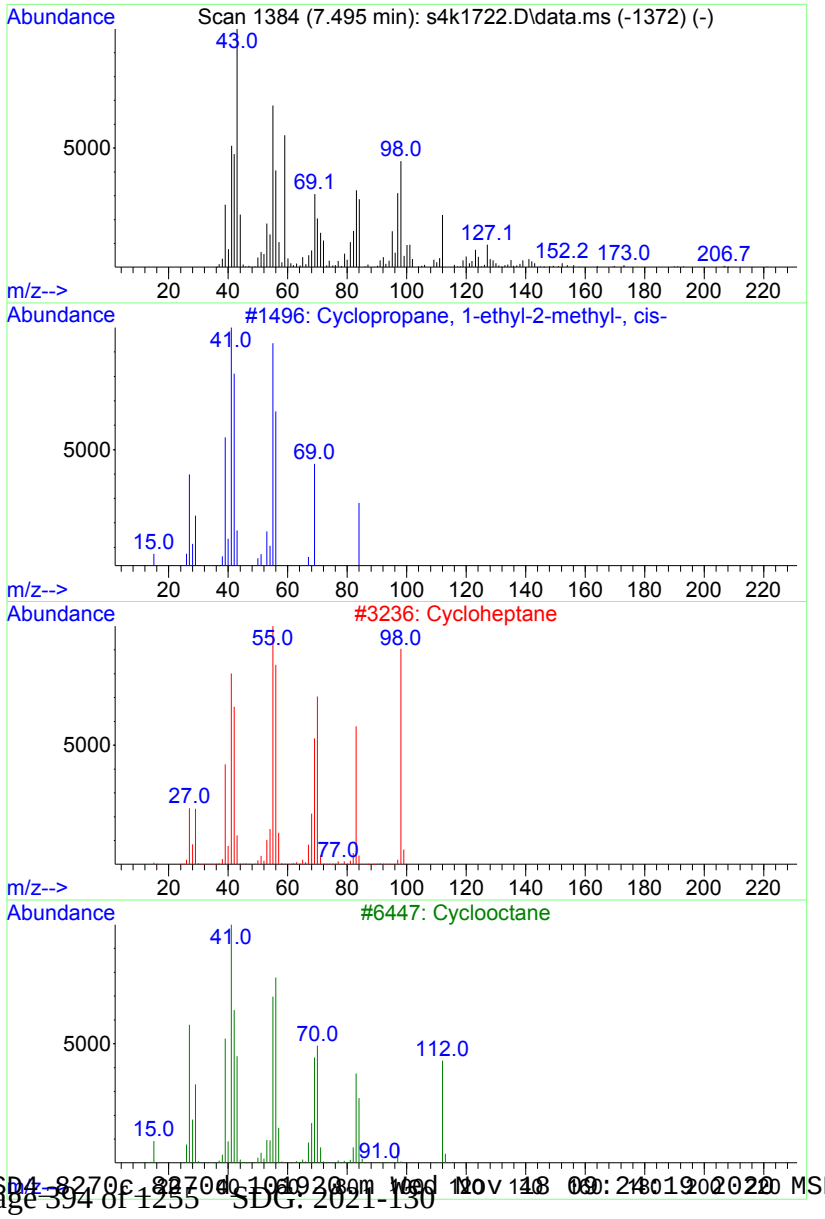
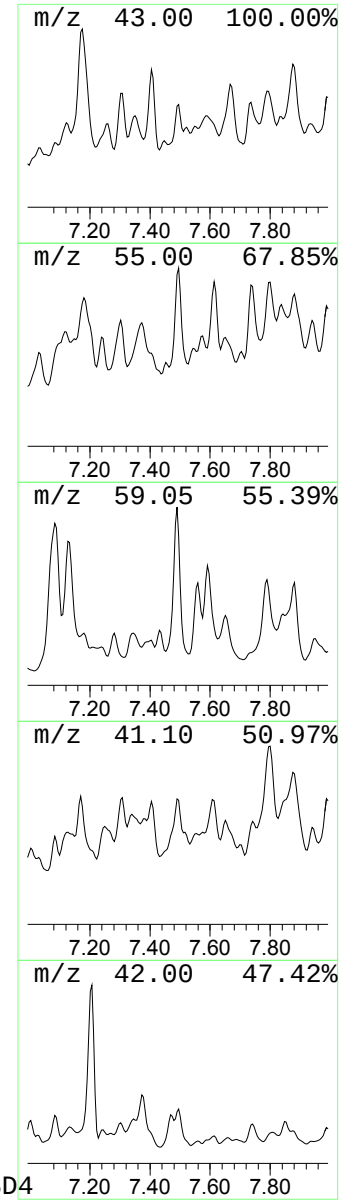
Peak Number 12 unknown Concentration Rank 29

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.495	4.50 ng/uL	969709	E Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopropane, 1-ethyl-2-methyl-,...	84	C6H12	019781-68-1	42
2	Cycloheptane	98	C7H14	000291-64-5	38
3	Cyclooctane	112	C8H16	000292-64-8	25
4	2H-Pyran-2-one, tetrahydro-	100	C5H8O2	000542-28-9	22
5	2-Pentanone, 5-(acetyloxy)-	144	C7H12O3	005185-97-7	18





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Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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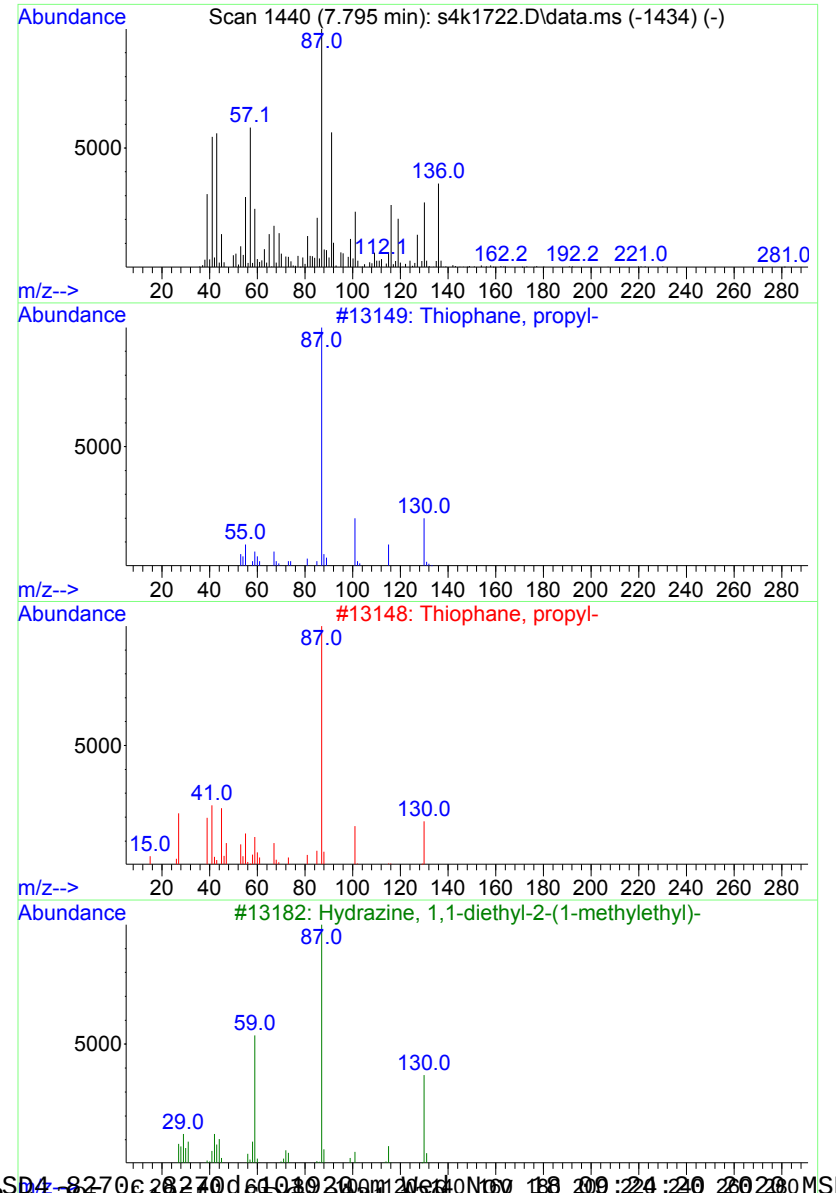
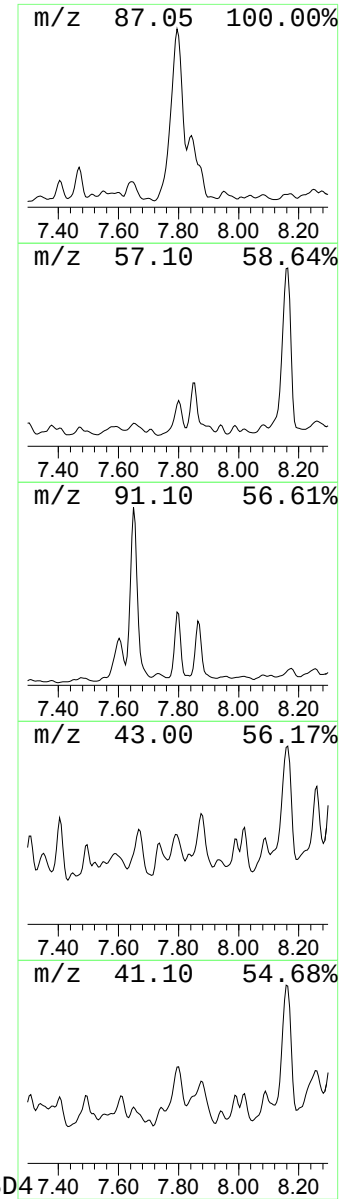
Peak Number 13 unknown Concentration Rank 28

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.795	4.61 ng/uL	991708	E Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Thiophane, propyl-	130	C7H14S	001551-34-4	45
2	Thiophane, propyl-	130	C7H14S	001551-34-4	43
3	Hydrazine, 1,1-diethyl-2-(1-meth...	130	C7H18N2	067398-39-4	38
4	Thiophene, 2-ethyltetrahydro-	116	C6H12S	001551-32-2	38
5	Hydrazine, 1-ethyl-1-(1-methylpr...	116	C6H16N2	020325-97-7	32





Library Search Compound Report

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Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
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Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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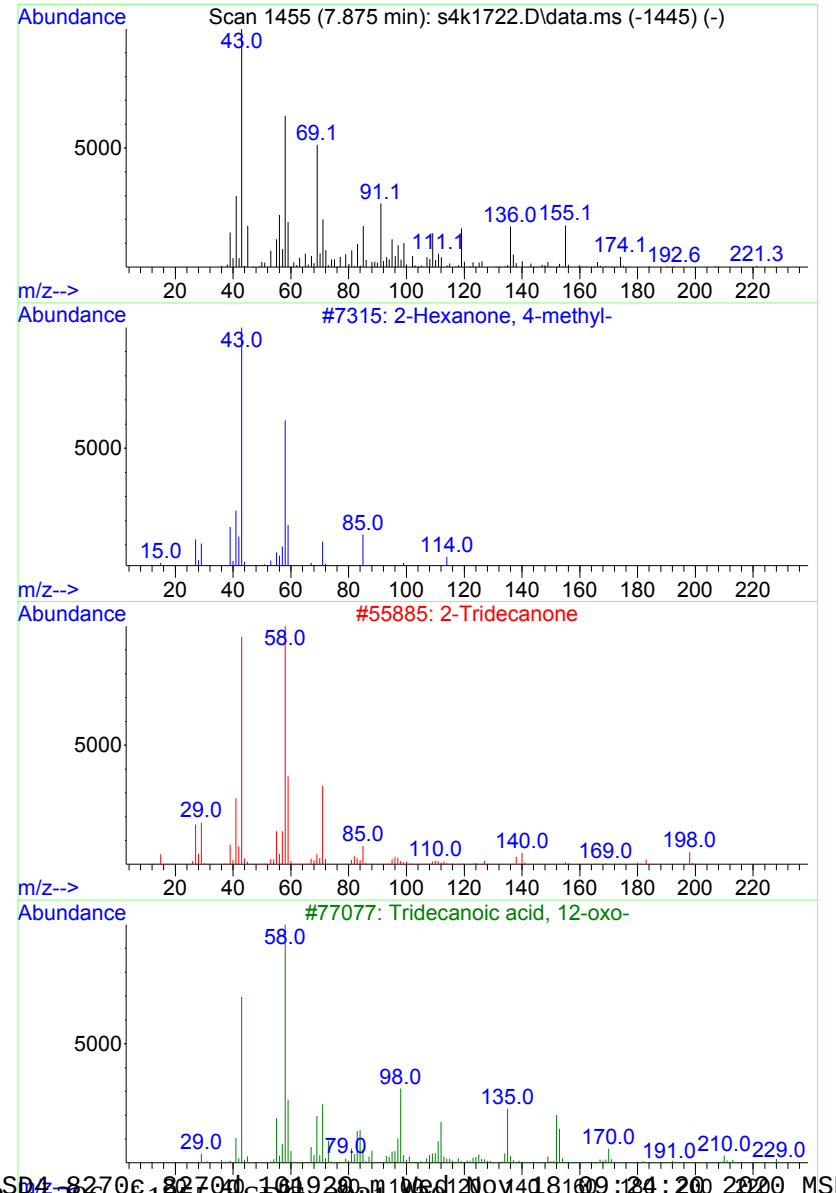
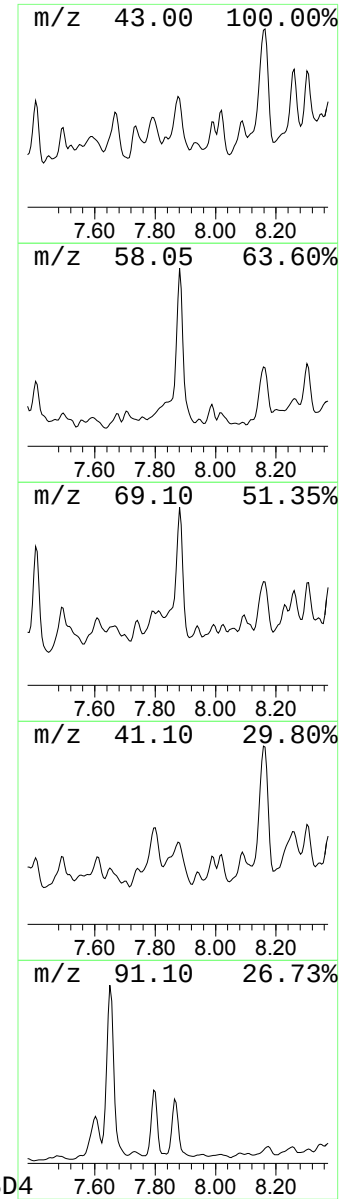
Peak Number 14 unknown Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.875	7.96 ng/uL	1713210	E Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Hexanone, 4-methyl-	114	C7H14O	000105-42-0	35
2	2-Tridecanone	198	C13H26O	000593-08-8	35
3	Tridecanoic acid, 12-oxo-	228	C13H24O3	002345-12-2	32
4	9-Decen-2-one	154	C10H18O	035194-30-0	32
5	D-Glucitol, 1,4:3,6-dianhydro-2,...	174	C8H14O4	005306-85-4	30





Library Search Compound Report

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ALS Vial : 22 Sample Multiplier: 1

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Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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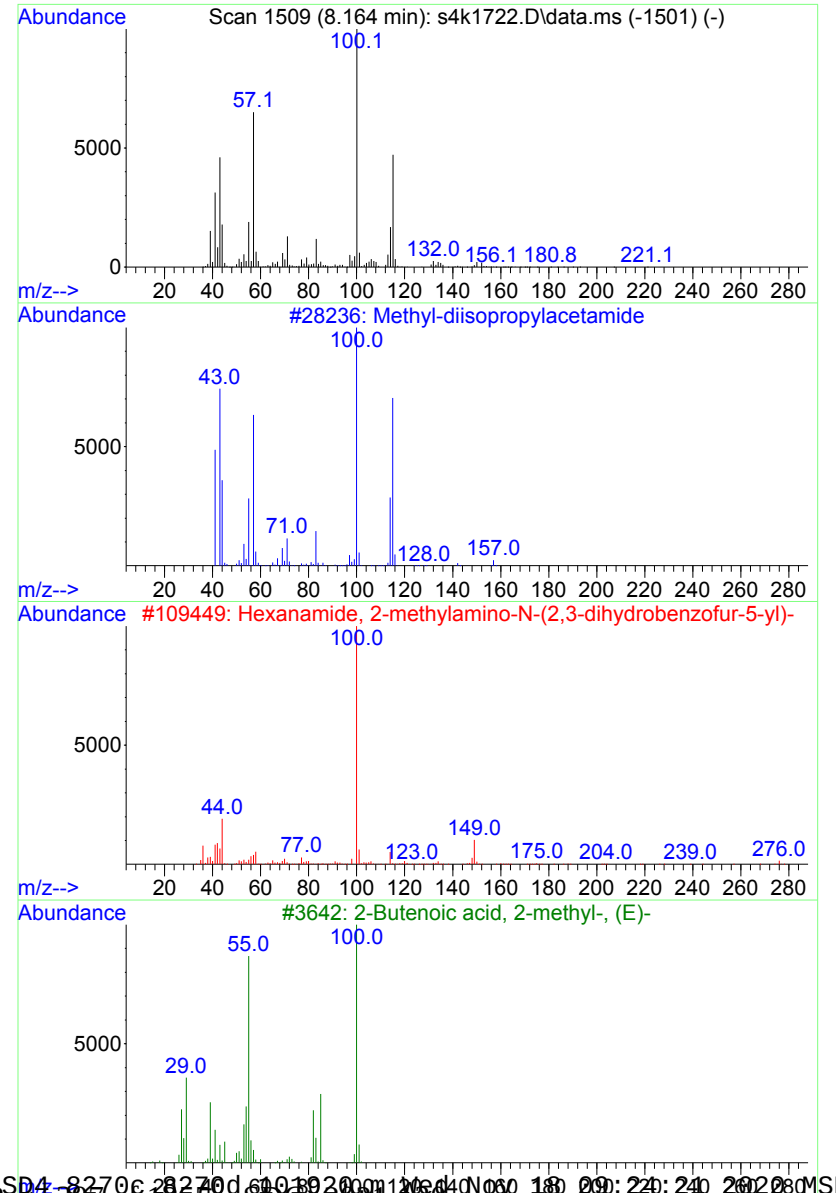
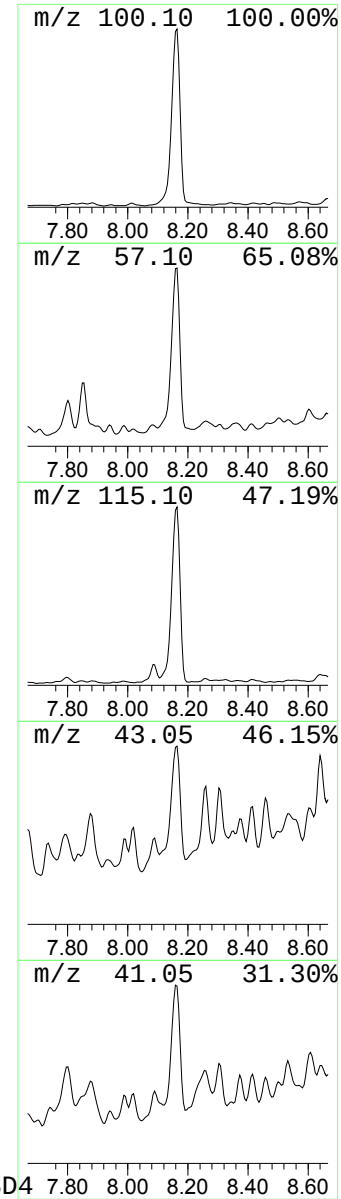
Peak Number 15 unknown Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.164	13.45 ng/uL	2896290	E Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Methyl-diisopropylacetamide	157	C9H19NO	102450-54-4	47
2	Hexanamide, 2-methylamino-N-(2,3...	276	C16H24N2O2	1000263-95-5	38
3	2-Butenoic acid, 2-methyl-, (E)-	100	C5H8O2	000080-59-1	38
4	Hexahydro-5.lambda.(6)-thieno[3,...	288	C12H20N2O4S	1000303-88-9	38
5	Ethanone, 1-[1-(4-amino-1,2,5-ox...	293	C11H15N7O3	1000276-24-8	35





Library Search Compound Report

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Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

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Quant Title : BNA01

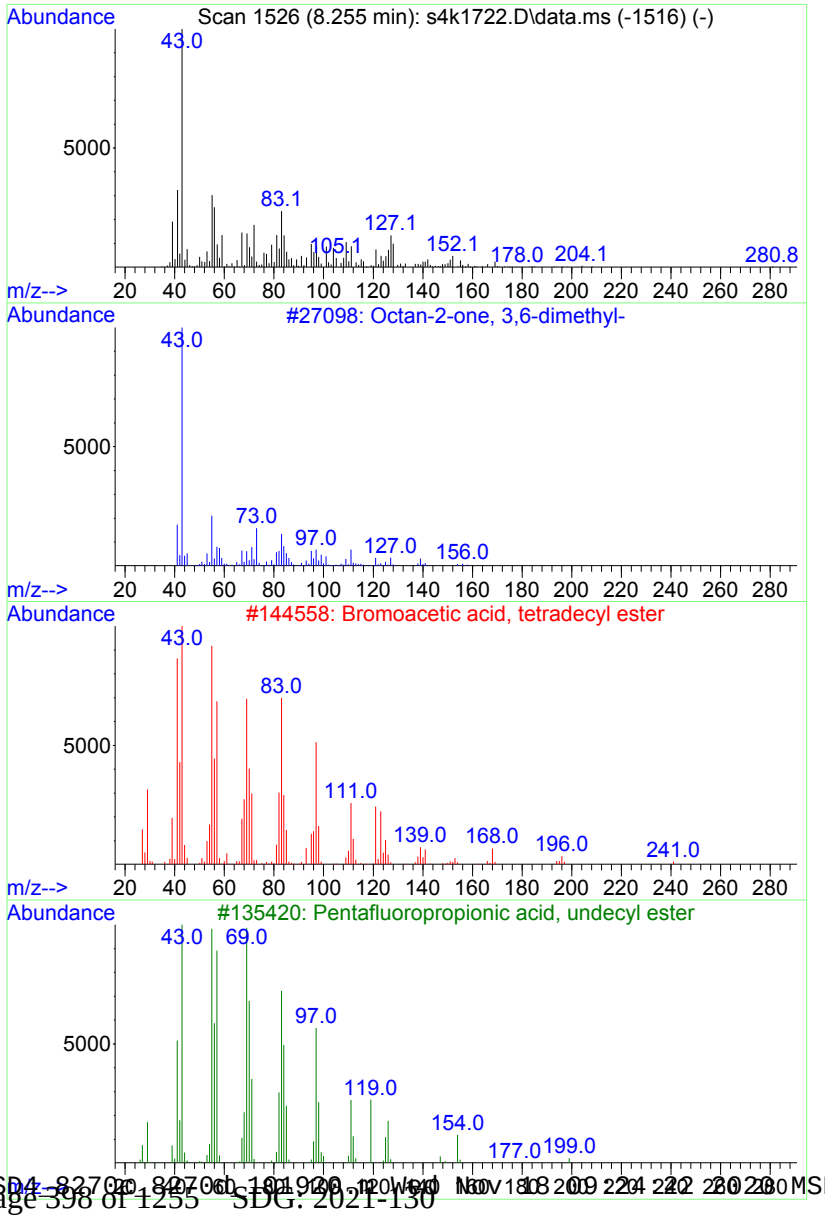
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

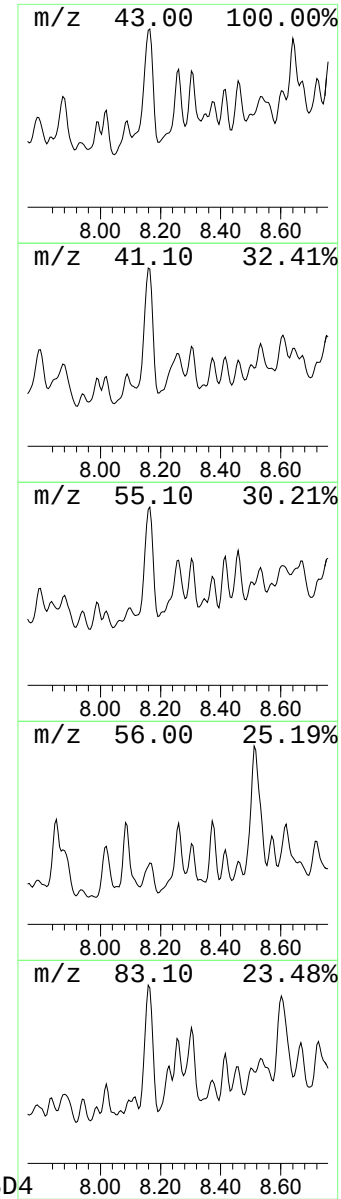
****

Peak Number 16 unknown Concentration Rank 23

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.255	5.65 ng/uL	1216940	E Naphthalene-d8	7.206

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octan-2-one, 3,6-dimethyl-	156	C10H20O	118452-32-7	30
2	Bromoacetic acid, tetradecyl ester	334	C16H31BrO2	018992-01-3	25
3	Pentafluoropropionic acid, undec...	318	C14H23F5O2	1000283-04-0	22
4	Acetic acid, (3-allyloxy-1,1-dim...	200	C11H20O3	1000265-71-3	16
5	Hexane, 1,1'-oxybis-	186	C12H26O	000112-58-3	14





Library Search Compound Report

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Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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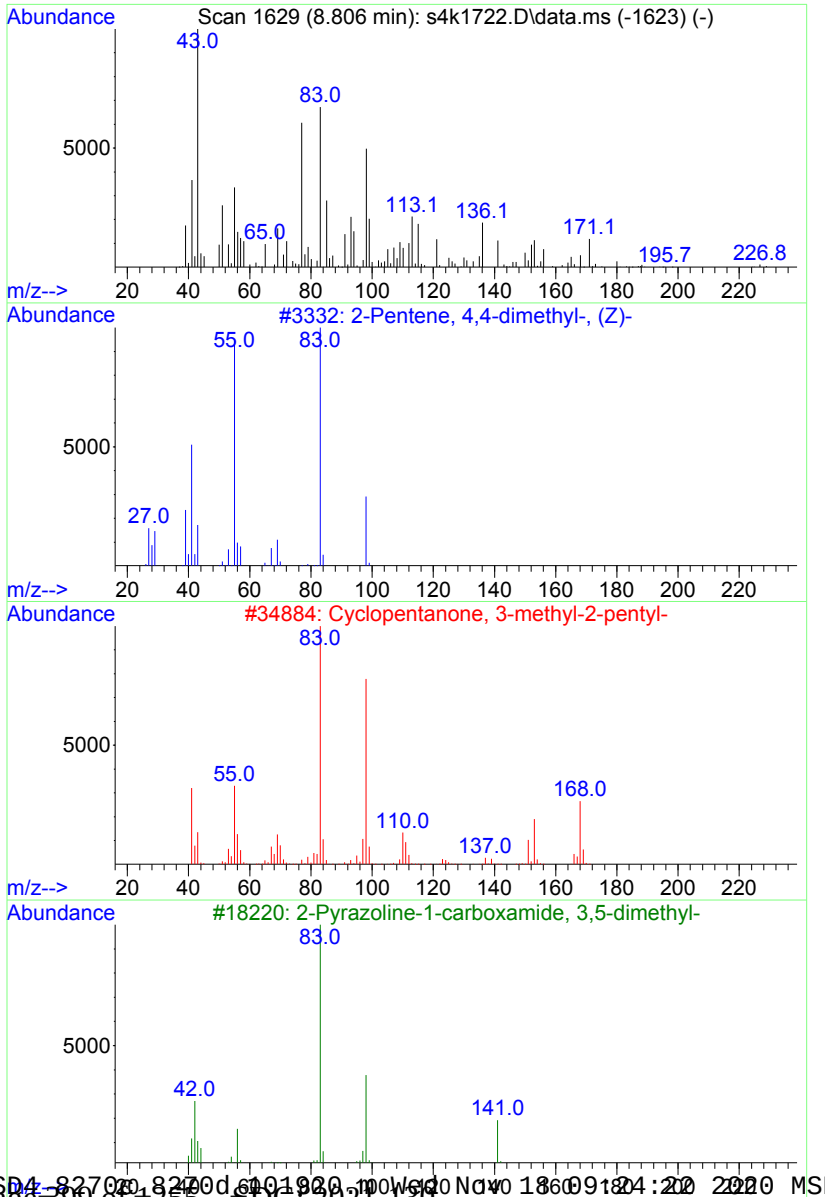
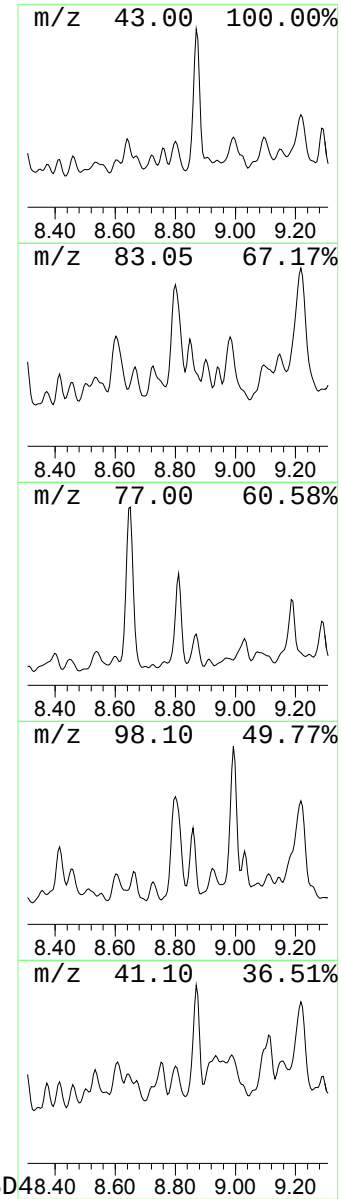
Peak Number 17 unknown Concentration Rank 27

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.806	4.93 ng/uL	1117550	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pentene, 4,4-dimethyl-, (Z)-	98	C7H14	000762-63-0	25
2	Cyclopentanone, 3-methyl-2-pentyl-	168	C11H20O	1000131-95-1	16
3	2-Pyrazoline-1-carboxamide, 3,5-...	141	C6H11N3O	017014-31-2	14
4	3-Octene-2,5-dione, 6,6,7-trimet...	182	C11H18O2	060845-48-9	10
5	Glycine, N-(2-methyl-1-oxo-2-but...	171	C8H13NO3	055649-53-1	10





Library Search Compound Report

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Data File : s4k1722.D
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Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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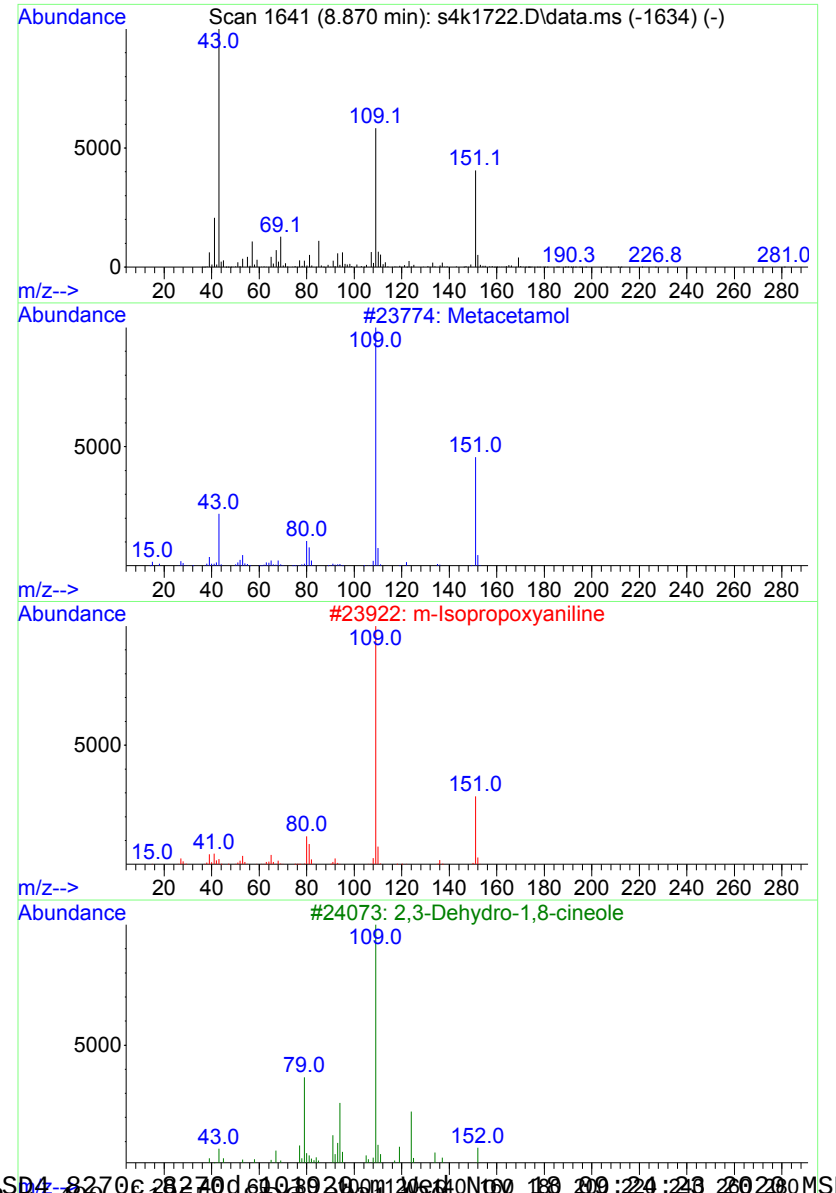
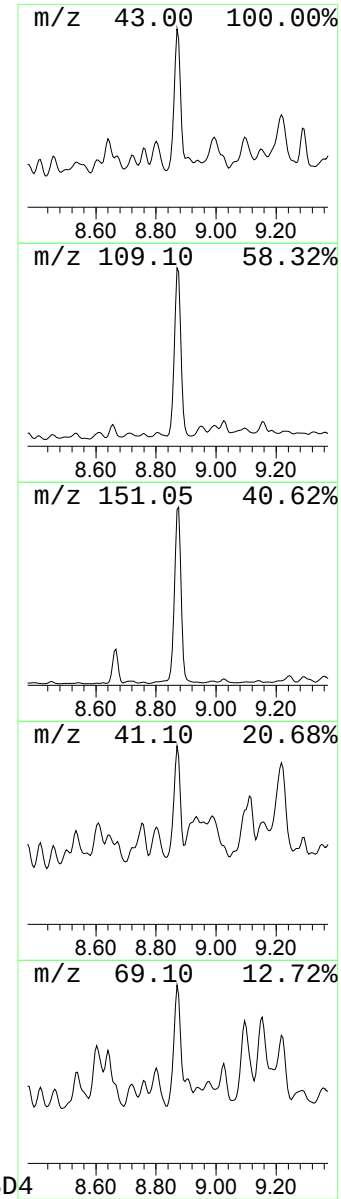
Peak Number 18 unknown Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.870	10.83 ng/uL	2455870	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Metacetamol	151	C8H9NO2	000621-42-1	53
2	m-Isopropoxyaniline	151	C9H13NO	041406-00-2	53
3	2,3-Dehydro-1,8-cineole	152	C10H16O	092760-25-3	25
4	3-Hexyne-2,5-diol, 2,5-dimethyl-	142	C8H14O2	000142-30-3	25
5	Ethanone, 1-(1,4-dimethyl-3-cycl...	152	C10H16O	043219-68-7	25





Library Search Compound Report

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Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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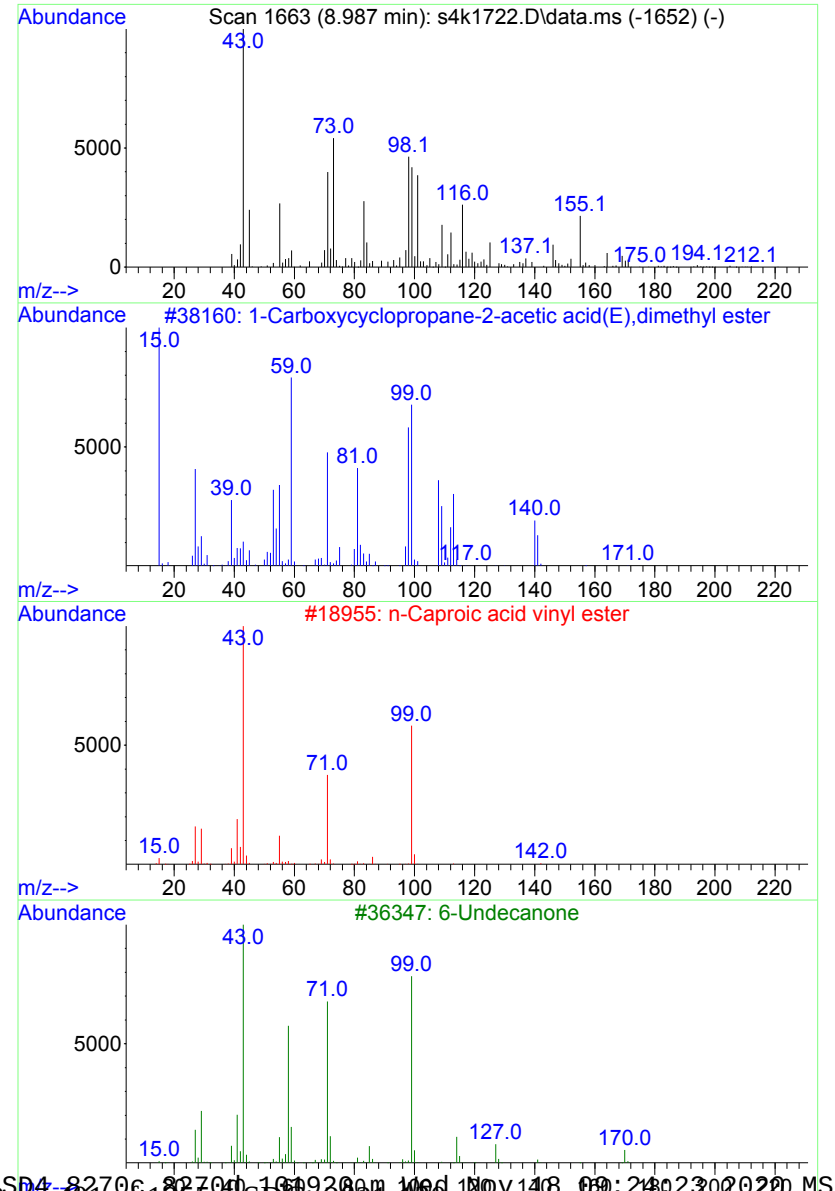
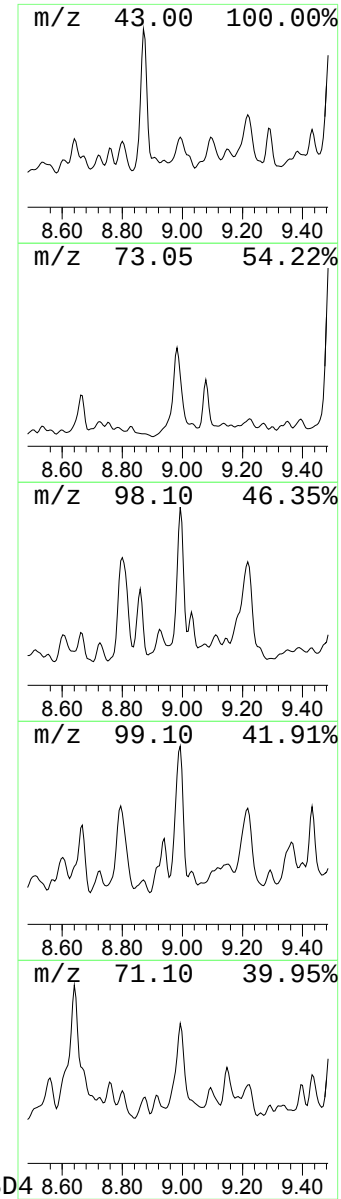
Peak Number 19 unknown Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.987	7.25 ng/uL	1644040	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Carboxycyclopropane-2-acetic a...	172	C8H12O4	077462-54-5	37
2	n-Caproic acid vinyl ester	142	C8H14O2	003050-69-9	14
3	6-Undecanone	170	C11H22O	000927-49-1	10
4	3-Octanone, 2-methyl-	142	C9H18O	000923-28-4	10
5	3,4-Epoxyhexanoic acid, ethyl ester	158	C8H14O3	061454-92-0	10





Library Search Compound Report

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Acq On    : 17 Nov 2020  23:27
Operator  : LOF
Sample    : |527510009|2063409|1|SVM|1|ARSL|||
Misc      : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial  : 22   Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title  : BNA01

TIC Library    : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

*********************************************************************
Peak Number 20  unknown                          Concentration Rank 17

  R.T.     EstConc          Area       Relative to ISTD         R.T.
---------------------------------------------------------------------
  9.105    6.66 ng/uL     1509800   A Acenaphthene-d10          9.538

 Hit# of  5    Tentative ID              MW  MolForm       CAS#       Qual
---------------------------------------------------------------------
 1 Cyclohexane, 1,3,5-trimethyl-        126 C9H18          001839-63-0 25
 2 Cyclohexane, 1,3,5-trimethyl-, (...  126 C9H18          001795-27-3 25
 3 2-Pyrazoline, 1-isopropyl-3-methyl-  126 C7H14N2        022581-48-2 22
 4 Hexanedioic acid, di-2-propenyl ...  226 C12H18O4       002998-04-1 22
 5 Cyclohexane, 1,2,4-trimethyl-, (...  126 C9H18          007667-60-9 18
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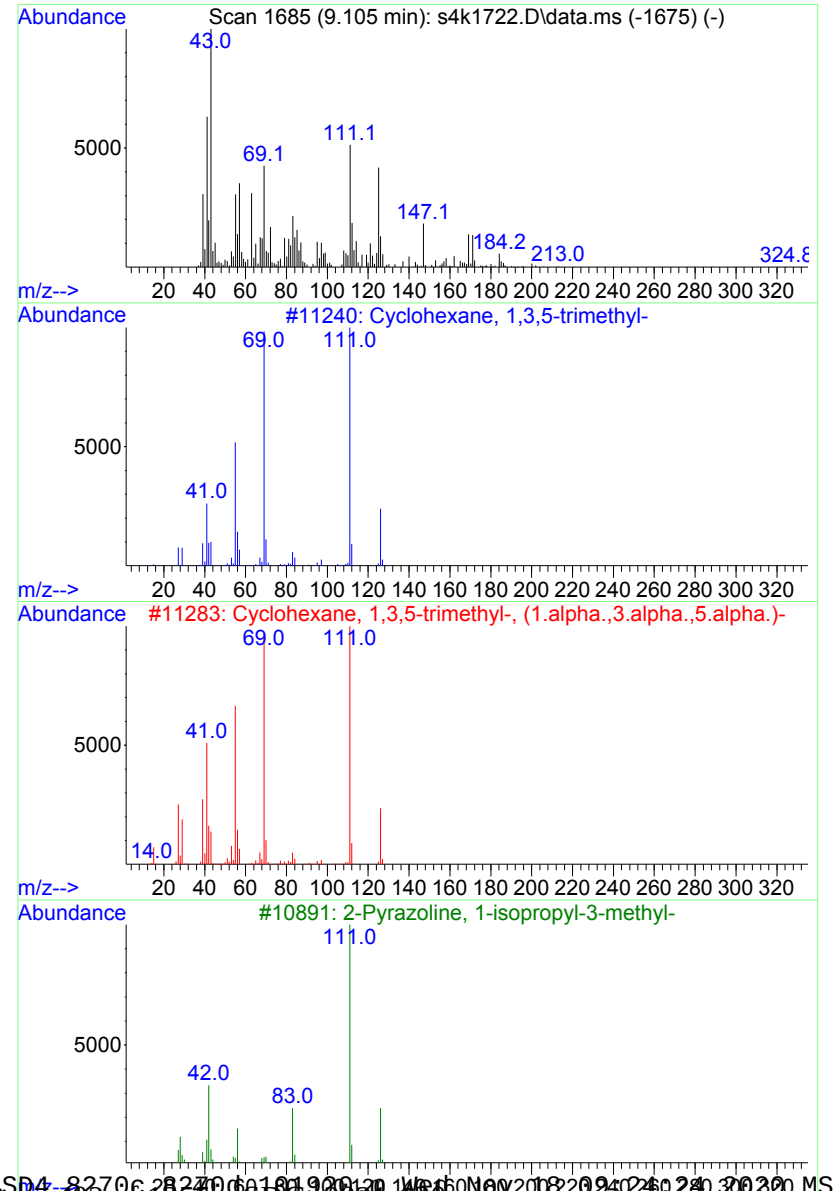

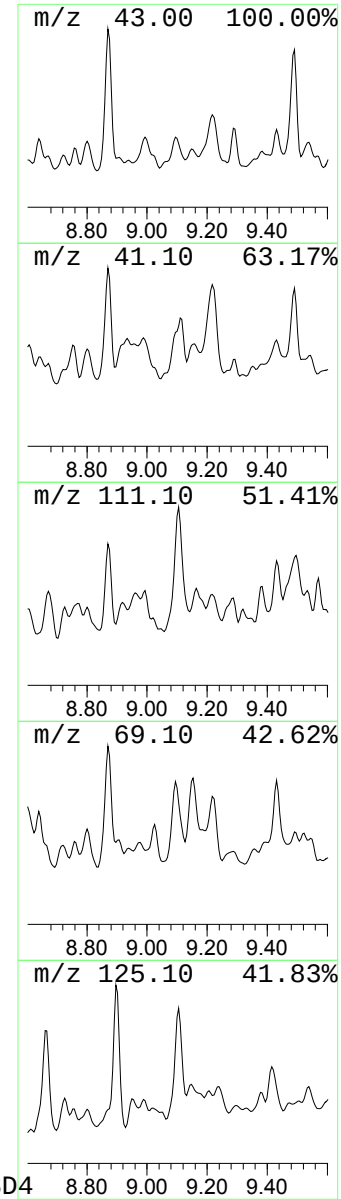

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Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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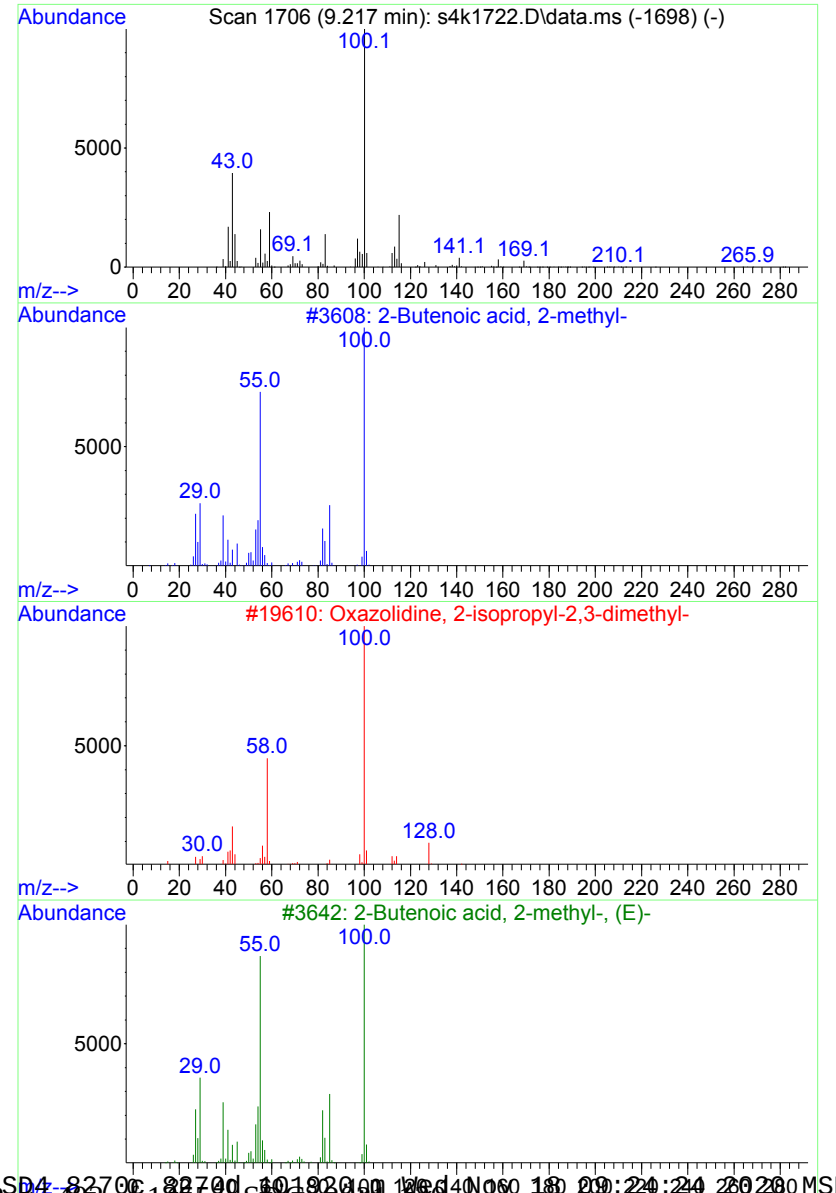
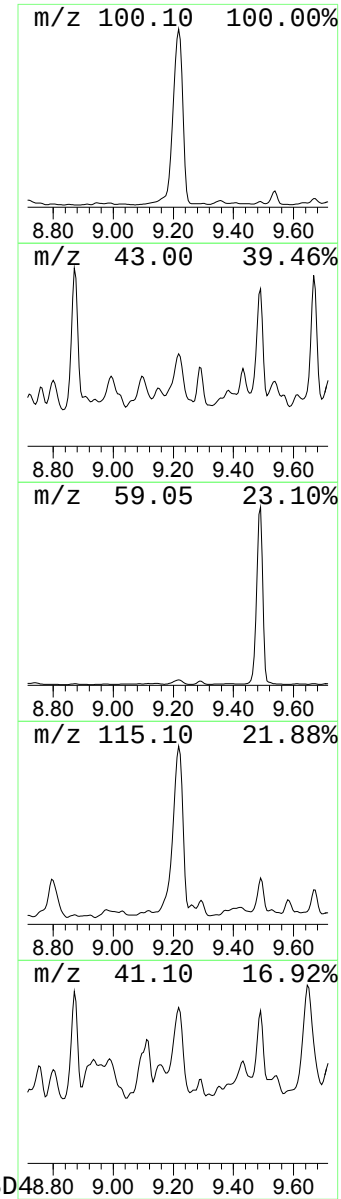
Peak Number 21 unknown Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.217	13.91 ng/uL	3154390	A Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Butenoic acid, 2-methyl-	100	C5H8O2	013201-46-2	43
2	Oxazolidine, 2-isopropyl-2,3-dim...	143	C8H17NO	1000142-09-6	40
3	2-Butenoic acid, 2-methyl-, (E)-	100	C5H8O2	000080-59-1	37
4	5-Isopropyl-2,4-imidazolidinedione	142	C6H10N2O2	016935-34-5	37
5	2,2,3,3,4,4,4-Heptafluoro-N-(2-m...	326	C10H13F7N2O2	1000278-15-3	37





Library Search Compound Report

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ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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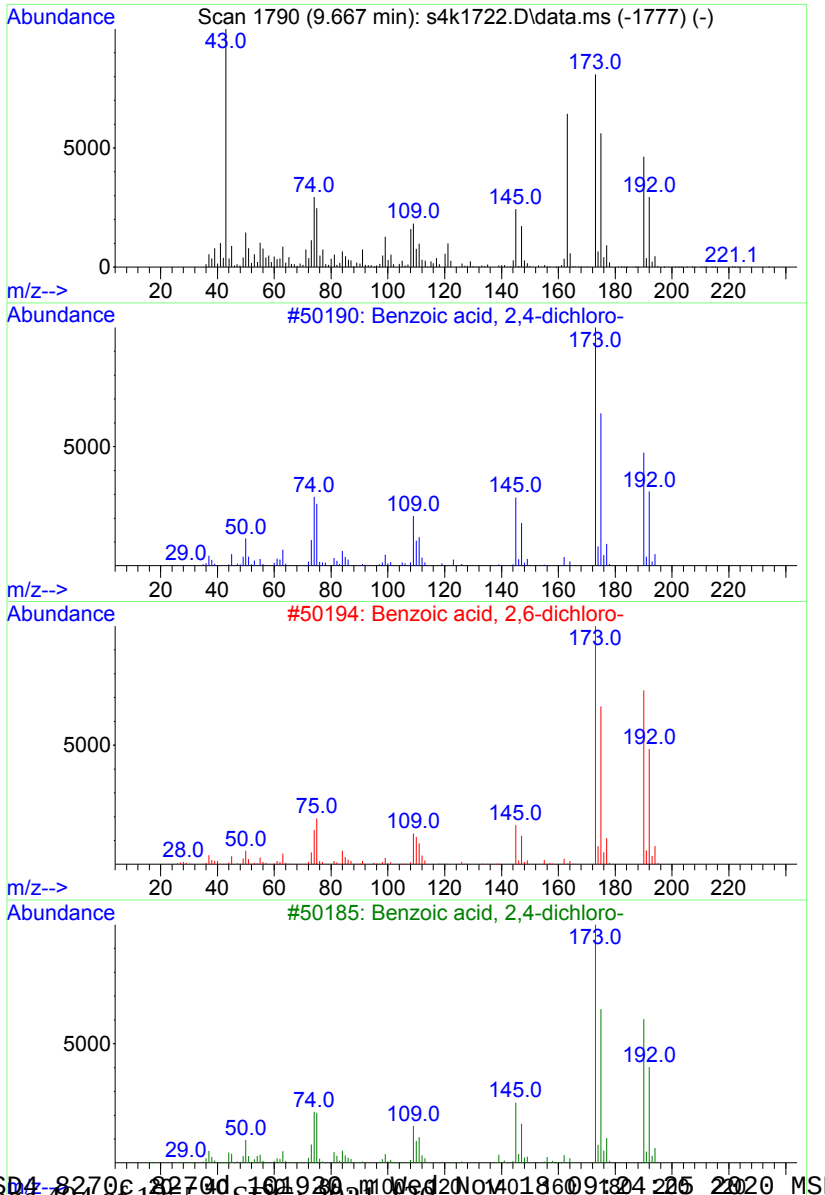
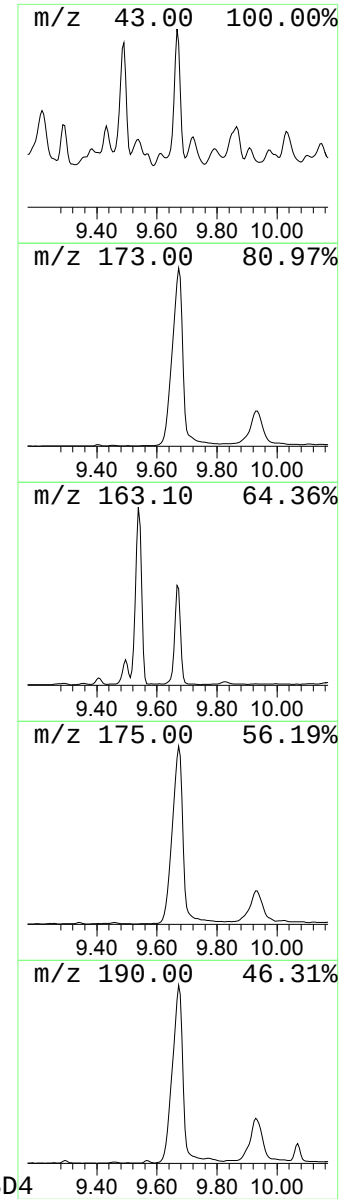
Peak Number 22 Benzoic acid, 2,4-dichloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.667	38.31 ng/uL	8688240	D Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	99
2	Benzoic acid, 2,6-dichloro-	190	C7H4Cl2O2	000050-30-6	95
3	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	93
4	Benzoic acid, 2,3-dichloro-	190	C7H4Cl2O2	000050-45-3	90
5	Benzoic acid, 2,6-dichloro-	190	C7H4Cl2O2	000050-30-6	89





Library Search Compound Report

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Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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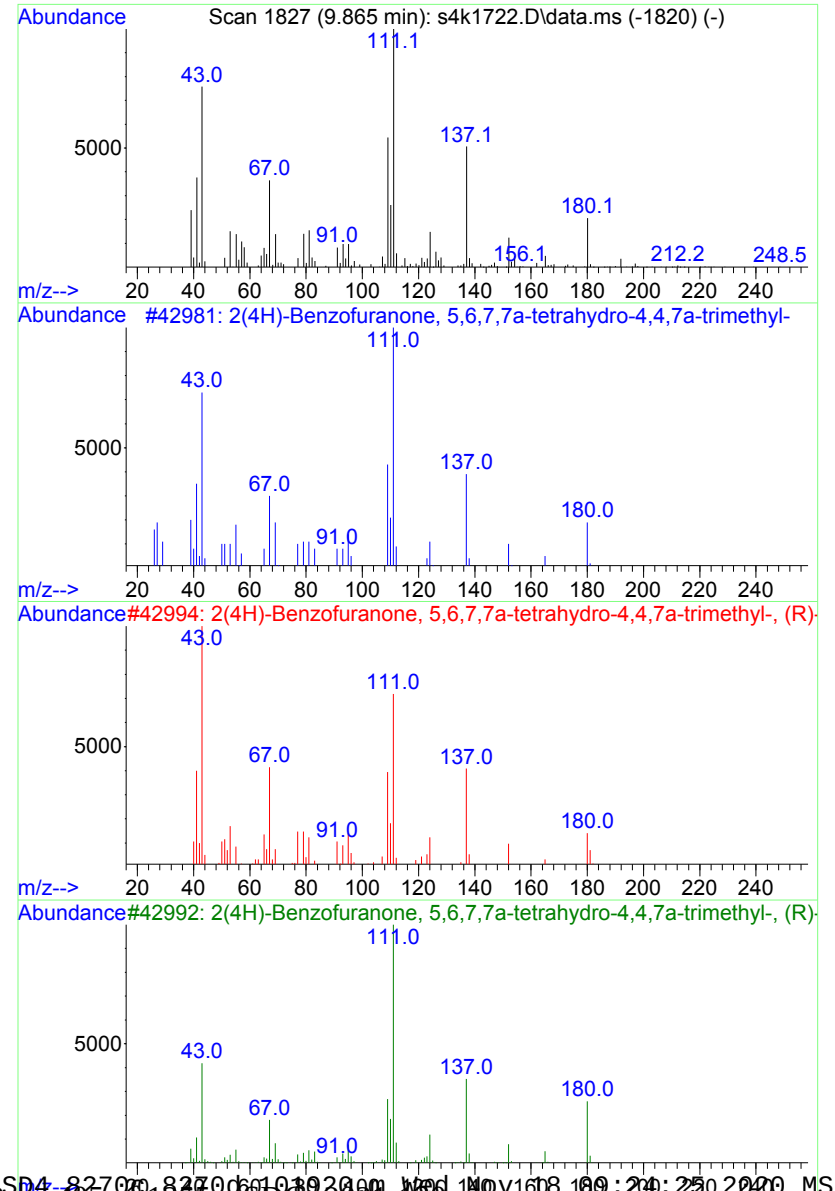
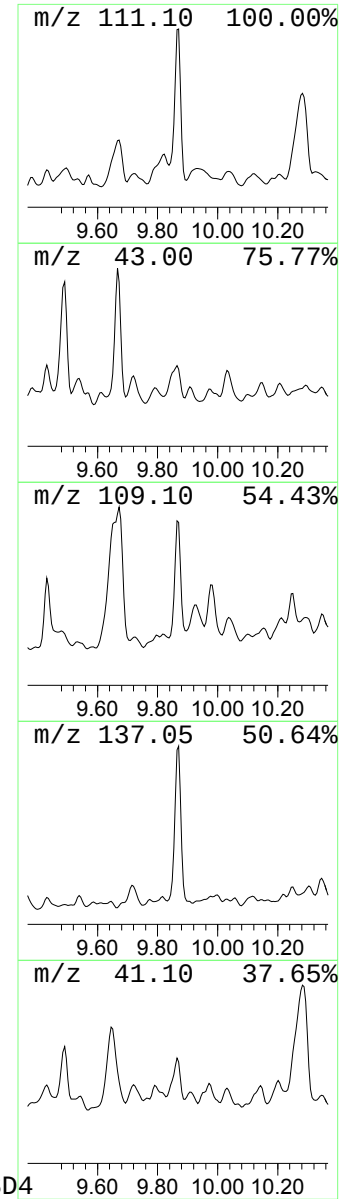
Peak Number 23 2(4H)-Benzofuranone, 5,6,7,... Concentration Rank 22

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.865	5.70 ng/uL	1292150	D Acenaphthene-d10	9.538

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2(4H)-Benzofuranone, 5,6,7,7a-te...	180	C11H16O2	015356-74-8	91
2	2(4H)-Benzofuranone, 5,6,7,7a-te...	180	C11H16O2	017092-92-1	80
3	2(4H)-Benzofuranone, 5,6,7,7a-te...	180	C11H16O2	017092-92-1	58
4	3-(1-Hydroxycyclohexyl)-2-methyl...	180	C11H16O2	1000281-33-6	38
5	Acetaldehyde, (3,3-dimethylcyclo...	152	C10H16O	026532-24-1	25





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Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

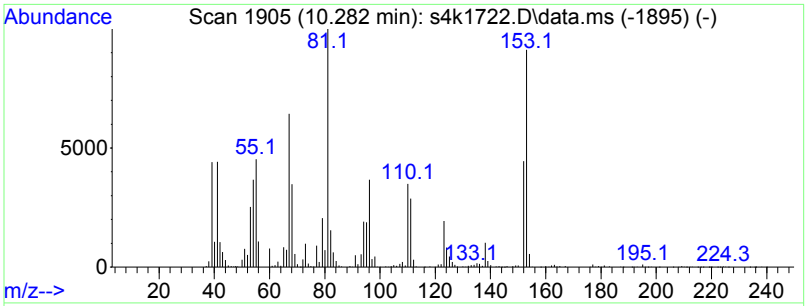
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

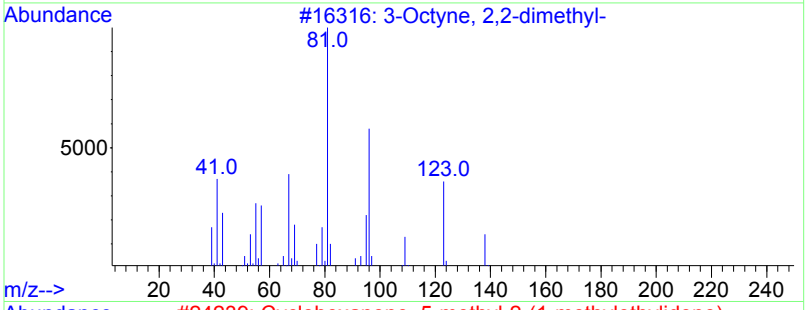
****

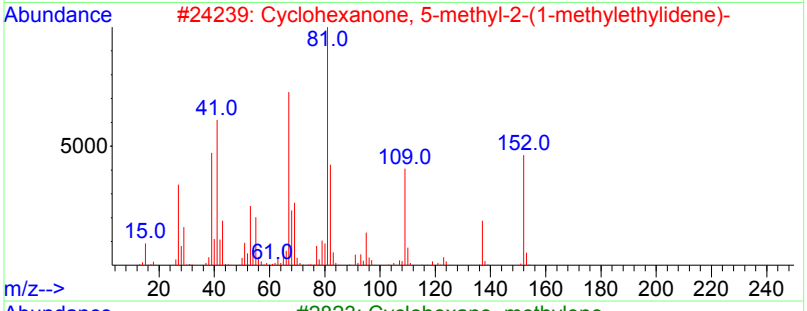
Peak Number 24 unknown Concentration Rank 3

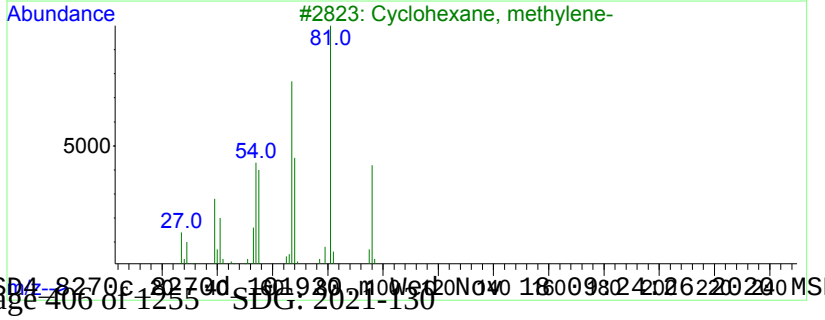
R.T.	EstConc	Area	Relative to ISTD	R.T.
10.282	29.06 ng/uL	6590180	D Acenaphthene-d10	9.538

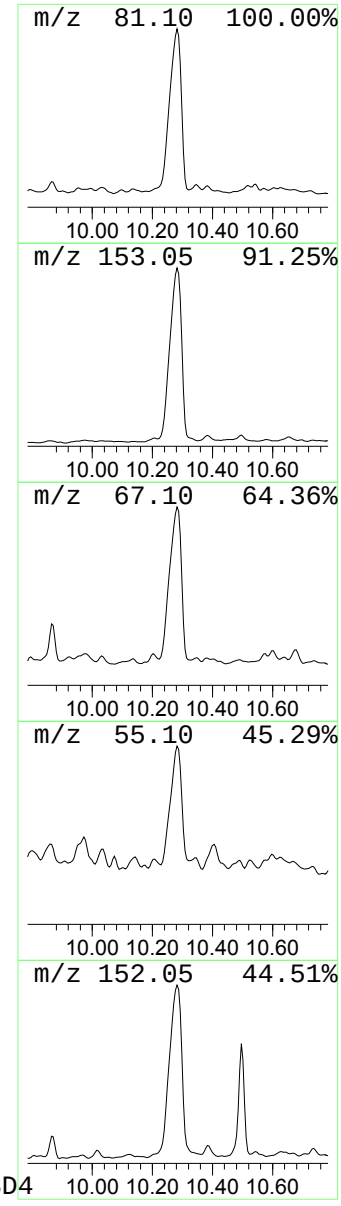
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Octyne, 2,2-dimethyl-	138	C10H18	019482-57-6	46
2	Cyclohexanone, 5-methyl-2-(1-met...	152	C10H16O	015932-80-6	43
3	Cyclohexane, methylene-	96	C7H12	001192-37-6	42
4	Cyclohexane, ethylidene-	110	C8H14	001003-64-1	38
5	Cyclohexanone, 5-methyl-2-(1-met...	152	C10H16O	000529-00-0	38











Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

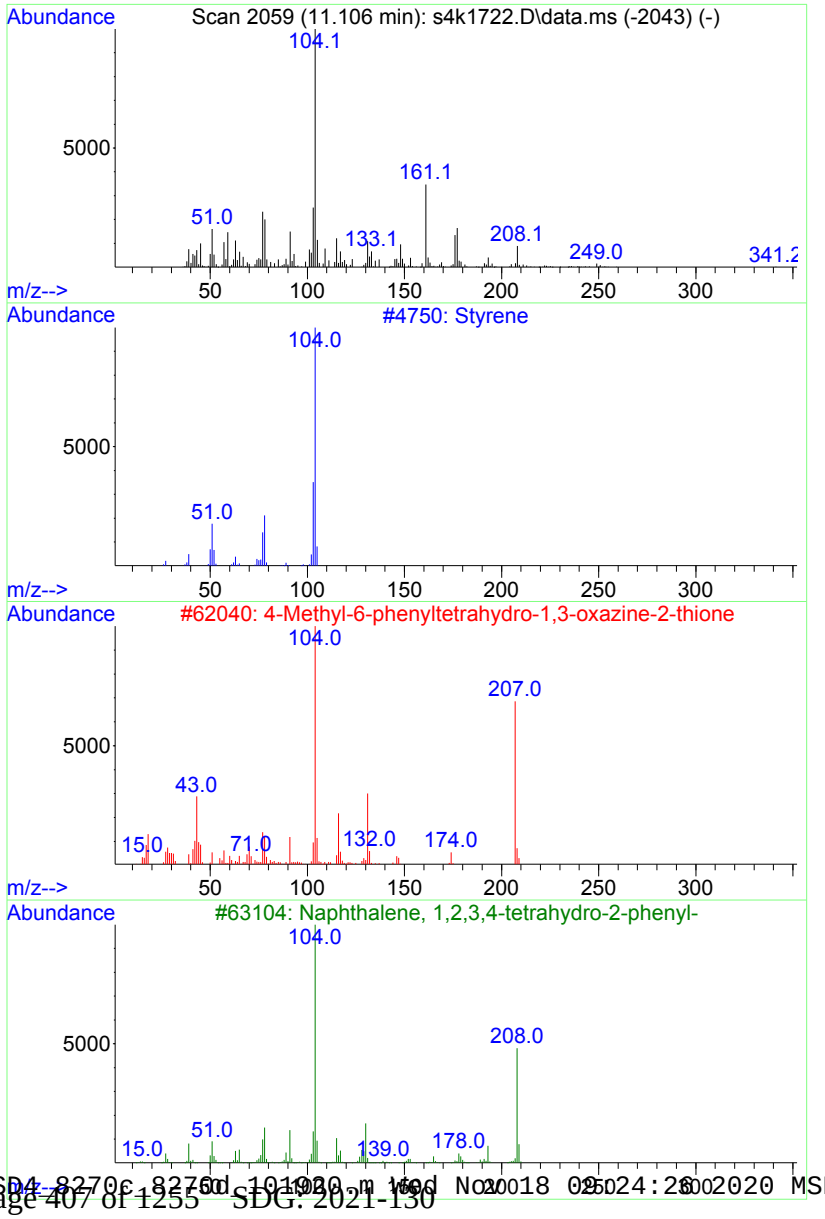
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

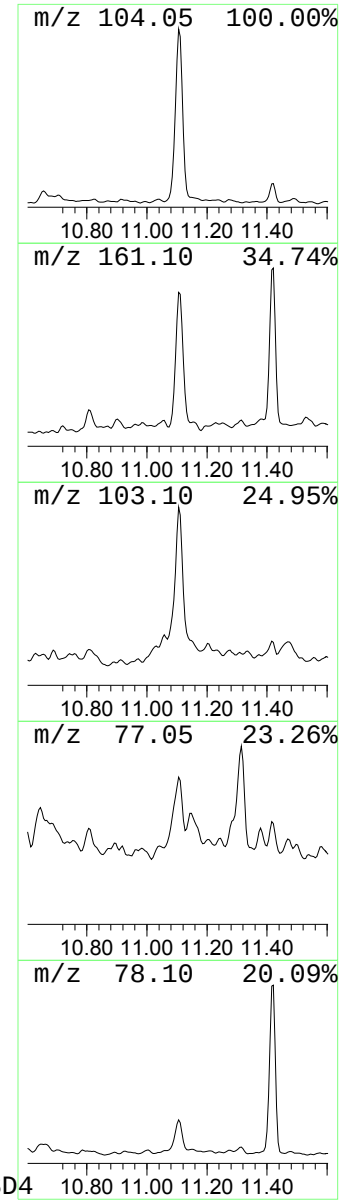
****

Peak Number 25 unknown Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.105	6.62 ng/uL	1376520	A Phenanthrene-d10	11.421

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Styrene	104	C8H8	000100-42-5	60
2	4-Methyl-6-phenyltetrahydro-1,3-...	207	C11H13NOS	086071-94-5	49
3	Naphthalene, 1,2,3,4-tetrahydro-...	208	C16H16	029422-13-7	47
4	2,5-Pyrrolidinedione, 1-methyl-3...	189	C11H11NO2	000086-34-0	47
5	2,5-Pyrrolidinedione, 1-methyl-3...	189	C11H11NO2	000086-34-0	47





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

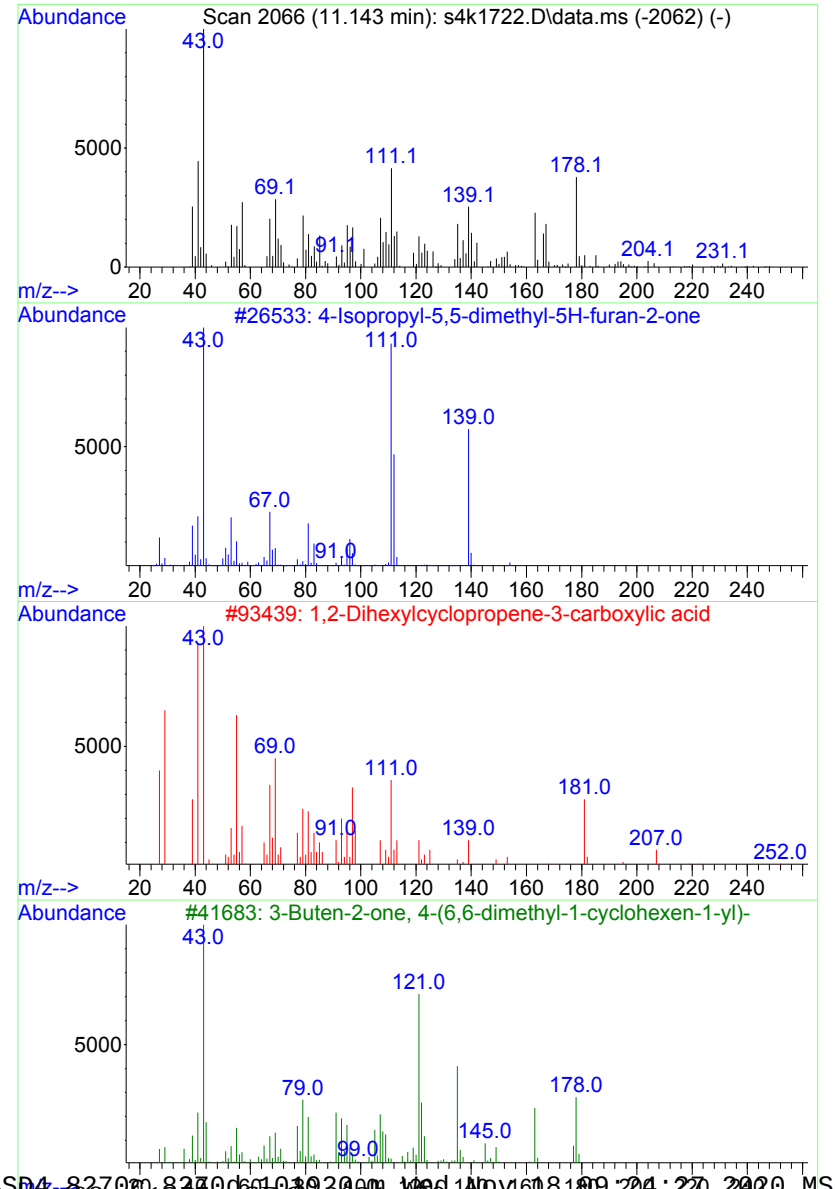
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

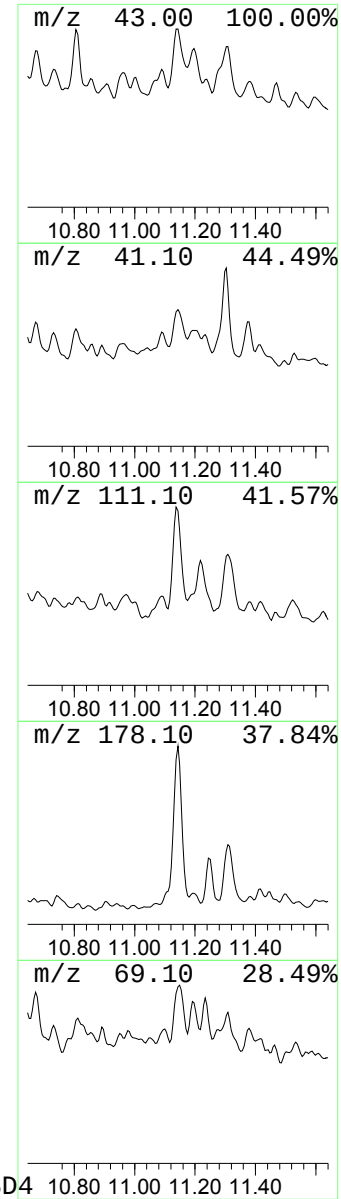
****

Peak Number 26 unknown Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.143	7.77 ng/uL	1615710	A Phenanthrene-d10	11.421

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	4-Isopropyl-5,5-dimethyl-5H-fura...	154	C9H14O2	060845-38-7	12
2	1,2-Dihexylcyclopropene-3-carbox...	252	C16H28O2	054467-87-7	12
3	3-Buten-2-one, 4-(6,6-dimethyl-1...	178	C12H18O	065133-79-1	12
4	3,11-Dioxatricyclo[5.4.0.0(2,4)]...	210	C13H22O2	1000138-62-3	12
5	2-Butanone, 4-(2,6,6-trimethyl-2...	194	C13H22O	039721-65-8	10





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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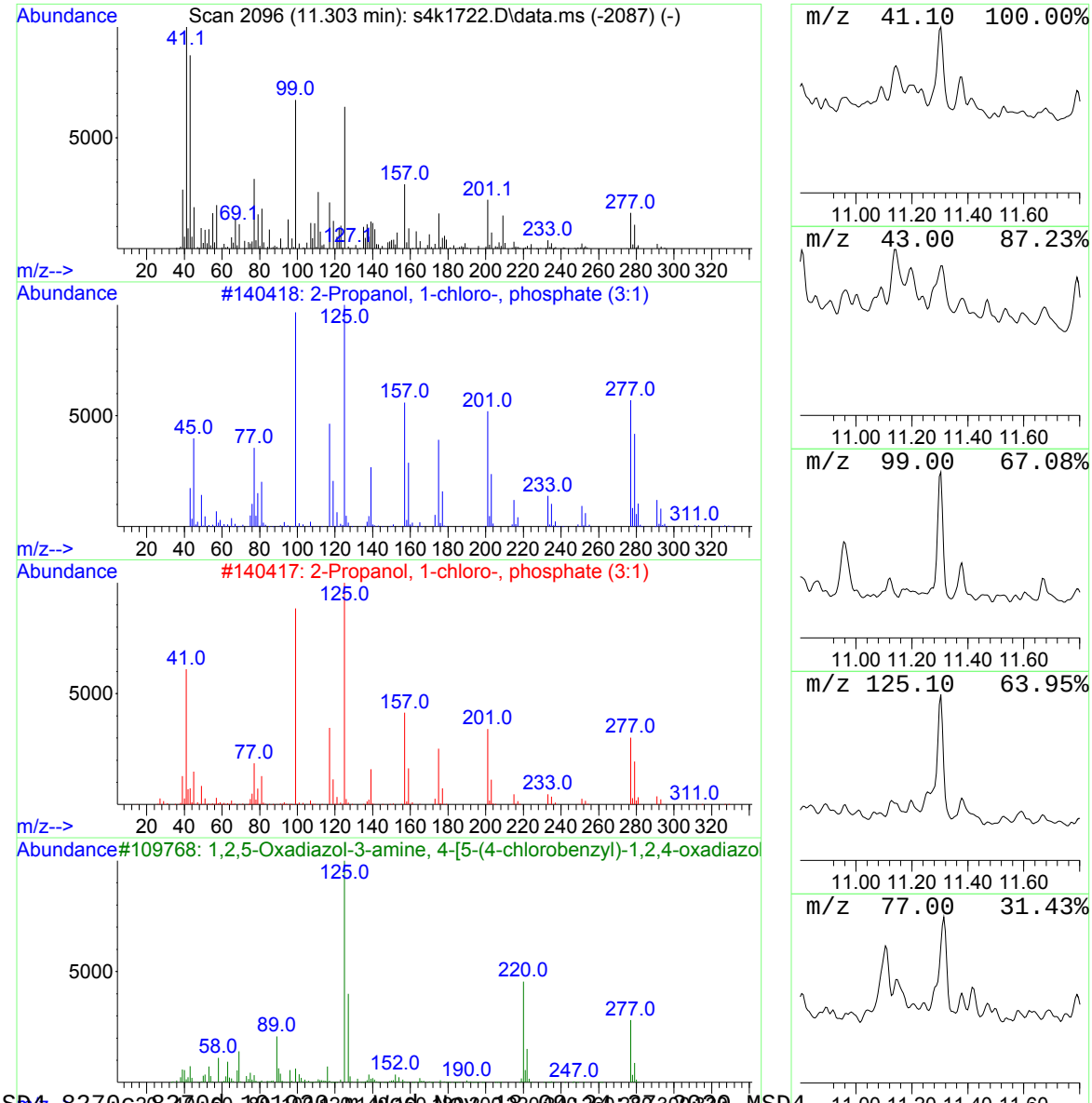
Peak Number 27 unknown Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.303	8.21 ng/uL	1706480	A Phenanthrene-d10	11.421

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Propanol, 1-chloro-, phosphate...	326	C9H18Cl3O4P	013674-84-5	49
2	2-Propanol, 1-chloro-, phosphate...	326	C9H18Cl3O4P	013674-84-5	49
3	1,2,5-Oxadiazol-3-amine, 4-[5-(4...	277	C11H8ClN5O2	1000276-59-0	18
4	1-Oxaspiro[4,5]decane 4-carbonit...	179	C10H13NO2	140650-87-9	11
5	Phenitrothion	277	C9H12NO5PS	000122-14-5	10



Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

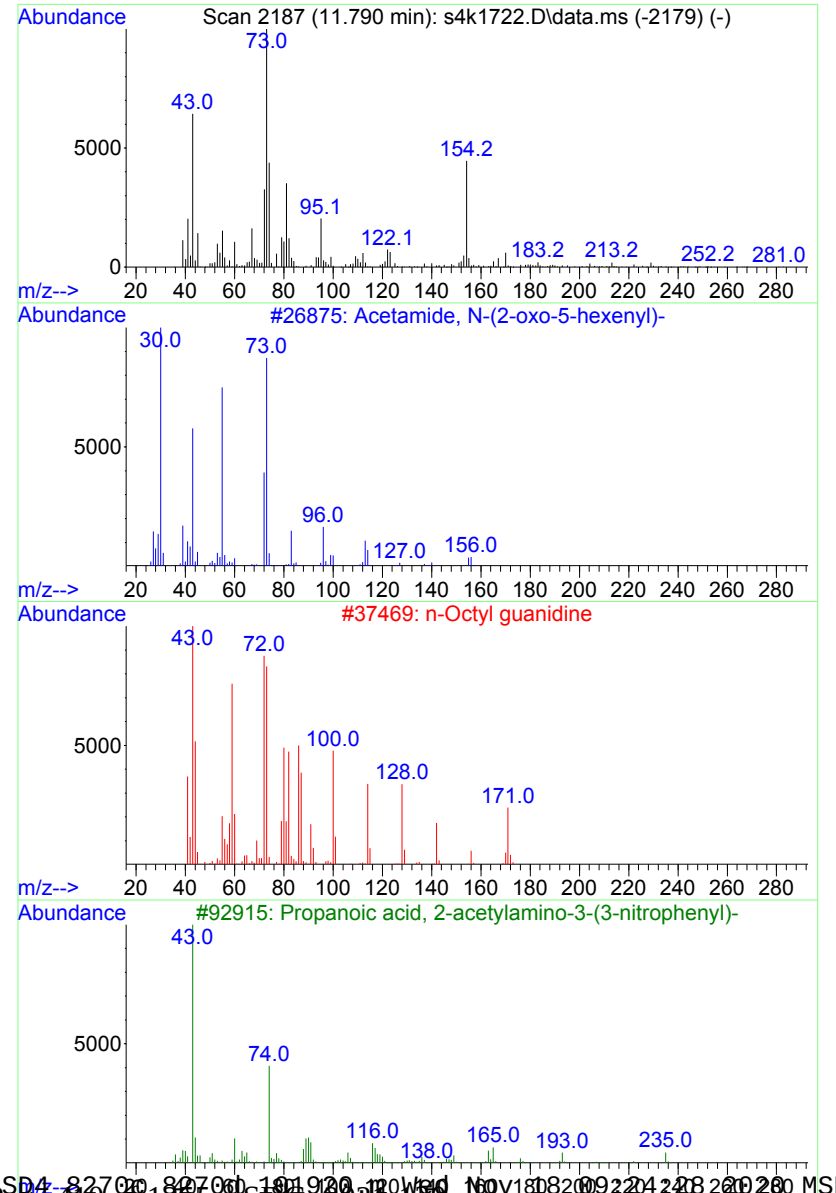
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

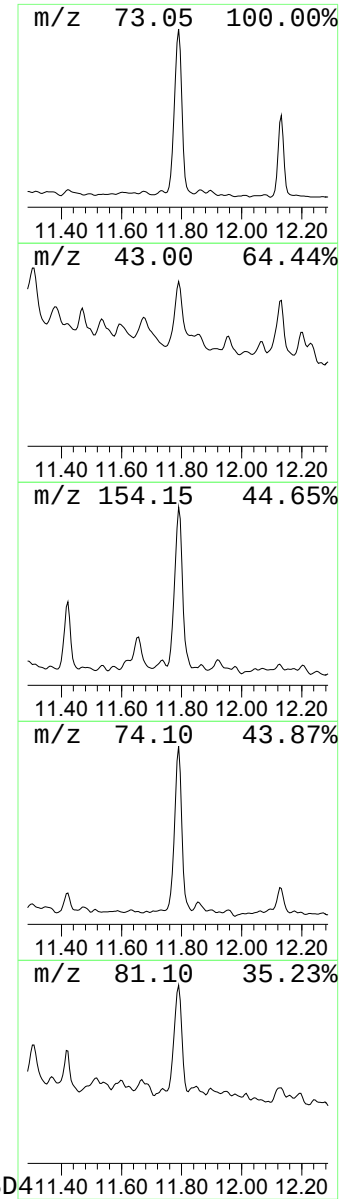
****

Peak Number 28 unknown Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.790	6.38 ng/uL	1326570	D Phenanthrene-d10	11.421

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Acetamide, N-(2-oxo-5-hexenyl)-	155	C8H13NO2	093393-92-1	10
2	n-Octyl guanidine	171	C9H21N3	003038-42-4	10
3	Propanoic acid, 2-acetylamino-3-...	252	C11H12N2O5	170157-49-0	9
4	cis-1,2-Bis(acetamidomethyl)cycl...	226	C12H22N2O2	070924-84-4	9
5	N-.alpha.-Acetylglycinamide	116	C4H8N2O2	002620-63-5	9





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

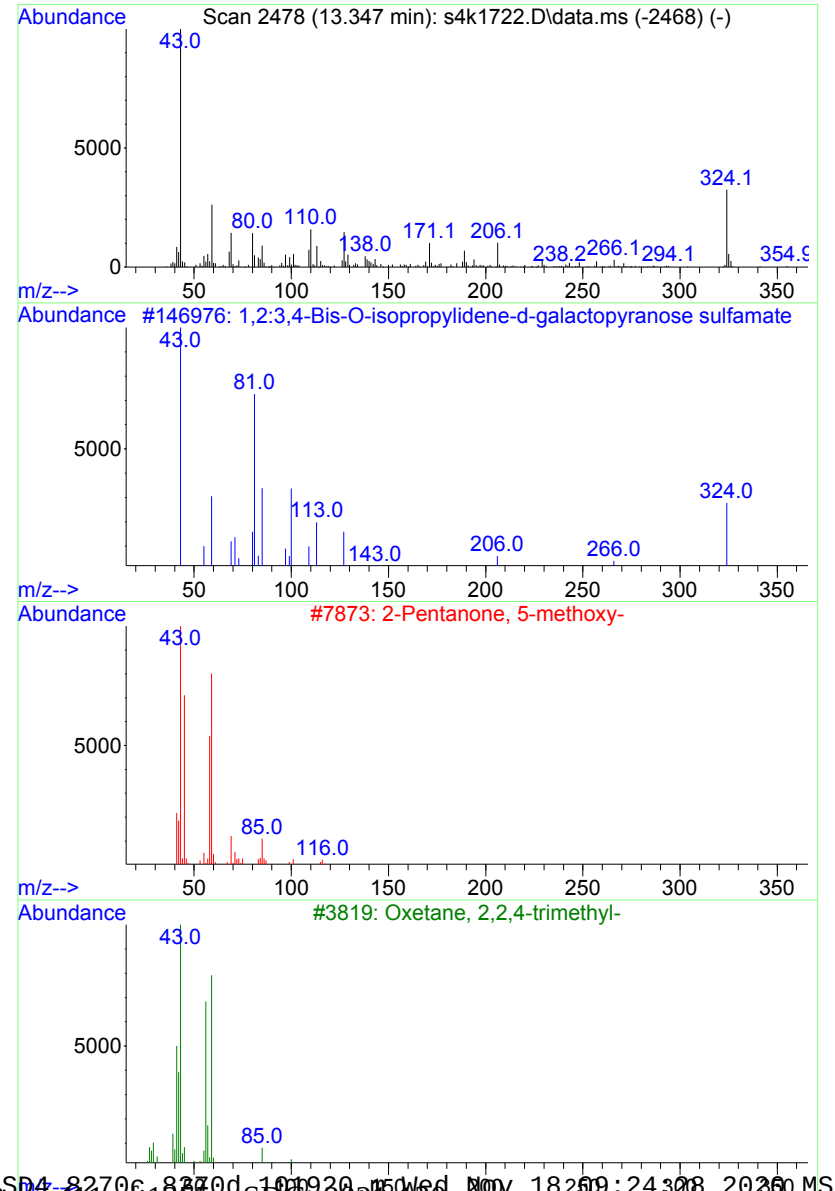
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

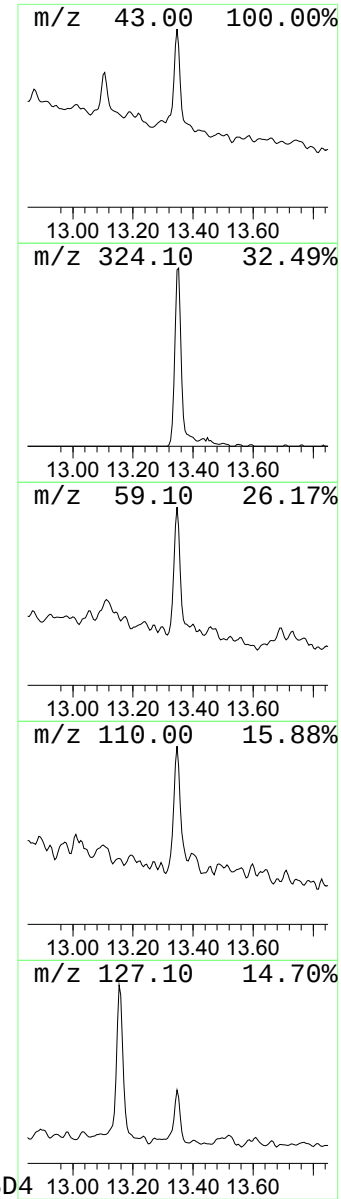
****

Peak Number 29 unknown Concentration Rank 25

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.347	5.18 ng/uL	557840	A Chrysene-d12	14.887

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,2:3,4-Bis-O-isopropylidene-d-g...	339	C12H21NO8S	040591-92-2	16
2	2-Pentanone, 5-methoxy-	116	C6H12O2	017429-04-8	9
3	Oxetane, 2,2,4-trimethyl-	100	C6H12O	023120-44-7	9
4	Sorbic acid, 3,5-dihydroxy-2-nit...	171	C6H5NO5	000668-43-9	9
5	Epoxy-linalooloxide	186	C10H18O3	1000007-96-5	9





Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

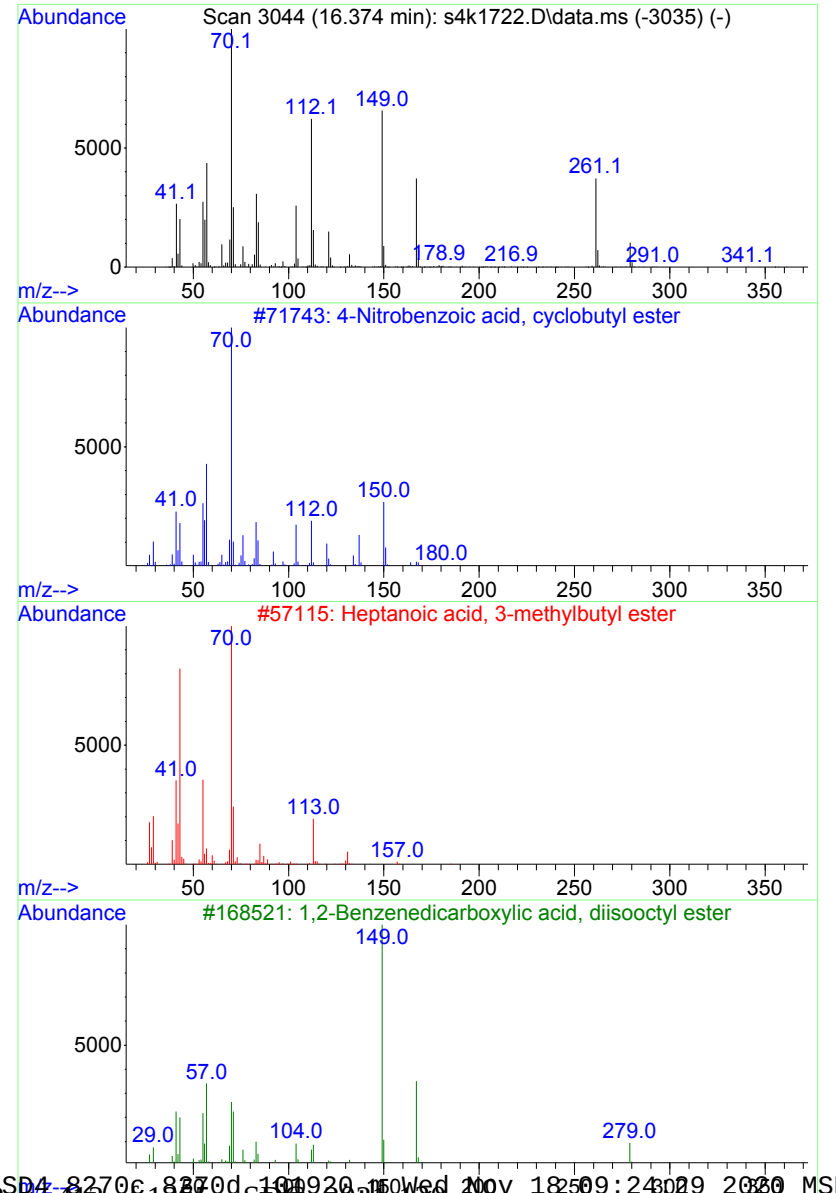
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

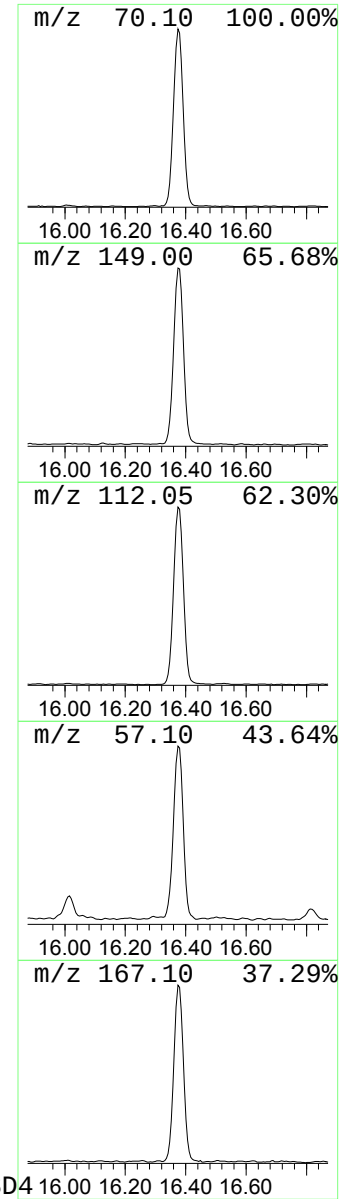
****

Peak Number 30 unknown Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.374	17.41 ng/uL	1874480	D Chrysene-d12	14.887

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	4-Nitrobenzoic acid, cyclobutyl ...	221	C11H11NO4	070335-00-1	25
2	Heptanoic acid, 3-methylbutyl ester	200	C12H24O2	000109-25-1	22
3	1,2-Benzenedicarboxylic acid, di...	390	C24H38O4	027554-26-3	22
4	Acetic acid, [4-(4-methyl-1-pipe...	262	C14H18N2O3	346699-90-9	22
5	1,2-Benzenedicarboxylic acid, di...	390	C24H38O4	027554-26-3	22





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1722.D
Acq On : 17 Nov 2020 23:27
Operator : LOF
Sample : |527510009|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB04-20-209982|MIX[A,B,D,E,J]||
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
unknown		1.901	24.1	3828710	1	5.409	6355650	40.0
2-Butanone, 3-hydroxy-	000513-86-0	2.120	35.8	5683520	1	5.409	6355650	40.0
unknown		3.842	4.2	673313	1	5.409	6355650	40.0
Dimethyl sulfone	000067-71-0	4.200	25.2	4000830	1	5.409	6355650	40.0
unknown		5.136	5.7	905422	1	5.409	6355650	40.0
unknown		5.805	14.6	2312080	2	5.409	6355650	40.0
unknown		6.019	20.9	3314470	2	5.409	6355650	40.0
unknown		6.147	6.4	1013720	2	5.409	6355650	40.0
Triethyl phosphate	000078-40-0	6.468	8.9	1923820	3	7.206	8613340	40.0
unknown		6.720	5.2	1118110	3	7.206	8613340	40.0
unknown		7.308	5.1	1103350	7	7.206	8613340	40.0
unknown		7.495	4.5	969709	7	7.206	8613340	40.0
unknown		7.795	4.6	991708	7	7.206	8613340	40.0
unknown		7.875	8.0	1713210	7	7.206	8613340	40.0
unknown		8.164	13.4	2896290	7	7.206	8613340	40.0
unknown		8.255	5.7	1216940	7	7.206	8613340	40.0
unknown		8.806	4.9	1117550	8	9.538	9070890	40.0
unknown		8.870	10.8	2455870	8	9.538	9070890	40.0
unknown		8.987	7.3	1644040	8	9.538	9070890	40.0
unknown		9.105	6.7	1509800	8	9.538	9070890	40.0
unknown		9.217	13.9	3154390	8	9.538	9070890	40.0
Benzoic acid, 2,4-dichloro-	000050-84-0	9.667	38.3	8688240	10	9.538	9070890	40.0
2(4H)-Benzofuranone, 5,6,7,...	015356-74-8	9.865	5.7	1292150	10	9.538	9070890	40.0
unknown		10.282	29.1	6590180	10	9.538	9070890	40.0
unknown		11.105	6.6	1376520	11	11.421	8312380	40.0
unknown		11.143	7.8	1615710	11	11.421	8312380	40.0
unknown		11.303	8.2	1706480	11	11.421	8312380	40.0
unknown		11.790	6.4	1326570	14	11.421	8312380	40.0
unknown		13.347	5.2	557840	15	14.887	4307390	40.0
unknown		16.374	17.4	1874480	18	14.887	4307390	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 13:48**	**Matrix:**	**W**
Lab Sample ID:	**527510018**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB05-20-209995**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 00:26**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**954.62 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1724.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.14	ug/L	3.14	10.5
91-57-6	2-Methylnaphthalene	U	0.314	ug/L	0.314	1.05
91-20-3	Naphthalene	U	0.314	ug/L	0.314	1.05
90-12-0	1-Methylnaphthalene	U	0.314	ug/L	0.314	1.05
86-73-7	Fluorene	U	0.314	ug/L	0.314	1.05
85-01-8	Phenanthrene	U	0.314	ug/L	0.314	1.05
120-12-7	Anthracene	U	0.314	ug/L	0.314	1.05
206-44-0	Fluoranthene	U	0.314	ug/L	0.314	1.05
129-00-0	Pyrene	U	0.314	ug/L	0.314	1.05
205-99-2	Benzo(b)fluoranthene	U	0.314	ug/L	0.314	1.05
207-08-9	Benzo(k)fluoranthene	U	0.314	ug/L	0.314	1.05
50-32-8	Benzo(a)pyrene	U	0.314	ug/L	0.314	1.05

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	107	105	ug/L	102	(32%-122%)
2-Fluorobiphenyl	48.5	52.4	ug/L	93	(31%-107%)
2-Fluorophenol	41.7	105	ug/L	40	(15%-88%)
Nitrobenzene-d5	43.2	52.4	ug/L	82	(35%-113%)
Phenol-d5	28.8	105	ug/L	28	(15%-91%)
p-Terphenyl-d14	35.8	52.4	ug/L	68	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.895	25.7	ug/L	0	J

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1724.D
Acq On : 18 Nov 2020 00:26
Operator : LOF
Sample : |527510018|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209995|MIX[A,B,D,E,J]||
ALS Vial : 24 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 18 09:10:32 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	881953	40.00	ng/uL	-0.02
22) A Naphthalene-d8	136	7.201	7.228	1.000	3373782	40.00	ng/uL	-0.03
39) A Acenaphthene-d10	164	9.533	9.555	1.000	1713305	40.00	ng/uL	-0.02
64) A Phenanthrene-d10	188	11.410	11.432	1.000	3021357	40.00	ng/uL	-0.02
78) A Chrysene-d12	240	14.887	14.914	1.000	1971603	40.00	ng/uL	-0.03
88) A Perylene-d12	264	18.091	18.139	1.000	1251483	40.00	ng/uL	-0.05
96) B 1,4-Dichlorobenzene-d4	152	5.409	5.431	1.000	881964	40.00	ng/uL	-0.02
112) B Naphthalene-d8	136	7.201	7.228	1.000	3373782	40.00	ng/uL	-0.03
120) B Acenaphthene-d10	164	9.533	9.555	1.000	1713305	40.00	ng/uL	-0.02
129) B Phenanthrene-d10	188	11.410	11.432	1.000	3021357	40.00	ng/uL	-0.02
142) B Chrysene-d12	240	14.887	14.914	1.000	1971603	40.00	ng/uL	-0.03
148) B Perylene-d12	264	18.091	18.139	1.000	1251483	40.00	ng/uL	-0.05
151) J Naphthalene-d8	136	7.201	7.228	1.000	3373782	40.00	ng/uL	-0.03
153) J Phenanthrene-d10	188	11.410	11.432	1.000	3021357	40.00	ng/uL	-0.02
156) J Chrysene-d12	240	14.887	14.914	1.000	1971603	40.00	ng/uL	-0.03
159) D Naphthalene-d8	136	7.201	7.228	1.000	3373782	40.00	ng/uL	-0.03
161) D Acenaphthene-d10	164	9.533	9.555	1.000	1713305	40.00	ng/uL	-0.02
164) D Phenanthrene-d10	188	11.410	11.432	1.000	3021357	40.00	ng/uL	-0.02
171) D Chrysene-d12	240	14.887	14.914	1.000	1971603	40.00	ng/uL	-0.03
173) E Naphthalene-d8	136	7.201	7.228	1.000	3373782	40.00	ng/uL	-0.03
175) E Perylene-d12	264	18.091	18.139	1.000	1251310	40.00	ng/uL	-0.05
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.714	3.735	0.687	1055843	39.79	ng/uL	-0.02
8) Phenol-d5	99	4.874	4.906	0.901	887024	27.50	ng/uL	-0.03
23) Nitrobenzene-d5	82	6.195	6.222	0.860	1180859	41.25	ng/uL	-0.03
44) 2-Fluorobiphenyl	172	8.666	8.736	0.909	2466075	46.29	ng/uL	-0.07
63) 2,4,6-Tribromophenol	330	10.533	10.555	1.105	617903	101.98	ng/uL	-0.02
80) p-Terphenyl-d14	244	13.405	13.422	0.900	2239892	34.20	ng/uL	-0.02

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	40%
8) Phenol-d5	100.000	15 - 91	28%
23) Nitrobenzene-d5	50.000	35 - 113	83%
44) 2-Fluorobiphenyl	50.000	31 - 107	93%
63) 2,4,6-Tribromophenol	100.000	32 - 122	102%
80) p-Terphenyl-d14	50.000	35 - 134	68%

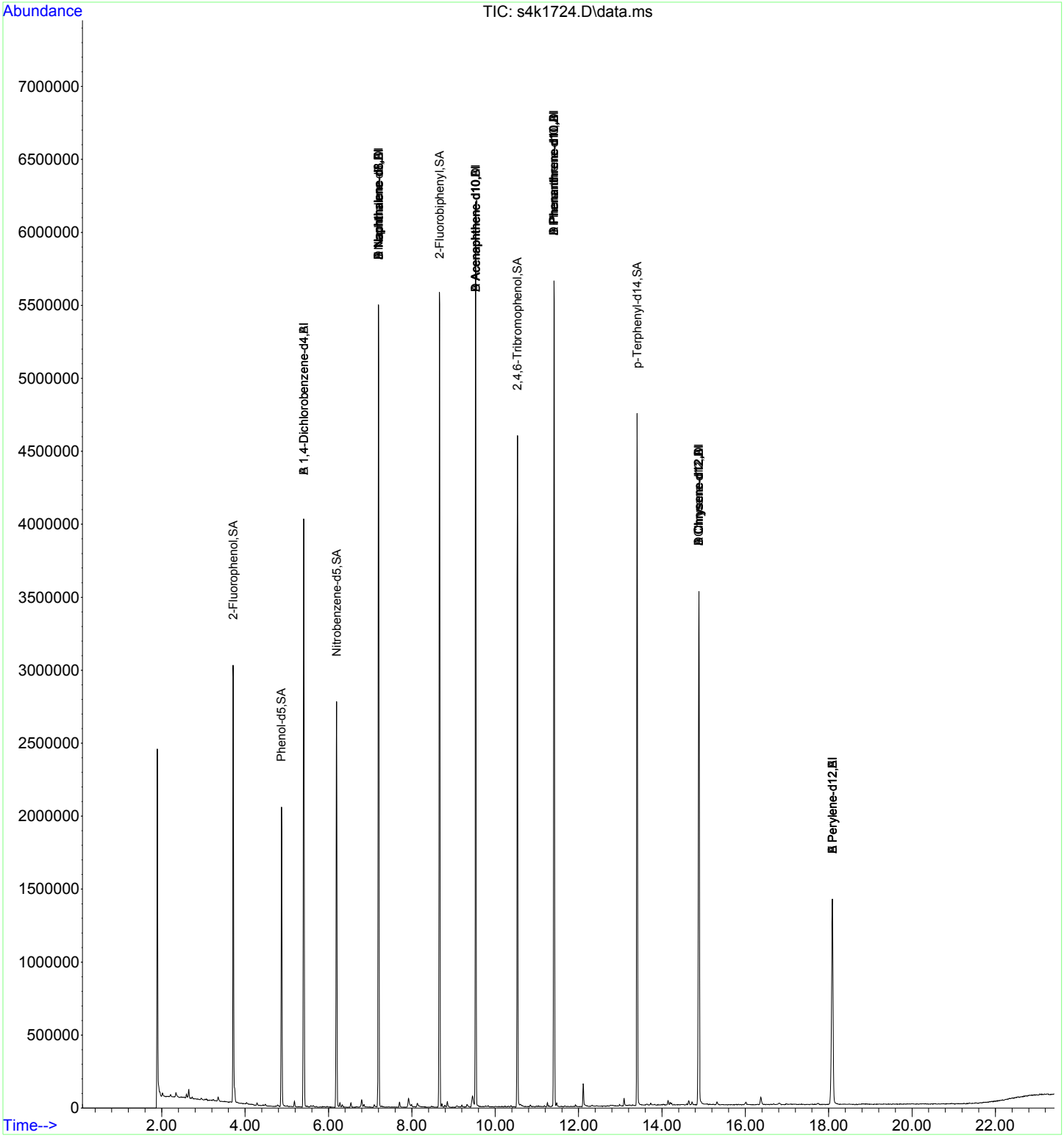
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

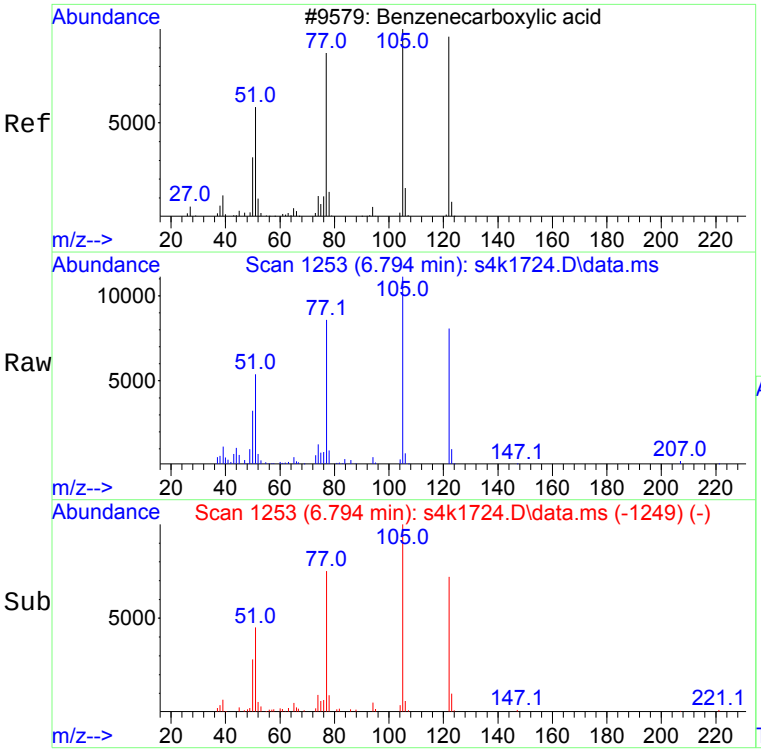
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1724.D
Acq On : 18 Nov 2020 00:26
Operator : LOF
Sample : |527510018|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209995|MIX[A,B,D,E,J]||
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 18 09:10:32 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

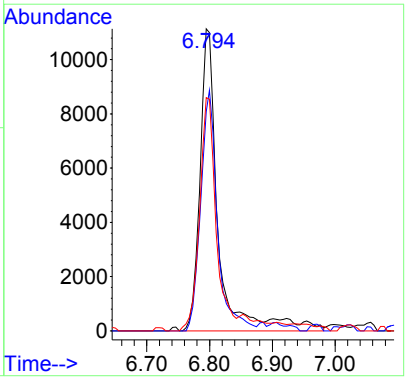




#30 BEFORE analyst DELETION
Benzoic acid
Concen: 13.01 ng/uL
RT: 6.794 min Scan# 1253
Delta R.T. -0.128 min
Lab File: s4k1724.D
Acq: 18 Nov 2020 00:26

Tgt Ion:105 Resp: 22537

Ion	Ratio	Lower	Upper
105	100		
122	72.9	51.3	111.3
77	80.2	45.6	105.6



Library Search Compound Report

JMB 11/18/2020

RAB 11/19/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1724.D
Acq On : 18 Nov 2020 00:26
Operator : LOF
Sample : |527510018|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209995|MIX[A,B,D,E,J]||
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

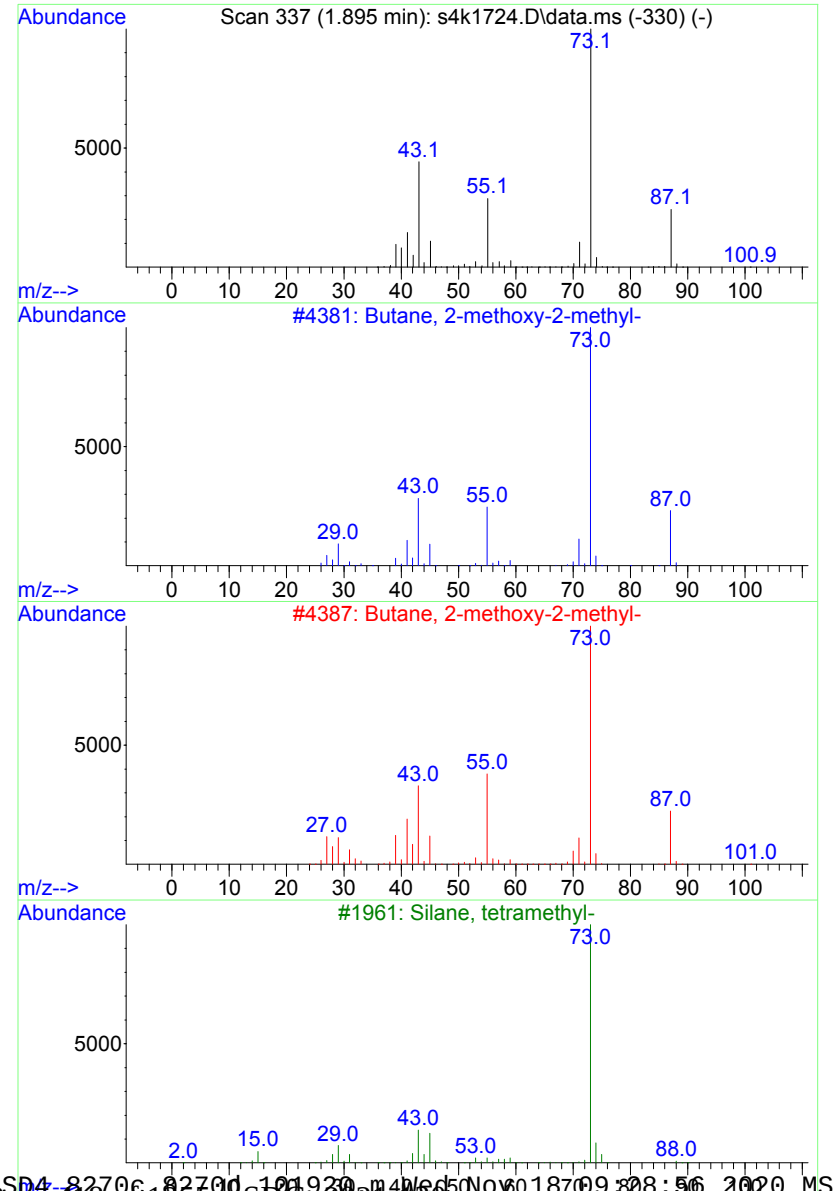
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

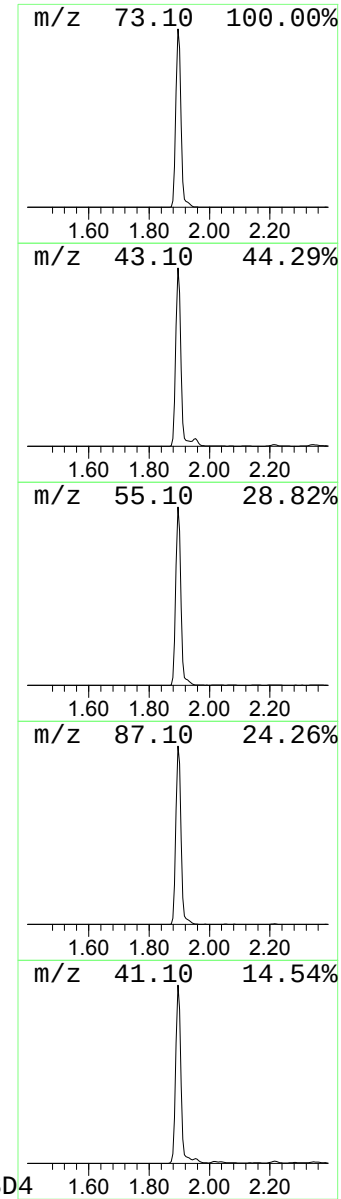
****

Peak Number 1 unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.895	24.51 ng/uL	3356330	A 1,4-Dichlorobenzene-d4	5.409

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	83
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
3	Silane, tetramethyl-	88	C4H12Si	000075-76-3	38
4	1,3-Dioxolane, 2-methyl-	88	C4H8O2	000497-26-7	32
5	Silane, tetramethyl-	88	C4H12Si	000075-76-3	17





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1724.D
Acq On : 18 Nov 2020 00:26
Operator : LOF
Sample : |527510018|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209995|MIX[A,B,D,E,J]||
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
unknown		1.895	24.5	3356330	1	5.409	5477110	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 14:40**	**Matrix:**	**W**
Lab Sample ID:	**527510015**	**Date Received:**	**11/14/2020 09:20**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB05-20-209985**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 13:01**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**999.98 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1810.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.00	ug/L	3.00	10.0
91-57-6	2-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
91-20-3	Naphthalene	U	0.300	ug/L	0.300	1.00
90-12-0	1-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
86-73-7	Fluorene	U	0.300	ug/L	0.300	1.00
85-01-8	Phenanthrene	U	0.300	ug/L	0.300	1.00
120-12-7	Anthracene	U	0.300	ug/L	0.300	1.00
206-44-0	Fluoranthene	U	0.300	ug/L	0.300	1.00
129-00-0	Pyrene	U	0.300	ug/L	0.300	1.00
205-99-2	Benzo(b)fluoranthene	U	0.300	ug/L	0.300	1.00
207-08-9	Benzo(k)fluoranthene	U	0.300	ug/L	0.300	1.00
50-32-8	Benzo(a)pyrene	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	51.7	100	ug/L	52		(32%-122%)
2-Fluorobiphenyl	20.6	50.0	ug/L	41		(31%-107%)
2-Fluorophenol	22.6	100	ug/L	23		(15%-88%)
Nitrobenzene-d5	25.3	50.0	ug/L	51		(35%-113%)
Phenol-d5	16.3	100	ug/L	16		(15%-91%)
p-Terphenyl-d14	7.16	50.0	ug/L	14	*	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	unknown	1.895	12.6	ug/L	0	J
	unknown	5.591	5.54	ug/L	0	J
000112-36-7	Ethane, 1,1'-oxybis[2-ethoxy-]	6.008	18.8	ug/L	90	NJ
	unknown	8.859	13	ug/L	0	J
000143-24-8	2,5,8,11,14-Pentaoxapentadecane	9.469	6.19	ug/L	90	NJ
000050-84-0	Benzoic acid, 2,4-dichloro-	9.672	115	ug/L	99	NJ
000529-00-0	Cyclohexanone, 5-methyl-2-(1-methy	10.207	4.08	ug/L	55	J
002734-47-6	5,8,11,14,17-Eicosapentaenoic acid	12.635	9.04	ug/L	90	NJ
1000210-38-4	17-(1,5-Dimethylhexyl)-10,13-dimet	20.53	11	ug/L	98	NJ
	unknown	21.787	12	ug/L	0	J
	unknown	22.632	6.54	ug/L	0	J

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

JMB 11/19/2020

Quant Time: Nov 18 13:28:56 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	830950	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.201	7.206	1.000	3179453	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.533	9.538	1.000	1633348	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.410	11.416	1.000	2863556	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.882	14.898	1.000	1377957	40.00	ng/uL	-0.02
88) A Perylene-d12	264	18.080	18.096	1.000	771472	40.00	ng/uL	-0.02
96) B 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	830950	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.201	7.206	1.000	3179453	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.533	9.538	1.000	1633348	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.410	11.416	1.000	2863667	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.882	14.898	1.000	1377357	40.00	ng/uL	-0.02
148) B Perylene-d12	264	18.080	18.096	1.000	771472	40.00	ng/uL	-0.02
151) J Naphthalene-d8	136	7.201	7.206	1.000	3179453	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.410	11.416	1.000	2863556	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.882	14.898	1.000	1377957	40.00	ng/uL	-0.02
159) D Naphthalene-d8	136	7.201	7.206	1.000	3179453	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.533	9.538	1.000	1633348	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.410	11.416	1.000	2863667	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.882	14.898	1.000	1377357	40.00	ng/uL	-0.02
173) E Naphthalene-d8	136	7.201	7.206	1.000	3179453	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.080	18.096	1.000	771472	40.00	ng/uL	-0.02
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.719	3.714	0.688	563667	22.55	ng/uL	0.00
8) Phenol-d5	99	4.874	4.885	0.902	496503	16.33	ng/uL	-0.01
23) Nitrobenzene-d5	82	6.190	6.195	0.860	683493	25.33	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.661	8.666	0.909	1045517	20.59	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.533	10.539	1.105	298393	51.66	ng/uL	0.00
80) p-Terphenyl-d14	244	13.400	13.405	0.900	327891	7.16	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	23%
8) Phenol-d5	100.000	15 - 91	16%
23) Nitrobenzene-d5	50.000	35 - 113	51%
44) 2-Fluorobiphenyl	50.000	31 - 107	41%
63) 2,4,6-Tribromophenol	100.000	32 - 122	52%
80) p-Terphenyl-d14	50.000	35 - 134	14%#

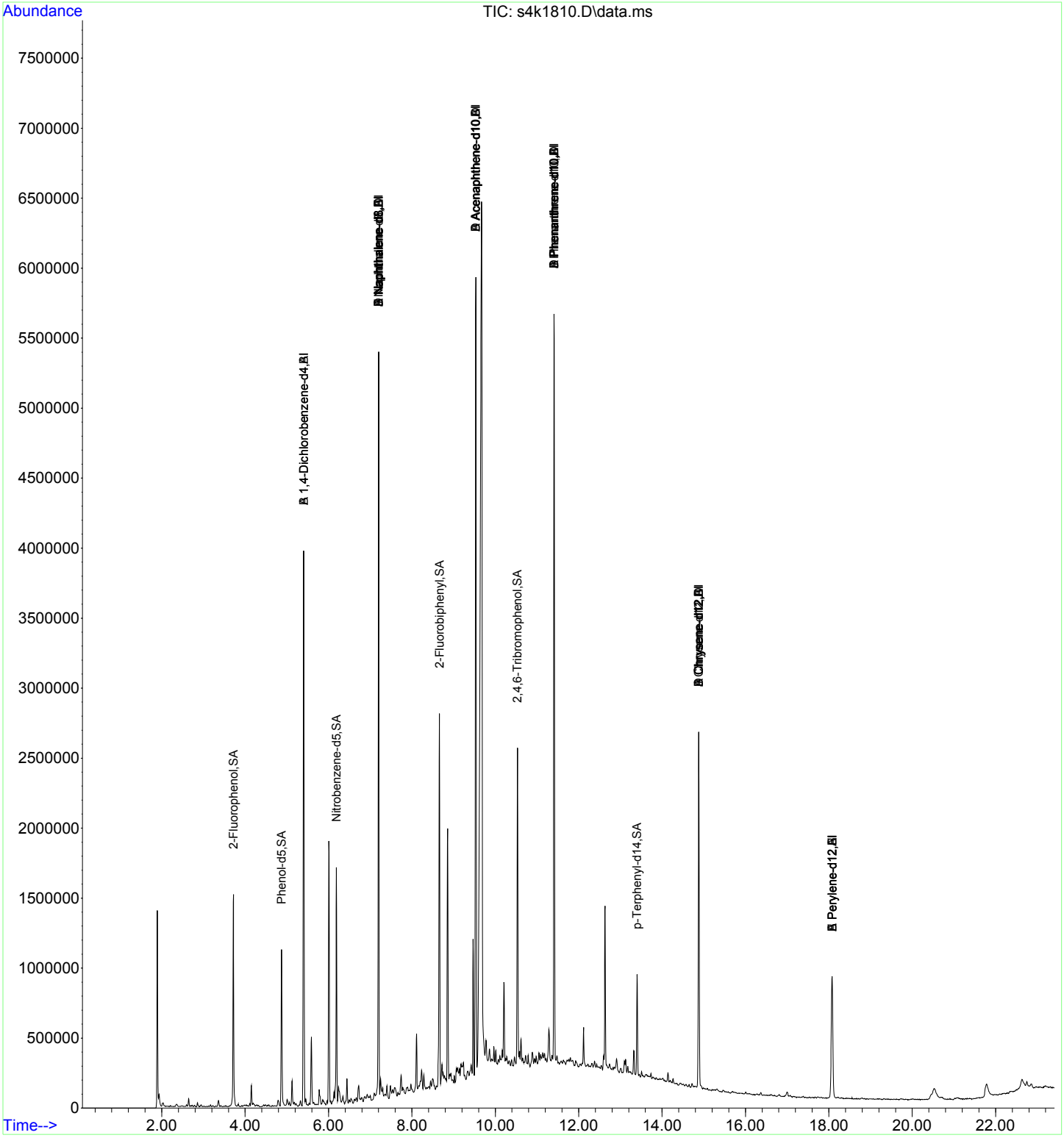
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

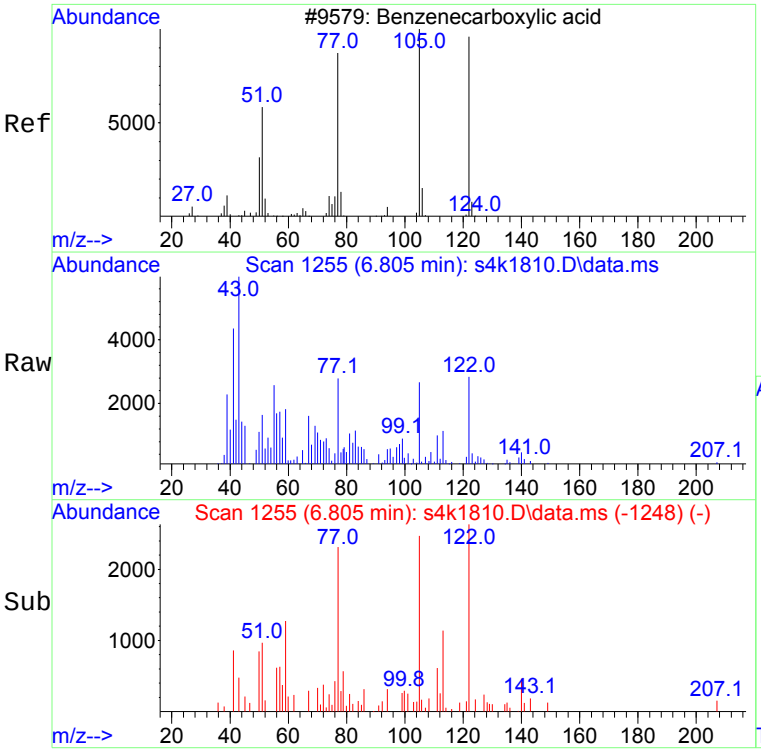
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 18 13:28:56 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

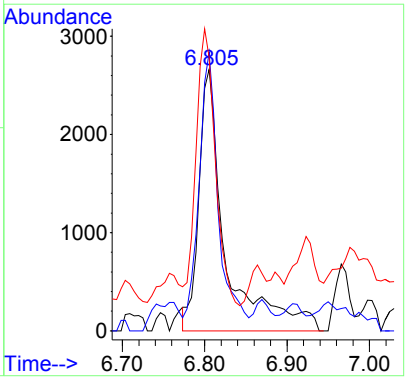


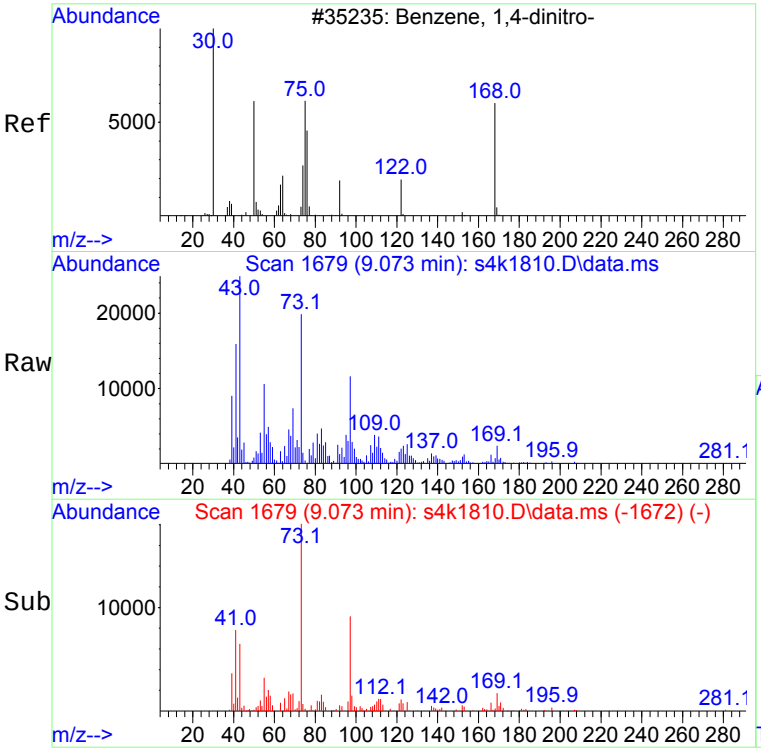


#30 BEFORE analyst DELETION
Benzoic acid
Concen: 11.97 ng/uL
RT: 6.805 min Scan# 1255
Delta R.T. -0.112 min
Lab File: s4k1810.D
Acq: 18 Nov 2020 13:01

Tgt Ion:105 Resp: 6001

Ion	Ratio	Lower	Upper
105	100		
122	70.0	51.3	111.3
77	75.9	45.6	105.6

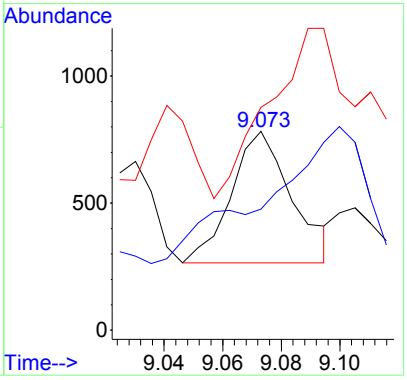


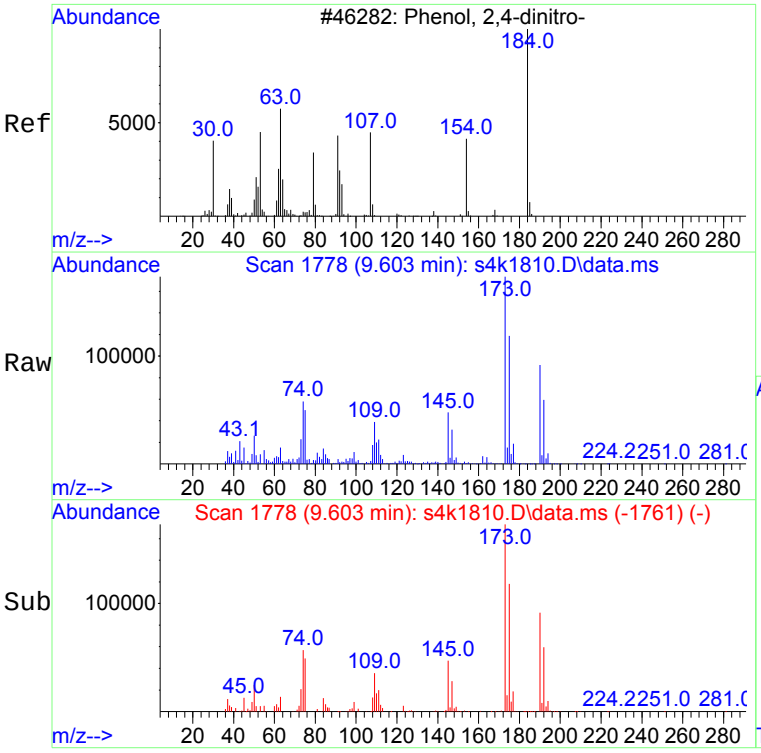


#47 BEFORE analyst DELETION
1,4-Dinitrobenzene
Concen: 4.12 ng/uL
RT: 9.073 min Scan# 1679
Delta R.T. -0.064 min
Lab File: s4k1810.D
Acq: 18 Nov 2020 13:01

Tgt Ion:168 Resp: 742

Ion	Ratio	Lower	Upper
168	100		
75	121.2	89.3	149.3
50	159.0	83.7	143.7#

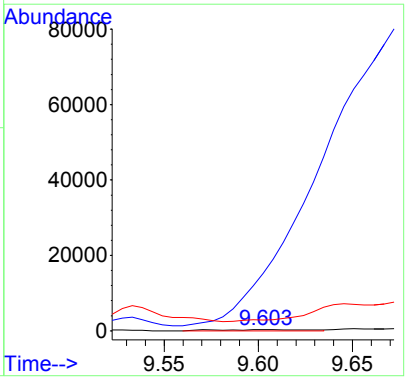


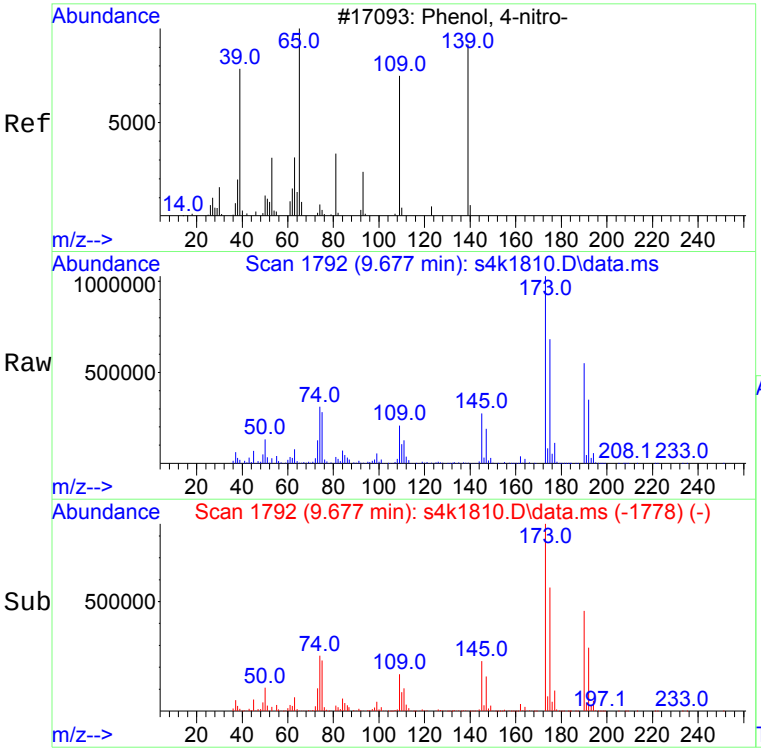


#55 BEFORE analyst DELETION
2,4-Dinitrophenol
Concen: 11.78 ng/uL
RT: 9.603 min Scan# 1778
Delta R.T. -0.011 min
Lab File: s4k1810.D
Acq: 18 Nov 2020 13:01

Tgt Ion:184 Resp: 1065

Ion	Ratio	Lower	Upper
184	100		
63	259.2	175.8	235.8#
107	645.9	10.9	70.9#

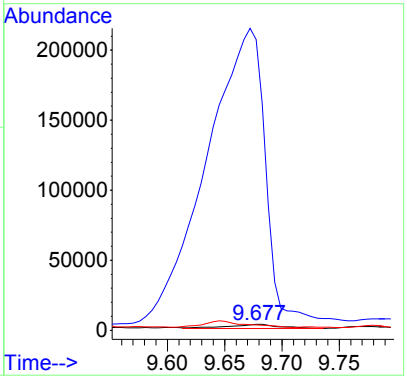


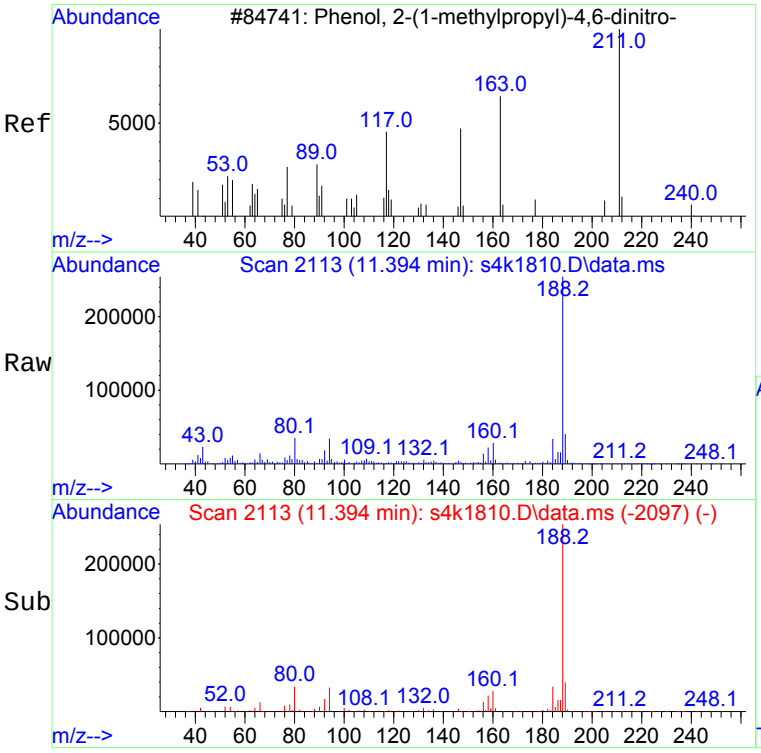


#59 BEFORE analyst DELETION
4-Nitrophenol
Concen: 4.46 ng/uL
RT: 9.677 min Scan# 1792
Delta R.T. -0.027 min
Lab File: s4k1810.D
Acq: 18 Nov 2020 13:01

Tgt Ion:139 Resp: 8926

Ion	Ratio	Lower	Upper
139	100		
109	7216.7	34.9	94.9#
65	130.1	64.7	124.7#

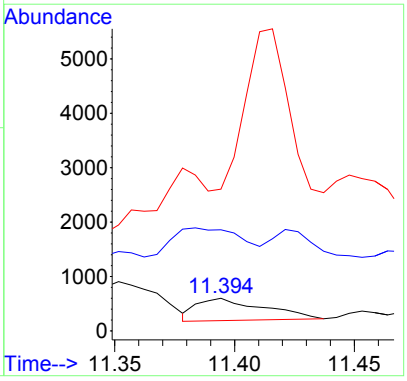


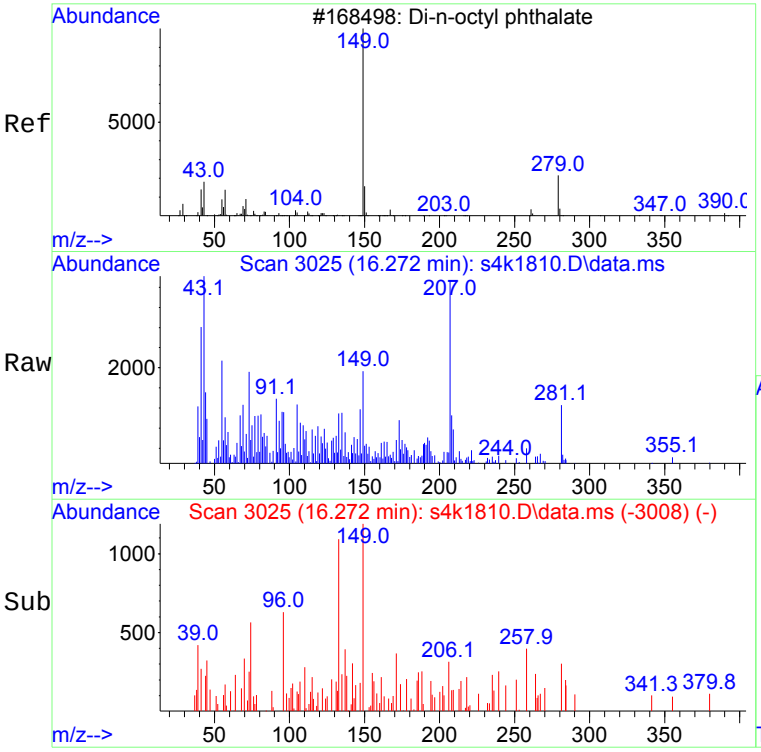


#72 BEFORE analyst DELETION
Dinoseb
Concen: 8.49 ng/uL
RT: 11.394 min Scan# 2113
Delta R.T. -0.016 min
Lab File: s4k1810.D
Acq: 18 Nov 2020 13:01

Tgt Ion:211 Resp: 801

Ion	Ratio	Lower	Upper
211	100		
163	133.6	16.9	76.9#
147	93.6	3.8	63.8#

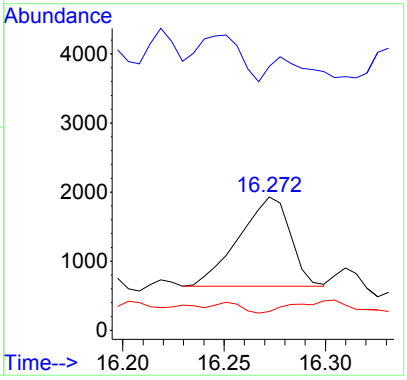




#87 BEFORE analyst DELETION
Di-n-octylphthalate
Concen: 0.43 ng/uL
RT: 16.272 min Scan# 3025
Delta R.T. -0.011 min
Lab File: s4k1810.D
Acq: 18 Nov 2020 13:01

Tgt Ion:149 Resp: 2286

Ion	Ratio	Lower	Upper
149	100		
43	43.0	0.0	42.3#
167	0.0	0.0	31.5



Library Search Compound Report

JMB 11/18/2020

JMB 11/19/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

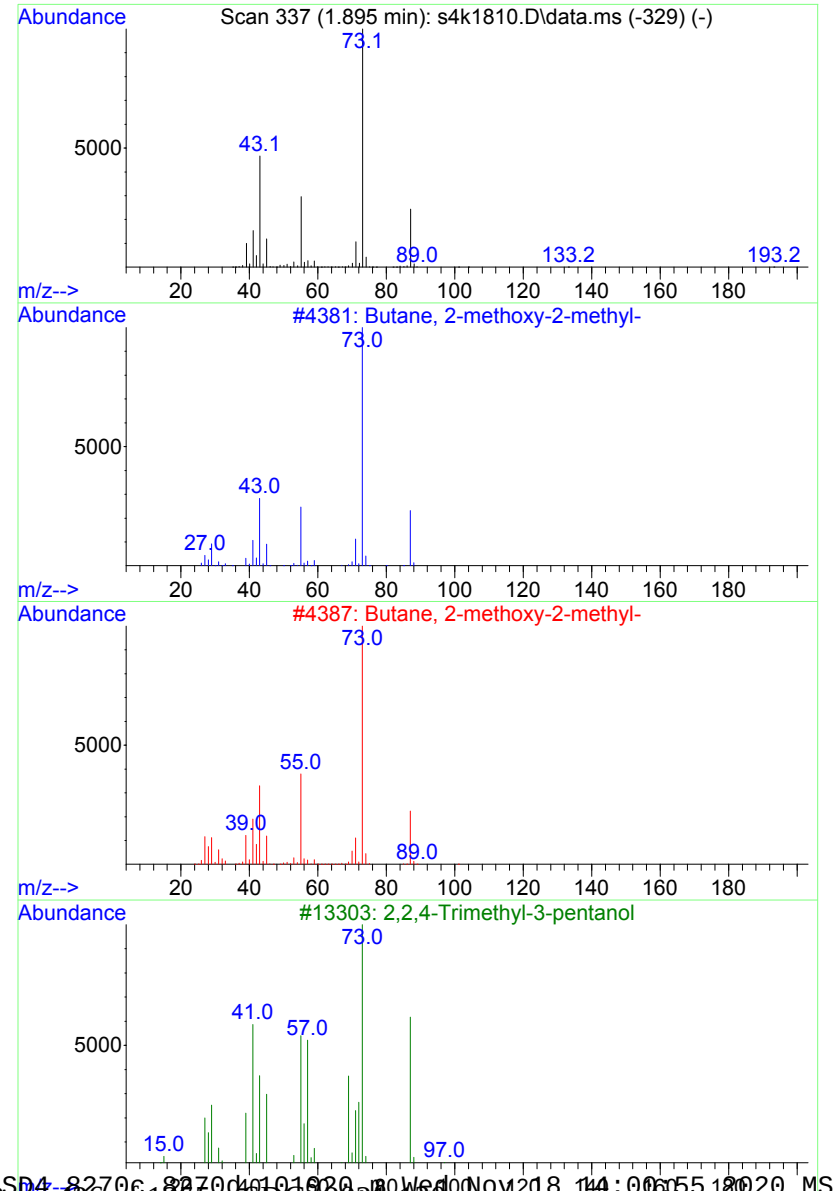
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

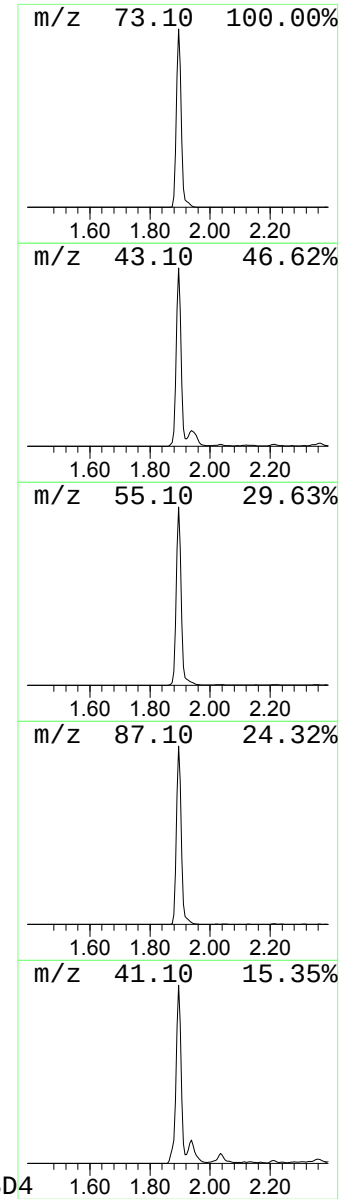
****

Peak Number 1 unknown Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.895	12.56 ng/uL	1623050	A 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	83
2	Butane, 2-methoxy-2-methyl-	102	C6H14O	000994-05-8	64
3	2,2,4-Trimethyl-3-pentanol	130	C8H18O	005162-48-1	40
4	Silane, tetramethyl-	88	C4H12Si	000075-76-3	32
5	Silane, tetramethyl-	88	C4H12Si	000075-76-3	25





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

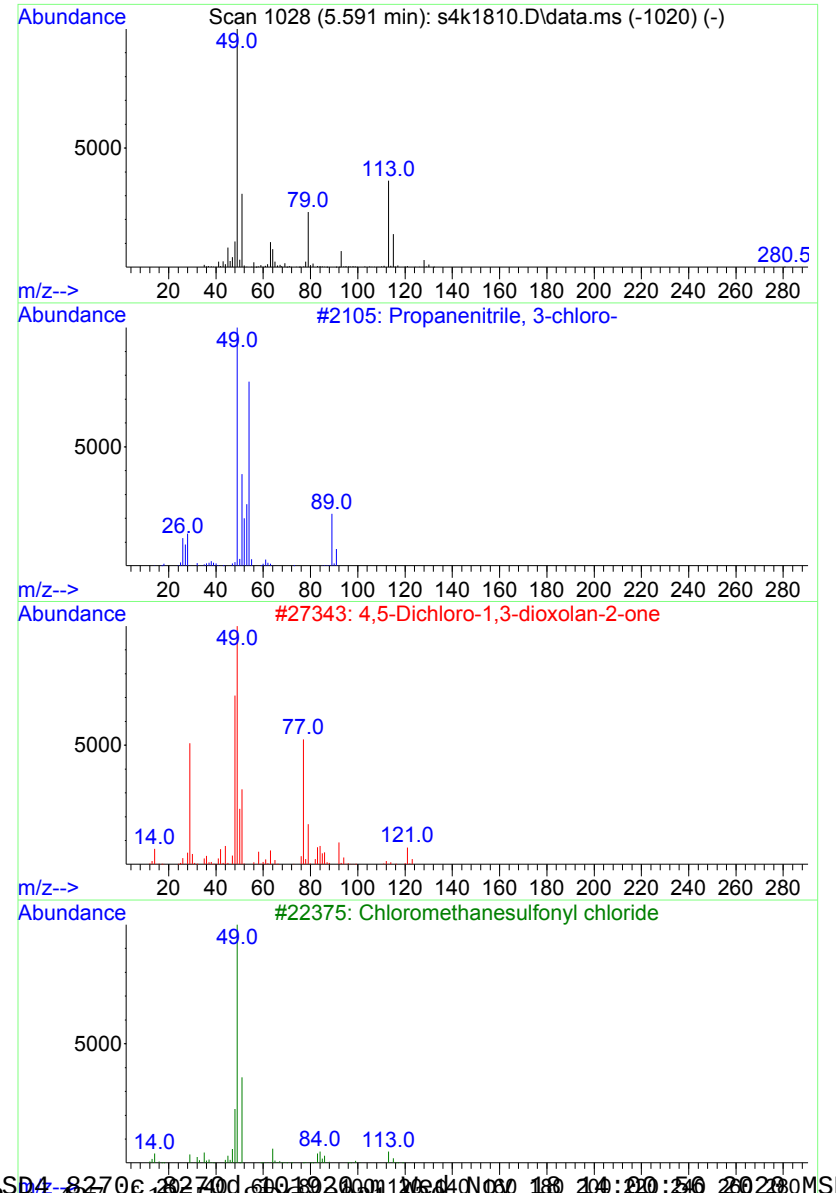
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

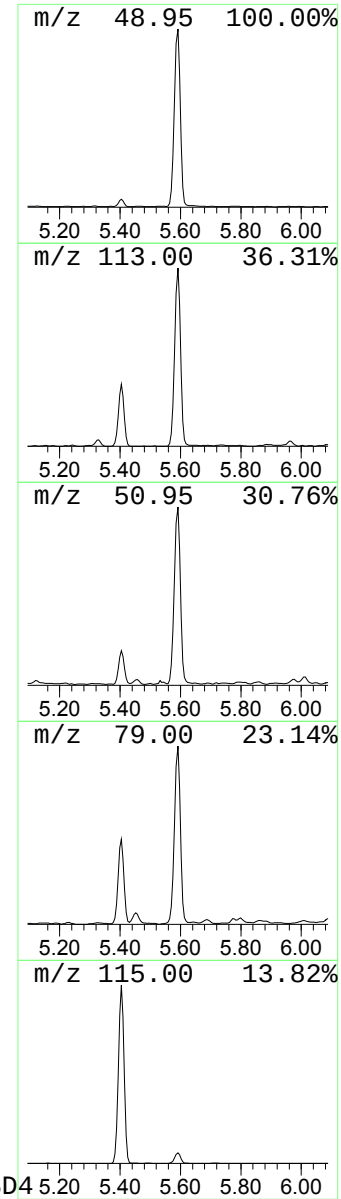
****

Peak Number 2 unknown Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.591	5.54 ng/uL	716044	B 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Propanenitrile, 3-chloro-	89	C3H4ClN	000542-76-7	9
2	4,5-Dichloro-1,3-dioxolan-2-one	156	C3H2Cl2O3	003967-55-3	9
3	Chloromethanesulfonyl chloride	148	CH2Cl2O2S	003518-65-8	4
4	Propanenitrile, 2,2,3-trichloro-	157	C3H2Cl3N	000813-74-1	4
5	4,5-Dichloro-1,3-dioxolan-2-one	156	C3H2Cl2O3	003967-55-3	4





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

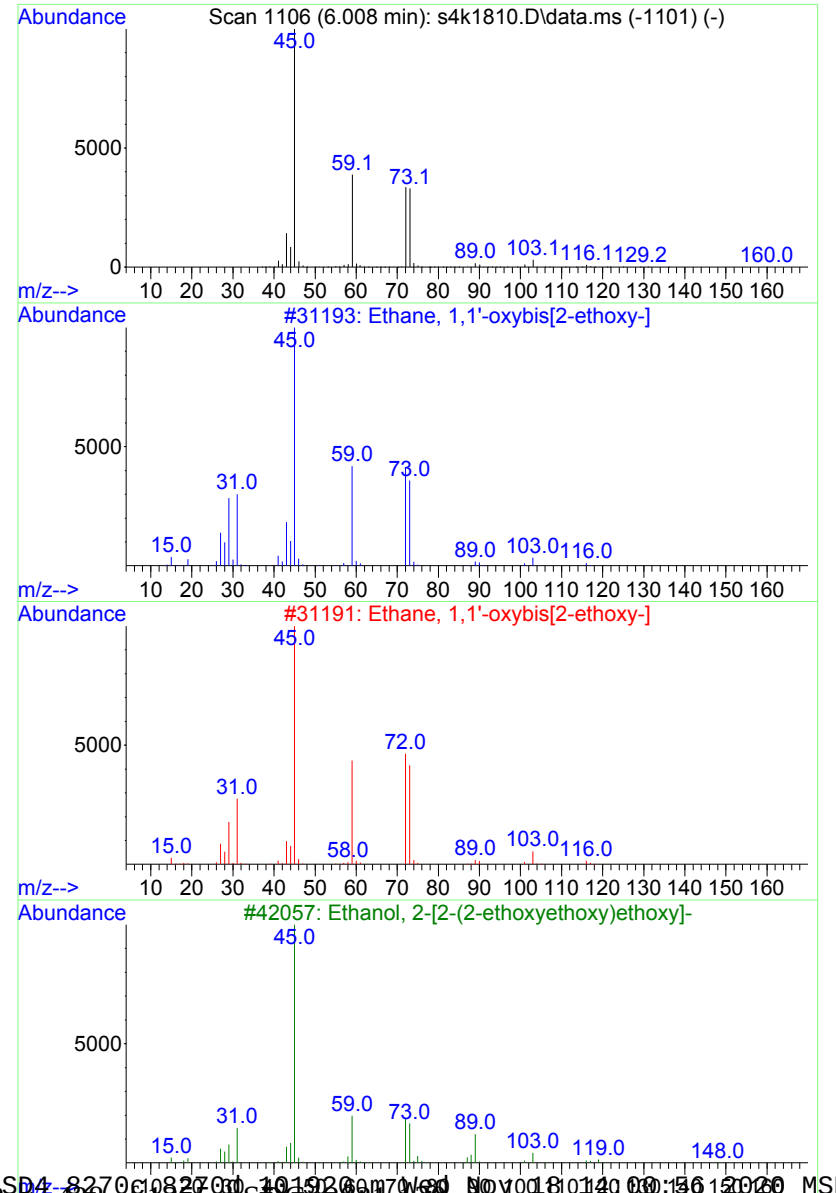
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

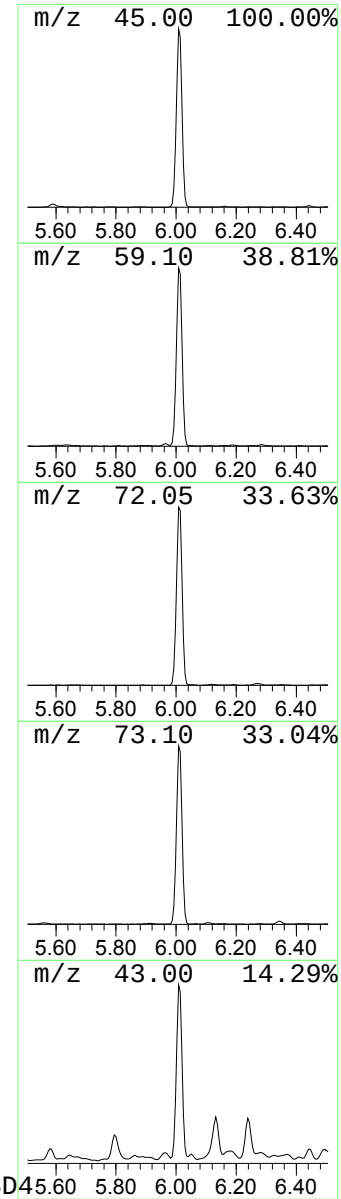
****

Peak Number 3 Ethane, 1,1'-oxybis[2-ethoxy-] Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.008	18.77 ng/uL	2425590	B 1,4-Dichlorobenzene-d4	5.404

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	90
2	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	83
3	Ethanol, 2-[2-(2-ethoxyethoxy)et...	178	C8H18O4	000112-50-5	64
4	Ethane, 1,1'-oxybis[2-ethoxy-]	162	C8H18O3	000112-36-7	45
5	2-Propanol, 1-(1-methylethoxy)-	118	C6H14O2	003944-36-3	45





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

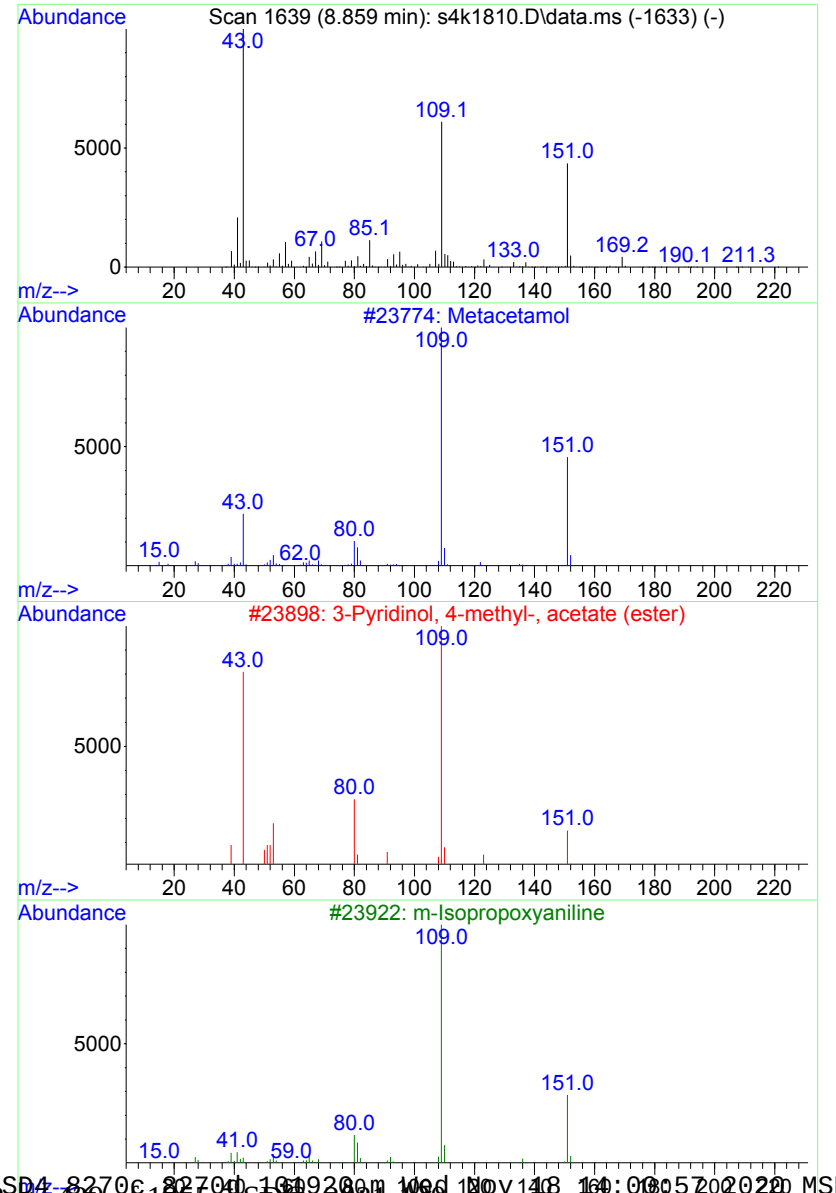
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

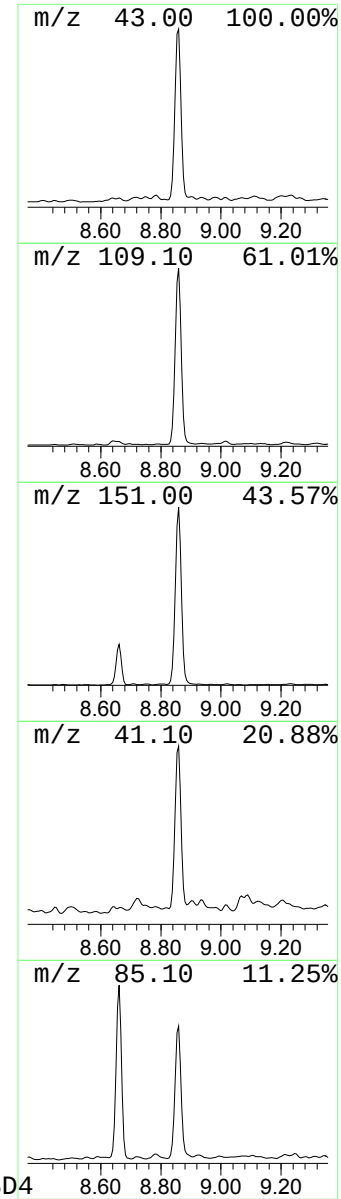
****

Peak Number 4 unknown Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.859	13.03 ng/uL	2497140	A Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Metacetamol	151	C8H9NO2	000621-42-1	53
2	3-Pyridinol, 4-methyl-, acetate ...	151	C8H9NO2	001006-96-8	53
3	m-Isopropoxyaniline	151	C9H13NO	041406-00-2	42
4	Butanamide, N-acetyl-N-(4-hydrox...	221	C12H15NO3	1000107-08-7	36
5	Pyridine, 3-butyl-, 1-oxide	151	C9H13NO	031396-33-5	36





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

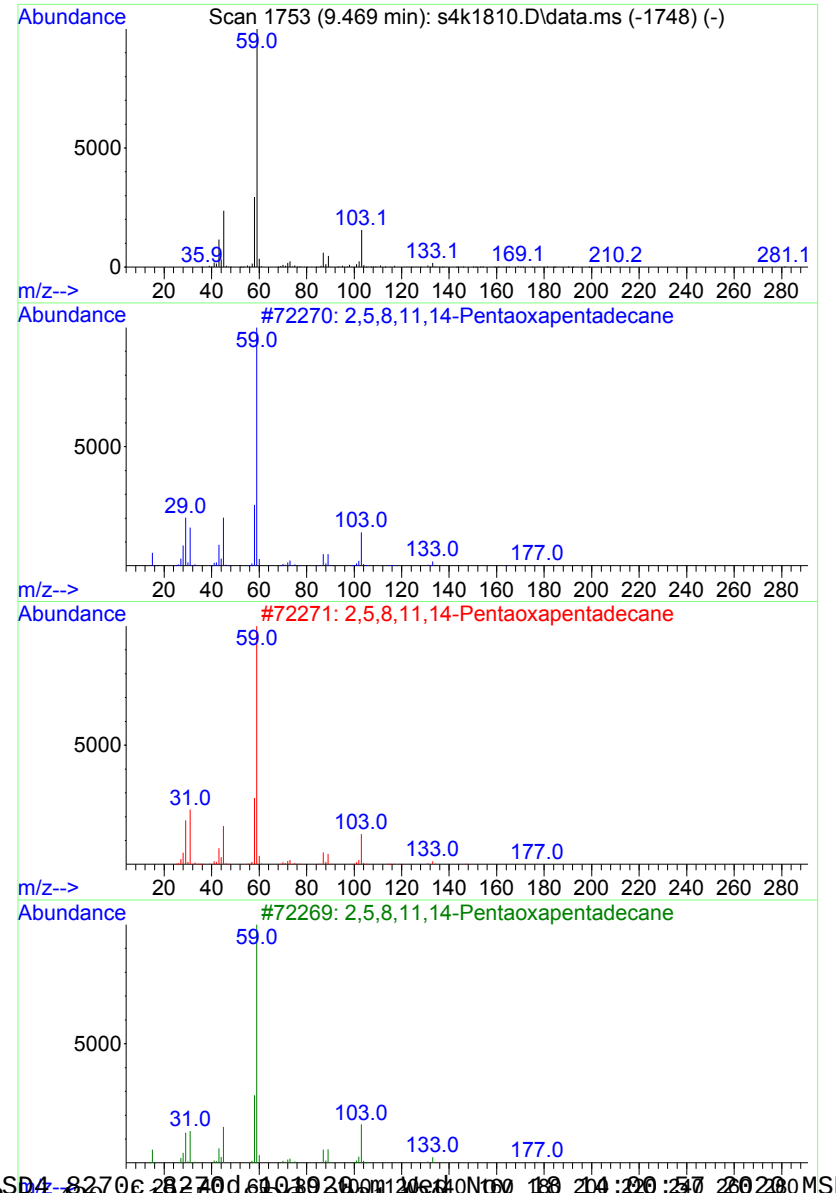
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

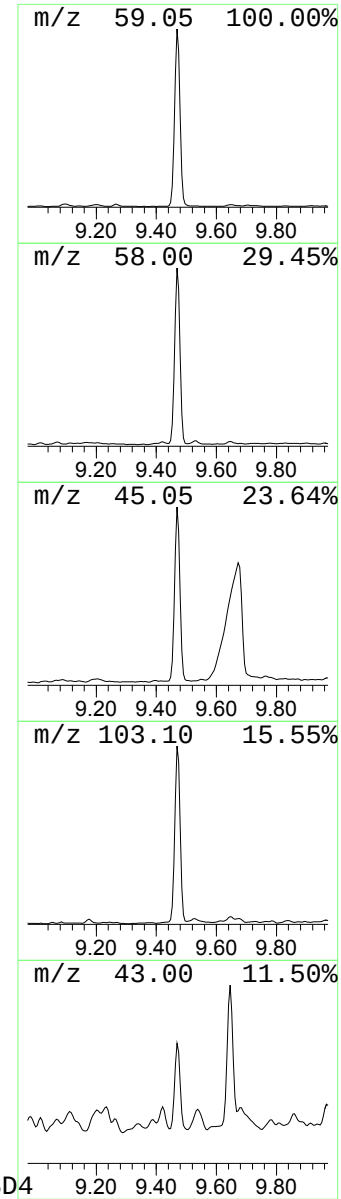
****

Peak Number 5 2,5,8,11,14-Pentaoxapentade... Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.469	6.19 ng/uL	1186290	A Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	90
2	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	90
3	2,5,8,11,14-Pentaoxapentadecane	222	C10H22O5	000143-24-8	86
4	2,5,8,11-Tetraoxadodecane	178	C8H18O4	000112-49-2	72
5	2,5,8,11-Tetraoxadodecane	178	C8H18O4	000112-49-2	64





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

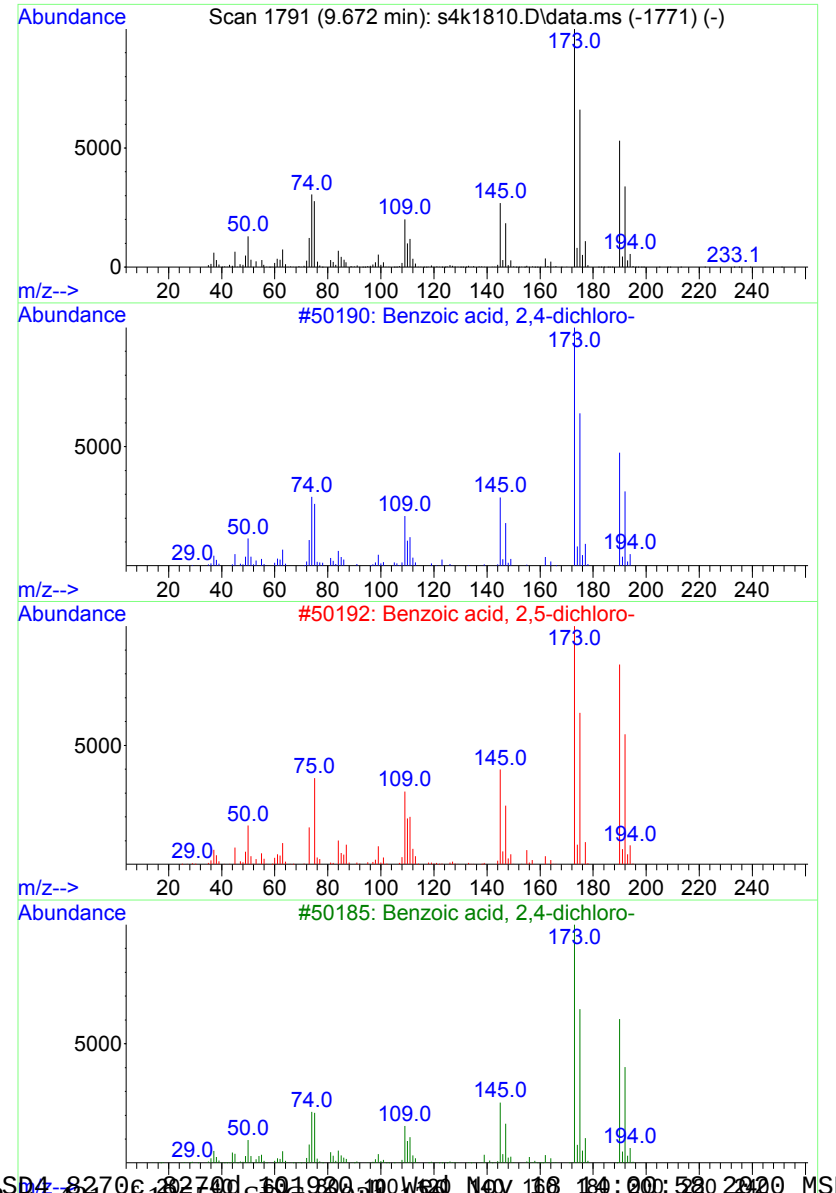
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

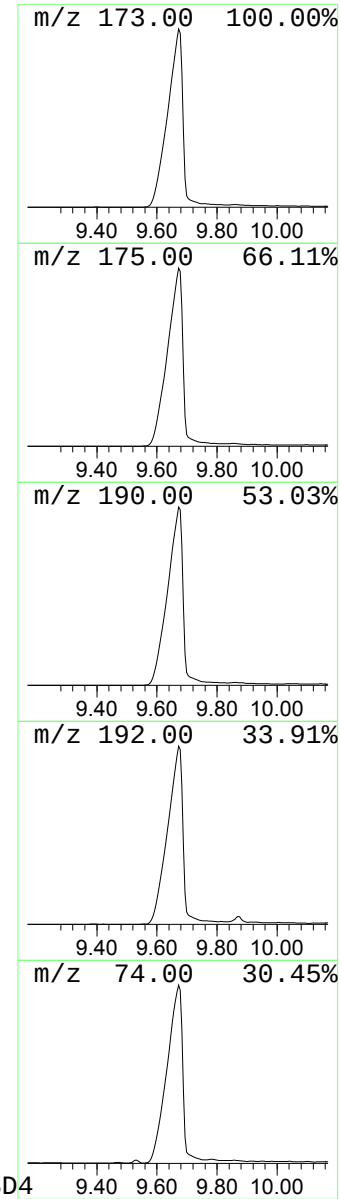
****

Peak Number 6 Benzoic acid, 2,4-dichloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.672	115.40 ng/uL	22107500	D Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	99
2	Benzoic acid, 2,5-dichloro-	190	C7H4Cl2O2	000050-79-3	98
3	Benzoic acid, 2,4-dichloro-	190	C7H4Cl2O2	000050-84-0	98
4	Benzoic acid, 2,6-dichloro-	190	C7H4Cl2O2	000050-30-6	96
5	Benzoic acid, 2,5-dichloro-	190	C7H4Cl2O2	000050-79-3	95





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Data File : s4k1810.D
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Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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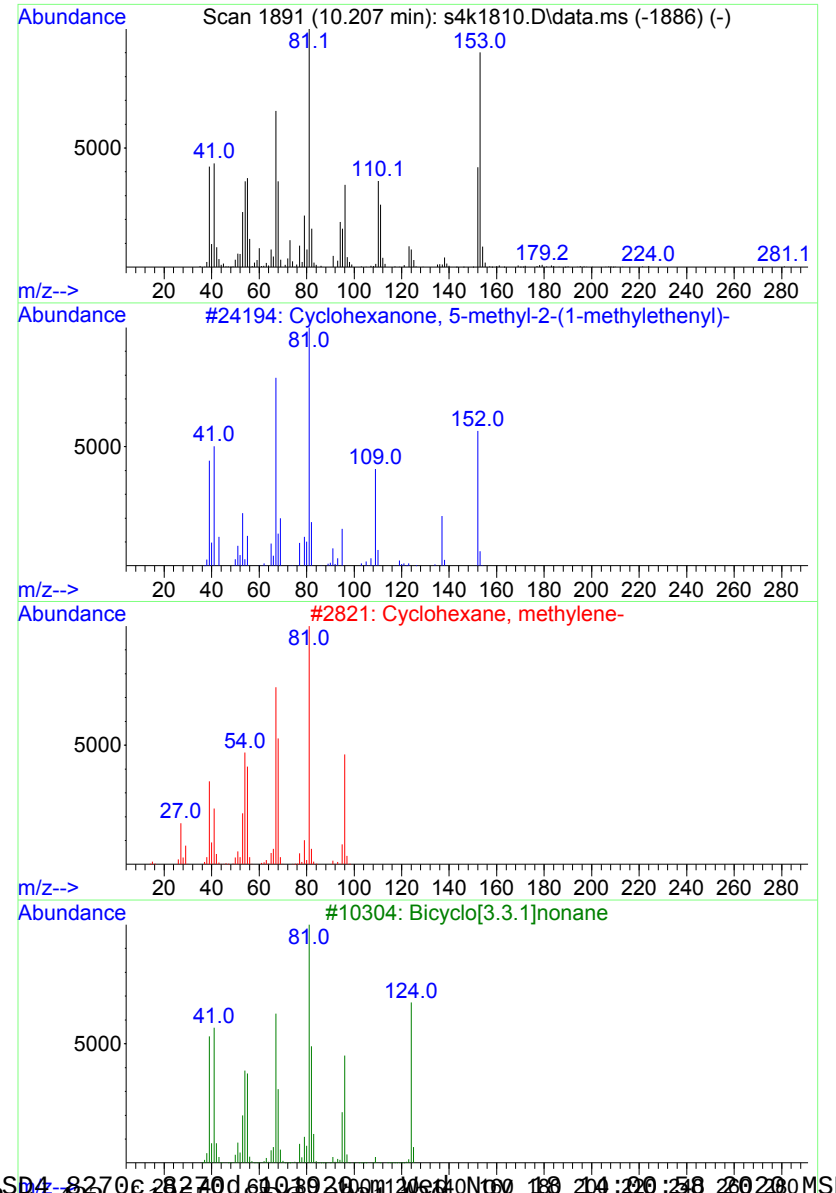
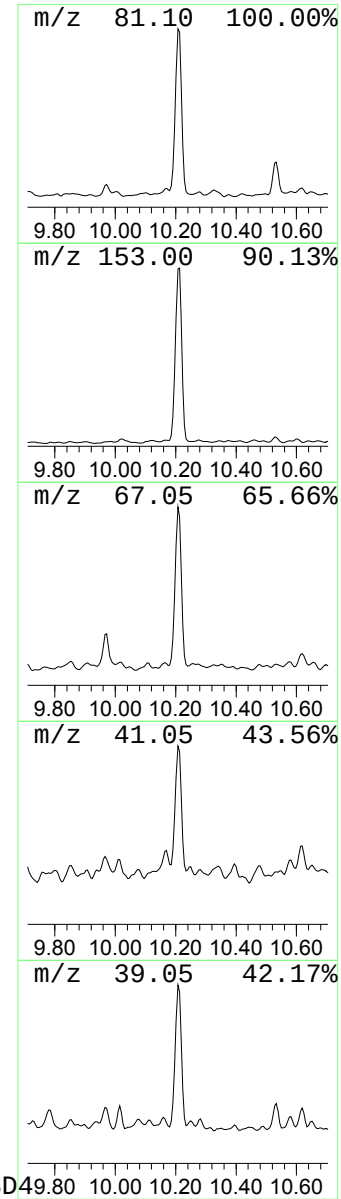
Peak Number 7 Cyclohexanone, 5-methyl-2-(... Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.207	4.08 ng/uL	781752	D Acenaphthene-d10	9.533

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexanone, 5-methyl-2-(1-met...	152	C10H16O	000529-00-0	55
2	Cyclohexane, methylene-	96	C7H12	001192-37-6	46
3	Bicyclo[3.3.1]nonane	124	C9H16	000280-65-9	46
4	Cyclohexane, methylene-	96	C7H12	001192-37-6	46
5	Cyclohexanone, 5-methyl-2-(1-met...	152	C10H16O	015932-80-6	43





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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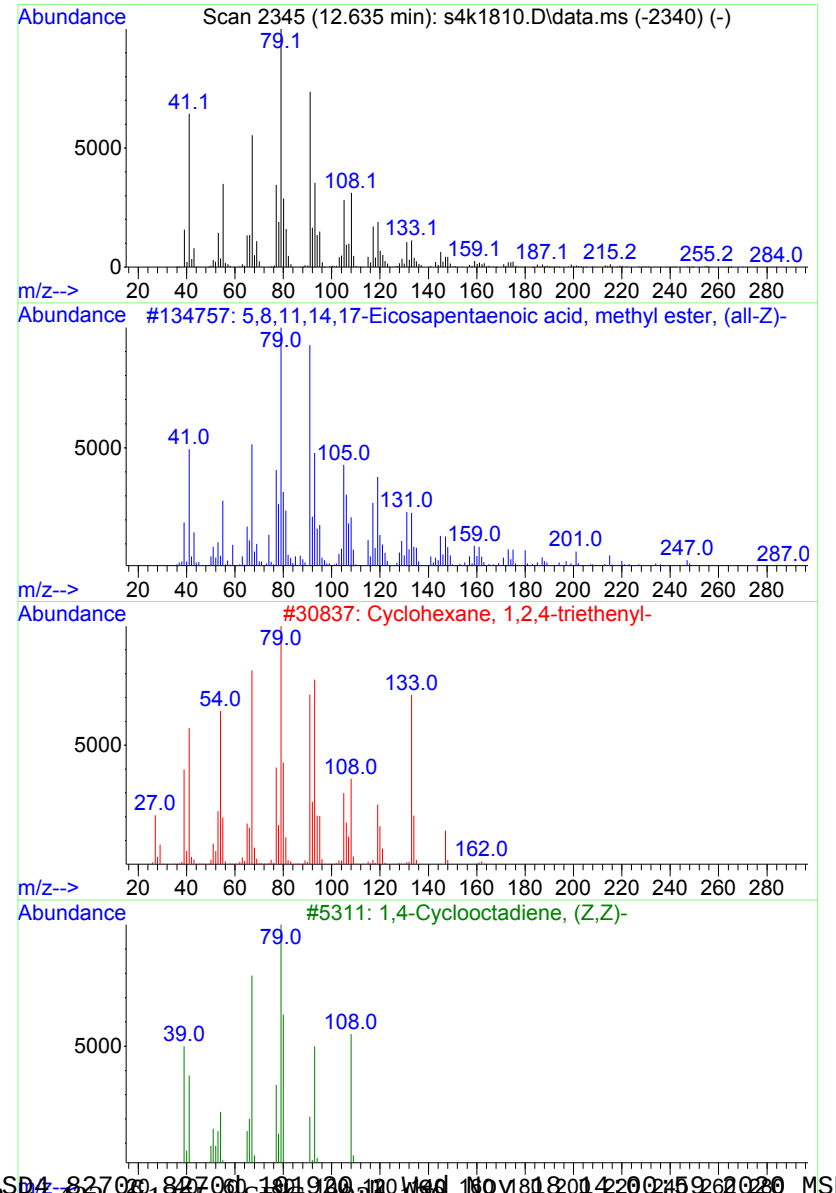
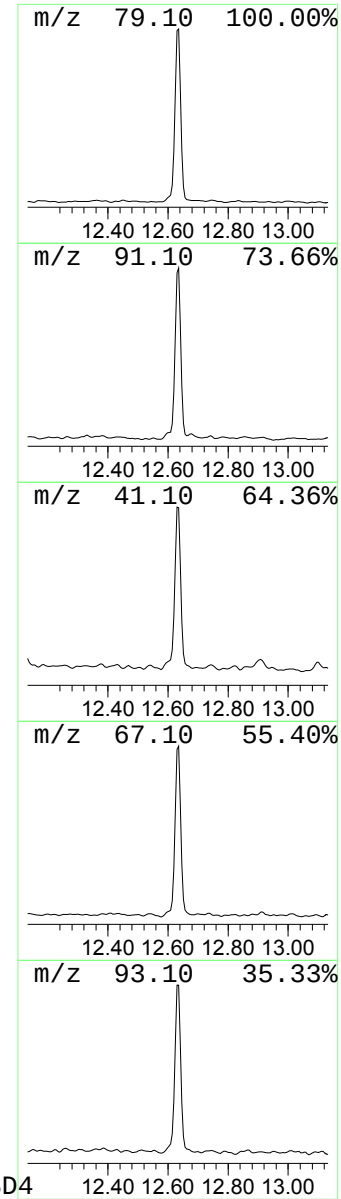
Peak Number 8 5,8,11,14,17-Eicosapentaeno... Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.635	9.04 ng/uL	1589180	D Phenanthrene-d10	11.410

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	5,8,11,14,17-Eicosapentaenoic ac...	316	C21H32O2	002734-47-6	90
2	Cyclohexane, 1,2,4-triethenyl-	162	C12H18	002855-27-8	53
3	1,4-Cyclooctadiene, (Z,Z)-	108	C8H12	016327-22-3	53
4	1,4,8-Dodecatriene, (E,E,E)-	162	C12H18	024252-85-5	50
5	Cyclohexene, 3-ethenyl-	108	C8H12	000766-03-0	49





Library Search Compound Report

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Data File : s4k1810.D
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Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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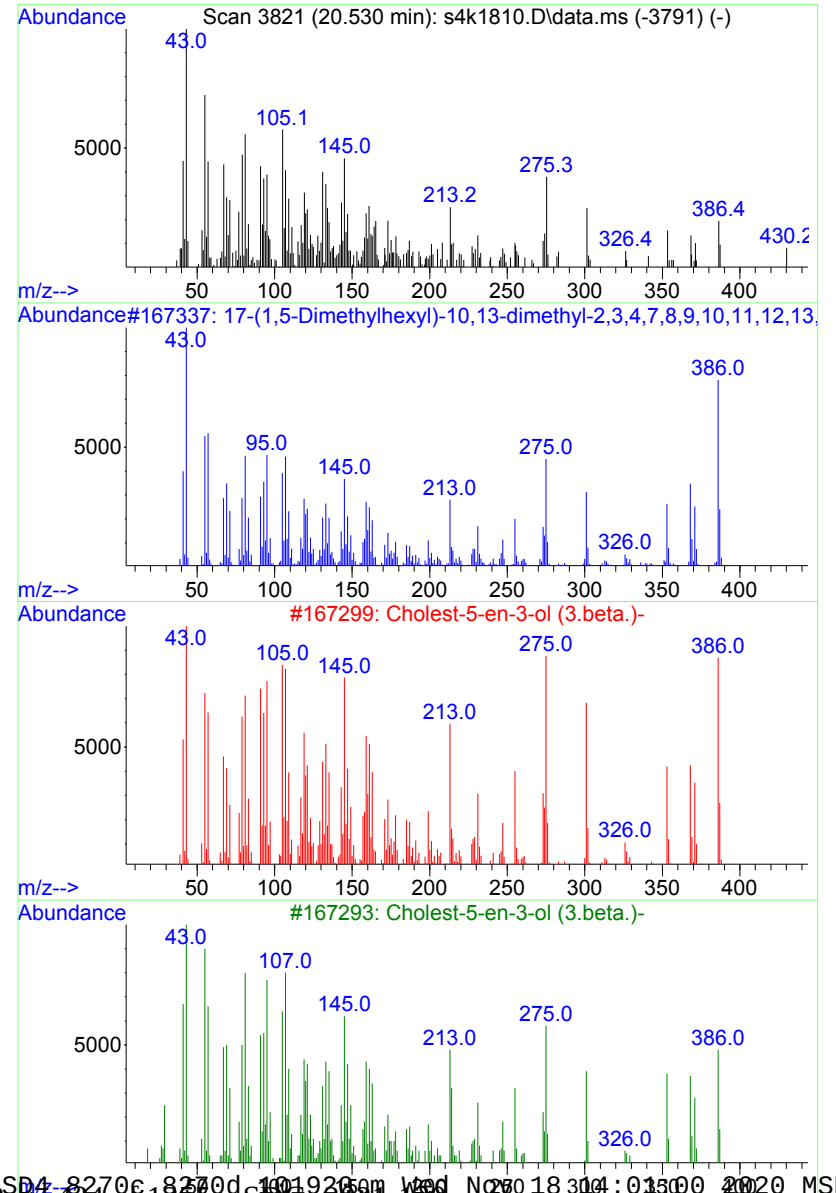
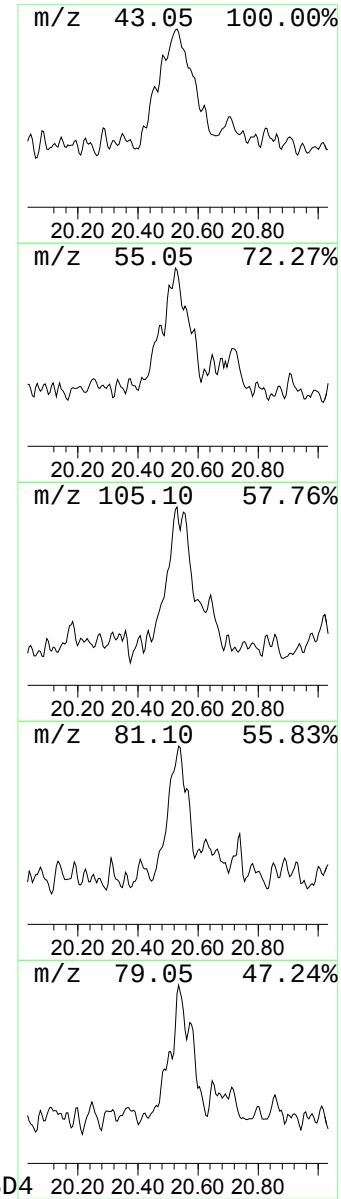
Peak Number 9 17-(1,5-Dimethylhexyl)-10,1... Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.530	11.02 ng/uL	642287	E Perylene-d12	18.080

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	17-(1,5-Dimethylhexyl)-10,13-dim...	386	C27H46O	1000210-38-4	98
2	Cholest-5-en-3-ol (3.beta.)-	386	C27H46O	000057-88-5	96
3	Cholest-5-en-3-ol (3.beta.)-	386	C27H46O	000057-88-5	93
4	26-Nor-5-cholesten-3.beta.-ol-25...	386	C26H42O2	007494-34-0	91
5	26-Nor-5-cholesten-3.beta.-ol-25...	386	C26H42O2	007494-34-0	91





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

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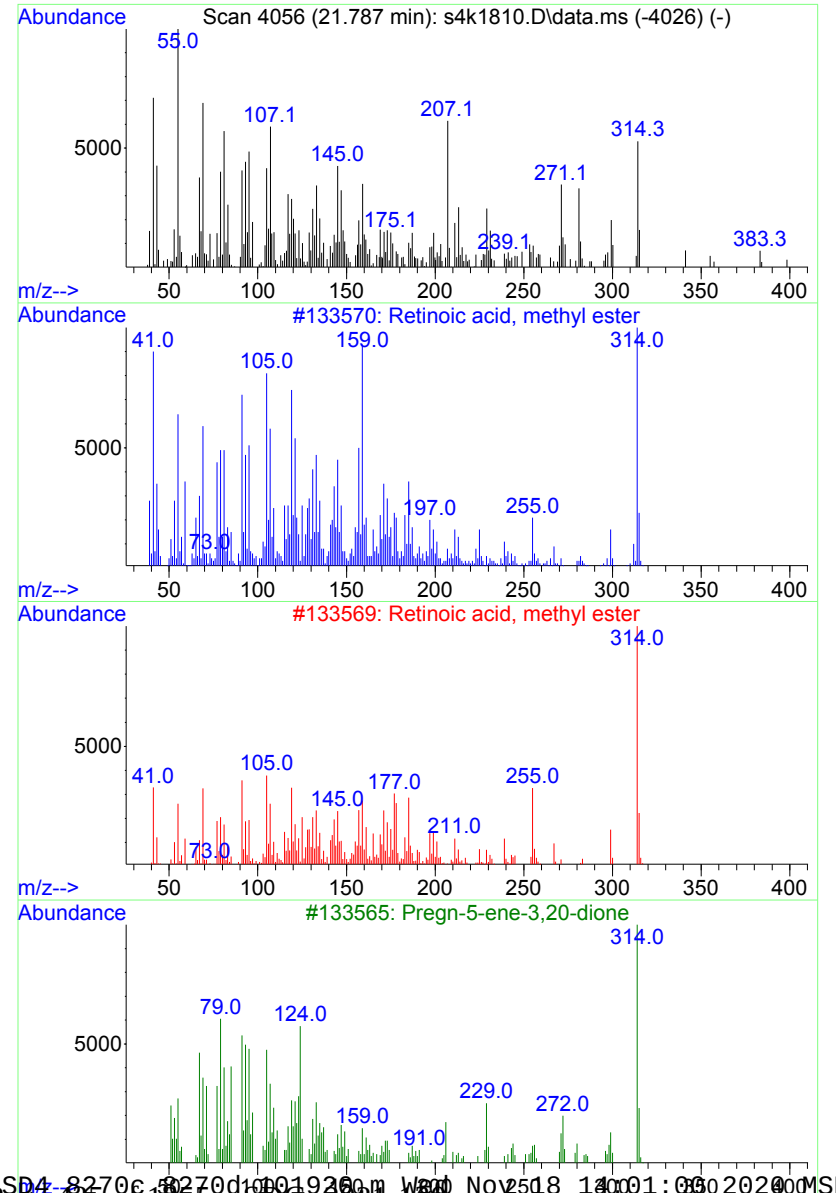
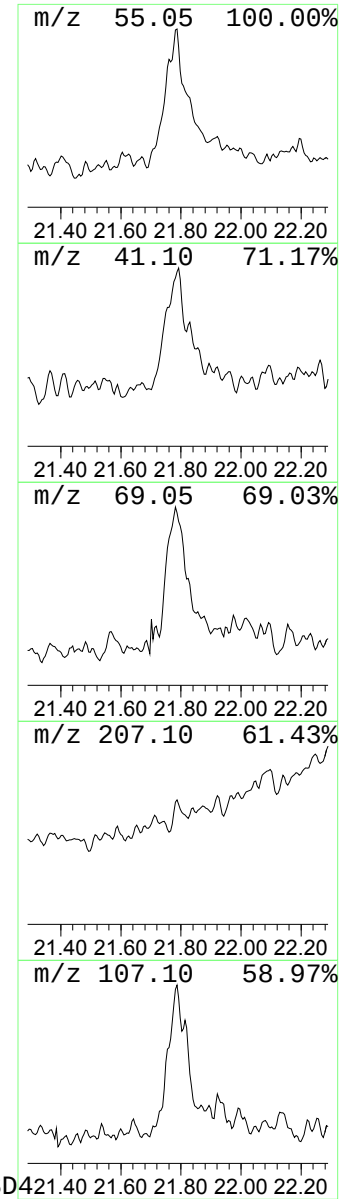
Peak Number 10 unknown Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.787	11.99 ng/uL	698646	E Perylene-d12	18.080

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Retinoic acid, methyl ester	314	C21H30O2	000339-16-2	70
2	Retinoic acid, methyl ester	314	C21H30O2	000339-16-2	49
3	Pregn-5-ene-3,20-dione	314	C21H30O2	001236-09-5	35
4	Pregnan-20-one, 3-(acetyloxy)-5,...	374	C23H34O4	014148-09-5	22
5	5-Androsten-17.alpha.-ethynyl-3....	314	C21H30O2	1000126-90-5	18





Library Search Compound Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

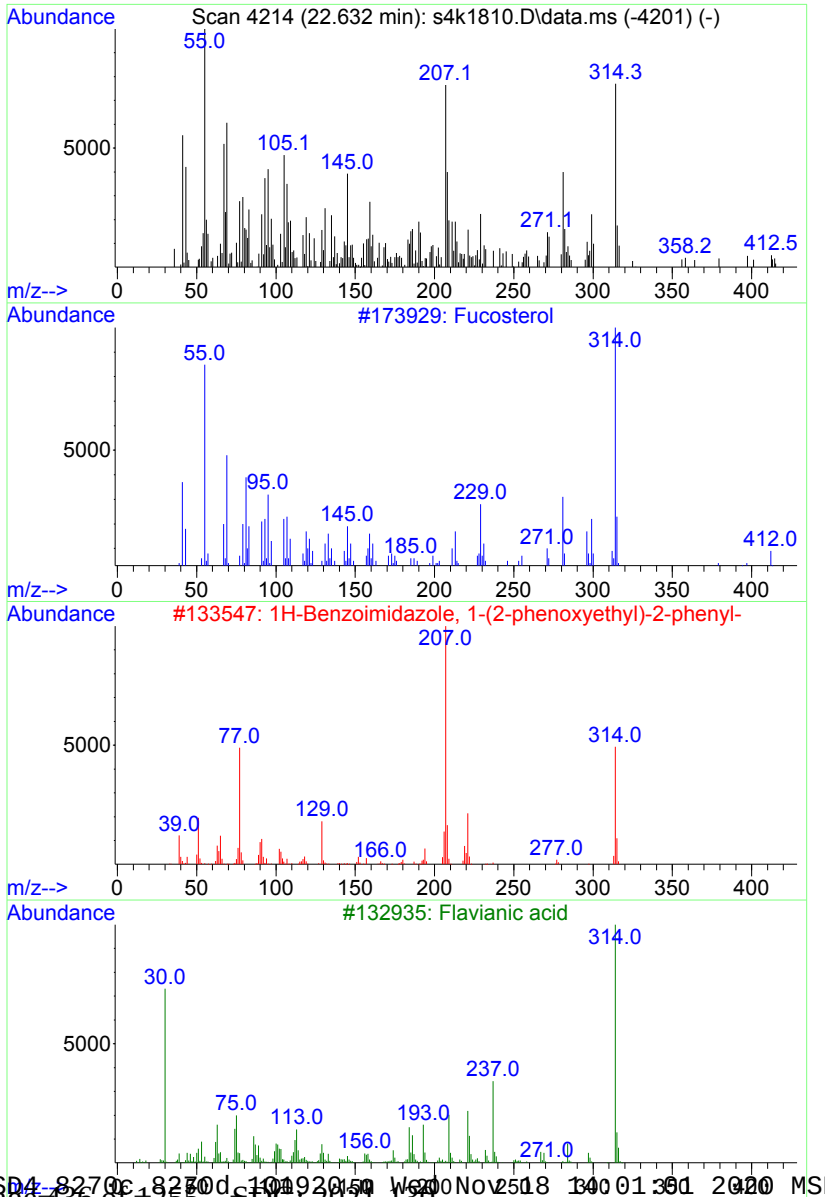
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

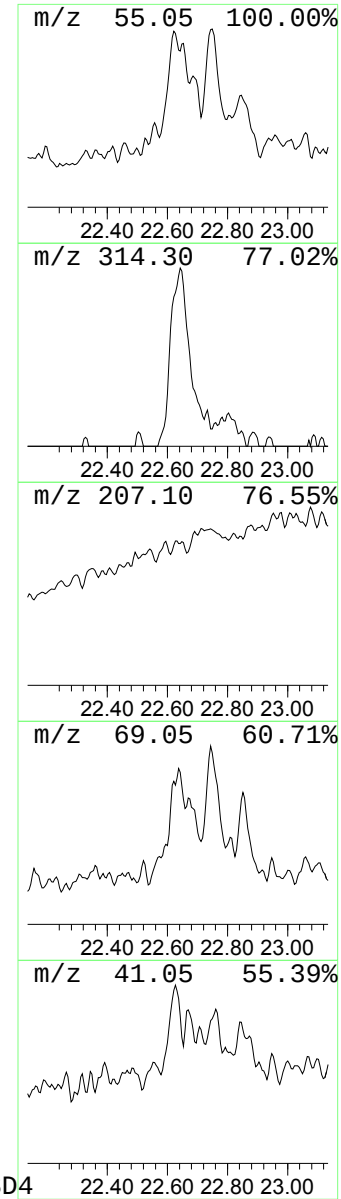
****

Peak Number 11 unknown Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.632	6.54 ng/uL	381349	E Perylene-d12	18.080

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Fucosterol	412	C29H48O	017605-67-3	80
2	1H-Benzoimidazole, 1-(2-phenoxye...	314	C21H18N2O	1000303-92-0	43
3	Flavianic acid	314	C10H6N2O8S	000483-84-1	42
4	Pregn-5-ene-3,20-dione	314	C21H30O2	001236-09-5	38
5	3,7-Dihydroxy-2-(3,4-dimethoxyph...	314	C17H14O6	093322-61-3	25





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1810.D
Acq On : 18 Nov 2020 13:01
Operator : JMB3
Sample : |527510015|2063409|1|SVM|1|ARSL|||
Misc : |MSD1C70D_L|WATER|SMEB05-20-209985|MIX[A,B,D,E,J]||
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: TIC.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
unknown		1.895	12.6	1623050	1	5.404	5168570	40.0
unknown		5.591	5.5	716044	2	5.404	5168570	40.0
Ethane, 1,1'-oxybis[2-ethoxy-]	000112-36-7	6.008	18.8	2425590	2	5.404	5168570	40.0
unknown		8.859	13.0	2497140	8	9.533	7663160	40.0
2,5,8,11,14-Pentaoxapentade...	000143-24-8	9.469	6.2	1186290	8	9.533	7663160	40.0
Benzoic acid, 2,4-dichloro-	000050-84-0	9.672	115.4	22107500	10	9.533	7663160	40.0
Cyclohexanone, 5-methyl-2-(...	000529-00-0	10.207	4.1	781752	10	9.533	7663160	40.0
5,8,11,14,17-Eicosapentaeno...	002734-47-6	12.635	9.0	1589180	14	11.410	7035670	40.0
17-(1,5-Dimethylhexyl)-10,1...	1000210-38-4	20.530	11.0	642287	21	18.080	2331500	40.0
unknown		21.787	12.0	698646	21	18.080	2331500	40.0
unknown		22.632	6.5	381349	21	18.080	2331500	40.0

Standards

SW846 8270/EPA 625

Calibration Standard Concentration Levels*

MEGA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
1,4-Dichlorobenzene-d4 (INTERNAL STANDARD)										
Naphthalene-d8 (INTERNAL STANDARD)										
Acenaphthene-d10 (INTERNAL STANDARD)										
Phenanthrene-d10 (INTERNAL STANDARD)										
Chrysene-d12 (INTERNAL STANDARD)										
Perylene-d12 (INTERNAL STANDARD)										
2-Fluorophenol (SURROGATE)		10	20	40	50	80	100	120	30	60
Phenol-d5 (SURROGATE)		10	20	40	50	80	100	120	30	60
2-Chlorophenol-d4 (CLP SURROGATE)		10	20	40	50	80	100	120	30	60
1,2-Dichlorobenzene-d4 (CLP SURROGATE)		10	20	40	50	80	100	120	30	60
Nitrobenzene-d5 (SURROGATE)		10	20	40	50	80	100	120	30	60
2-Fluorobiphenyl (SURROGATE)		10	20	40	50	80	100	120	30	60
2,4,6-Tribromophenol (SURROGATE)		10	20	40	50	80	100	120	30	60
p-Terphenyl-d14 (SURROGATE)		10	20	40	50	80	100	120	30	60
N-Nitrosodimethylamine	1**	10	20	40	50	80	100	120	30	60
Pyridine		10	20	40	50	80	100	120	30	60
Aniline		10	20	40	50	80	100	120	30	60
Phenol		10	20	40	50	80	100	120	30	60
bis(2-Chloroethyl)ether		10	20	40	50	80	100	120	30	60
2-Chlorophenol		10	20	40	50	80	100	120	30	60
n-Decane		10	20	40	50	80	100	120	30	60
1,3-Dichlorobenzene		10	20	40	50	80	100	120	30	60
1,4-Dichlorobenzene		10	20	40	50	80	100	120	30	60
Benzyl Alcohol		10	20	40	50	80	100	120	30	60
1,2-Dichlorobenzene		10	20	40	50	80	100	120	30	60
bis(2-Chloro-1-methylethyl)ether		10	20	40	50	80	100	120	30	60
o-Cresol (2-Methylphenol)		10	20	40	50	80	100	120	30	60
N-Nitrosodipropylamine		10	20	40	50	80	100	120	30	60
m,p-Cresols (3-Methylphenol & 4-Methylphenol)		10	20	40	50	80	100	120	30	60
Hexachloroethane		10	20	40	50	80	100	120	30	60
Nitrobenzene		10	20	40	50	80	100	120	30	60
Isophorone		10	20	40	50	80	100	120	30	60
2-Nitrophenol		10	20	40	50	80	100	120	30	60
2,4-Dimethylphenol		10	20	40	50	80	100	120	30	60
bis(2-Chloroethoxy)methane		10	20	40	50	80	100	120	30	60
2,4-Dichlorophenol		10	20	40	50	80	100	120	30	60
Benzoic Acid			20	40	50	80	100	120	30	60
1,2,4-Trichlorobenzene		10	20	40	50	80	100	120	30	60
Naphthalene	1	10	20	40	50	80	100	120	30	60
alpha-Terpineol		10	20	40	50	80	100	120	30	60
4-Chloroaniline		10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
MEGA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Hexachlorobutadiene		10	20	40	50	80	100	120	30	60
4-Chloro-3-methylphenol		10	20	40	50	80	100	120	30	60
2-Methylnaphthalene	1	10	20	40	50	80	100	120	30	60
1-Methylnaphthalene	1	10	20	40	50	80	100	120	30	60
Hexachlorocyclopentadiene		10	20	40	50	80	100	120	30	60
2,3-Dichloroaniline		10	20	40	50	80	100	120	30	60
2,4,6-Trichlorophenol		10	20	40	50	80	100	120	30	60
2,4,5-Trichlorophenol		10	20	40	50	80	100	120	30	60
2-Chloronaphthalene	1	10	20	40	50	80	100	120	30	60
o-Nitroaniline		10	20	40	50	80	100	120	30	60
m-Nitroaniline		10	20	40	50	80	100	120	30	60
Dimethylphthalate	1**	10	20	40	50	80	100	120	30	60
2,6-Dinitrotoluene		10	20	40	50	80	100	120	30	60
Acenaphthylene	1	10	20	40	50	80	100	120	30	60
Acenaphthene	1	10	20	40	50	80	100	120	30	60
2,4-Dinitrophenol			20	40	50	80	100	120	30	60
Dibenzofuran		10	20	40	50	80	100	120	30	60
2,4-Dinitrotoluene		10	20	40	50	80	100	120	30	60
Diethylphthalate	1**	10	20	40	50	80	100	120	30	60
4-Nitrophenol		10	20	40	50	80	100	120	30	60
Fluorene	1	10	20	40	50	80	100	120	30	60
4-Chlorophenyl phenyl ether		10	20	40	50	80	100	120	30	60
2-Methyl-4,6-dinitrophenol		10	20	40	50	80	100	120	30	60
p-Nitroaniline		10	20	40	50	80	100	120	30	60
Diphenylamine		10	20	40	50	80	100	120	30	60
1,2-Diphenylhydrazine		10	20	40	50	80	100	120	30	60
4-Bromophenyl phenyether		10	20	40	50	80	100	120	30	60
Hexachlorobenzene		10	20	40	50	80	100	120	30	60
Pentachlorophenol		10	20	40	50	80	100	120	30	60
n-Octadecane		10	20	40	50	80	100	120	30	60
Phenanthrene	1	10	20	40	50	80	100	120	30	60
Anthracene	1	10	20	40	50	80	100	120	30	60
Di-n-butylphthalate	1**	10	20	40	50	80	100	120	30	60
Fluoranthene	1	10	20	40	50	80	100	120	30	60
Pyrene	1	10	20	40	50	80	100	120	30	60
Butylbenzylphthalate	1**	10	20	40	50	80	100	120	30	60
Benzo(a)anthracene	1	10	20	40	50	80	100	120	30	60
Chrysene	1	10	20	40	50	80	100	120	30	60
bis (2-Ethylhexyl) phthalate	1	10	20	40	50	80	100	120	30	60
Di-n-octylphthalate	1**	10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
MEGA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Benzo(b)fluoranthene	1	10	20	40	50	80	100	120	30	60
Benzo(k)fluoranthene	1	10	20	40	50	80	100	120	30	60
Benzo(a)pyrene	1	10	20	40	50	80	100	120	30	60
Indeno-(1,2,3-cd)pyrene	1	10	20	40	50	80	100	120	30	60
Dibenzo(a,h)anthracene	1	10	20	40	50	80	100	120	30	60
Benzo(ghi)perylene	1	10	20	40	50	80	100	120	30	60
m-Dinitrobenzene		10	20	40	50	80	100	120	30	60
2,3,4,6-Tetrachlorophenol		10	20	40	50	80	100	120	30	60
Dinoseb		10	20	40	50	80	100	120	30	60
Carbazole	1	10	20	40	50	80	100	120	30	60
p-Benzoquinone		10	20	40	50	80	100	120	30	60
Methoxychlor		10	20	40	50	80	100	120	30	60
p-Toluidine		10	20	40	50	80	100	120	30	60
m-Toluidine		10	20	40	50	80	10	120	30	60
1,4-Dinitrobenzene		10	20	40	50	80	100	120	30	60
2-Ethoxyethanol		10	20	40	50	80	100	120	30	60
Phthalic anhydride		10	20	40	50	80	100	120	30	60
Methylenebis(2-chloroaniline)		10	20	40	50	80	100	120	30	60
Dibenzo(a,e)pyrene		10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
AP MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Benzaldehyde		10	20	40	50	80	100	120	30	60
Acetophenone		10	20	40	50	80	100	120	30	60
Caprolactam		10	20	40	50	80	100	120	30	60
1,1'-Biphenyl		10	20	40	50	80	100	120	30	60
Atrazine		10	20	40	50	80	100	120	30	60
Benzidine		10	20	40	50	80	100	120	30	60
3,3'-Dichlorobenzidene		10	20	40	50	80	100	120	30	60
1,4-Dioxane		10	20	40	50	80	100	120	30	60
Methyl methacrylate		10	20	40	50	80	100	120	30	60
Ethyl methacrylate		10	20	40	50	80	100	120	30	60
2-Picoline		10	20	40	50	80	100	120	30	60
N-Nitrosomethylethylamine		10	20	40	50	80	100	120	30	60
2-Butoxyethanol		10	20	40	50	80	100	120	30	60
Methyl methanesulfonate		10	20	40	50	80	100	120	30	60
N-Nitrosodiethylamine		10	20	40	50	80	100	120	30	60
Ethyl methanesulfonate		10	20	40	50	80	100	120	30	60
Pentachloroethane		10	20	40	50	80	100	120	30	60
N-Nitrosopyrrolidine		10	20	40	50	80	100	120	30	60
N-Nitrosomorpholine		10	20	40	50	80	100	120	30	60
o-Toluidine		10	20	40	50	80	100	120	30	60
N-Nitrosopiperidine		10	20	40	50	80	100	120	30	60
a,a-Dimethylphenethylamine		10	20	40	50	80	100	120	30	60
2,6-Dichlorophenol		10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
AP MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Hexachloropropene		10	20	40	50	80	100	120	30	60
N-Nitrosodi-n-butylamine		10	20	40	50	80	100	120	30	60
Safrole		10	20	40	50	80	100	120	30	60
1,2,4,5-Tetrachlorobenzene		10	20	40	50	80	100	120	30	60
Isosafrole		10	20	40	50	80	100	120	30	60
1,4-Naphthoquinone		10	20	40	50	80	100	120	30	60
Pentachlorobenzene		10	20	40	50	80	100	120	30	60
1-Naphthylamine		10	20	40	50	80	100	120	30	60
2-Naphthylamine		10	20	40	50	80	100	120	30	60
5-Nitro-o-toluidine		10	20	40	50	80	100	120	30	60
1,3,5-Trinitrobenzene		10	20	40	50	80	100	120	30	60
Phenacetin		10	20	40	50	80	100	120	30	60
Diallate		10	20	40	50	80	100	120	30	60
cis-Diallate		1.5	3	6	7.5	12	15	18	4.5	9
trans-Diallate		8.5	17	34	42	68	85	102	25.5	51
4-Aminobiphenyl		10	20	40	50	80	100	120	30	60
Pentachloronitrobenzene		10	20	40	50	80	100	120	30	60
Pronamide		10	20	40	50	80	100	120	30	60
4-Nitroquinoline-1-oxide		10	20	40	50	80	100	120	30	60
Methapyrilene		10	20	40	50	80	100	120	30	60
Isodrin		10	20	40	50	80	100	120	30	60
Aramite		10	20	40	50	80	100	120	30	60
Kepone		10	20	40	50	80	100	120	30	60
p-(Dimethylamino)azobenzene		10	20	40	50	80	100	120	30	60
Chlorobenzilate		10	20	40	50	80	100	120	30	60
3,3'-Dimethylbenzidine		10	20	40	50	80	100	120	30	60
2-Acetylaminofluorene		10	20	40	50	80	100	120	30	60
7,12-Dimethylbenz(a)anthracene		10	20	40	50	80	100	120	30	60
3-Methylcholanthrene		10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Hexachlorophene		500	1000	1250	1500	1750	2000			
p-Phenylenediamine		500	1000	1250	1500	1750	2000			

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
PEST MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
bis(Chloromethyl)ether		10	20	40	50	80	100	120	30	60
Tributylphosphate		10	20	40	50	80	100	120	30	60
Triethylphosphorothioate		10	20	40	50	80	100	120	30	60
Thionazin		10	20	40	50	80	100	120	30	60
Sulfotepp		10	20	40	50	80	100	120	30	60
Phorate		10	20	40	50	80	100	120	30	60
Dimethoate		10	20	40	50	80	100	120	30	60
Disulfoton		10	20	40	50	80	100	120	30	60
Methyl parathion		10	20	40	50	80	100	120	30	60
Famphur		10	20	40	50	80	100	120	30	60
Parathion		10	20	40	50	80	100	120	30	60

SW846 8270/EPA 625										
Calibration Standard Concentration Levels*										
NEVADA MIX	Level 1	Level 2	Level 3	Level 4#	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
bis(Chloromethyl)ether		10	20	40	50	80	100	120	30	60
4-Chlorothiophenol		10	20	40	50	80	100	120	30	60
4-Chlorothioanisole		10	20	40	50	80	100	120	30	60
Phthalic acid		10	20	40	50	80	100	120	30	60
Hydroxymethyl phthalimide		10	20	40	50	80	100	120	30	60
Diphenyl sulfide		10	20	40	50	80	100	120	30	60
Diphenyl disulfide		10	20	40	50	80	100	120	30	60
Phenyl sulfone		10	20	40	50	80	100	120	30	60
Octachlorostyrene		10	20	40	50	80	100	120	30	60
Thiophenol		10	20	40	50	80	100	120	30	60
2,2'-Dichlorobenzil		10	20	40	50	80	100	120	30	60
bis(p-Chlorophenyl)disulfide		10	20	40	50	80	100	120	30	60
bis(p-Chlorophenyl)sulfone		10	20	40	50	80	100	120	30	60

All values are mg/L without the prep factor.
# Indicates the calibration verification concentration level used
* Usual calibration levels using SCAN methodology
** This analyte included in this level at special client request.

EPA 522								
Calibration Standard Concentration Levels#								
	Level 1	Level 2	Level 3	Level 4	Level 5	ICV	CCV	
Tetrahydrofuran-d8 (INTERNAL STANDARD)								
1,4-Dioxane-d8 (SURROGATE)	50	100	200	400	500	200	See Method	
1,4-Dioxane	50	100	200	400	500	200	See Method	

All values are ug/L without the prep factor.
Usual calibration levels using SIM methodology

SW846 8270SIM										
Calibration Standard Concentration Levels*										
MEGASIM analytes (A)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6#	Level 7	Level 8	Level 9	Level 10
1,4-Dichlorobenzene-d4 (INTERNAL STANDARD)										
Naphthalene-d8 (INTERNAL STANDARD)										
Acenaphthene-d10 (INTERNAL STANDARD)										
Phenanthrene-d10 (INTERNAL STANDARD)										
Chrysene-d12 (INTERNAL STANDARD)										
Perylene-d12 (INTERNAL STANDARD)										
5-alpha-Androstane (SURROGATE)	$0.1	0.2	0.5	1	2	5	10	20		
$N-Methyl-N-nitrosomethylamine		0.2	0.5	1	2	5	10	20		
$bis(2-Chloroethyl)ether	0.1	0.2	0.5	1	2	5	10	20		
$N-Nitrosodipropylamine	0.1	0.2	0.5	1	2	5	10	20		
Naphthalene	$0.1	0.2	0.5	1	2	5	10	20		
2-Methylnaphthalene	$0.1	0.2	0.5	1	2	5	10	20		
1-Methylnaphthalene	$0.1	0.2	0.5	1	2	5	10	20		
2-Chloronaphthalene	$0.1	0.2	0.5	1	2	5	10	20		
Acenaphthylene	$0.1	0.2	0.5	1	2	5	10	20		
Acenaphthene	$0.1	0.2	0.5	1	2	5	10	20		
Fluorene	$0.1	0.2	0.5	1	2	5	10	20		
Phenanthrene	$0.1	0.2	0.5	1	2	5	10	20		
Anthracene	$0.1	0.2	0.5	1	2	5	10	20		
Fluoranthene	$0.1	0.2	0.5	1	2	5	10	20		
Pyrene	$0.1	0.2	0.5	1	2	5	10	20		
Benzo(a)anthracene	$0.1	0.2	0.5	1	2	5	10	20		
Chrysene	$0.1	0.2	0.5	1	2	5	10	20		
Benzo(b)fluoranthene	$0.1	0.2	0.5	1	2	5	10	20		
Benzo(k)fluoranthene	$0.1	0.2	0.5	1	2	5	10	20		
Benzo(a)pyrene	$0.1	0.2	0.5	1	2	5	10	20		
Indeno-(1,2,3-cd)pyrene	$0.1	0.2	0.5	1	2	5	10	20		
Dibenzo(a,h)anthracene	$0.1	0.2	0.5	1	2	5	10	20		
Benzo(ghi)perylene	$0.1	0.2	0.5	1	2	5	10	20		

$ By special request - Not for regulatory purposes

SW846 8270SIM										
Calibration Standard Concentration Levels*										
APSIM analytes (A)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6#	Level 7	Level 8	Level 9	Level 10
$N-Nitrosodimethylamine	0.1	0.2	0.5	1	2	5	10	20		
$N-Nitrosopyrrolidine	0.1	0.2	0.5	1	2	5	10	20		
$N-Nitrosodi-n-butylamine	0.1	0.2	0.5	1	2	5	10	20		
$Benzidine			2.5	5	10	25	50	100		
$3,3'-Dichlorobenzidine	0.1	0.2	0.5	1	2	5	10	20		

$ By special request - Not for regulatory purposes

All values are mg/L without prep factor.

# indicates the calibraton verification concentration level used.

* Usual calibration levels using SIM methodology

(10/16/Full list)

Calibration History Report MSD4
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
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Cal Lvl:1 Amt:1.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1907.D

Injection Date	Mix	Calibration File
19 Oct 2020 13:22	A	C:\msdchem\1\data\s101920.B\s4j1907.D

Cal Lvl:2 Amt:10.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1944.D

Injection Date	Mix	Calibration File
19 Oct 2020 13:54	A	C:\msdchem\1\data\s101920.B\s4j1908.D
20 Oct 2020 08:55	B	C:\msdchem\1\data\s101920.B\s4j1917.D
20 Oct 2020 13:50	J	C:\msdchem\1\data\s101920.B\s4j1928.D
20 Oct 2020 17:01	D	C:\msdchem\1\data\s101920.B\s4j1936.D
20 Oct 2020 20:10	E	C:\msdchem\1\data\s101920.B\s4j1944.D

Cal Lvl:3 Amt:20.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1945.D

Injection Date	Mix	Calibration File
19 Oct 2020 14:26	A	C:\msdchem\1\data\s101920.B\s4j1909.D
20 Oct 2020 09:23	B	C:\msdchem\1\data\s101920.B\s4j1918.D
20 Oct 2020 14:14	J	C:\msdchem\1\data\s101920.B\s4j1929.D
20 Oct 2020 17:24	D	C:\msdchem\1\data\s101920.B\s4j1937.D
20 Oct 2020 20:34	E	C:\msdchem\1\data\s101920.B\s4j1945.D

Cal Lvl:4 Amt:40.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1946.D

Injection Date	Mix	Calibration File
19 Oct 2020 14:57	A	C:\msdchem\1\data\s101920.B\s4j1910.D
20 Oct 2020 10:19	B	C:\msdchem\1\data\s101920.B\s4j1920.D
20 Oct 2020 14:38	J	C:\msdchem\1\data\s101920.B\s4j1930.D
20 Oct 2020 17:48	D	C:\msdchem\1\data\s101920.B\s4j1938.D
20 Oct 2020 20:58	E	C:\msdchem\1\data\s101920.B\s4j1946.D

Cal Lvl:5 Amt:50.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1931.D

Injection Date	Mix	Calibration File
19 Oct 2020 15:29	A	C:\msdchem\1\data\s101920.B\s4j1911.D
20 Oct 2020 10:48	B	C:\msdchem\1\data\s101920.B\s4j1921.D
20 Oct 2020 15:02	J	C:\msdchem\1\data\s101920.B\s4j1931.D
20 Oct 2020 18:12	D	C:\msdchem\1\data\s101920.B\s4j1939.D
20 Oct 2020 21:21	E	C:\msdchem\1\data\s101920.B\s4j1947.D

Cal Lvl:6 Amt:80.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1948.D

Injection Date	Mix	Calibration File
19 Oct 2020 16:00	A	C:\msdchem\1\data\s101920.B\s4j1912.D
20 Oct 2020 11:44	B	C:\msdchem\1\data\s101920.B\s4j1923.D
20 Oct 2020 15:25	J	C:\msdchem\1\data\s101920.B\s4j1932.D
20 Oct 2020 18:36	D	C:\msdchem\1\data\s101920.B\s4j1940.D
20 Oct 2020 21:45	E	C:\msdchem\1\data\s101920.B\s4j1948.D

Cal Lvl:7 Amt:100.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1949.D

Injection Date	Mix	Calibration File
19 Oct 2020 16:32	A	C:\msdchem\1\data\s101920.B\s4j1913.D
20 Oct 2020 12:12	B	C:\msdchem\1\data\s101920.B\s4j1924.D

Calibration History Report MSD4
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
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20 Oct 2020 15:49	J	C:\msdchem\1\data\s101920.B\s4j1933.D
20 Oct 2020 18:59	D	C:\msdchem\1\data\s101920.B\s4j1941.D
20 Oct 2020 22:09	E	C:\msdchem\1\data\s101920.B\s4j1949.D

Cal Lvl:8 Amt:120.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1942.D

Injection Date	Mix	Calibration File
19 Oct 2020 17:04	A	C:\msdchem\1\data\s101920.B\s4j1914.D
20 Oct 2020 12:41	B	C:\msdchem\1\data\s101920.B\s4j1925.D
20 Oct 2020 16:13	J	C:\msdchem\1\data\s101920.B\s4j1934.D
20 Oct 2020 19:23	D	C:\msdchem\1\data\s101920.B\s4j1942.D

Cal Lvl:9 Amt:30.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1919.D

Injection Date	Mix	Calibration File
20 Oct 2020 09:51	B	C:\msdchem\1\data\s101920.B\s4j1919.D

Cal Lvl:10 Amt:60.00 Last Updated with: C:\msdchem\1\data\s101920.B\s4j1922.D

Injection Date	Mix	Calibration File
20 Oct 2020 11:16	B	C:\msdchem\1\data\s101920.B\s4j1922.D

MSD4_8270c_8270d_101920.m Tue Nov 17 18:17:49 2020 MSD4

Response Factor Report MSD4
GEL Laboratories, LLC

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For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound b m1 m2	1 7	2 8	3 9	4 10	5	6	Avg	Curve	Exp	%RSD/r2
2)A 2-Ethoxyethanol		0.7912367	0.8010714	0.8445261	0.8528957	0.8213162				
	0.8236747	0.8306606					0.8236	AVRG		2.6721
3)AM N-Methyl-N-nitrosomethyl	0.7352371	0.7691373	0.7665417	0.8090838	0.8196338	0.7965558				
	0.7941784	0.7937322					0.7855	AVRG		3.4497
4)AM Pyridine		1.1816054	1.2112109	1.2851663	1.2927656	1.2516189				
	1.2731656	1.2591933					1.2507	AVRG		3.2427
5)SA 2-Fluorophenol		1.1403374	1.1427803	1.2217244	1.2425090	1.2218381				
	1.2348477	1.2203895					1.2035	AVRG		3.5795
6)A p-Benzoquinone		0.8266959	0.8783111	0.9667339	0.9902766	0.9830382				
	0.9994382	0.9654745					0.9443	AVRG		6.9432
7)AM Aniline		1.9534205	2.0004950	2.1022262	2.1391882	2.1101116				
	2.1264721	2.1087787					2.0772	AVRG		3.4144
8)SA Phenol-d5		1.3669759	1.3911460	1.5075048	1.5110837	1.4879897				
	1.5093289	1.4680686					1.4632	AVRG		4.0886
9)AMC Phenol		1.4791446	1.5146920	1.6411273	1.6497597	1.6214863				
	1.6633209	1.6344685					1.6006	AVRG		4.5419
10)AM bis(2-Chloroethyl) ether		1.3212409	1.3613794	1.4232143	1.4398689	1.4147225				
	1.4073462	1.3804169					1.3926	AVRG		2.9453
11)AM 2-Chlorophenol		1.2169939	1.2465461	1.3248203	1.3360869	1.3445948				
	1.3388268	1.3239510					1.3045	AVRG		3.9075
12)AM n-Decane		1.9884618	2.0286990	2.0939319	2.1007666	2.0562379				
	2.0126938	1.9744752					2.0365	AVRG		2.4223
13)AM 1,3-Dichlorobenzene		1.4963533	1.5086819	1.5657779	1.5737800	1.5543831				
	1.5362194	1.5019854					1.5339	AVRG		2.0780
14)AMC 1,4-Dichlorobenzene		1.5223547	1.5345471	1.6133208	1.6058969	1.5718638				
	1.5714283	1.5373904					1.5653	AVRG		2.2743
15)AM 1,2-Dichlorobenzene		1.4323973	1.4583002	1.5233190	1.5226241	1.5069619				
	1.4977962	1.4832320					1.4892	AVRG		2.2751
16)AM bis(2-Chloro-1-methyleth		2.6442769	2.6855504	2.8071357	2.8433757	2.8309766				
	2.8123441	2.7070004					2.7615	AVRG		2.9074

$DG: 2021-130

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Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	7	8	9	10						
17)AM Benzyl alcohol		0.8265488	0.8389701	0.9096657	0.9153506	0.9127803				
	0.9102260	0.8846278					0.8855	AVRG		4.2437
18)AM o-Cresol		0.9824455	1.0008590	1.0485274	1.0787004	1.0641757				
	1.0649465	1.0346197					1.0392	AVRG		3.4352
19)AM m,p-Cresols		1.1393545	1.1801438	1.2576427	1.2821408	1.2688549				
	1.2754746	1.2417802					1.2351	AVRG		4.4005
20)AMP N-Nitrosodipropylamine		1.0428703	1.0701004	1.1291982	1.1383476	1.1293879				
	1.1258076	1.0919330					1.1039	AVRG		3.3007
21)AM Hexachloroethane		0.5660578	0.5749451	0.6107611	0.6162901	0.6026028				
	0.5998836	0.5852955					0.5937	AVRG		3.1552
23)SA Nitrobenzene-d5		0.3041145	0.3290490	0.3424538	0.3491233	0.3485524				
	0.3556962	0.3469781					0.3394	AVRG		5.1912
24)AM Nitrobenzene		0.3206384	0.3291349	0.3488586	0.3519454	0.3498052				
	0.3536999	0.3508335					0.3436	AVRG		3.8073
25)AM Isophorone		0.6409838	0.6701662	0.6996117	0.7021926	0.7033639				
	0.7027179	0.6870662					0.6866	AVRG		3.4180
26)AMC 2-Nitrophenol		0.1184950	0.1331600	0.1486874	0.1571029	0.1580934				
	0.1644410	0.1616743					0.1488	AVRG		11.4067
27)AM 2,4-Dimethylphenol		0.2814738	0.2868642	0.2951383	0.2969112	0.2978920				
	0.2962526	0.2928454					0.2925	AVRG		2.0845
28)AM bis(2-Chloroethoxy)metha		0.3746978	0.3837822	0.4040709	0.4054787	0.4028400				
	0.4033715	0.3966985					0.3958	AVRG		3.0235
29)AMC 2,4-Dichlorophenol		0.2288626	0.2471366	0.2670975	0.2671904	0.2677302				
	0.2699843	0.2636446					0.2588	AVRG		5.9018
30)AM Benzoic acid			126906	422324	520760	900854		1/x^2		
-0.0530 | 0.1833 | 0.00	1387022	1725223						LINR	#	0.9925
31)AM 1,2,4-Trichlorobenzene		0.2783025	0.2853529	0.2915876	0.2929069	0.2888792				
	0.2915719	0.2840037					0.2875	AVRG		1.8286
32)AM alpha-Terpineol		0.3159810	0.3325167	0.3472453	0.3493610	0.3500285				
	0.3472259	0.3404454					0.3404	AVRG		3.6474

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Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	7	8	9	10						
33)AM Naphthalene	0.8775461	0.9362910	0.9775260	1.0159615	1.0075844	0.9524218				
	0.9068234	0.8416472					0.9395	AVRG		6.5599
34)AM 4-Chloroaniline		0.3430394	0.3496298	0.3831709	0.3814773	0.3811921				
	0.3815592	0.3699692					0.3700	AVRG		4.5571
35)AMC Hexachlorobutadiene		0.1587504	0.1649545	0.1677478	0.1673878	0.1668178				
	0.1676617	0.1660173					0.1656	AVRG		1.9260
36)AMC 4-Chloro-3-methylphenol		0.2363002	0.2535904	0.2722905	0.2764506	0.2799943				
	0.2818460	0.2766119					0.2682	AVRG		6.2991
37)AM 2-Methylnaphthalene	0.6082549	0.6401188	0.6692030	0.6946637	0.6954333	0.6793330				
	0.6641596	0.6452481					0.6621	AVRG		4.4915
38)AM 1-Methylnaphthalene	0.5473864	0.5868333	0.6167311	0.6413836	0.6393789	0.6286780				
	0.6241557	0.6011230					0.6107	AVRG		5.1686
40)AMP Hexachlorocyclopentadien		0.2799273	0.3005273	0.3358601	0.3370077	0.3302805				
	0.3482540	0.3374284					0.3242	AVRG		7.5674
41)AM 2,3-Dichloroaniline		0.5942553	0.5827541	0.6138583	0.6105610	0.5909954				
	0.5954784	0.5843528					0.5960	AVRG		2.0207
42)AMC 2,4,6-Trichlorophenol		0.2727650	0.2978138	0.3236083	0.3316141	0.3275727				
	0.3212535	0.3253270					0.3143	AVRG		6.7865
43)AM 2,4,5-Trichlorophenol		0.2870382	0.3172079	0.3489590	0.3512011	0.3527676				
	0.3616322	0.3456264					0.3378	AVRG		7.7937
44)SA 2-Fluorobiphenyl		1.2036301	1.2283801	1.3028236	1.2986227	1.2526118				
	1.2343477	1.1857571					1.2437	AVRG		3.5772
45)AM 2-Chloronaphthalene	0.9944230	1.0540976	1.0747550	1.1279550	1.1363122	1.1247065				
	1.0990070	1.0796441					1.0864	AVRG		4.3356
46)AM o-Nitroaniline		0.2796503	0.2941560	0.3291809	0.3381396	0.3335135				
	0.3415152	0.3383036					0.3221	AVRG		7.6687
47)A 1,4-Dinitrobenzene		44701	120537	294700	376855	612096		1/x^2		
-0.0186 | 0.1847 | 0.00	815636	976795						LINR	#	0.9988
48)AM m-Nitroaniline		0.2421851	0.2504923	0.2815818	0.2886407	0.2826910				
	0.2900849	0.2830730					0.2741	AVRG		7.0696

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Response Factor Report MSD4
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Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	7	8	9	10						
49)AM Dimethylphthalate	1.1660113	1.2313636	1.2864303	1.3556421	1.3577993	1.3004580				
	1.2823580	1.2332572					1.2767	AVRG		5.1017
50)A m-Dinitrobenzene		0.1571127	0.1738670	0.1965450	0.1992620	0.1966440				
	0.2044069	0.1997411					0.1897	AVRG		9.1737
51)AM 2,6-Dinitrotoluene		0.2592509	0.2806323	0.2963467	0.2980012	0.2917149				
	0.2918114	0.2948653					0.2875	AVRG		4.7611
52)AM 2,4-Dinitrotoluene		0.3059426	0.3419796	0.3761234	0.3765136	0.3656587				
	0.3681546	0.3621784					0.3567	AVRG		7.0602
53)AM Acenaphthylene	1.6956948	1.8139332	1.8770882	1.9847094	1.9700973	1.8463329				
	1.7651977	1.6658944					1.8274	AVRG		6.3891
54)AMC Acenaphthene	1.0435101	1.0946143	1.1196767	1.1513534	1.1637811	1.1356738				
	1.1064918	1.0879755					1.1129	AVRG		3.4708
55)AMP 2,4-Dinitrophenol			47014	135197	183930	331931		1/x^2		
-0.0337 | 0.1165 | 0.00	498979	600703						LINR	#	0.9908
56)AM Dibenzofuran		1.4644863	1.5317748	1.6361511	1.6254930	1.5343717				
	1.5006430	1.4237123					1.5309	AVRG		5.1192
57)A 2,3,4,6-Tetrachloropheno		0.2005811	0.2287465	0.2669521	0.2720257	0.2716828				
	0.2785670	0.2799879					0.2569	AVRG		11.8001
58)AM Diethylphthalate	1.1392299	1.2302250	1.2920319	1.3638461	1.3613029	1.3169542				
	1.2971004	1.2733318					1.2843	AVRG		5.7096
59)AMP 4-Nitrophenol		57425	133018	350780	433735	701362		1/x^2		
-0.0180 | 0.2103 | 0.00	959933	1100023						LINR		0.9955
60)AM Fluorene	1.1634607	1.2222447	1.2621342	1.2971621	1.2944506	1.2429815				
	1.2235639	1.1844391					1.2363	AVRG		3.8855
61)AM 4-Chlorophenylphenylethe		0.5656808	0.5777511	0.5820308	0.5777890	0.5532062				
	0.5438997	0.5305493					0.5616	AVRG		3.4902
62)AM p-Nitroaniline		0.2250476	0.2253828	0.2431879	0.2435428	0.2477806				
	0.2677038	0.2511963					0.2434	AVRG		6.1216
63)SA 2,4,6-Tribromophenol		0.1132059	0.1291176	0.1454741	0.1455283	0.1496128				
	0.1532887	0.1539722					0.1415	AVRG		10.5891

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Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
65)AM 2-Methyl-4,6-dinitrophen		26875	76658	216390	286728	516325				
-0.0215 0.1012 0.00								LINR	#	0.9938
66)AMC Diphenylamine		0.6055499	0.6211659	0.6638816	0.6718856	0.6669399				
	0.6649798	0.6592979					0.6505	AVRG		4.0060
67)AM 1,2-Diphenylhydrazine		0.7579410	0.7880580	0.8520419	0.8656511	0.8663535				
	0.8544681	0.8306061					0.8307	AVRG		5.0657
68)AM 4-Bromophenylphenylether		0.1911608	0.1972567	0.2050339	0.2098119	0.2092993				
	0.2097791	0.2102369					0.2047	AVRG		3.6920
69)AM Hexachlorobenzene		0.2068460	0.2161630	0.2226603	0.2209830	0.2193019				
	0.2234723	0.2256297					0.2193	AVRG		2.8632
70)AMC Pentachlorophenol		43829	117734	296663	373234	627970		1/x^2		
-0.0139 0.1196 0.00	851411	1004459						LINR	#	0.9961
71)AM n-Octadecane		0.6181942	0.6458387	0.6848658	0.6978851	0.7033269				
	0.6969013	0.6769689					0.6749	AVRG		4.6797
72)A Dinoseb		40829	121597	338459	445141	803322				
-0.0331 0.1573 0.00								LINR	#	0.9943
73)AM Phenanthrene	0.9909872	1.0251403	1.0893226	1.1137517	1.1112851	1.0842619				
	1.0588626	1.0148774					1.0611	AVRG		4.3589
74)AM Anthracene	0.9519684	1.0441570	1.0921031	1.1341097	1.1433321	1.1094683				
	1.0711929	1.0166573					1.0704	AVRG		6.0111
75)AM Carbazole	0.7431975	0.8436613	0.8746969	0.8788448	0.8950602	0.9132940				
	0.9073748	0.8525639					0.8636	AVRG		6.3041
76)AM Di-n-butylphthalate	1.0266843	1.1717775	1.2554366	1.2735342	1.2769251	1.2407733				
	1.1574016	1.0945499					1.1871	AVRG		7.7010
77)AMC Fluoranthene	0.8423508	0.9337320	0.9579917	0.9430228	0.9450739	1.0103245				
	0.9728983	0.9125534					0.9397	AVRG		5.1997
79)AM Pyrene	1.9890970	2.1223495	2.1345562	2.2200859	2.2357816	1.9076481				
	1.9112790	1.8112938					2.0415	AVRG		7.7549
80)SA p-Terphenyl-d14		1.2937477	1.3277548	1.4124701	1.4016707	1.2809088				
	1.3343571	1.2493136					1.3286	AVRG		4.5765

Response Factor Report MSD4
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b | m1 | m2	7	8	9	10						
81)AM Butylbenzylphthalate	0.6533749	0.8108342	0.8230120	0.8634967	0.8854832	0.8394964				
	0.8718358	0.8336956					0.8227	AVRG		8.8657
82)AM bis(2-Ethylhexyl)phthala	1.0032329	1.1837946	1.2051601	1.2652631	1.2976514	1.2543863				
	1.3112427	1.2730446					1.2242	AVRG		8.0967
83)AM Benzo(a)anthracene	1.2253060	1.2636121	1.2825631	1.3248300	1.3285116	1.3283324				
	1.3290815	1.3183025					1.3001	AVRG		2.9961
84)AM Chrysene	1.1723237	1.2019891	1.2258900	1.2514745	1.2697195	1.2208434				
	1.2266958	1.2004569					1.2212	AVRG		2.4975
85)A Methoxychlor		1.0555510	1.1239959	1.1709702	1.2273623	1.2153595				
	1.2247954	1.2103636					1.1755	AVRG		5.4897
86)A Methylenebis(2-chloroani		0.2025618	0.2114496	0.2192895	0.2193629	0.2358468				
	0.2391049	0.2411290					0.2241	AVRG		6.6251
87)AMC Di-n-octylphthalate	25817	347298	867562	1843590	2307434	4974080		1/x^2		
-0.0143 | 1.4939 | 0.00								LINR	#	0.9902
89)AM Benzo(b)fluoranthene	1.1046203	1.1581171	1.2657022	1.3060881	1.3460763	1.4192794				
	1.4474851	1.4791802					1.3158	AVRG		10.2657
90)AM Benzo(k)fluoranthene	1.0279677	1.0937748	1.1748176	1.1946172	1.2524704	1.3261740				
	1.3449994	1.3384462					1.2192	AVRG		9.6790
91)AMC Benzo(a)pyrene	0.8721195	0.9096660	0.9684609	1.0236648	1.0451574	1.0655705				
	1.0822406	1.0656157					1.0041	AVRG		7.8371
92)AM Indeno(1,2,3-cd)pyrene	0.6102700	0.7353555	0.6920370	0.7587399	0.7251235	0.5746258				
	0.5782490	0.5753114					0.6562	AVRG		12.1090
93)AM Dibenzo(a,h)anthracene	0.5814808	0.6340971	0.5715263	0.6608655	0.6207900	0.5219580				
	0.5380454	0.5279888					0.5821	AVRG		8.9509
94)AM Benzo(ghi)perylene	0.7751212	0.8774222	0.7954920	0.8399522	0.7907443	0.5836385				
							0.7771	AVRG		13.1201
95)A Dibenzo(a,e)pyrene		0.2720896	0.2510405	0.2534468	0.2195267	0.1604850				
							0.2313	AVRG	#	18.9641
97)BM 1,4-Dioxane		0.5400410	0.5239860	0.5107063	0.5065299	0.4941505				
	0.4823032	0.4823542	0.5197619	0.5147007			0.5083	AVRG		3.7997

SDG: 2021-130

Response Factor Report MSD4
GEL Laboratories, LLC

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Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound b m1 m2	1 7	2 8	3 9	4 10	5	6	Avg	Curve	Exp	%RSD/r2
98)B Methyl methacrylate		0.2833943	0.2790503	0.2702264	0.2597424	0.2576614				
	0.2484451	0.2485797	0.2745726	0.2648946			0.2652	AVRG		4.7694
99)B Ethyl methacrylate		1.2354432	1.2062886	1.1798237	1.1796388	1.1804923				
	1.1666761	1.1724392	1.1926041	1.2076817			1.1912	AVRG		1.8271
100)B 2-Picoline		1.5427587	1.5441817	1.5273297	1.5285552	1.5280824				
	1.5369994	1.5445871	1.5031213	1.5488920			1.5338	AVRG		0.9179
101)B N-Nitrosomethylethylamin		0.6582415	0.6387443	0.6268140	0.6327525	0.6249427				
	0.6303165	0.6316539	0.6251812	0.6329846			0.6335	AVRG		1.6186
102)B Methyl methanesulfonate		0.8189908	0.7978738	0.7877588	0.7844698	0.7633120				
	0.7873496	0.7755529	0.7823098	0.7919295			0.7877	AVRG		1.9473
103)B N-Nitrosodiethylamine		0.7102078	0.6849262	0.6805527	0.6751544	0.6718163				
	0.6758523	0.6731052	0.6865975	0.6778384			0.6818	AVRG		1.7292
104)B 2-Butoxyethanol		1.8726840	1.8818647	1.8694954	1.9107981	1.9100868				
	1.9509368	1.9626542	1.8636483	1.9356177			1.9064	AVRG		1.9418
105)B Ethyl methanesulfonate		1.0698011	1.0380967	1.0360672	1.0446712	1.0450520				
	1.0644359	1.0473956	1.0244629	1.0488926			1.0465	AVRG		1.3265
106)BM Benzaldehyde		1.1840855	1.1552319	1.1391500	1.1284044	1.1154155				
	1.1082376	1.0860572	1.1400048	1.1385786			1.1328	AVRG		2.4908
107)B Pentachloroethane		0.5659959	0.5382543	0.5326798	0.5328821	0.5235653				
	0.5213749	0.5130729	0.5443383	0.5297392			0.5335	AVRG		2.8688
108)BM N-Nitrosopyrrolidine		0.7470240	0.7388621	0.7351928	0.7430045	0.7357584				
	0.7448104	0.7498357	0.7244148	0.7356011			0.7394	AVRG		1.0471
109)BM Acetophenone		1.9087499	1.8532436	1.8848560	1.9019982	1.9057445				
	1.9137378	1.9129647	1.8641151	1.8955443			1.8934	AVRG		1.1520
110)B N-Nitrosomorpholine		1.0097148	0.9705273	0.9738825	0.9888665	0.9781896				
	1.0090929	1.0232895	0.9715754	0.9752414			0.9889	AVRG		2.0186
111)B o-Toluidine		2.2560098	2.1890772	2.1786150	2.2081561	2.1881744				
	2.2128704	2.1770872	2.1684449	2.2069378			2.1984	AVRG		1.2068
113)B N-Nitrosopiperidine		0.1868242	0.1761701	0.1743877	0.1746979	0.1757929				
	0.1756482	0.1743385	0.1750244	0.1764253			0.1766	AVRG		2.2152

SDG: 2021-1380

Response Factor Report MSD4
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound b m1 m2	1 7	2 8	3 9	4 10	5	6	Avg	Curve	Exp	%RSD/r2
114)B a,a-Dimethylphenethylami		1.0958429	1.0954271	1.1208423	1.1294089	1.1634355				
	1.1764292	1.1388046	1.1031056	1.1426651			1.1296	AVRG		2.5581
115)BM 2,6-Dichlorophenol		0.2568514	0.2563211	0.2568736	0.2605567	0.2641470				
	0.2660967	0.2652231	0.2526758	0.2569585			0.2595	AVRG		1.8074
116)B Hexachloropropene		0.1810294	0.1895595	0.1881639	0.1870240	0.1927452				
	0.1880520	0.1872251	0.1851800	0.1888581			0.1875	AVRG		1.7059
117)BM Caprolactam		0.1062142	0.1069574	0.1065938	0.1059107	0.1082860				
	0.1061859	0.1010262	0.1044662	0.1064193			0.1058	AVRG		1.9325
118)B N-Nitrosodi-n-butylamine		0.2259433	0.2337186	0.2381351	0.2389343	0.2392814				
	0.2363647	0.2324240	0.2363268	0.2354827			0.2352	AVRG		1.7629
119)B Safrole		0.2784357	0.2701081	0.2760549	0.2711888	0.2665110				
	0.2659358	0.2584251	0.2713522	0.2682330			0.2696	AVRG		2.1760
121)B 1,2,4,5-Tetrachlorobenze		0.5413741	0.5330642	0.5162189	0.5139876	0.5149992				
	0.5068021	0.5034643	0.5280650	0.5227957			0.5201	AVRG		2.3777
122)BM 1,1-Biphenyl		1.5410255	1.5084271	1.5131866	1.4965989	1.4497141				
	1.3576444	1.2975705	1.5101439	1.4950145			1.4633	AVRG		5.5986
123)B Isosafrole		0.5133428	0.5012381	0.4998224	0.4995480	0.4995188				
	0.4952410	0.4914919	0.4994825	0.5020965			0.5002	AVRG		1.1814
124)B 1,4-Naphthoquinone		0.4850133	0.4586751	0.4239824	0.3792977					
			0.4566633	0.3630291			0.4278	AVRG		11.2704
125)B Pentachlorobenzene		0.4971589	0.4760093	0.4745040	0.4660164	0.4702036				
	0.4642600	0.4601578	0.4729976	0.4681488			0.4722	AVRG		2.2589
126)B 1-Naphthylamine		1.2253780	1.1934801	1.2226095	1.1991333	1.2167327				
	1.1658801	1.1121440	1.1980026	1.2212516			1.1950	AVRG		3.0445
127)B 2-Naphthylamine		1.1906767	1.1903184	1.2082530	1.1652641	1.2159981				
	1.1453920	1.0846679	1.1870110	1.2128185			1.1778	AVRG		3.5392
128)B 5-Nitro-o-toluidine		0.3126126	0.3193849	0.3245233	0.3210066	0.3403700				
	0.3293971	0.3055851	0.3278979	0.3344432			0.3239	AVRG		3.3118
130)B 1,3,5-Trinitrobenzene		0.1164374	0.1083953	0.1104257	0.1181570	0.1161636				
	0.1240246	0.1034506	0.1148586	0.1281339			0.1156	AVRG		6.5793

Response Factor Report MSD4
GEL Laboratories, LLC
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Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
131)B Phenacetin		0.3121470	0.3094839	0.2988562	0.3090105	0.3138477				
	0.3228939	0.2890942	0.3206417	0.3213219			0.3108	AVRG		3.5677
132)B Diallate		0.2879252	0.2808013	0.2826239	0.2861717	0.2815939				
	0.2873857	0.2943127	0.2774334	0.2817229			0.2844	AVRG		1.7684
133)B Cis Diallate		0.3387355	0.3303544	0.3324987	0.3366726	0.3312869				
	0.3381008	0.3462503	0.3263922	0.3314387			0.3346	AVRG		1.7684
134)B Trans Diallate		0.6618502	0.6343541	0.6447697	0.6580918	0.6363962				
	0.6536009	0.6685414	0.6350732	0.6470541			0.6489	AVRG		1.9185
135)BM Atrazine		0.2246364	0.2009535	0.1952757	0.1951016	0.1823941				
	0.1806646	0.1733677	0.2025049	0.1910677			0.1940	AVRG		7.7513
136)B 4-Aminobiphenyl		0.6649430	0.6850858	0.7220804	0.7531349	0.7444301				
	0.7177130	0.6763790	0.6836481	0.7576189			0.7117	AVRG		4.9604
137)B Pentachloronitrobenzene		0.0939075	0.0883190	0.0896535	0.0909382	0.0872733				
	0.0870615	0.0868408	0.0902010	0.0894415			0.0893	AVRG		2.5352
138)B Pronamide		0.3610224	0.3380088	0.3358413	0.3443505	0.3329082				
	0.3359250	0.3210082	0.3398092	0.3415280			0.3389	AVRG		3.1326
139)B 4-Nitroquinoline-1-oxide		25724	43990	62434	81758			1/x^2		
0.0033 | 0.0184 | 0.00			50103	96234				LINR	#	0.9930
140)B Methapyrilene		0.4017440	0.3725481	0.3492650	0.3507638	0.3186277				
	0.3305149	0.2884272	0.3705546	0.3563909			0.3488	AVRG		9.5052
141)B Isodrin		0.1485983	0.1393598	0.1385324	0.1403941	0.1342993				
	0.1354139	0.1308304	0.1391981	0.1365096			0.1381	AVRG		3.5788
143)B Aramite		0.1029373	0.1229008	0.1168777	0.1144904	0.1189325				
	0.1060531	0.1016495	0.1140081	0.1173637			0.1128	AVRG		6.6380
144)B Kepone		0.1877186	0.2133654	0.1900512	0.1911663	0.1893402				
	0.1756424	0.1667574	0.1878165	0.1949738			0.1885	AVRG		6.7861
145)B p-(Dimethylamino)azobenz		0.3525315	0.3972353	0.3736794	0.3730386	0.3839097				
	0.3554726	0.3417824	0.3723307	0.3791195			0.3699	AVRG		4.6423
146)B Chlorobenzilate		0.4926173	0.6526972	0.6071905	0.6009483	0.6384235				
	0.5672814	0.5466885	0.5635071	0.6141923			0.5871	AVRG		8.4692

Response Factor Report MSD4
GEL Laboratories, LLC
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Last Update : Wed Oct 21 09:21:08 2020
Integrator : (RTE Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
147)B 2-Acetylaminofluorene		0.4178870	0.3652812	0.4068253	0.4424930	0.4338485				
	0.4519396	0.4977326	0.4210266	0.4260249			0.4292	AVRG		8.3202
149)B 7,12-Dimethylbenz(a)anth		0.6905261	0.7000521	0.6767698	0.6714721	0.6743827				
	0.7012881	0.6698326	0.6949362	0.7252211			0.6894	AVRG		2.6446
150)B 3-Methylcholanthrene		0.1184775	0.1211094	0.1170298	0.1183021	0.1205575				
	0.1158917	0.1190428	0.1172003	0.1182219			0.1184	AVRG		1.4022
152)J Sulfolane		0.1463278	0.1432863	0.1482181	0.1485309	0.1536304				
	0.1485155	0.1473539					0.1480	AVRG		2.0961
154)J Prometon		0.1548826	0.1613147	0.1677511	0.1630449	0.1670746				
	0.1658701	0.1685155					0.1641	AVRG		2.9298
155)JM Benzidine		0.5379130	0.4798687	0.5533993	0.5274806	0.5675454				
	0.5962056	0.5985352					0.5516	AVRG		7.5353
157)J 3,3'-Dimethylbenzidine		0.9406353	0.9625059	1.0001677	0.9781395	0.9568652				
	0.9978317	1.0004832					0.9767	AVRG		2.4590
158)JM 3,3'-Dichlorobenzidine		0.4084513	0.3952587	0.4134094	0.3929413	0.3968900				
	0.4181542	0.4372121					0.4089	AVRG		3.8574
160)D Triethylphosphorothioate		0.1825514	0.1684351	0.1691228	0.1730649	0.1653377				
	0.1629299	0.1578420					0.1685	AVRG		4.6819
162)D Thionazine		0.2363504	0.2328726	0.2454194	0.2472814	0.2361823				
	0.2350733	0.2317290					0.2378	AVRG		2.5530
163)DM Tributylphosphate		1.6027042	1.6588166	1.7298237	1.7305089	1.5293442				
	1.4737179	1.3684848					1.5848	AVRG		8.5543
165)D Sulfotepp		0.1378659	0.1354073	0.1331816	0.1360823	0.1320507				
	0.1330705	0.1300568					0.1340	AVRG		1.9782
166)D Phorate		0.5696330	0.5586409	0.5626009	0.5771663	0.5627388				
	0.5566530	0.5401205					0.5611	AVRG		2.0604
167)D Dimethoate		0.2839906	0.3108892	0.3251904	0.3433630	0.3412714				
	0.3262291	0.3193755					0.3215	AVRG		6.2588
168)D Disulfoton		0.5212773	0.4878816	0.4825053	0.4912263	0.4745483				
	0.4710657	0.4550978					0.4834	AVRG		4.2635

Response Factor Report MSD4
GEL Laboratories, LLC

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Integrator : (RTE Integrator) Response via : Initial Calibration

Or Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5	6	Avg	Curve	Exp	%RSD/r2
b m1 m2	7	8	9	10						
169)D Methyl parathion		0.2052825	0.2292553	0.2511078	0.2695190	0.2719784				
	0.2659597	0.2516197					0.2492	AVRG		9.7572
170)D Parathion		0.0652192	0.0805658	0.0871399	0.0938561	0.0906942				
	0.0888339	0.0835489					0.0843	AVRG		11.2520
172)D Famphur		0.5835498	0.6268379	0.6483433	0.6678377	0.6396677				
	0.6189187	0.6038707					0.6270	AVRG		4.4978
174)E p-Phenylenediamine		0.3980869	0.4062995	0.4121832	0.4237145	0.4185725				
	0.4245336						0.4139	AVRG		2.5155
176)E Hexachlorophene		0.0949931	0.1080907	0.1249728	0.1275093	0.1373368				
	0.1421261						0.1225	AVRG		14.6059

(#) = Out of Range ($) = Individual RF Out of Range
AVRG = Average, LINR = Linear Regression, 1/x = the inverse of concentration, 1/x^2 = the inverse square of concentration

Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1907.D
Acq On : 19 Oct 2020 13:22
Operator : JMB3
Sample : |WBN201013-01|ICAL|1|SVM|1|M-1
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 09:21:37 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	793812	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.266	7.265	1.000	3162227	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.598	9.603	1.000	1662351	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2564917	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.984	14.989	1.000	1096216	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.262	18.262	1.000	786406	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.598	9.592	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.984	14.978	1.000	0m	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.262	18.252	1.000	0m	40.00	ng/uL	0.01
151) J Naphthalene-d8	136	7.266	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.984	14.984	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.598	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.984	14.984	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.262	18.300	1.000	0m	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	0.000	3.751	0.000	0d	0.00	ng/uL	
8) Phenol-d5	99	0.000	4.928	0.000	0d	0.00	ng/uL	
23) Nitrobenzene-d5	82	0.000	6.260	0.000	0d	0.00	ng/uL	
44) 2-Fluorobiphenyl	172	0.000	8.726	0.000	0d	0.00	ng/uL	
63) 2,4,6-Tribromophenol	330	0.000	10.603	0.000	0d	0.00	ng/uL	
80) p-Terphenyl-d14	244	0.000	13.475	0.000	0d	0.00	ng/uL	
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.377	2.377	0.435	14591	0.94	ng/uL	96
33) Naphthalene	128	7.292	7.298	1.004	69375	0.93	ng/uL	97
37) 2-Methylnaphthalene	142	8.234	8.239	1.133	48086	0.92	ng/uL	99
38) 1-Methylnaphthalene	142	8.362	8.367	1.151	43274	0.90	ng/uL	98
45) 2-Chloronaphthalene	162	8.870	8.875	0.924	41327	0.92	ng/uL	98
49) Dimethylphthalate	163	9.250	9.271	0.964	48458	0.91	ng/uL	99
53) Acenaphthylene	152	9.410	9.416	0.980	70471	0.93	ng/uL	98
54) Acenaphthene	154	9.635	9.646	1.004	43367	0.94	ng/uL	97
58) Diethylphthalate	149	10.154	10.170	1.058	47345	0.89	ng/uL	96
60) Fluorene	166	10.293	10.298	1.072	48352	0.94	ng/uL	95
73) Phenanthrene	178	11.507	11.512	1.002	63545	0.93	ng/uL	97
74) Anthracene	178	11.571	11.576	1.008	61043	0.89	ng/uL	98
75) Carbazole	167	11.764	11.774	1.025	47656	0.86	ng/uL	100
76) Di-n-butylphthalate	149	12.218	12.218	1.064	65834	0.86	ng/uL	99
77) Fluoranthene	202	12.994	12.999	1.132	54014	0.90	ng/uL	95
79) Pyrene	202	13.272	13.277	0.886	54512	0.97	ng/uL	97
81) Butylbenzylphthalate	149	14.112	14.112	0.942	17906	0.79	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.043	15.042	1.004	27494	0.82	ng/uL	99
83) Benzo(a)anthracene	228	14.962	14.967	0.999	33580	0.94	ng/uL	97
84) Chrysene	228	15.021	15.032	1.002	32128	0.96	ng/uL	98
87) Di-n-octylphthalate	149	16.417	16.417	1.096	25817	1.01	ng/uL#	88
89) Benzo(b)fluoranthene	252	17.230	17.241	0.943	21717	0.84	ng/uL	94
90) Benzo(k)fluoranthene	252	17.305	17.316	0.948	20210	0.84	ng/uL	97
91) Benzo(a)pyrene	252	18.091	18.102	0.991	17146	0.87	ng/uL	92

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1907.D
Acq On : 19 Oct 2020 13:22
Operator : JMB3
Sample : |WBN201013-01|ICAL|1|SVM|1|M-1
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 21 09:21:37 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

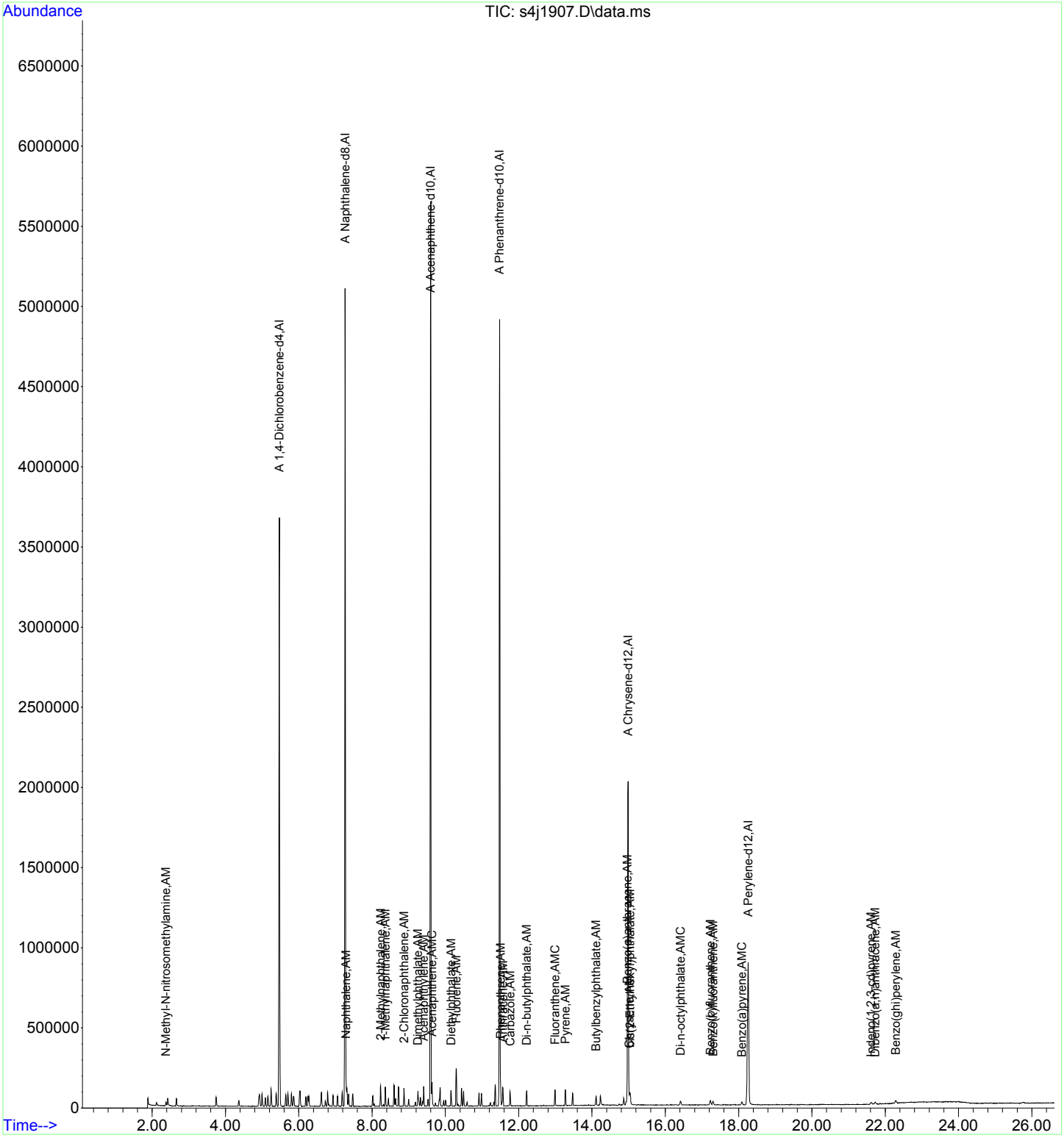
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
92) Indeno(1,2,3-cd)pyrene	276	21.616	21.632	1.184	11998	0.93	ng/uL	92
93) Dibenzo(a,h)anthracene	278	21.728	21.733	1.190	11432	1.00	ng/uL	97
94) Benzo(ghi)perylene	276	22.285	22.306	1.220	15239	1.00	ng/uL	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1907.D
Acq On : 19 Oct 2020 13:22
Operator : JMB3
Sample : |WBN201013-01|ICAL|1|SVM|1|M-1
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 21 09:21:37 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1908.D
Acq On : 19 Oct 2020 13:54
Operator : JMB3
Sample : |WBN201013-02|ICAL|1|SVM|1|M-2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

RJB 10/21/2020

Quant Time: Oct 21 09:21:40 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	679655	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.265	7.265	1.000	2853083	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.597	9.603	1.000	1559848	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2547866	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.983	14.989	1.000	1124516	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.257	18.262	1.000	881783	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.597	9.592	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.983	14.978	1.000	0m	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.257	18.252	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.265	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.983	14.984	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.597	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.983	14.984	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.257	18.300	1.000	0m	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.746	3.751	0.685	193759	9.48	ng/uL	0.00
8) Phenol-d5	99	4.917	4.928	0.899	232268	9.34	ng/uL	-0.01
23) Nitrobenzene-d5	82	6.249	6.260	0.860	216916	8.96	ng/uL	-0.01
44) 2-Fluorobiphenyl	172	8.720	8.726	0.909	469370	9.68	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.592	10.603	1.104	44146	8.00	ng/uL	-0.01
80) p-Terphenyl-d14	244	13.470	13.475	0.899	363710	9.74	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.109	2.109	0.386	134442	9.61	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.371	2.377	0.434	130687	9.79	ng/uL	99
4) Pyridine	79	2.414	2.414	0.441	200771	9.45	ng/uL	100
6) p-Benzoquinone	54	4.366	4.372	0.799	140467	8.75	ng/uL	98
7) Aniline	93	4.998	5.008	0.914	331913	9.40	ng/uL	100
9) Phenol	94	4.933	4.949	0.902	251327	9.24	ng/uL	97
10) bis(2-Chloroethyl) ether	93	5.089	5.099	0.931	224497	9.49	ng/uL	99
11) 2-Chlorophenol	128	5.158	5.169	0.943	206784	9.33	ng/uL	99
12) n-Decane	43	5.244	5.249	0.959	337867	9.76	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.383	5.388	0.984	254251	9.76	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.490	5.495	1.004	258669	9.73	ng/uL	97
15) 1,2-Dichlorobenzene	146	5.704	5.709	1.043	243384	9.62	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.859	5.869	1.071	449299	9.58	ng/uL	99
17) Benzyl alcohol	108	5.650	5.661	1.033	140442	9.33	ng/uL	99
18) o-Cresol	107	5.800	5.811	1.061	166931	9.45	ng/uL	99
19) m,p-Cresols	108	6.025	6.046	1.102	193592	9.23	ng/uL	97
20) N-Nitrosodipropylamine	70	6.041	6.062	1.105	177198	9.45	ng/uL	98
21) Hexachloroethane	117	6.190	6.196	1.132	96181	9.53	ng/uL	95
24) Nitrobenzene	77	6.276	6.287	0.864	228702	9.33	ng/uL	99
25) Isophorone	82	6.618	6.634	0.911	457195	9.34	ng/uL	99
26) 2-Nitrophenol	139	6.731	6.736	0.926	84519	7.96	ng/uL	99
27) 2,4-Dimethylphenol	122	6.789	6.800	0.934	200767	9.62	ng/uL	95
28) bis(2-Chloroethoxy)met...	93	6.934	6.945	0.954	267261	9.47	ng/uL	98
29) 2,4-Dichlorophenol	162	7.057	7.068	0.971	163241	8.84	ng/uL	96

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1908.D
Acq On : 19 Oct 2020 13:54
Operator : JMB3
Sample : |WBN201013-02|ICAL|1|SVM|1|M-2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 09:21:40 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
31) 1,2,4-Trichlorobenzene	180	7.185	7.191	0.989	198505	9.68	ng/uL	99
32) alpha-Terpineol	59	7.314	7.324	1.007	225380	9.28	ng/uL	98
33) Naphthalene	128	7.292	7.298	1.004	667829	9.97	ng/uL	99
34) 4-Chloroaniline	127	7.362	7.372	1.013	244680	9.27	ng/uL	99
35) Hexachlorobutadiene	225	7.474	7.474	1.029	113232	9.59	ng/uL	98
36) 4-Chloro-3-methylphenol	107	8.020	8.025	1.104	168546	8.81	ng/uL	99
37) 2-Methylnaphthalene	142	8.234	8.239	1.133	456578	9.67	ng/uL	99
38) 1-Methylnaphthalene	142	8.362	8.367	1.151	418571	9.61	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.447	8.447	0.880	109161	8.63	ng/uL	97
41) 2,3-Dichloroaniline	161	8.597	8.603	0.896	231737	9.97	ng/uL	100
42) 2,4,6-Trichlorophenol	196	8.603	8.608	0.896	106368	8.68	ng/uL	98
43) 2,4,5-Trichlorophenol	196	8.640	8.645	0.900	111934	8.50	ng/uL	99
45) 2-Chloronaphthalene	162	8.870	8.875	0.924	411058	9.70	ng/uL	99
46) o-Nitroaniline	65	8.998	9.009	0.938	109053	8.68	ng/uL	97
47) 1,4-Dinitrobenzene	168	9.186	9.196	0.957	44701	10.23	ng/uL	96
48) m-Nitroaniline	138	9.528	9.544	0.993	94443	8.84	ng/uL	99
49) Dimethylphthalate	163	9.255	9.271	0.964	480185	9.65	ng/uL	100
50) m-Dinitrobenzene	168	9.277	9.287	0.967	61268	8.28	ng/uL#	48
51) 2,6-Dinitrotoluene	165	9.325	9.335	0.972	101098	9.02	ng/uL	100
52) 2,4-Dinitrotoluene	165	9.833	9.843	1.025	119306	8.58	ng/uL	85
53) Acenaphthylene	152	9.410	9.416	0.980	707365	9.93	ng/uL	98
54) Acenaphthene	154	9.635	9.646	1.004	426858	9.84	ng/uL	99
56) Dibenzofuran	168	9.854	9.865	1.027	571094	9.57	ng/uL	98
57) 2,3,4,6-Tetrachlorophenol	232	10.009	10.015	1.043	78219	7.81	ng/uL	98
58) Diethylphthalate	149	10.159	10.170	1.059	479741	9.58	ng/uL	98
59) 4-Nitrophenol	139	9.731	9.747	1.014	57425	10.42	ng/uL	96
60) Fluorene	166	10.293	10.298	1.072	476629	9.89	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.298	10.303	1.073	220594	10.07	ng/uL	99
62) p-Nitroaniline	138	10.298	10.320	1.073	87760	9.25	ng/uL	92
65) 2-Methyl-4,6-dinitroph...	198	10.346	10.362	0.901	26875	12.65	ng/uL	98
66) Diphenylamine	169	10.443	10.453	0.910	385715	9.31	ng/uL	98
67) 1,2-Diphenylhydrazine	77	10.496	10.507	0.914	482783	9.12	ng/uL	98
68) 4-Bromophenylphenylether	248	10.913	10.919	0.951	121763	9.34	ng/uL	98
69) Hexachlorobenzene	284	10.983	10.993	0.957	131754	9.43	ng/uL	97
70) Pentachlorophenol	266	11.229	11.234	0.978	43829	10.42	ng/uL	99
71) n-Octadecane	57	11.357	11.362	0.989	393769	9.16	ng/uL	98
72) Dinoseb	211	11.464	11.469	0.999	40829	12.50	ng/uL	91
73) Phenanthrene	178	11.507	11.512	1.002	652980	9.66	ng/uL	98
74) Anthracene	178	11.571	11.576	1.008	665093	9.76	ng/uL	98
75) Carbazole	167	11.764	11.774	1.025	537384	9.77	ng/uL	98
76) Di-n-butylphthalate	149	12.213	12.218	1.064	746383	9.87	ng/uL	99
77) Fluoranthene	202	12.988	12.999	1.131	594756	9.94	ng/uL	99
79) Pyrene	202	13.272	13.277	0.886	596654	10.40	ng/uL	100
81) Butylbenzylphthalate	149	14.106	14.112	0.941	227949	9.86	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.042	15.042	1.004	332799	9.67	ng/uL	97
83) Benzo(a)anthracene	228	14.962	14.967	0.999	355238	9.72	ng/uL	99
84) Chrysene	228	15.026	15.032	1.003	337914	9.84	ng/uL	100
85) Methoxychlor	227	14.866	14.871	0.992	296746	8.98	ng/uL	99
86) Methylenebis(2-chloroa...	231	14.930	14.935	0.996	56946	9.04	ng/uL	99
87) Di-n-octylphthalate	149	16.412	16.417	1.095	347298	8.65	ng/uL	100
89) Benzo(b)fluoranthene	252	17.230	17.241	0.944	255302	8.80	ng/uL	99
90) Benzo(k)fluoranthene	252	17.299	17.316	0.948	241118	8.97	ng/uL	100
91) Benzo(a)pyrene	252	18.086	18.102	0.991	200532	9.06	ng/uL	99
92) Indeno(1,2,3-cd)pyrene	276	21.616	21.632	1.184	162106	11.21	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.723	21.733	1.190	139784	10.89	ng/uL	99
94) Benzo(ghi)perylene	276	22.284	22.306	1.221	193424	11.29	ng/uL	97
95) Dibenzo(a,e)pyrene	302	25.772	25.772	1.412	59981	11.76	ng/uL	97

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1908.D
Acq On : 19 Oct 2020 13:54
Operator : JMB3
Sample : |WBN201013-02|ICAL|1|SVM|1|M-2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 09:21:40 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

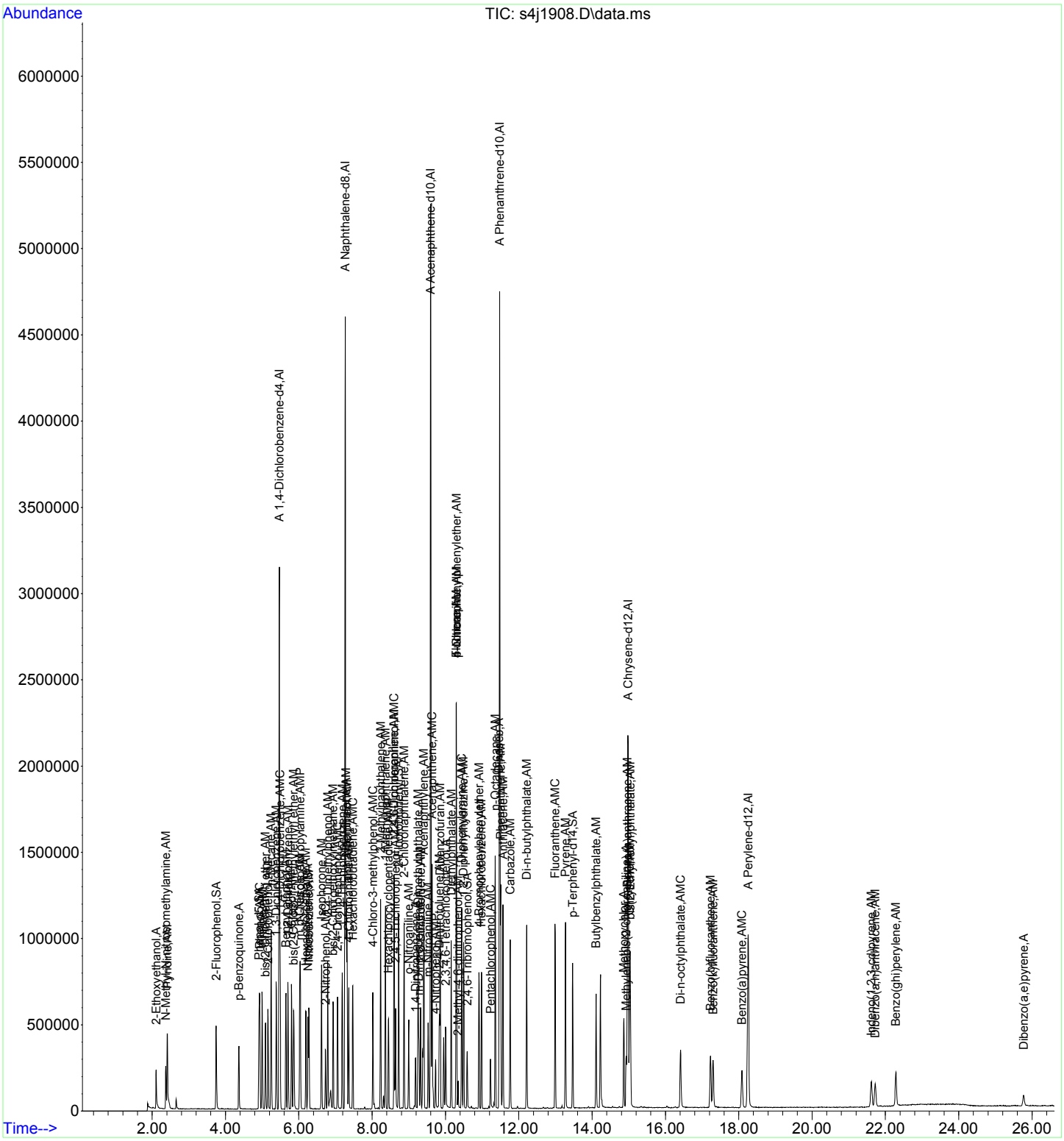
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1908.D
Acq On : 19 Oct 2020 13:54
Operator : JMB3
Sample : |WBN201013-02|ICAL|1|SVM|1|M-2
Misc : |MIX[A]
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 21 09:21:40 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1909.D
Acq On : 19 Oct 2020 14:26
Operator : JMB3
Sample : |WBN201013-03|ICAL|1|SVM|1|M-3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

RJB 10/21/2020

Quant Time: Oct 21 09:21:42 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	747414	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.266	7.265	1.000	3123115	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.598	9.603	1.000	1740940	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2842651	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.984	14.989	1.000	1295325	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.257	18.262	1.000	964960	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.598	9.592	1.000	0m	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.984	14.978	1.000	0m	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.257	18.252	1.000	0m	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.266	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.984	14.984	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.598	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.984	14.984	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.266	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.257	18.300	1.000	0m	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.746	3.751	0.685	427065	18.99	ng/uL	0.00
8) Phenol-d5	99	4.918	4.928	0.899	519881	19.02	ng/uL	-0.01
23) Nitrobenzene-d5	82	6.255	6.260	0.861	513829	19.39	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.726	8.726	0.909	1069268	19.75	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.592	10.603	1.104	112393	18.26	ng/uL	-0.01
80) p-Terphenyl-d14	244	13.470	13.475	0.899	859937	19.99	ng/uL	0.00

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.110	2.109	0.386	299366	19.45	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.372	2.377	0.434	286462	19.52	ng/uL	99
4) Pyridine	79	2.414	2.414	0.442	452638	19.37	ng/uL	99
6) p-Benzoquinone	54	4.367	4.372	0.799	328231	18.60	ng/uL	98
7) Aniline	93	5.003	5.008	0.915	747599	19.26	ng/uL	99
9) Phenol	94	4.939	4.949	0.903	566051	18.93	ng/uL	99
10) bis(2-Chloroethyl) ether	93	5.089	5.099	0.931	508757	19.55	ng/uL	99
11) 2-Chlorophenol	128	5.164	5.169	0.944	465843	19.11	ng/uL	99
12) n-Decane	43	5.249	5.249	0.960	758139	19.92	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.388	5.388	0.985	563805	19.67	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.490	5.495	1.004	573471	19.61	ng/uL	97
15) 1,2-Dichlorobenzene	146	5.704	5.709	1.043	544977	19.58	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.864	5.869	1.072	1003609	19.45	ng/uL	99
17) Benzyl alcohol	108	5.650	5.661	1.033	313529	18.95	ng/uL	98
18) o-Cresol	107	5.805	5.811	1.062	374028	19.26	ng/uL	98
19) m,p-Cresols	108	6.030	6.046	1.103	441028	19.11	ng/uL	99
20) N-Nitrosodipropylamine	70	6.051	6.062	1.107	399904	19.39	ng/uL	100
21) Hexachloroethane	117	6.191	6.196	1.132	214861	19.37	ng/uL	96
24) Nitrobenzene	77	6.282	6.287	0.865	513963	19.16	ng/uL	99
25) Isophorone	82	6.624	6.634	0.912	1046503	19.52	ng/uL	99
26) 2-Nitrophenol	139	6.731	6.736	0.926	207937	17.90	ng/uL	98
27) 2,4-Dimethylphenol	122	6.790	6.800	0.934	447955	19.62	ng/uL	98
28) bis(2-Chloroethoxy)met...	93	6.939	6.945	0.955	599298	19.39	ng/uL	98
29) 2,4-Dichlorophenol	162	7.062	7.068	0.972	385918	19.10	ng/uL	98

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1909.D
Acq On : 19 Oct 2020 14:26
Operator : JMB3
Sample : |WBN201013-03|ICAL|1|SVM|1|M-3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 09:21:42 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.897	6.961	0.949	126906	20.42	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.185	7.191	0.989	445595	19.85	ng/uL	100
32) alpha-Terpineol	59	7.314	7.324	1.007	519244	19.54	ng/uL	99
33) Naphthalene	128	7.292	7.298	1.004	1526463	20.81	ng/uL	99
34) 4-Chloroaniline	127	7.367	7.372	1.014	545967	18.90	ng/uL	99
35) Hexachlorobutadiene	225	7.474	7.474	1.029	257586	19.92	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.020	8.025	1.104	395996	18.91	ng/uL	98
37) 2-Methylnaphthalene	142	8.234	8.239	1.133	1044999	20.22	ng/uL	99
38) 1-Methylnaphthalene	142	8.362	8.367	1.151	963061	20.20	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.448	8.447	0.880	261600	18.54	ng/uL	99
41) 2,3-Dichloroaniline	161	8.603	8.603	0.896	507270	19.55	ng/uL	100
42) 2,4,6-Trichlorophenol	196	8.603	8.608	0.896	259238	18.95	ng/uL	97
43) 2,4,5-Trichlorophenol	196	8.640	8.645	0.900	276120	18.78	ng/uL	98
45) 2-Chloronaphthalene	162	8.876	8.875	0.925	935542	19.79	ng/uL	100
46) o-Nitroaniline	65	8.999	9.009	0.938	256054	18.27	ng/uL	99
47) 1,4-Dinitrobenzene	168	9.186	9.196	0.957	120537	19.02	ng/uL	97
48) m-Nitroaniline	138	9.533	9.544	0.993	218046	18.28	ng/uL	99
49) Dimethylphthalate	163	9.261	9.271	0.965	1119799	20.15	ng/uL	99
50) m-Dinitrobenzene	168	9.282	9.287	0.967	151346	18.34	ng/uL#	46
51) 2,6-Dinitrotoluene	165	9.325	9.335	0.972	244282	19.52	ng/uL	99
52) 2,4-Dinitrotoluene	165	9.838	9.843	1.025	297683	19.18	ng/uL	91
53) Acenaphthylene	152	9.410	9.416	0.980	1633949	20.54	ng/uL	99
54) Acenaphthene	154	9.640	9.646	1.004	974645	20.12	ng/uL	99
55) 2,4-Dinitrophenol	184	9.662	9.672	1.007	47014	20.83	ng/uL#	75
56) Dibenzofuran	168	9.860	9.865	1.027	1333364	20.01	ng/uL	99
57) 2,3,4,6-Tetrachlorophenol	232	10.009	10.015	1.043	199117	17.81	ng/uL	98
58) Diethylphthalate	149	10.159	10.170	1.059	1124675	20.12	ng/uL	100
59) 4-Nitrophenol	139	9.737	9.747	1.014	133018	17.95	ng/uL	97
60) Fluorene	166	10.293	10.298	1.072	1098650	20.42	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.298	10.303	1.073	502915	20.58	ng/uL	99
62) p-Nitroaniline	138	10.309	10.320	1.074	196189	18.52	ng/uL	98
65) 2-Methyl-4,6-dinitroph...	198	10.352	10.362	0.902	76658	19.14	ng/uL	99
66) Diphenylamine	169	10.448	10.453	0.910	882879	19.10	ng/uL	98
67) 1,2-Diphenylhydrazine	77	10.502	10.507	0.915	1120087	18.97	ng/uL	99
68) 4-Bromophenylphenylether	248	10.919	10.919	0.951	280366	19.28	ng/uL	99
69) Hexachlorobenzene	284	10.988	10.993	0.957	307238	19.71	ng/uL	98
70) Pentachlorophenol	266	11.229	11.234	0.978	117734	18.52	ng/uL	97
71) n-Octadecane	57	11.357	11.362	0.989	917947	19.14	ng/uL	98
72) Dinoseb	211	11.464	11.469	0.999	121597	19.30	ng/uL	97
73) Phenanthrene	178	11.507	11.512	1.002	1548282	20.53	ng/uL	100
74) Anthracene	178	11.571	11.576	1.008	1552234	20.41	ng/uL	99
75) Carbazole	167	11.769	11.774	1.025	1243229	20.26	ng/uL	99
76) Di-n-butylphthalate	149	12.218	12.218	1.064	1784384	21.15	ng/uL	99
77) Fluoranthene	202	12.994	12.999	1.132	1361618	20.39	ng/uL	98
79) Pyrene	202	13.278	13.277	0.886	1382472	20.91	ng/uL	100
81) Butylbenzylphthalate	149	14.112	14.112	0.942	533034	20.01	ng/uL	100
82) bis(2-Ethylhexyl)phtha...	149	15.043	15.042	1.004	780537	19.69	ng/uL	99
83) Benzo(a)anthracene	228	14.962	14.967	0.999	830668	19.73	ng/uL	100
84) Chrysene	228	15.027	15.032	1.003	793963	20.08	ng/uL	100
85) Methoxychlor	227	14.866	14.871	0.992	727970	19.12	ng/uL	99
86) Methylenebis(2-chloroa...	231	14.930	14.935	0.996	136948	18.87	ng/uL	99
87) Di-n-octylphthalate	149	16.412	16.417	1.095	867562	18.32	ng/uL	100
89) Benzo(b)fluoranthene	252	17.235	17.241	0.944	610676	19.24	ng/uL	99
90) Benzo(k)fluoranthene	252	17.305	17.316	0.948	566826	19.27	ng/uL	99
91) Benzo(a)pyrene	252	18.091	18.102	0.991	467263	19.29	ng/uL	99
92) Indeno(1,2,3-cd)pyrene	276	21.621	21.632	1.184	333894	21.09	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.728	21.733	1.190	275750	19.64	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1909.D
Acq On : 19 Oct 2020 14:26
Operator : JMB3
Sample : |WBN201013-03|ICAL|1|SVM|1|M-3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 09:21:42 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

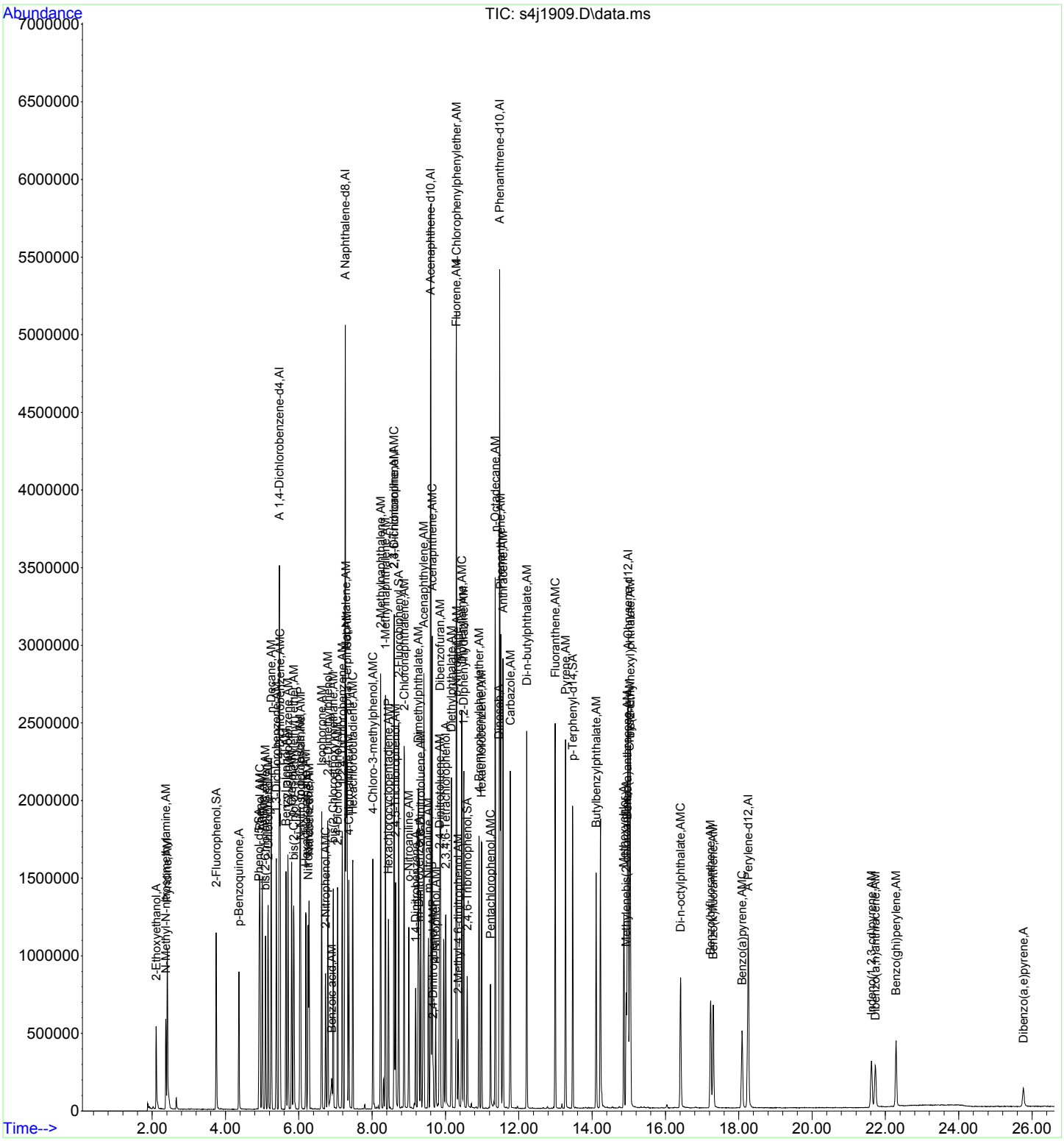
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.290	22.306	1.221	383809	20.47	ng/uL	100
95) Dibenzo(a,e)pyrene	302	25.767	25.772	1.411	121122	21.71	ng/uL	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1909.D
Acq On : 19 Oct 2020 14:26
Operator : JMB3
Sample : |WBN201013-03|ICAL|1|SVM|1|M-3
Misc : |MIX[A]
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 21 09:21:42 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1910.D
Acq On : 19 Oct 2020 14:57
Operator : JMB3
Sample : |WBN201013-04|ICAL|1|SVM|1|M-4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 09:21:44 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	766907	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.265	7.265	1.000	3257896	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.603	9.603	1.000	1799008	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2939684	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.989	14.989	1.000	1219201	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.262	18.262	1.000	917226	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.603	9.592	1.000	0m	40.00	ng/uL	0.01
129) B Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.989	14.978	1.000	0m	40.00	ng/uL	0.01
148) B Perylene-d12	264	18.262	18.252	1.000	0m	40.00	ng/uL	0.01
151) J Naphthalene-d8	136	7.265	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.989	14.984	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.603	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.989	14.984	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.265	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.262	18.300	1.000	0m	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.751	3.751	0.686	936949	40.61	ng/uL	0.00
8) Phenol-d5	99	4.928	4.928	0.901	1156116	41.21	ng/uL	0.00
23) Nitrobenzene-d5	82	6.260	6.260	0.862	1115679	40.36	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.726	8.726	0.909	2343790	41.90	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.603	10.603	1.104	261709	41.14	ng/uL	0.00
80) p-Terphenyl-d14	244	13.475	13.475	0.899	1722085	42.52	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.109	2.109	0.386	647673	41.02	ng/uL	100
3) N-Methyl-N-nitrosometh...	74	2.377	2.377	0.435	620492	41.20	ng/uL	100
4) Pyridine	79	2.414	2.414	0.441	985603	41.10	ng/uL	100
6) p-Benzoquinone	54	4.372	4.372	0.799	741395	40.95	ng/uL	100
7) Aniline	93	5.008	5.008	0.916	1612212	40.48	ng/uL	100
9) Phenol	94	4.949	4.949	0.905	1258592	41.01	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.099	5.099	0.933	1091473	40.88	ng/uL	100
11) 2-Chlorophenol	128	5.169	5.169	0.945	1016014	40.62	ng/uL	100
12) n-Decane	43	5.249	5.249	0.960	1605851	41.13	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.388	5.388	0.985	1200806	40.83	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.495	5.495	1.005	1237267	41.23	ng/uL	100
15) 1,2-Dichlorobenzene	146	5.709	5.709	1.044	1168244	40.92	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.869	5.869	1.073	2152812	40.66	ng/uL	100
17) Benzyl alcohol	108	5.661	5.661	1.035	697629	41.09	ng/uL	100
18) o-Cresol	107	5.811	5.811	1.063	804123	40.36	ng/uL	100
19) m,p-Cresols	108	6.046	6.046	1.106	964495	40.73	ng/uL	100
20) N-Nitrosodipropylamine	70	6.062	6.062	1.109	865990	40.91	ng/uL	100
21) Hexachloroethane	117	6.196	6.196	1.133	468397	41.15	ng/uL	100
24) Nitrobenzene	77	6.287	6.287	0.865	1136545	40.62	ng/uL	100
25) Isophorone	82	6.634	6.634	0.913	2279262	40.76	ng/uL	100
26) 2-Nitrophenol	139	6.736	6.736	0.927	484408	39.97	ng/uL	100
27) 2,4-Dimethylphenol	122	6.800	6.800	0.936	961530	40.36	ng/uL	100
28) bis(2-Chloroethoxy)met...	93	6.945	6.945	0.956	1316421	40.83	ng/uL	100
29) 2,4-Dichlorophenol	162	7.068	7.068	0.973	870176	41.28	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1910.D
Acq On : 19 Oct 2020 14:57
Operator : JMB3
Sample : |WBN201013-04|ICAL|1|SVM|1|M-4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 09:21:44 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.961	6.961	0.958	422324	39.84	ng/uL	100
31) 1,2,4-Trichlorobenzene	180	7.191	7.191	0.990	949962	40.57	ng/uL	100
32) alpha-Terpineol	59	7.324	7.324	1.008	1131289	40.80	ng/uL	100
33) Naphthalene	128	7.298	7.298	1.004	3309897	43.26	ng/uL	100
34) 4-Chloroaniline	127	7.372	7.372	1.015	1248331	41.42	ng/uL	100
35) Hexachlorobutadiene	225	7.474	7.474	1.029	546505	40.51	ng/uL	100
36) 4-Chloro-3-methylphenol	107	8.025	8.025	1.105	887094	40.62	ng/uL	100
37) 2-Methylnaphthalene	142	8.239	8.239	1.134	2263142	41.97	ng/uL	100
38) 1-Methylnaphthalene	142	8.367	8.367	1.152	2089561	42.01	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.447	8.447	0.880	604215	41.44	ng/uL	100
41) 2,3-Dichloroaniline	161	8.603	8.603	0.896	1104336	41.20	ng/uL	100
42) 2,4,6-Trichlorophenol	196	8.608	8.608	0.896	582174	41.19	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.645	8.645	0.900	627780	41.32	ng/uL	100
45) 2-Chloronaphthalene	162	8.875	8.875	0.924	2029200	41.53	ng/uL	100
46) o-Nitroaniline	65	9.009	9.009	0.938	592199	40.88	ng/uL	100
47) 1,4-Dinitrobenzene	168	9.196	9.196	0.958	294700	39.50	ng/uL	100
48) m-Nitroaniline	138	9.544	9.544	0.994	506568	41.09	ng/uL	100
49) Dimethylphthalate	163	9.271	9.271	0.965	2438811	42.47	ng/uL	100
50) m-Dinitrobenzene	168	9.287	9.287	0.967	353586	41.45	ng/uL	100
51) 2,6-Dinitrotoluene	165	9.335	9.335	0.972	533130	41.23	ng/uL	100
52) 2,4-Dinitrotoluene	165	9.843	9.843	1.025	676649	42.18	ng/uL	100
53) Acenaphthylene	152	9.416	9.416	0.981	3570508	43.44	ng/uL	100
54) Acenaphthene	154	9.646	9.646	1.004	2071294	41.38	ng/uL	100
55) 2,4-Dinitrophenol	184	9.672	9.672	1.007	135197	37.36	ng/uL	100
56) Dibenzofuran	168	9.865	9.865	1.027	2943449	42.75	ng/uL	100
57) 2,3,4,6-Tetrachlorophenol	232	10.015	10.015	1.043	480249	41.56	ng/uL	100
58) Diethylphthalate	149	10.170	10.170	1.059	2453570	42.48	ng/uL	100
59) 4-Nitrophenol	139	9.747	9.747	1.015	350780	40.51	ng/uL	100
60) Fluorene	166	10.298	10.298	1.072	2333605	41.97	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.303	10.303	1.073	1047078	41.46	ng/uL	100
62) p-Nitroaniline	138	10.320	10.320	1.075	437497	39.96	ng/uL	100
65) 2-Methyl-4,6-dinitroph...	198	10.362	10.362	0.903	216390	37.58	ng/uL	100
66) Diphenylamine	169	10.453	10.453	0.911	1951602	40.82	ng/uL	100
67) 1,2-Diphenylhydrazine	77	10.507	10.507	0.915	2504734	41.03	ng/uL	100
68) 4-Bromophenylphenylether	248	10.919	10.919	0.951	602735	40.07	ng/uL	100
69) Hexachlorobenzene	284	10.993	10.993	0.958	654551	40.61	ng/uL	100
70) Pentachlorophenol	266	11.234	11.234	0.979	296663	38.43	ng/uL	100
71) n-Octadecane	57	11.362	11.362	0.990	2013289	40.59	ng/uL	100
72) Dinoseb	211	11.469	11.469	0.999	338459	37.69	ng/uL	100
73) Phenanthrene	178	11.512	11.512	1.003	3274078	41.99	ng/uL	100
74) Anthracene	178	11.576	11.576	1.008	3333924	42.38	ng/uL	100
75) Carbazole	167	11.774	11.774	1.026	2583526	40.71	ng/uL	100
76) Di-n-butylphthalate	149	12.218	12.218	1.064	3743788	42.91	ng/uL	100
77) Fluoranthene	202	12.999	12.999	1.132	2772189	40.14	ng/uL	100
79) Pyrene	202	13.277	13.277	0.886	2706731	43.50	ng/uL	100
81) Butylbenzylphthalate	149	14.112	14.112	0.941	1052776	41.99	ng/uL	100
82) bis(2-Ethylhexyl)phtha...	149	15.042	15.042	1.004	1542610	41.34	ng/uL	100
83) Benzo(a)anthracene	228	14.967	14.967	0.999	1615234	40.76	ng/uL	100
84) Chrysene	228	15.032	15.032	1.003	1525799	40.99	ng/uL	100
85) Methoxychlor	227	14.871	14.871	0.992	1427648	39.85	ng/uL	100
86) Methylenebis(2-chloroa...	231	14.935	14.935	0.996	267358	39.14	ng/uL	100
87) Di-n-octylphthalate	149	16.417	16.417	1.095	1843590	40.87	ng/uL	100
89) Benzo(b)fluoranthene	252	17.241	17.241	0.944	1197978	39.70	ng/uL	100
90) Benzo(k)fluoranthene	252	17.316	17.316	0.948	1095734	39.19	ng/uL	100
91) Benzo(a)pyrene	252	18.102	18.102	0.991	938932	40.78	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	21.632	21.632	1.185	695936	46.25	ng/uL	100
93) Dibenzo(a,h)anthracene	278	21.733	21.733	1.190	606163	45.41	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1910.D
Acq On : 19 Oct 2020 14:57
Operator : JMB3
Sample : |WBN201013-04|ICAL|1|SVM|1|M-4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 09:21:44 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

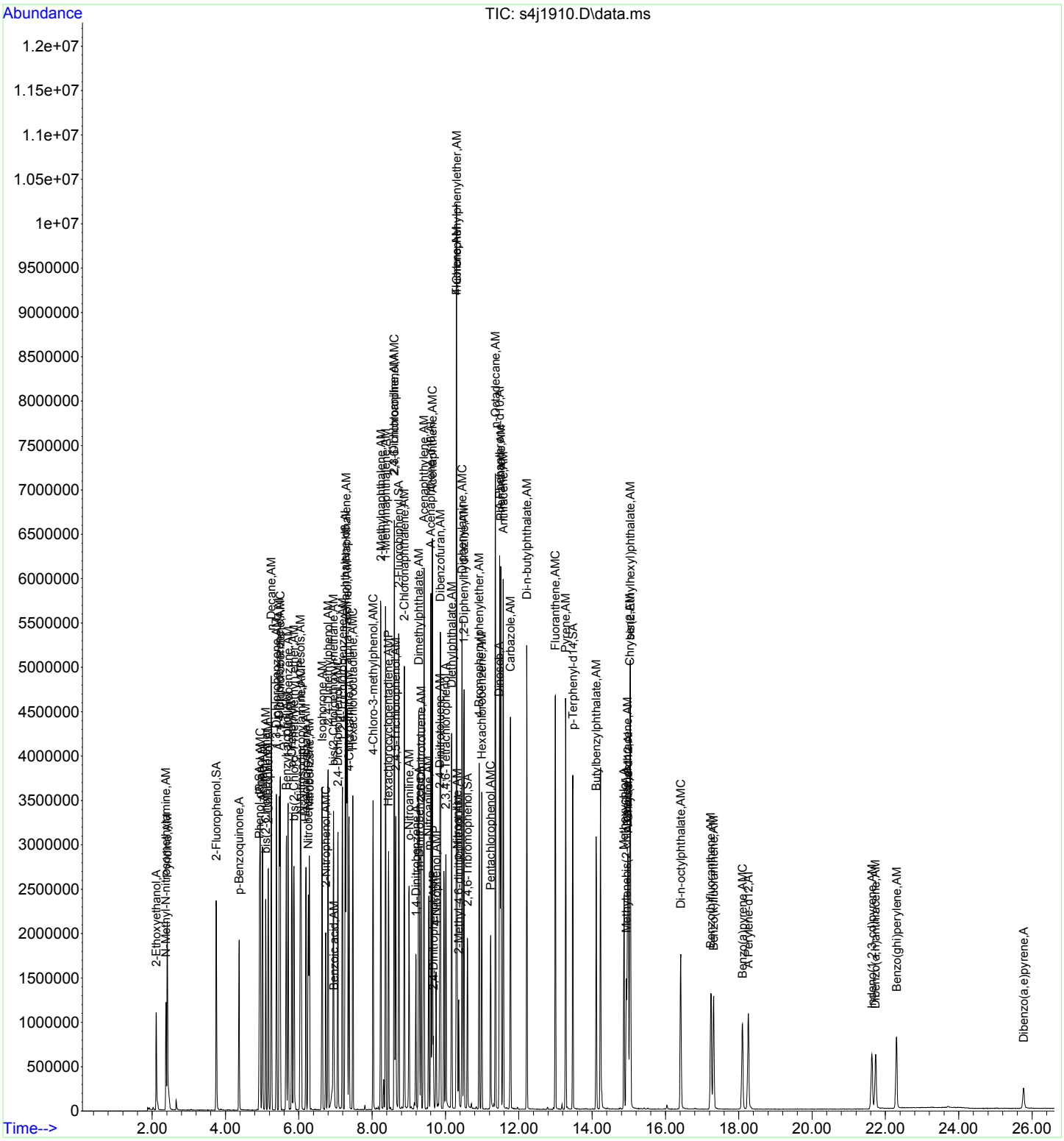
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.306	22.306	1.221	770426	43.24	ng/uL	100
95) Dibenzo(a,e)pyrene	302	25.772	25.772	1.411	232468	43.83	ng/uL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1910.D
Acq On : 19 Oct 2020 14:57
Operator : JMB3
Sample : |WBN201013-04|ICAL|1|SVM|1|M-4
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 21 09:21:44 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1911.D
Acq On : 19 Oct 2020 15:29
Operator : JMB3
Sample : |WBN201013-05|ICAL|1|SVM|1|M-5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

RJB 10/21/2020

Quant Time: Oct 21 09:21:46 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	735712	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.271	7.265	1.000	3159590	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.603	9.603	1.000	1750664	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2812542	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.989	14.989	1.000	1181042	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.262	18.262	1.000	840306	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.603	9.592	1.000	0m	40.00	ng/uL	0.01
129) B Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.989	14.978	1.000	0m	40.00	ng/uL	0.01
148) B Perylene-d12	264	18.262	18.252	1.000	0m	40.00	ng/uL	0.01
151) J Naphthalene-d8	136	7.271	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.989	14.984	1.000	0m	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.603	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.989	14.984	1.000	0m	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	0.000	18.300	1.000	0	0.00	ng/uL	-18.30
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.751	3.751	0.686	1142661	51.62	ng/uL	0.00
8) Phenol-d5	99	4.933	4.928	0.902	1389653	51.64	ng/uL	0.00
23) Nitrobenzene-d5	82	6.260	6.260	0.861	1378858	51.43	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.731	8.726	0.909	2841815	52.21	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.603	10.603	1.104	318464	51.44	ng/uL	0.00
80) p-Terphenyl-d14	244	13.475	13.475	0.899	2069290	52.75	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.115	2.109	0.387	784357	51.78	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.377	2.377	0.435	753768	52.17	ng/uL	100
4) Pyridine	79	2.414	2.414	0.441	1188879	51.68	ng/uL	100
6) p-Benzoquinone	54	4.372	4.372	0.799	910698	52.44	ng/uL	99
7) Aniline	93	5.014	5.008	0.917	1967283	51.49	ng/uL	99
9) Phenol	94	4.955	4.949	0.906	1517185	51.54	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.099	5.099	0.933	1324161	51.70	ng/uL	100
11) 2-Chlorophenol	128	5.169	5.169	0.945	1228719	51.21	ng/uL	100
12) n-Decane	43	5.249	5.249	0.960	1931949	51.58	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.393	5.388	0.986	1447311	51.30	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.495	5.495	1.005	1476847	51.30	ng/uL	99
15) 1,2-Dichlorobenzene	146	5.709	5.709	1.044	1400266	51.12	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.869	5.869	1.073	2614882	51.48	ng/uL	100
17) Benzyl alcohol	108	5.661	5.661	1.035	841793	51.69	ng/uL	99
18) o-Cresol	107	5.811	5.811	1.063	992016	51.90	ng/uL	99
19) m,p-Cresols	108	6.051	6.046	1.107	1179108	51.91	ng/uL	100
20) N-Nitrosodipropylamine	70	6.067	6.062	1.110	1046870	51.56	ng/uL	99
21) Hexachloroethane	117	6.196	6.196	1.133	566765	51.90	ng/uL	99
24) Nitrobenzene	77	6.292	6.287	0.865	1390004	51.22	ng/uL	100
25) Isophorone	82	6.640	6.634	0.913	2773301	51.14	ng/uL	99
26) 2-Nitrophenol	139	6.736	6.736	0.926	620476	52.79	ng/uL	99
27) 2,4-Dimethylphenol	122	6.800	6.800	0.935	1172647	50.76	ng/uL	99
28) bis(2-Chloroethoxy)met...	93	6.950	6.945	0.956	1601433	51.22	ng/uL	100
29) 2,4-Dichlorophenol	162	7.068	7.068	0.972	1055265	51.62	ng/uL	99

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1911.D
Acq On : 19 Oct 2020 15:29
Operator : JMB3
Sample : |WBN201013-05|ICAL|1|SVM|1|M-5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 09:21:46 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.977	6.961	0.960	520760	47.51	ng/uL	99
31) 1,2,4-Trichlorobenzene	180	7.191	7.191	0.989	1156832	50.94	ng/uL	99
32) alpha-Terpineol	59	7.324	7.324	1.007	1379797	51.32	ng/uL	99
33) Naphthalene	128	7.298	7.298	1.004	3979442	53.62	ng/uL	100
34) 4-Chloroaniline	127	7.372	7.372	1.014	1506640	51.55	ng/uL	100
35) Hexachlorobutadiene	225	7.474	7.474	1.028	661096	50.53	ng/uL	99
36) 4-Chloro-3-methylphenol	107	8.030	8.025	1.104	1091838	51.55	ng/uL	99
37) 2-Methylnaphthalene	142	8.239	8.239	1.133	2746605	52.52	ng/uL	99
38) 1-Methylnaphthalene	142	8.367	8.367	1.151	2525219	52.35	ng/uL	100
40) Hexachlorocyclopentadiene	237	8.447	8.447	0.880	737484	51.98	ng/uL	99
41) 2,3-Dichloroaniline	161	8.608	8.603	0.896	1336109	51.22	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.608	8.608	0.896	725681	52.76	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.651	8.645	0.901	768544	51.99	ng/uL	99
45) 2-Chloronaphthalene	162	8.881	8.875	0.925	2486626	52.30	ng/uL	100
46) o-Nitroaniline	65	9.009	9.009	0.938	739961	52.50	ng/uL	99
47) 1,4-Dinitrobenzene	168	9.196	9.196	0.958	376855	50.64	ng/uL	98
48) m-Nitroaniline	138	9.549	9.544	0.994	631641	52.65	ng/uL	98
49) Dimethylphthalate	163	9.271	9.271	0.965	2971313	53.18	ng/uL	100
50) m-Dinitrobenzene	168	9.293	9.287	0.968	436051	52.53	ng/uL	99
51) 2,6-Dinitrotoluene	165	9.341	9.335	0.973	652125	51.82	ng/uL	99
52) 2,4-Dinitrotoluene	165	9.849	9.843	1.026	823936	52.78	ng/uL	99
53) Acenaphthylene	152	9.421	9.416	0.981	4311223	53.91	ng/uL	100
54) Acenaphthene	154	9.646	9.646	1.004	2546737	52.29	ng/uL	99
55) 2,4-Dinitrophenol	184	9.678	9.672	1.008	183930	47.63	ng/uL#	21
56) Dibenzofuran	168	9.865	9.865	1.027	3557115	53.09	ng/uL	99
57) 2,3,4,6-Tetrachlorophenol	232	10.015	10.015	1.043	595282	52.94	ng/uL	98
58) Diethylphthalate	149	10.170	10.170	1.059	2978980	53.00	ng/uL	100
59) 4-Nitrophenol	139	9.753	9.747	1.016	433735	50.55	ng/uL	99
60) Fluorene	166	10.303	10.298	1.073	2832685	52.35	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.303	10.303	1.073	1264393	51.45	ng/uL	99
62) p-Nitroaniline	138	10.325	10.320	1.075	532952	50.03	ng/uL	98
65) 2-Methyl-4,6-dinitroph...	198	10.368	10.362	0.903	286728	48.78	ng/uL	99
66) Diphenylamine	169	10.459	10.453	0.911	2362133	51.64	ng/uL	100
67) 1,2-Diphenylhydrazine	77	10.507	10.507	0.915	3043350	52.10	ng/uL	100
68) 4-Bromophenylphenylether	248	10.924	10.919	0.952	737631	51.26	ng/uL	99
69) Hexachlorobenzene	284	10.993	10.993	0.958	776905	50.39	ng/uL	97
70) Pentachlorophenol	266	11.234	11.234	0.979	373234	49.06	ng/uL	98
71) n-Octadecane	57	11.363	11.362	0.990	2453539	51.71	ng/uL	100
72) Dinoseb	211	11.475	11.469	1.000	445141	48.66	ng/uL	100
73) Phenanthrene	178	11.512	11.512	1.003	3906920	52.37	ng/uL	99
74) Anthracene	178	11.582	11.576	1.009	4019587	53.41	ng/uL	100
75) Carbazole	167	11.774	11.774	1.026	3146743	51.82	ng/uL	100
76) Di-n-butylphthalate	149	12.218	12.218	1.064	4489257	53.78	ng/uL	100
77) Fluoranthene	202	12.999	12.999	1.132	3322575	50.28	ng/uL	100
79) Pyrene	202	13.283	13.277	0.886	3300690	54.76	ng/uL	100
81) Butylbenzylphthalate	149	14.112	14.112	0.941	1307241	53.82	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	15.048	15.042	1.004	1915726	53.00	ng/uL	99
83) Benzo(a)anthracene	228	14.967	14.967	0.999	1961285	51.09	ng/uL	99
84) Chrysene	228	15.037	15.032	1.003	1874490	51.99	ng/uL	99
85) Methoxychlor	227	14.871	14.871	0.992	1811958	52.21	ng/uL	99
86) Methylenebis(2-chloroa...	231	14.935	14.935	0.996	323846	48.94	ng/uL	99
87) Di-n-octylphthalate	149	16.417	16.417	1.095	2307434	52.70	ng/uL	100
89) Benzo(b)fluoranthene	252	17.246	17.241	0.944	1413895	51.15	ng/uL	99
90) Benzo(k)fluoranthene	252	17.316	17.316	0.948	1315573	51.37	ng/uL	99
91) Benzo(a)pyrene	252	18.102	18.102	0.991	1097815	52.05	ng/uL	99
92) Indeno(1,2,3-cd)pyrene	276	21.632	21.632	1.185	761657	55.25	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.734	21.733	1.190	652067	53.32	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1911.D
Acq On : 19 Oct 2020 15:29
Operator : JMB3
Sample : |WBN201013-05|ICAL|1|SVM|1|M-5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 09:21:46 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

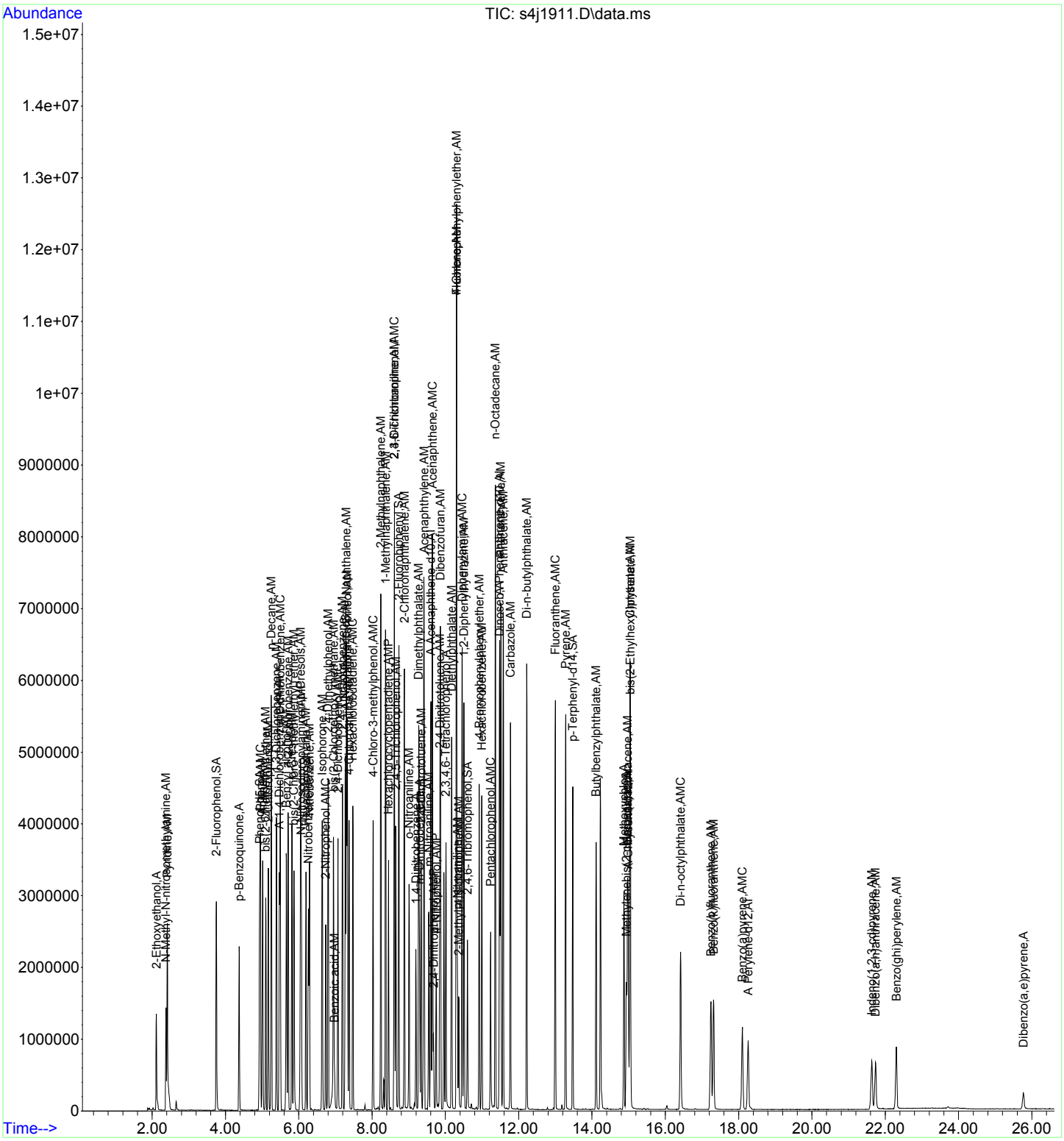
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.306	22.306	1.221	830584	50.88	ng/uL	100
95) Dibenzo(a,e)pyrene	302	25.772	25.772	1.411	230587	47.45	ng/uL	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1911.D
Acq On : 19 Oct 2020 15:29
Operator : JMB3
Sample : |WBN201013-05|ICAL|1|SVM|1|M-5
Misc : |MIX[A]
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 21 09:21:46 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1912.D
Acq On : 19 Oct 2020 16:00
Operator : JMB3
Sample : |WBN201013-06|ICAL|1|SVM|1|M-6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 21 09:32:53 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	733206	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.271	7.265	1.000	3146244	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.603	9.603	1.000	1758770	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.486	11.480	1.000	2781139	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.994	14.989	1.000	1481328	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.268	18.262	1.000	976727	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.603	9.592	1.000	0m	40.00	ng/uL	0.01
129) B Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.994	14.978	1.000	0m	40.00	ng/uL	0.02
148) B Perylene-d12	264	18.268	18.252	1.000	0m	40.00	ng/uL	0.02
151) J Naphthalene-d8	136	7.271	7.265	1.000	0m	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.994	14.984	1.000	0m	40.00	ng/uL	0.01
159) D Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.603	9.598	1.000	0m	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.994	14.984	1.000	0m	40.00	ng/uL	0.01
173) E Naphthalene-d8	136	7.271	7.266	1.000	0m	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.268	18.300	1.000	0m	40.00	ng/uL	-0.03
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.751	3.751	0.685	1791718	81.22	ng/uL	0.00
8) Phenol-d5	99	4.944	4.928	0.903	2182006	81.36	ng/uL	0.02
23) Nitrobenzene-d5	82	6.271	6.260	0.862	2193262	82.15	ng/uL	0.01
44) 2-Fluorobiphenyl	172	8.736	8.726	0.910	4406112	80.57	ng/uL	0.01
63) 2,4,6-Tribromophenol	330	10.608	10.603	1.105	526269	84.61	ng/uL	0.00
80) p-Terphenyl-d14	244	13.481	13.475	0.899	3794892	77.13	ng/uL	0.00

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.115	2.109	0.386	1204388	79.78	ng/uL	99
3) N-Methyl-N-nitrosometh...	74	2.382	2.377	0.435	1168079	81.12	ng/uL	99
4) Pyridine	79	2.414	2.414	0.441	1835389	80.06	ng/uL	100
6) p-Benzoquinone	54	4.377	4.372	0.800	1441539	83.28	ng/uL	99
7) Aniline	93	5.019	5.008	0.917	3094293	81.27	ng/uL	99
9) Phenol	94	4.960	4.949	0.906	2377767	81.05	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.110	5.099	0.934	2074566	81.27	ng/uL	100
11) 2-Chlorophenol	128	5.174	5.169	0.945	1971730	82.46	ng/uL	99
12) n-Decane	43	5.254	5.249	0.960	3015292	80.78	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.393	5.388	0.985	2279366	81.07	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.500	5.495	1.005	2305000	80.34	ng/uL	99
15) 1,2-Dichlorobenzene	146	5.714	5.709	1.044	2209827	80.95	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.875	5.869	1.073	4151378	82.01	ng/uL	100
17) Benzyl alcohol	108	5.672	5.661	1.036	1338512	82.47	ng/uL	100
18) o-Cresol	107	5.821	5.811	1.064	1560520	81.92	ng/uL	100
19) m,p-Cresols	108	6.062	6.046	1.107	1860664	82.19	ng/uL	99
20) N-Nitrosodipropylamine	70	6.083	6.062	1.111	1656148	81.84	ng/uL	99
21) Hexachloroethane	117	6.196	6.196	1.132	883664	81.20	ng/uL	99
24) Nitrobenzene	77	6.297	6.287	0.866	2201145	81.45	ng/uL	98
25) Isophorone	82	6.650	6.634	0.915	4425909	81.95	ng/uL	99
26) 2-Nitrophenol	139	6.741	6.736	0.927	994801	84.99	ng/uL	99
27) 2,4-Dimethylphenol	122	6.811	6.800	0.937	1874482	81.48	ng/uL	100
28) bis(2-Chloroethoxy)met...	93	6.955	6.945	0.957	2534866	81.41	ng/uL	99
29) 2,4-Dichlorophenol	162	7.078	7.068	0.974	1684689	82.76	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1912.D
Acq On : 19 Oct 2020 16:00
Operator : JMB3
Sample : |WBN201013-06|ICAL|1|SVM|1|M-6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 09:32:53 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
30) Benzoic acid	105	7.019	6.961	0.965	900854	74.02	ng/uL	99	
31) 1,2,4-Trichlorobenzene	180	7.196	7.191	0.990	1817769	80.38	ng/uL	100	
32) alpha-Terpineol	59	7.335	7.324	1.009	2202550	82.26	ng/uL	99	
33) Naphthalene	128	7.303	7.298	1.004	5993103	81.10	ng/uL	99	
34) 4-Chloroaniline	127	7.383	7.372	1.015	2398647	82.42	ng/uL	99	
35) Hexachlorobutadiene	225	7.479	7.474	1.029	1049699	80.58	ng/uL	99	
36) 4-Chloro-3-methylphenol	107	8.036	8.025	1.105	1761861	83.53	ng/uL	99	
37) 2-Methylnaphthalene	142	8.244	8.239	1.134	4274695	82.09	ng/uL	99	
38) 1-Methylnaphthalene	142	8.373	8.367	1.152	3955949	82.35	ng/uL	99	
40) Hexachlorocyclopentadiene	237	8.453	8.447	0.880	1161775	81.50	ng/uL	100	
41) 2,3-Dichloroaniline	161	8.613	8.603	0.897	2078850	79.32	ng/uL	99	
42) 2,4,6-Trichlorophenol	196	8.613	8.608	0.897	1152250	83.38	ng/uL	100	
43) 2,4,5-Trichlorophenol	196	8.656	8.645	0.901	1240874	83.55	ng/uL	99	
45) 2-Chloronaphthalene	162	8.886	8.875	0.925	3956200	82.82	ng/uL	100	
46) o-Nitroaniline	65	9.014	9.009	0.939	1173147	82.84	ng/uL	98	
47) 1,4-Dinitrobenzene	168	9.207	9.196	0.959	612096	79.39	ng/uL	96	
48) m-Nitroaniline	138	9.560	9.544	0.996	994377	82.51	ng/uL	99	
49) Dimethylphthalate	163	9.282	9.271	0.967	4574413	81.49	ng/uL	100	
50) m-Dinitrobenzene	168	9.303	9.287	0.969	691703	82.95	ng/uL	99	
51) 2,6-Dinitrotoluene	165	9.346	9.335	0.973	1026119	81.17	ng/uL	99	
52) 2,4-Dinitrotoluene	165	9.860	9.843	1.027	1286219	82.02	ng/uL	98	
53) Acenaphthylene	152	9.426	9.416	0.982	6494550	80.83	ng/uL	99	
54) Acenaphthene	154	9.651	9.646	1.005	3994778	81.64	ng/uL	99	
55) 2,4-Dinitrophenol	184	9.683	9.672	1.008	331931	76.35	ng/uL#	23	
56) Dibenzofuran	168	9.870	9.865	1.028	5397214	80.18	ng/uL	97	
57) 2,3,4,6-Tetrachlorophenol	232	10.020	10.015	1.043	955655	84.59	ng/uL	99	
58) Diethylphthalate	149	10.175	10.170	1.060	4632439	82.04	ng/uL	100	
59) 4-Nitrophenol	139	9.763	9.747	1.017	701362	79.28	ng/uL	99	
60) Fluorene	166	10.309	10.298	1.074	4372237	80.43	ng/uL	100	
61) 4-Chlorophenylphenylether	204	10.309	10.303	1.074	1945925	78.81	ng/uL	98	
62) p-Nitroaniline	138	10.341	10.320	1.077	871578	81.44	ng/uL	98	
65) 2-Methyl-4,6-dinitroph...	198	10.378	10.362	0.904	516325	81.86	ng/uL	98	A
66) Diphenylamine	169	10.464	10.453	0.911	3709705	82.02	ng/uL	99	
67) 1,2-Diphenylhydrazine	77	10.512	10.507	0.915	4818899	83.43	ng/uL	99	
68) 4-Bromophenylphenylether	248	10.929	10.919	0.952	1164181	81.82	ng/uL	99	
69) Hexachlorobenzene	284	10.999	10.993	0.958	1219818	80.00	ng/uL	97	
70) Pentachlorophenol	266	11.240	11.234	0.979	627970	80.21	ng/uL	99	
71) n-Octadecane	57	11.368	11.362	0.990	3912100	83.38	ng/uL	100	
72) Dinoseb	211	11.480	11.469	1.000	803322	81.86	ng/uL	99	A
73) Phenanthrene	178	11.518	11.512	1.003	6030966	81.75	ng/uL	99	
74) Anthracene	178	11.587	11.576	1.009	6171171	82.92	ng/uL	99	
75) Carbazole	167	11.780	11.774	1.026	5079995	84.60	ng/uL	100	
76) Di-n-butylphthalate	149	12.224	12.218	1.064	6901526	83.61	ng/uL	99	
77) Fluoranthene	202	13.005	12.999	1.132	5619706	86.01	ng/uL	99	
79) Pyrene	202	13.288	13.277	0.886	5651705	74.75	ng/uL	100	
81) Butylbenzylphthalate	149	14.117	14.112	0.941	2487139	81.64	ng/uL	100	
82) bis(2-Ethylhexyl)phtha...	149	15.048	15.042	1.004	3716315	81.97	ng/uL	99	
83) Benzo(a)anthracene	228	14.978	14.967	0.999	3935392	81.74	ng/uL	100	
84) Chrysene	228	15.048	15.032	1.004	3616939	79.98	ng/uL	99	
85) Methoxychlor	227	14.882	14.871	0.993	3600692	82.71	ng/uL	99	
86) Methylenebis(2-chloroa...	231	14.946	14.935	0.997	698733	84.19	ng/uL	98	
87) Di-n-octylphthalate	149	16.422	16.417	1.095	4974080	90.29	ng/uL	99	A
89) Benzo(b)fluoranthene	252	17.257	17.241	0.945	2772497	86.29	ng/uL	100	
90) Benzo(k)fluoranthene	252	17.332	17.316	0.949	2590620	87.02	ng/uL	99	
91) Benzo(a)pyrene	252	18.118	18.102	0.992	2081543	84.90	ng/uL	99	
92) Indeno(1,2,3-cd)pyrene	276	21.643	21.632	1.185	1122505	70.05	ng/uL	99	
93) Dibenzo(a,h)anthracene	278	21.744	21.733	1.190	1019621	71.74	ng/uL	100	

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1912.D
Acq On : 19 Oct 2020 16:00
Operator : JMB3
Sample : |WBN201013-06|ICAL|1|SVM|1|M-6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 09:32:53 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

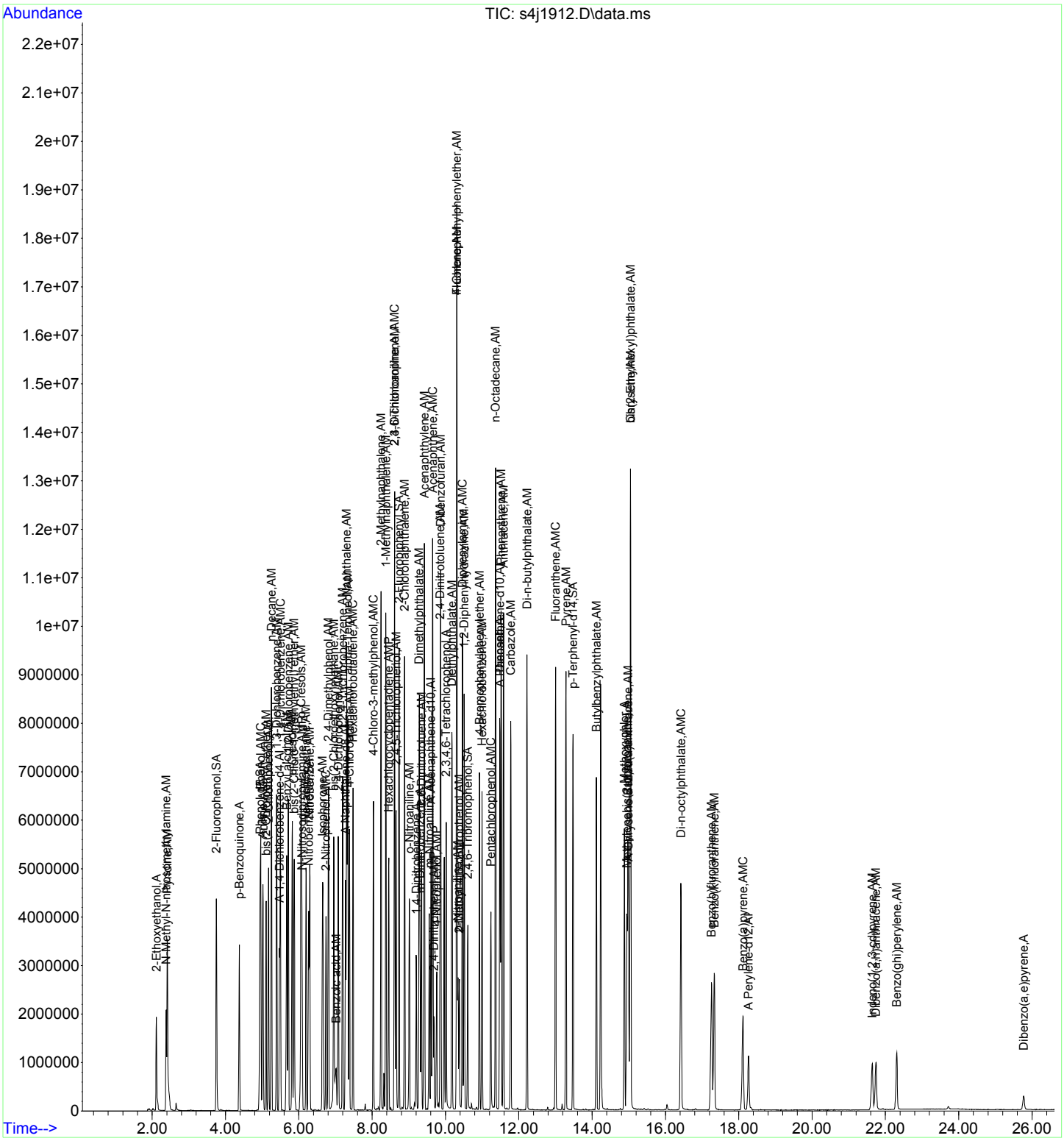
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.311	22.306	1.221	1140111	60.09	ng/uL	99
95) Dibenzo(a,e)pyrene	302	25.772	25.772	1.411	313500	55.50	ng/uL	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1912.D
Acq On : 19 Oct 2020 16:00
Operator : JMB3
Sample : |WBN201013-06|ICAL|1|SVM|1|M-6
Misc : |MIX[A]
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 21 09:32:53 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1913.D
Acq On : 19 Oct 2020 16:32
Operator : JMB3
Sample : |WBN201013-07|ICAL|1|SVM|1|M-7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

RJB 10/21/2020

Quant Time: Oct 21 09:21:50 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	756148	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.276	7.265	1.000	3237574	40.00	ng/uL	0.01
39) A Acenaphthene-d10	164	9.608	9.603	1.000	1800248	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.486	11.480	1.000	2847327	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.000	14.989	1.000	1442428	40.00	ng/uL	0.01
88) A Perylene-d12	264	18.268	18.262	1.000	901761	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	0m	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01
120) B Acenaphthene-d10	164	9.608	9.592	1.000	0m	40.00	ng/uL	0.02
129) B Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.000	14.978	1.000	0m	40.00	ng/uL	0.02
148) B Perylene-d12	264	18.268	18.252	1.000	0m	40.00	ng/uL	0.02
151) J Naphthalene-d8	136	7.276	7.265	1.000	0m	40.00	ng/uL	0.01
153) J Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.000	14.984	1.000	0m	40.00	ng/uL	0.02
159) D Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01
161) D Acenaphthene-d10	164	9.608	9.598	1.000	0m	40.00	ng/uL	0.01
164) D Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.000	14.984	1.000	0m	40.00	ng/uL	0.02
173) E Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01
175) E Perylene-d12	264	18.375	18.300	1.000	0m	40.00	ng/uL	0.07
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.757	3.751	0.686	2334319	102.61	ng/uL	0.00
8) Phenol-d5	99	4.950	4.928	0.904	2853190	103.16	ng/uL	0.02
23) Nitrobenzene-d5	82	6.276	6.260	0.863	2878982	104.79	ng/uL	0.02
44) 2-Fluorobiphenyl	172	8.736	8.726	0.909	5555330	99.24	ng/uL	0.01
63) 2,4,6-Tribromophenol	330	10.614	10.603	1.105	689894	108.36	ng/uL	0.01
80) p-Terphenyl-d14	244	13.481	13.475	0.899	4811785	100.43	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.115	2.109	0.386	1557050	100.01	ng/uL	100
3) N-Methyl-N-nitrosometh...	74	2.388	2.377	0.436	1501291	101.10	ng/uL	99
4) Pyridine	79	2.414	2.414	0.441	2406754	101.80	ng/uL	99
6) p-Benzoquinone	54	4.383	4.372	0.801	1889308	105.84	ng/uL	99
7) Aniline	93	5.024	5.008	0.918	4019819	102.37	ng/uL	97
9) Phenol	94	4.971	4.949	0.908	3144292	103.92	ng/uL	99
10) bis(2-Chloroethyl) ether	93	5.115	5.099	0.935	2660405	101.06	ng/uL	99
11) 2-Chlorophenol	128	5.180	5.169	0.946	2530878	102.63	ng/uL	99
12) n-Decane	43	5.254	5.249	0.960	3804736	98.83	ng/uL	98
13) 1,3-Dichlorobenzene	146	5.399	5.388	0.986	2904023	100.15	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.500	5.495	1.005	2970581	100.39	ng/uL	99
15) 1,2-Dichlorobenzene	146	5.714	5.709	1.044	2831389	100.58	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.875	5.869	1.073	5316371	101.84	ng/uL	99
17) Benzyl alcohol	108	5.677	5.661	1.037	1720664	102.80	ng/uL	99
18) o-Cresol	107	5.827	5.811	1.064	2013143	102.48	ng/uL	100
19) m,p-Cresols	108	6.067	6.046	1.108	2411119	103.27	ng/uL	100
20) N-Nitrosodipropylamine	70	6.094	6.062	1.113	2128193	101.98	ng/uL	99
21) Hexachloroethane	117	6.201	6.196	1.133	1134002	101.04	ng/uL	99
24) Nitrobenzene	77	6.303	6.287	0.866	2862824	102.95	ng/uL	99
25) Isophorone	82	6.666	6.634	0.916	5687753	102.35	ng/uL	99
26) 2-Nitrophenol	139	6.747	6.736	0.927	1330975	110.51	ng/uL	99
27) 2,4-Dimethylphenol	122	6.816	6.800	0.937	2397849	101.29	ng/uL	99
28) bis(2-Chloroethoxy)met...	93	6.961	6.945	0.957	3264863	101.90	ng/uL	98
29) 2,4-Dichlorophenol	162	7.084	7.068	0.974	2185235	104.32	ng/uL	99

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1913.D
Acq On : 19 Oct 2020 16:32
Operator : JMB3
Sample : |WBN201013-07|ICAL|1|SVM|1|M-7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 09:21:50 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
30)	Benzoic acid	105	7.052	6.961	0.969	1387022	105.02	ng/uL	98	
31)	1,2,4-Trichlorobenzene	180	7.196	7.191	0.989	2359964	101.41	ng/uL	99	
32)	alpha-Terpineol	59	7.340	7.324	1.009	2810424	102.01	ng/uL	99	
33)	Naphthalene	128	7.308	7.298	1.004	7339770	96.52	ng/uL	97	
34)	4-Chloroaniline	127	7.383	7.372	1.015	3088315	103.12	ng/uL	99	
35)	Hexachlorobutadiene	225	7.479	7.474	1.028	1357043	101.23	ng/uL	99	
36)	4-Chloro-3-methylphenol	107	8.036	8.025	1.104	2281243	105.11	ng/uL	98	
37)	2-Methylnaphthalene	142	8.244	8.239	1.133	5375665	100.32	ng/uL	98	
38)	1-Methylnaphthalene	142	8.378	8.367	1.151	5051876	102.20	ng/uL	98	
40)	Hexachlorocyclopentadiene	237	8.453	8.447	0.880	1567359	107.42	ng/uL	98	
41)	2,3-Dichloroaniline	161	8.613	8.603	0.896	2680022	99.91	ng/uL	99	
42)	2,4,6-Trichlorophenol	196	8.619	8.608	0.897	1445840	102.22	ng/uL	100	
43)	2,4,5-Trichlorophenol	196	8.656	8.645	0.901	1627569	107.06	ng/uL	99	
45)	2-Chloronaphthalene	162	8.886	8.875	0.925	4946213	101.16	ng/uL	99	
46)	o-Nitroaniline	65	9.020	9.009	0.939	1537030	106.04	ng/uL	99	
47)	1,4-Dinitrobenzene	168	9.212	9.196	0.959	815636	102.14	ng/uL	97	
48)	m-Nitroaniline	138	9.565	9.544	0.996	1305562	105.83	ng/uL	99	
49)	Dimethylphthalate	163	9.293	9.271	0.967	5771406	100.45	ng/uL	100	
50)	m-Dinitrobenzene	168	9.309	9.287	0.969	919958	107.78	ng/uL	96	
51)	2,6-Dinitrotoluene	165	9.351	9.335	0.973	1313332	101.49	ng/uL	99	
52)	2,4-Dinitrotoluene	165	9.865	9.843	1.027	1656924	103.23	ng/uL	98	
53)	Acenaphthylene	152	9.426	9.416	0.981	7944484	96.60	ng/uL	98	
54)	Acenaphthene	154	9.656	9.646	1.005	4979899	99.43	ng/uL	100	
55)	2,4-Dinitrophenol	184	9.694	9.672	1.009	498979	106.72	ng/uL#	22	
56)	Dibenzofuran	168	9.876	9.865	1.028	6753824	98.02	ng/uL	95	
57)	2,3,4,6-Tetrachlorophenol	232	10.025	10.015	1.043	1253724	108.42	ng/uL	100	
58)	Diethylphthalate	149	10.180	10.170	1.060	5837756	101.00	ng/uL	100	
59)	4-Nitrophenol	139	9.769	9.747	1.017	959933	104.86	ng/uL	98	
60)	Fluorene	166	10.309	10.298	1.073	5506796	98.97	ng/uL	100	
61)	4-Chlorophenylphenylether	204	10.314	10.303	1.073	2447886	96.86	ng/uL	97	
62)	p-Nitroaniline	138	10.352	10.320	1.077	1204833	109.98	ng/uL	98	
65)	2-Methyl-4,6-dinitroph...	198	10.384	10.362	0.904	715817	107.85	ng/uL	95	A
66)	Diphenylamine	169	10.469	10.453	0.912	4733537	102.22	ng/uL	100	
67)	1,2-Diphenylhydrazine	77	10.517	10.507	0.916	6082375	102.86	ng/uL	100	
68)	4-Bromophenylphenylether	248	10.929	10.919	0.952	1493274	102.50	ng/uL	100	
69)	Hexachlorobenzene	284	10.999	10.993	0.958	1590747	101.91	ng/uL	98	
70)	Pentachlorophenol	266	11.240	11.234	0.979	851411	104.71	ng/uL	99	
71)	n-Octadecane	57	11.368	11.362	0.990	4960765	103.27	ng/uL	99	
72)	Dinoseb	211	11.486	11.469	1.000	1100791	106.71	ng/uL	99	A
73)	Phenanthrene	178	11.523	11.512	1.003	7537320	99.79	ng/uL	98	
74)	Anthracene	178	11.587	11.576	1.009	7625091	100.08	ng/uL	97	
75)	Carbazole	167	11.785	11.774	1.026	6458982	105.07	ng/uL	99	
76)	Di-n-butylphthalate	149	12.224	12.218	1.064	8238752	97.50	ng/uL	97	
77)	Fluoranthene	202	13.005	12.999	1.132	6925399	103.53	ng/uL	98	
79)	Pyrene	202	13.288	13.277	0.886	6892206	93.62	ng/uL	98	
81)	Butylbenzylphthalate	149	14.117	14.112	0.941	3143901	105.98	ng/uL	99	
82)	bis(2-Ethylhexyl)phtha...	149	15.053	15.042	1.004	4728433	107.11	ng/uL	99	
83)	Benzo(a)anthracene	228	14.978	14.967	0.999	4792761	102.23	ng/uL	99	
84)	Chrysene	228	15.048	15.032	1.003	4423551	100.45	ng/uL	98	
85)	Methoxychlor	227	14.887	14.871	0.993	4416698	104.19	ng/uL	99	
86)	Methylenebis(2-chloroa...	231	14.946	14.935	0.996	862229	106.69	ng/uL	98	
87)	Di-n-octylphthalate	149	16.428	16.417	1.095	6302884	117.38	ng/uL	98	A
89)	Benzo(b)fluoranthene	252	17.262	17.241	0.945	3263214	110.01	ng/uL	99	
90)	Benzo(k)fluoranthene	252	17.342	17.316	0.949	3032170	110.32	ng/uL	99	
91)	Benzo(a)pyrene	252	18.123	18.102	0.992	2439806	107.79	ng/uL	99	
92)	Indeno(1,2,3-cd)pyrene	276	21.648	21.632	1.185	1303606	88.12	ng/uL	99	
93)	Dibenzo(a,h)anthracene	278	21.750	21.733	1.191	1212971	92.43	ng/uL	100	

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1913.D
Acq On : 19 Oct 2020 16:32
Operator : JMB3
Sample : |WBN201013-07|ICAL|1|SVM|1|M-7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 09:21:50 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

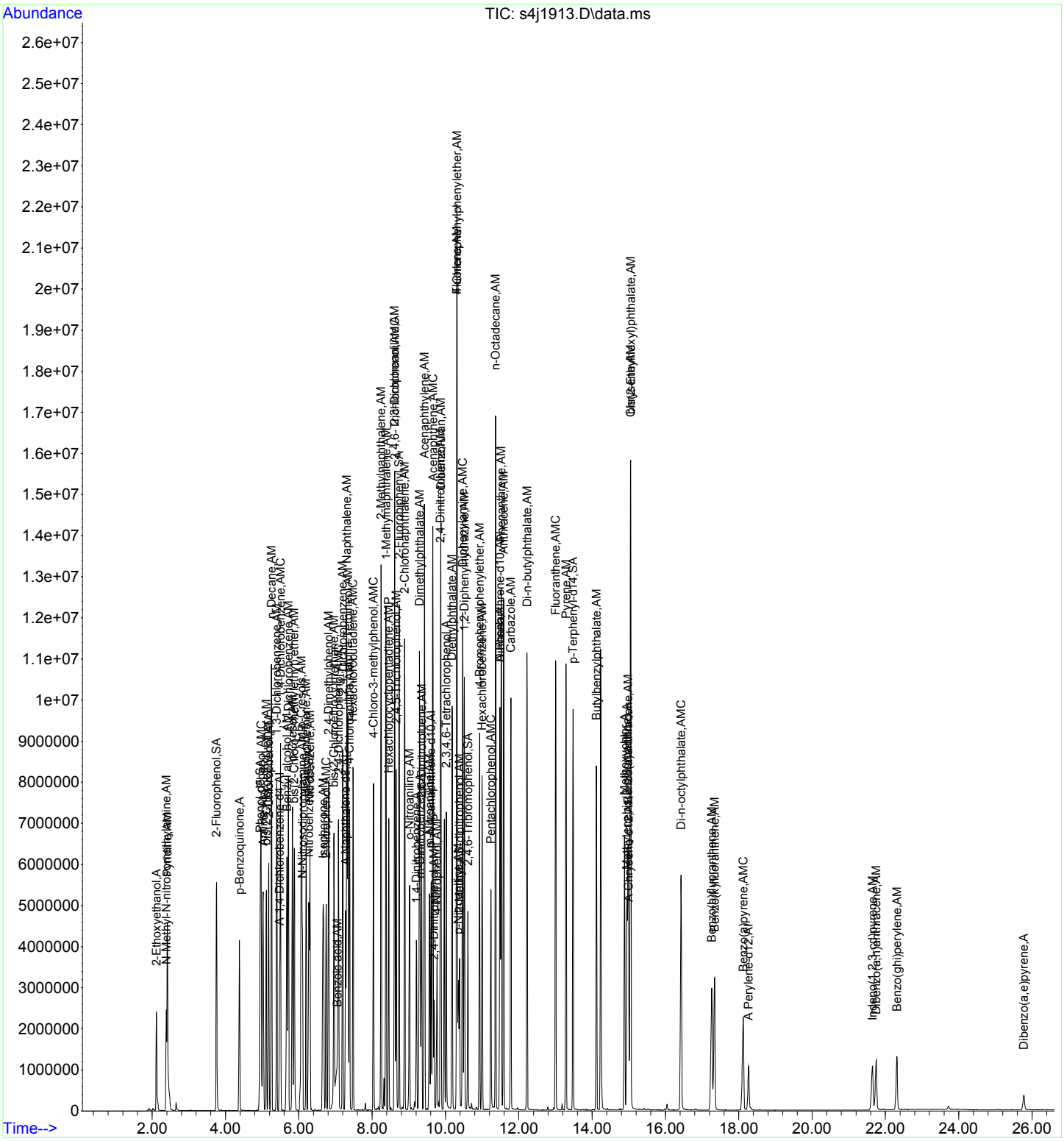
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.317	22.306	1.222	1292948	73.81	ng/uL	99
95) Dibenzo(a,e)pyrene	302	25.777	25.772	1.411	377631	72.41	ng/uL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1913.D
Acq On : 19 Oct 2020 16:32
Operator : JMB3
Sample : |WBN201013-07|ICAL|1|SVM|1|M-7
Misc : |MIX[A]
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 21 09:21:50 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1914.D
Acq On : 19 Oct 2020 17:04
Operator : JMB3
Sample : |WBN201013-08|ICAL|1|SVM|1|M-8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

RJB 10/21/2020

Quant Time: Oct 21 09:21:52 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)	
Internal Standards								Dev(Min)	
1) A 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	772124	40.00	ng/uL	0.00	
22) A Naphthalene-d8	136	7.276	7.265	1.000	3263992	40.00	ng/uL	0.01	
39) A Acenaphthene-d10	164	9.608	9.603	1.000	1801661	40.00	ng/uL	0.00	
64) A Phenanthrene-d10	188	11.486	11.480	1.000	2797479	40.00	ng/uL	0.00	
78) A Chrysene-d12	240	15.000	14.989	1.000	1417595	40.00	ng/uL	0.01	
88) A Perylene-d12	264	18.268	18.262	1.000	839769	40.00	ng/uL	0.00	
96) B 1,4-Dichlorobenzene-d4	152	5.474	5.468	1.000	0m	40.00	ng/uL	0.00	
112) B Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01	
120) B Acenaphthene-d10	164	9.608	9.592	1.000	0m	40.00	ng/uL	0.02	
129) B Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00	
142) B Chrysene-d12	240	15.000	14.978	1.000	0m	40.00	ng/uL	0.02	
148) B Perylene-d12	264	18.268	18.252	1.000	0m	40.00	ng/uL	0.02	
151) J Naphthalene-d8	136	7.276	7.265	1.000	0m	40.00	ng/uL	0.01	
153) J Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00	
156) J Chrysene-d12	240	15.000	14.984	1.000	0m	40.00	ng/uL	0.02	
159) D Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01	
161) D Acenaphthene-d10	164	9.608	9.598	1.000	0m	40.00	ng/uL	0.01	
164) D Phenanthrene-d10	188	11.486	11.480	1.000	0m	40.00	ng/uL	0.00	
171) D Chrysene-d12	240	15.000	14.984	1.000	0m	40.00	ng/uL	0.02	
173) E Naphthalene-d8	136	7.276	7.266	1.000	0m	40.00	ng/uL	0.01	
175) E Perylene-d12	264	0.000	18.300	1.000	0	0.00	ng/uL	-18.30	
System Monitoring Compounds								Dev(Min)	
5) 2-Fluorophenol	112	3.757	3.751	0.686	2826876	121.69	ng/uL	0.00	A
8) Phenol-d5	99	4.955	4.928	0.905	3400593	120.40	ng/uL	0.03	A
23) Nitrobenzene-d5	82	6.276	6.260	0.863	3397601	122.67	ng/uL	0.02	A
44) 2-Fluorobiphenyl	172	8.736	8.726	0.909	6408997	114.41	ng/uL	0.01	
63) 2,4,6-Tribromophenol	330	10.614	10.603	1.105	832217	130.62	ng/uL	0.01	A
80) p-Terphenyl-d14	244	13.481	13.475	0.899	5313062	112.84	ng/uL	0.00	
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue	
2) 2-Ethoxyethanol	59	2.115	2.109	0.386	1924119	121.02	ng/uL	100	A
3) N-Methyl-N-nitrosometh...	74	2.388	2.377	0.436	1838579	121.26	ng/uL	98	A
4) Pyridine	79	2.414	2.414	0.441	2916760	120.82	ng/uL	99	A
6) p-Benzoquinone	54	4.383	4.372	0.801	2236398	122.69	ng/uL	99	A
7) Aniline	93	5.025	5.008	0.918	4884716	121.82	ng/uL	96	A
9) Phenol	94	4.976	4.949	0.909	3786037	122.54	ng/uL	99	A
10) bis(2-Chloroethyl) ether	93	5.115	5.099	0.935	3197559	118.95	ng/uL	100	
11) 2-Chlorophenol	128	5.180	5.169	0.946	3066763	121.79	ng/uL	98	A
12) n-Decane	43	5.255	5.249	0.960	4573619	116.35	ng/uL	97	
13) 1,3-Dichlorobenzene	146	5.399	5.388	0.986	3479157	117.50	ng/uL	100	
14) 1,4-Dichlorobenzene	146	5.501	5.495	1.005	3561168	117.86	ng/uL	99	
15) 1,2-Dichlorobenzene	146	5.715	5.709	1.044	3435717	119.52	ng/uL	99	
16) bis(2-Chloro-1-methyle...	45	5.880	5.869	1.074	6270420	117.63	ng/uL	100	
17) Benzyl alcohol	108	5.682	5.661	1.038	2049127	119.89	ng/uL	99	
18) o-Cresol	107	5.827	5.811	1.064	2396564	119.47	ng/uL	100	
19) m,p-Cresols	108	6.073	6.046	1.109	2876425	120.65	ng/uL	99	A
20) N-Nitrosodipropylamine	70	6.105	6.062	1.115	2529323	118.69	ng/uL	98	
21) Hexachloroethane	117	6.201	6.196	1.133	1355762	118.30	ng/uL	99	
24) Nitrobenzene	77	6.308	6.287	0.867	3435353	122.54	ng/uL	98	A
25) Isophorone	82	6.677	6.634	0.918	6727736	120.08	ng/uL	100	A
26) 2-Nitrophenol	139	6.747	6.736	0.927	1583111	130.38	ng/uL	100	A
27) 2,4-Dimethylphenol	122	6.816	6.800	0.937	2867535	120.15	ng/uL	99	A
28) bis(2-Chloroethoxy)met...	93	6.961	6.945	0.957	3884462	120.26	ng/uL	98	A
29) 2,4-Dichlorophenol	162	7.089	7.068	0.974	2581602	122.24	ng/uL	99	A

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1914.D
Acq On : 19 Oct 2020 17:04
Operator : JMB3
Sample : |WBN201013-08|ICAL|1|SVM|1|M-8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 09:21:52 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
30) Benzoic acid	105	7.073	6.961	0.972	1725223	126.87	ng/uL	98	A
31) 1,2,4-Trichlorobenzene	180	7.196	7.191	0.989	2780957	118.53	ng/uL	100	
32) alpha-Terpineol	59	7.340	7.324	1.009	3333633	120.02	ng/uL	99	A
33) Naphthalene	128	7.308	7.298	1.004	8241389	107.50	ng/uL	96	
34) 4-Chloroaniline	127	7.389	7.372	1.015	3622730	119.99	ng/uL	99	
35) Hexachlorobutadiene	225	7.485	7.474	1.029	1625637	120.29	ng/uL	98	A
36) 4-Chloro-3-methylphenol	107	8.041	8.025	1.105	2708577	123.78	ng/uL	98	A
37) 2-Methylnaphthalene	142	8.250	8.239	1.134	6318254	116.95	ng/uL	98	
38) 1-Methylnaphthalene	142	8.378	8.367	1.151	5886182	118.12	ng/uL	98	
40) Hexachlorocyclopentadiene	237	8.453	8.447	0.880	1823795	124.90	ng/uL	98	A
41) 2,3-Dichloroaniline	161	8.613	8.603	0.896	3158417	117.65	ng/uL	99	
42) 2,4,6-Trichlorophenol	196	8.619	8.608	0.897	1758387	124.22	ng/uL	100	A
43) 2,4,5-Trichlorophenol	196	8.662	8.645	0.901	1868105	122.79	ng/uL	99	A
45) 2-Chloronaphthalene	162	8.892	8.875	0.925	5835458	119.26	ng/uL	99	
46) o-Nitroaniline	65	9.025	9.009	0.939	1828525	126.05	ng/uL	98	A
47) 1,4-Dinitrobenzene	168	9.213	9.196	0.959	976795	121.44	ng/uL	96	A
48) m-Nitroaniline	138	9.571	9.544	0.996	1530005	123.93	ng/uL	99	A
49) Dimethylphthalate	163	9.298	9.271	0.968	6665734	115.92	ng/uL	100	
50) m-Dinitrobenzene	168	9.314	9.287	0.969	1079597	126.38	ng/uL	99	A
51) 2,6-Dinitrotoluene	165	9.357	9.335	0.974	1593742	123.07	ng/uL	99	A
52) 2,4-Dinitrotoluene	165	9.870	9.843	1.027	1957568	121.86	ng/uL	98	A
53) Acenaphthylene	152	9.432	9.416	0.982	9004131	109.40	ng/uL	96	
54) Acenaphthene	154	9.656	9.646	1.005	5880489	117.31	ng/uL	99	
55) 2,4-Dinitrophenol	184	9.694	9.672	1.009	600703	126.03	ng/uL#	21	A
56) Dibenzofuran	168	9.876	9.865	1.028	7695141	111.59	ng/uL	94	
57) 2,3,4,6-Tetrachlorophenol	232	10.025	10.015	1.043	1513330	130.77	ng/uL	99	A
58) Diethylphthalate	149	10.186	10.170	1.060	6882337	118.98	ng/uL	100	
59) 4-Nitrophenol	139	9.774	9.747	1.017	1100023	119.57	ng/uL	99	
60) Fluorene	166	10.314	10.298	1.073	6401873	114.97	ng/uL	100	
61) 4-Chlorophenylphenylether	204	10.314	10.303	1.073	2867610	113.37	ng/uL	97	
62) p-Nitroaniline	138	10.362	10.320	1.078	1357712	123.84	ng/uL	98	A
65) 2-Methyl-4,6-dinitroph...	198	10.389	10.362	0.905	855918	129.42	ng/uL	96	A
66) Diphenylamine	169	10.475	10.453	0.912	5533116	121.62	ng/uL	100	A
67) 1,2-Diphenylhydrazine	77	10.518	10.507	0.916	6970809	119.98	ng/uL	99	
68) 4-Bromophenylphenylether	248	10.935	10.919	0.952	1764400	123.27	ng/uL	99	A
69) Hexachlorobenzene	284	11.004	10.993	0.958	1893583	123.47	ng/uL	97	A
70) Pentachlorophenol	266	11.245	11.234	0.979	1004459	124.80	ng/uL	99	A
71) n-Octadecane	57	11.368	11.362	0.990	5681419	120.38	ng/uL	98	A
72) Dinoseb	211	11.486	11.469	1.000	1328702	129.17	ng/uL	98	A
73) Phenanthrene	178	11.523	11.512	1.003	8517295	114.78	ng/uL	96	
74) Anthracene	178	11.593	11.576	1.009	8532232	113.98	ng/uL	96	
75) Carbazole	167	11.785	11.774	1.026	7155089	118.47	ng/uL	98	
76) Di-n-butylphthalate	149	12.224	12.218	1.064	9185941	110.64	ng/uL	97	
77) Fluoranthene	202	13.010	12.999	1.133	7658547	116.53	ng/uL	98	
79) Pyrene	202	13.294	13.277	0.886	7703043	106.47	ng/uL	98	
81) Butylbenzylphthalate	149	14.123	14.112	0.942	3545528	121.61	ng/uL	99	A
82) bis(2-Ethylhexyl)phtha...	149	15.053	15.042	1.004	5413985	124.79	ng/uL	99	A
83) Benzo(a)anthracene	228	14.984	14.967	0.999	5606457	121.68	ng/uL	99	A
84) Chrysene	228	15.053	15.032	1.004	5105285	117.96	ng/uL	98	
85) Methoxychlor	227	14.887	14.871	0.993	5147416	123.56	ng/uL	99	A
86) Methylenebis(2-chloroa...	231	14.952	14.935	0.997	1025470	129.11	ng/uL	97	A
87) Di-n-octylphthalate	149	16.428	16.417	1.095	7502811	142.10	ng/uL	98	A
89) Benzo(b)fluoranthene	252	17.268	17.241	0.945	3726509	134.90	ng/uL	100	A
90) Benzo(k)fluoranthene	252	17.342	17.316	0.949	3371957	131.74	ng/uL	99	A
91) Benzo(a)pyrene	252	18.123	18.102	0.992	2684613	127.36	ng/uL	99	A
92) Indeno(1,2,3-cd)pyrene	276	21.648	21.632	1.185	1449386	105.21	ng/uL	98	
93) Dibenzo(a,h)anthracene	278	21.750	21.733	1.191	1330166	108.85	ng/uL	100	

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1914.D
Acq On : 19 Oct 2020 17:04
Operator : JMB3
Sample : |WBN201013-08|ICAL|1|SVM|1|M-8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 09:21:52 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

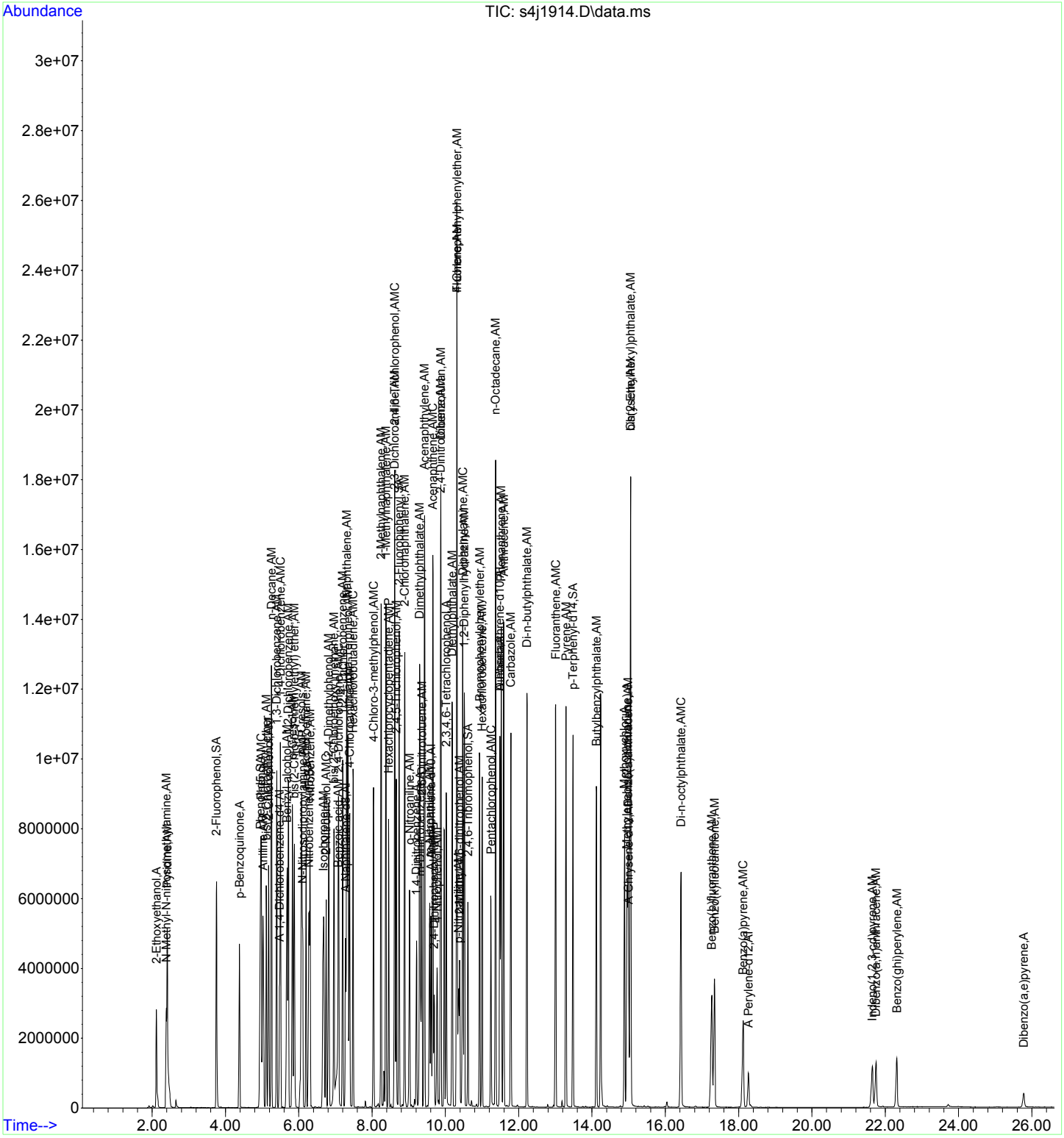
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units		
94) Benzo(ghi)perylene	276	22.317	22.306	1.222	1429872	87.65	ng/uL	98	A
95) Dibenzo(a,e)pyrene	302	25.777	25.772	1.411	426710	87.87	ng/uL	99	A

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1914.D
Acq On : 19 Oct 2020 17:04
Operator : JMB3
Sample : |WBN201013-08|ICAL|1|SVM|1|M-8
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 21 09:21:52 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Continuing Calibration Summary

Client SDG: 2021-130

Instrument ID: MSD4.I

Injection Date: 19-OCT-20 17:35

Data File: s101920.B\s4j1915.D

Init. Cal. Date(s) 19-OCT-20 13:22 - 19-OCT-20 17:0

Lab Sample ID WBN201012-09

Method: s101920.B\MSD4_8270c_8270d_101920.m

Quant Type ISTD

Method Update: 21-OCT-20 09:21

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type
S	2-Fluorophenol	1.2035	1.21294		.01		0.78438	30		Averaged
S	Phenol-d5	1.4632	1.54625		.01		5.67592	30		Averaged
S	Nitrobenzene-d5	0.3394	0.35116		.01		3.46494	30		Averaged
S	2-Fluorobiphenyl	1.2437	1.30179		.01		4.67074	30		Averaged
S	2,4,6-Tribromophenol	0.1415	0.15585		.01		10.14134	30		Averaged
S	p-Terphenyl-d14	1.3286	1.4072		.01		5.916	30		Averaged
	Phenol	1.6006	1.58749		.8		-0.81907	30		Averaged
	Naphthalene	0.9395	1.03332		.7		9.98616	30		Averaged
	2-Methylnaphthalene	0.6621	0.68391		.4		3.29406	30		Averaged
	1-Methylnaphthalene	0.6107	0.65044		.01		6.50729	30		Averaged
	Fluorene	1.2363	1.33605		.9		8.06843	30		Averaged
	Phenanthrene	1.0611	1.13916		.7		7.35652	30		Averaged
	Anthracene	1.0704	1.13769		.7		6.28643	30		Averaged
	Fluoranthene	0.9397	0.98365		.6		4.67702	30		Averaged
	Pyrene	2.0415	2.32166		.6		13.72324	30		Averaged
	Benzo(b)fluoranthene	1.3158	1.3629		.7		3.57957	30		Averaged
	Benzo(k)fluoranthene	1.2192	1.30774		.7		7.26214	30		Averaged
	Benzo(a)pyrene	1.0041	1.13202		.7		12.73977	30		Averaged

Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1915.D
Acq On : 19 Oct 2020 17:35
Operator : JMB3
Sample : |WBN201012-09|ICV|1|SVM|1|M-ICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

RJB 10/21/2020

Quant Time: Oct 21 11:39:35 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	813294	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.271	7.265	1.000	3335050	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.603	9.603	1.000	1845567	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.480	11.480	1.000	2985516	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.989	14.989	1.000	1241485	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.262	18.262	1.000	925351	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.468	5.468	1.000	813294	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.271	7.266	1.000	3335050	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.603	9.592	1.000	1845609	40.00	ng/uL	0.01
129) B Phenanthrene-d10	188	11.480	11.480	1.000	2985516	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.989	14.978	1.000	1241401	40.00	ng/uL	0.01
148) B Perylene-d12	264	18.262	18.252	1.000	925351	40.00	ng/uL	0.01
151) J Naphthalene-d8	136	7.271	7.265	1.000	3335050	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.480	11.480	1.000	2985516	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.989	14.984	1.000	1241485	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.271	7.266	1.000	3335050	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.603	9.598	1.000	1845609	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.480	11.480	1.000	2985516	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.989	14.984	1.000	1241401	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.271	7.266	1.000	3335050	40.00	ng/uL	0.00
175) E Perylene-d12	264	0.000	18.300	1.000	0	0.00	ng/uL	-18.30
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.751	3.751	0.686	986479	40.31	ng/uL	0.00
8) Phenol-d5	99	4.933	4.928	0.902	1257555	42.27	ng/uL	0.00
23) Nitrobenzene-d5	82	6.260	6.260	0.861	1171143	41.38	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.731	8.726	0.909	2402549	41.87	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.603	10.603	1.104	287633	44.07	ng/uL	0.00
80) p-Terphenyl-d14	244	13.475	13.475	0.899	1747017	42.37	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.109	2.109	0.386	572913	34.21	ng/uL	100
3) N-Methyl-N-nitrosometh...	74	2.377	2.377	0.435	668813	41.88	ng/uL	99
4) Pyridine	79	2.409	2.414	0.441	1079008	42.43	ng/uL	99
6) p-Benzoquinone	54	4.367	4.372	0.799	597293	31.11	ng/uL	98
7) Aniline	93	5.008	5.008	0.916	1646667	38.99	ng/uL	98
9) Phenol	94	4.950	4.949	0.905	1291097	39.67	ng/uL	100
10) bis(2-Chloroethyl) ether	93	5.099	5.099	0.933	1102763	38.95	ng/uL	99
11) 2-Chlorophenol	128	5.169	5.169	0.945	1048869	39.54	ng/uL	96
12) n-Decane	43	5.249	5.249	0.960	1554743	37.55	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.388	5.388	0.985	1269993	40.72	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.495	5.495	1.005	1233414	38.76	ng/uL	99
15) 1,2-Dichlorobenzene	146	5.709	5.709	1.044	1107392	36.57	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.870	5.869	1.073	2220854	39.55	ng/uL	99
17) Benzyl alcohol	108	5.661	5.661	1.035	731475	40.63	ng/uL	98
18) o-Cresol	107	5.811	5.811	1.063	833237	39.44	ng/uL	98
19) m,p-Cresols	108	6.051	6.046	1.107	1005886	40.06	ng/uL	99
20) N-Nitrosodipropylamine	70	6.067	6.062	1.110	895758	39.91	ng/uL	99
21) Hexachloroethane	117	6.196	6.196	1.133	485548	40.22	ng/uL	98
24) Nitrobenzene	77	6.292	6.287	0.865	1220897	42.62	ng/uL	100
25) Isophorone	82	6.634	6.634	0.912	2361931	41.26	ng/uL	100
26) 2-Nitrophenol	139	6.736	6.736	0.926	537253	43.30	ng/uL	99
27) 2,4-Dimethylphenol	122	6.800	6.800	0.935	972562	39.88	ng/uL	99
28) bis(2-Chloroethoxy)met...	93	6.945	6.945	0.955	1382037	41.87	ng/uL	99
29) 2,4-Dichlorophenol	162	7.068	7.068	0.972	883284	40.93	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1915.D
Acq On : 19 Oct 2020 17:35
Operator : JMB3
Sample : |WBN201012-09|ICV|1|SVM|1|M-ICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 11:39:35 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.966	6.961	0.958	564062	48.45	ng/uL	99
31) 1,2,4-Trichlorobenzene	180	7.191	7.191	0.989	972880	40.58	ng/uL	99
32) alpha-Terpineol	59	7.324	7.324	1.007	840923	29.63	ng/uL	99
33) Naphthalene	128	7.298	7.298	1.004	3446166	44.00	ng/uL	100
34) 4-Chloroaniline	127	7.372	7.372	1.014	1185249	38.42	ng/uL	99
35) Hexachlorobutadiene	225	7.474	7.474	1.028	591168	42.81	ng/uL	99
36) 4-Chloro-3-methylphenol	107	8.025	8.025	1.104	901176	40.31	ng/uL	100
37) 2-Methylnaphthalene	142	8.239	8.239	1.133	2280877	41.32	ng/uL	99
38) 1-Methylnaphthalene	142	8.367	8.367	1.151	2169237	42.60	ng/uL	99
40) Hexachlorocyclopentadiene	237	8.448	8.447	0.880	524810	35.09	ng/uL	98
41) 2,3-Dichloroaniline	161	8.608	8.603	0.896	1090502	39.65	ng/uL	100
42) 2,4,6-Trichlorophenol	196	8.608	8.608	0.896	619313	42.71	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.645	8.645	0.900	621434	39.87	ng/uL	99
45) 2-Chloronaphthalene	162	8.881	8.875	0.925	2048085	40.86	ng/uL	100
46) o-Nitroaniline	65	9.009	9.009	0.938	618739	41.64	ng/uL	99
47) 1,4-Dinitrobenzene	168	9.196	9.196	0.958	323327	41.96	ng/uL	96
48) m-Nitroaniline	138	9.544	9.544	0.994	499933	39.53	ng/uL	97
49) Dimethylphthalate	163	9.271	9.271	0.965	2555494	43.38	ng/uL	100
50) m-Dinitrobenzene	168	9.293	9.287	0.968	379532	43.37	ng/uL	96
51) 2,6-Dinitrotoluene	165	9.335	9.335	0.972	578153	43.58	ng/uL	97
52) 2,4-Dinitrotoluene	165	9.849	9.843	1.026	732513	44.51	ng/uL	98
53) Acenaphthylene	152	9.416	9.416	0.981	3457566	41.01	ng/uL	100
54) Acenaphthene	154	9.646	9.646	1.004	2120875	41.30	ng/uL	99
55) 2,4-Dinitrophenol	184	9.672	9.672	1.007	187458	46.43	ng/uL#	18
56) Dibenzofuran	168	9.865	9.865	1.027	2958864	41.89	ng/uL	100
57) 2,3,4,6-Tetrachlorophenol	232	10.015	10.015	1.043	488100	41.17	ng/uL	99
58) Diethylphthalate	149	10.170	10.170	1.059	2585599	43.64	ng/uL	100
59) 4-Nitrophenol	139	9.747	9.747	1.015	356437	40.16	ng/uL	99
60) Fluorene	166	10.298	10.298	1.072	2465770	43.23	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.304	10.303	1.073	1107464	42.74	ng/uL	99
62) p-Nitroaniline	138	10.325	10.320	1.075	482753	42.99	ng/uL	98
65) 2-Methyl-4,6-dinitroph...	198	10.362	10.362	0.903	267636	43.91	ng/uL	98
66) Diphenylamine	169	10.453	10.453	0.911	2030128	41.81	ng/uL	100
67) 1,2-Diphenylhydrazine	77	10.507	10.507	0.915	2590828	41.78	ng/uL	99
68) 4-Bromophenylphenylether	248	10.919	10.919	0.951	637275	41.72	ng/uL	100
69) Hexachlorobenzene	284	10.993	10.993	0.958	661865	40.44	ng/uL	99
70) Pentachlorophenol	266	11.234	11.234	0.979	339231	42.68	ng/uL	99
71) n-Octadecane	57	11.363	11.362	0.990	1857970	36.89	ng/uL	99
72) Dinoseb	211	11.470	11.469	0.999	421823	44.34	ng/uL	100
73) Phenanthrene	178	11.512	11.512	1.003	3400979	42.94	ng/uL	100
74) Anthracene	178	11.576	11.576	1.008	3396589	42.52	ng/uL	100
75) Carbazole	167	11.774	11.774	1.026	2599157	40.32	ng/uL	99
76) Di-n-butylphthalate	149	12.218	12.218	1.064	3983867	44.96	ng/uL	100
77) Fluoranthene	202	12.994	12.999	1.132	2936707	41.87	ng/uL	100
79) Pyrene	202	13.277	13.277	0.886	2882301	45.49	ng/uL	99
81) Butylbenzylphthalate	149	14.112	14.112	0.941	1129671	44.24	ng/uL	100
82) bis(2-Ethylhexyl)phtha...	149	15.042	15.042	1.004	1654351	43.54	ng/uL	100
83) Benzo(a)anthracene	228	14.968	14.967	0.999	1736238	43.03	ng/uL	99
84) Chrysene	228	15.032	15.032	1.003	1633366	43.09	ng/uL	99
85) Methoxychlor	227	14.866	14.871	0.992	1560441	42.77	ng/uL	100
86) Methylenebis(2-chloroa...	231	14.930	14.935	0.996	234003	33.64	ng/uL	98
87) Di-n-octylphthalate	149	16.412	16.417	1.095	1981806	43.13	ng/uL	100
89) Benzo(b)fluoranthene	252	17.241	17.241	0.944	1261163	41.43	ng/uL	100
90) Benzo(k)fluoranthene	252	17.316	17.316	0.948	1210120	42.91	ng/uL	100
91) Benzo(a)pyrene	252	18.096	18.102	0.991	1047512	45.10	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	21.632	21.632	1.185	714202	47.05	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.734	21.733	1.190	606456	45.04	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1915.D
Acq On : 19 Oct 2020 17:35
Operator : JMB3
Sample : |WBN201012-09|ICV|1|SVM|1|M-ICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 11:39:35 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

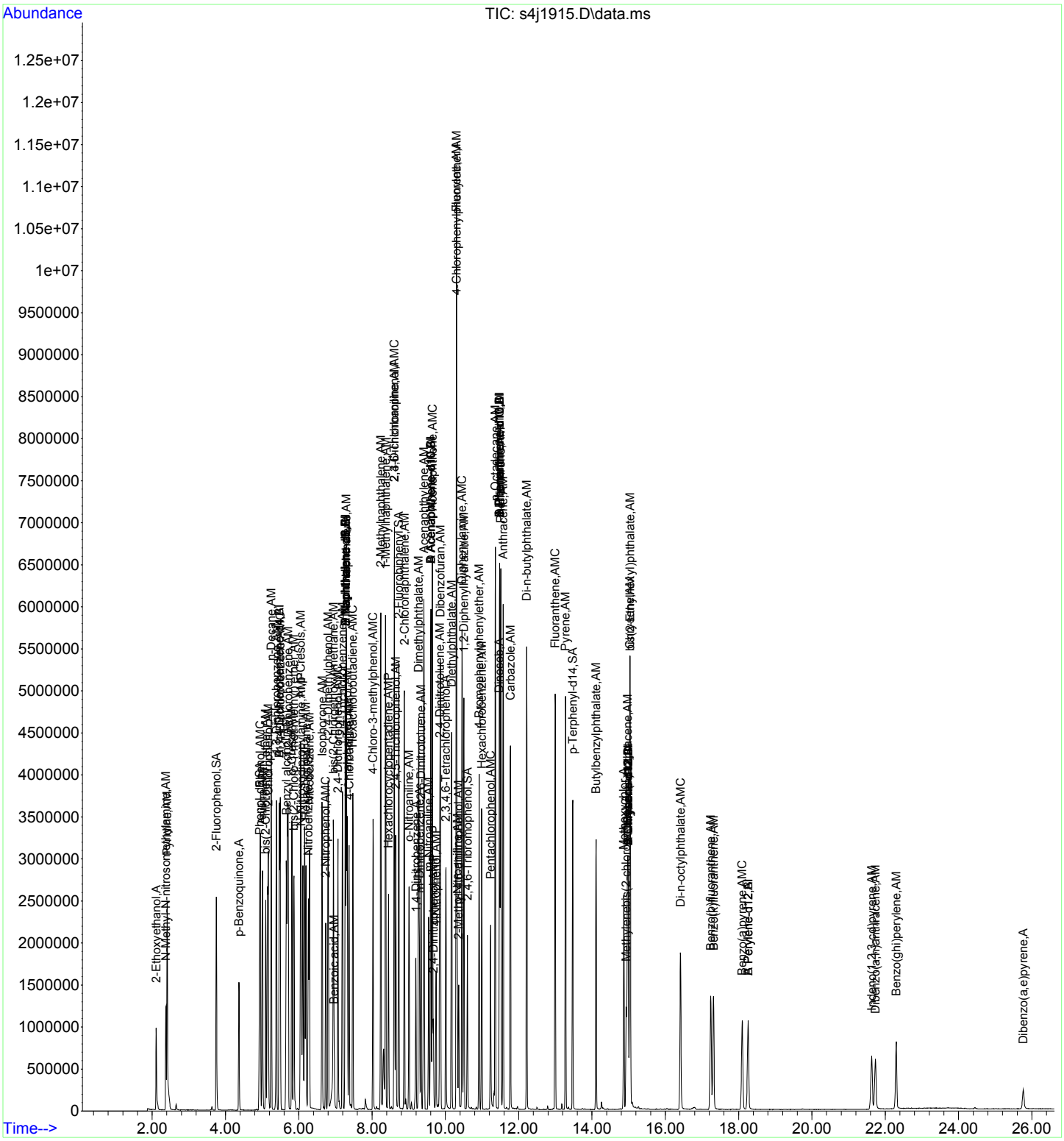
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.301	22.306	1.221	756575	42.09	ng/uL	99
95) Dibenzo(a,e)pyrene	302	25.766	25.772	1.411	238022	44.48	ng/uL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1915.D
Acq On : 19 Oct 2020 17:35
Operator : JMB3
Sample : |WBN201012-09|ICV|1|SVM|1|M-ICV
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 21 11:39:35 2020
Quant Method : C:\msdchem\1\data\s101920.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Continuing Calibration Summary

Client SDG: 2021-130

Instrument ID: MSD4.I **Injection Date:** 17-NOV-20 13:42

Data File: s111720.B\s4k1702.D **Init. Cal. Date(s)** 19-OCT-20 13:22 - 19-OCT-20 17:0

Lab Sample ID WBN201013-04.2 **Method:** s111720.B\MSD4_8270c_8270d_101920.m

Quant Type ISTD **Method Update:** 21-OCT-20 09:21

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type
S	2-Fluorophenol	1.2035	1.20256		.01		-0.07811	20		Averaged
S	Phenol-d5	1.4632	1.37658		.01		-5.9199	20		Averaged
S	Nitrobenzene-d5	0.3394	0.3562		.01		4.94991	20		Averaged
S	2-Fluorobiphenyl	1.2437	1.305		.01		4.92884	20		Averaged
S	2,4,6-Tribromophenol	0.1415	0.15249		.01		7.76678	20		Averaged
S	p-Terphenyl-d14	1.3286	1.22264		.01		-7.97531	20		Averaged
	Phenol	1.6006	1.46073		.8		-8.7386	20		Averaged
	Naphthalene	0.9395	0.96382		.7		2.58861	20		Averaged
	2-Methylnaphthalene	0.6621	0.64768		.4		-2.17792	20		Averaged
	1-Methylnaphthalene	0.6107	0.60457		.01		-1.00377	20		Averaged
	Fluorene	1.2363	1.19593		.9		-3.26539	20		Averaged
	Phenanthrene	1.0611	1.0475		.7		-1.28169	20		Averaged
	Anthracene	1.0704	1.07435		.7		0.36902	20		Averaged
	Fluoranthene	0.9397	1.05664		.6		12.4444	20		Averaged
	Pyrene	2.0415	1.66487		.6		-18.44869	20		Averaged
	Benzo(b)fluoranthene	1.3158	1.32628		.7		0.79647	20		Averaged
	Benzo(k)fluoranthene	1.2192	1.28426		.7		5.33629	20		Averaged
	Benzo(a)pyrene	1.0041	1.05275		.7		4.84513	20		Averaged

Quantitation Report

11/17/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1702.D
Acq On : 17 Nov 2020 13:42
Operator : LOF
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

11/19/2020

Quant Time: Nov 17 14:14:56 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.415	5.415	1.000	992303	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.212	7.212	1.000	3707027	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.544	9.544	1.000	1935447	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.421	11.421	1.000	2880955	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.898	14.898	1.000	1828068	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.102	18.102	1.000	1267281	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.415	5.415	1.000	992303	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.212	7.212	1.000	3707027	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.544	9.544	1.000	1935447	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.421	11.421	1.000	2880955	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.898	14.898	1.000	1828068	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.102	18.102	1.000	1267281	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.212	7.212	1.000	3707027	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.421	11.421	1.000	2880955	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.898	14.898	1.000	1828068	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.212	7.212	1.000	3707027	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.544	9.544	1.000	1935447	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.421	11.421	1.000	2880955	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.898	14.898	1.000	1828068	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.212	7.212	1.000	3707027	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.102	18.102	1.000	1267281	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.724	3.724	0.688	1193303	39.97	ng/uL	0.00
8) Phenol-d5	99	4.890	4.890	0.903	1365988	37.63	ng/uL	0.00
23) Nitrobenzene-d5	82	6.206	6.206	0.861	1320428	41.98	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.672	8.672	0.909	2525760	41.97	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.544	10.544	1.105	295144	43.12	ng/uL	0.00
80) p-Terphenyl-d14	244	13.411	13.411	0.900	2235065	36.81	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.131	2.131	0.393	706129	34.56	ng/uL	96
3) N-Methyl-N-nitrosometh...	74	2.382	2.382	0.440	730601	37.49	ng/uL	89
4) Pyridine	79	2.425	2.425	0.448	1193421	38.46	ng/uL	98
6) p-Benzoquinone	54	4.323	4.323	0.798	881206	37.62	ng/uL	95
7) Aniline	93	4.960	4.960	0.916	1777508	34.49	ng/uL	99
9) Phenol	94	4.912	4.912	0.907	1449484	36.51	ng/uL	91
10) bis(2-Chloroethyl) ether	93	5.051	5.051	0.933	1261465	36.51	ng/uL	99
11) 2-Chlorophenol	128	5.120	5.120	0.946	1228446	37.96	ng/uL	98
12) n-Decane	43	5.195	5.195	0.960	1800501	35.64	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.334	5.334	0.985	1486508	39.07	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.441	5.441	1.005	1505275	38.77	ng/uL	98
15) 1,2-Dichlorobenzene	146	5.650	5.650	1.043	1445486	39.13	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.810	5.810	1.073	2330126	34.01	ng/uL	97
17) Benzyl alcohol	108	5.612	5.612	1.037	741283	33.75	ng/uL	90
18) o-Cresol	107	5.768	5.768	1.065	898649	34.86	ng/uL	97
19) m,p-Cresols	108	5.998	5.998	1.108	1056221	34.47	ng/uL	97
20) N-Nitrosodipropylamine	70	6.008	6.008	1.110	965759	35.26	ng/uL	99
21) Hexachloroethane	117	6.137	6.137	1.133	614719	41.74	ng/uL	94
24) Nitrobenzene	77	6.233	6.233	0.864	1299312	40.81	ng/uL	99
25) Isophorone	82	6.581	6.581	0.912	2536833	39.87	ng/uL	99
26) 2-Nitrophenol	139	6.682	6.682	0.927	632372	45.85	ng/uL	95
27) 2,4-Dimethylphenol	122	6.752	6.752	0.936	1059058	39.07	ng/uL	96
28) bis(2-Chloroethoxy)met...	93	6.891	6.891	0.956	1460800	39.82	ng/uL	99
29) 2,4-Dichlorophenol	162	7.019	7.019	0.973	1010360	42.12	ng/uL	98

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1702.D
Acq On : 17 Nov 2020 13:42
Operator : LOF
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:14:56 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.928	6.928	0.961	700123	52.76	ng/uL	97
31) 1,2,4-Trichlorobenzene	180	7.137	7.137	0.990	1180338	44.30	ng/uL	99
32) alpha-Terpineol	59	7.271	7.271	1.008	1196283	37.92	ng/uL	95
33) Naphthalene	128	7.244	7.244	1.004	3572894	41.04	ng/uL	99
34) 4-Chloroaniline	127	7.319	7.319	1.015	1243602	36.27	ng/uL	98
35) Hexachlorobutadiene	225	7.420	7.420	1.029	766960	49.97	ng/uL	99
36) 4-Chloro-3-methylphenol	107	7.982	7.982	1.107	978754	39.38	ng/uL	96
37) 2-Methylnaphthalene	142	8.180	8.180	1.134	2400981	39.13	ng/uL	99
38) 1-Methylnaphthalene	142	8.308	8.308	1.152	2241175	39.60	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.388	8.388	0.879	889801	56.73	ng/uL	98
41) 2,3-Dichloroaniline	161	8.549	8.549	0.896	1132350	39.26	ng/uL	98
42) 2,4,6-Trichlorophenol	196	8.554	8.554	0.896	702343	46.19	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.597	8.597	0.901	708869	43.37	ng/uL	99
45) 2-Chloronaphthalene	162	8.822	8.822	0.924	2143271	40.77	ng/uL	99
46) o-Nitroaniline	65	8.955	8.955	0.938	584850	37.53	ng/uL	98
47) 1,4-Dinitrobenzene	168	9.143	9.143	0.958	327240	40.64	ng/uL	97
48) m-Nitroaniline	138	9.490	9.490	0.994	488751	36.85	ng/uL	98
49) Dimethylphthalate	163	9.212	9.212	0.965	2568723	41.58	ng/uL	100
50) m-Dinitrobenzene	168	9.239	9.239	0.968	355570	38.75	ng/uL#	40
51) 2,6-Dinitrotoluene	165	9.282	9.282	0.973	548888	39.45	ng/uL	99
52) 2,4-Dinitrotoluene	165	9.790	9.790	1.026	672652	38.98	ng/uL	98
53) Acenaphthylene	152	9.357	9.357	0.980	3508580	39.68	ng/uL	99
54) Acenaphthene	154	9.587	9.587	1.004	2116756	39.31	ng/uL	99
55) 2,4-Dinitrophenol	184	9.619	9.619	1.008	235998	53.42	ng/uL#	22
56) Dibenzofuran	168	9.806	9.806	1.027	2883263	38.92	ng/uL	96
57) 2,3,4,6-Tetrachlorophenol	232	9.961	9.961	1.044	552365	44.43	ng/uL	99
58) Diethylphthalate	149	10.111	10.111	1.059	2591000	41.70	ng/uL	99
59) 4-Nitrophenol	139	9.710	9.710	1.017	351961	38.01	ng/uL	91
60) Fluorene	166	10.239	10.239	1.073	2314658	38.69	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.244	10.244	1.073	1151622	42.38	ng/uL	98
62) p-Nitroaniline	138	10.271	10.271	1.076	445400	37.82	ng/uL	90
65) 2-Methyl-4,6-dinitroph...	198	10.309	10.309	0.903	321920	52.65	ng/uL	98
66) Diphenylamine	169	10.400	10.400	0.911	1847131	39.42	ng/uL	99
67) 1,2-Diphenylhydrazine	77	10.448	10.448	0.915	2355390	39.37	ng/uL	99
68) 4-Bromophenylphenylether	248	10.859	10.859	0.951	637474	43.25	ng/uL	98
69) Hexachlorobenzene	284	10.929	10.929	0.957	697004	44.13	ng/uL	98
70) Pentachlorophenol	266	11.175	11.175	0.978	347970	45.08	ng/uL	99
71) n-Octadecane	57	11.303	11.303	0.990	2057666	42.33	ng/uL	97
72) Dinoseb	211	11.416	11.416	1.000	500614	52.60	ng/uL	100
73) Phenanthrene	178	11.453	11.453	1.003	3017811	39.49	ng/uL	99
74) Anthracene	178	11.517	11.517	1.008	3095155	40.15	ng/uL	99
75) Carbazole	167	11.715	11.715	1.026	2468350	39.68	ng/uL	99
76) Di-n-butylphthalate	149	12.159	12.159	1.065	3981272	46.56	ng/uL	99
77) Fluoranthene	202	12.935	12.935	1.133	3044131	44.98	ng/uL	98
79) Pyrene	202	13.213	13.213	0.887	3043487	32.62	ng/uL	97
81) Butylbenzylphthalate	149	14.042	14.042	0.943	1443934	38.41	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	14.951	14.951	1.004	2084244	37.25	ng/uL	98
83) Benzo(a)anthracene	228	14.876	14.876	0.999	2368439	39.86	ng/uL	100
84) Chrysene	228	14.946	14.946	1.003	2251168	40.34	ng/uL	99
85) Methoxychlor	227	14.785	14.785	0.992	2023361	37.66	ng/uL	100
86) Methylenebis(2-chloroa...	231	14.850	14.850	0.997	440294	42.99	ng/uL	95
87) Di-n-octylphthalate	149	16.288	16.288	1.093	3130875	46.24	ng/uL	98
89) Benzo(b)fluoranthene	252	17.101	17.101	0.945	1680770	40.32	ng/uL	99
90) Benzo(k)fluoranthene	252	17.176	17.176	0.949	1627518	42.14	ng/uL	98
91) Benzo(a)pyrene	252	17.941	17.941	0.991	1334127	41.94	ng/uL	99
92) Indeno(1,2,3-cd)pyrene	276	21.439	21.439	1.184	909467	43.75	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.546	21.546	1.190	896111	48.59	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1702.D
Acq On : 17 Nov 2020 13:42
Operator : LOF
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:14:56 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

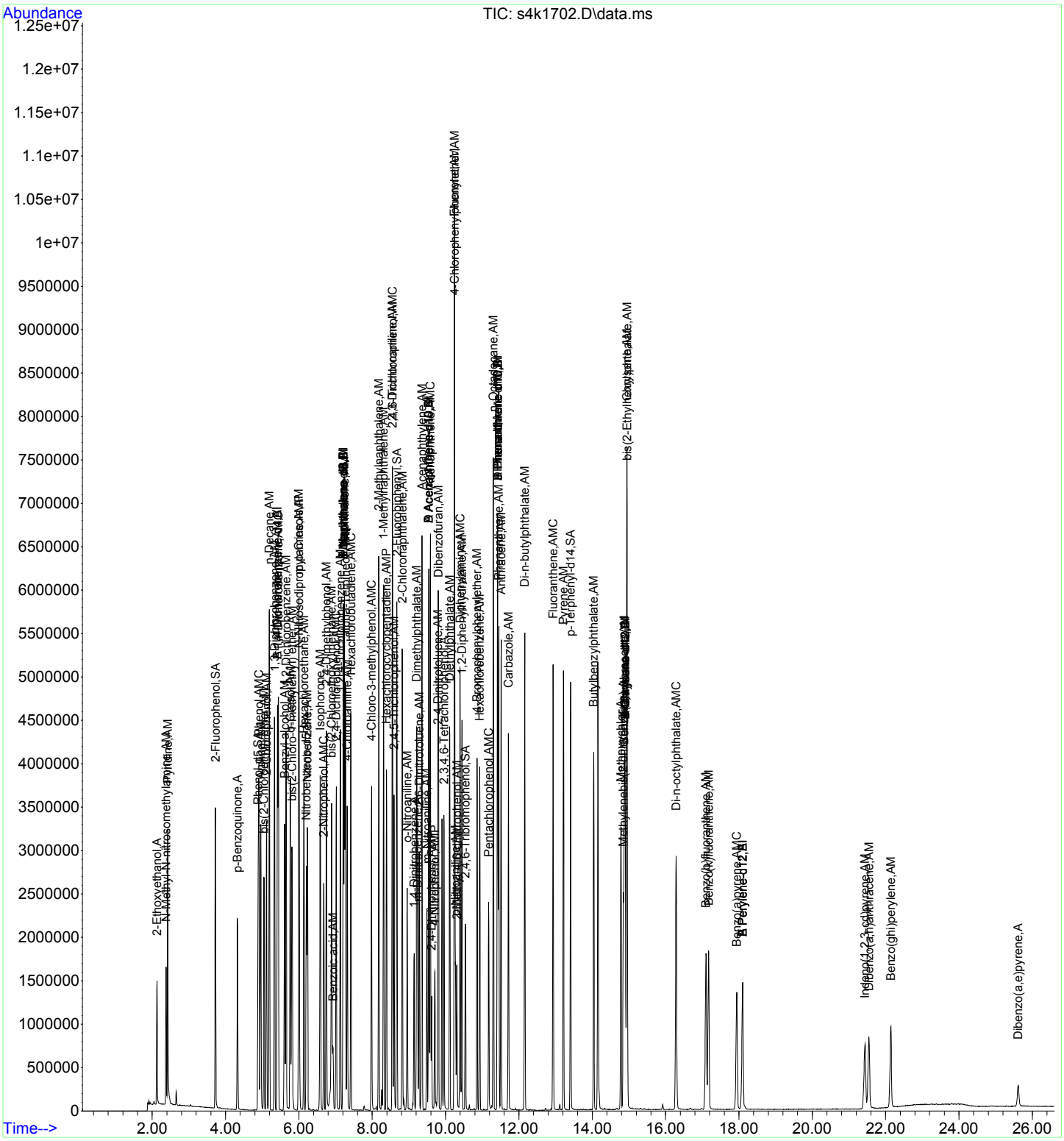
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.145	22.145	1.223	932310	37.87	ng/uL	99
95) Dibenzo(a,e)pyrene	302	25.616	25.616	1.415	257189	35.09	ng/uL	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1702.D
Acq On : 17 Nov 2020 13:42
Operator : LOF
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:14:56 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Continuing Calibration Summary

Client SDG: 2021-130

Instrument ID: MSD4.I **Injection Date:** 18-NOV-20 10:31

Data File: s111820.B\s4k1805.D **Init. Cal. Date(s)** 19-OCT-20 13:22 - 19-OCT-20 17:0

Lab Sample ID WBN201013-04.2 **Method:** s111820.B\MSD4_8270c_8270d_101920.m

Quant Type ISTD **Method Update:** 21-OCT-20 09:21

	Compound	AVERF / Amount	RF CCV	Nominal CCV	Min RF	RF Q	%D / %Drift	Max	Drift Q	Curve Type
S	2-Fluorophenol	1.2035	1.19751		.01		-0.49771	20		Averaged
S	Phenol-d5	1.4632	1.39894		.01		-4.39174	20		Averaged
S	Nitrobenzene-d5	0.3394	0.36069		.01		6.27283	20		Averaged
S	2-Fluorobiphenyl	1.2437	1.26637		.01		1.82279	20		Averaged
S	2,4,6-Tribromophenol	0.1415	0.15645		.01		10.56537	20		Averaged
S	p-Terphenyl-d14	1.3286	1.33303		.01		0.33343	20		Averaged
	Phenol	1.6006	1.47327		.8		-7.95514	20		Averaged
	Naphthalene	0.9395	0.97803		.7		4.10112	20		Averaged
	2-Methylnaphthalene	0.6621	0.66844		.4		0.95756	20		Averaged
	1-Methylnaphthalene	0.6107	0.6128		.01		0.34387	20		Averaged
	Fluorene	1.2363	1.23821		.9		0.15449	20		Averaged
	Phenanthrene	1.0611	1.0717		.7		0.99896	20		Averaged
	Anthracene	1.0704	1.08807		.7		1.65078	20		Averaged
	Fluoranthene	0.9397	1.06516		.6		13.35107	20		Averaged
	Pyrene	2.0415	1.8289		.6		-10.41391	20		Averaged
	Benzo(b)fluoranthene	1.3158	1.38027		.7		4.89968	20		Averaged
	Benzo(k)fluoranthene	1.2192	1.33421		.7		9.43323	20		Averaged
	Benzo(a)pyrene	1.0041	1.06584		.7		6.14879	20		Averaged

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1805.D
Acq On : 18 Nov 2020 10:31
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

JMB 11/19/2020

Quant Time: Nov 18 11:14:47 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.409	5.409	1.000	1032624	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.206	7.206	1.000	3972400	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.538	9.538	1.000	2178002	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.416	11.416	1.000	3544897	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.892	14.898	1.000	2081807	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.086	18.096	1.000	1156727	40.00	ng/uL	-0.01
96) B 1,4-Dichlorobenzene-d4	152	5.409	5.409	1.000	1032624	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.206	7.206	1.000	3972400	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.538	9.538	1.000	2178002	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.416	11.416	1.000	3544897	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.892	14.898	1.000	2081807	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.086	18.096	1.000	1156727	40.00	ng/uL	-0.01
151) J Naphthalene-d8	136	7.206	7.206	1.000	3972400	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.416	11.416	1.000	3544897	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.892	14.898	1.000	2081807	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.206	7.206	1.000	3972400	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.538	9.538	1.000	2178002	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.416	11.416	1.000	3544897	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.892	14.898	1.000	2081807	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.206	7.206	1.000	3972400	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.086	18.096	1.000	1156727	40.00	ng/uL	-0.01
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.714	3.714	0.687	1236578	39.80	ng/uL	0.00
8) Phenol-d5	99	4.885	4.885	0.903	1444576	38.24	ng/uL	0.00
23) Nitrobenzene-d5	82	6.201	6.195	0.860	1432788	42.51	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.667	8.666	0.909	2758165	40.73	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.539	10.539	1.105	340750	44.24	ng/uL	0.00
80) p-Terphenyl-d14	244	13.406	13.405	0.900	2775107	40.13	ng/uL	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) 2-Ethoxyethanol	59	2.120	2.109	0.392	733053	34.48	ng/uL	97
3) N-Methyl-N-nitrosometh...	74	2.371	2.366	0.438	763137	37.63	ng/uL	92
4) Pyridine	79	2.414	2.409	0.446	1229779	38.09	ng/uL	98
6) p-Benzoquinone	54	4.318	4.318	0.798	869563	35.67	ng/uL	96
7) Aniline	93	4.949	4.949	0.915	1924946	35.90	ng/uL	98
9) Phenol	94	4.907	4.901	0.907	1521331	36.82	ng/uL	93
10) bis(2-Chloroethyl) ether	93	5.040	5.040	0.932	1311608	36.48	ng/uL	99
11) 2-Chlorophenol	128	5.110	5.110	0.945	1289563	38.29	ng/uL	98
12) n-Decane	43	5.185	5.185	0.958	1876737	35.70	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.329	5.329	0.985	1521861	38.43	ng/uL	100
14) 1,4-Dichlorobenzene	146	5.431	5.431	1.004	1540271	38.12	ng/uL	98
15) 1,2-Dichlorobenzene	146	5.645	5.644	1.044	1494846	38.88	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.805	5.805	1.073	2482868	34.83	ng/uL	98
17) Benzyl alcohol	108	5.602	5.602	1.036	785587	34.37	ng/uL	95
18) o-Cresol	107	5.757	5.757	1.064	970552	36.18	ng/uL	99
19) m,p-Cresols	108	5.992	5.992	1.108	1162728	36.47	ng/uL	98
20) N-Nitrosodipropylamine	70	5.998	5.997	1.109	1019008	35.76	ng/uL	99
21) Hexachloroethane	117	6.126	6.131	1.132	625080	40.78	ng/uL	96
24) Nitrobenzene	77	6.228	6.228	0.864	1421120	41.65	ng/uL	99
25) Isophorone	82	6.575	6.575	0.912	2703094	39.64	ng/uL	100
26) 2-Nitrophenol	139	6.672	6.671	0.926	699729	47.35	ng/uL	96
27) 2,4-Dimethylphenol	122	6.746	6.746	0.936	1160283	39.95	ng/uL	97
28) bis(2-Chloroethoxy)met...	93	6.886	6.885	0.955	1577182	40.12	ng/uL	100
29) 2,4-Dichlorophenol	162	7.014	7.014	0.973	1093559	42.55	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1805.D
Acq On : 18 Nov 2020 10:31
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 18 11:14:47 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
30) Benzoic acid	105	6.928	6.917	0.961	774239	54.08	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.126	7.126	0.989	1215846	42.58	ng/uL	100
32) alpha-Terpineol	59	7.265	7.265	1.008	1287933	38.10	ng/uL	98
33) Naphthalene	128	7.233	7.233	1.004	3885134	41.64	ng/uL	99
34) 4-Chloroaniline	127	7.313	7.313	1.015	1454051	39.57	ng/uL	99
35) Hexachlorobutadiene	225	7.410	7.410	1.028	766729	46.62	ng/uL	100
36) 4-Chloro-3-methylphenol	107	7.977	7.976	1.107	1104847	41.49	ng/uL	97
37) 2-Methylnaphthalene	142	8.175	8.174	1.134	2655312	40.39	ng/uL	99
38) 1-Methylnaphthalene	142	8.303	8.303	1.152	2434296	40.14	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.383	8.383	0.879	872260	49.41	ng/uL	100
41) 2,3-Dichloroaniline	161	8.544	8.543	0.896	1289925	39.75	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.549	8.549	0.896	766969	44.82	ng/uL	99
43) 2,4,5-Trichlorophenol	196	8.592	8.592	0.901	816716	44.41	ng/uL	97
45) 2-Chloronaphthalene	162	8.816	8.816	0.924	2419126	40.90	ng/uL	100
46) o-Nitroaniline	65	8.950	8.950	0.938	701097	39.98	ng/uL	100
47) 1,4-Dinitrobenzene	168	9.137	9.137	0.958	398990	43.70	ng/uL	97
48) m-Nitroaniline	138	9.485	9.485	0.994	615027	41.21	ng/uL	96
49) Dimethylphthalate	163	9.212	9.212	0.966	2915540	41.94	ng/uL	100
50) m-Dinitrobenzene	168	9.234	9.233	0.968	429284	41.57	ng/uL#	41
51) 2,6-Dinitrotoluene	165	9.276	9.276	0.973	640848	40.93	ng/uL	99
52) 2,4-Dinitrotoluene	165	9.784	9.784	1.026	807428	41.58	ng/uL	98
53) Acenaphthylene	152	9.351	9.351	0.980	3999435	40.20	ng/uL	99
54) Acenaphthene	154	9.581	9.581	1.004	2409121	39.76	ng/uL	99
55) 2,4-Dinitrophenol	184	9.613	9.613	1.008	251562	51.21	ng/uL#	22
56) Dibenzofuran	168	9.801	9.800	1.027	3343894	40.11	ng/uL	96
57) 2,3,4,6-Tetrachlorophenol	232	9.950	9.950	1.043	640264	45.77	ng/uL	99
58) Diethylphthalate	149	10.105	10.111	1.059	2986793	42.71	ng/uL	100
59) 4-Nitrophenol	139	9.704	9.704	1.017	413948	39.58	ng/uL	93
60) Fluorene	166	10.234	10.234	1.073	2696813	40.06	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.239	10.239	1.073	1287326	42.10	ng/uL	98
62) p-Nitroaniline	138	10.266	10.266	1.076	552239	41.67	ng/uL	91
65) 2-Methyl-4,6-dinitroph...	198	10.303	10.303	0.903	383135	51.20	ng/uL	100
66) Diphenylamine	169	10.394	10.394	0.911	2220257	38.51	ng/uL	99
67) 1,2-Diphenylhydrazine	77	10.442	10.442	0.915	2781910	37.79	ng/uL	99
68) 4-Bromophenylphenylether	248	10.854	10.854	0.951	719407	39.67	ng/uL	97
69) Hexachlorobenzene	284	10.924	10.924	0.957	802173	41.28	ng/uL	97
70) Pentachlorophenol	266	11.170	11.175	0.978	380264	40.56	ng/uL	98
71) n-Octadecane	57	11.298	11.298	0.990	2353107	39.34	ng/uL	98
72) Dinoseb	211	11.410	11.410	1.000	604942	51.81	ng/uL	99
73) Phenanthrene	178	11.448	11.448	1.003	3799058	40.40	ng/uL	100
74) Anthracene	178	11.512	11.512	1.008	3857089	40.66	ng/uL	99
75) Carbazole	167	11.710	11.710	1.026	3179375	41.54	ng/uL	100
76) Di-n-butylphthalate	149	12.154	12.154	1.065	4912539	46.69	ng/uL	100
77) Fluoranthene	202	12.929	12.929	1.133	3775885	45.34	ng/uL	98
79) Pyrene	202	13.213	13.213	0.887	3807423	35.83	ng/uL	98
81) Butylbenzylphthalate	149	14.037	14.037	0.943	1744581	40.75	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	14.941	14.946	1.003	2462883	38.65	ng/uL	98
83) Benzo(a)anthracene	228	14.871	14.876	0.999	2673971	39.52	ng/uL	99
84) Chrysene	228	14.935	14.940	1.003	2494808	39.25	ng/uL	99
85) Methoxychlor	227	14.775	14.780	0.992	2202140	36.00	ng/uL	99
86) Methylenebis(2-chloroa...	231	14.844	14.844	0.997	418831	35.91	ng/uL	98
87) Di-n-octylphthalate	149	16.278	16.283	1.093	3471791	45.04	ng/uL	99
89) Benzo(b)fluoranthene	252	17.091	17.096	0.945	1596597	41.96	ng/uL	99
90) Benzo(k)fluoranthene	252	17.160	17.171	0.949	1543314	43.77	ng/uL	99
91) Benzo(a)pyrene	252	17.925	17.936	0.991	1232889	42.46	ng/uL	98
92) Indeno(1,2,3-cd)pyrene	276	21.418	21.428	1.184	770902	40.62	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.530	21.541	1.190	765818	45.49	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1805.D
Acq On : 18 Nov 2020 10:31
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 18 11:14:47 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

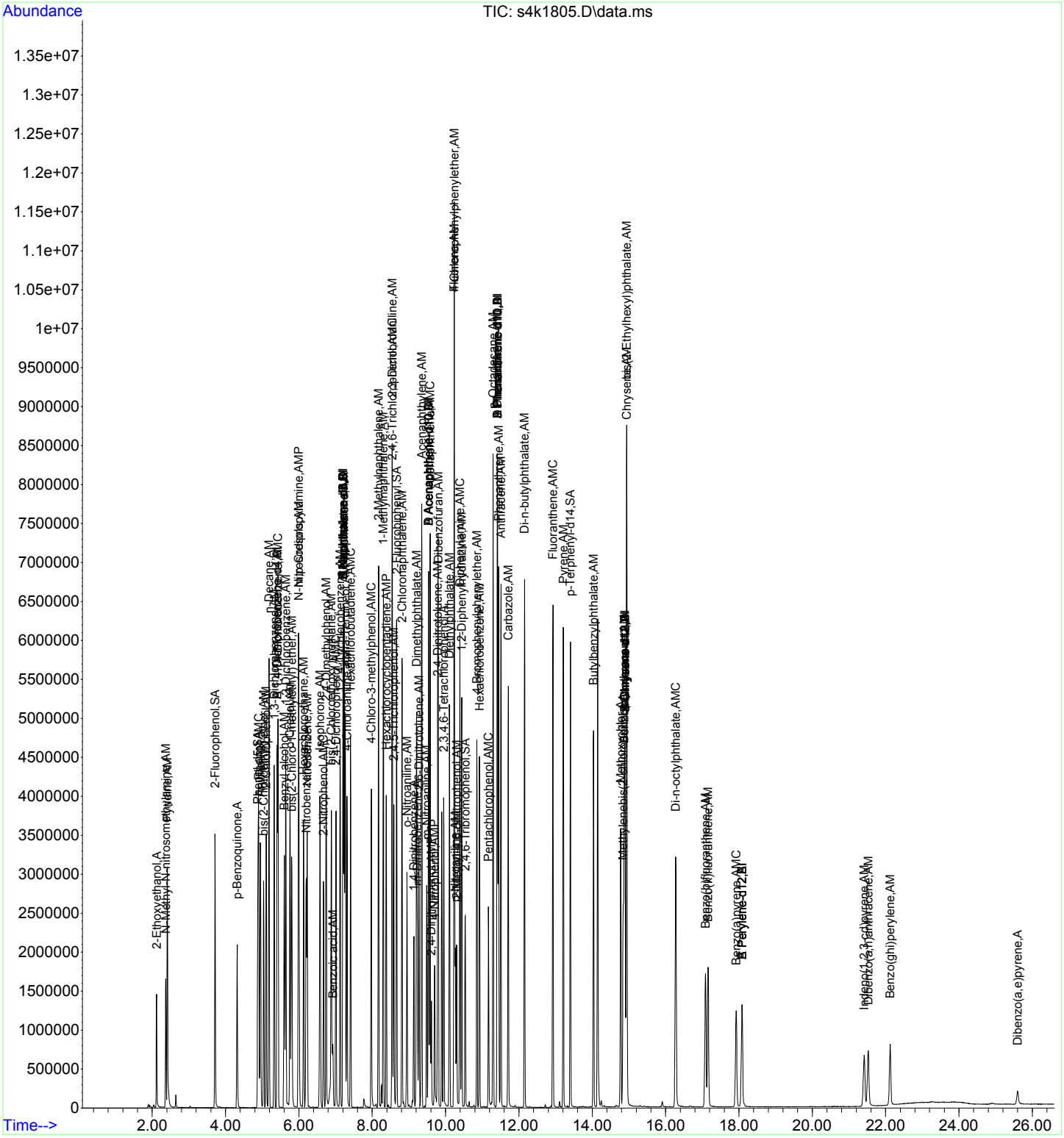
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94) Benzo(ghi)perylene	276	22.124	22.134	1.223	760278	33.83	ng/uL	100
95) Dibenzo(a,e)pyrene	302	25.600	25.611	1.416	186926	27.94	ng/uL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1805.D
Acq On : 18 Nov 2020 10:31
Operator : JMB3
Sample : |WBN201013-04.2|CCV|1|SVM|1|M-CCV
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 18 11:14:47 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Quality Control Data

DFTPP Tune Report

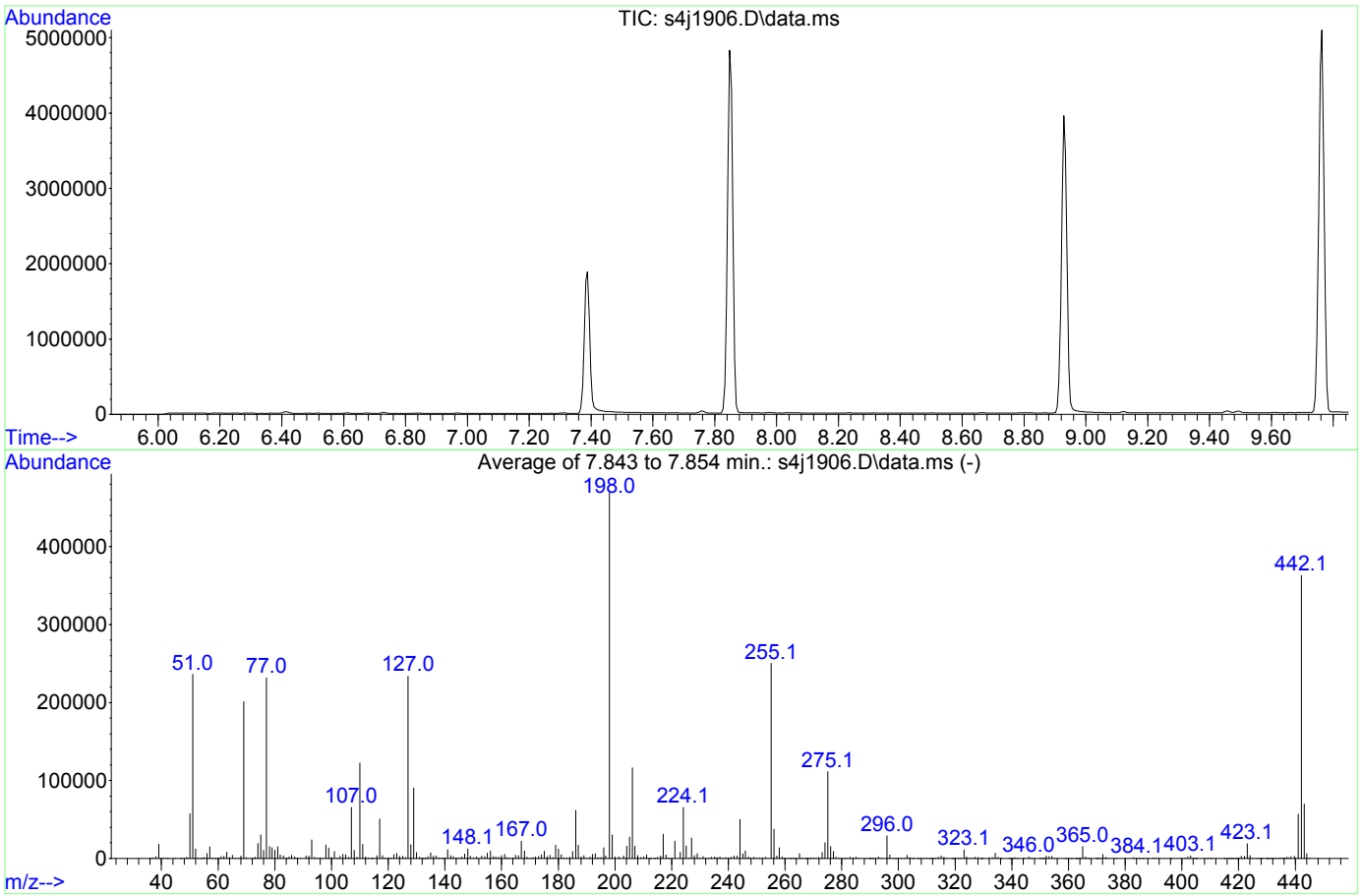
JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1906.D
Acq On : 19 Oct 2020 13:03
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

RAB 10/21/2020

Integration File: rteint.p

Method : C:\msdchem\1\data\s101920.B\BNABrk_Down8270D.m
Title : dftpp / endrin / ddt
Last Update : Sat Dec 07 10:19:10 2019



AutoFind: Scans 1449, 1450, 1451; Background Corrected with Scan 1442

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	50.3	236271	PASS
68	69	0.00	2	1.5	3100	PASS
69	198	0.00	100	42.8	201002	PASS
70	69	0.00	2	0.6	1131	PASS
127	198	10	80	49.8	233813	PASS
197	198	0.00	2	0.7	3092	PASS
198	198	50	100	100.0	469397	PASS
199	198	5	9	6.4	30144	PASS
275	198	10	60	23.7	111280	PASS
365	198	1	100	3.2	15176	PASS
441	442	0.01	24	15.7	56893	PASS
442	198	50	100	77.3	362923	PASS
443	442	15	24	19.3	69936	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Quantitation Report

JMB 10/21/2020

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1906.D
Acq On : 19 Oct 2020 13:03
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

JMB 10/21/2020

Quant Time: Oct 19 14:32:17 2020
Quant Method : C:\msdchem\1\data\s101920.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

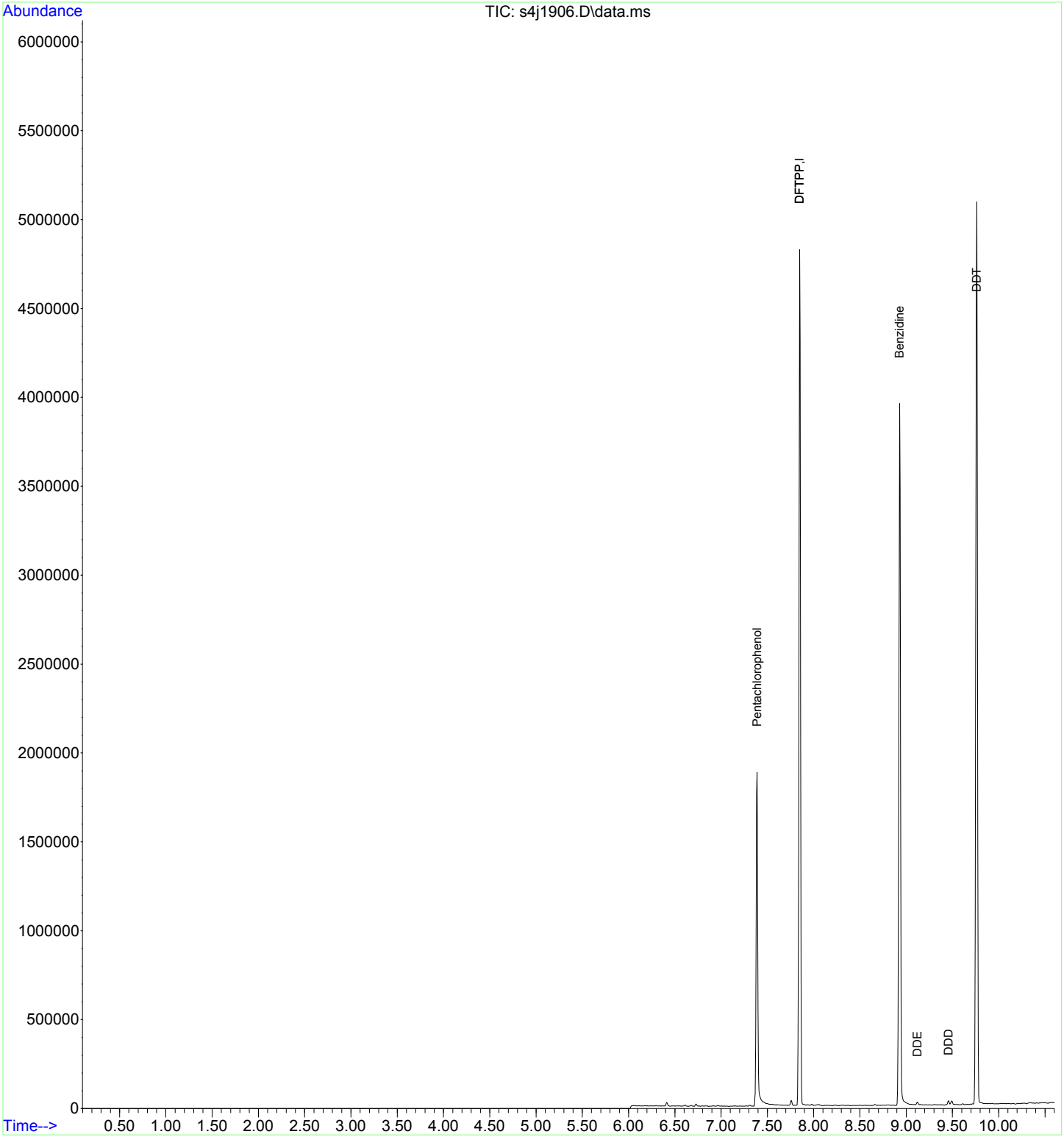
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) DFTPP	TIC	7.848	7.848	1.000	5632771	5.00	ug/ml #	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) DFTPP	TIC	7.848	7.849	1.000	5632771	5.00	ug/ml#	1
3) Pentachlorophenol	266	7.388	7.388	0.941	272455	2.86	ug/ml	100
4) Benzidine	184	8.929	8.929	1.138	1992920	6.14	ug/ml	100
5) DDE	246	9.121	9.121	1.162	1915	4.69	ug/ml	91
6) DDD	235	9.458	9.458	1.205	4856	3.69	ug/ml	95
7) DDT	235	9.763	9.763	1.244	1159732	4.28	ug/ml	95

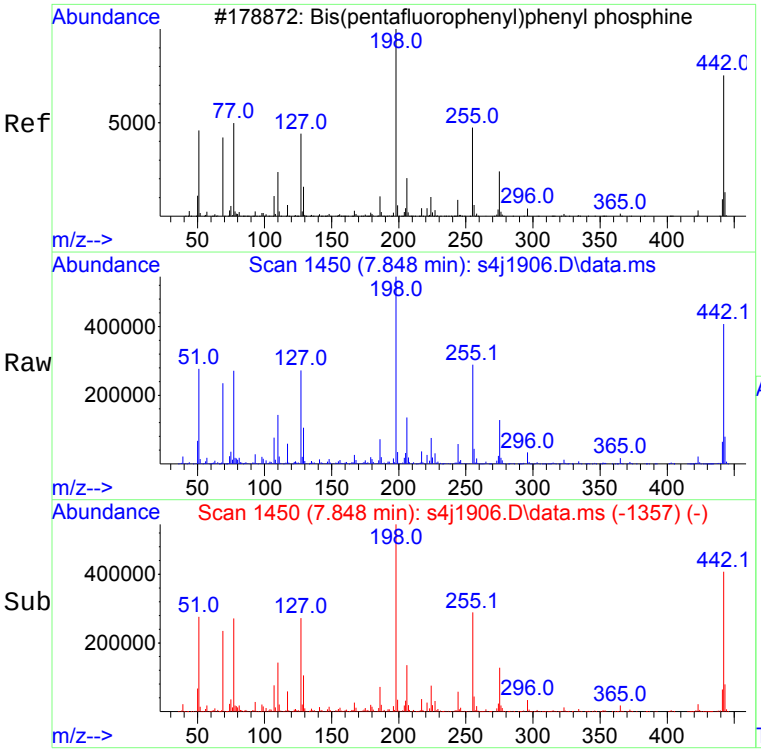
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s101920.B\
Data File : s4j1906.D
Acq On : 19 Oct 2020 13:03
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 19 14:32:17 2020
Quant Method : C:\msdchem\1\data\s101920.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

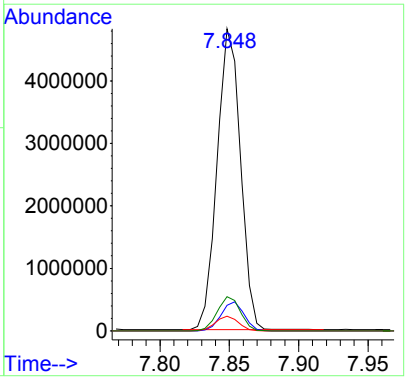


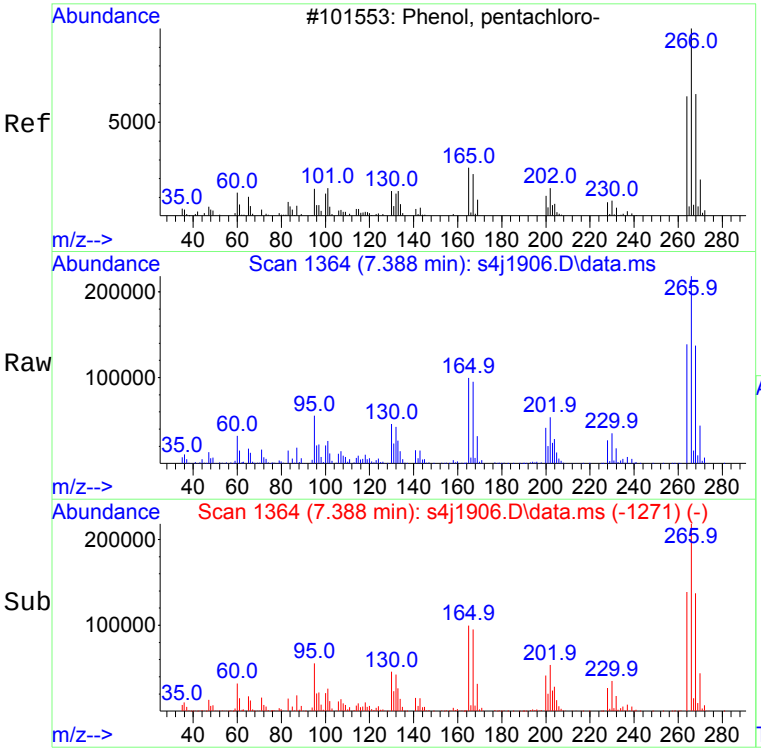


#2
DFTPP
Concen: 5.00 ug/ml
RT: 7.848 min Scan# 1450
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:TIC Resp: 5632771

Ion	Ratio	Lower	Upper
TIC	100		
442	9.4	985.3	1025.3#
69	4.7	398.8	438.8#
198	11.2	1189.4	1229.4#

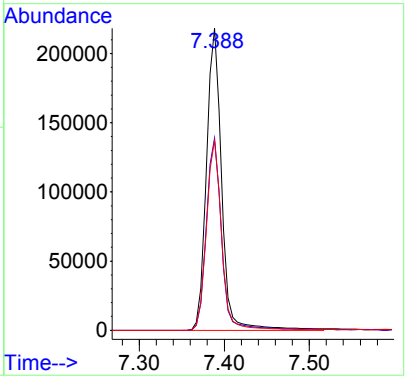


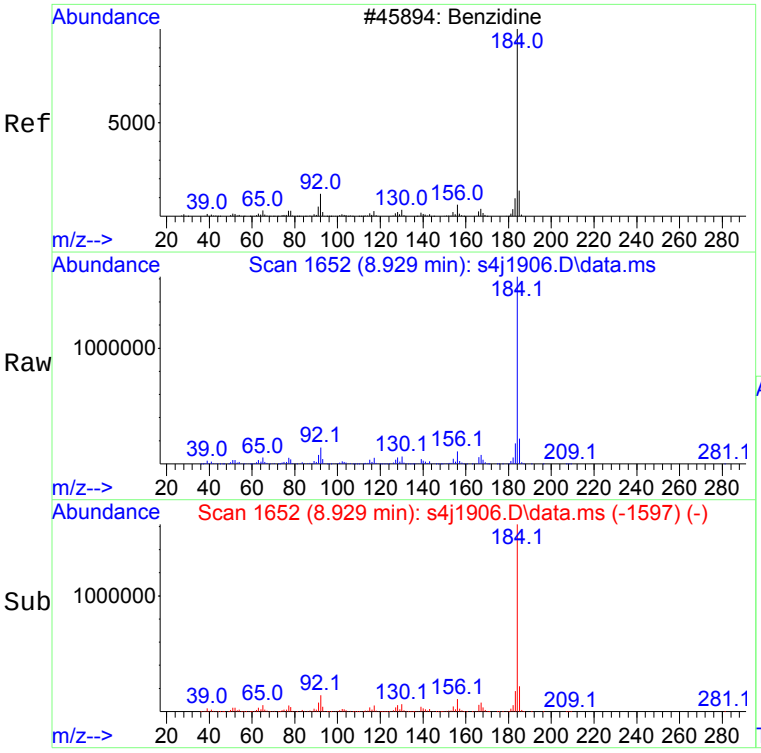


#3
Pentachlorophenol
Concen: 2.86 ug/ml
RT: 7.388 min Scan# 1364
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:266 Resp: 272455

Ion	Ratio	Lower	Upper
266	100		
264	63.7	0.0	163.8
268	62.6	0.0	162.0

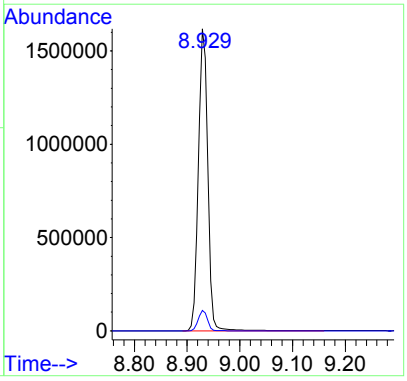


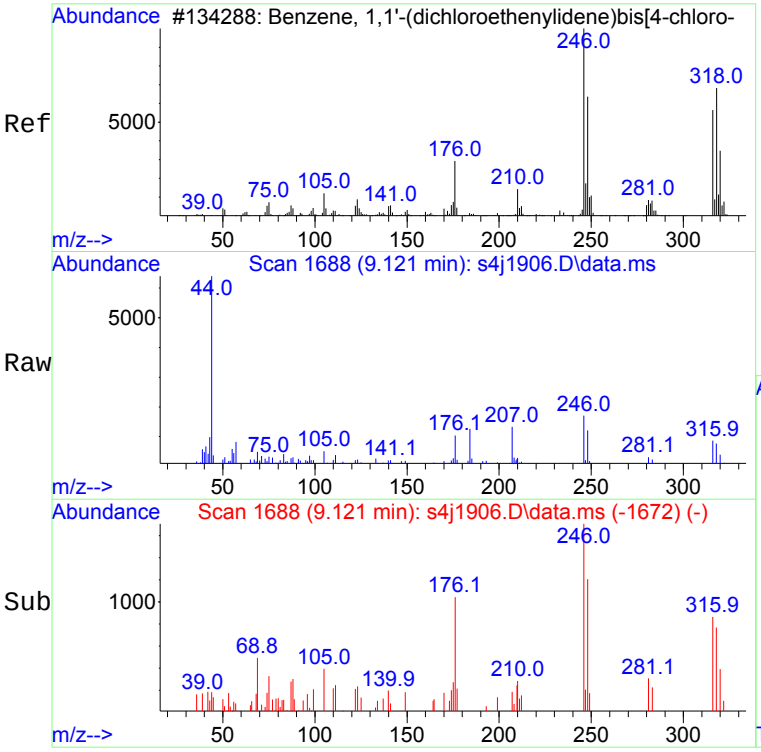


#4
Benzidine
Concen: 6.14 ug/ml
RT: 8.929 min Scan# 1652
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:184 Resp: 1992920

Ion	Ratio	Lower	Upper
184	100		
156	6.6	0.0	106.7

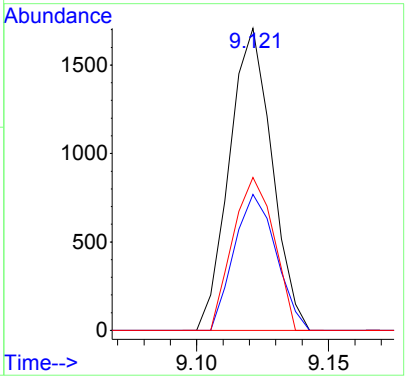


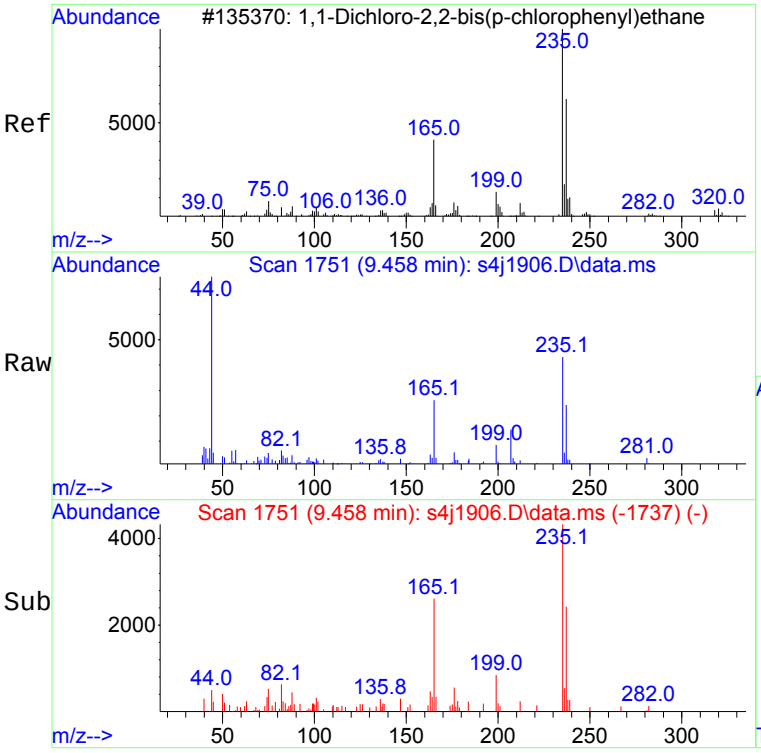


#5
DDE
Concen: 4.69 ug/ml
RT: 9.121 min Scan# 1688
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:246 Resp: 1915

Ion	Ratio	Lower	Upper
246	100		
318	44.4	0.0	151.8
316	48.8	0.0	143.7

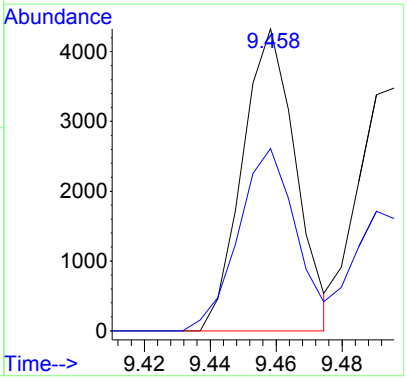


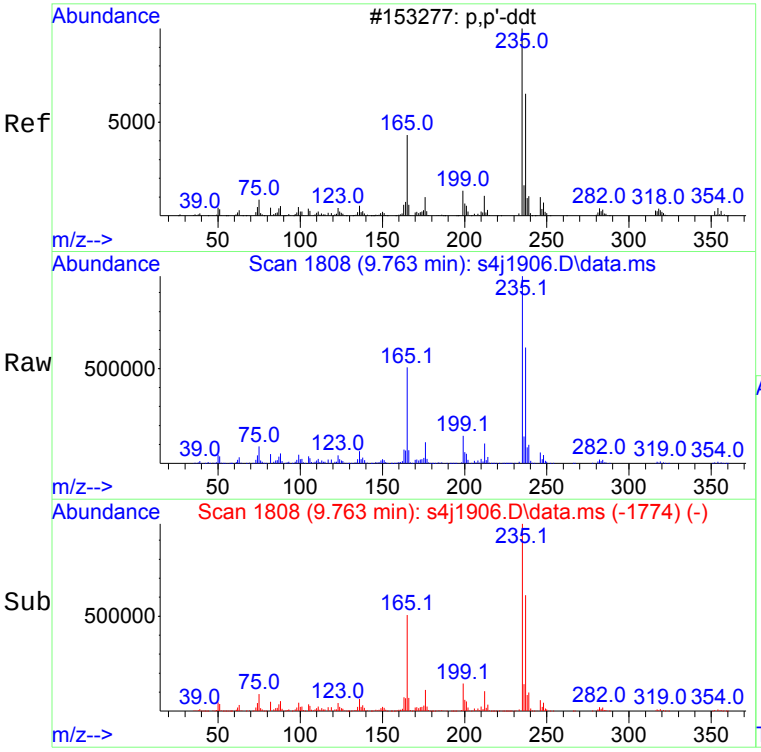


#6
DDD
Concen: 3.69 ug/ml
RT: 9.458 min Scan# 1751
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:235 Resp: 4856

Ion	Ratio	Lower	Upper
235	100		
165	65.6	0.0	161.6

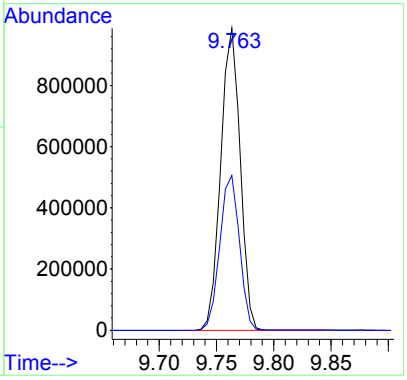




#7
DDT
Concen: 4.28 ug/ml
RT: 9.763 min Scan# 1808
Delta R.T. -0.000 min
Lab File: s4j1906.D
Acq: 19 Oct 2020 13:03

Tgt Ion:235 Resp: 1159732

Ion	Ratio	Lower	Upper
235	100		
165	51.8	0.0	155.6



8270 Breakdown Report

JMB 10/21/2020

Data File : C:\msdchem\1\data\s101920.B\s4j1906.D Vial: 1
Acq On : 19 Oct 2020 13:03 Operator: JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP Inst : MSD4
Misc : Multiplr: 1.00
IntFile : rteint.p

JMB 10/21/2020

Compounds	Area/%Breakdown	8270C	8270D
DDE	1915		
DDD	4856		
DDT	1159732		
Breakdown	0.58%	Pass(<20)	Pass(<20)

Compounds	Tailing Factor	8270C	8270D
Benzidine	1.19	Pass(<3)	Pass(<2)
Pentachlorophenol	0.93	Pass(<5)	Pass(<2)

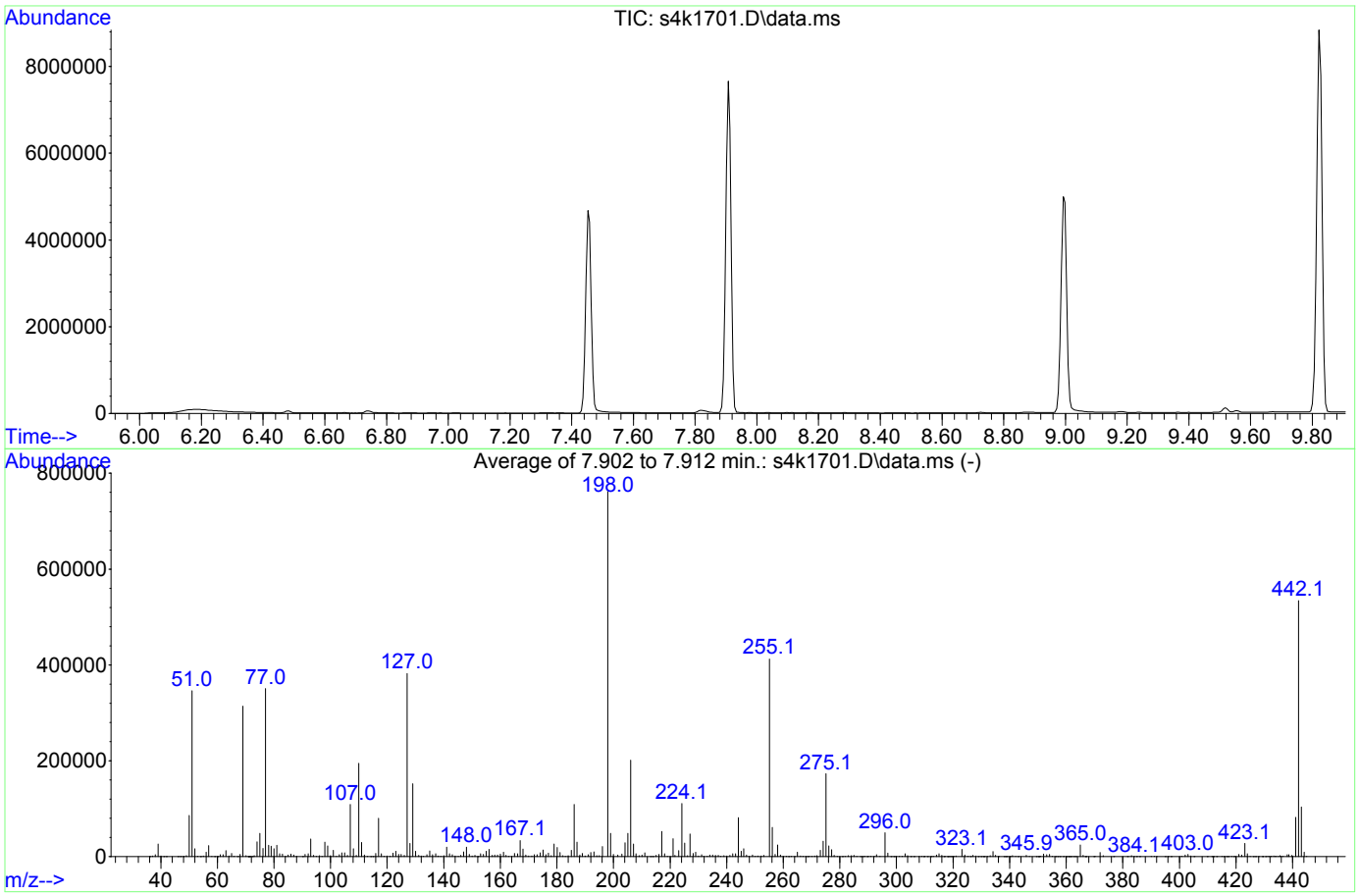
DFTPP Tune Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1701.D
Acq On : 17 Nov 2020 13:25
Operator : LOF
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

11/19/2020

Integration File: rteint.p

Method : C:\msdchem\1\data\s111720.B\BNABrk_Down8270D.m
Title : dftpp / endrin / ddt
Last Update : Sat Dec 07 10:19:10 2019



AutoFind: Scans 1460, 1461, 1462; Background Corrected with Scan 1453

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	45.4	346197	PASS
68	69	0.00	2	1.5	4684	PASS
69	198	0.00	100	41.2	313669	PASS
70	69	0.00	2	0.6	1979	PASS
127	198	10	80	50.2	382458	PASS
197	198	0.00	2	0.0	0	PASS
198	198	50	100	100.0	762197	PASS
199	198	5	9	6.3	48392	PASS
275	198	10	60	22.7	172821	PASS
365	198	1	100	3.2	24136	PASS
441	442	0.01	24	15.3	81680	PASS
442	198	50	100	70.0	533888	PASS
443	442	15	24	19.4	103328	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Quantitation Report

11/17/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1701.D
Acq On : 17 Nov 2020 13:25
Operator : LOF
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

11/19/2020

Quant Time: Nov 17 13:36:54 2020
Quant Method : C:\msdchem\1\data\s111720.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

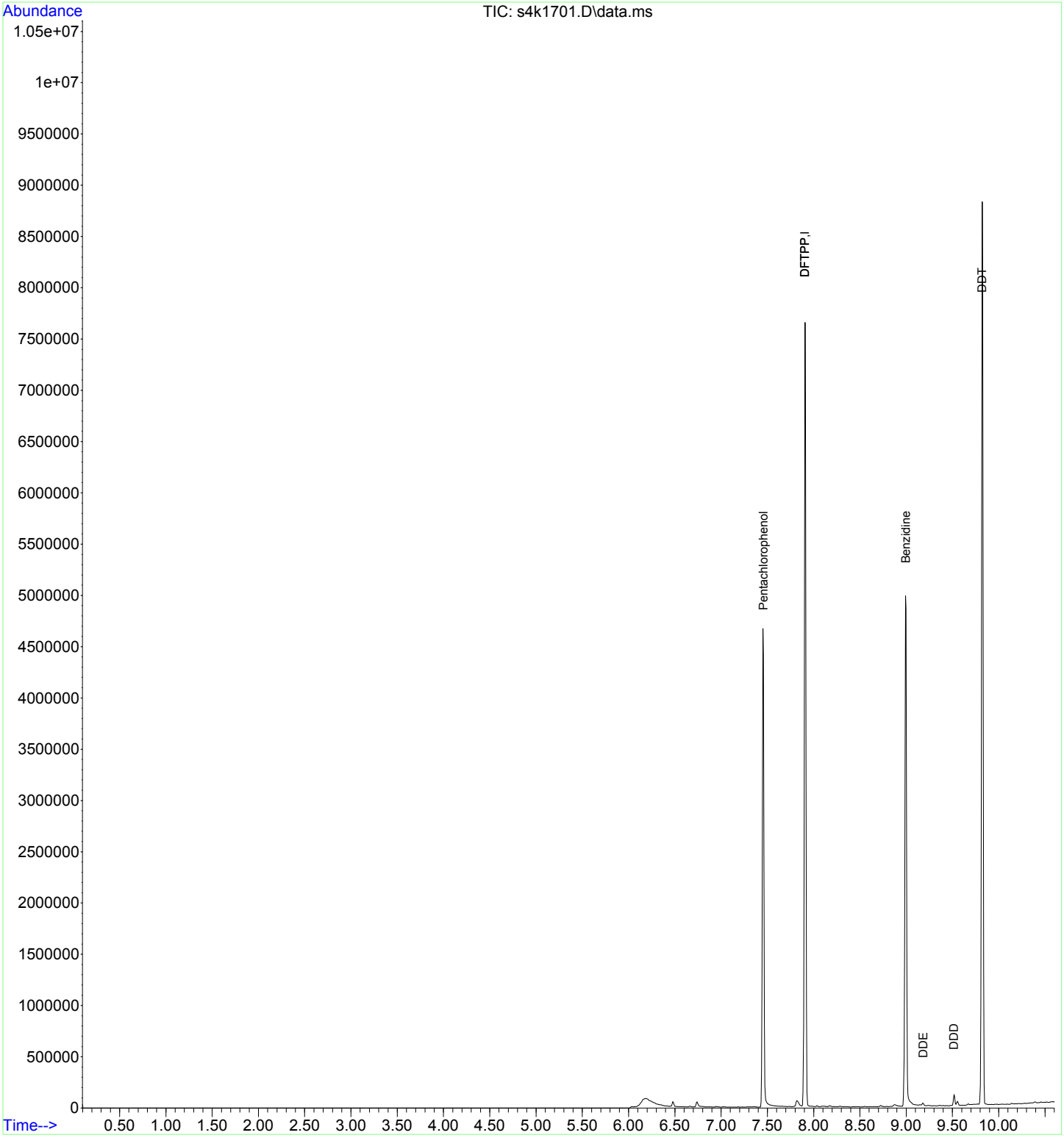
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) DFTPP	TIC	7.907	7.918	1.000	8979773	5.00	ug/ml	#-0.01
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) DFTPP	TIC	7.907	7.918	1.000	8979773	5.00	ug/ml#	1
3) Pentachlorophenol	266	7.458	7.470	0.943	643893	4.24	ug/ml	100
4) Benzidine	184	8.998	8.999	1.138	2664607	5.15	ug/ml	100
5) DDE	246	9.185	9.191	1.162	2196	3.38	ug/ml	82
6) DDD	235	9.517	9.526	1.204	22064	10.52	ug/ml	82
7) DDT	235	9.822	9.830	1.242	2094819	4.85	ug/ml	99

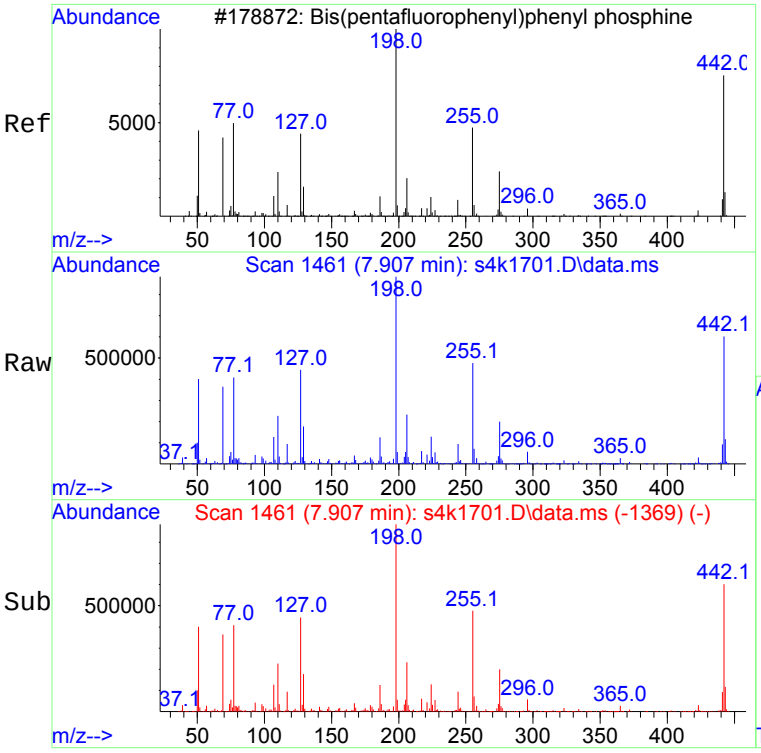
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1701.D
Acq On : 17 Nov 2020 13:25
Operator : LOF
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 17 13:36:54 2020
Quant Method : C:\msdchem\1\data\s111720.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

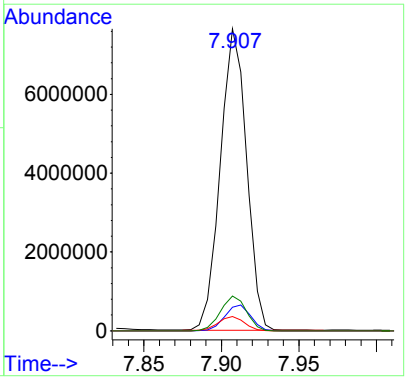


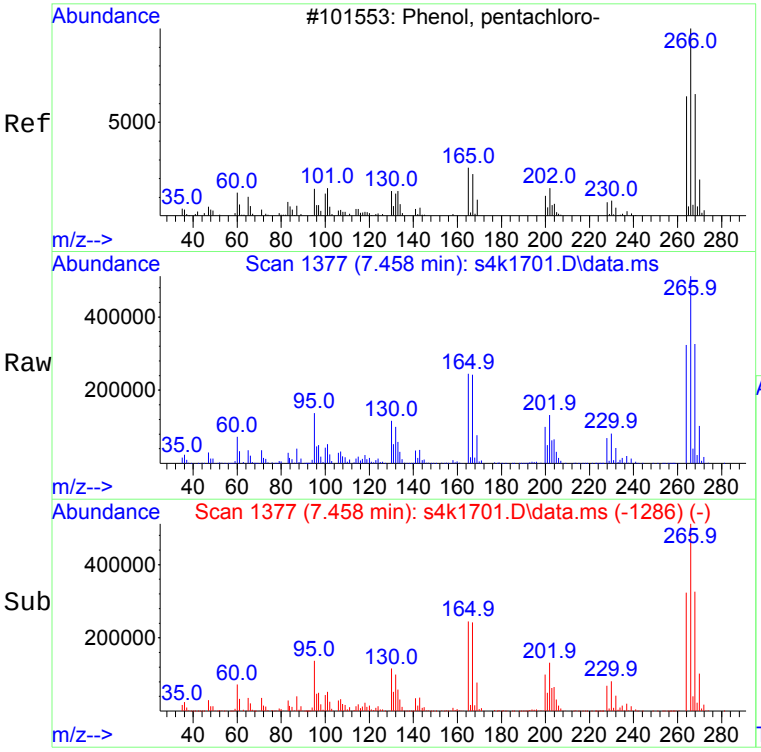


#2
DFTPP
Concen: 5.00 ug/ml
RT: 7.907 min Scan# 1461
Delta R.T. -0.011 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:TIC Resp: 8979773

Ion	Ratio	Lower	Upper
TIC	100		
442	8.5	809.7	849.7#
69	4.7	432.3	472.3#
198	11.4	1117.0	1157.0#

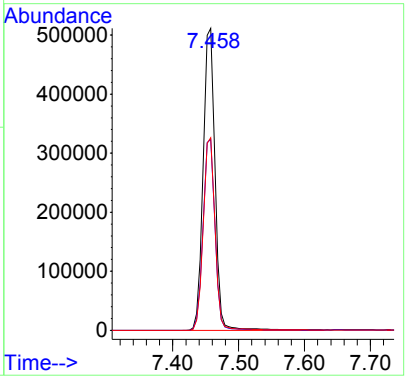


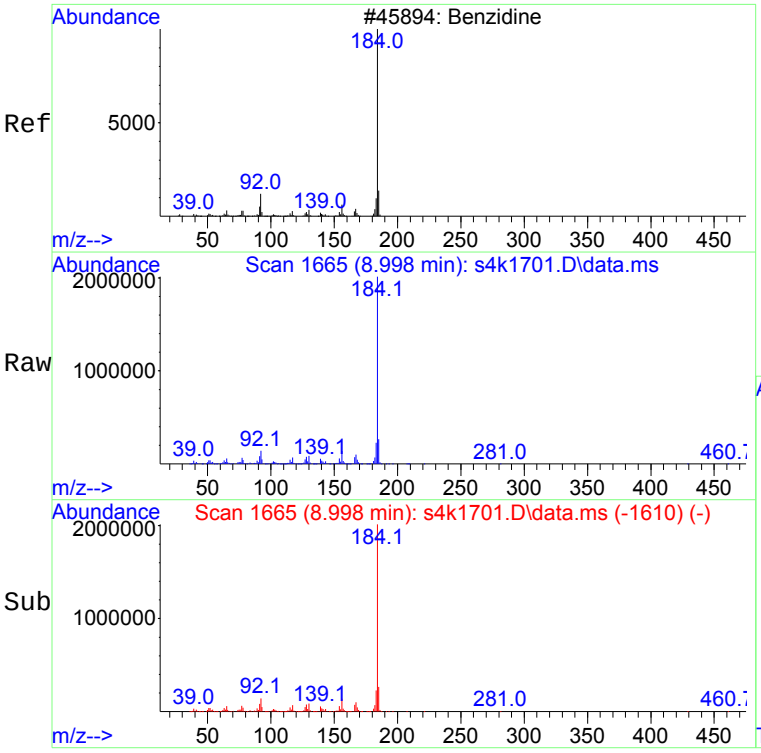


#3
Pentachlorophenol
Concen: 4.24 ug/ml
RT: 7.458 min Scan# 1377
Delta R.T. -0.012 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:266 Resp: 643893

Ion	Ratio	Lower	Upper
266	100		
264	63.3	0.0	163.4
268	62.9	0.0	162.6

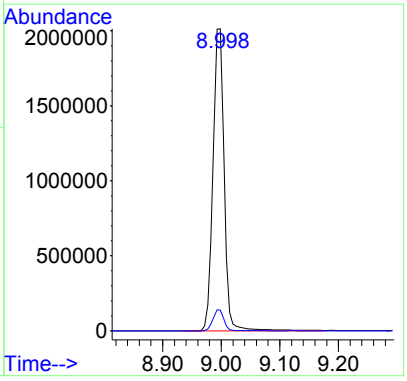


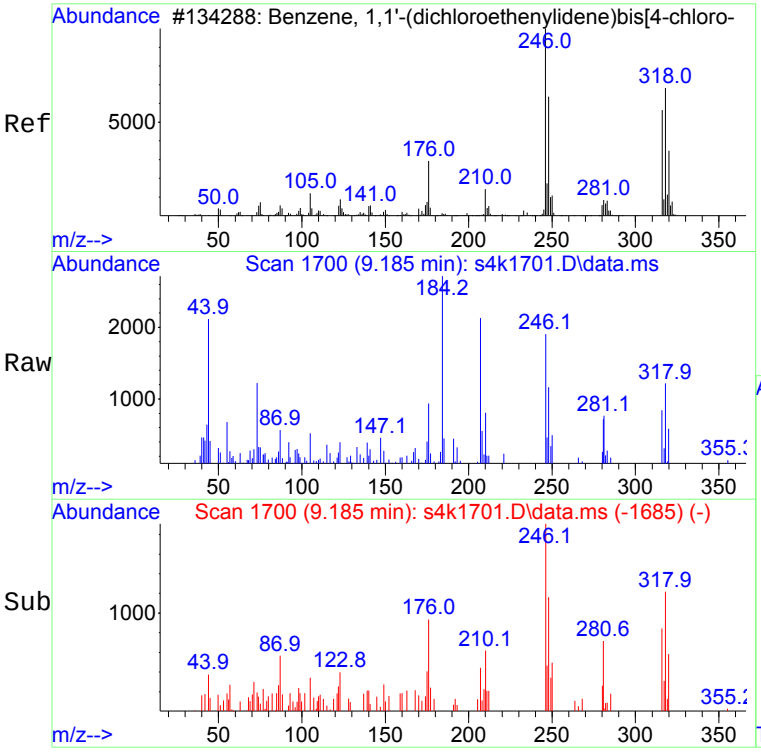


#4
Benzidine
Concen: 5.15 ug/ml
RT: 8.998 min Scan# 1665
Delta R.T. -0.001 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:184 Resp: 2664607

Ion	Ratio	Lower	Upper
184	100		
156	6.9	0.0	107.0

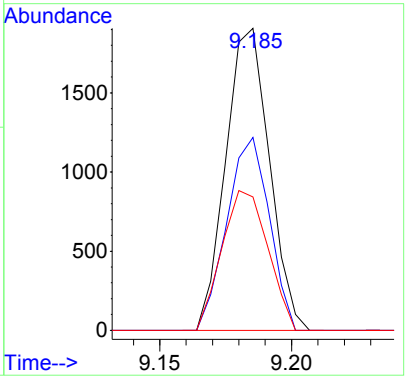


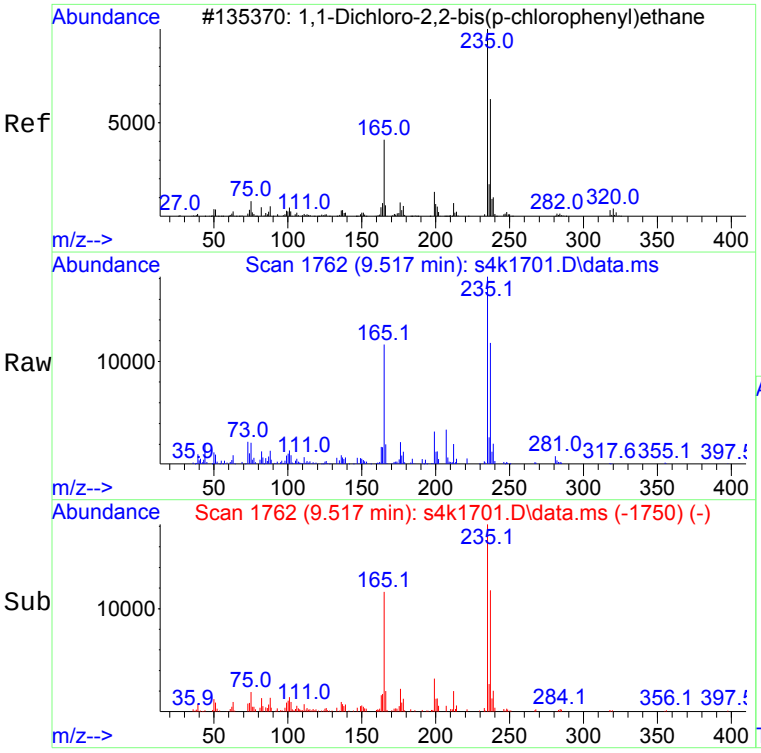


#5
DDE
Concen: 3.38 ug/ml
RT: 9.185 min Scan# 1700
Delta R.T. -0.005 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:246 Resp: 2196

Ion	Ratio	Lower	Upper
246	100		
318	62.0	0.0	148.4
316	48.7	0.0	138.9

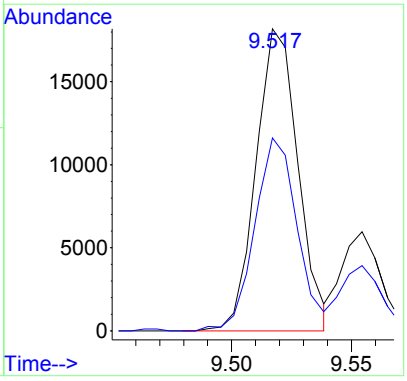


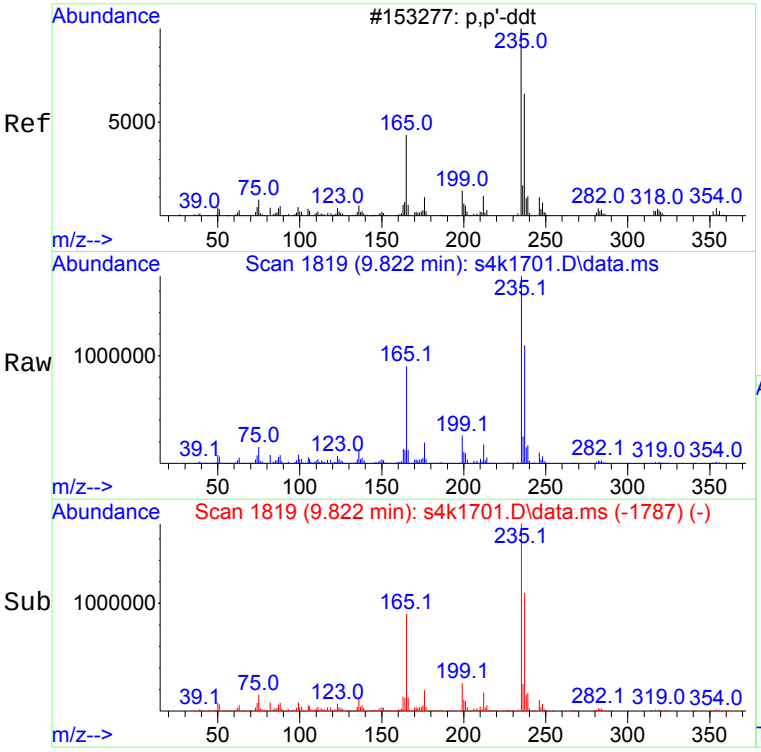


#6
DDD
Concen: 10.52 ug/ml
RT: 9.517 min Scan# 1762
Delta R.T. -0.009 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:235 Resp: 22064

Ion	Ratio	Lower	Upper
235	100		
165	64.4	0.0	152.1

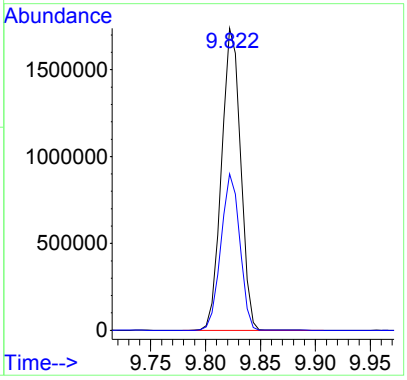




#7
DDT
Concen: 4.85 ug/ml
RT: 9.822 min Scan# 1819
Delta R.T. -0.008 min
Lab File: s4k1701.D
Acq: 17 Nov 2020 13:25

Tgt Ion:235 Resp: 2094819

Ion	Ratio	Lower	Upper
235	100		
165	51.4	0.0	150.9



8270 Breakdown Report

11/17/2020

Data File : C:\msdchem\1\data\s111720.B\s4k1701.D Vial: 1
Acq On : 17 Nov 2020 13:25 Operator: LOF
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP Inst : MSD4
Misc : Multiplr: 1.00
IntFile : rteint.p

11/19/2020

Compounds	Area/%Breakdown	8270C	8270D
DDE	2196		
DDD	22064		
DDT	2094819		
Breakdown	1.14%	Pass(<20)	Pass(<20)

Compounds	Tailing Factor	8270C	8270D
Benzidine	0.71	Pass(<3)	Pass(<2)
Pentachlorophenol	0.73	Pass(<5)	Pass(<2)

DFTPP Tune Report

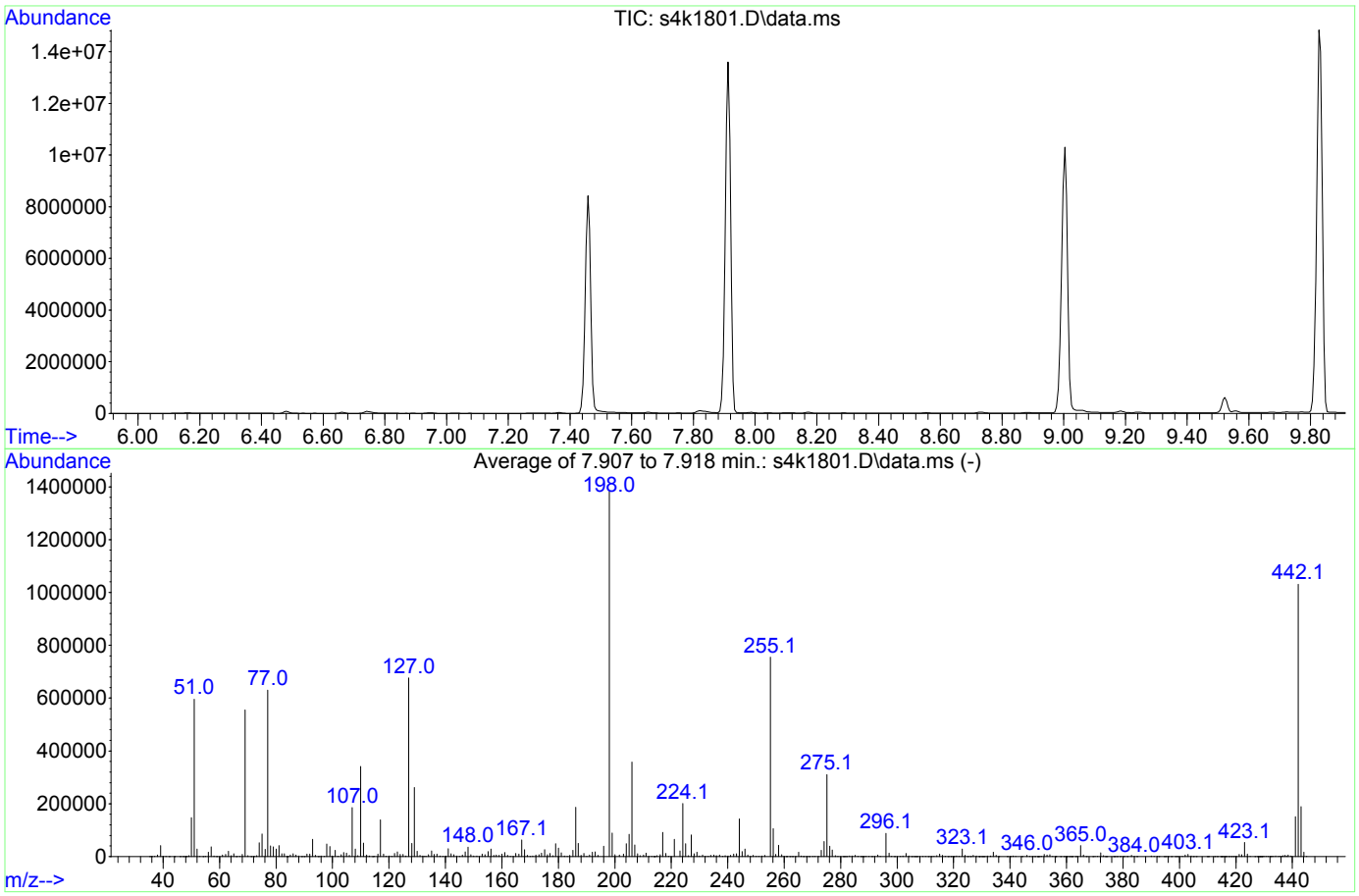
JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1801.D
Acq On : 18 Nov 2020 08:50
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

RAB 11/19/2020

Integration File:

Method : C:\msdchem\1\data\s111820.B\BNABrk_Down8270D.m
Title : dftpp / endrin / ddt
Last Update : Sat Dec 07 10:19:10 2019



AutoFind: Scans 1461, 1462, 1463; Background Corrected with Scan 1453

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	43.1	596240	PASS
68	69	0.00	2	1.5	8385	PASS
69	198	0.00	100	40.2	555433	PASS
70	69	0.00	2	0.6	3075	PASS
127	198	10	80	48.9	676821	PASS
197	198	0.00	2	0.0	0	PASS
198	198	50	100	100.0	1382741	PASS
199	198	5	9	6.5	89389	PASS
275	198	10	60	22.5	310464	PASS
365	198	1	100	3.0	42104	PASS
441	442	0.01	24	14.6	150843	PASS
442	198	50	100	74.6	1031403	PASS
443	442	15	24	18.4	189589	PASS

This report evaluates the Rel Abn% as passing only if it is greater than the Lower Limit and lower than the Upper Limit.

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1801.D
Acq On : 18 Nov 2020 08:50
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

JMB 11/19/2020

Quant Time: Nov 18 11:15:06 2020
Quant Method : C:\msdchem\1\data\s111820.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

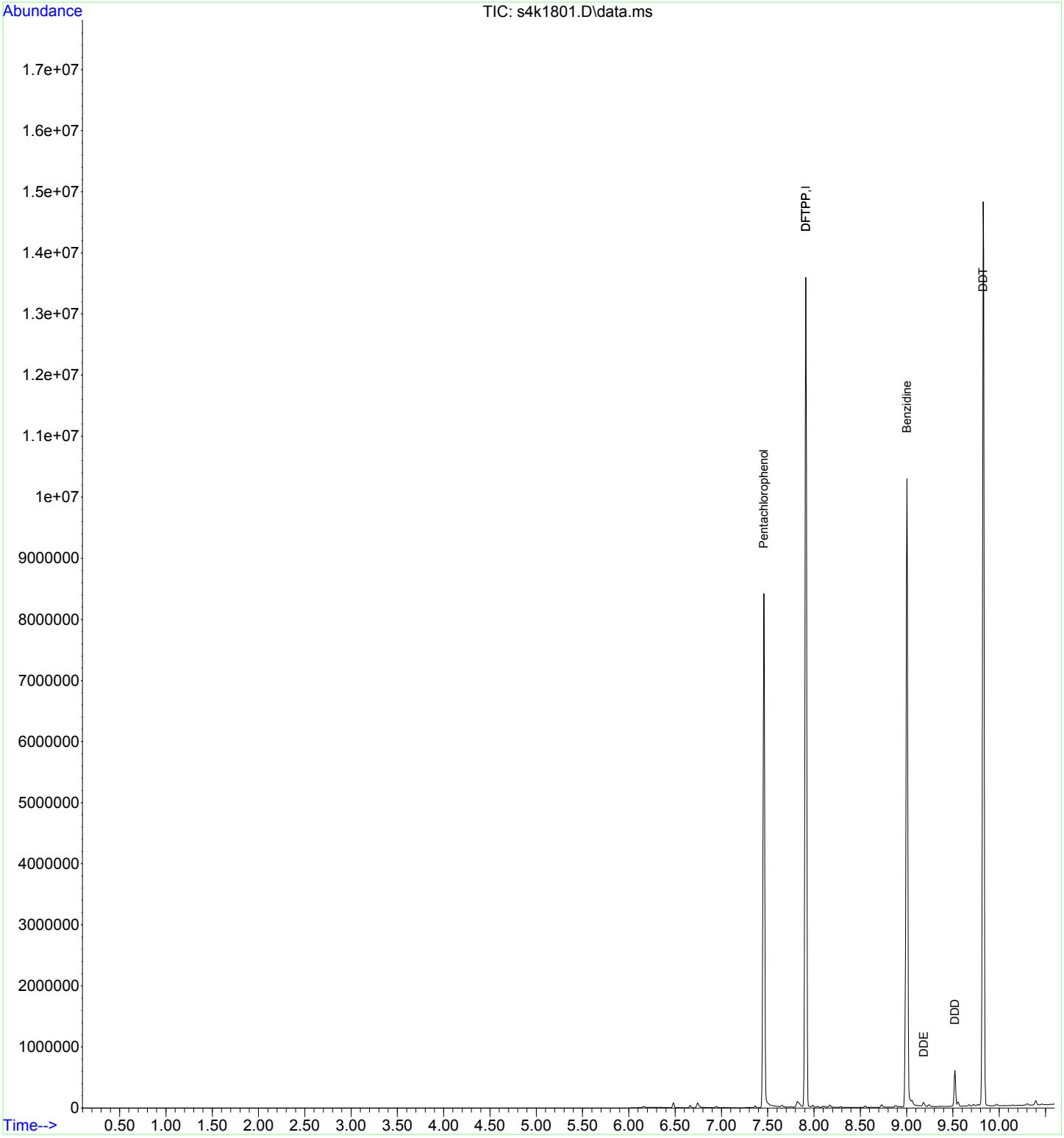
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
Internal Standards								Dev(Min)
1) DFTPP	TIC	7.912	7.918	1.000	16233804	5.00	ug/ml #	0.00
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
2) DFTPP	TIC	7.912	7.918	1.000	16233804	5.00	ug/ml#	1
3) Pentachlorophenol	266	7.458	7.470	0.943	1178345	4.29	ug/ml	99
4) Benzidine	184	9.003	8.999	1.138	5678183	6.07	ug/ml	100
5) DDE	246	9.185	9.191	1.161	9182	7.81	ug/ml	93
6) DDD	235	9.522	9.526	1.203	130475	34.40	ug/ml	90
7) DDT	235	9.827	9.830	1.242	3680536	4.71	ug/ml	99

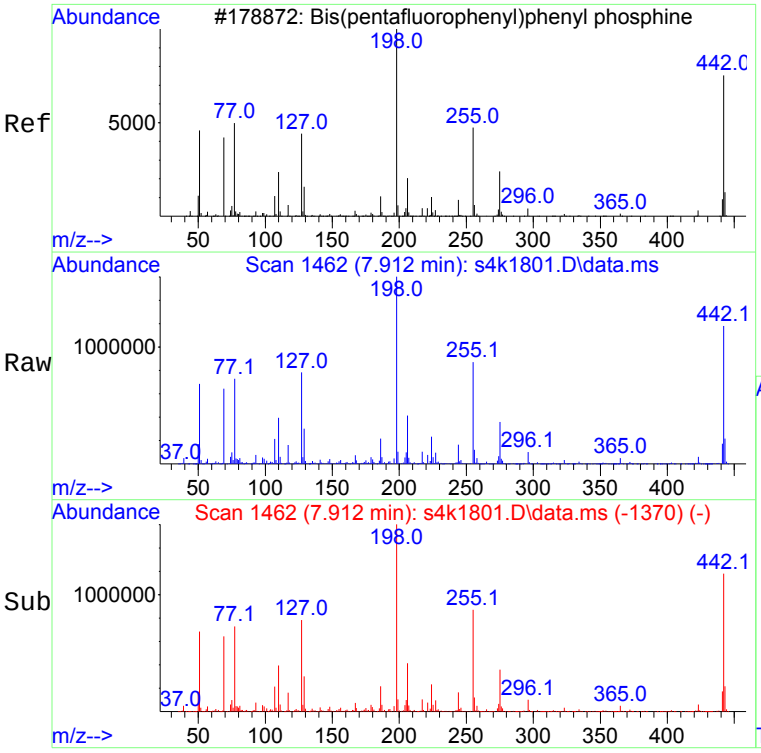
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1801.D
Acq On : 18 Nov 2020 08:50
Operator : JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 18 11:15:06 2020
Quant Method : C:\msdchem\1\data\s111820.B\BNABrk_Down8270D.m
Quant Title : dftpp / endrin / ddt
QLast Update : Sat Dec 07 10:19:10 2019
Response via : Initial Calibration

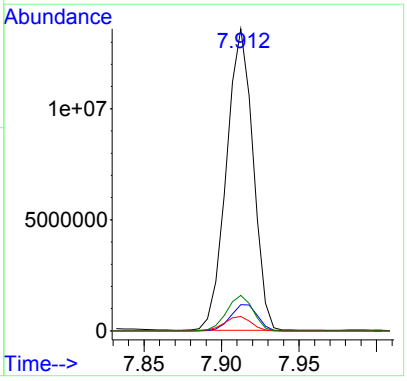


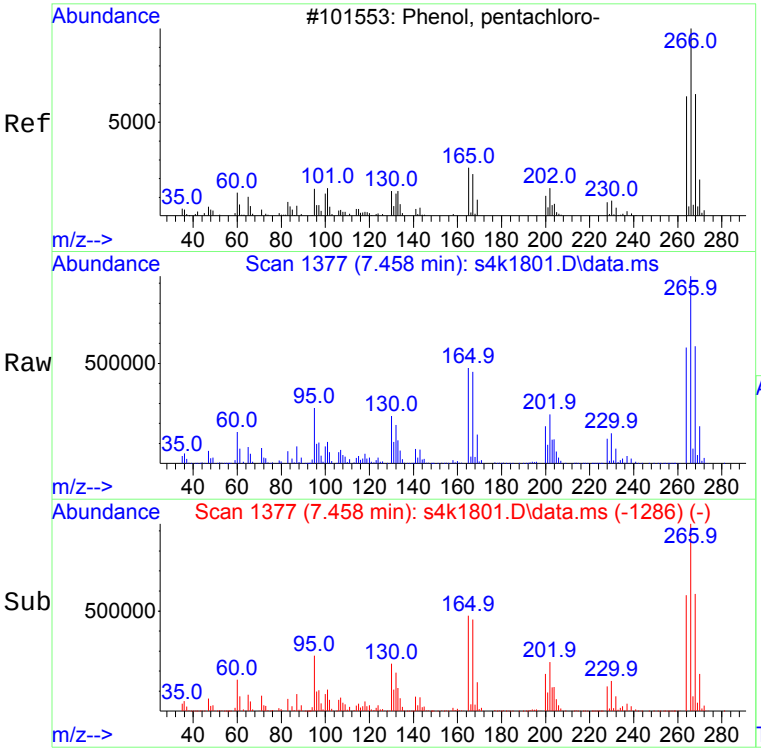


#2
DFTPP
Concen: 5.00 ug/ml
RT: 7.912 min Scan# 1462
Delta R.T. -0.005 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:TIC Resp:16233804

Ion	Ratio	Lower	Upper
TIC	100		
442	8.8	809.7	849.7#
69	4.7	432.3	472.3#
198	11.6	1117.0	1157.0#

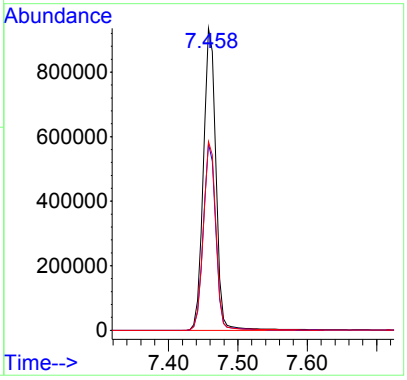


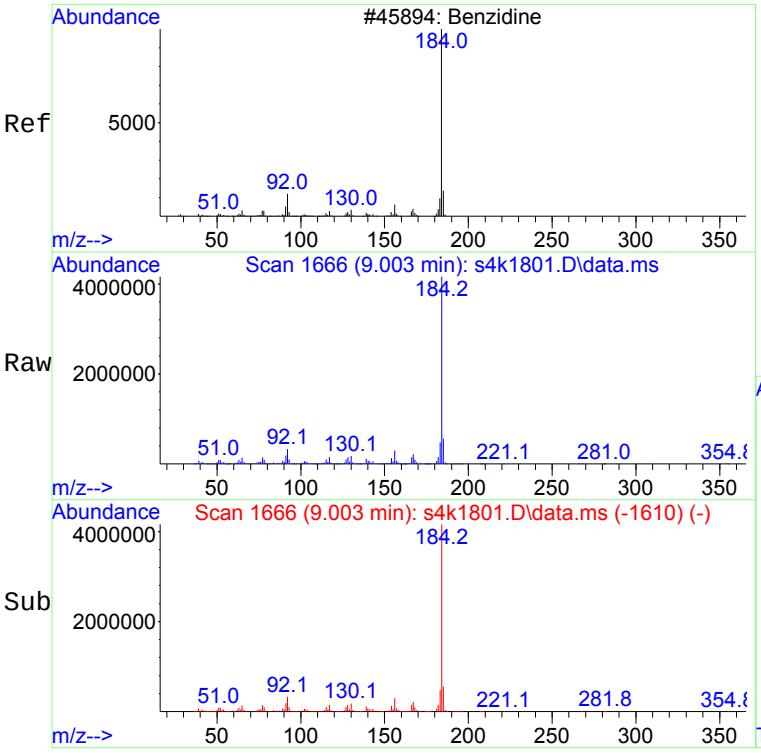


#3
Pentachlorophenol
Concen: 4.29 ug/ml
RT: 7.458 min Scan# 1377
Delta R.T. -0.012 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:266 Resp: 1178345

Ion	Ratio	Lower	Upper
266	100		
264	61.6	0.0	163.4
268	62.3	0.0	162.6

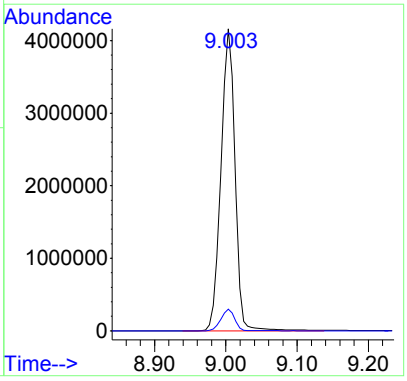


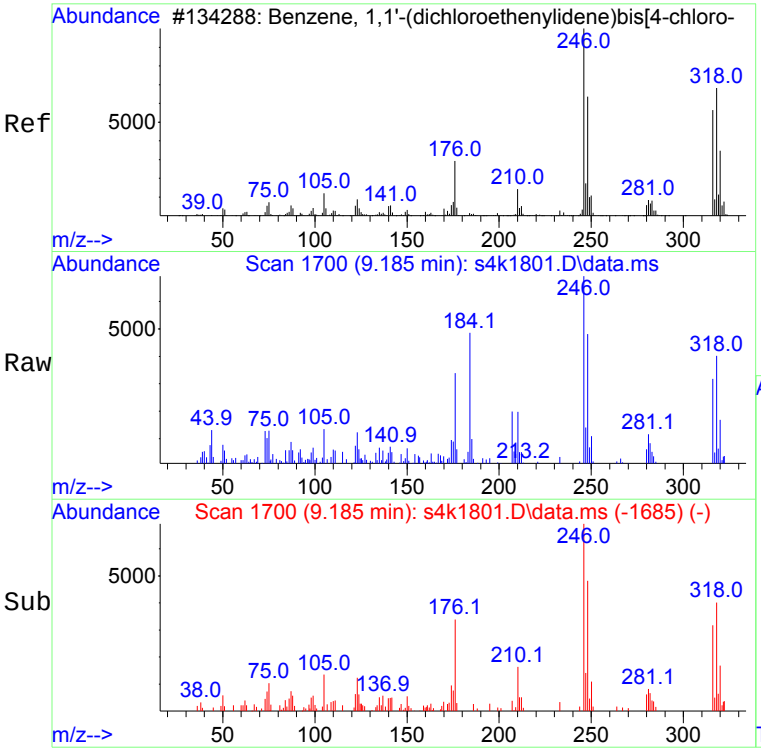


#4
Benzidine
Concen: 6.07 ug/ml
RT: 9.003 min Scan# 1666
Delta R.T. 0.004 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:184 Resp: 5678183

Ion	Ratio	Lower	Upper
184	100		
156	7.1	0.0	107.0

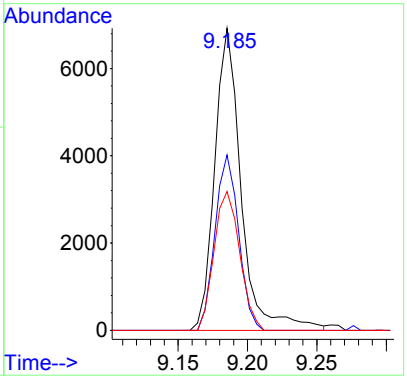


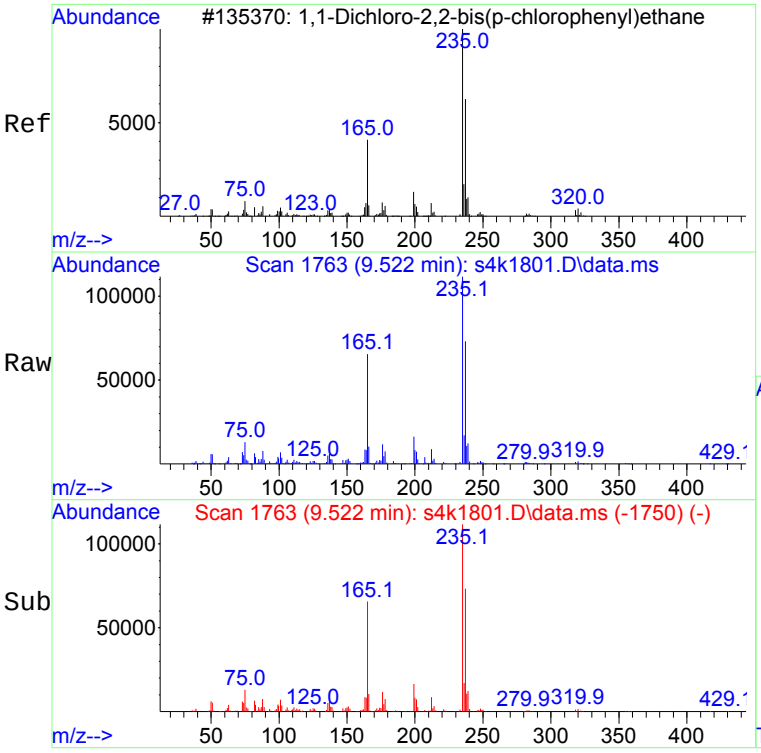


#5
DDE
Concen: 7.81 ug/ml
RT: 9.185 min Scan# 1700
Delta R.T. -0.005 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:246 Resp: 9182

Ion	Ratio	Lower	Upper
246	100		
318	51.5	0.0	148.4
316	44.5	0.0	138.9

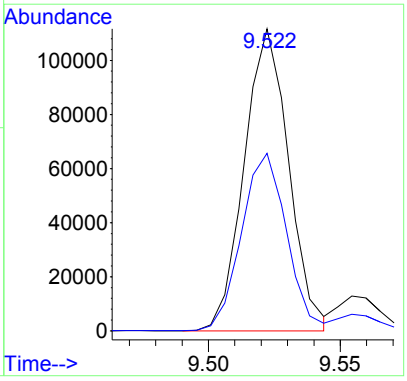


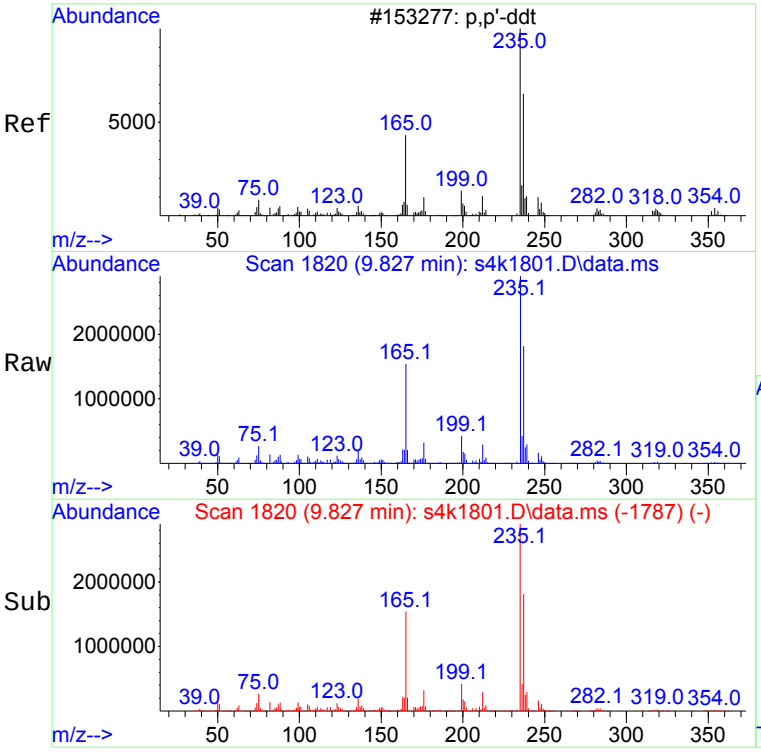


#6
DDD
Concen: 34.40 ug/ml
RT: 9.522 min Scan# 1763
Delta R.T. -0.004 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:235 Resp: 130475

Ion	Ratio	Lower	Upper
235	100		
165	59.3	0.0	152.1

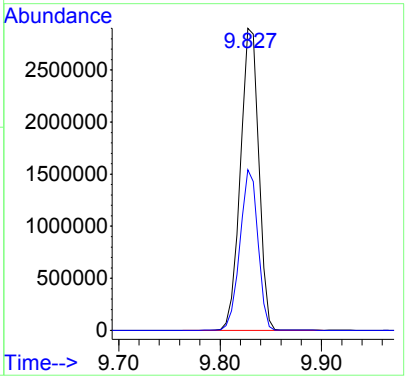




#7
DDT
Concen: 4.71 ug/ml
RT: 9.827 min Scan# 1820
Delta R.T. -0.003 min
Lab File: s4k1801.D
Acq: 18 Nov 2020 08:50

Tgt Ion:235 Resp: 3680536

Ion	Ratio	Lower	Upper
235	100		
165	51.9	0.0	150.9



8270 Breakdown Report

JMB 11/18/2020

Data File : C:\msdchem\1\data\s111820.B\s4k1801.D Vial: 1
Acq On : 18 Nov 2020 08:50 Operator: JMB3
Sample : |WBN200802-99|DFTPP|1|SVM|1|DFTPP Inst : MSD4
Misc : Multiplr: 1.00
IntFile : rteint.p

BAB 11/19/2020

Compounds	Area/%Breakdown	8270C	8270D
DDE	9182		
DDD	130475		
DDT	3680536		
Breakdown	3.66%	Pass(<20)	Pass(<20)

Compounds	Tailing Factor	8270C	8270D
Benzidine	0.87	Pass(<3)	Pass(<2)
Pentachlorophenol	1.18	Pass(<5)	Pass(<2)

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**			**Matrix:**	**WATER**
Lab Sample ID:	**1204695847**				
Client Sample:	**QC for batch 2063408**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2063408**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 16:08**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1707.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)	U		ug/L		
108-95-2	Phenol	U	3.00	ug/L	3.00	10.0
91-57-6	2-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
91-20-3	Naphthalene	U	0.300	ug/L	0.300	1.00
90-12-0	1-Methylnaphthalene	U	0.300	ug/L	0.300	1.00
86-73-7	Fluorene	U	0.300	ug/L	0.300	1.00
85-01-8	Phenanthrene	U	0.300	ug/L	0.300	1.00
120-12-7	Anthracene	U	0.300	ug/L	0.300	1.00
206-44-0	Fluoranthene	U	0.300	ug/L	0.300	1.00
129-00-0	Pyrene	U	0.300	ug/L	0.300	1.00
205-99-2	Benzo(b)fluoranthene	U	0.300	ug/L	0.300	1.00
207-08-9	Benzo(k)fluoranthene	U	0.300	ug/L	0.300	1.00
50-32-8	Benzo(a)pyrene	U	0.300	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	107	100	ug/L	107	(32%-122%)
2-Fluorobiphenyl	47.5	50.0	ug/L	95	(31%-107%)
2-Fluorophenol	47.4	100	ug/L	47	(15%-88%)
Nitrobenzene-d5	43.9	50.0	ug/L	88	(35%-113%)
Phenol-d5	34.1	100	ug/L	34	(15%-91%)
p-Terphenyl-d14	32.2	50.0	ug/L	64	(35%-134%)

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
1000315-48-0	Phthalic acid, octyl 2-pentyl ester	16.384	2.14	ug/L	83	J

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1707.D
Acq On : 17 Nov 2020 16:08
Operator : LOF
Sample : |1204695847|2063409|1|SVM|1|MB|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 17 18:19:54 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.414	5.431	1.000	806145	40.00	ng/uL	-0.02
22) A Naphthalene-d8	136	7.212	7.228	1.000	2988728	40.00	ng/uL	-0.02
39) A Acenaphthene-d10	164	9.538	9.555	1.000	1528368	40.00	ng/uL	-0.02
64) A Phenanthrene-d10	188	11.421	11.432	1.000	2550024	40.00	ng/uL	-0.01
78) A Chrysene-d12	240	14.892	14.914	1.000	1609501	40.00	ng/uL	-0.02
88) A Perylene-d12	264	18.101	18.139	1.000	1176909	40.00	ng/uL	-0.04
96) B 1,4-Dichlorobenzene-d4	152	5.414	5.431	1.000	806145	40.00	ng/uL	-0.02
112) B Naphthalene-d8	136	7.212	7.228	1.000	2988728	40.00	ng/uL	-0.02
120) B Acenaphthene-d10	164	9.538	9.555	1.000	1528368	40.00	ng/uL	-0.02
129) B Phenanthrene-d10	188	11.421	11.432	1.000	2550059	40.00	ng/uL	-0.01
142) B Chrysene-d12	240	14.892	14.914	1.000	1609501	40.00	ng/uL	-0.02
148) B Perylene-d12	264	18.101	18.139	1.000	1177005	40.00	ng/uL	-0.04
151) J Naphthalene-d8	136	7.212	7.228	1.000	2988728	40.00	ng/uL	-0.02
153) J Phenanthrene-d10	188	11.421	11.432	1.000	2550024	40.00	ng/uL	-0.01
156) J Chrysene-d12	240	14.892	14.914	1.000	1609501	40.00	ng/uL	-0.02
159) D Naphthalene-d8	136	7.212	7.228	1.000	2988728	40.00	ng/uL	-0.02
161) D Acenaphthene-d10	164	9.538	9.555	1.000	1528368	40.00	ng/uL	-0.02
164) D Phenanthrene-d10	188	11.421	11.432	1.000	2550059	40.00	ng/uL	-0.01
171) D Chrysene-d12	240	14.892	14.914	1.000	1609501	40.00	ng/uL	-0.02
173) E Naphthalene-d8	136	7.212	7.228	1.000	2988728	40.00	ng/uL	-0.02
175) E Perylene-d12	264	18.101	18.139	1.000	1176909	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.724	3.735	0.688	1150406	47.43	ng/uL	-0.01
8) Phenol-d5	99	4.885	4.906	0.902	1003951	34.05	ng/uL	-0.02
23) Nitrobenzene-d5	82	6.201	6.222	0.860	1112744	43.88	ng/uL	-0.02
44) 2-Fluorobiphenyl	172	8.672	8.736	0.909	2254899m	47.45	ng/uL	-0.06
63) 2,4,6-Tribromophenol	330	10.544	10.555	1.105	578152	106.97	ng/uL	-0.01
80) p-Terphenyl-d14	244	13.411	13.422	0.901	1723093	32.23	ng/uL	-0.01

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	47%
8) Phenol-d5	100.000	15 - 91	34%
23) Nitrobenzene-d5	50.000	35 - 113	88%
44) 2-Fluorobiphenyl	50.000	31 - 107	95%
63) 2,4,6-Tribromophenol	100.000	32 - 122	107%
80) p-Terphenyl-d14	50.000	35 - 134	64%

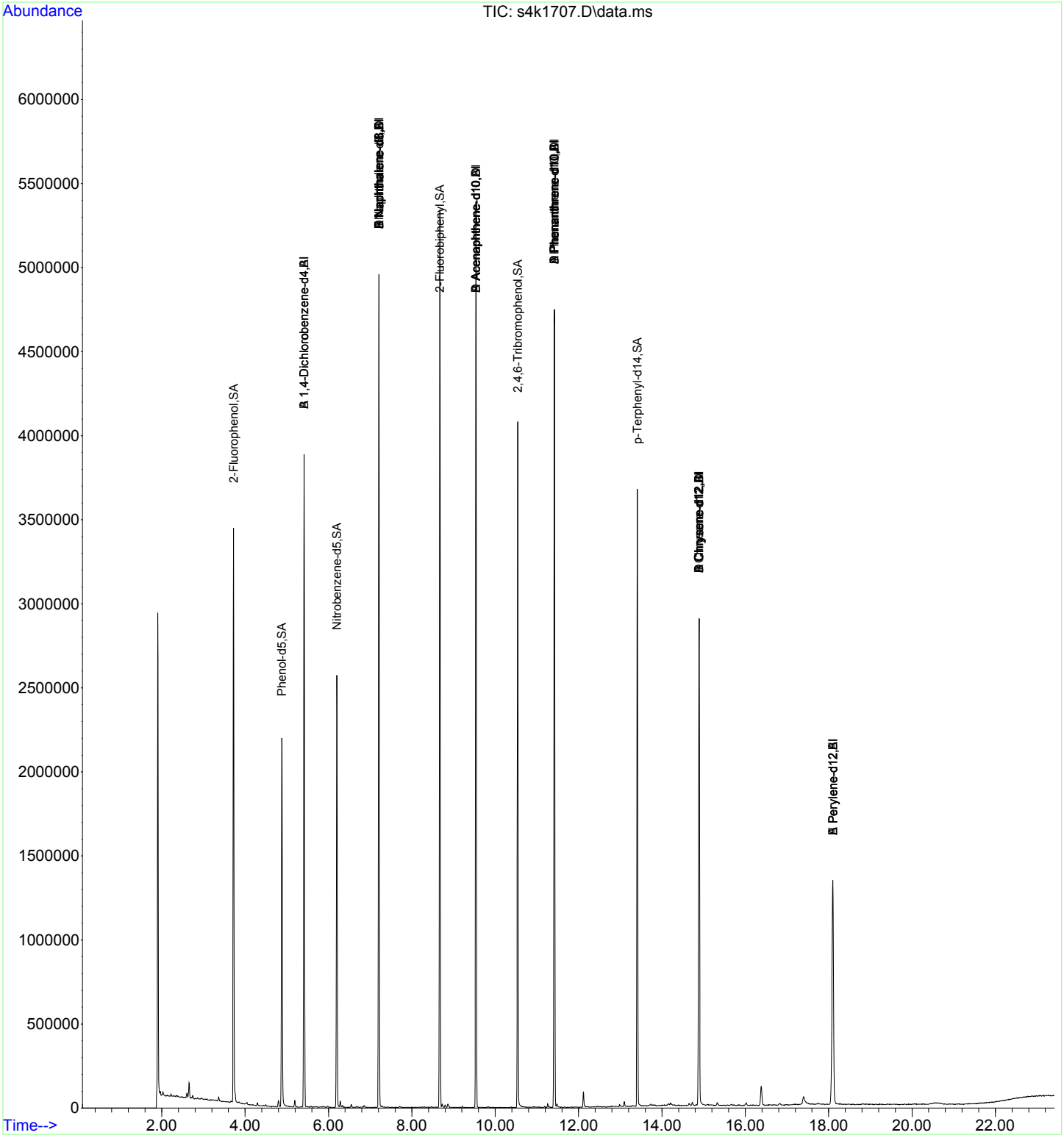
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

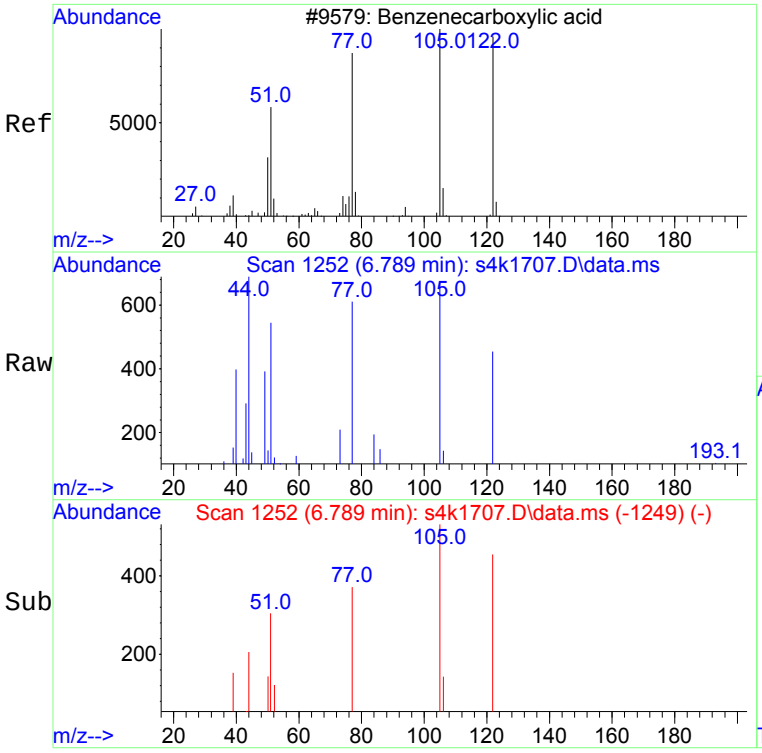
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1707.D
Acq On : 17 Nov 2020 16:08
Operator : LOF
Sample : |1204695847|2063409|1|SVM|1|MB|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 17 18:19:54 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

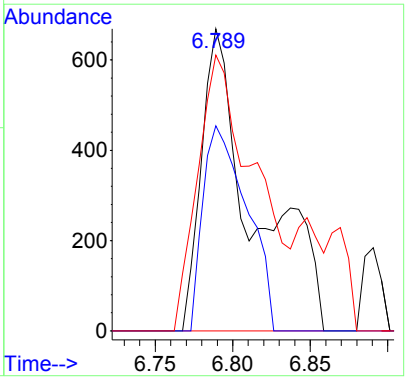


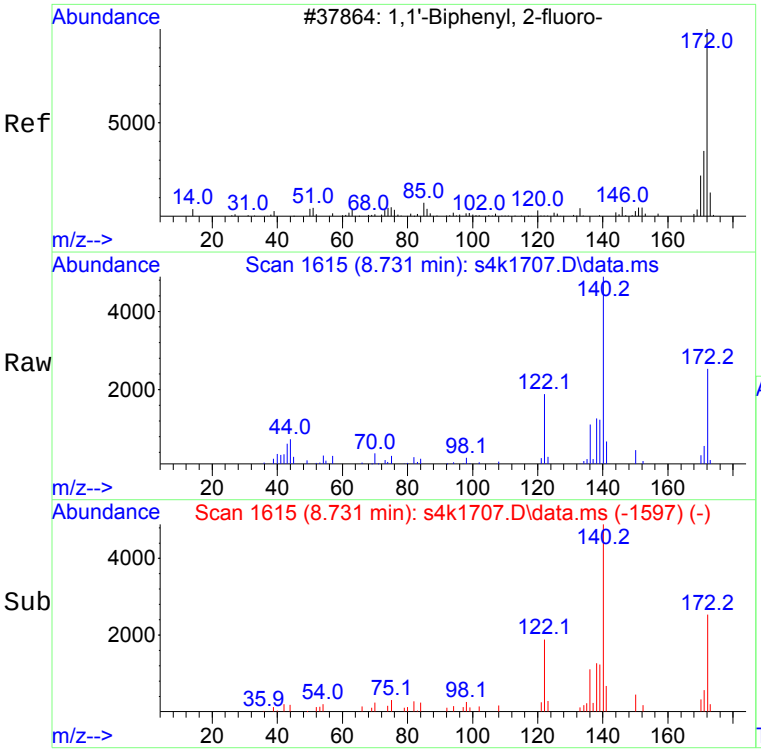


#30 BEFORE analyst DELETION
Benzoic acid
Concen: 11.67 ng/uL
RT: 6.789 min Scan# 1252
Delta R.T. -0.134 min
Lab File: s4k1707.D
Acq: 17 Nov 2020 16:08

Tgt Ion:105 Resp: 1596

Ion	Ratio	Lower	Upper
105	100		
122	56.1	51.3	111.3
77	126.4	45.6	105.6#

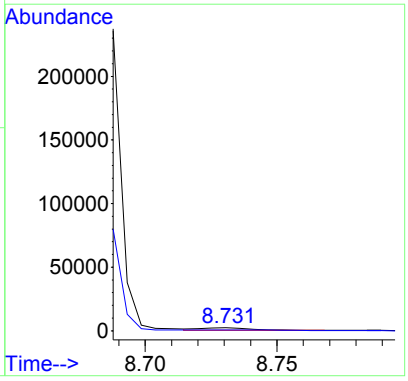


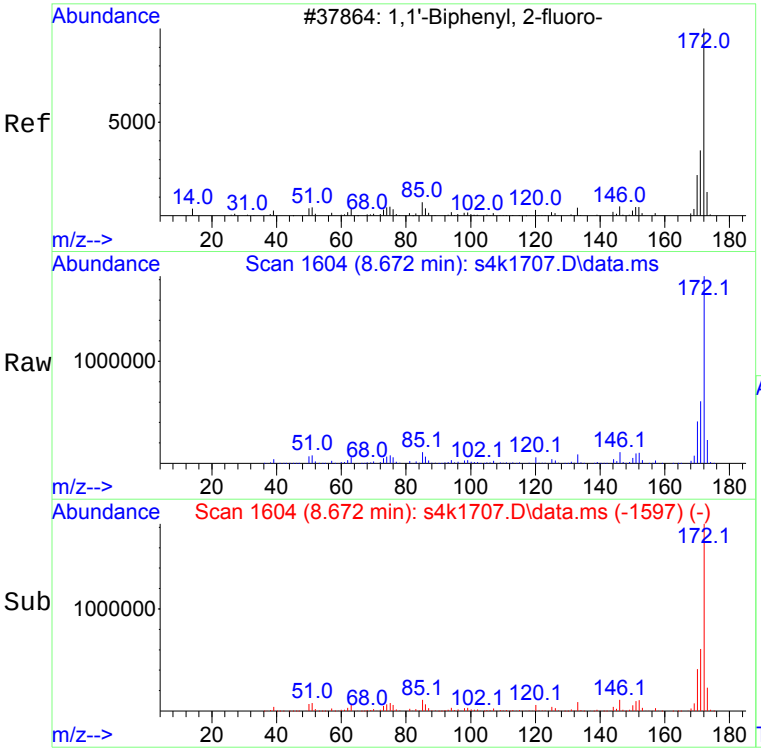


#44 BEFORE analyst integration
2-Fluorobiphenyl
Concen: 0.05 ng/uL
RT: 8.731 min Scan# 1615
Delta R.T. -0.006 min
Lab File: s4k1707.D
Acq: 17 Nov 2020 16:08

Tgt Ion:172 Resp: 2327

Ion	Ratio	Lower	Upper
172	100		
171	33.2	2.5	62.5

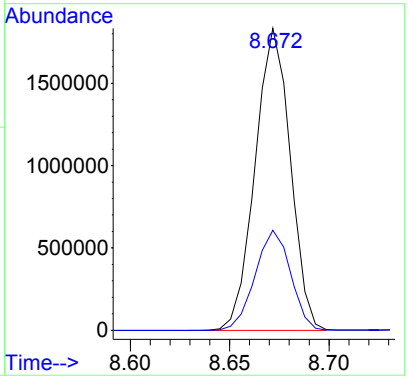


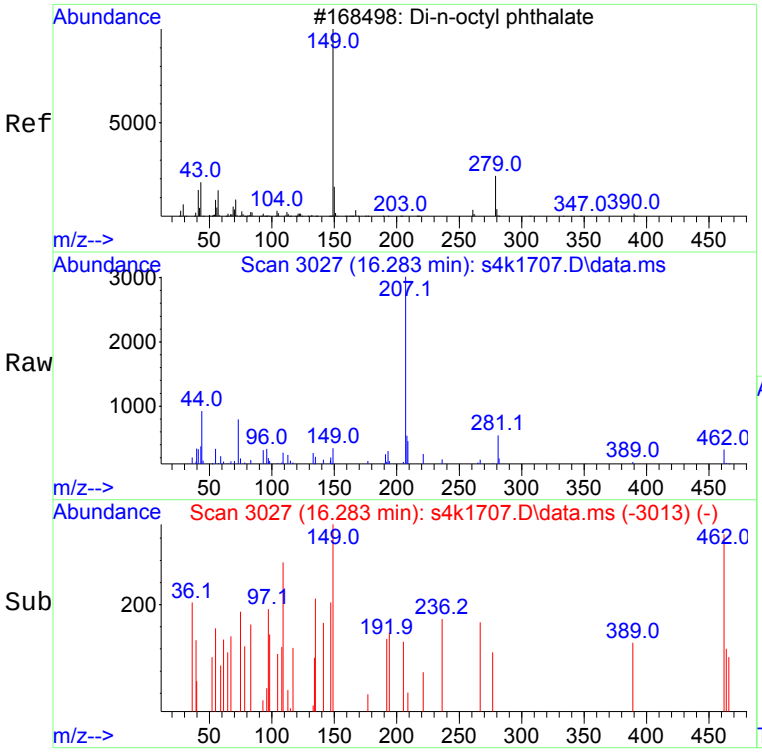


#44 AFTER analyst integration
2-Fluorobiphenyl AP
Concen: 47.45 ng/uL MANUALLY INTEGRATED
RT: 8.672 min Scan# 1604
Delta R.T. -0.064 min
Lab File: s4k1707.D
Acq: 17 Nov 2020 16:08

Tgt Ion:172 Resp: 2254899

Ion	Ratio	Lower	Upper
172	100		
171	0.0	2.5	62.5#

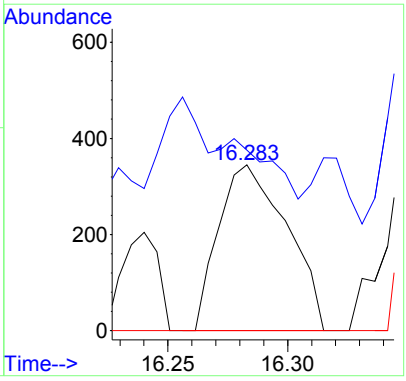




#87 BEFORE analyst DELETION
Di-n-octylphthalate
Concen: 0.40 ng/uL
RT: 16.283 min Scan# 3027
Delta R.T. -0.027 min
Lab File: s4k1707.D
Acq: 17 Nov 2020 16:08

Tgt Ion:149 Resp: 684

Ion	Ratio	Lower	Upper
149	100		
43	0.0	0.0	42.3
167	0.0	0.0	31.5



Library Search Compound Report

11/17/2020

11/19/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1707.D
Acq On : 17 Nov 2020 16:08
Operator : LOF
Sample : |1204695847|2063409|1|SVM|1|MB|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

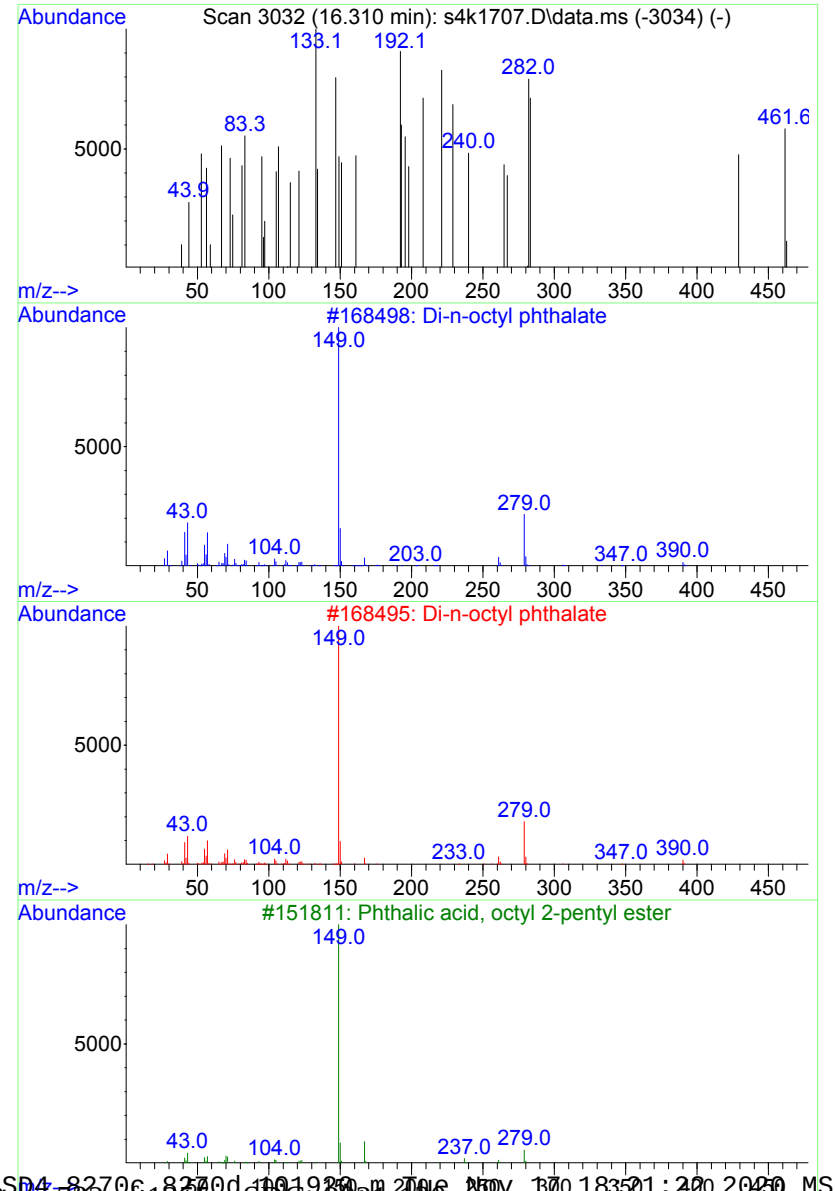
TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: BenzoicAcid.p

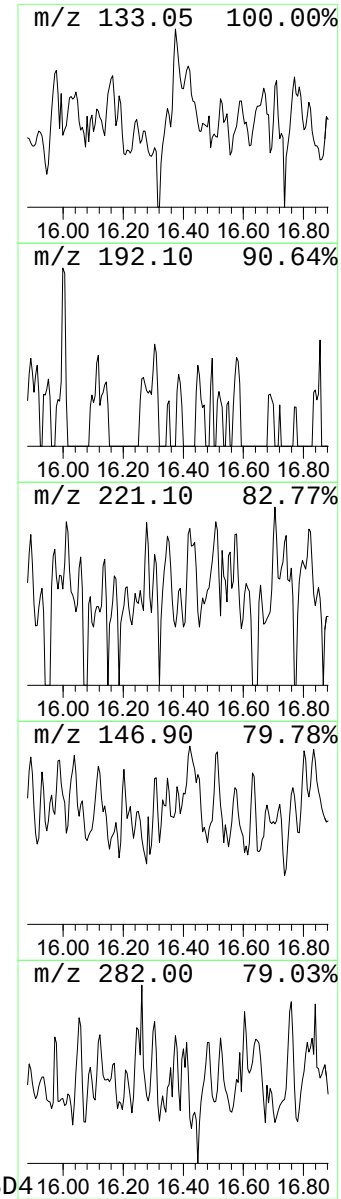
****

Peak Number 1 Phthalic acid, octyl 2-pent... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.384	2.14 ng/uL	258042	D Chrysene-d12	14.892

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Di-n-octyl phthalate	390	C24H38O4	000117-84-0	99
2	Di-n-octyl phthalate	390	C24H38O4	000117-84-0	98
3	Phthalic acid, octyl 2-pentyl ester	348	C21H32O4	1000315-48-0	83
4	1,2-Benzenedicarboxylic acid, is...	418	C26H42O4	001330-96-7	64
5	1,2-Benzenedicarboxylic acid, de...	418	C26H42O4	000119-07-3	59





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1707.D
Acq On : 17 Nov 2020 16:08
Operator : LOF
Sample : |1204695847|2063409|1|SVM|1|MB|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01

TIC Library : C:\Database\NIST05.L
TIC Integration Parameters: BenzoicAcid.p

			(ng/uL)		Internal Standard		
TIC Top Hit name	CAS #	RT	EstConc	Response	#	RT	Resp	Conc
Phthalic acid, octyl 2-pent...	1000315-48-0	16.384	2.1	258042	18	14.892	4812810	40.0

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**			**Matrix:**	**WATER**
Lab Sample ID:	**1204695848**				
Client Sample:	**QC for batch 2063408**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2063408**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/17/2020 16:37**	**Analyst:**	**LOF**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s111720.B\s4k1708.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)		393	ug/L		
108-95-2	Phenol		13.1	ug/L	3.00	10.0
91-57-6	2-Methylnaphthalene		34.1	ug/L	0.300	1.00
91-20-3	Naphthalene		35.7	ug/L	0.300	1.00
90-12-0	1-Methylnaphthalene		36.9	ug/L	0.300	1.00
86-73-7	Fluorene		42.0	ug/L	0.300	1.00
85-01-8	Phenanthrene		41.7	ug/L	0.300	1.00
120-12-7	Anthracene		38.2	ug/L	0.300	1.00
206-44-0	Fluoranthene		47.0	ug/L	0.300	1.00
129-00-0	Pyrene		33.9	ug/L	0.300	1.00
205-99-2	Benzo(b)fluoranthene		40.6	ug/L	0.300	1.00
207-08-9	Benzo(k)fluoranthene		42.8	ug/L	0.300	1.00
50-32-8	Benzo(a)pyrene		35.7	ug/L	0.300	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
2,4,6-Tribromophenol	101	100	ug/L	101	(32%-122%)
2-Fluorobiphenyl	41.6	50.0	ug/L	83	(31%-107%)
2-Fluorophenol	36.0	100	ug/L	36	(15%-88%)
Nitrobenzene-d5	36.7	50.0	ug/L	73	(35%-113%)
Phenol-d5	26.4	100	ug/L	26	(15%-91%)
p-Terphenyl-d14	32.2	50.0	ug/L	64	(35%-134%)

Quantitation Report

11/17/2020

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1708.D
Acq On : 17 Nov 2020 16:37
Operator : LOF
Sample : |1204695848|2063409|1|SVM|1|LCS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

11/19/2020

Quant Time: Nov 17 18:21:32 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.414	5.431	1.000	916732	40.00	ng/uL	-0.02
22) A Naphthalene-d8	136	7.212	7.228	1.000	3442167	40.00	ng/uL	-0.02
39) A Acenaphthene-d10	164	9.544	9.555	1.000	1764051	40.00	ng/uL	-0.01
64) A Phenanthrene-d10	188	11.421	11.432	1.000	2905022	40.00	ng/uL	-0.01
78) A Chrysene-d12	240	14.898	14.914	1.000	1868518	40.00	ng/uL	-0.02
88) A Perylene-d12	264	18.101	18.139	1.000	1196313	40.00	ng/uL	-0.04
96) B 1,4-Dichlorobenzene-d4	152	5.414	5.431	1.000	916732	40.00	ng/uL	-0.02
112) B Naphthalene-d8	136	7.212	7.228	1.000	3442188	40.00	ng/uL	-0.02
120) B Acenaphthene-d10	164	9.544	9.555	1.000	1764051	40.00	ng/uL	-0.01
129) B Phenanthrene-d10	188	11.421	11.432	1.000	2905022	40.00	ng/uL	-0.01
142) B Chrysene-d12	240	14.898	14.914	1.000	1868518	40.00	ng/uL	-0.02
148) B Perylene-d12	264	18.101	18.139	1.000	1195331	40.00	ng/uL	-0.04
151) J Naphthalene-d8	136	7.212	7.228	1.000	3442167	40.00	ng/uL	-0.02
153) J Phenanthrene-d10	188	11.421	11.432	1.000	2905022	40.00	ng/uL	-0.01
156) J Chrysene-d12	240	14.898	14.914	1.000	1868518	40.00	ng/uL	-0.02
159) D Naphthalene-d8	136	7.212	7.228	1.000	3442188	40.00	ng/uL	-0.02
161) D Acenaphthene-d10	164	9.544	9.555	1.000	1764051	40.00	ng/uL	-0.01
164) D Phenanthrene-d10	188	11.421	11.432	1.000	2905022	40.00	ng/uL	-0.01
171) D Chrysene-d12	240	14.898	14.914	1.000	1868518	40.00	ng/uL	-0.02
173) E Naphthalene-d8	136	7.212	7.228	1.000	3442167	40.00	ng/uL	-0.02
175) E Perylene-d12	264	18.101	18.139	1.000	1196313	40.00	ng/uL	-0.04
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.724	3.735	0.688	993204	36.01	ng/uL	-0.01
8) Phenol-d5	99	4.885	4.906	0.902	884017	26.36	ng/uL	-0.02
23) Nitrobenzene-d5	82	6.206	6.222	0.861	1071479	36.68	ng/uL	-0.02
44) 2-Fluorobiphenyl	172	8.672	8.736	0.909	2280198	41.57	ng/uL	-0.06
63) 2,4,6-Tribromophenol	330	10.549	10.555	1.105	631231	101.18	ng/uL	0.00
80) p-Terphenyl-d14	244	13.411	13.422	0.900	2000831	32.24	ng/uL	-0.01

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	36%
8) Phenol-d5	100.000	15 - 91	26%
23) Nitrobenzene-d5	50.000	35 - 113	73%
44) 2-Fluorobiphenyl	50.000	31 - 107	83%
63) 2,4,6-Tribromophenol	100.000	32 - 122	101%
80) p-Terphenyl-d14	50.000	35 - 134	64%

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.376	2.387	0.439	368836	20.49	ng/uL	89
4) Pyridine	79	2.425	2.430	0.448	447690	15.62	ng/uL	98
7) Aniline	93	4.954	4.976	0.915	1024074	21.51	ng/uL	99
9) Phenol	94	4.906	4.923	0.906	482162	13.14	ng/uL	86
10) bis(2-Chloroethyl) ether	93	5.045	5.067	0.932	960436	30.09	ng/uL	98
11) 2-Chlorophenol	128	5.115	5.136	0.945	844798	28.26	ng/uL	98
12) n-Decane	43	5.195	5.211	0.959	805308	17.25	ng/uL	99
13) 1,3-Dichlorobenzene	146	5.334	5.356	0.985	1000415	28.46	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.441	5.457	1.005	1008224	28.11	ng/uL	98
15) 1,2-Dichlorobenzene	146	5.650	5.671	1.043	1019910	29.88	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.810	5.832	1.073	1817359	28.72	ng/uL	95
17) Benzyl alcohol	108	5.607	5.629	1.036	453918	22.37	ng/uL	86
18) o-Cresol	107	5.767	5.778	1.065	614716	25.81	ng/uL	98
19) m,p-Cresols	108	5.997	6.014	1.108	683088	24.13	ng/uL#	15
20) N-Nitrosodipropylamine	70	6.008	6.024	1.110	868101	34.31	ng/uL	97
21) Hexachloroethane	117	6.137	6.153	1.133	379159	27.87	ng/uL	93
24) Nitrobenzene	77	6.238	6.254	0.865	1085669	36.72	ng/uL	98

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1708.D
Acq On : 17 Nov 2020 16:37
Operator : LOF
Sample : |1204695848|2063409|1|SVM|1|LCS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 18:21:32 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
25) Isophorone	82	6.580	6.597	0.912	2302270	38.97	ng/uL	99
26) 2-Nitrophenol	139	6.682	6.698	0.927	537556	41.98	ng/uL	97
27) 2,4-Dimethylphenol	122	6.752	6.768	0.936	806834	32.06	ng/uL	97
28) bis(2-Chloroethoxy)met...	93	6.891	6.907	0.955	1284880	37.72	ng/uL	98
29) 2,4-Dichlorophenol	162	7.019	7.035	0.973	894331	40.16	ng/uL	98
30) Benzoic acid	105	6.917	6.923	0.959	569232	47.63	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.137	7.148	0.990	870864	35.20	ng/uL	99
32) alpha-Terpineol	59	7.270	7.287	1.008	753930	25.74	ng/uL	95
33) Naphthalene	128	7.244	7.260	1.004	2887057	35.71	ng/uL	99
34) 4-Chloroaniline	127	7.324	7.335	1.016	983004	30.87	ng/uL	98
35) Hexachlorobutadiene	225	7.420	7.431	1.029	510358	35.81	ng/uL	98
36) 4-Chloro-3-methylphenol	107	7.987	7.993	1.108	875322	37.93	ng/uL	98
37) 2-Methylnaphthalene	142	8.180	8.196	1.134	1943827	34.12	ng/uL	98
38) 1-Methylnaphthalene	142	8.313	8.324	1.153	1937294	36.86	ng/uL	97
40) Hexachlorocyclopentadiene	237	8.394	8.404	0.880	287427	20.10	ng/uL	98
41) 2,3-Dichloroaniline	161	8.554	8.565	0.896	1123025	42.72	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.554	8.565	0.896	711966	51.37	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.602	8.608	0.901	734376	49.30	ng/uL	100
45) 2-Chloronaphthalene	162	8.822	8.832	0.924	1882932	39.30	ng/uL	94
46) o-Nitroaniline	65	8.955	8.966	0.938	636710	44.83	ng/uL	99
48) m-Nitroaniline	138	9.490	9.501	0.994	478352	39.57	ng/uL	100
49) Dimethylphthalate	163	9.212	9.228	0.965	2727102	48.44	ng/uL	100
51) 2,6-Dinitrotoluene	165	9.282	9.292	0.973	567665	44.77	ng/uL	97
52) 2,4-Dinitrotoluene	165	9.790	9.800	1.026	727657	46.26	ng/uL	98
53) Acenaphthylene	152	9.356	9.373	0.980	3119285	38.71	ng/uL	99
54) Acenaphthene	154	9.586	9.597	1.004	1956798	39.87	ng/uL	99
55) 2,4-Dinitrophenol	184	9.618	9.629	1.008	251588	60.52	ng/uL#	23
56) Dibenzofuran	168	9.806	9.817	1.027	2758907	40.86	ng/uL	94
57) 2,3,4,6-Tetrachlorophenol	232	9.961	9.972	1.044	593071	52.34	ng/uL	100
58) Diethylphthalate	149	10.111	10.127	1.059	2851629	50.35	ng/uL	99
59) 4-Nitrophenol	139	9.720	9.710	1.018	103385	14.57	ng/uL	90
60) Fluorene	166	10.239	10.255	1.073	2287759	41.96	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.244	10.260	1.073	1106198	44.67	ng/uL	98
62) p-Nitroaniline	138	10.271	10.277	1.076	499183	46.50	ng/uL	90
65) 2-Methyl-4,6-dinitroph...	198	10.308	10.314	0.903	401801	63.15	ng/uL	99
66) Diphenylamine	169	10.399	10.410	0.911	1868767	39.55	ng/uL	96
67) 1,2-Diphenylhydrazine	77	10.448	10.458	0.915	2488012	41.24	ng/uL	98
68) 4-Bromophenylphenylether	248	10.859	10.876	0.951	625193	42.06	ng/uL	98
69) Hexachlorobenzene	284	10.934	10.945	0.957	688359	43.22	ng/uL	97
70) Pentachlorophenol	266	11.186	11.186	0.979	394454	50.10	ng/uL	98
71) n-Octadecane	57	11.303	11.314	0.990	1822065	37.18	ng/uL	98
73) Phenanthrene	178	11.453	11.464	1.003	3209726	41.65	ng/uL	99
74) Anthracene	178	11.517	11.528	1.008	2971781	38.23	ng/uL	99
75) Carbazole	167	11.715	11.726	1.026	2651443	42.28	ng/uL	99
76) Di-n-butylphthalate	149	12.159	12.170	1.065	4209205	48.82	ng/uL	99
77) Fluoranthene	202	12.935	12.945	1.133	3210325	47.04	ng/uL	98
79) Pyrene	202	13.218	13.224	0.887	3230867	33.88	ng/uL	97
81) Butylbenzylphthalate	149	14.042	14.053	0.943	1523201	39.64	ng/uL	99
82) bis(2-Ethylhexyl)phtha...	149	14.951	14.967	1.004	1983346	34.68	ng/uL	99
83) Benzo(a)anthracene	228	14.876	14.892	0.999	2438245	40.15	ng/uL	95
84) Chrysene	228	14.946	14.957	1.003	2333859	40.91	ng/uL	99
87) Di-n-octylphthalate	149	16.288	16.310	1.093	2927596	42.34	ng/uL	98
89) Benzo(b)fluoranthene	252	17.101	17.128	0.945	1597447	40.59	ng/uL	99
90) Benzo(k)fluoranthene	252	17.176	17.198	0.949	1559919	42.78	ng/uL	98
91) Benzo(a)pyrene	252	17.936	17.968	0.991	1070904	35.66	ng/uL	98
92) Indeno(1,2,3-cd)pyrene	276	21.434	21.482	1.184	767935	39.13	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.541	21.584	1.190	756164	43.43	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1708.D
Acq On : 17 Nov 2020 16:37
Operator : LOF
Sample : |1204695848|2063409|1|SVM|1|LCS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 18:21:32 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

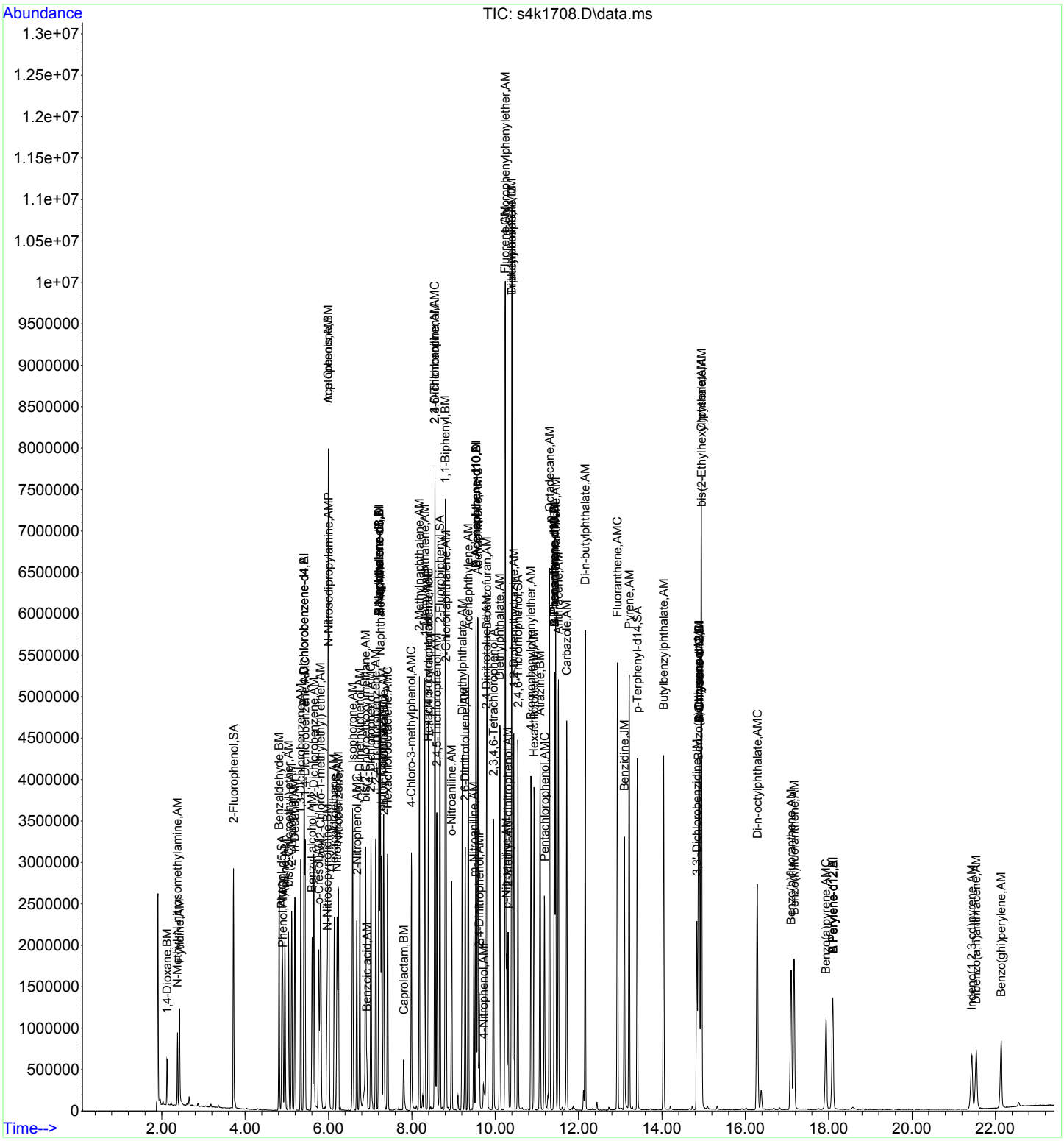
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94)	Benzo(ghi)perylene	276	22.140	22.177	1.223	784640	33.76	ng/uL	99
97)	1,4-Dioxane	88	2.125	2.130	0.392	197580	16.96	ng/uL	97
106)	Benzaldehyde	77	4.815	4.831	0.889	741095	28.55	ng/uL	98
108)	N-Nitrosopyrrolidine	100	5.971	5.976	1.103	557250	32.88	ng/uL	83
109)	Acetophenone	105	5.997	6.008	1.108	1404063	32.36	ng/uL	77
115)	2,6-Dichlorophenol	162	7.329	7.340	1.016	375414	16.81	ng/uL	99
117)	Caprolactam	113	7.805	7.795	1.082	103039	11.32	ng/uL#	73
121)	1,2,4,5-Tetrachloroben...	216	8.404	8.415	0.881	892735	38.92	ng/uL	99
122)	1,1-Biphenyl	154	8.800	8.811	0.922	2982342	46.22	ng/uL	99
135)	Atrazine	200	11.079	11.084	0.970	711485	50.50	ng/uL	99
155)	Benzidine	184	13.100	13.111	1.147	1721288	42.97	ng/uL	98
158)	3,3'-Dichlorobenzidine	252	14.839	14.850	0.996	749327	39.23	ng/uL	99
163)	Tributylphosphate	99	10.399	10.400	1.090	3491773	49.96	ng/uL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111720.B\
Data File : s4k1708.D
Acq On : 17 Nov 2020 16:37
Operator : LOF
Sample : |1204695848|2063409|1|SVM|1|LCS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 18:21:32 2020
Quant Method : C:\msdchem\1\data\s111720.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**1204695853**	**Date Received:**	**11/14/2020 09:00**		
Client Sample:	**QC for batch 2063408**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209972MS**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 11:34**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**430 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1807.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)		694	ug/L		
108-95-2	Phenol		52.0	ug/L	6.98	23.3
91-57-6	2-Methylnaphthalene		71.9	ug/L	0.698	2.33
91-20-3	Naphthalene		78.9	ug/L	0.698	2.33
90-12-0	1-Methylnaphthalene		77.4	ug/L	0.698	2.33
86-73-7	Fluorene		78.3	ug/L	0.698	2.33
85-01-8	Phenanthrene		71.1	ug/L	0.698	2.33
120-12-7	Anthracene		66.3	ug/L	0.698	2.33
206-44-0	Fluoranthene		71.4	ug/L	0.698	2.33
129-00-0	Pyrene		57.1	ug/L	0.698	2.33
205-99-2	Benzo(b)fluoranthene		60.6	ug/L	0.698	2.33
207-08-9	Benzo(k)fluoranthene		60.9	ug/L	0.698	2.33
50-32-8	Benzo(a)pyrene		54.8	ug/L	0.698	2.33

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	182	233	ug/L	78		(32%-122%)
2-Fluorobiphenyl	73.5	116	ug/L	63		(31%-107%)
2-Fluorophenol	116	233	ug/L	50		(15%-88%)
Nitrobenzene-d5	80.7	116	ug/L	69		(35%-113%)
Phenol-d5	105	233	ug/L	45		(15%-91%)
p-Terphenyl-d14	36.4	116	ug/L	31	*	(35%-134%)

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1807.D
Acq On : 18 Nov 2020 11:34
Operator : JMB3
Sample : |1204695853|2063409|1|SVM|1|MS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

JMB 11/19/2020

Quant Time: Nov 18 13:15:51 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	881036	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.206	7.206	1.000	3368738	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.533	9.538	1.000	1761070	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.416	11.416	1.000	2973963	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.887	14.898	1.000	1689378	40.00	ng/uL	-0.01
88) A Perylene-d12	264	18.080	18.096	1.000	935841	40.00	ng/uL	-0.02
96) B 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	881036	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.206	7.206	1.000	3368738	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.533	9.538	1.000	1764152	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.416	11.416	1.000	2974921	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.887	14.898	1.000	1689378	40.00	ng/uL	-0.01
148) B Perylene-d12	264	18.080	18.096	1.000	935854	40.00	ng/uL	-0.02
151) J Naphthalene-d8	136	7.206	7.206	1.000	3368738	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.416	11.416	1.000	2973963	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.887	14.898	1.000	1689378	40.00	ng/uL	-0.01
159) D Naphthalene-d8	136	7.206	7.206	1.000	3368738	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.533	9.538	1.000	1764152	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.416	11.416	1.000	2974921	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.887	14.898	1.000	1689378	40.00	ng/uL	-0.01
173) E Naphthalene-d8	136	7.206	7.206	1.000	3368738	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.080	18.096	1.000	935841	40.00	ng/uL	-0.02
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.719	3.714	0.688	1319875	49.79	ng/uL	0.00
8) Phenol-d5	99	4.885	4.885	0.904	1452017	45.06	ng/uL	0.00
23) Nitrobenzene-d5	82	6.196	6.195	0.860	991463	34.68	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.661	8.666	0.909	1731372	31.62	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.539	10.539	1.105	487464	78.27	ng/uL	0.00
80) p-Terphenyl-d14	244	13.400	13.405	0.900	877542	15.64	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	50%
8) Phenol-d5	100.000	15 - 91	45%
23) Nitrobenzene-d5	50.000	35 - 113	69%
44) 2-Fluorobiphenyl	50.000	31 - 107	63%
63) 2,4,6-Tribromophenol	100.000	32 - 122	78%
80) p-Terphenyl-d14	50.000	35 - 134	31%#

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.371	2.366	0.439	511284	29.55	ng/uL	89
4) Pyridine	79	2.414	2.409	0.447	715540	25.98	ng/uL	99
7) Aniline	93	4.949	4.949	0.916	1102231	24.09	ng/uL	98
9) Phenol	94	4.901	4.901	0.907	788055	22.35	ng/uL	88
10) bis(2-Chloroethyl) ether	93	5.035	5.040	0.932	913835	29.79	ng/uL	98
11) 2-Chlorophenol	128	5.110	5.110	0.946	903974	31.46	ng/uL	98
12) n-Decane	43	5.185	5.185	0.959	677690	15.11	ng/uL	98
13) 1,3-Dichlorobenzene	146	5.324	5.329	0.985	858498	25.41	ng/uL	99
14) 1,4-Dichlorobenzene	146	5.431	5.431	1.005	915024	26.54	ng/uL	98
15) 1,2-Dichlorobenzene	146	5.645	5.644	1.045	974792	29.72	ng/uL	99
16) bis(2-Chloro-1-methyle...	45	5.805	5.805	1.074	1734231	28.51	ng/uL	96
17) Benzyl alcohol	108	5.602	5.602	1.037	564296	28.93	ng/uL	93
18) o-Cresol	107	5.762	5.757	1.066	685719	29.96	ng/uL	95
19) m,p-Cresols	108	5.987	5.992	1.108	789661	29.03	ng/uL#	32
20) N-Nitrosodipropylamine	70	5.998	5.997	1.110	770398	31.68	ng/uL	100
21) Hexachloroethane	117	6.126	6.131	1.134	317229	24.26	ng/uL	94
24) Nitrobenzene	77	6.228	6.228	0.864	1227393	42.42	ng/uL	97

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1807.D
Acq On : 18 Nov 2020 11:34
Operator : JMB3
Sample : |1204695853|2063409|1|SVM|1|MS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 18 13:15:51 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
25) Isophorone	82	6.570	6.575	0.912	1997186	34.54	ng/uL	99
26) 2-Nitrophenol	139	6.672	6.671	0.926	519088	41.42	ng/uL	98
27) 2,4-Dimethylphenol	122	6.746	6.746	0.936	750963	30.49	ng/uL	95
28) bis(2-Chloroethoxy)met...	93	6.886	6.885	0.955	1172459	35.17	ng/uL	100
29) 2,4-Dichlorophenol	162	7.014	7.014	0.973	817354	37.50	ng/uL	99
30) Benzoic acid	105	6.944	6.917	0.964	1037469	78.75	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.126	7.126	0.989	770275	31.81	ng/uL	98
32) alpha-Terpineol	59	7.260	7.265	1.007	645322	22.51	ng/uL	96
33) Naphthalene	128	7.233	7.233	1.004	2682855	33.91	ng/uL	99
34) 4-Chloroaniline	127	7.313	7.313	1.015	731547	23.48	ng/uL	98
35) Hexachlorobutadiene	225	7.410	7.410	1.028	391244	28.05	ng/uL	99
36) 4-Chloro-3-methylphenol	107	7.987	7.976	1.108	819642	36.29	ng/uL	98
37) 2-Methylnaphthalene	142	8.169	8.174	1.134	1723604	30.91	ng/uL	100
38) 1-Methylnaphthalene	142	8.303	8.303	1.152	1711536	33.28	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.383	8.383	0.879	252824	17.71	ng/uL	99
41) 2,3-Dichloroaniline	161	8.544	8.543	0.896	317310	12.09	ng/uL	97
42) 2,4,6-Trichlorophenol	196	8.549	8.549	0.897	613975	44.37	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.602	8.592	0.902	619128	41.63	ng/uL	100
45) 2-Chloronaphthalene	162	8.811	8.816	0.924	1643488	34.36	ng/uL	94
46) o-Nitroaniline	65	8.945	8.950	0.938	390547	27.54	ng/uL	99
48) m-Nitroaniline	138	9.480	9.485	0.994	132895	11.01	ng/uL	98
49) Dimethylphthalate	163	9.201	9.212	0.965	2192547	39.01	ng/uL	100
51) 2,6-Dinitrotoluene	165	9.271	9.276	0.973	466491	36.85	ng/uL	96
52) 2,4-Dinitrotoluene	165	9.784	9.784	1.026	605124	38.54	ng/uL	97
53) Acenaphthylene	152	9.346	9.351	0.980	2671898	33.21	ng/uL	99
54) Acenaphthene	154	9.576	9.581	1.004	1584024	32.33	ng/uL	98
55) 2,4-Dinitrophenol	184	9.613	9.613	1.008	232111	56.81	ng/uL#	28
56) Dibenzofuran	168	9.795	9.800	1.027	2264539	33.60	ng/uL	94
57) 2,3,4,6-Tetrachlorophenol	232	9.956	9.950	1.044	477776	42.24	ng/uL	98
58) Diethylphthalate	149	10.105	10.111	1.060	2236616	39.56	ng/uL	99
59) 4-Nitrophenol	139	9.726	9.704	1.020	215889	26.74	ng/uL	91
60) Fluorene	166	10.234	10.234	1.073	1831571	33.65	ng/uL	100
61) 4-Chlorophenylphenylether	204	10.239	10.239	1.074	807519	32.66	ng/uL	98
62) p-Nitroaniline	138	10.260	10.266	1.076	120170	11.21	ng/uL	92
65) 2-Methyl-4,6-dinitroph...	198	10.298	10.303	0.902	348990	54.86	ng/uL	97
66) Diphenylamine	169	10.389	10.394	0.910	1585309	32.78	ng/uL	96
67) 1,2-Diphenylhydrazine	77	10.437	10.442	0.914	1969387	31.89	ng/uL	98
68) 4-Bromophenylphenylether	248	10.854	10.854	0.951	435402	28.62	ng/uL	96
69) Hexachlorobenzene	284	10.924	10.924	0.957	467484	28.67	ng/uL	98
70) Pentachlorophenol	266	11.180	11.175	0.979	312431	39.81	ng/uL	98
71) n-Octadecane	57	11.293	11.298	0.989	1169035	23.30	ng/uL	96
73) Phenanthrene	178	11.443	11.448	1.002	2412315	30.58	ng/uL	100
74) Anthracene	178	11.507	11.512	1.008	2270415	28.53	ng/uL	100
75) Carbazole	167	11.710	11.710	1.026	2182101	33.99	ng/uL	98
76) Di-n-butylphthalate	149	12.154	12.154	1.065	2679410	30.36	ng/uL	99
77) Fluoranthene	202	12.924	12.929	1.132	2145774	30.71	ng/uL	98
79) Pyrene	202	13.208	13.213	0.887	2116992	24.55	ng/uL	98
81) Butylbenzylphthalate	149	14.031	14.037	0.943	915819	26.36	ng/uL	98
82) bis(2-Ethylhexyl)phtha...	149	14.941	14.946	1.004	1145630	22.16	ng/uL	99
83) Benzo(a)anthracene	228	14.871	14.876	0.999	1386239	25.25	ng/uL	96
84) Chrysene	228	14.930	14.940	1.003	1302308	25.25	ng/uL	99
87) Di-n-octylphthalate	149	16.272	16.283	1.093	1615060	25.98	ng/uL	99
89) Benzo(b)fluoranthene	252	17.080	17.096	0.945	802406	26.06	ng/uL	99
90) Benzo(k)fluoranthene	252	17.155	17.171	0.949	746945	26.19	ng/uL	100
91) Benzo(a)pyrene	252	17.920	17.936	0.991	553460	23.56	ng/uL	100
92) Indeno(1,2,3-cd)pyrene	276	21.407	21.428	1.184	371731	24.21	ng/uL	98
93) Dibenzo(a,h)anthracene	278	21.519	21.541	1.190	357391	26.24	ng/uL	99

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1807.D
Acq On : 18 Nov 2020 11:34
Operator : JMB3
Sample : |1204695853|2063409|1|SVM|1|MS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 18 13:15:51 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

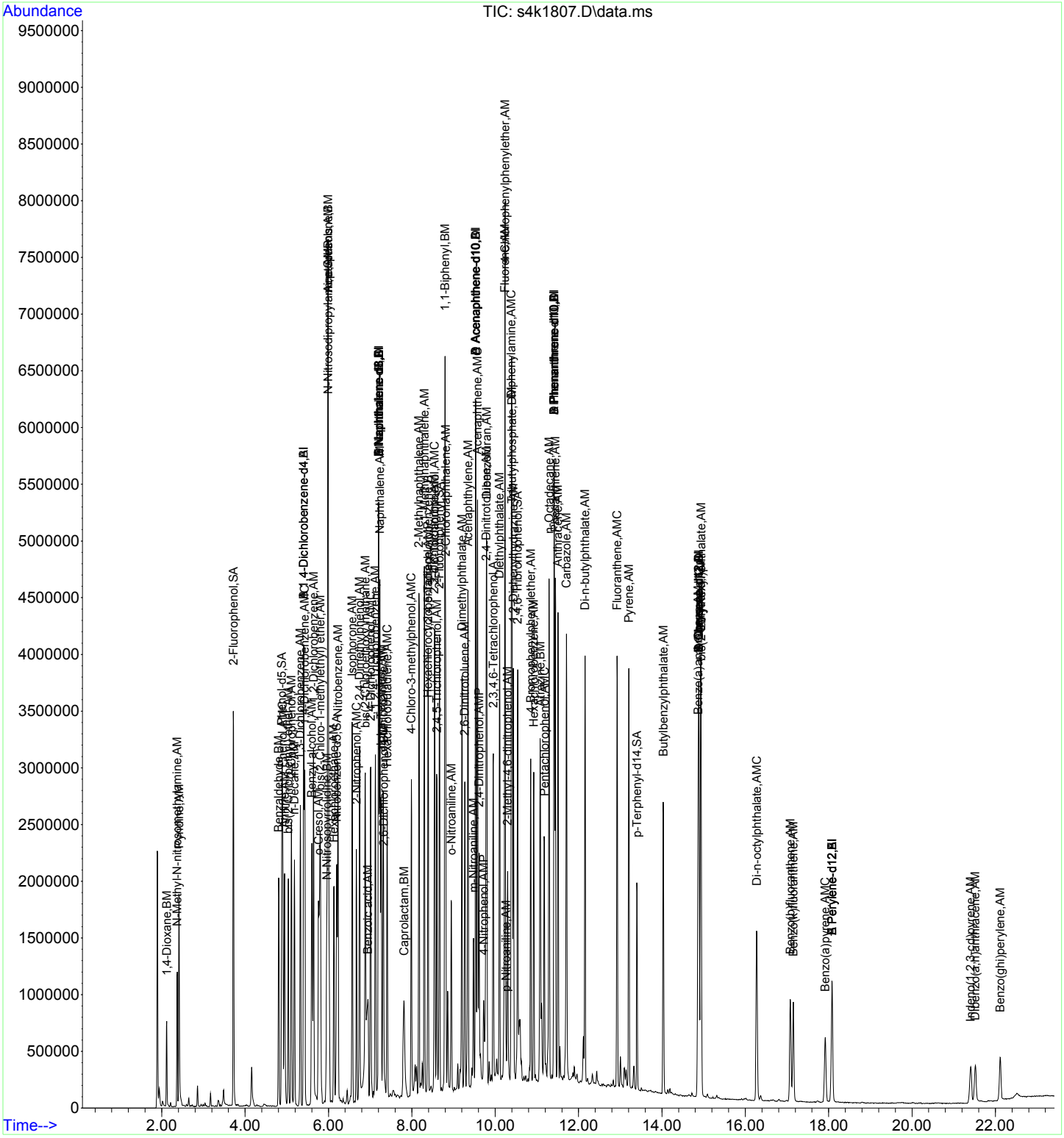
	Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
94)	Benzo(ghi)perylene	276	22.118	22.134	1.223	361563	19.89	ng/uL	99
97)	1,4-Dioxane	88	2.120	2.115	0.392	273167	24.40	ng/uL	97
106)	Benzaldehyde	77	4.805	4.805	0.889	546298	21.89	ng/uL	99
108)	N-Nitrosopyrrolidine	100	5.960	5.960	1.103	579604	35.59	ng/uL	87
109)	Acetophenone	105	5.987	5.987	1.108	1308808	31.38	ng/uL	73
115)	2,6-Dichlorophenol	162	7.324	7.324	1.016	338074	15.47	ng/uL	100
117)	Caprolactam	113	7.811	7.790	1.084	215076	24.14	ng/uL#	71
121)	1,2,4,5-Tetrachloroben...	216	8.394	8.394	0.880	745198	32.49	ng/uL	100
122)	1,1-Biphenyl	154	8.795	8.795	0.923	2628011	40.72	ng/uL	98
135)	Atrazine	200	11.084	11.074	0.971	520670	36.09	ng/uL	100
163)	Tributylphosphate	99	10.405	10.400	1.091	2570667	36.78	ng/uL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1807.D
Acq On : 18 Nov 2020 11:34
Operator : JMB3
Sample : |1204695853|2063409|1|SVM|1|MS|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 18 13:15:51 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/10/2020 15:15**	**Matrix:**	**W**
Lab Sample ID:	**1204695854**	**Date Received:**	**11/14/2020 09:00**		
Client Sample:	**QC for batch 2063408**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-209972MSD**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**2063409**	**Inst:**	**MSD4.I**	**Dilution:**	**1**
Run Date:	**11/18/2020 12:03**	**Analyst:**	**JMB3**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/17/2020 09:45**	**Aliquot:**	**430 mL**	**Final Volume:**	**1 mL**
Data File:	**s111820.B\s4k1808.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	PAHs(total naphthalene plus monomethylnaphthalenes)		711	ug/L		
108-95-2	Phenol		53.2	ug/L	6.98	23.3
91-57-6	2-Methylnaphthalene		63.5	ug/L	0.698	2.33
91-20-3	Naphthalene		67.7	ug/L	0.698	2.33
90-12-0	1-Methylnaphthalene		69.6	ug/L	0.698	2.33
86-73-7	Fluorene		78.8	ug/L	0.698	2.33
85-01-8	Phenanthrene		78.1	ug/L	0.698	2.33
120-12-7	Anthracene		72.4	ug/L	0.698	2.33
206-44-0	Fluoranthene		79.8	ug/L	0.698	2.33
129-00-0	Pyrene		64.0	ug/L	0.698	2.33
205-99-2	Benzo(b)fluoranthene		67.2	ug/L	0.698	2.33
207-08-9	Benzo(k)fluoranthene		70.0	ug/L	0.698	2.33
50-32-8	Benzo(a)pyrene		64.1	ug/L	0.698	2.33

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
2,4,6-Tribromophenol	211	233	ug/L	91		(32%-122%)
2-Fluorobiphenyl	71.2	116	ug/L	61		(31%-107%)
2-Fluorophenol	101	233	ug/L	43		(15%-88%)
Nitrobenzene-d5	69.4	116	ug/L	60		(35%-113%)
Phenol-d5	107	233	ug/L	46		(15%-91%)
p-Terphenyl-d14	40.1	116	ug/L	34	*	(35%-134%)

Quantitation Report

JMB 11/18/2020

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1808.D
Acq On : 18 Nov 2020 12:03
Operator : JMB3
Sample : |1204695854|2063409|1|SVM|1|MSD|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

RAB 11/19/2020

Quant Time: Nov 18 13:15:58 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	837228	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.201	7.206	1.000	3270074	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.533	9.538	1.000	1679345	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.416	11.416	1.000	2816536	40.00	ng/uL	0.00
78) A Chrysene-d12	240	14.887	14.898	1.000	1634723	40.00	ng/uL	-0.01
88) A Perylene-d12	264	18.086	18.096	1.000	1018834	40.00	ng/uL	-0.01
96) B 1,4-Dichlorobenzene-d4	152	5.404	5.409	1.000	837228	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.201	7.206	1.000	3270074	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.533	9.538	1.000	1679345	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.416	11.416	1.000	2816282	40.00	ng/uL	0.00
142) B Chrysene-d12	240	14.887	14.898	1.000	1634723	40.00	ng/uL	-0.01
148) B Perylene-d12	264	18.086	18.096	1.000	1018834	40.00	ng/uL	-0.01
151) J Naphthalene-d8	136	7.201	7.206	1.000	3270074	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.416	11.416	1.000	2816282	40.00	ng/uL	0.00
156) J Chrysene-d12	240	14.887	14.898	1.000	1634723	40.00	ng/uL	-0.01
159) D Naphthalene-d8	136	7.201	7.206	1.000	3270074	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.533	9.538	1.000	1679345	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.416	11.416	1.000	2816282	40.00	ng/uL	0.00
171) D Chrysene-d12	240	14.887	14.898	1.000	1634723	40.00	ng/uL	-0.01
173) E Naphthalene-d8	136	7.201	7.206	1.000	3270074	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.086	18.096	1.000	1018834	40.00	ng/uL	-0.01
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	3.719	3.714	0.688	1095557	43.49	ng/uL	0.00
8) Phenol-d5	99	4.885	4.885	0.904	1413940	46.17	ng/uL	0.00
23) Nitrobenzene-d5	82	6.196	6.195	0.860	827767	29.83	ng/uL	0.00
44) 2-Fluorobiphenyl	172	8.661	8.666	0.909	1599561	30.63	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.539	10.539	1.105	538634	90.70	ng/uL	0.00
80) p-Terphenyl-d14	244	13.400	13.405	0.900	935803	17.23	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	43%
8) Phenol-d5	100.000	15 - 91	46%
23) Nitrobenzene-d5	50.000	35 - 113	60%
44) 2-Fluorobiphenyl	50.000	31 - 107	61%
63) 2,4,6-Tribromophenol	100.000	32 - 122	91%
80) p-Terphenyl-d14	50.000	35 - 134	34%#

Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
3) N-Methyl-N-nitrosometh...	74	2.366	2.366	0.438	404234	24.59	ng/uL	91
4) Pyridine	79	2.414	2.409	0.447	383072	14.63	ng/uL	98
7) Aniline	93	4.949	4.949	0.916	804452	18.50	ng/uL	98
9) Phenol	94	4.901	4.901	0.907	766178	22.87	ng/uL	89
10) bis(2-Chloroethyl) ether	93	5.035	5.040	0.932	712458	24.44	ng/uL	99
11) 2-Chlorophenol	128	5.110	5.110	0.946	757007	27.72	ng/uL	98
12) n-Decane	43	5.185	5.185	0.959	439735	10.32	ng/uL	100
13) 1,3-Dichlorobenzene	146	5.324	5.329	0.985	652417	20.32	ng/uL	98
14) 1,4-Dichlorobenzene	146	5.431	5.431	1.005	695079	21.22	ng/uL	98
15) 1,2-Dichlorobenzene	146	5.645	5.644	1.045	768286	24.65	ng/uL	100
16) bis(2-Chloro-1-methyle...	45	5.800	5.805	1.073	1369176	23.69	ng/uL	97
17) Benzyl alcohol	108	5.602	5.602	1.037	507922	27.41	ng/uL	94
18) o-Cresol	107	5.762	5.757	1.066	620687	28.54	ng/uL	96
19) m,p-Cresols	108	5.987	5.992	1.108	757497	29.30	ng/uL#	40
20) N-Nitrosodipropylamine	70	5.998	5.997	1.110	669343	28.97	ng/uL	100
21) Hexachloroethane	117	6.126	6.131	1.134	233742	18.81	ng/uL	96
24) Nitrobenzene	77	6.228	6.228	0.865	1062756	37.84	ng/uL	99

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1808.D
Acq On : 18 Nov 2020 12:03
Operator : JMB3
Sample : |1204695854|2063409|1|SVM|1|MSD|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 18 13:15:58 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
25) Isophorone	82	6.570	6.575	0.912	1745870	31.10	ng/uL	99
26) 2-Nitrophenol	139	6.672	6.671	0.926	456771	37.55	ng/uL	97
27) 2,4-Dimethylphenol	122	6.747	6.746	0.937	722096	30.20	ng/uL	96
28) bis(2-Chloroethoxy)met...	93	6.880	6.885	0.955	1013308	31.31	ng/uL	99
29) 2,4-Dichlorophenol	162	7.009	7.014	0.973	772015	36.49	ng/uL	98
30) Benzoic acid	105	6.955	6.917	0.966	1180762	90.33	ng/uL	98
31) 1,2,4-Trichlorobenzene	180	7.126	7.126	0.990	612149	26.04	ng/uL	99
32) alpha-Terpineol	59	7.260	7.265	1.008	558990	20.09	ng/uL	97
33) Naphthalene	128	7.233	7.233	1.004	2235801	29.11	ng/uL	99
34) 4-Chloroaniline	127	7.313	7.313	1.016	618964	20.46	ng/uL	99
35) Hexachlorobutadiene	225	7.410	7.410	1.029	286019	21.12	ng/uL	99
36) 4-Chloro-3-methylphenol	107	7.987	7.976	1.109	848453	38.70	ng/uL	99
37) 2-Methylnaphthalene	142	8.169	8.174	1.134	1477732	27.30	ng/uL	98
38) 1-Methylnaphthalene	142	8.303	8.303	1.153	1493168	29.91	ng/uL	98
40) Hexachlorocyclopentadiene	237	8.383	8.383	0.879	194327	14.28	ng/uL	99
42) 2,4,6-Trichlorophenol	196	8.549	8.549	0.897	619100	46.92	ng/uL	100
43) 2,4,5-Trichlorophenol	196	8.603	8.592	0.902	638691	45.04	ng/uL	99
45) 2-Chloronaphthalene	162	8.811	8.816	0.924	1473789	32.31	ng/uL	93
46) o-Nitroaniline	65	8.945	8.950	0.938	238574	17.64	ng/uL	99
49) Dimethylphthalate	163	9.202	9.212	0.965	2233146	41.66	ng/uL	100
51) 2,6-Dinitrotoluene	165	9.271	9.276	0.973	479997	39.76	ng/uL	98
52) 2,4-Dinitrotoluene	165	9.785	9.784	1.026	645072	43.08	ng/uL	98
53) Acenaphthylene	152	9.346	9.351	0.980	2499538	32.58	ng/uL	99
54) Acenaphthene	154	9.576	9.581	1.004	1467945	31.42	ng/uL	99
55) 2,4-Dinitrophenol	184	9.613	9.613	1.008	266170	65.97	ng/uL#	28
56) Dibenzofuran	168	9.795	9.800	1.027	2152927	33.50	ng/uL	94
57) 2,3,4,6-Tetrachlorophenol	232	9.956	9.950	1.044	530688	49.20	ng/uL	98
58) Diethylphthalate	149	10.105	10.111	1.060	2335328	43.31	ng/uL	99
59) 4-Nitrophenol	139	9.726	9.704	1.020	278390	34.96	ng/uL	93
60) Fluorene	166	10.234	10.234	1.073	1758435	33.88	ng/uL	99
61) 4-Chlorophenylphenylether	204	10.239	10.239	1.074	774463	32.85	ng/uL	100
65) 2-Methyl-4,6-dinitroph...	198	10.298	10.303	0.902	384013	62.37	ng/uL	97
66) Diphenylamine	169	10.389	10.394	0.910	1661436	36.27	ng/uL	97
67) 1,2-Diphenylhydrazine	77	10.437	10.442	0.914	1921513	32.85	ng/uL	98
68) 4-Bromophenylphenylether	248	10.854	10.854	0.951	425254	29.51	ng/uL	96
69) Hexachlorobenzene	284	10.924	10.924	0.957	470416	30.46	ng/uL	98
70) Pentachlorophenol	266	11.181	11.175	0.979	358131	47.21	ng/uL	99
71) n-Octadecane	57	11.293	11.298	0.989	1133683	23.86	ng/uL	96
73) Phenanthrene	178	11.443	11.448	1.002	2510496	33.60	ng/uL	99
74) Anthracene	178	11.507	11.512	1.008	2345950	31.13	ng/uL	100
75) Carbazole	167	11.710	11.710	1.026	2347460	38.60	ng/uL	99
76) Di-n-butylphthalate	149	12.154	12.154	1.065	2845525	34.04	ng/uL	100
77) Fluoranthene	202	12.930	12.929	1.133	2270475	34.31	ng/uL	98
79) Pyrene	202	13.208	13.213	0.887	2296508	27.53	ng/uL	98
81) Butylbenzylphthalate	149	14.037	14.037	0.943	1016553	30.24	ng/uL	98
82) bis(2-Ethylhexyl)phtha...	149	14.941	14.946	1.004	1267093	25.33	ng/uL	99
83) Benzo(a)anthracene	228	14.871	14.876	0.999	1579400	29.73	ng/uL	96
84) Chrysene	228	14.930	14.940	1.003	1461013	29.27	ng/uL	98
87) Di-n-octylphthalate	149	16.272	16.283	1.093	1812003	30.06	ng/uL	100
89) Benzo(b)fluoranthene	252	17.085	17.096	0.945	968577	28.90	ng/uL	99
90) Benzo(k)fluoranthene	252	17.155	17.171	0.949	934499	30.09	ng/uL	99
91) Benzo(a)pyrene	252	17.920	17.936	0.991	705385	27.58	ng/uL	99
92) Indeno(1,2,3-cd)pyrene	276	21.413	21.428	1.184	434104	25.97	ng/uL	99
93) Dibenzo(a,h)anthracene	278	21.525	21.541	1.190	412208	27.80	ng/uL	99
94) Benzo(ghi)perylene	276	22.119	22.134	1.223	403352	20.38	ng/uL	99
97) 1,4-Dioxane	88	2.115	2.115	0.391	200078	18.81	ng/uL	96
106) Benzaldehyde	77	4.805	4.805	0.889	452657	19.09	ng/uL	100

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1808.D
Acq On : 18 Nov 2020 12:03
Operator : JMB3
Sample : |1204695854|2063409|1|SVM|1|MSD|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 18 13:15:58 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration

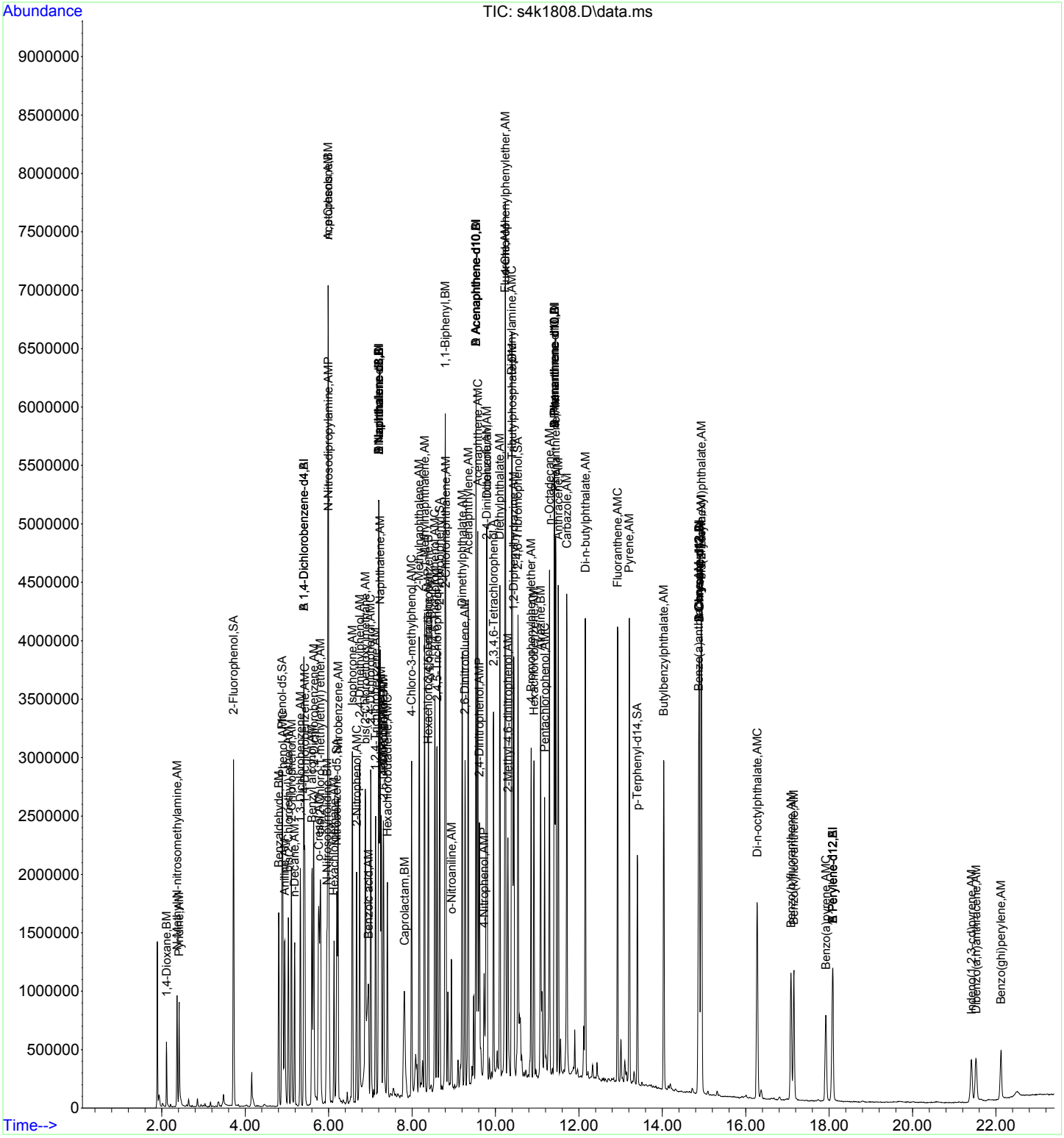
Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	
108) N-Nitrosopyrrolidine	100	5.960	5.960	1.103	526426	34.02	ng/uL	94
109) Acetophenone	105	5.987	5.987	1.108	1078285	27.21	ng/uL	68
115) 2,6-Dichlorophenol	162	7.319	7.324	1.016	307910	14.51	ng/uL	99
117) Caprolactam	113	7.816	7.790	1.085	226103	26.14	ng/uL#	73
121) 1,2,4,5-Tetrachloroben...	216	8.394	8.394	0.880	635132	29.09	ng/uL	99
122) 1,1-Biphenyl	154	8.795	8.795	0.923	2293078	37.33	ng/uL	98
135) Atrazine	200	11.084	11.074	0.971	557649	40.83	ng/uL	98
163) Tributylphosphate	99	10.405	10.400	1.091	2686424	40.38	ng/uL	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111820.B\
Data File : s4k1808.D
Acq On : 18 Nov 2020 12:03
Operator : JMB3
Sample : |1204695854|2063409|1|SVM|1|MSD|||
Misc : |MSD1C70D_L|WATER|QC A|MIX[A,B,D,E,J]||
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 18 13:15:58 2020
Quant Method : C:\msdchem\1\data\s111820.B\MSD4_8270c_8270d_101920.m
Quant Title : BNA01
QLast Update : Wed Oct 21 09:21:08 2020
Response via : Initial Calibration



Miscellaneous

Prep Logbook

Extraction of Semivolatile and Nonvolatile Organic Compounds from Groundwater, Wastewater, and Other Aqueous Samples

Batch ID: 2063408 **Verified by:** _____
Analyst: Alexsys Hamilton
Method: SW846 3510C

Lab SOP: GL-OA-E-013 REV# 34
Instrument: Semi-Volatiles Manual

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Initial pH	Int Ext pH	Sec Ext pH	Final Volume (mL)	Prepped Factor (mL/mL)
1204695847 MB	17-NOV-2020 08:34:00			1000	7	1	13	1	0.001
1204695848 LCS	17-NOV-2020 08:34:00			1000	7	1	13	1	0.001
527235002	17-NOV-2020 08:34:00	1543.58	506.58	1037	7	1	12	1	0.00096
527235003	17-NOV-2020 08:34:00	1563.05	506.77	1056.28	7	1	13	1	0.00095
527509003	17-NOV-2020 08:34:00			1000	10	1	13	1	0.001
1204695853 MS (527509003)	17-NOV-2020 08:34:00			430	10	1	13	1	0.00233
1204695854 MSD (527509003)	17-NOV-2020 08:34:00			430	10	1	13	1	0.00233
527509005	17-NOV-2020 08:34:00	1294.67	411.8	882.87	7	1	13	1	0.00113
527509009	17-NOV-2020 08:34:00	1391.27	439.71	951.56	7	1	13	1	0.00105
527509012	17-NOV-2020 08:34:00	1358.68	411.95	946.73	10	1	13	1	0.00106
527510003	17-NOV-2020 08:34:00	1391.07	412.1	978.97	7	1	13	1	0.00102
527510006	17-NOV-2020 08:34:00	1261.16	408.34	852.82	7	1	13	1	0.00117
527510009	17-NOV-2020 08:34:00	1445.74	410.36	1035.38	9	1	13	1	0.00097
527510015	17-NOV-2020 08:34:00	1441.01	441.03	999.98	10	1	13	1	0.001
527510018	17-NOV-2020 08:34:00	1394.3	439.68	954.62	7	1	13	1	0.00105
527235001	17-NOV-2020 09:45:00			1000	7	1	13	1	0.001
1204695849 MS (527235001)	17-NOV-2020 09:45:00			500	7	1	13	1	0.002
1204695850 MSD (527235001)	17-NOV-2020 09:45:00			500	7	1	13	1	0.002

Type	Sample Id	Description	Serial Number	Spike Amt	Units
LCS	1204695848	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
LCS	1204695848	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
MS	1204695849	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
MS	1204695849	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
MS	1204695853	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
MS	1204695853	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
MSD	1204695850	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
MSD	1204695850	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
MSD	1204695854	BENZIDINE/Atrazine LCS	WE200930-49	1	mL
MSD	1204695854	BNA LCS w/o Benzidine/Atrazine 50ppm	WE201112-40	1	mL
SURR	All	BNA for all Surrogate	UE201116-13	1	mL

Comments:

Final Solvent:Ch2Cl2
Verified By:DPF
Turbo Vap#:3,4,5,6
Samples 527510003 and 527510005 needed 4mL of 1:1 sulfuric acid to adjust the pH less than 2.
Samples 527235003, 527509003,(MS/MSD),527510003, 527510009 and 5275100015 were emulsive in base extraction.

Prep Logbook

Batch ID: **2063408** **Verified by:** _____

Analyst: **Alexsys Hamilton**

Method: **SW846 3510C**

Lab SOP: **GL-OA-E-013 REV# 34**

Instrument: **Semi-Volatiles Manual**

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Initial pH	Int Ext pH	Sec Ext pH	Final Volume (mL)	Prepped Factor (mL/mL)
REGNT All	Methylene Chloride			3138096		360 mL			
REGNT All	1:1 sulfuric acid			3145030		2 mL			
REGNT All	10 N Sodium Hydroxide			3145050		10 mL			
SOURC All	SODIUM SULFATE			3129846		30 g			

ORGANIC RUN LOG - INSTRUMENT ID#MSD4

JMB 10/21/2020

SAB 10/21/2020

GEL ORGANIC RUN LOG

DATE: 19-Oct-20 METHOD: See Data OPERATOR: JMB3 Sequence Number: S101920.E

Multiplier Voltage: 1847
Internal Std ID: UBN200122-02.4
Internal Std ID: WBN200812-99 (SIM)
Solvent Reference ID: 2910641

Calibration Information:
Initial Calibration Dates: See Calibration History
Initial Calibration Std ID's: See Associated Data and Run Log
GEL SOP: GL-OA-E-009

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
10/19/2020	08:40	s4j1901.D	WBN200903-04.1	M-CCV	SCREEN	1	100	JMB3	DUSE
10/19/2020	09:11	s4j1902.D	WBN200903-04.1	M-CCV	SCREEN	1	100	JMB3	DUSE
10/19/2020	09:42	s4j1903.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	DUSE
10/19/2020	12:17	s4j1904.D	WBN200903-04.1	M-CCV	SCREEN	1	100	JMB3	DUSE
10/19/2020	12:48	s4j1905.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	DUSE
10/19/2020	13:03	s4j1906.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	√
10/19/2020	13:22	s4j1907.D	WBN201013-01	M-1	ICAL	1	2	JMB3	√
10/19/2020	13:54	s4j1908.D	WBN201013-02	M-2	ICAL	1	3	JMB3	√
10/19/2020	14:26	s4j1909.D	WBN201013-03	M-3	ICAL	1	4	JMB3	√
10/19/2020	14:57	s4j1910.D	WBN201013-04	M-4	ICAL	1	5	JMB3	√
10/19/2020	15:29	s4j1911.D	WBN201013-05	M-5	ICAL	1	6	JMB3	√
10/19/2020	16:00	s4j1912.D	WBN201013-06	M-6	ICAL	1	7	JMB3	√
10/19/2020	16:32	s4j1913.D	WBN201013-07	M-7	ICAL	1	8	JMB3	√
10/19/2020	17:04	s4j1914.D	WBN201013-08	M-8	ICAL	1	9	JMB3	√
10/19/2020	17:35	s4j1915.D	WBN201012-09	M-ICV	ICV	1	10	JMB3	√
10/20/2020	08:40	s4j1916.D	WBN200802-99	DFTPP	DFTPP	1	11	JMB3	√
10/20/2020	08:55	s4j1917.D	WBN201019-17	A-2	ICAL	1	12	JMB3	√
10/20/2020	09:23	s4j1918.D	WBN201019-16	A-3	ICAL	1	13	JMB3	√
10/20/2020	09:51	s4j1919.D	WBN201019-18	A-9	ICAL	1	14	JMB3	√
10/20/2020	10:19	s4j1920.D	WBN201019-15	A-4	ICAL	1	15	JMB3	√
10/20/2020	10:48	s4j1921.D	WBN201019-14	A-5	ICAL	1	16	JMB3	√
10/20/2020	11:16	s4j1922.D	WBN201019-19	A-10	ICAL	1	17	JMB3	√
10/20/2020	11:44	s4j1923.D	WBN201019-13	A-6	ICAL	1	18	JMB3	√
10/20/2020	12:12	s4j1924.D	WBN201019-12	A-7	ICAL	1	19	JMB3	√
10/20/2020	12:41	s4j1925.D	WBN201019-11	A-8	ICAL	1	20	JMB3	√
10/20/2020	13:07	s4j1926.D	WBN201013-20	A-ICV	ICV	1	21	JMB3	√
10/20/2020	13:35	s4j1927.D	WBN200802-99	DFTPP	DFTPP	1	30	JMB3	√
10/20/2020	13:50	s4j1928.D	WBN201013-42.1	B-2	ICAL	1	22	JMB3	√
10/20/2020	14:14	s4j1929.D	WBN201013-43	B-3	ICAL	1	23	JMB3	√
10/20/2020	14:38	s4j1930.D	WBN201013-44.1	B-4	ICAL	1	24	JMB3	√
10/20/2020	15:02	s4j1931.D	WBN201013-45	B-5	ICAL	1	25	JMB3	√
10/20/2020	15:25	s4j1932.D	WBN201013-46	B-6	ICAL	1	26	JMB3	√

ORGANIC RUN LOG - INSTRUMENT ID#MSD4

GEL ORGANIC RUN LOG

10/20/2020 15:49	s4j1933.D	WBN201013-47	B-7	ICAL	1	27	JMB3	√
10/20/2020 16:13	s4j1934.D	WBN201013-48	B-8	ICAL	1	28	JMB3	√
10/20/2020 16:37	s4j1935.D	WBN200905-50	B-ICV	ICV	1	29	JMB3	√
10/20/2020 17:01	s4j1936.D	WBN201013-27	P-2	ICAL	1	31	JMB3	√
10/20/2020 17:24	s4j1937.D	WBN201013-26	P-3	ICAL	1	32	JMB3	√
10/20/2020 17:48	s4j1938.D	WBN201013-25	P-4	ICAL	1	33	JMB3	√
10/20/2020 18:12	s4j1939.D	WBN201013-24	P-5	ICAL	1	34	JMB3	√
10/20/2020 18:36	s4j1940.D	WBN201013-23	P-6	ICAL	1	35	JMB3	√
10/20/2020 18:59	s4j1941.D	WBN201013-22	P-7	ICAL	1	36	JMB3	√
10/20/2020 19:23	s4j1942.D	WBN201013-21	P-8	ICAL	1	37	JMB3	√
10/20/2020 19:47	s4j1943.D	WBN200730-26.2	P-ICV	ICV	1	38	JMB3	√
10/20/2020 20:10	s4j1944.D	WBN200804-32	H-2	ICAL	1	39	JMB3	√
10/20/2020 20:34	s4j1945.D	WBN200804-33	H-3	ICAL	1	40	JMB3	√
10/20/2020 20:58	s4j1946.D	WBN200804-34	H-4	ICAL	1	41	JMB3	√
10/20/2020 21:21	s4j1947.D	WBN200804-35	H-5	ICAL	1	42	JMB3	√
10/20/2020 21:45	s4j1948.D	WBN200804-36	H-6	ICAL	1	43	JMB3	√
10/20/2020 22:09	s4j1949.D	WBN200804-37	H-7	ICAL	1	44	JMB3	√
10/20/2020 22:32	s4j1950.D	WBN200902-38	H-ICV	ICV	1	45	JMB3	√

ORGANIC RUN LOG - INSTRUMENT ID#MSD4

GEL ORGANIC RUN LOG

DATE: 17-Nov-20 METHOD: See Data OPERATOR: LOF Sequence Number: S111720.B

Multiplier Voltage: 1847
Internal Std ID: UBN200716-01.1
Internal Std ID: WBN200812-99 (SIM)
Solvent Reference ID: 2910641

Calibration Information:
Initial Calibration Dates: See Calibration History
Initial Calibration Std ID's: See Associated Data and Run Log
GEL SOP: GL-OA-E-009

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
11/17/2020	13:25	s4k1701.D	WBN200802-99	DFTPP	DFTPP	1	1	LOF	√
11/17/2020	13:42	s4k1702.D	WBN201013-04.2	M-CCV	CCV	1	2	LOF	√
11/17/2020	14:14	s4k1703.D	WBN201009-45.1	B-CCV	CCV	1	3	LOF	√
11/17/2020	14:39	s4k1704.D	WBN200810-15.5	AP-CCV	CCV	1	4	LOF	√
11/17/2020	15:08	s4k1705.D	WBN200909-24.1	P-CCV	CCV	1	5	LOF	√
11/17/2020	15:33	s4k1706.D	WBN201008-33.6	H-CCV	CCV	1	6	LOF	√ Hexachlorophene low
11/17/2020	16:08	s4k1707.D	**1204695847**	**MB**	2063409	1	7	LOF	**Report: see rerun _____ to confirm absence of Hexachlorophene**
11/17/2020	16:37	s4k1708.D	1204695848	LCS	2063409	1	8	LOF	Report
11/17/2020	17:06	s4k1709.D	**527235001**	**CPRC**	2063409	1	9	LOF	**Report: see rerun _____ to confirm absence of Hexachlorophene**
11/17/2020	17:35	s4k1710.D	1204695849	MS	2063409	1	10	LOF	Report
11/17/2020	18:04	s4k1711.D	1204695850	MSD	2063409	1	11	LOF	Report
11/17/2020	18:34	s4k1712.D	**527235002**	**CPRC**	2063409	1	12	LOF	**Report: see rerun _____ to confirm absence of Hexachlorophene**
11/17/2020	19:03	s4k1713.D	**527235003**	**CPRC**	2063409	1	13	LOF	**Report: see rerun _____ to confirm absence of Hexachlorophene**
11/17/2020	19:32	s4k1714.D	527509003	ARSL	2063409	10	14	LOF	DUSE: rerun neat - see MSD4 111820
11/17/2020	20:02	s4k1715.D	1204695853	MS	2063409	10	15	LOF	DUSE: rerun neat - see MSD4 111820
11/17/2020	20:31	s4k1716.D	1204695854	MSD	2063409	10	16	LOF	DUSE: rerun neat - see MSD4 111820
11/17/2020	21:01	s4k1717.D	527509005	ARSL	2063409	1	17	LOF	Report
11/17/2020	21:30	s4k1718.D	527509009	ARSL	2063409	1	18	LOF	Report
11/17/2020	21:59	s4k1719.D	527509012	ARSL	2063409	5	19	LOF	DUSE: rerun neat - see MSD4 111820
11/17/2020	22:29	s4k1720.D	527510003	ARSL	2063409	1	20	LOF	Report: failed surr - RX batch 2064469 confirmed surr failure
11/17/2020	22:58	s4k1721.D	527510006	ARSL	2063409	1	21	LOF	Report
11/17/2020	23:27	s4k1722.D	527510009	ARSL	2063409	1	22	LOF	Report: failed surr - RX batch 2064469 confirmed surr failure
11/17/2020	23:57	s4k1723.D	527510015	ARSL	2063409	5	23	LOF	DUSE: rerun neat - see MSD4 111820
11/18/2020	00:26	s4k1724.D	527510018	ARSL	2063409	1	24	LOF	Report
11/18/2020	00:55	s4k1725.D	WBN200802-99	DFTPP	DFTPP	1	1	LOF	
11/18/2020	01:10	s4k1726.D	WBN201013-04.2	M-CCV	CCV	1	2	LOF	

ORGANIC RUN LOG - INSTRUMENT ID#MSD4

GEL ORGANIC RUN LOG

DATE: 18-Nov-20 METHOD: See Data OPERATOR: JMB3 Sequence Number: S111820.B

Multiplier Voltage: 1847
Internal Std ID: UBN200716-01.1
Internal Std ID: WBN200812-99 (SIM)
Solvent Reference ID: 2910641

Calibration Information:
Initial Calibration Dates: See Calibration History
Initial Calibration Std ID's: See Associated Data and Run Log
GEL SOP: GL-OA-E-009

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
11/18/2020	08:50	s4k1801.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	√
11/18/2020	09:05	s4k1802.D	WBN201115-04	M-CCV	duse	1	2	JMB3	DUSE
11/18/2020	09:38	s4k1803.D	WBN201113-44.4	B-CCV	CCV	1	3	JMB3	√
11/18/2020	10:02	s4k1804.D	WBN200929-15.4	A-CCV	CCV	1	4	JMB3	√
11/18/2020	10:31	s4k1805.D	WBN201013-04.2	M-CCV	CCV	1	5	JMB3	√
11/18/2020	11:04	s4k1806.D	527509003	ARSL	2063409	1	6	JMB3	Report
11/18/2020	11:34	s4k1807.D	1204695853	MS	2063409	1	7	JMB3	Report
11/18/2020	12:03	s4k1808.D	1204695854	MSD	2063409	1	8	JMB3	Report
11/18/2020	12:32	s4k1809.D	527509012	ARSL	2063409	1	9	JMB3	Report: failed surr - RX batch 2064469 passed OUT OF HOLD
11/18/2020	13:01	s4k1810.D	527510015	ARSL	2063409	1	10	JMB3	Report: failed surr - RX batch 2064469 confirmed surr failure
11/18/2020	13:31	s4k1811.D	**1204695796**	**MB**	2063393	1	11	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	14:00	s4k1812.D	**1204695797**	**LCS**	2063393	1	12	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	14:30	s4k1813.D	**526570002**	**N3BL**	2063393	1	13	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	14:59	s4k1814.D	**526399005**	**N3BL**	2063393	1	14	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	15:28	s4k1815.D	**1204695799**	**MS**	2063393	1	15	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	15:57	s4k1816.D	WBN200909-24.2	P-CCV	CCV	1	16	JMB3	√
11/18/2020	16:22	s4k1817.D	**1204695801**	**MSD**	2063393	1	17	JMB3	****ISOPHORONE CONTAMINATION - RX N3BL 526570 / 526399**
11/18/2020	16:51	s4k1818.D	1204696655	MB	2063783	1	18	JMB3	Report
11/18/2020	17:21	s4k1819.D	1204696656	LCS	2063783	1	19	JMB3	Report
11/18/2020	17:50	s4k1820.D	1204697886	LCSD	2063783	1	20	JMB3	Report
11/18/2020	18:19	s4k1821.D	527123003	PAES	2063783	1	21	JMB3	Report
11/18/2020	18:48	s4k1822.D	527123004	PAES	2063783	1	22	JMB3	DUSE: failed ISTD - see rerun s4k1828
11/18/2020	22:31	s4k1823.D	WBN200802-99	DFTPP	DFTPP	1	1	JMB3	√
11/18/2020	22:47	s4k1824.D	WBN201115-04	M-CCV	CCV	1	2	JMB3	√
11/18/2020	23:19	s4k1825.D	WBN201113-44.4	B-CCV	CCV	1	3	JMB3	√
11/18/2020	23:44	s4k1826.D	WBN200929-15.4	A-CCV	CCV	1	4	JMB3	√
11/19/2020	00:13	s4k1827.D	WBN200909-24.2	P-CCV	CCV	1	16	JMB3	√
11/19/2020	00:38	s4k1828.D	527123004	PAES(rr)	2063783	1	22	JMB3	Report

Quantitation Report

11/20/2020

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1924.D
Acq On : 19 Nov 2020 23:26
Operator : JMB3
Sample : |527510003|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 24 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 20 00:59:32 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.853	5.859	1.000	827902	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	2717257	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.918	9.918	1.000	1496177	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.790	11.790	1.000	2493914	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.395	15.401	1.000	1416047	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.926	18.925	1.000	965526	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.853	5.859	1.000	827902	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.613	1.000	2717257	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.918	9.918	1.000	1496177	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.790	11.790	1.000	2493914	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.395	15.401	1.000	1416047	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.926	18.925	1.000	965526	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.613	1.000	2717257	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.790	11.790	1.000	2493914	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.395	15.401	1.000	1416047	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.613	7.613	1.000	2717257	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.918	9.918	1.000	1496177	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.790	11.790	1.000	2493914	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.395	15.401	1.000	1416047	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.613	7.613	1.000	2717257	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.926	18.925	1.000	965333	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.153	4.131	0.709	1177330	41.02	ng/uL	0.02
8) Phenol-d5	99	5.308	5.302	0.907	1611080	46.05	ng/uL	0.00
23) Nitrobenzene-d5	82	6.618	6.624	0.869	802958	25.87	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	461932	8.75	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.913	10.913	1.100	346593	52.38	ng/uL	0.00
80) p-Terphenyl-d14	244	13.764	13.764	0.894	134121	2.81	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	41%
8) Phenol-d5	100.000	15 - 91	46%
23) Nitrobenzene-d5	50.000	35 - 113	52%
44) 2-Fluorobiphenyl	50.000	31 - 107	18%#
63) 2,4,6-Tribromophenol	100.000	32 - 122	52%
80) p-Terphenyl-d14	50.000	35 - 134	6%#

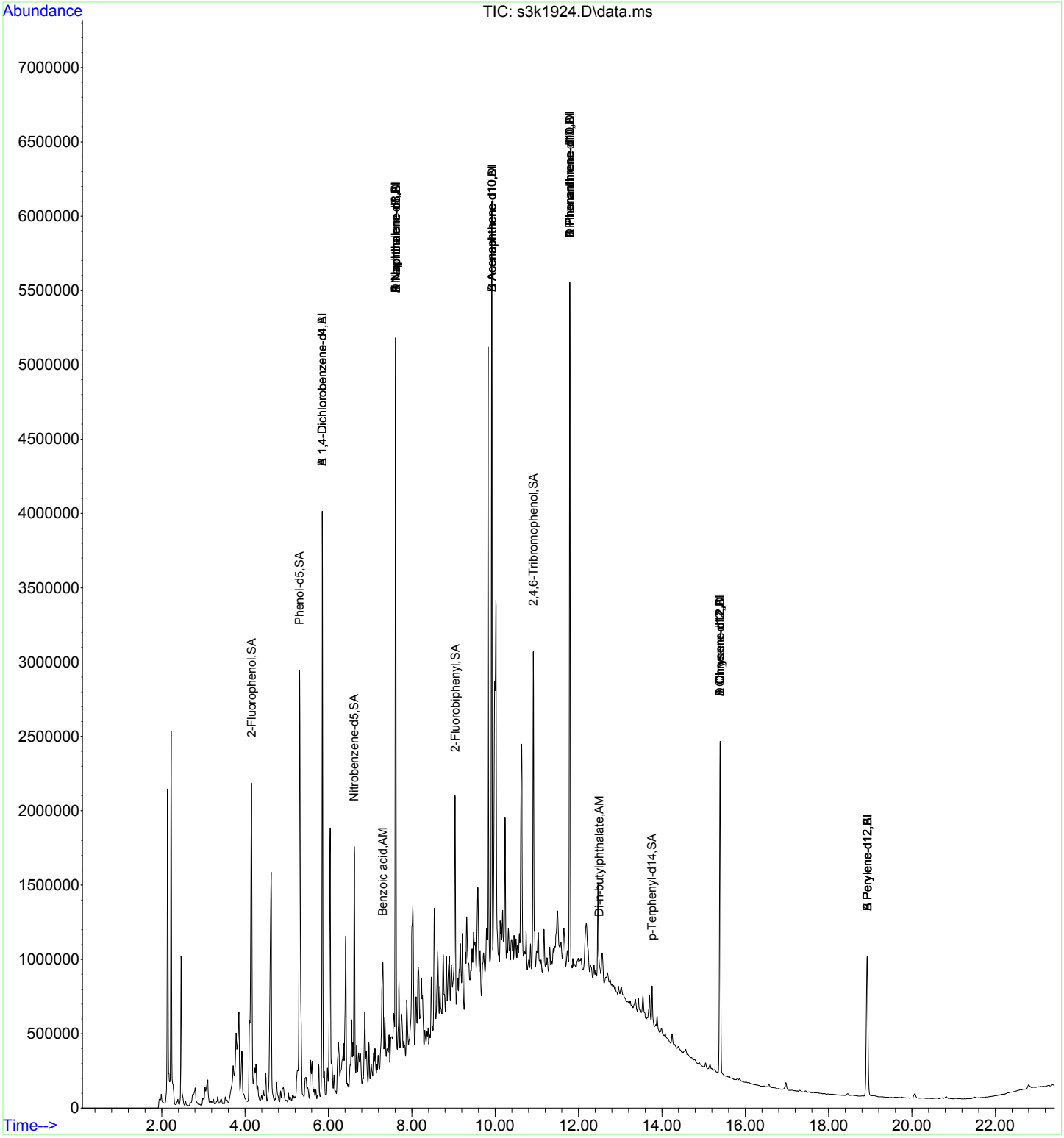
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
30) Benzoic acid	105	7.303	7.287	0.959	284645	27.25	ng/uL	92
76) Di-n-butylphthalate	149	12.496	12.496	1.060	38310	0.55	ng/uL	96

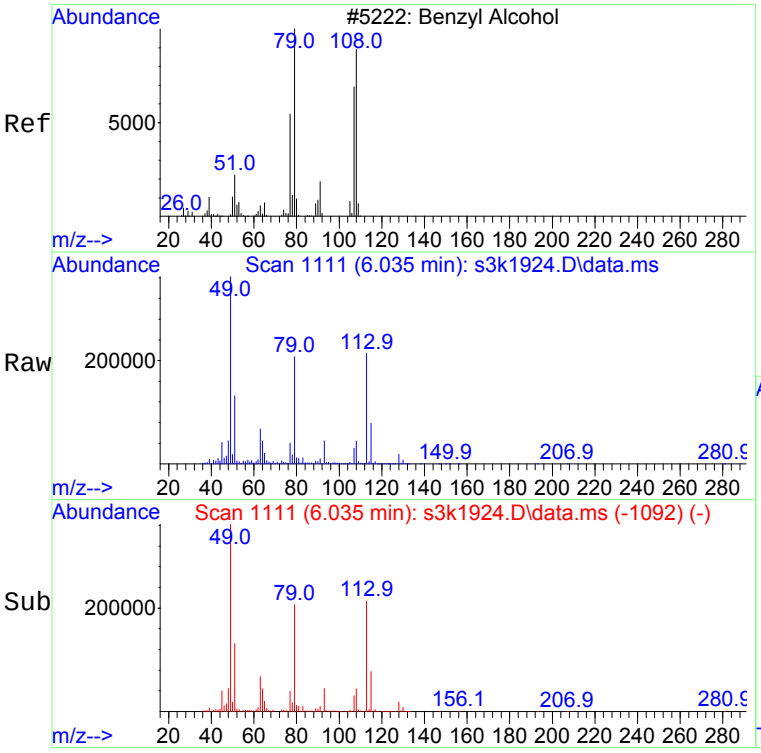
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1924.D
Acq On : 19 Nov 2020 23:26
Operator : JMB3
Sample : |527510003|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 20 00:59:32 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

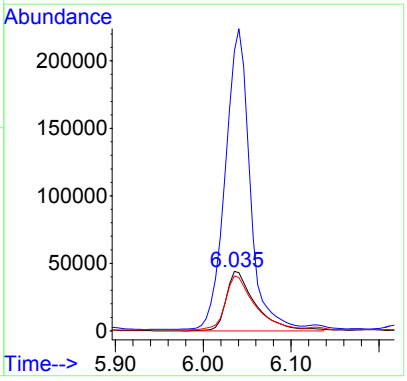


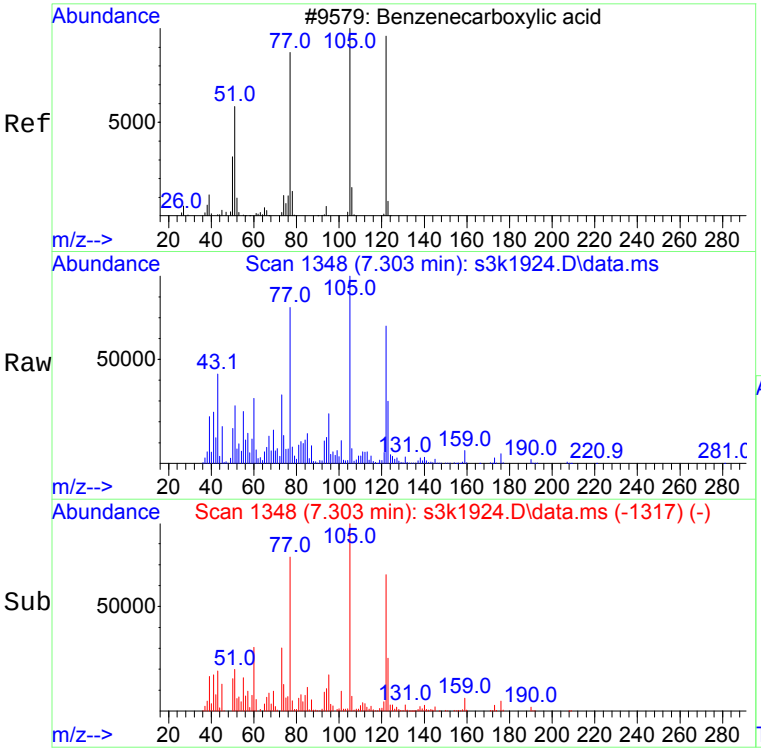


#17 BEFORE analyst DELETION
Benzyl alcohol
Concen: 5.40 ng/uL
RT: 6.035 min Scan# 1111
Delta R.T. 0.000 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion:108 Resp: 101858

Ion	Ratio	Lower	Upper
108	100		
79	425.5	108.2	168.2#
77	90.5	61.3	121.3

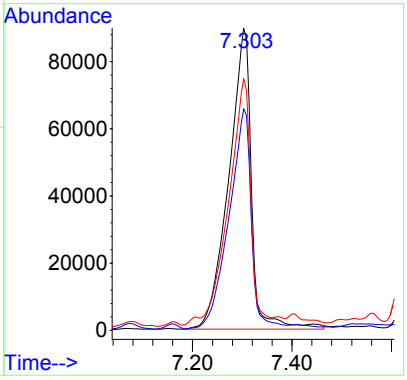


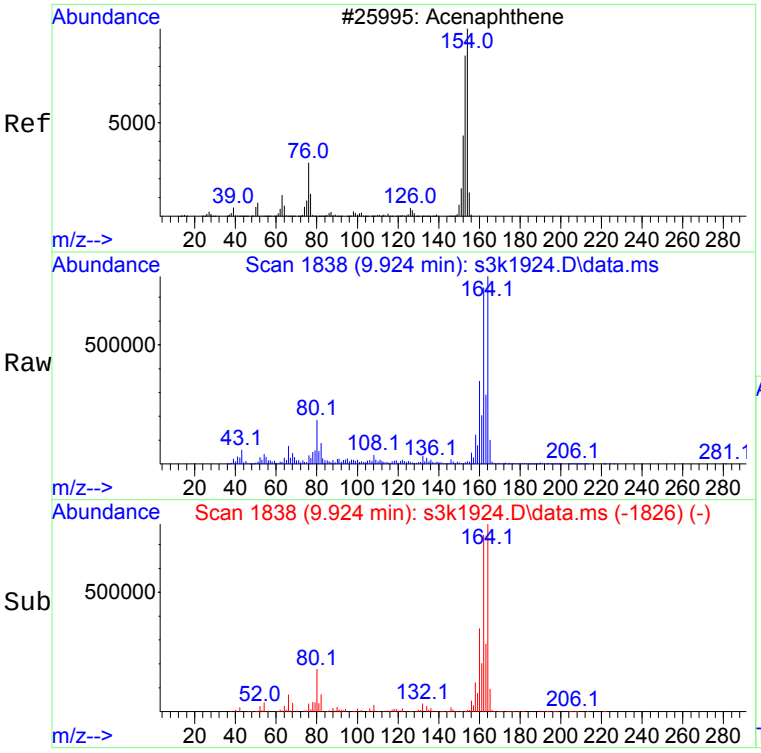


#30
Benzoic acid
Concen: 27.25 ng/uL
RT: 7.303 min Scan# 1348
Delta R.T. 0.016 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion:105 Resp: 284645

Ion	Ratio	Lower	Upper
105	100		
122	72.4	49.7	109.7
77	78.2	54.7	114.7

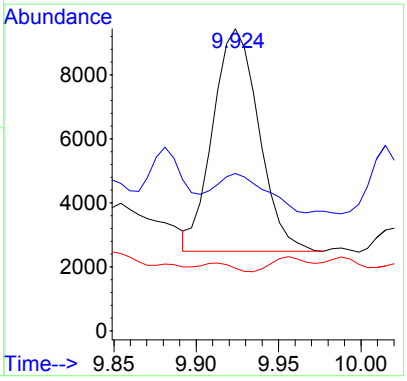


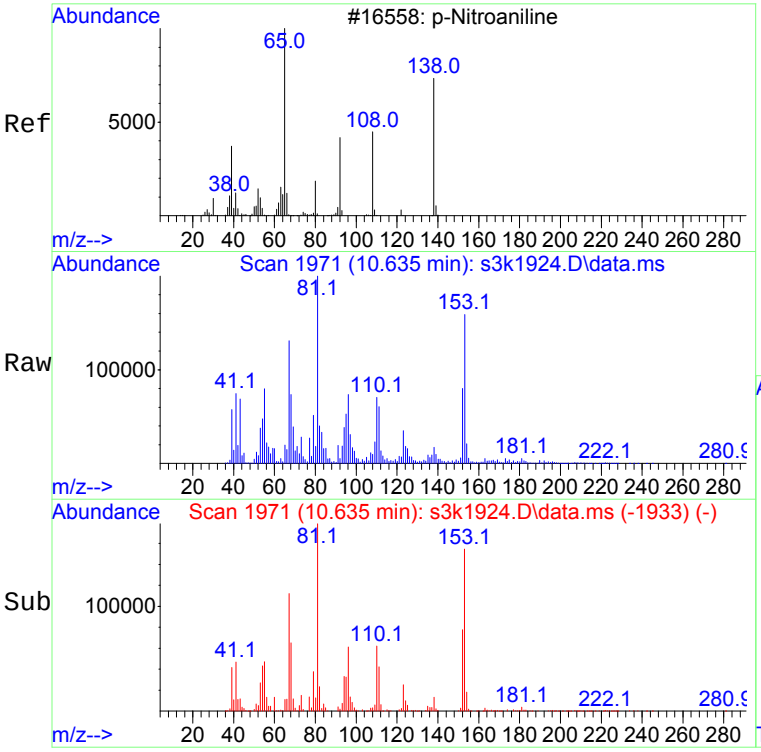


#54 BEFORE analyst DELETION
Acenaphthene
Concen: 0.30 ng/uL
RT: 9.924 min Scan# 1838
Delta R.T. -0.037 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion:154 Resp: 13481

Ion	Ratio	Lower	Upper
154	100		
153	19.4	73.3	133.3#
152	5.3	20.2	80.2#

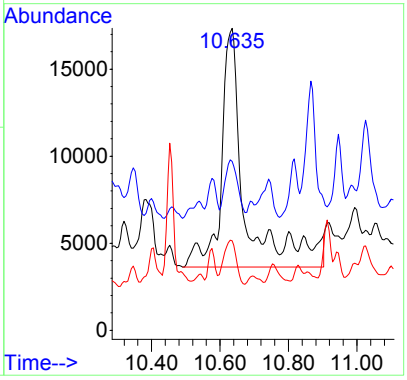


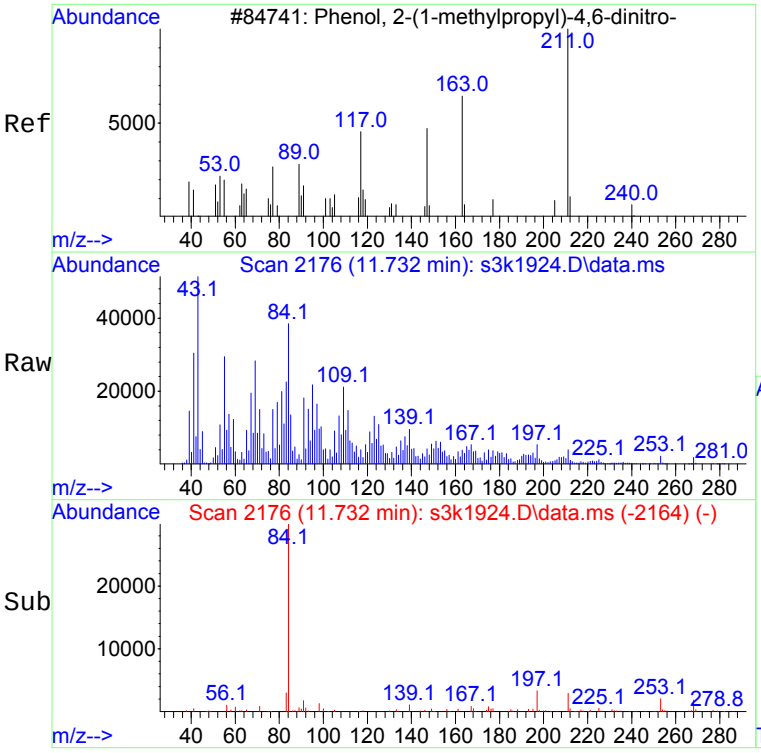


#62 BEFORE analyst DELETION
p-Nitroaniline
Concen: 10.96 ng/uL
RT: 10.635 min Scan# 1971
Delta R.T. 0.005 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion:138 Resp: 65918

Ion	Ratio	Lower	Upper
138	100		
108	11.1	37.0	97.0#
92	9.7	20.6	80.6#

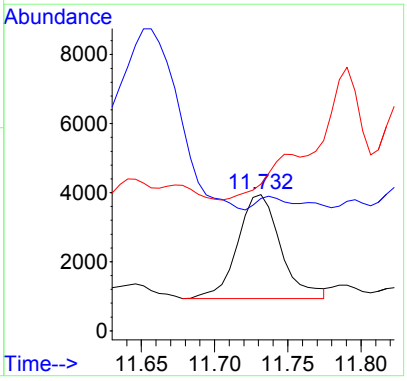


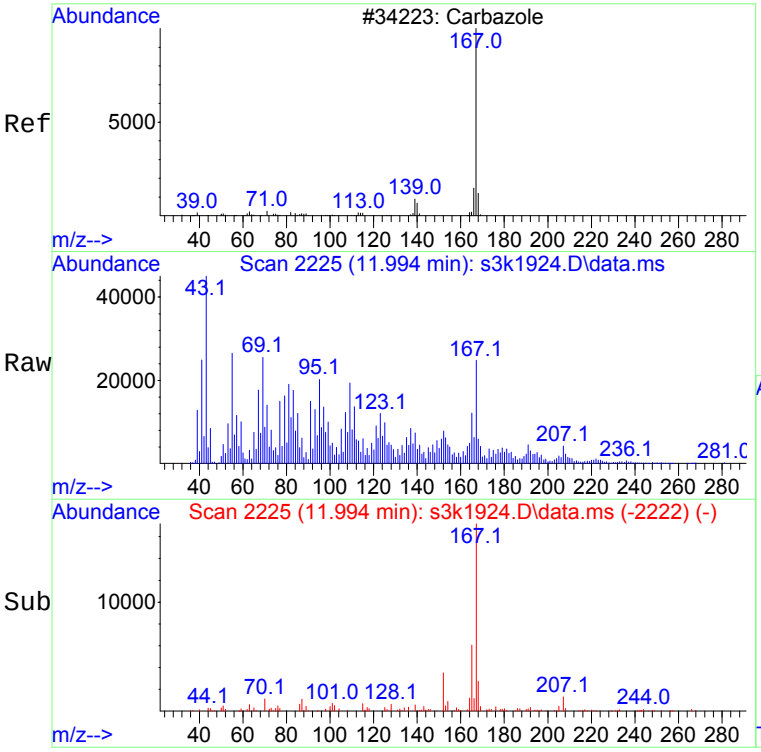


#72 BEFORE analyst DELETION
Dinoseb
Concen: 4.65 ng/uL
RT: 11.732 min Scan# 2176
Delta R.T. -0.037 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion:211 Resp: 6218

Ion	Ratio	Lower	Upper
211	100		
163	8.4	8.0	68.0
147	35.7	0.0	55.5

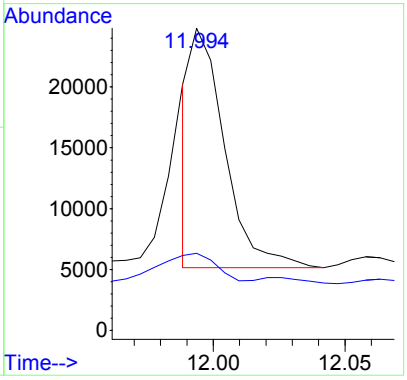


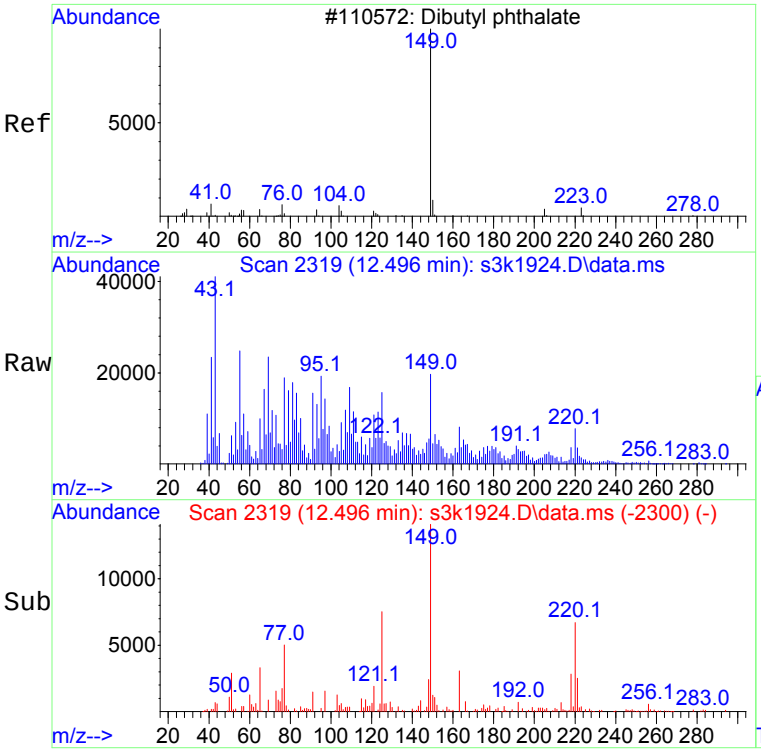


#75 BEFORE analyst DELETION
Carbazole
Concen: 0.39 ng/uL
RT: 11.994 min Scan# 2225
Delta R.T. -0.085 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion:167 Resp: 17647

Ion	Ratio	Lower	Upper
167	100		
166	3.5	0.0	51.5

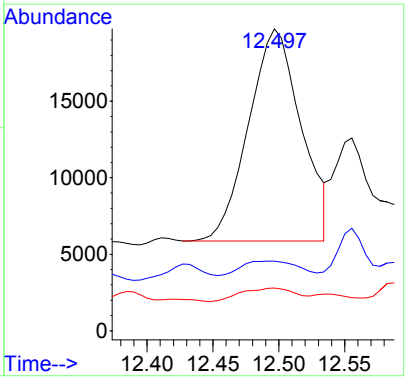


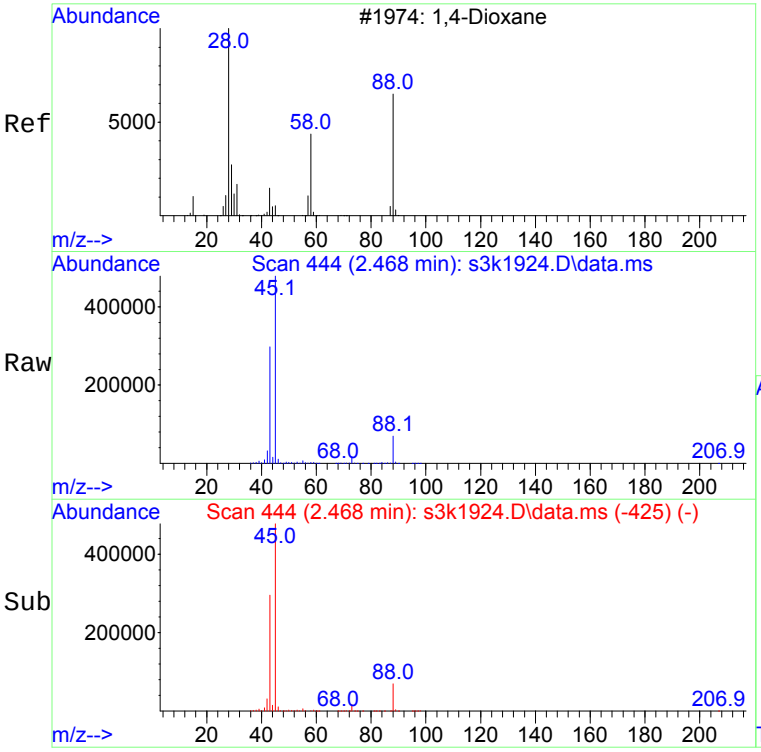


#76
Di-n-butylphthalate
Concen: 0.55 ng/uL
RT: 12.496 min Scan# 2319
Delta R.T. 0.000 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion:149 Resp: 38310

Ion	Ratio	Lower	Upper
149	100		
150	7.2	0.0	39.5
104	6.6	0.0	36.0

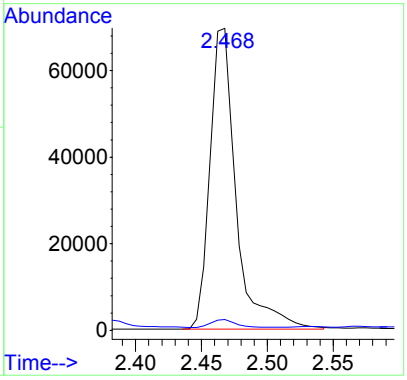


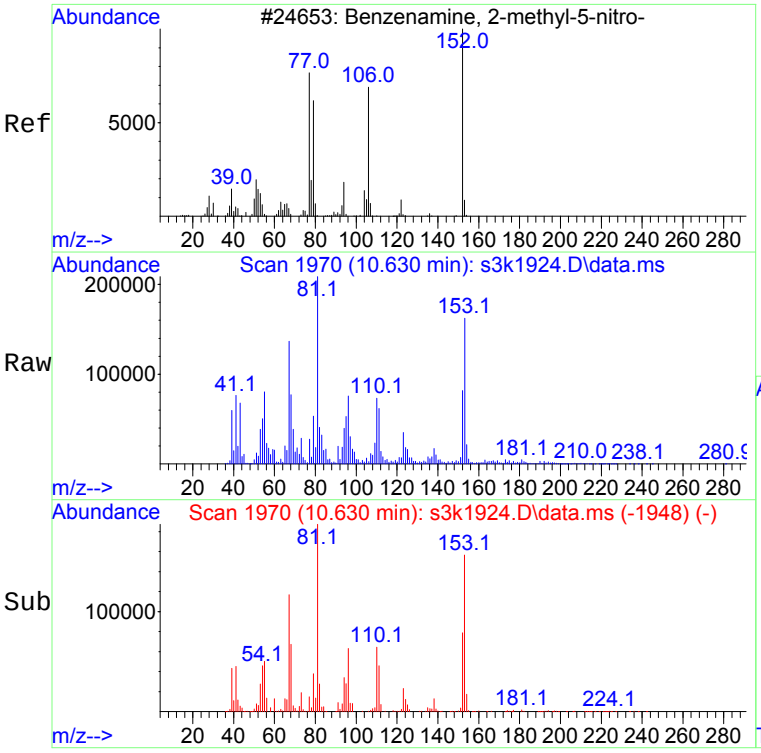


#97 BEFORE analyst DELETION
1,4-Dioxane
Concen: 6.82 ng/uL
RT: 2.468 min Scan# 444
Delta R.T. 0.000 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion: 88 Resp: 95868

Ion	Ratio	Lower	Upper
88	100		
58	2.5	24.7	84.7#

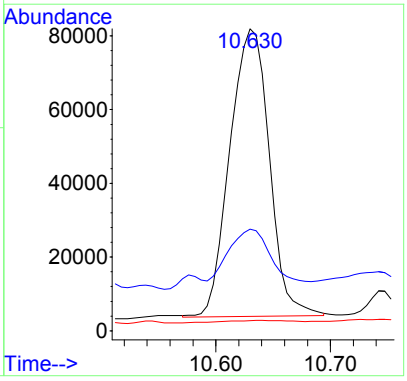


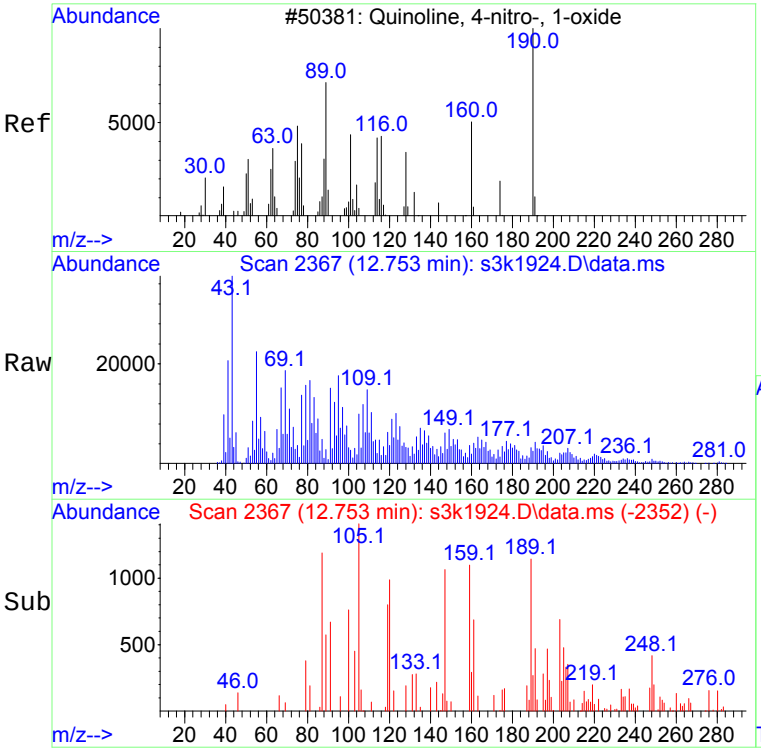


#128 BEFORE analyst DELETION
5-Nitro-o-toluidine
Concen: 19.57 ng/uL
RT: 10.630 min Scan# 1970
Delta R.T. 0.016 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion:152 Resp: 186685

Ion	Ratio	Lower	Upper
152	100		
77	19.7	81.3	141.3#
106	0.9	49.5	109.5#

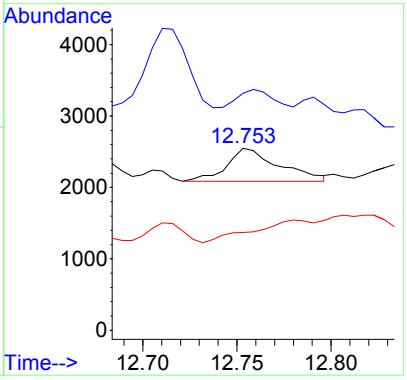


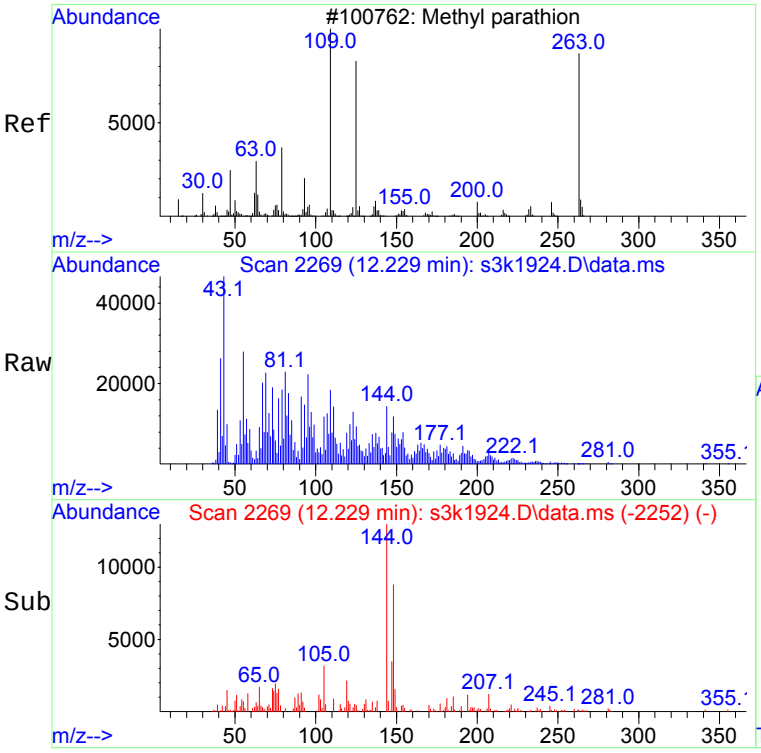


#139 BEFORE analyst DELETION
4-Nitroquinoline-1-oxide
Concen: 6.25 ng/uL
RT: 12.753 min Scan# 2367
Delta R.T. -0.021 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion:190 Resp: 899

Ion	Ratio	Lower	Upper
190	100		
128	183.3	35.1	57.1#
174	79.5	1.2	61.2#

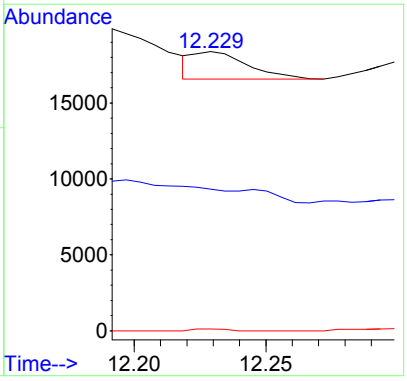




#169 BEFORE analyst DELETION
Methyl parathion
Concen: 4.39 ng/uL
RT: 12.229 min Scan# 2269
Delta R.T. -0.010 min
Lab File: s3k1924.D
Acq: 19 Nov 2020 23:26

Tgt Ion:109 Resp: 2598

Ion	Ratio	Lower	Upper
109	100		
125	35.8	45.5	105.5#
263	0.0	31.2	91.2#



Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1925.D
Acq On : 19 Nov 2020 23:55
Operator : JMB3
Sample : |527510009|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 25 Sample Multiplier: 1

11/20/2020

11/20/2020

Quant Time: Nov 20 01:08:07 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.853	5.859	1.000	778962	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	2586137	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.918	9.918	1.000	1450216	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.790	11.790	1.000	2342979	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.395	15.401	1.000	1206990	40.00	ng/uL	0.00
88) A Perylene-d12	264	18.925	18.925	1.000	797701	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.853	5.859	1.000	778962	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.613	1.000	2586137	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.918	9.918	1.000	1450216	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.790	11.790	1.000	2342979	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.395	15.401	1.000	1206990	40.00	ng/uL	0.00
148) B Perylene-d12	264	18.925	18.925	1.000	797701	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.613	1.000	2586137	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.790	11.790	1.000	2342979	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.395	15.401	1.000	1206990	40.00	ng/uL	0.00
159) D Naphthalene-d8	136	7.613	7.613	1.000	2586137	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.918	9.918	1.000	1450216	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.790	11.790	1.000	2342979	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.395	15.401	1.000	1206990	40.00	ng/uL	0.00
173) E Naphthalene-d8	136	7.613	7.613	1.000	2586137	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.925	18.925	1.000	797701	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.142	4.131	0.708	1209689	44.80	ng/uL	0.01
8) Phenol-d5	99	5.308	5.302	0.907	1678580	50.99	ng/uL	0.00
23) Nitrobenzene-d5	82	6.623	6.624	0.870	907811	30.73	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	522252	10.20	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.918	10.913	1.101	357964	55.81	ng/uL	0.00
80) p-Terphenyl-d14	244	13.764	13.764	0.894	113783	2.80	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	45%
8) Phenol-d5	100.000	15 - 91	51%
23) Nitrobenzene-d5	50.000	35 - 113	61%
44) 2-Fluorobiphenyl	50.000	31 - 107	20%#
63) 2,4,6-Tribromophenol	100.000	32 - 122	56%
80) p-Terphenyl-d14	50.000	35 - 134	6%#

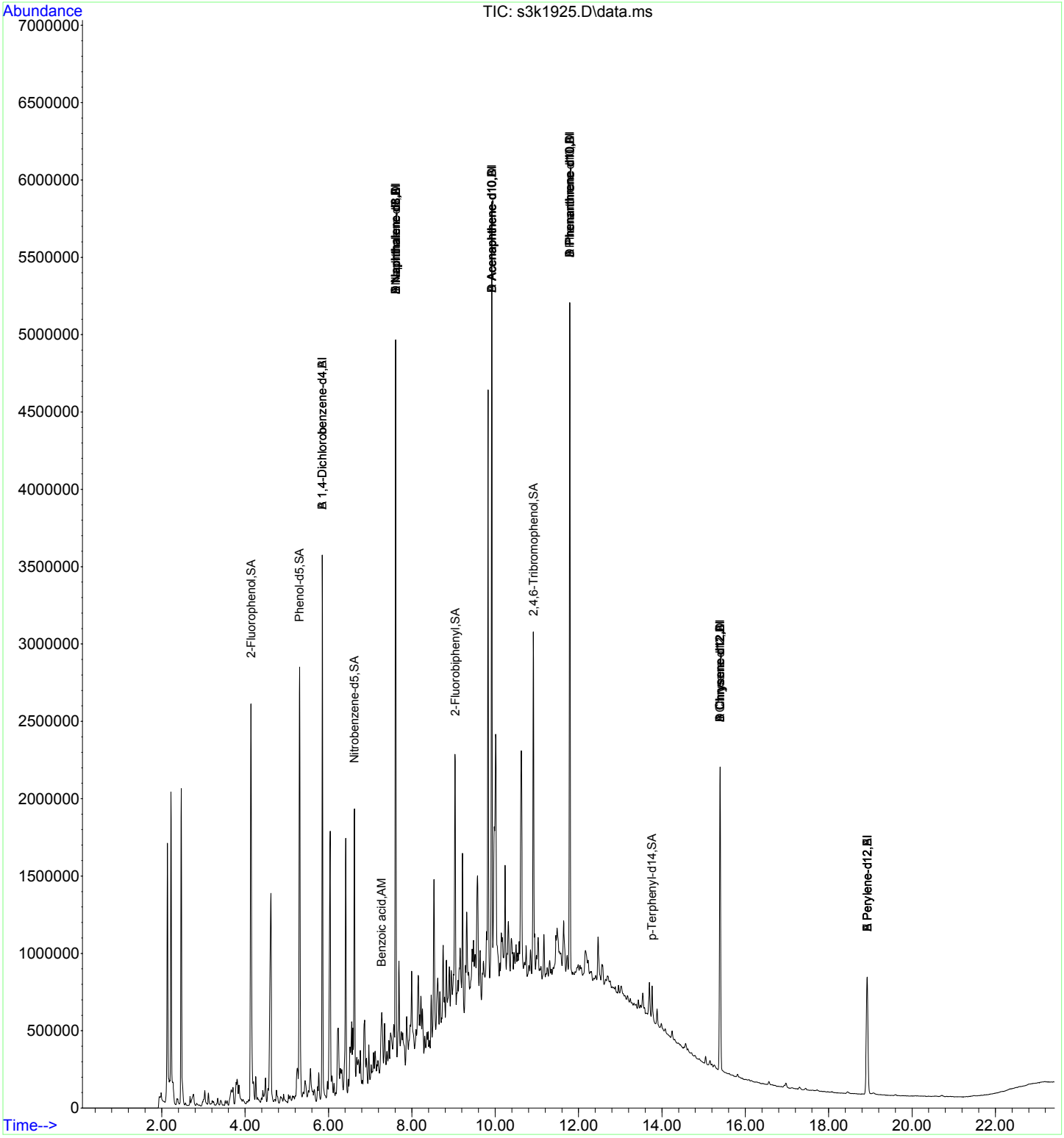
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue
30) Benzoic acid	105	7.276	7.287	0.956	142779	18.63	ng/uL	92

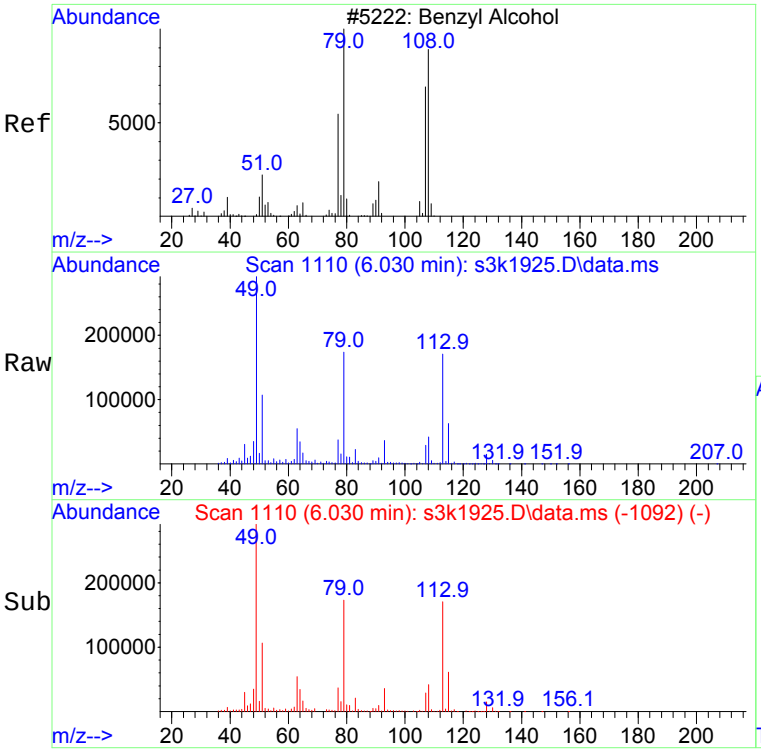
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1925.D
Acq On : 19 Nov 2020 23:55
Operator : JMB3
Sample : |527510009|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 20 01:08:07 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

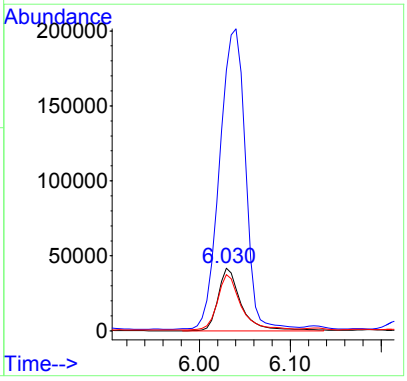


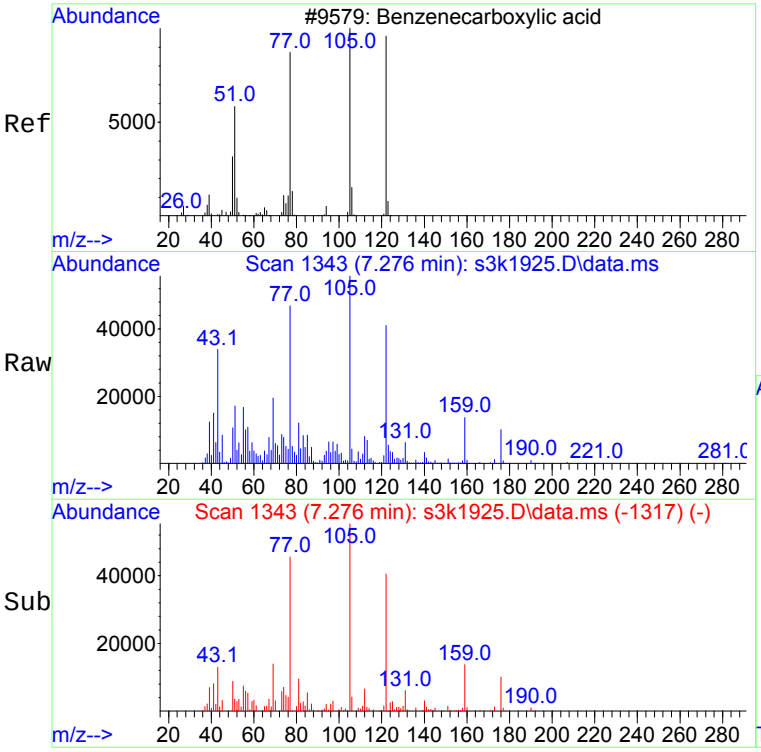


#17 BEFORE analyst DELETION
Benzyl alcohol
Concen: 4.17 ng/uL
RT: 6.030 min Scan# 1110
Delta R.T. -0.006 min
Lab File: s3k1925.D
Acq: 19 Nov 2020 23:55

Tgt Ion:108 Resp: 74015

Ion	Ratio	Lower	Upper
108	100		
79	533.6	108.2	168.2#
77	88.0	61.3	121.3

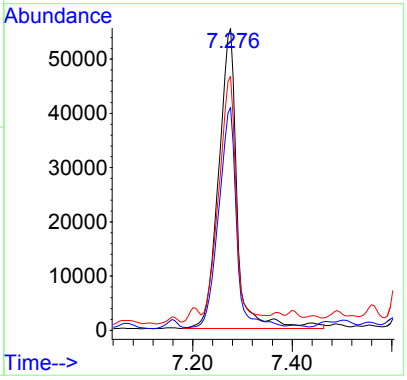


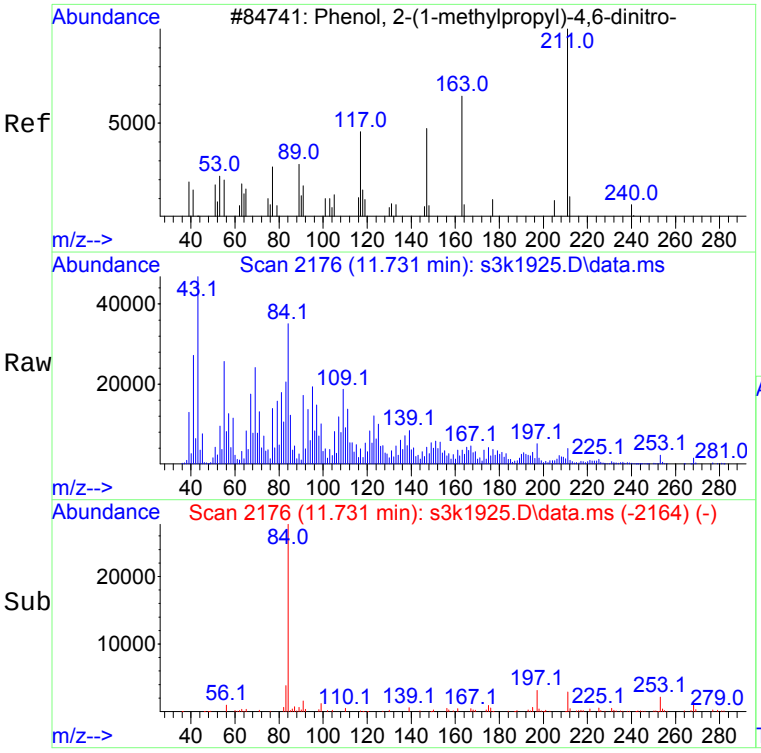


#30
Benzoic acid
Concen: 18.63 ng/uL
RT: 7.276 min Scan# 1343
Delta R.T. -0.011 min
Lab File: s3k1925.D
Acq: 19 Nov 2020 23:55

Tgt Ion:105 Resp: 142779

Ion	Ratio	Lower	Upper
105	100		
122	70.9	49.7	109.7
77	78.4	54.7	114.7

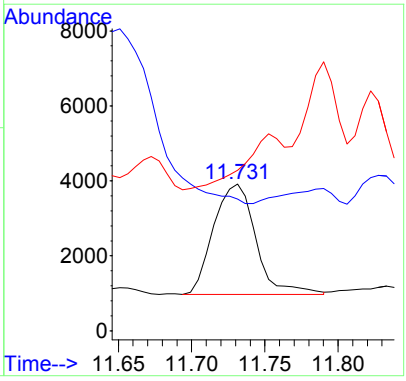


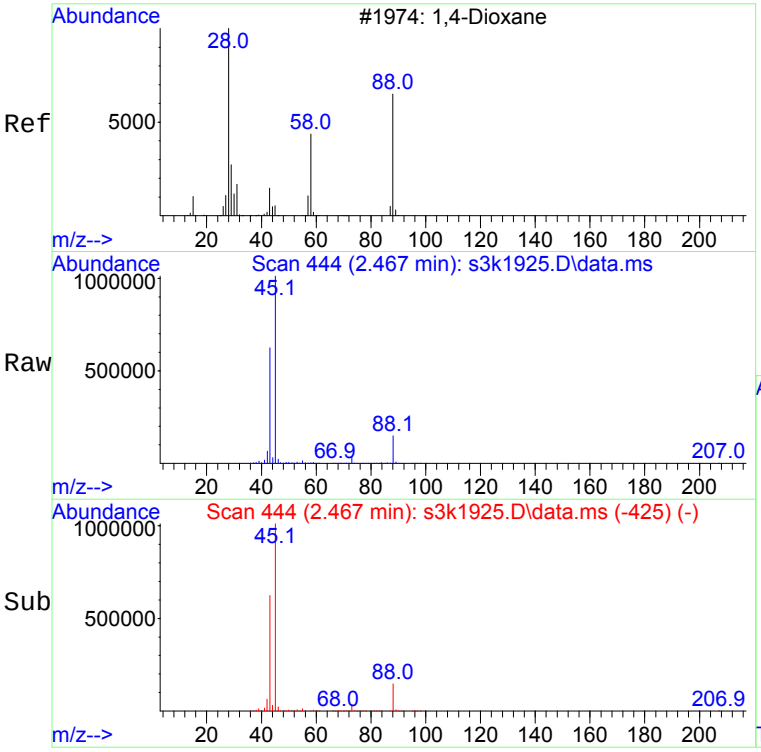


#72 BEFORE analyst DELETION
Dinoseb
Concen: 4.66 ng/uL
RT: 11.731 min Scan# 2176
Delta R.T. -0.038 min
Lab File: s3k1925.D
Acq: 19 Nov 2020 23:55

Tgt Ion:211 Resp: 5903

Ion	Ratio	Lower	Upper
211	100		
163	0.0	8.0	68.0#
147	47.1	0.0	55.5

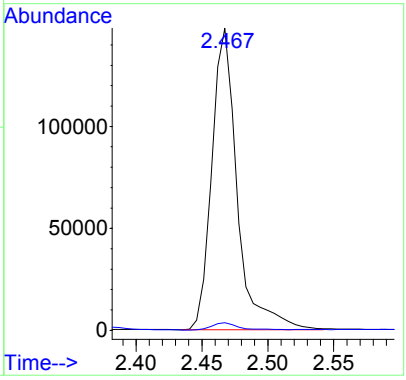


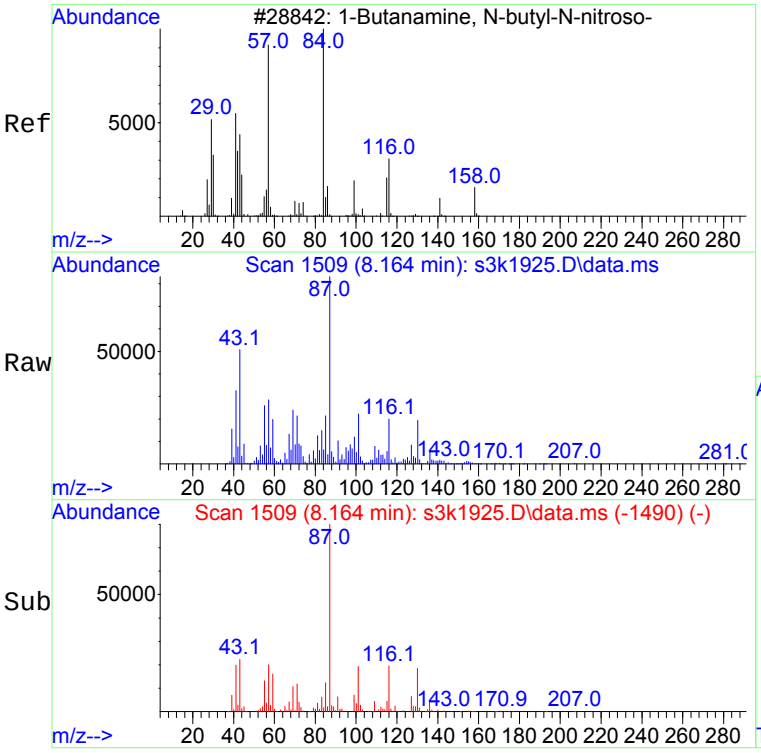


#97 BEFORE analyst DELETION
1,4-Dioxane
Concen: 14.96 ng/uL
RT: 2.467 min Scan# 444
Delta R.T. -0.000 min
Lab File: s3k1925.D
Acq: 19 Nov 2020 23:55

Tgt Ion: 88 Resp: 197804

Ion	Ratio	Lower	Upper
88	100		
58	2.6	24.7	84.7#

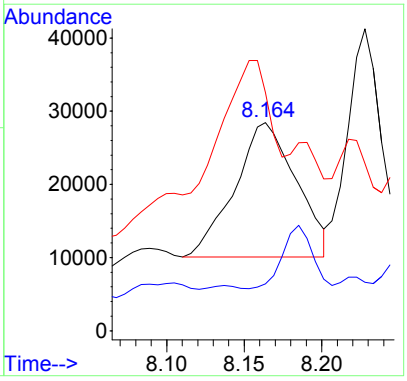


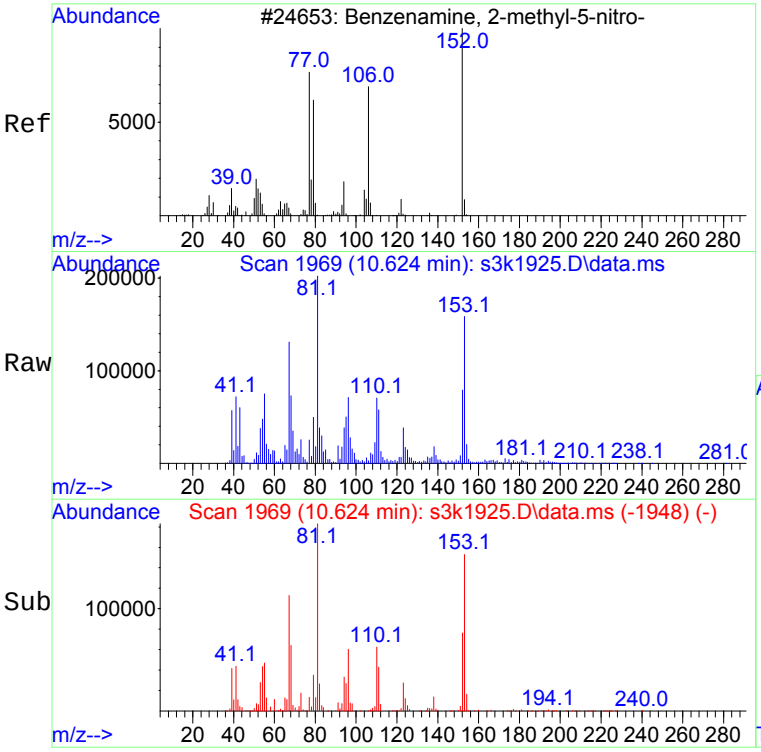


#118 BEFORE analyst DELETION
N-Nitrosodi-n-butylamine
Concen: 3.95 ng/uL
RT: 8.164 min Scan# 1509
Delta R.T. -0.000 min
Lab File: s3k1925.D
Acq: 19 Nov 2020 23:55

Tgt Ion: 57 Resp: 50751

Ion	Ratio	Lower	Upper
57	100		
84	1.5	166.2	226.2#
41	92.7	69.7	129.7

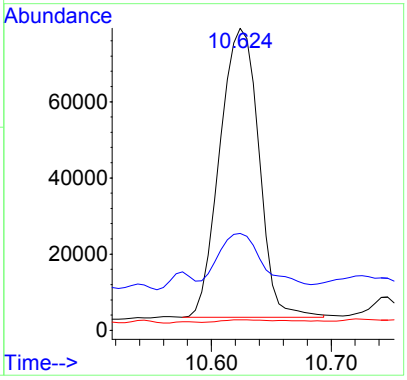


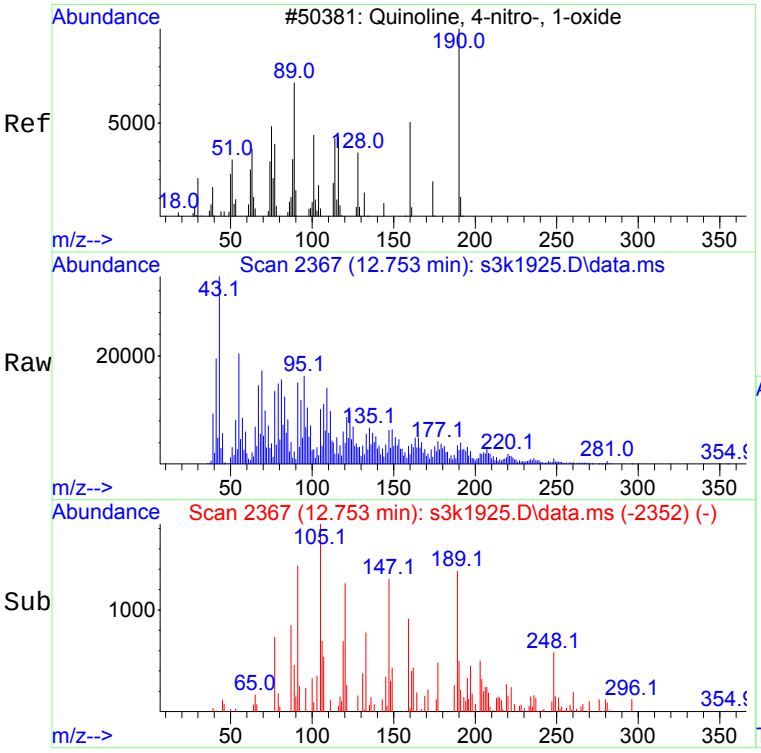


#128 BEFORE analyst DELETION
5-Nitro-o-toluidine
Concen: 18.52 ng/uL
RT: 10.624 min Scan# 1969
Delta R.T. 0.011 min
Lab File: s3k1925.D
Acq: 19 Nov 2020 23:55

Tgt Ion:152 Resp: 171216

Ion	Ratio	Lower	Upper
152	100		
77	20.0	81.3	141.3#
106	0.9	49.5	109.5#

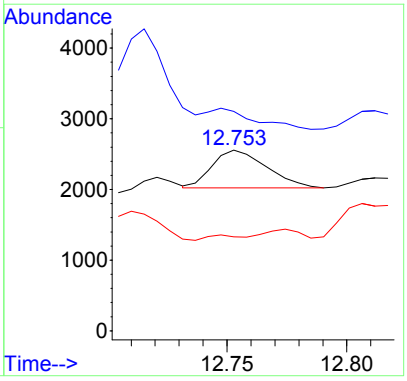


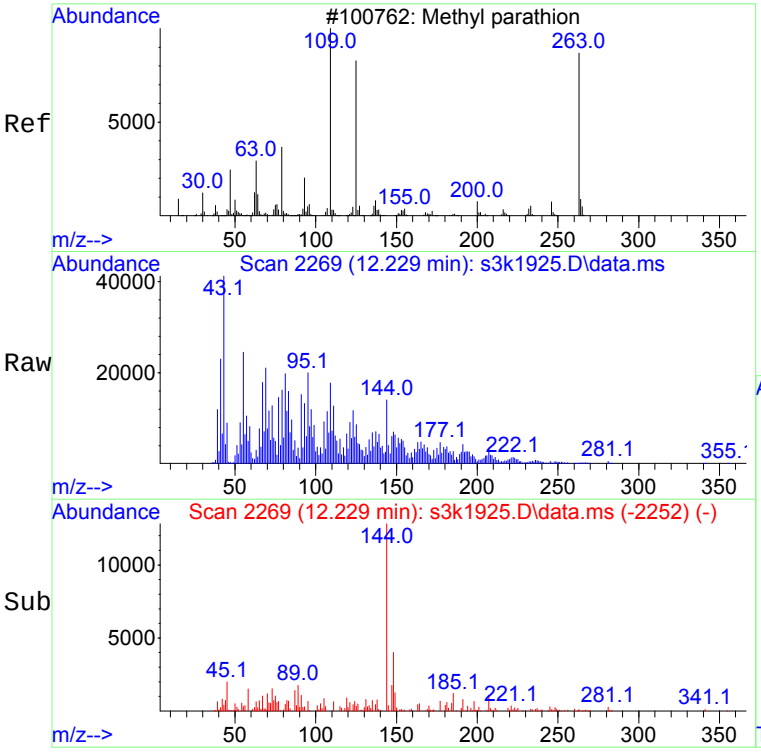


#139 BEFORE analyst DELETION
4-Nitroquinoline-1-oxide
Concen: 6.25 ng/uL
RT: 12.753 min Scan# 2367
Delta R.T. -0.021 min
Lab File: s3k1925.D
Acq: 19 Nov 2020 23:55

Tgt Ion:190 Resp: 842

Ion	Ratio	Lower	Upper
190	100		
128	238.1	35.1	57.1#
174	105.8	1.2	61.2#

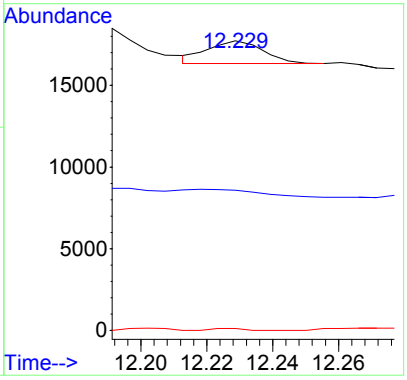




#169 BEFORE analyst DELETION
Methyl parathion
Concen: 4.32 ng/uL
RT: 12.229 min Scan# 2269
Delta R.T. -0.011 min
Lab File: s3k1925.D
Acq: 19 Nov 2020 23:55

Tgt Ion:109 Resp: 1633

Ion	Ratio	Lower	Upper
109	100		
125	49.8	45.5	105.5
263	0.0	31.2	91.2#



Quantitation Report

11/20/2020

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1926.D
Acq On : 20 Nov 2020 00:23
Operator : JMB3
Sample : |527510015|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 26 Sample Multiplier: 1

11/20/2020

Quant Time: Nov 20 01:14:06 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

Compound	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	Dev(Min)
Internal Standards								
1) A 1,4-Dichlorobenzene-d4	152	5.853	5.859	1.000	825702	40.00	ng/uL	0.00
22) A Naphthalene-d8	136	7.613	7.613	1.000	2751843	40.00	ng/uL	0.00
39) A Acenaphthene-d10	164	9.913	9.918	1.000	1577660	40.00	ng/uL	0.00
64) A Phenanthrene-d10	188	11.790	11.790	1.000	2754961	40.00	ng/uL	0.00
78) A Chrysene-d12	240	15.390	15.401	1.000	1443411	40.00	ng/uL	-0.01
88) A Perylene-d12	264	18.920	18.925	1.000	955250	40.00	ng/uL	0.00
96) B 1,4-Dichlorobenzene-d4	152	5.853	5.859	1.000	825702	40.00	ng/uL	0.00
112) B Naphthalene-d8	136	7.613	7.613	1.000	2751843	40.00	ng/uL	0.00
120) B Acenaphthene-d10	164	9.913	9.918	1.000	1577660	40.00	ng/uL	0.00
129) B Phenanthrene-d10	188	11.790	11.790	1.000	2754961	40.00	ng/uL	0.00
142) B Chrysene-d12	240	15.390	15.401	1.000	1443411	40.00	ng/uL	-0.01
148) B Perylene-d12	264	18.920	18.925	1.000	955250	40.00	ng/uL	0.00
151) J Naphthalene-d8	136	7.613	7.613	1.000	2751843	40.00	ng/uL	0.00
153) J Phenanthrene-d10	188	11.790	11.790	1.000	2754961	40.00	ng/uL	0.00
156) J Chrysene-d12	240	15.390	15.401	1.000	1443411	40.00	ng/uL	-0.01
159) D Naphthalene-d8	136	7.613	7.613	1.000	2751843	40.00	ng/uL	0.00
161) D Acenaphthene-d10	164	9.913	9.918	1.000	1577660	40.00	ng/uL	0.00
164) D Phenanthrene-d10	188	11.790	11.790	1.000	2754961	40.00	ng/uL	0.00
171) D Chrysene-d12	240	15.390	15.401	1.000	1443411	40.00	ng/uL	-0.01
173) E Naphthalene-d8	136	7.613	7.613	1.000	2751843	40.00	ng/uL	0.00
175) E Perylene-d12	264	18.920	18.925	1.000	955250	40.00	ng/uL	0.00
System Monitoring Compounds								Dev(Min)
5) 2-Fluorophenol	112	4.136	4.131	0.707	616685	21.54	ng/uL	0.00
8) Phenol-d5	99	5.297	5.302	0.905	622647	17.84	ng/uL	0.00
23) Nitrobenzene-d5	82	6.618	6.624	0.869	698045	22.21	ng/uL	0.00
44) 2-Fluorobiphenyl	172	9.041	9.041	0.912	978968	17.58	ng/uL	0.00
63) 2,4,6-Tribromophenol	330	10.908	10.913	1.100	347730	49.83	ng/uL	0.00
80) p-Terphenyl-d14	244	13.759	13.764	0.894	202738	4.17	ng/uL	0.00

Compound	Amount	Range	Recovery
5) 2-Fluorophenol	100.000	15 - 88	22%
8) Phenol-d5	100.000	15 - 91	18%
23) Nitrobenzene-d5	50.000	35 - 113	44%
44) 2-Fluorobiphenyl	50.000	31 - 107	35%
63) 2,4,6-Tribromophenol	100.000	32 - 122	50%
80) p-Terphenyl-d14	50.000	35 - 134	8%#

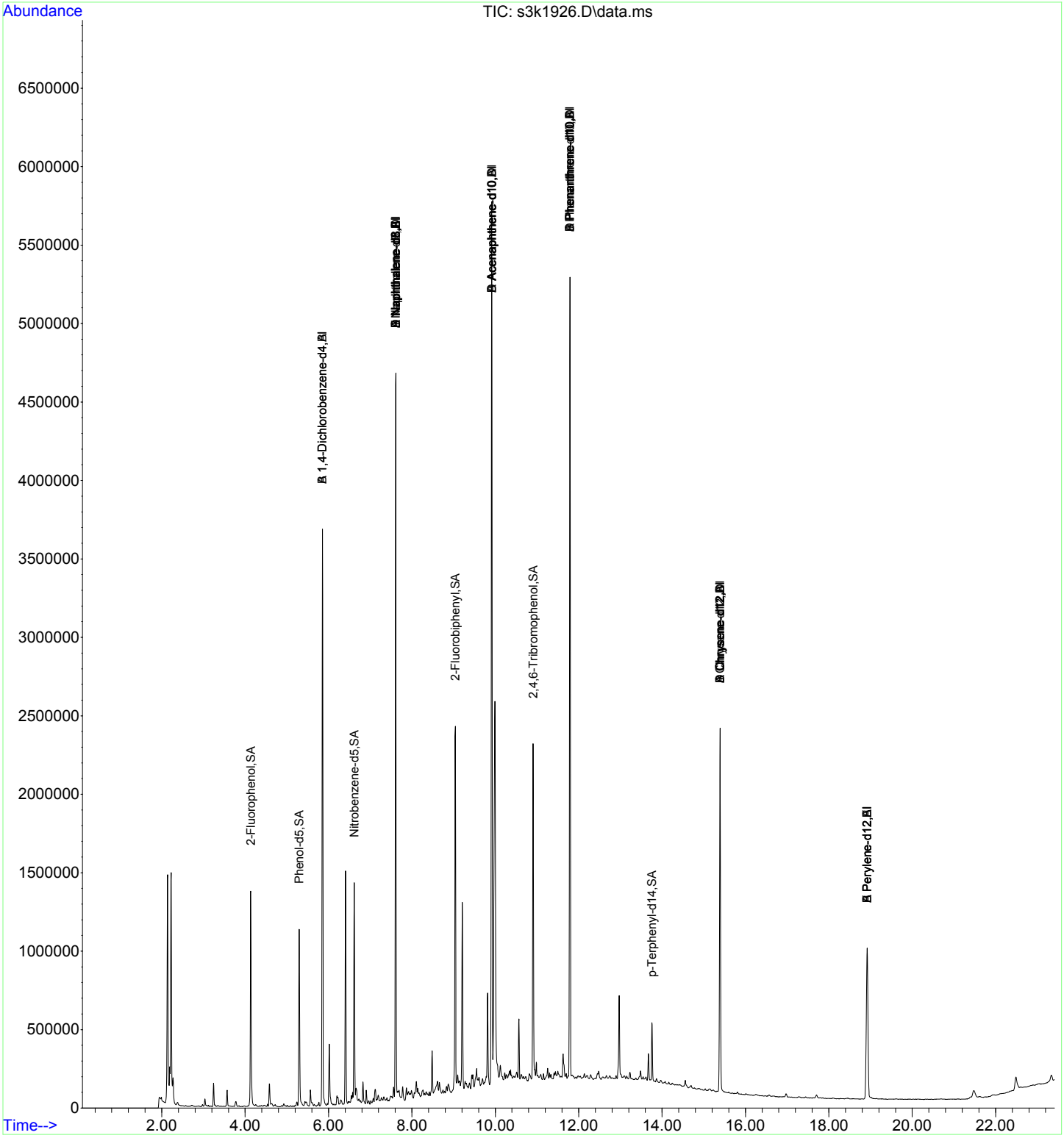
Target Compounds	QIon	R.T.	Exp RT	Rel RT	Response	Conc	Units	QValue

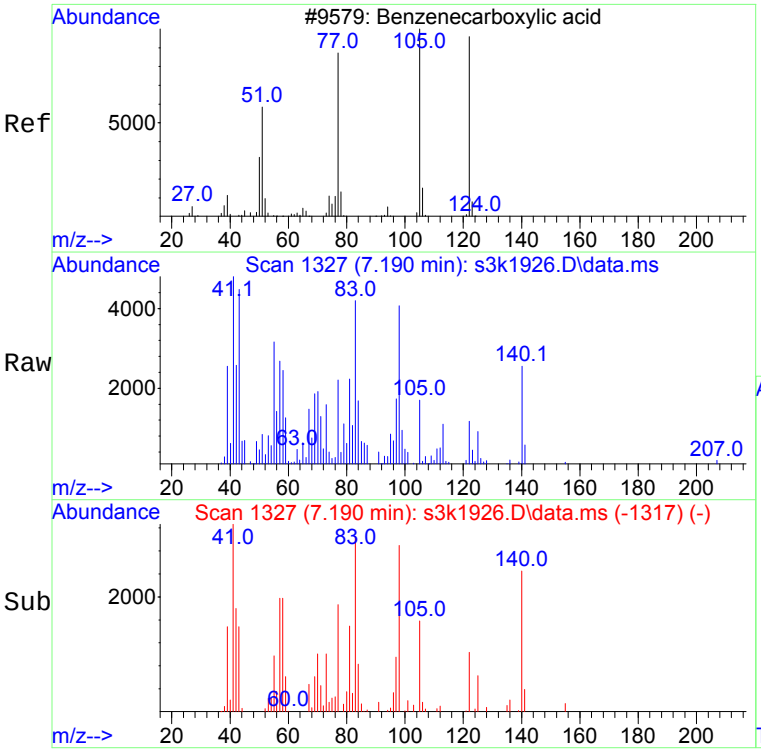
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(A) = Over the calibration range (d) = deleted

Quantitation Report

Data Path : C:\msdchem\1\data\s111920.s\
Data File : s3k1926.D
Acq On : 20 Nov 2020 00:23
Operator : JMB3
Sample : |527510015|2064469|1|SVM|2|ARSL(rx)
Misc : |MSD1C70D_L| MIX[A,B,D,E,J]
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 20 01:14:06 2020
Quant Method : C:\msdchem\1\data\s111920.s\MSD3_8270c_8270d_101320.m
Quant Title : BNA01
QLast Update : Wed Oct 14 18:37:15 2020
Response via : Initial Calibration

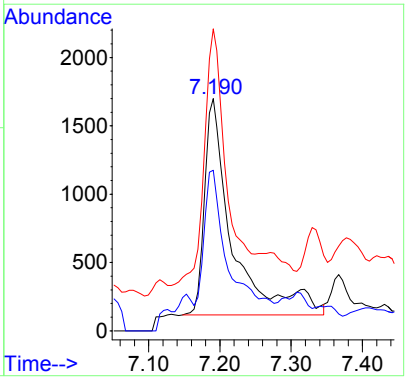


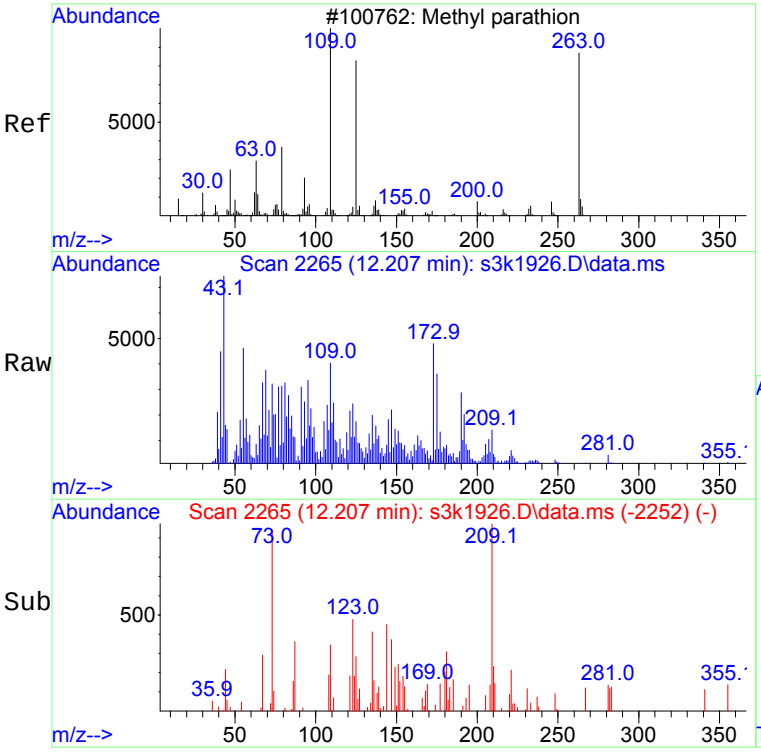


#30 BEFORE analyst DELETION
Benzoic acid
Concen: 9.30 ng/uL
RT: 7.190 min Scan# 1327
Delta R.T. -0.096 min
Lab File: s3k1926.D
Acq: 20 Nov 2020 00:23

Tgt Ion:105 Resp: 4317

Ion	Ratio	Lower	Upper
105	100		
122	70.2	49.7	109.7
77	96.0	54.7	114.7

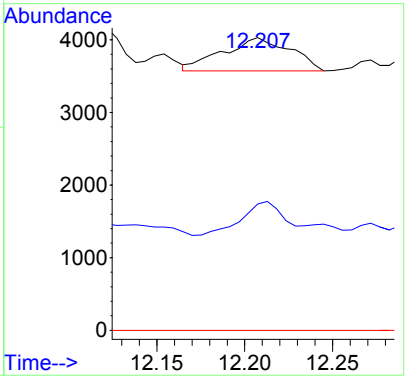




#169 BEFORE analyst DELETION
Methyl parathion
Concen: 4.27 ng/uL
RT: 12.207 min Scan# 2265
Delta R.T. -0.032 min
Lab File: s3k1926.D
Acq: 20 Nov 2020 00:23

Tgt Ion:109 Resp: 1213

Ion	Ratio	Lower	Upper
109	100		
125	62.3	45.5	105.5
263	0.0	31.2	91.2#



PCB Analysis

Case Narrative

GC Semivolatile PCB
Technical Case Narrative
ARS International, LLC
SDG #: 2021-130
Work Order #: 527510

Product: **Analysis of The Analysis of Polychlorinated Biphenyls by GC/ECD by ECD**
Analytical Method: SW846 3535A/8082A
Analytical Procedure: GL-OA-E-040 REV# 25
Analytical Batch: 2065082

Preparation Method: SW846 3535A
Preparation Procedure: GL-OA-E-037 REV# 7
Preparation Batch: 2065081

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527510004	SMEB03-20-209979
527510010	SMEB04-20-209982
527510016	SMEB05-20-209985
1204699392	Method Blank (MB)
1204699393	Laboratory Control Sample (LCS)
1204699394	525871007(NonSDG) Matrix Spike (MS)
1204699395	525871007(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Surrogate Recoveries
Samples (See Below) failed to meet surrogate recovery acceptance criteria and were re-extracted. The re-extracted samples failed surrogate recovery in the same manner; therefore, the failures were attributed to sample matrix interference.

Sample	Analyte	Value
527510004 (SMEB03-20-209979)	4cmx	10* (30%-113%)
	4cmx	8* (30%-113%)
	Decachlorobiphenyl	16* (34%-130%)
527510010 (SMEB04-20-209982)	4cmx	5* (30%-113%)
	Decachlorobiphenyl	10* (34%-130%)
	Decachlorobiphenyl	9* (34%-130%)

527510016 (SMEB05-20-209985)	4cmx	18* (30%-113%)
	4cmx	27* (30%-113%)
	Decachlorobiphenyl	27* (34%-130%)
	Decachlorobiphenyl	29* (34%-130%)

Technical Information

Preparation/Analytical Method Verification
All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Miscellaneous Information

Manual integrations
Sample 1204699394 (Non SDG 525871007MS) required manual integration to correctly position the baseline as set in the calibration standard injections and to properly identify one or more peaks. Sample 1204699394 (Non SDG 525871007MS) required manual integration to correctly position the baseline as set in the calibration standard injections.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-130 GEL Work Order: 527510

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Jimin Cao **Name: Jimin Cao**

Date: 25 NOV 2020 **Title: Data Validator**

Sample Data Summary

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510004**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**PCB-8082**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209979**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 20:23**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1021.56 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2066.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2066.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0326	ug/L	0.0326	0.0979	1
11104-28-2	Aroclor-1221	U	0.0326	ug/L	0.0326	0.0979	1
11141-16-5	Aroclor-1232	U	0.0326	ug/L	0.0326	0.0979	1
53469-21-9	Aroclor-1242	U	0.0326	ug/L	0.0326	0.0979	1
12672-29-6	Aroclor-1248	U	0.0326	ug/L	0.0326	0.0979	1
11097-69-1	Aroclor-1254	U	0.0326	ug/L	0.0326	0.0979	1
11096-82-5	Aroclor-1260	U	0.0326	ug/L	0.0326	0.0979	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
4cmx	0.0159	0.196	ug/L	8	*	(30%-113%)
Decachlorobiphenyl	0.0313	0.196	ug/L	16	*	(34%-130%)

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510010**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**PCB-8082**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209982**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 20:37**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1069.28 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2067.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2067.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0311	ug/L	0.0311	0.0935	1
11104-28-2	Aroclor-1221	U	0.0311	ug/L	0.0311	0.0935	1
11141-16-5	Aroclor-1232	U	0.0311	ug/L	0.0311	0.0935	1
53469-21-9	Aroclor-1242	U	0.0311	ug/L	0.0311	0.0935	1
12672-29-6	Aroclor-1248	U	0.0311	ug/L	0.0311	0.0935	1
11097-69-1	Aroclor-1254	U	0.0311	ug/L	0.0311	0.0935	1
11096-82-5	Aroclor-1260	U	0.0311	ug/L	0.0311	0.0935	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
4cmx	0.00861	0.187	ug/L	5	*	(30%-113%)
Decachlorobiphenyl	0.0165	0.187	ug/L	9	*	(34%-130%)

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 14:40**	**Matrix:**	**W**
Lab Sample ID:	**527510016**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**PCB-8082**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB05-20-209985**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 20:51**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1010.35 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2068.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2068.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0330	ug/L	0.0330	0.0990	1
11104-28-2	Aroclor-1221	U	0.0330	ug/L	0.0330	0.0990	1
11141-16-5	Aroclor-1232	U	0.0330	ug/L	0.0330	0.0990	1
53469-21-9	Aroclor-1242	U	0.0330	ug/L	0.0330	0.0990	1
12672-29-6	Aroclor-1248	U	0.0330	ug/L	0.0330	0.0990	1
11097-69-1	Aroclor-1254	U	0.0330	ug/L	0.0330	0.0990	1
11096-82-5	Aroclor-1260	U	0.0330	ug/L	0.0330	0.0990	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
4cmx	0.0359	0.198	ug/L	18	*	(30%-113%)
Decachlorobiphenyl	0.0525	0.198	ug/L	27	*	(34%-130%)

Quality Control Summary

PCB

Surrogate Recovery Report

SDG Number: 2021-130

Matrix Type: LIQUID

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
1204699392	MB for batch 2065081	53	56	83	89
1204699393	LCS for batch 2065081	54	49	91	93
1204699394	400RIS208WA075MS	49	53	83	89
1204699395	400RIS208WA075MSD	57	54	88	96
527510004	SMEB03-20-209979	8 *	10 *	16 *	16 *
527510010	SMEB04-20-209982	5 *	5 *	9 *	10 *
527510016	SMEB05-20-209985	18 *	27 *	27 *	29 *

Surrogate	Parmname	Acceptance Limits
4CMX	= 4cmx	(30%-113%)
DCB	= Decachlorobiphenyl	(34%-130%)

* Recovery outside Acceptance Limits

\# Column to be used to flag recovery values

D Sample Diluted

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-130
Sample Type: Laboratory Control Sample
Client ID: LCS for batch 2065081
Matrix: WATER
Lab Sample ID 1204699393
Instrument: ECD2A.I
Analysis Date: 11/20/2020 15:51
Dilution: 1
Analyst: YS1
Prep Batch ID: 2065081
Inj. Vol: 1 uL
Batch ID: 2065082

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
12674-11-2	LCS	Aroclor-1016	1.00	0.0	0.572	57	38-100
11096-82-5	LCS	Aroclor-1260	1.00	0.0	0.638	64	46-110

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-130
Sample Type: Matrix Spike
Client ID: 400RIS208WA075MS
Matrix: WG
Lab Sample ID 1204699394
Instrument: ECD2A.I
Analysis Date: 11/20/2020 16:17
Dilution: 1
Analyst: YS1
Prep Batch ID: 2065081
Inj. Vol: 1 uL
Batch ID: 2065082

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits
12674-11-2	MS	Aroclor-1016	1.00	0.000	U	0.677	68	28-107
11096-82-5	MS	Aroclor-1260	1.00	0.000	U	0.688	69	32-122

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-130
Sample Type: Matrix Spike Duplicate
Client ID: 400RIS208WA075MSD
Matrix: WG
Lab Sample ID 1204699395
Instrument: ECD2A.I
Analysis Date: 11/20/2020 16:31
Dilution: 1
Analyst: YS1
Prep Batch ID: 2065081
Inj. Vol: 1 uL
Batch ID: 2065082

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
12674-11-2	MSD	Aroclor-1016	1.00	0.000	U	0.635	64	28-107	6	0-27
11096-82-5	MSD	Aroclor-1260	1.00	0.000	U	0.720	72	32-122	4	0-29

Method Blank Summary

SDG Number:	**2021-130**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2065081**	**Instrument ID:**	**ECD2A.I_1**	**Data File:**	**112020.S\E2k2043.D**
			ECD2A.I_2		**112020.S\E2k2043.D**
Lab Sample ID:	**1204699392**			**Analyzed:**	**11/20/20 15:15**
Column:	**CLPesticides**	**Prep Date:**	**11/20/2020 05:50**		
	CLPesticides2				

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 2065081	1204699393	112020.S\E2k2046.D	11/20/20	1551
02	400RIS208WA075MS	1204699394	112020.S\E2k2048.D	11/20/20	1617
03	400RIS208WA075MSD	1204699395	112020.S\E2k2049.D	11/20/20	1631
04	SMEB03-20-209979	527510004	112020.S\E2k2066.D	11/20/20	2023
05	SMEB04-20-209982	527510010	112020.S\E2k2067.D	11/20/20	2037
06	SMEB05-20-209985	527510016	112020.S\E2k2068.D	11/20/20	2051

Identification Summary

SDG Number: 2021-130 **Client ID:** LCS for batch 2065081

Lab Sample ID: 1204699393

Data File:	112020.S\E2k2046.D	**Data File:**	112020.S\E2k2046.D
Inst:	ECD2A.I_1	**Inst:**	ECD2A.I_2
Column:	CLPesticides	**Column:**	CLPesticides2
Analyzed:	20-NOV-20 15:51	**Analyzed:**	20-NOV-20 15:51

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							4.11
Column 1	1	2.82	2.79 - 2.85	.559		ug/L	
	2	3.17	3.14 - 3.2	.624		ug/L	
	3	3.26	3.23 - 3.29	.588		ug/L	
	4	3.4	3.37 - 3.43	.529		ug/L	
	5	3.56	3.53 - 3.59	.56		ug/L	
					.572		
Column 2	1	3.66	3.63 - 3.69	.619		ug/L	
	2	3.76	3.73 - 3.79	.607		ug/L	
	3	3.83	3.8 - 3.86	.613		ug/L	
	4	3.91	3.88 - 3.94	.554		ug/L	
	5	4.1	4.07 - 4.13	.586		ug/L	
					.596		
Aroclor-1260							5.36
Column 1	1	4.42	4.39 - 4.45	.712		ug/L	
	2	4.89	4.86 - 4.92	.589		ug/L	
	3	5.06	5.03 - 5.09	.49		ug/L	
	4	5.27	5.24 - 5.3	.635		ug/L	
	5	5.47	5.44 - 5.5	.761		ug/L	
					.638		
Column 2	1	5.01	4.98 - 5.04	.741		ug/L	
	2	5.15	5.12 - 5.18	.639		ug/L	
	3	5.47	5.44 - 5.5	.616		ug/L	
	4	5.85	5.82 - 5.88	.662		ug/L	
	5	6.1	6.07 - 6.13	.706		ug/L	
					.673		

Sample Data

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510004**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**PCB-8082**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB03-20-209979**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 20:23**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1021.56 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2066.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2066.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0326	ug/L	0.0326	0.0979	1
11104-28-2	Aroclor-1221	U	0.0326	ug/L	0.0326	0.0979	1
11141-16-5	Aroclor-1232	U	0.0326	ug/L	0.0326	0.0979	1
53469-21-9	Aroclor-1242	U	0.0326	ug/L	0.0326	0.0979	1
12672-29-6	Aroclor-1248	U	0.0326	ug/L	0.0326	0.0979	1
11097-69-1	Aroclor-1254	U	0.0326	ug/L	0.0326	0.0979	1
11096-82-5	Aroclor-1260	U	0.0326	ug/L	0.0326	0.0979	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
4cmx	0.0159	0.196	ug/L	8	*	(30%-113%)
Decachlorobiphenyl	0.0313	0.196	ug/L	16	*	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

11/21/2020

11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2066.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 20:23 (#1); 20 Nov 2020 20:23 (#2)
Operator : YS1   InstName : ECD2
Sample   : |527510004|2065082|1|SVA|1|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB03-20-209979|||
ALS Vial : 0 (Sig #1); 64 (Sig #2)   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 21 04:57:35 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	88541761	16.205	2.589	2.591	0.002	110699705	19.316
DCB	6.216	6.214	-0.002	137651818	32.022	6.909	6.906	-0.003	150725081	32.564

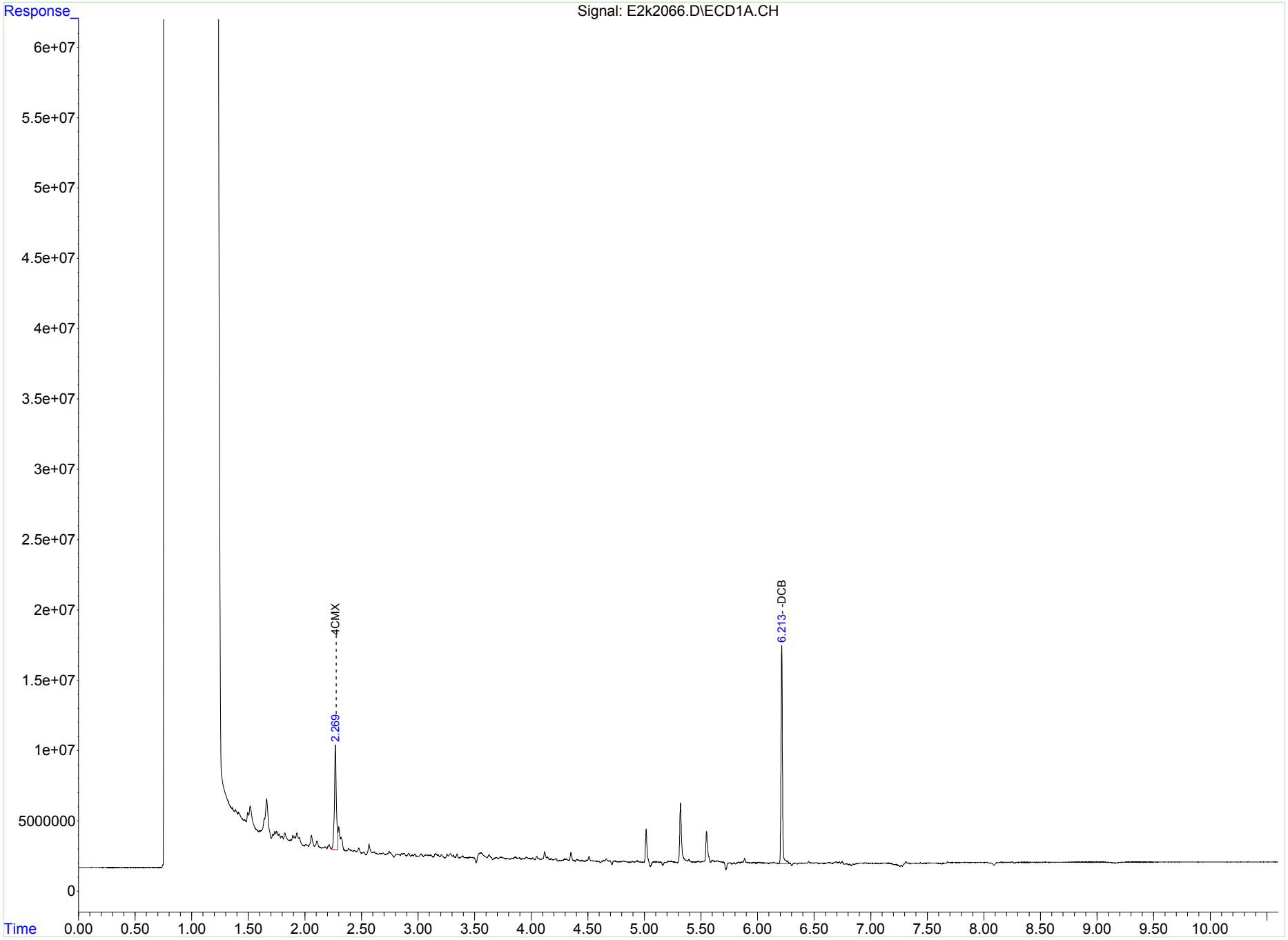
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	8%	10%
DCB	200.000	No Limits	16%	16%

Target Compounds

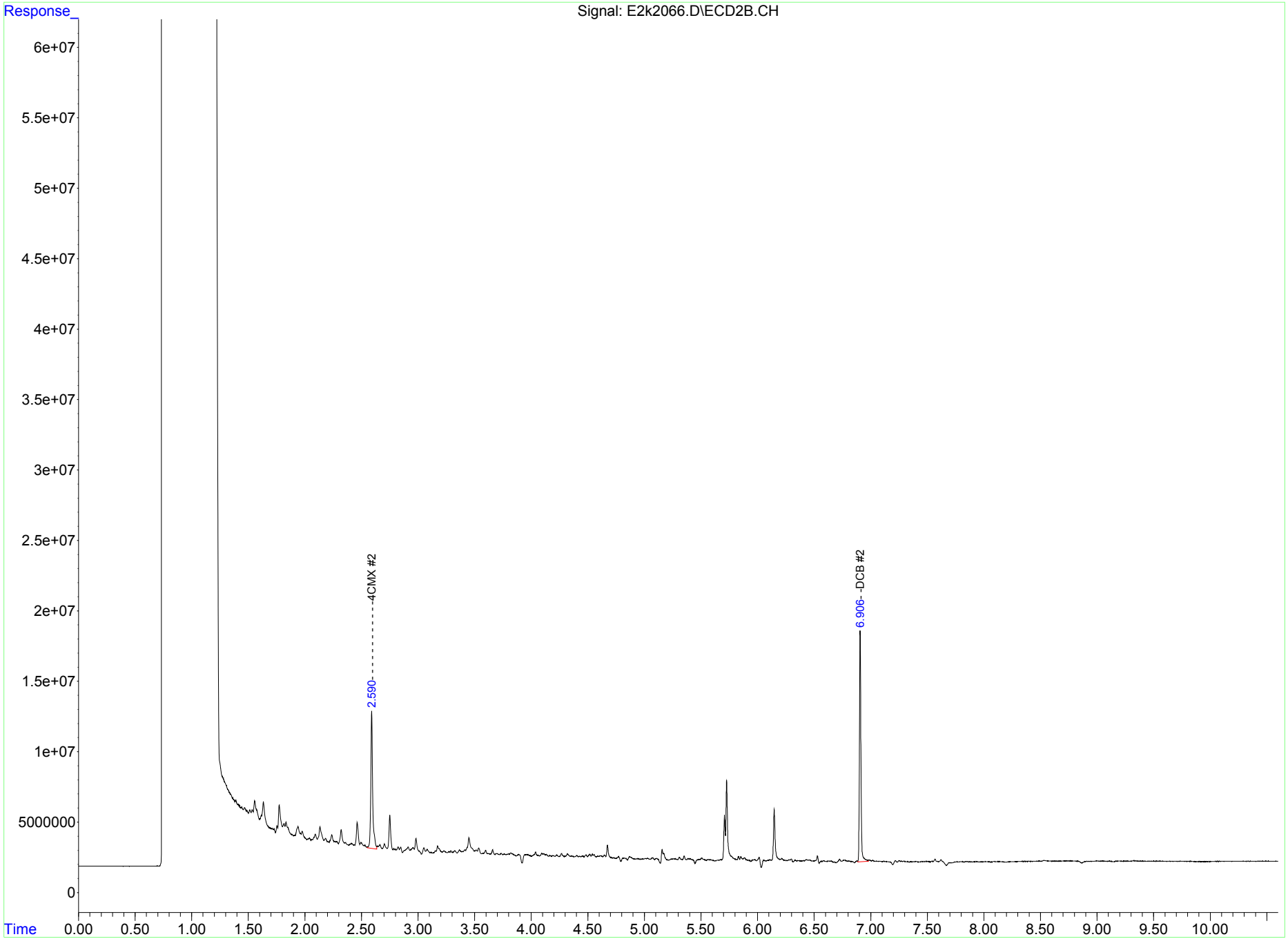
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2066.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2066.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	88541761	16.205	2.589	2.591	0.002	110699705	19.316
DCB	6.216	6.214	-0.002	137651818	32.022	6.909	6.906	-0.003	150725081	32.564

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	8%	10%
DCB	200.000	No Limits	16%	16%
4CMX	200.000	No Limits	8%	10%
DCB	200.000	No Limits	16%	16%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.811	-0.006	1670053	9.383	3.658	3.659	0.001	3733490	14.256
Aroclor-1016 {2}	3.165	3.154	-0.011	4876316	21.508	3.757	0.000	-3.757	0	N.D.
Aroclor-1016 {3}	3.261	3.257	-0.004	2464382	15.790	3.834	3.820	-0.014	16098326	162.752
Aroclor-1016 {4}	3.398	0.000	-3.398	0	N.D.	3.905	3.888	-0.017f	11912088	123.911
Aroclor-1016 {5}	3.558	3.558	0.000	25139430	214.098	4.102	4.110	0.008	3018450	23.330
Sum Aroclor-1016				34150182	260.779				34762354	324.248
Average Aroclor-1016					65.195					81.062
Aroclor-1221	2.406	0.000	-2.406	0	N.D.	2.828	2.825	-0.003	3968915	69.683
Aroclor-1221 {2}	2.519	0.000	-2.519	0	N.D.	2.942	2.954	0.012	7450826	204.209
Aroclor-1221 {3}	2.549	2.567	0.018f	10766100	81.916	2.990	2.982	-0.008	15577198	119.976
Sum Aroclor-1221				10766100	81.916				26996938	393.867 #
Average Aroclor-1221					81.916					131.289 #
Aroclor-1232	2.817	2.811	-0.006	1670053	21.307	3.657	3.659	0.002	3733490	36.474
Aroclor-1232 {2}	3.165	3.154	-0.011	4876316	48.515	3.756	0.000	-3.756	0	N.D.
Aroclor-1232 {3}	3.261	3.257	-0.004	2464382	36.916	3.832	3.820	-0.012	16098326	387.609
Aroclor-1232 {4}	3.307	3.288	-0.019f	4881018	113.003	3.904	3.888	-0.016f	11912088	366.031
Aroclor-1232 {5}	3.557	3.558	0.001	25139430	561.261	3.936	3.947	0.011	6225728	172.777
Sum Aroclor-1232				39031200	781.002				37969632	962.890
Average Aroclor-1232					156.200					240.723 #
Aroclor-1242	2.817	2.811	-0.006	1670053	11.086	3.657	3.659	0.002	3733490	16.285
Aroclor-1242 {2}	3.165	3.154	-0.011	4876316	24.669	3.756	0.000	-3.756	0	N.D.
Aroclor-1242 {3}	3.261	3.257	-0.004	2464382	18.658	3.833	3.820	-0.013	16098326	178.828
Aroclor-1242 {4}	3.307	3.288	-0.019f	4881018	57.417	3.904	3.888	-0.016f	11912088	148.878
Aroclor-1242 {5}	3.397	0.000	-3.397	0	N.D.	3.937	3.947	0.010	6225728	70.808
Sum Aroclor-1242				13891769	111.830				37969632	414.798 #
Average Aroclor-1242					<MDL					103.700
Aroclor-1248	3.165	3.154	-0.011	4876316	43.962	3.657	3.659	0.002	3733490	28.853
Aroclor-1248 {2}	3.397	0.000	-3.397	0	N.D.	3.905	3.888	-0.017f	11912088	86.416
Aroclor-1248 {3}	3.557	3.558	0.001	25139430	154.383	4.102	4.093	-0.009	2186395	11.976
Sum Aroclor-1248				30015746	198.345				17831973	127.244 #
Average Aroclor-1248					99.173					42.415 #
Aroclor-1254 {2}	4.015	0.000	-4.015	0	N.D.	4.541	4.540	-0.001	3823774	14.981
Aroclor-1254 {3}	4.294	0.000	-4.294	0	N.D.	4.788	4.773	-0.015f	6483619	30.281

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254 {5}	4.488	4.511	0.023f	2770666	12.047	5.152	5.157	0.005	7728287	40.594	
Sum Aroclor-1254				2770666	12.047				18035680	85.857	#
Average Aroclor-1254					<MDL					<MDL	
Aroclor-1260 {2}	4.888	0.000	-4.888	0	N.D.	5.152	5.157	0.005	7728287	27.188	
Aroclor-1260 {3}	5.058	5.082	0.024f	14645492	66.793	5.467	5.484	0.017f	5085618	22.717	
Aroclor-1260 {4}	5.272	0.000	-5.272	0	N.D.	5.846	5.853	0.007	7725695	14.984	
Aroclor-1260 {5}	5.466	0.000	-5.466	0	N.D.	6.103	6.107	0.004	8926283	25.005	
Sum Aroclor-1260				14645492	66.793				29465883	89.894	
Average Aroclor-1260					66.793					<MDL	
Aroclor-1262	4.615	0.000	-4.615	0	N.D.	5.152	5.157	0.005	7728287	34.282	
Aroclor-1262 {2}	4.887	0.000	-4.887	0	N.D.	5.466	5.484	0.018f	5085618	16.733	
Aroclor-1262 {3}	5.058	5.082	0.024f	14645492	58.156	5.674	0.000	-5.674	0	N.D.	
Aroclor-1262 {4}	5.271	0.000	-5.271	0	N.D.	5.846	5.853	0.007	7725695	13.454	
Aroclor-1262 {5}	5.490	0.000	-5.490	0	N.D.	6.097	6.107	0.010	8926283	22.225	
Sum Aroclor-1262				14645492	58.156				29465883	86.693	
Average Aroclor-1262					58.156					<MDL	
Aroclor-1268	5.490	0.000	-5.490	0	N.D.	6.096	6.107	0.011	8926283	11.407	
Aroclor-1268 {2}	5.516	0.000	-5.516	0	N.D.	6.129	6.147	0.018f	47552955	55.948	
Aroclor-1268 {3}	5.649	0.000	-5.649	0	N.D.	6.306	6.298	-0.008	1700502	2.544	
Aroclor-1268 {4}	5.892	5.886	-0.006	3206505	12.396	6.501	6.530	0.029f	5255977	18.730	
Aroclor-1268 {5}	6.088	0.000	-6.088	0	N.D.	6.729	6.724	-0.005	2941440	1.411	
Sum Aroclor-1268				3206505	12.396				66377157	90.041	#
Average Aroclor-1268					<MDL					<MDL	
4,4' DDD	4.638	4.663	0.025f	5020868	<MDL	5.183	5.171	-0.012	7307239	<MDL	#
4,4' DDE	4.220	0.000	-4.220	0	N.D.	4.773	4.773	0.000	6483619	<MDL	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2066.D

Aroclor-1016	Multi	-	Deletion ==	DMP
Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1260	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDD	Both	-	Deletion ==	DMP
4,4' DDE #2		-	Deletion ==	DMP

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 10:27**	**Matrix:**	**W**
Lab Sample ID:	**527510010**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**PCB-8082**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB04-20-209982**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 20:37**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1069.28 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2067.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2067.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0311	ug/L	0.0311	0.0935	1
11104-28-2	Aroclor-1221	U	0.0311	ug/L	0.0311	0.0935	1
11141-16-5	Aroclor-1232	U	0.0311	ug/L	0.0311	0.0935	1
53469-21-9	Aroclor-1242	U	0.0311	ug/L	0.0311	0.0935	1
12672-29-6	Aroclor-1248	U	0.0311	ug/L	0.0311	0.0935	1
11097-69-1	Aroclor-1254	U	0.0311	ug/L	0.0311	0.0935	1
11096-82-5	Aroclor-1260	U	0.0311	ug/L	0.0311	0.0935	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
4cmx	0.00861	0.187	ug/L	5	*	(30%-113%)
Decachlorobiphenyl	0.0165	0.187	ug/L	9	*	(34%-130%)

11/21/2020

11/23/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2067.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 20:37 (#1); 20 Nov 2020 20:37 (#2)
Operator : YS1   InstName : ECD2
Sample   : |527510010|2065082|1|SVA|1|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB04-20-209982|||
ALS Vial : 0 (Sig #1); 65 (Sig #2)   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 21 04:57:37 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

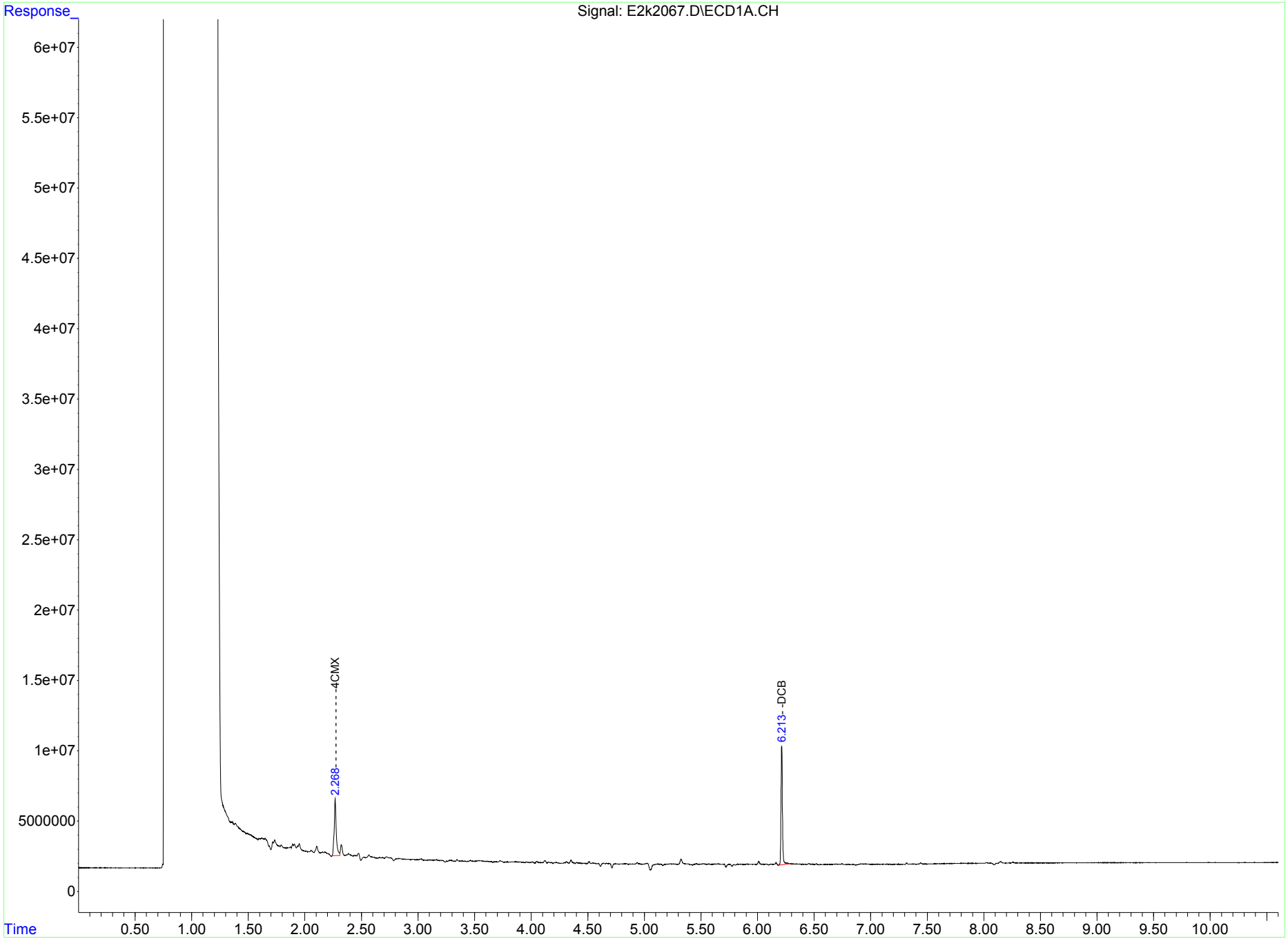
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.268	0.001	50318754	9.210	2.589	2.590	0.001	51783463	9.036
DCB	6.216	6.214	-0.002	75626258	17.593	6.909	6.908	-0.001	92054016	19.888

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	5%	5%
DCB	200.000	No Limits	9%	10%

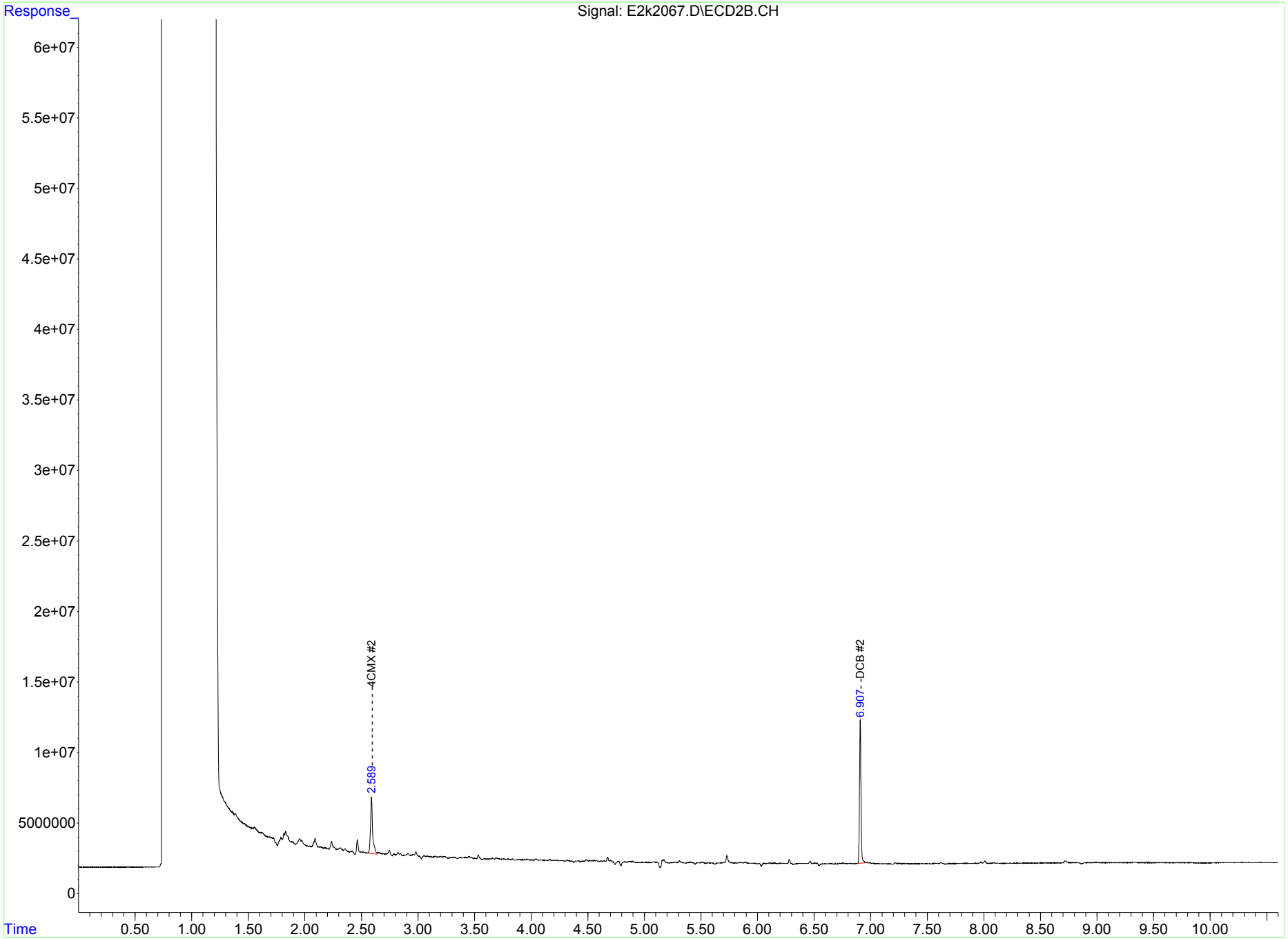
Target Compounds Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2067.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2067.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
System Monitoring Compounds											
4CMX	2.267	2.268	0.001	50318754	9.210	2.589	2.590	0.001	51783463	9.036	
DCB	6.216	6.214	-0.002	75626258	17.593	6.909	6.908	-0.001	92054016	19.888	

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	5%	5%
DCB	200.000	No Limits	9%	10%
4CMX	200.000	No Limits	5%	5%
DCB	200.000	No Limits	9%	10%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1221	2.406	0.000	-2.406	0	N.D.	2.828	2.823	-0.005	1640247	28.798	
Aroclor-1221 {2}	2.519	2.522	0.003	1638181	52.148	2.942	2.913	-0.029f	1477732	40.501	
Aroclor-1221 {3}	2.549	2.522	-0.027f	1638181	12.464	2.990	2.981	-0.009	5917569	45.577	
Sum Aroclor-1221				3276362	64.613				9035548	114.876	#
Average Aroclor-1221					<MDL					38.292	
Aroclor-1248 {4}	3.861	0.000	-3.861	0	N.D.	4.376	4.401	0.025f	1483923	7.486	
Aroclor-1248 {5}	3.880	0.000	-3.880	0	N.D.	4.409	4.401	-0.008	1483923	6.166	
Sum Aroclor-1248				0	N.D.				2967845	13.652	
Average Aroclor-1248					N.D.					<MDL	
Aroclor-1254	3.831	0.000	-3.831	0	N.D.	4.406	4.401	-0.005	1483923	6.112	
Aroclor-1254 {2}	4.015	0.000	-4.015	0	N.D.	4.541	4.557	0.016f	3319457	13.005	
Aroclor-1254 {3}	4.294	0.000	-4.294	0	N.D.	4.788	4.773	-0.015f	5799621	27.087	
Aroclor-1254 {5}	4.488	0.000	-4.488	0	N.D.	5.152	5.159	0.007	3095407	16.259	
Sum Aroclor-1254				0	N.D.				13698408	62.463	
Average Aroclor-1254					N.D.					<MDL	
Aroclor-1260 {2}	4.888	0.000	-4.888	0	N.D.	5.152	5.159	0.007	3095407	10.889	
Aroclor-1260 {3}	5.058	0.000	-5.058	0	N.D.	5.467	5.465	-0.002	299170	1.336	
Sum Aroclor-1260				0	N.D.				3394577	12.226	
Average Aroclor-1260					N.D.					<MDL	
Aroclor-1262	4.615	4.639	0.024f	1837732	9.023	5.152	5.159	0.007	3095407	13.731	
Aroclor-1262 {2}	4.887	0.000	-4.887	0	N.D.	5.466	5.465	-0.001	299170	0.984	
Aroclor-1262 {3}	5.058	0.000	-5.058	0	N.D.	5.674	5.703	0.029f	3031707	9.932	
Sum Aroclor-1262				1837732	9.023				6426284	24.647	#
Average Aroclor-1262					<MDL					<MDL	
Aroclor-1268 {3}	5.649	0.000	-5.649	0	N.D.	6.306	6.281	-0.025f	4097195	6.129	
Sum Aroclor-1268				0	N.D.				4097195	6.129	
Average Aroclor-1268					N.D.					<MDL	
4,4' DDD	4.638	4.639	0.001	1837732	<MDL	5.183	5.173	-0.010	5185193	<MDL	#
4,4' DDE	4.220	0.000	-4.220	0	N.D.	4.773	4.773	0.000	5799621	<MDL	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2067.D

Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1260	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDD	Both	-	Deletion ==	DMP
4,4' DDE #2		-	Deletion ==	DMP

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**11/12/2020 14:40**	**Matrix:**	**W**
Lab Sample ID:	**527510016**	**Date Received:**	**11/14/2020 09:20**		
Client Sample:	**PCB-8082**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB05-20-209985**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 20:51**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1010.35 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2068.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2068.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0330	ug/L	0.0330	0.0990	1
11104-28-2	Aroclor-1221	U	0.0330	ug/L	0.0330	0.0990	1
11141-16-5	Aroclor-1232	U	0.0330	ug/L	0.0330	0.0990	1
53469-21-9	Aroclor-1242	U	0.0330	ug/L	0.0330	0.0990	1
12672-29-6	Aroclor-1248	U	0.0330	ug/L	0.0330	0.0990	1
11097-69-1	Aroclor-1254	U	0.0330	ug/L	0.0330	0.0990	1
11096-82-5	Aroclor-1260	U	0.0330	ug/L	0.0330	0.0990	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%		Acceptable Limits
4cmx	0.0359	0.198	ug/L	18	*	(30%-113%)
Decachlorobiphenyl	0.0525	0.198	ug/L	27	*	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

11/21/2020

11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2068.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 20:51 (#1); 20 Nov 2020 20:51 (#2)
Operator : YS1   InstName : ECD2
Sample   : |527510016|2065082|1|SVA|1|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB05-20-209985|||
ALS Vial : 0 (Sig #1); 66 (Sig #2)   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 21 04:57:39 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.271	0.004	198378311	36.308	2.589	2.591	0.002	305916771	53.380
DCB	6.216	6.212	-0.004	228146536	53.074	6.909	6.907	-0.002	272210410	58.811

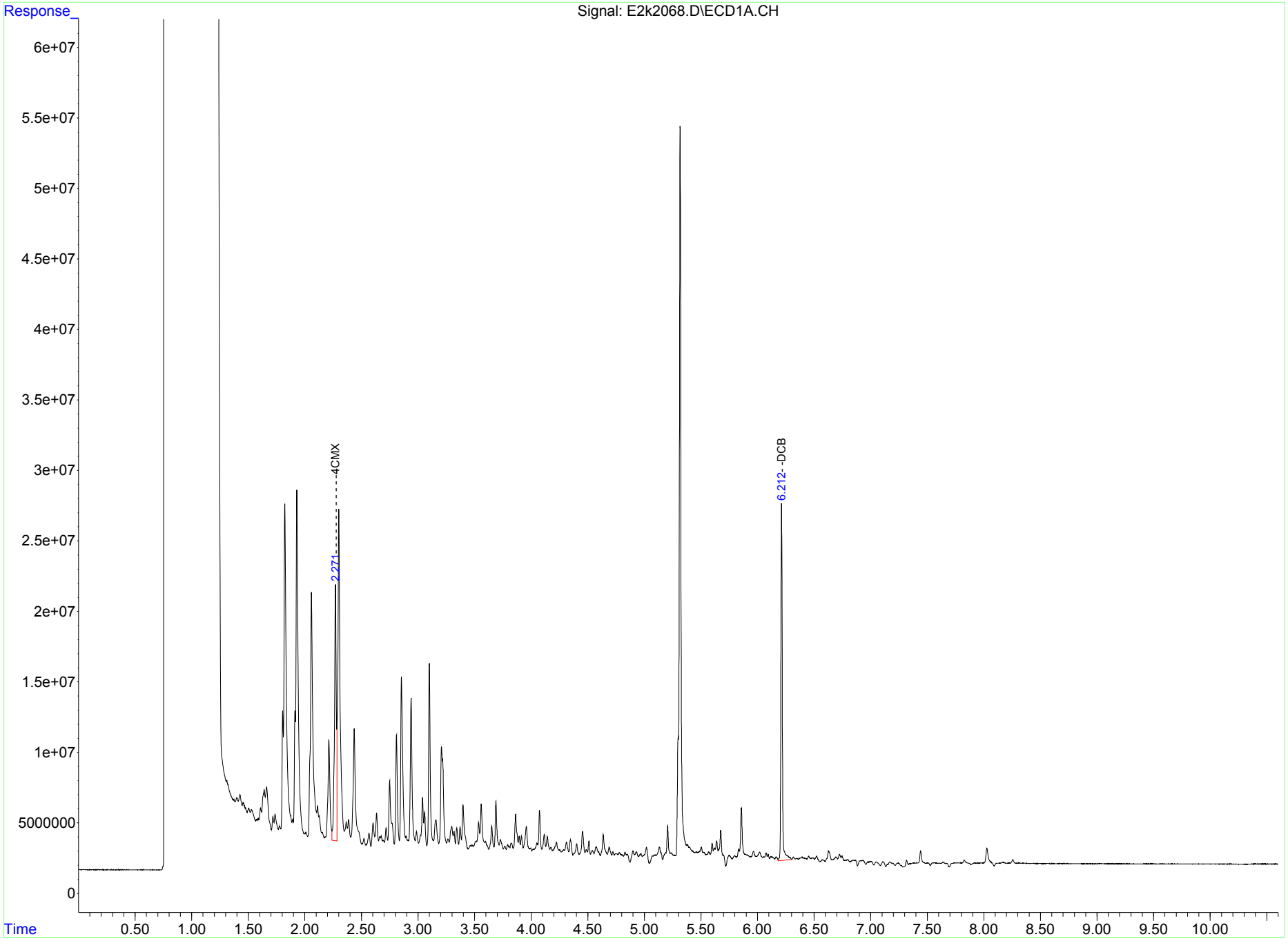
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	18%	27%
DCB	200.000	No Limits	27%	29%

Target Compounds

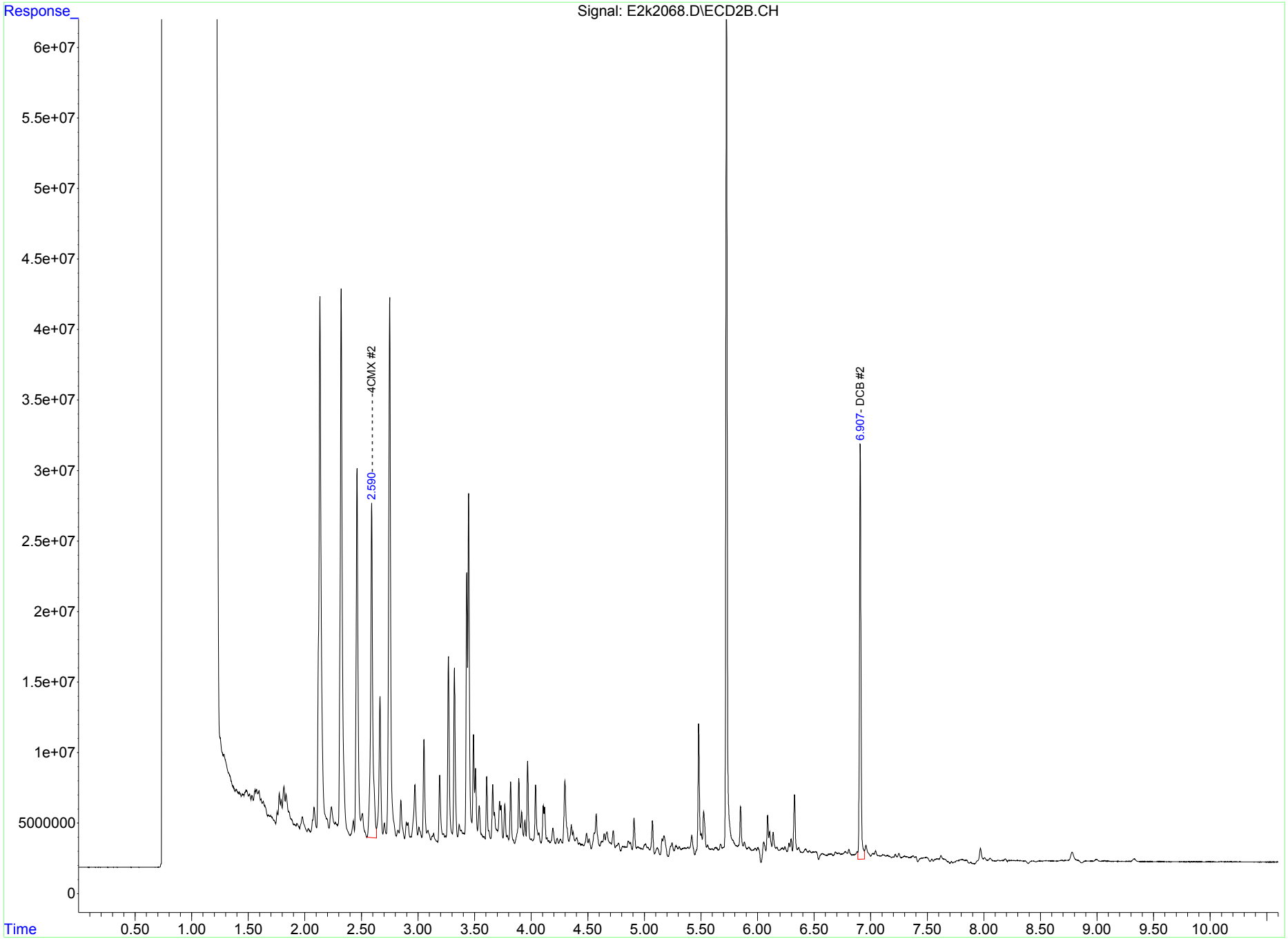
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2068.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2068.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.271	0.004	198378311	36.308	2.589	2.591	0.002	305916771	53.380
DCB	6.216	6.212	-0.004	228146536	53.074	6.909	6.907	-0.002	272210410	58.811

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	18%	27%
DCB	200.000	No Limits	27%	29%
4CMX	200.000	No Limits	18%	27%
DCB	200.000	No Limits	27%	29%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.810	-0.007	84226324	473.214	3.658	3.661	0.003	41045380	156.728
Aroclor-1016 {2}	3.165	3.157	-0.008	37585384	165.775	3.757	3.767	0.010	31432586	191.892
Aroclor-1016 {3}	3.261	3.265	0.004	10181987	65.238	3.834	3.819	-0.015	46513201	470.242
Aroclor-1016 {4}	3.398	3.398	0.000	49132146	601.056	3.905	3.917	0.012	27296420	283.940
Aroclor-1016 {5}	3.558	3.559	0.001	44452317	378.575	4.102	4.107	0.005	25306487	195.598
Sum Aroclor-1016				225578157	1683.859				171594074	1298.399
Average Aroclor-1016					336.772					259.680
Aroclor-1221	2.406	2.387	-0.019f	18326176	309.142	2.828	2.823	-0.005	7599081	133.419
Aroclor-1221 {2}	2.519	2.522	0.003	4641122	147.742	2.942	2.913	-0.029f	11469970	314.363
Aroclor-1221 {3}	2.549	2.568	0.019f	10323043	78.545	2.990	2.973	-0.017f	59195682	455.926
Sum Aroclor-1221				33290340	535.429				78264733	903.708 #
Average Aroclor-1221					178.476					301.236 #
Aroclor-1232	2.817	2.810	-0.007	84226324	1074.560 A	3.657	3.661	0.004	41045380	400.985
Aroclor-1232 {2}	3.165	3.157	-0.008	37585384	373.942	3.756	3.767	0.011	31432586	474.769
Aroclor-1232 {3}	3.261	3.265	0.004	10181987	152.526	3.832	3.819	-0.013	46513201	1119.925 A
Aroclor-1232 {4}	3.307	3.299	-0.008	26989452	624.849	3.904	3.917	0.013	27296420	838.757
Aroclor-1232 {5}	3.557	3.559	0.002	44452317	992.439	3.936	3.945	0.009	18645610	517.454
Sum Aroclor-1232				203435463	3218.316				164933197	3351.889
Average Aroclor-1232					643.663					670.378
Aroclor-1242	2.817	2.810	-0.007	84226324	559.101	3.657	3.661	0.004	41045380	179.029
Aroclor-1242 {2}	3.165	3.157	-0.008	37585384	190.144	3.756	3.767	0.011	31432586	213.888
Aroclor-1242 {3}	3.261	3.265	0.004	10181987	77.089	3.833	3.819	-0.014	46513201	516.690
Aroclor-1242 {4}	3.307	3.299	-0.008	26989452	317.485	3.904	3.917	0.013	27296420	341.153
Aroclor-1242 {5}	3.397	3.398	0.001	49132146	744.125	3.937	3.945	0.008	18645610	212.065
Sum Aroclor-1242				208115292	1887.946				164933197	1462.825
Average Aroclor-1242					377.589					292.565
Aroclor-1248	3.165	3.157	-0.008	37585384	338.850	3.657	3.661	0.004	41045380	317.201
Aroclor-1248 {2}	3.397	3.398	0.001	49132146	415.184	3.905	3.917	0.012	27296420	198.021
Aroclor-1248 {3}	3.557	3.559	0.002	44452317	272.985	4.102	4.107	0.005	25306487	138.615
Aroclor-1248 {4}	3.861	3.862	0.001	40766451	229.427	4.376	4.371	-0.005	13575835	68.485
Aroclor-1248 {5}	3.880	3.894	0.014	12461862	71.133	4.409	4.403	-0.006	14572499	60.551
Sum Aroclor-1248				184398159	1327.578				121796621	782.873 #
Average Aroclor-1248					265.516					156.575 #

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.831	3.828	-0.003	12247839	65.228	4.406	4.403	-0.003	14572499	60.019	
Aroclor-1254 {2}	4.015	0.000	-4.015	0	N.D.	4.541	4.512	-0.029f	10493448	41.111	
Aroclor-1254 {3}	4.294	4.312	0.018f	17329781	52.276	4.788	4.772	-0.016f	15039423	70.241	
Aroclor-1254 {4}	4.422	4.402	-0.020f	18608007	158.829	5.029	5.011	-0.018f	8347924	29.590	
Aroclor-1254 {5}	4.488	4.488	0.000	7633461	33.192	5.152	5.157	0.005	10108350	53.096	
Sum Aroclor-1254				55819088	309.525				58561643	254.057	
Average Aroclor-1254					77.381					50.811	#
Aroclor-1260	4.422	4.402	-0.020f	18608007	85.417	5.006	5.002	-0.004	6309692	28.531	
Aroclor-1260 {2}	4.888	4.899	0.011	12017709	59.397	5.152	5.157	0.005	10108350	35.561	
Aroclor-1260 {3}	5.058	0.000	-5.058	0	N.D.	5.467	5.480	0.013	91966808	410.813	
Aroclor-1260 {4}	5.272	0.000	-5.272	0	N.D.	5.846	5.850	0.004	54745571	106.178	
Aroclor-1260 {5}	5.466	0.000	-5.466	0	N.D.	6.103	6.107	0.004	26674434	74.724	
Sum Aroclor-1260				30625716	144.814				189804855	655.806	#
Average Aroclor-1260					72.407					131.161	#
Aroclor-1262	4.615	4.637	0.022f	32428264	159.217	5.152	5.157	0.005	10108350	44.839	
Aroclor-1262 {2}	4.887	4.899	0.012	12017709	45.381	5.466	5.480	0.014	91966808	302.598	
Aroclor-1262 {3}	5.058	0.000	-5.058	0	N.D.	5.674	5.675	0.001	18523302	60.682	
Aroclor-1262 {4}	5.271	0.000	-5.271	0	N.D.	5.846	5.850	0.004	54745571	95.334	
Aroclor-1262 {5}	5.490	5.503	0.013	21097099	97.924	6.097	6.089	-0.008	32600067	81.168	
Sum Aroclor-1262				65543071	302.522				207944098	584.621	#
Average Aroclor-1262					100.841					116.924	
Aroclor-1268	5.490	5.503	0.013	21097099	29.617	6.096	6.089	-0.007	32600067	41.661	
Aroclor-1268 {2}	5.516	5.503	-0.013	21097099	28.456	6.129	6.138	0.009	29315651	34.491	
Aroclor-1268 {3}	5.649	5.639	-0.010	20730501	34.185	6.306	6.296	-0.010	16554001	24.764	
Aroclor-1268 {4}	5.892	5.908	0.016f	11886566	45.952	6.501	0.000	-6.501	0	N.D.	
Aroclor-1268 {5}	6.088	6.094	0.006	4826684	2.587	6.729	6.719	-0.010	8151165	3.909	
Sum Aroclor-1268				79637950	140.797				86620884	104.825	
Average Aroclor-1268					<MDL					<MDL	
4,4' DDT	4.830	4.829	-0.001	8531535	<MDL	5.402	5.385	-0.017f	12871013	7.404	
4,4' DDD	4.638	4.637	-0.001	32428264	<MDL	5.183	5.174	-0.009	23030197	<MDL	#
4,4' DDE	4.220	4.224	0.004	23667088	<MDL	4.773	4.772	-0.001	15039423	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2068.D

Aroclor-1016	Multi	-	Deletion ==	DMP
Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1260	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD	Both	-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

Standards

Calibration History Report ECD2
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

11/20/2020

Cal Lvl:1 Amt:10.00 Last Updated with: C:\msdchem\1\data\110420.S\E2k0411.D

JC 11/20/2020

Injection Date	Mix	Calibration File
26 Oct 2020 07:03	A	C:\msdchem\1\data\102620.S\E2J2614.D
04 Nov 2020 09:41	B	C:\msdchem\1\data\110420.S\E2k0411.D
03 Nov 2020 08:22	D	C:\msdchem\1\data\110320.S\E2k0311.D
03 Nov 2020 09:35	E	C:\msdchem\1\data\110320.S\E2k0317.D
03 Nov 2020 10:47	O	C:\msdchem\1\data\110320.S\E2k0323.D
04 Nov 2020 10:54	K	C:\msdchem\1\data\110420.S\E2k0417.D

Cal Lvl:2 Amt:25.00 Last Updated with: C:\msdchem\1\data\110420.S\E2k0412.D

Injection Date	Mix	Calibration File
26 Oct 2020 07:15	A	C:\msdchem\1\data\102620.S\E2J2615.D
04 Nov 2020 09:53	B	C:\msdchem\1\data\110420.S\E2k0412.D
03 Nov 2020 08:35	D	C:\msdchem\1\data\110320.S\E2k0312.D
03 Nov 2020 09:47	E	C:\msdchem\1\data\110320.S\E2k0318.D
03 Nov 2020 10:59	O	C:\msdchem\1\data\110320.S\E2k0324.D
04 Nov 2020 11:06	K	C:\msdchem\1\data\110420.S\E2k0418.D

Cal Lvl:3 Amt:50.00 Last Updated with: C:\msdchem\1\data\110420.S\E2k0413.D

Injection Date	Mix	Calibration File
26 Oct 2020 07:27	A	C:\msdchem\1\data\102620.S\E2J2616.D
04 Nov 2020 10:05	B	C:\msdchem\1\data\110420.S\E2k0413.D
03 Nov 2020 08:47	D	C:\msdchem\1\data\110320.S\E2k0313.D
03 Nov 2020 09:59	E	C:\msdchem\1\data\110320.S\E2k0319.D
03 Nov 2020 11:11	O	C:\msdchem\1\data\110320.S\E2k0325.D
04 Nov 2020 11:18	K	C:\msdchem\1\data\110420.S\E2k0419.D

Cal Lvl:4 Amt:100.00 Last Updated with: C:\msdchem\1\data\110420.S\E2k0414.D

Injection Date	Mix	Calibration File
26 Oct 2020 07:39	A	C:\msdchem\1\data\102620.S\E2J2617.D
04 Nov 2020 10:17	B	C:\msdchem\1\data\110420.S\E2k0414.D
03 Nov 2020 08:59	D	C:\msdchem\1\data\110320.S\E2k0314.D
03 Nov 2020 10:11	E	C:\msdchem\1\data\110320.S\E2k0320.D
26 Oct 2020 05:03	J	C:\msdchem\1\data\102620.S\E2J2604.D
03 Nov 2020 11:23	O	C:\msdchem\1\data\110320.S\E2k0326.D
26 Oct 2020 04:39	X	C:\msdchem\1\data\102620.S\E2J2602.D
26 Oct 2020 04:51	F	C:\msdchem\1\data\102620.S\E2J2603.D
04 Nov 2020 11:30	K	C:\msdchem\1\data\110420.S\E2k0420.D

Cal Lvl:5 Amt:400.00 Last Updated with: C:\msdchem\1\data\110420.S\E2k0415.D

Injection Date	Mix	Calibration File
26 Oct 2020 07:51	A	C:\msdchem\1\data\102620.S\E2J2618.D
04 Nov 2020 10:29	B	C:\msdchem\1\data\110420.S\E2k0415.D
03 Nov 2020 09:11	D	C:\msdchem\1\data\110320.S\E2k0315.D
03 Nov 2020 10:23	E	C:\msdchem\1\data\110320.S\E2k0321.D
03 Nov 2020 11:35	O	C:\msdchem\1\data\110320.S\E2k0327.D
04 Nov 2020 11:42	K	C:\msdchem\1\data\110420.S\E2k0421.D

ECD2_8082_102620.M Fri Nov 20 06:57:44 2020

SDG: 2021-130

Response Factor Report ECD2
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

GS 11/20/2020

JC 11/20/2020

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
1)SA 4CMX	5.6392704	5.4095874	5.4137906	5.4963190	5.3596859		5.4637	AVRG	E6	2.0076
2)MAL1 Aroclor-1016	1.8642862	1.8493350	1.7503513	1.7395314	1.6958780		1.7799	AVRG	E5	4.1195
3)MAL1 Aroclor-1016 {2}	2.4479206	2.2747057	2.1841384	2.2108220	2.2186846		2.2673	AVRG	E5	4.6858
4)MAL1 Aroclor-1016 {3}	1.7156805	1.5887918	1.5012926	1.4745069	1.5234764		1.5607	AVRG	E5	6.1749
5)MAL1 Aroclor-1016 {4}	9.0151998	8.3884588	7.7684088	7.6494413	8.0499880		8.1743	AVRG	E4	6.7247
6)MAL1 Aroclor-1016 {5}	1.2795685	1.1896634	1.1179060	1.1158151	1.1680480		1.1742	AVRG	E5	5.7062
7)JL2 Aroclor-1221				5.9280702			5.9281	AVRG	E4	0.0000
8)JL2 Aroclor-1221 {2}				3.1413777			3.1414	AVRG	E4	0.0000
9)JL2 Aroclor-1221 {3}				1.3142797			1.3143	AVRG	E5	0.0000
10)FL3 Aroclor-1232				7.8382160			7.8382	AVRG	E4	0.0000
11)FL3 Aroclor-1232 {2}				1.0051122			1.0051	AVRG	E5	0.0000
12)FL3 Aroclor-1232 {3}				6.6755622			6.6756	AVRG	E4	0.0000
13)FL3 Aroclor-1232 {4}				4.3193537			4.3194	AVRG	E4	0.0000
14)FL3 Aroclor-1232 {5}				4.4790995			4.4791	AVRG	E4	0.0000
15)DL4 Aroclor-1242	1.6193407	1.4891894	1.5294424	1.5256065	1.3687159		1.5065	AVRG	E5	6.0210

SDG: 202T-130

Response Factor Report ECD2
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
16)DL4 Aroclor-1242 {2}	2.1073302	2.0179701	1.9464736	1.9892393	1.8223650		1.9767	AVRG	E5	5.2852
17)DL4 Aroclor-1242 {3}	1.4844392	1.4149851	1.3403842	1.3292460	1.0349677		1.3208	AVRG	E5	12.9930
18)DL4 Aroclor-1242 {4}	8.8917883	8.8994827	8.4879483	8.3584834	7.8673318		8.5010	AVRG	E4	5.0374
19)DL4 Aroclor-1242 {5}	7.3846679	6.9019522	6.4890054	6.3057500	5.9319783		6.6027	AVRG	E4	8.4733
20)EL5 Aroclor-1248	1.1589550	1.1136748	1.0808939	1.1002632	1.0922372		1.1092	AVRG	E5	2.7287
21)EL5 Aroclor-1248 {2}	1.2465940	1.1731910	1.1285701	1.1627559	1.2058077		1.1834	AVRG	E5	3.7867
22)EL5 Aroclor-1248 {3}	1.7204079	1.6065409	1.5600778	1.6025571	1.6523103		1.6284	AVRG	E5	3.7419
23)EL5 Aroclor-1248 {4}	1.7535529	1.6225035	1.7328928	1.8248982	1.9505705		1.7769	AVRG	E5	6.8225
24)EL5 Aroclor-1248 {5}	1.7288111	1.5995425	1.7559255	1.7980045	1.8772641		1.7519	AVRG	E5	5.8214
25)BL6 Aroclor-1254	2.0066013	1.8762032	1.8083054	1.8135454	1.8838476		1.8777	AVRG	E5	4.2594
26)BL6 Aroclor-1254 {2}	2.5116648	2.3895670	2.3677755	2.4104187	2.5399437		2.4439	AVRG	E5	3.1486
27)BL6 Aroclor-1254 {3}	3.2888058	3.2492506	3.2412497	3.3336047	3.4623309		3.3150	AVRG	E5	2.7191
28)BL6 Aroclor-1254 {4}	1.2014461	1.1467767	1.1259411	1.1428856	1.2408250		1.1716	AVRG	E5	4.0953
29)BL6 Aroclor-1254 {5}	2.1270431	2.2439991	2.2397666	2.3363088	2.5518731		2.2998	AVRG	E5	6.9243
30)MAL7 Aroclor-1260	2.2314992	2.1214300	2.1304490	2.1497018	2.2594091					

Response Factor Report ECD2
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
31)MAL7 Aroclor-1260 {2}	2.0636142	2.0015200	1.9483690	1.9967349	2.1061774		2.0233	AVRG	E5	3.0556
32)MAL7 Aroclor-1260 {3}	2.1147947	2.1275538	2.1322623	2.2242900	2.3645001		2.1927	AVRG	E5	4.8092
33)MAL7 Aroclor-1260 {4}	5.1556960	4.5345961	4.6322063	4.7644992	4.8914059		4.7957	AVRG	E5	5.0503
34)MAL7 Aroclor-1260 {5}	2.0283458	1.9861855	2.1687878	2.3417446	2.5158431		2.2082	AVRG	E5	10.0161
35)KL8 Aroclor-1262	2.0447306	2.0117196	2.0330250	2.0533924	2.0407986		2.0367	AVRG	E5	0.7753
36)KL8 Aroclor-1262 {2}	2.6256566	2.6871583	2.6414134	2.6822246	2.6044638		2.6482	AVRG	E5	1.3540
37)KL8 Aroclor-1262 {3}	2.4721225	2.5179267	2.5147345	2.5540586	2.5327938		2.5183	AVRG	E5	1.1969
38)KL8 Aroclor-1262 {4}	5.4566624	4.9823808	5.1039609	5.1323855	4.9092945		5.1169	AVRG	E5	4.1115
39)KL8 Aroclor-1262 {5}	2.2365898	2.1764634	2.1701477	2.1274758	2.0615449		2.1544	AVRG	E5	3.0114
40)OL9 Aroclor-1268	7.2479418	7.0543315	7.1224109	7.2770460	6.9145030		7.1232	AVRG	E5	2.0766
41)OL9 Aroclor-1268 {2}	7.5970935	7.1028943	7.4817161	7.6536487	7.2341657		7.4139	AVRG	E5	3.1966
42)OL9 Aroclor-1268 {3}	6.0935075	5.8981174	6.0707691	6.2698883	5.9891712		6.0643	AVRG	E5	2.2793
43)OL9 Aroclor-1268 {4}	2.6306296	2.5273520	2.4673916	2.6225733	2.6856284		2.5867	AVRG	E5	3.3901
44)OL9 Aroclor-1268 {5}	1.9642937	1.9236766	1.8701865	1.8693570	1.7019866		1.8659	AVRG	E6	5.3538

Response Factor Report ECD2
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
45)X 4,4' DDT				1.0904859			1.0905	AVRG	E6	0.0000
46)X 4,4' DDD				3.6110206			3.6110	AVRG	E6	0.0000
47)X 4,4' DDE				5.2235952			5.2236	AVRG	E6	0.0000
48)SA DCB	4.3651112	4.2353493	4.2308843	4.2074458	4.4545464		4.2987	AVRG	E6	2.4848

COLUMN #2

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
1)SA 4CMX	6.0174874	5.7146157	5.5625625	5.6778874	5.6818050		5.7309	AVRG	E6	2.9709
2)MAL1 Aroclor-1016	2.9316026	2.6620288	2.5016119	2.4655277	2.5337077		2.6189	AVRG	E5	7.2494
3)MAL1 Aroclor-1016 {2}	1.9593877	1.6915083	1.5575396	1.4928074	1.4889135		1.6380	AVRG	E5	12.0537
4)MAL1 Aroclor-1016 {3}	1.1380499	1.0268101	0.9404221	0.9102182	0.9301688		0.9891	AVRG	E5	9.5474
5)MAL1 Aroclor-1016 {4}	1.1520812	1.0131530	0.9142220	0.8677948	0.8594765		0.9613	AVRG	E5	12.7838
6)MAL1 Aroclor-1016 {5}	1.5320188	1.3269053	1.2260720	1.1854078	1.1986097		1.2938	AVRG	E5	11.1499
7)JL2 Aroclor-1221				5.6956666			5.6957	AVRG	E4	0.0000
8)JL2 Aroclor-1221 {2}				3.6486340			3.6486	AVRG	E4	0.0000
9)JL2 Aroclor-1221 {3}				1.2983626						

Response Factor Report ECD2
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
							1.2984	AVRG	E5	0.0000
10)FL3 Aroclor-1232				1.0236151			1.0236	AVRG	E5	0.0000
11)FL3 Aroclor-1232 {2}				6.6206123			6.6206	AVRG	E4	0.0000
12)FL3 Aroclor-1232 {3}				4.1532413			4.1532	AVRG	E4	0.0000
13)FL3 Aroclor-1232 {4}				3.2543898			3.2544	AVRG	E4	0.0000
14)FL3 Aroclor-1232 {5}				3.6033362			3.6033	AVRG	E4	0.0000
15)DL4 Aroclor-1242	2.5977767	2.3832341	2.2203346	2.2171412	2.0448179		2.2927	AVRG	E5	9.0882
16)DL4 Aroclor-1242 {2}	1.7713975	1.5615509	1.4209083	1.3662582	1.2278070		1.4696	AVRG	E5	14.0714
17)DL4 Aroclor-1242 {3}	1.0549040	0.9563817	0.8664172	0.8451030	0.7782700		0.9002	AVRG	E5	11.9298
18)DL4 Aroclor-1242 {4}	9.8897280	8.6748529	7.6446104	7.2931277	6.5038205		8.0012	AVRG	E4	16.4042
19)DL4 Aroclor-1242 {5}	1.0811933	0.9447027	0.8434487	0.8070910	0.7197697		0.8792	AVRG	E5	15.7788
20)EL5 Aroclor-1248	1.4058637	1.2881654	1.2764621	1.2427771	1.2566582		1.2940	AVRG	E5	5.0193
21)EL5 Aroclor-1248 {2}	1.6137222	1.3930889	1.3143397	1.2836622	1.2874845		1.3785	AVRG	E5	10.0610
22)EL5 Aroclor-1248 {3}	2.1061942	1.8203542	1.7297480	1.7128272	1.7592020		1.8257	AVRG	E5	8.8776
23)EL5 Aroclor-1248 {4}	2.2054898	1.9551961	1.9010637	1.8995388	1.9503079		1.9823	AVRG	E5	6.4316

SDG: 2021-130

Response Factor Report ECD2
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
24)EL5 Aroclor-1248 {5}	2.7079869	2.4342146	2.3270655	2.3236085	2.2403302		2.4066	AVRG	E5	7.5613
25)BL6 Aroclor-1254	2.7466755	2.4315401	2.3342904	2.2590578	2.3684168		2.4280	AVRG	E5	7.7721
26)BL6 Aroclor-1254 {2}	2.7926907	2.5915192	2.4475491	2.3859623	2.5445840		2.5525	AVRG	E5	6.1331
27)BL6 Aroclor-1254 {3}	2.3080814	2.1539694	2.0821556	2.0068739	2.1545454		2.1411	AVRG	E5	5.2071
28)BL6 Aroclor-1254 {4}	3.0917704	2.8283779	2.7454221	2.6220989	2.8181310		2.8212	AVRG	E5	6.1049
29)BL6 Aroclor-1254 {5}	1.9939175	1.8901059	1.9673838	1.7940239	1.8734643		1.9038	AVRG	E5	4.1793
30)MAL7 Aroclor-1260	2.4917061	2.2677788	2.1072260	2.0194749	2.1715987		2.2116	AVRG	E5	8.1836
31)MAL7 Aroclor-1260 {2}	3.1732748	2.9267682	2.7048624	2.5924407	2.8154900		2.8426	AVRG	E5	7.8411
32)MAL7 Aroclor-1260 {3}	2.5793221	2.2853932	2.1082943	2.0340204	2.1862446		2.2387	AVRG	E5	9.4720
33)MAL7 Aroclor-1260 {4}	5.5114876	5.1167456	4.9014814	4.8527230	5.3976996		5.1560	AVRG	E5	5.6801
34)MAL7 Aroclor-1260 {5}	3.8910117	3.5321138	3.3974580	3.3350647	3.6930244		3.5697	AVRG	E5	6.3353
35)KL8 Aroclor-1262	2.4347212	2.3665631	2.2862333	2.1558354	2.0283857		2.2543	AVRG	E5	7.2519
36)KL8 Aroclor-1262 {2}	3.1993529	3.1343232	3.0510796	2.9308944	2.8805672		3.0392	AVRG	E5	4.4062
37)KL8 Aroclor-1262 {3}	3.2922715	3.0918232	3.0723247	2.9580300	2.8481508		3.0525	AVRG	E5	5.4354
38)KL8 Aroclor-1262 {4}	5.9839325	5.7336891	5.7341674	5.6124380	5.6483480		5.7425	AVRG	E5	2.5268

Response Factor Report ECD2
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

Cor Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
39)KL8 Aroclor-1262 {5}	4.2395091	4.0180817	3.9915275	3.8991004	3.9336962		4.0164	AVRG	E5	3.3171
40)OL9 Aroclor-1268	8.1686450	7.6354338	7.4885813	7.6506159	8.1820184		7.8251	AVRG	E5	4.1660
41)OL9 Aroclor-1268 {2}	9.2060430	8.4167718	8.1293536	8.2858587	8.4591421		8.4994	AVRG	E5	4.8877
42)OL9 Aroclor-1268 {3}	7.0378112	6.5279820	6.3969470	6.5760170	6.8849419		6.6847	AVRG	E5	3.9858
43)OL9 Aroclor-1268 {4}	3.1423746	2.8017057	2.5674016	2.7204497	2.7986674		2.8061	AVRG	E5	7.5063
44)OL9 Aroclor-1268 {5}	2.0733518	2.0287594	2.0017773	2.0854898	2.2367681		2.0852	AVRG	E6	4.3729
45)X 4,4' DDT				1.7383374			1.7383	AVRG	E6	0.0000
46)X 4,4' DDD				4.7336948			4.7337	AVRG	E6	0.0000
47)X 4,4' DDE				5.6411007			5.6411	AVRG	E6	0.0000
48)SA DCB	5.0073974	4.5749197	4.4391859	4.3817937	4.7394842		4.6286	AVRG	E6	5.4599

(#) = Out of Range ($) = Individual RF Out of Range ### Number of calibration levels exceeded format ###
AVRG = Average, LINR = Linear Regression, 1/x = the inverse of concentration, 1/x^2 = the inverse square of concentration

COMPOUND LISTING
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Last Update : Wed Nov 04 12:00:51 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

GS 11/20/2020

JC 11/20/2020

Integration Parameter File: autoint1.e

*** Integrator Events ***	
Initial Threshold	19.0
Initial Peak Width	0.010
Initial Area Reject	0.0
Shoulders OFF	

Integration Parameter File: autoint2.e

*** Integrator Events ***	
Initial Threshold	18.0
Initial Peak Width	0.001
Initial Area Reject	0.0
Shoulders OFF	

Compound	RT	RT Window
1)SA 4CMX	2.267	2.237- 2.297
2)MAL1Aroclor-1016	2.817	2.787- 2.847
3)MAL1Aroclor-1016 {2}	3.165	3.135- 3.195
4)MAL1Aroclor-1016 {3}	3.261	3.231- 3.291
5)MAL1Aroclor-1016 {4}	3.398	3.368- 3.428
6)MAL1Aroclor-1016 {5}	3.558	3.528- 3.588
7)JL2 Aroclor-1221	2.406	2.376- 2.436
8)JL2 Aroclor-1221 {2}	2.519	2.489- 2.549
9)JL2 Aroclor-1221 {3}	2.549	2.519- 2.579
10)FL3 Aroclor-1232	2.817	2.787- 2.847
11)FL3 Aroclor-1232 {2}	3.165	3.135- 3.195
12)FL3 Aroclor-1232 {3}	3.261	3.231- 3.291
13)FL3 Aroclor-1232 {4}	3.307	3.277- 3.337
14)FL3 Aroclor-1232 {5}	3.557	3.527- 3.587
15)DL4 Aroclor-1242	2.817	2.787- 2.847
16)DL4 Aroclor-1242 {2}	3.165	3.135- 3.195
17)DL4 Aroclor-1242 {3}	3.261	3.231- 3.291
18)DL4 Aroclor-1242 {4}	3.307	3.277- 3.337
19)DL4 Aroclor-1242 {5}	3.397	3.367- 3.427
20)EL5 Aroclor-1248	3.165	3.135- 3.195
21)EL5 Aroclor-1248 {2}	3.397	3.367- 3.427
22)EL5 Aroclor-1248 {3}	3.557	3.527- 3.587
23)EL5 Aroclor-1248 {4}	3.861	3.831- 3.891
24)EL5 Aroclor-1248 {5}	3.880	3.850- 3.910
25)BL6 Aroclor-1254	3.831	3.801- 3.861
26)BL6 Aroclor-1254 {2}	4.015	3.985- 4.045
27)BL6 Aroclor-1254 {3}	4.294	4.264- 4.324
28)BL6 Aroclor-1254 {4}	4.422	4.392- 4.452
29)BL6 Aroclor-1254 {5}	4.488	4.458- 4.518
30)MAL7Aroclor-1260	4.422	4.392- 4.452
31)MAL7Aroclor-1260 {2}	4.888	4.858- 4.918
32)MAL7Aroclor-1260 {3}	5.058	5.028- 5.088
33)MAL7Aroclor-1260 {4}	5.272	5.242- 5.302
34)MAL7Aroclor-1260 {5}	5.466	5.436- 5.496
35)KL8 Aroclor-1262	4.615	4.590- 4.645
36)KL8 Aroclor-1262 {2}	4.887	4.862- 4.917
37)KL8 Aroclor-1262 {3}	5.058	5.033- 5.088
38)KL8 Aroclor-1262 {4}	5.271	5.246- 5.301
39)KL8 Aroclor-1262 {5}	5.490	5.465- 5.520
40)OL9 Aroclor-1268	5.490	5.465- 5.520
41)OL9 Aroclor-1268 {2}	5.516	5.491- 5.546
42)OL9 Aroclor-1268 {3}	5.649	5.624- 5.679
43)OL9 Aroclor-1268 {4}	5.892	5.867- 5.922
44)OL9 Aroclor-1268 {5}	6.088	6.063- 6.117

45)X 4,4' DDT	4.830	4.805- 4.860
46)X 4,4' DDD	4.638	4.613- 4.668
47)X 4,4' DDE	4.220	4.190- 4.250
48)SA DCB	6.216	6.186- 6.246
49) Column #2	4.823	4.793- 4.853
50)SA 4CMX #2	2.589	2.559- 2.619
51)MAL1Aroclor-1016 #2	3.658	3.628- 3.688
52)MAL1Aroclor-1016 {2} #2	3.757	3.727- 3.787
53)MAL1Aroclor-1016 {3} #2	3.834	3.804- 3.864
54)MAL1Aroclor-1016 {4} #2	3.905	3.875- 3.935
55)MAL1Aroclor-1016 {5} #2	4.102	4.072- 4.132
56)JL2 Aroclor-1221 #2	2.828	2.798- 2.858
57)JL2 Aroclor-1221 {2} #2	2.942	2.912- 2.972
58)JL2 Aroclor-1221 {3} #2	2.990	2.960- 3.020
59)FL3 Aroclor-1232 #2	3.657	3.627- 3.687
60)FL3 Aroclor-1232 {2} #2	3.756	3.726- 3.786
61)FL3 Aroclor-1232 {3} #2	3.832	3.802- 3.862
62)FL3 Aroclor-1232 {4} #2	3.904	3.874- 3.934
63)FL3 Aroclor-1232 {5} #2	3.936	3.906- 3.966
64)DL4 Aroclor-1242 #2	3.657	3.627- 3.687
65)DL4 Aroclor-1242 {2} #2	3.756	3.726- 3.786
66)DL4 Aroclor-1242 {3} #2	3.833	3.803- 3.863
67)DL4 Aroclor-1242 {4} #2	3.904	3.874- 3.934
68)DL4 Aroclor-1242 {5} #2	3.937	3.907- 3.967
69)EL5 Aroclor-1248 #2	3.657	3.627- 3.687
70)EL5 Aroclor-1248 {2} #2	3.905	3.875- 3.935
71)EL5 Aroclor-1248 {3} #2	4.102	4.072- 4.132
72)EL5 Aroclor-1248 {4} #2	4.376	4.346- 4.406
73)EL5 Aroclor-1248 {5} #2	4.409	4.379- 4.439
74)BL6 Aroclor-1254 #2	4.406	4.376- 4.436
75)BL6 Aroclor-1254 {2} #2	4.541	4.511- 4.571
76)BL6 Aroclor-1254 {3} #2	4.788	4.758- 4.818
77)BL6 Aroclor-1254 {4} #2	5.029	4.999- 5.059
78)BL6 Aroclor-1254 {5} #2	5.152	5.122- 5.182
79)MAL7Aroclor-1260 #2	5.006	4.976- 5.036
80)MAL7Aroclor-1260 {2} #2	5.152	5.122- 5.182
81)MAL7Aroclor-1260 {3} #2	5.467	5.437- 5.497
82)MAL7Aroclor-1260 {4} #2	5.846	5.816- 5.877
83)MAL7Aroclor-1260 {5} #2	6.103	6.073- 6.133
84)KL8 Aroclor-1262 #2	5.152	5.122- 5.182
85)KL8 Aroclor-1262 {2} #2	5.466	5.436- 5.496
86)KL8 Aroclor-1262 {3} #2	5.674	5.644- 5.704
87)KL8 Aroclor-1262 {4} #2	5.846	5.816- 5.876
88)KL8 Aroclor-1262 {5} #2	6.097	6.067- 6.127
89)OL9 Aroclor-1268 #2	6.096	6.066- 6.126
90)OL9 Aroclor-1268 {2} #2	6.129	6.099- 6.159
91)OL9 Aroclor-1268 {3} #2	6.306	6.276- 6.336
92)OL9 Aroclor-1268 {4} #2	6.501	6.471- 6.531
93)OL9 Aroclor-1268 {5} #2	6.729	6.699- 6.759
94)X 4,4' DDT #2	5.402	5.372- 5.432
95)X 4,4' DDD #2	5.183	5.153- 5.213
96)X 4,4' DDE #2	4.773	4.473- 5.073
97)SA DCB #2	6.909	6.879- 6.939

ECD2_8082_102620.M Fri Nov 20 06:57:53 2020

GS 10/26/2020

JC 10/26/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2614.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 07:03 (#1); 26 Oct 2020 7:03 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR201009-01|ICAL|1|SVA|1|AR1660-1
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 14 (Sig #2) Sample Multiplier: 1

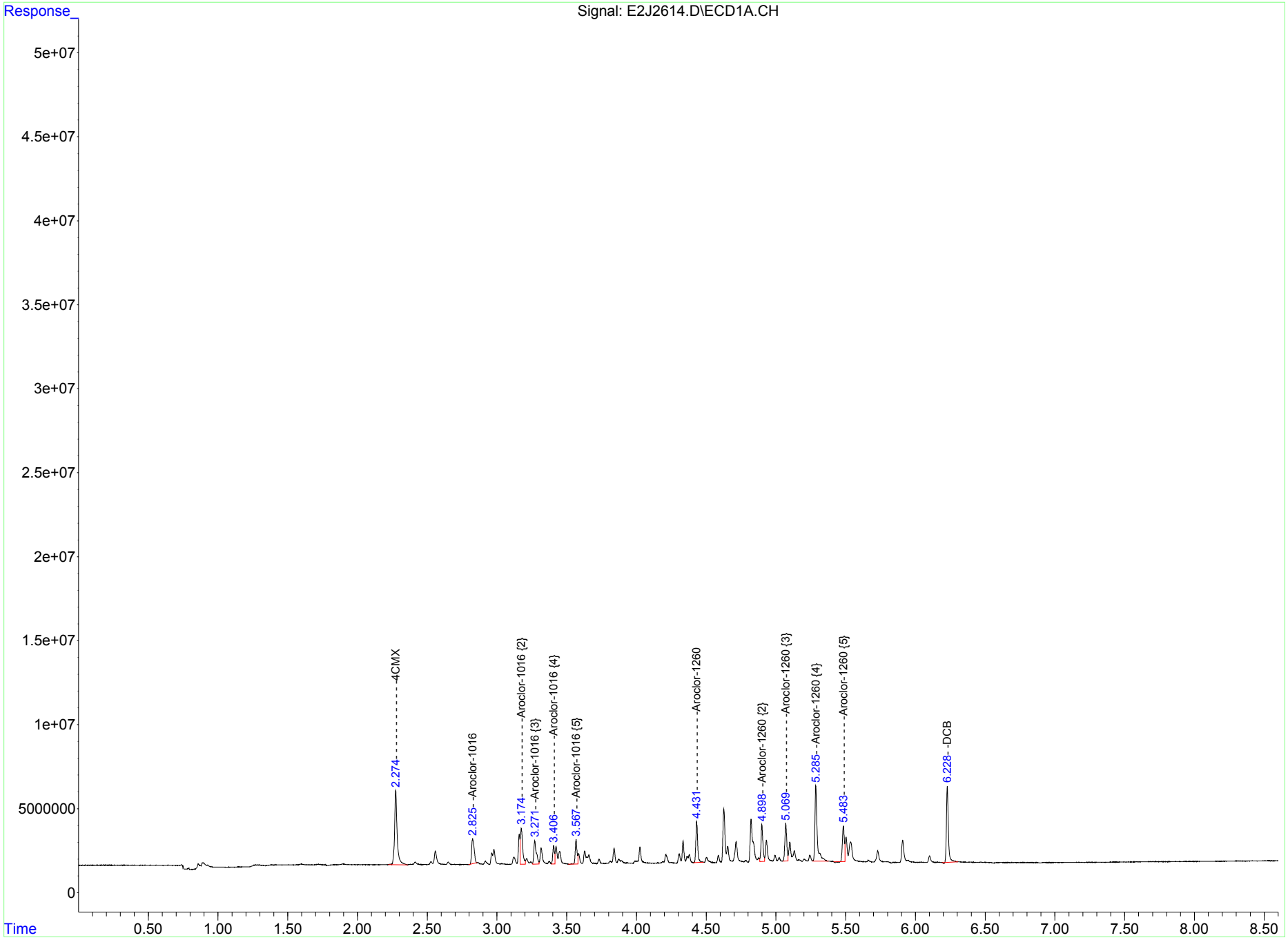
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:02:17 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

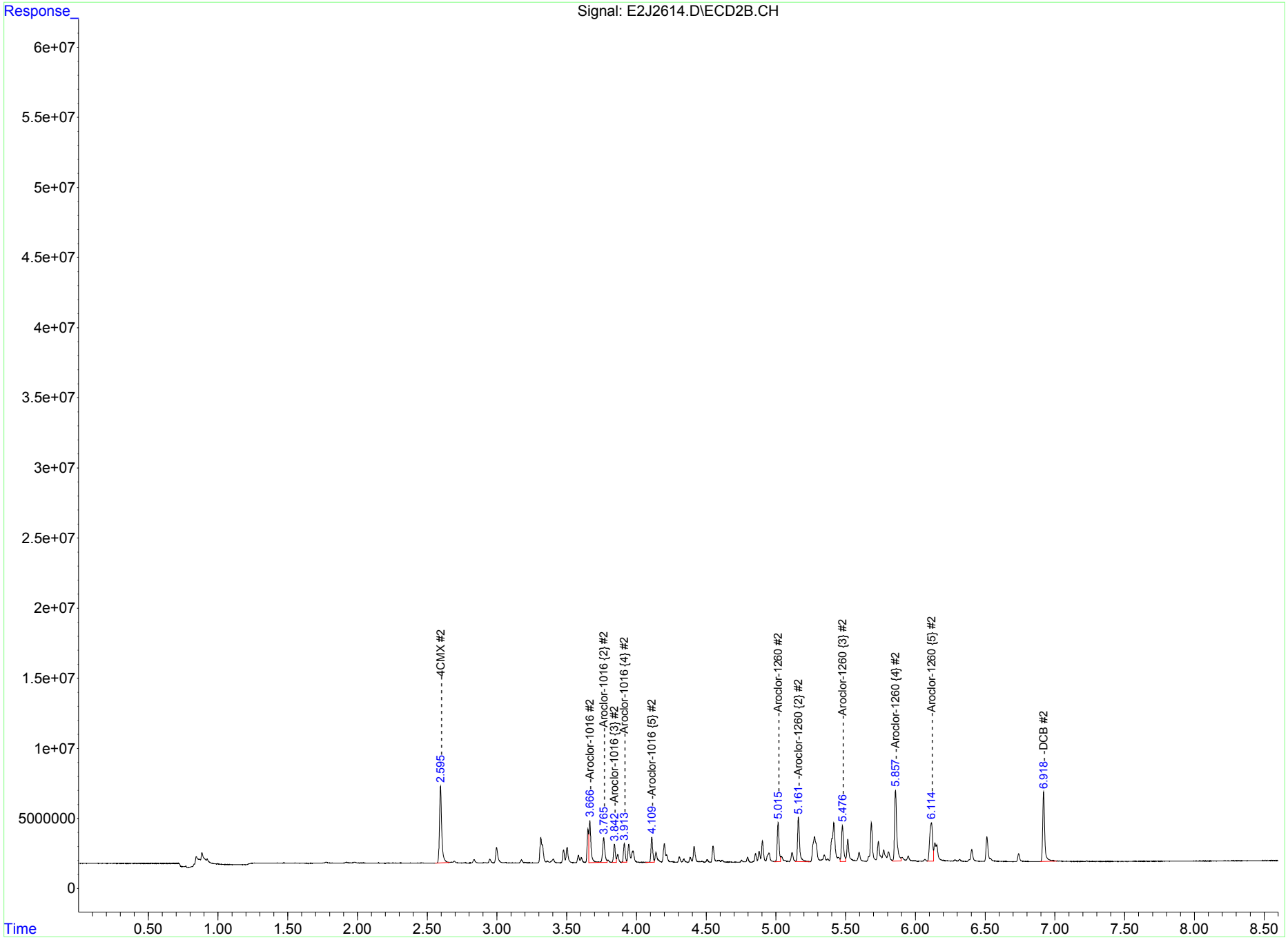
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.274	2.274	0.000	56392704	10.321	2.595	2.596	0.001	60174874	10.500
DCB	6.226	6.228	0.002	43651112	10.155	6.918	6.918	0.000	50073974	10.818
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.826	0.001	18642862	104.742	3.665	3.666	0.001	29316026	111.940
Aroclor-1016 {2}	3.173	3.175	0.002	24479206	107.969	3.764	3.765	0.001	19593877	119.618
Aroclor-1016 {3}	3.270	3.271	0.001	17156805	109.927	3.841	3.842	0.001	11380499	115.055
Aroclor-1016 {4}	3.406	3.406	0.000	9015200	110.287	3.912	3.913	0.001	11520812	119.840
Aroclor-1016 {5}	3.566	3.567	0.001	12795685	108.974	4.109	4.110	0.001	15320188	118.412
Sum Aroclor-1016				82089758	541.898				87131402	584.867
Average Aroclor-1016					108.380					116.973
Aroclor-1260	4.431	4.431	0.000	22314992	102.433	5.015	5.016	0.001	24917061	112.668
Aroclor-1260 {2}	4.898	4.899	0.001	20636142	101.993	5.160	5.161	0.001	31732748	111.634
Aroclor-1260 {3}	5.068	5.070	0.002	21147947	96.448	5.475	5.476	0.001	25793221	115.217
Aroclor-1260 {4}	5.282	5.285	0.003	51556960	107.507	5.855	5.857	0.002	55114876	106.894
Aroclor-1260 {5}	5.477	5.483	0.006	20283458	91.856	6.113	6.114	0.001	38910117	109.000
Sum Aroclor-1260				135939500	500.237				176468022	555.413
Average Aroclor-1260					100.047					111.083

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2614.D



Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2614.D



Quantitation Report
GEL Laboratories, LLC

10/26/2020

10/26/2020

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2615.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 07:15 (#1); 26 Oct 2020 7:15 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR201009-02|ICAL|1|SVA|1|AR1660-2
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 15 (Sig #2) Sample Multiplier: 1

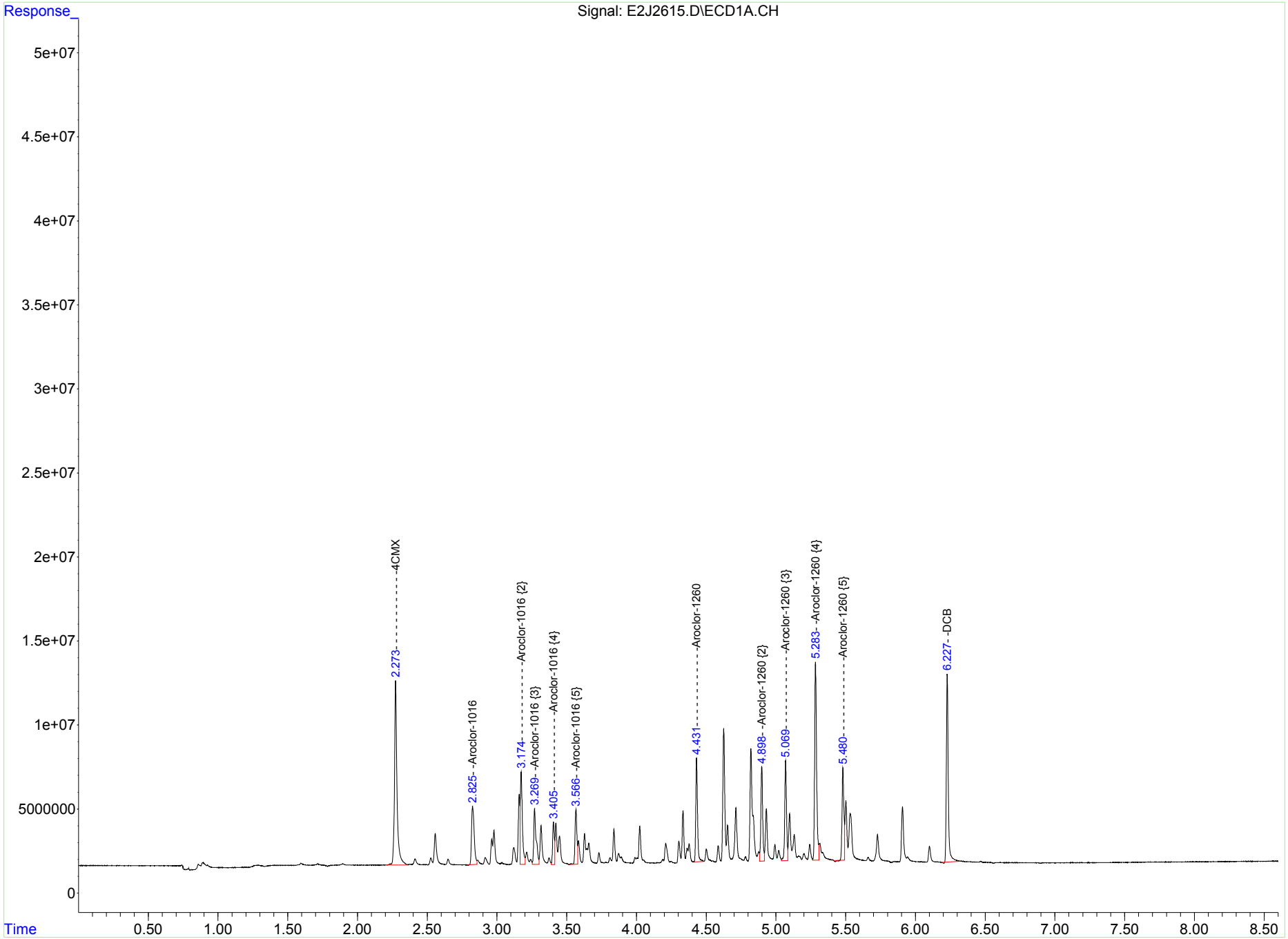
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:02:19 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

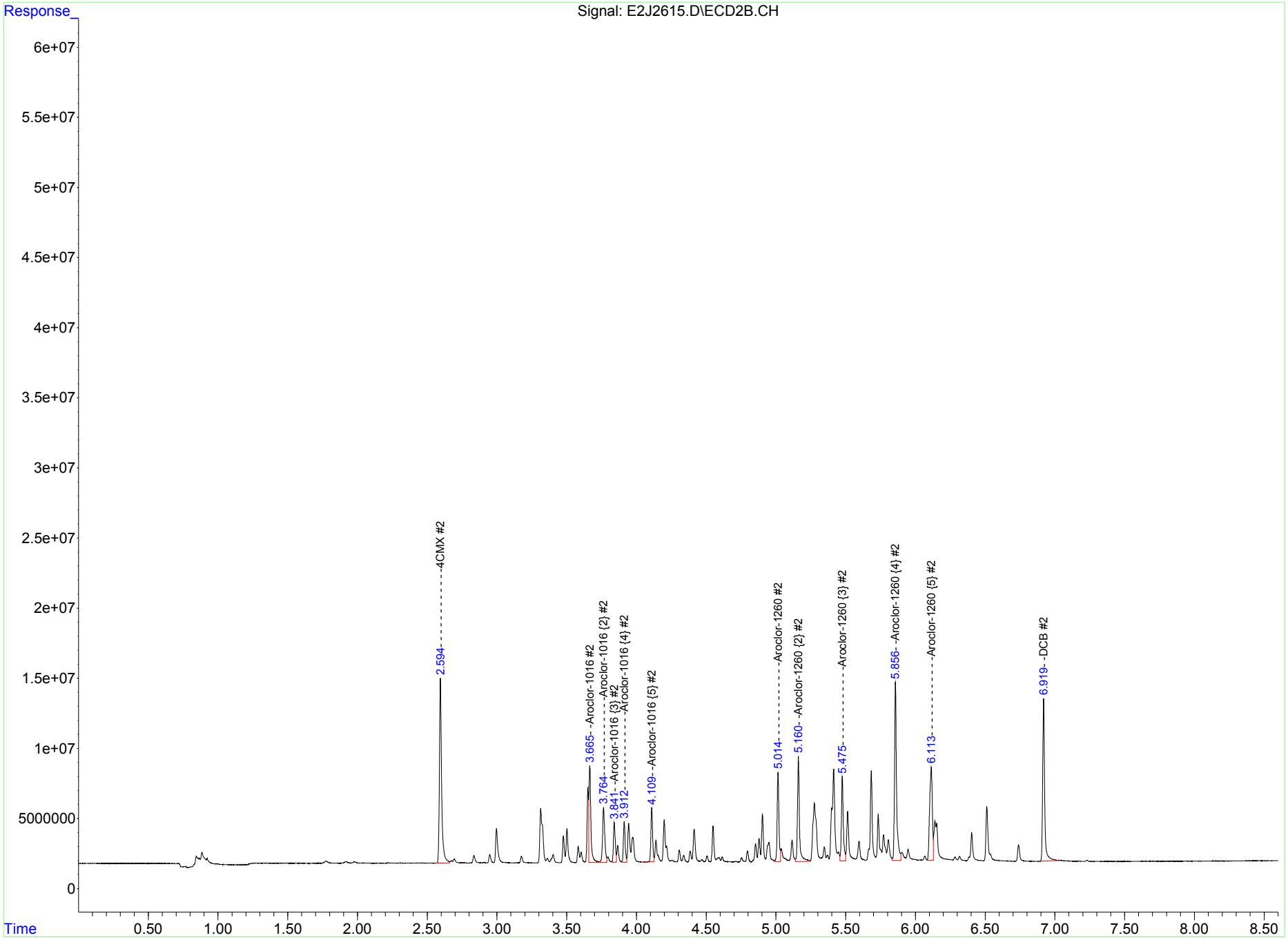
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.274	2.274	0.000	135239685	24.752	2.595	2.595	0.000	142865392	24.929
DCB	6.226	6.228	0.002	105883733	24.632	6.918	6.919	0.001	114372993	24.710
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.825	0.000	46233375	259.756	3.665	3.666	0.001	66550721	254.117
Aroclor-1016 {2}	3.173	3.174	0.001	56867642	250.822	3.764	3.765	0.001	42287707	258.162
Aroclor-1016 {3}	3.270	3.270	0.000	39719795	254.492	3.841	3.841	0.000	25670254	259.523
Aroclor-1016 {4}	3.406	3.406	0.000	20971147	256.550	3.912	3.913	0.001	25328824	263.473
Aroclor-1016 {5}	3.566	3.566	0.000	29741586	253.292	4.109	4.109	0.000	33172633	256.396
Sum Aroclor-1016				193533546	1274.912				193010138	1291.671
Average Aroclor-1016					254.982					258.334
Aroclor-1260	4.431	4.431	0.000	53035751	243.451	5.015	5.015	0.000	56694469	256.355
Aroclor-1260 {2}	4.898	4.898	0.000	50037999	247.311	5.160	5.161	0.001	73169205	257.405
Aroclor-1260 {3}	5.068	5.069	0.001	53188844	242.575	5.475	5.475	0.000	57134830	255.219
Aroclor-1260 {4}	5.282	5.284	0.002	113364902	236.390	5.855	5.856	0.001	127918640	248.095
Aroclor-1260 {5}	5.477	5.480	0.003	49654638	224.867	6.113	6.113	0.000	88302844	247.365
Sum Aroclor-1260				319282135	1194.593				403219987	1264.441
Average Aroclor-1260					238.919					252.888

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2615.D



Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2615.D



Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2616.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 07:27 (#1); 26 Oct 2020 7:27 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR201009-03|ICAL|1|SVA|1|AR1660-3
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 16 (Sig #2) Sample Multiplier: 1

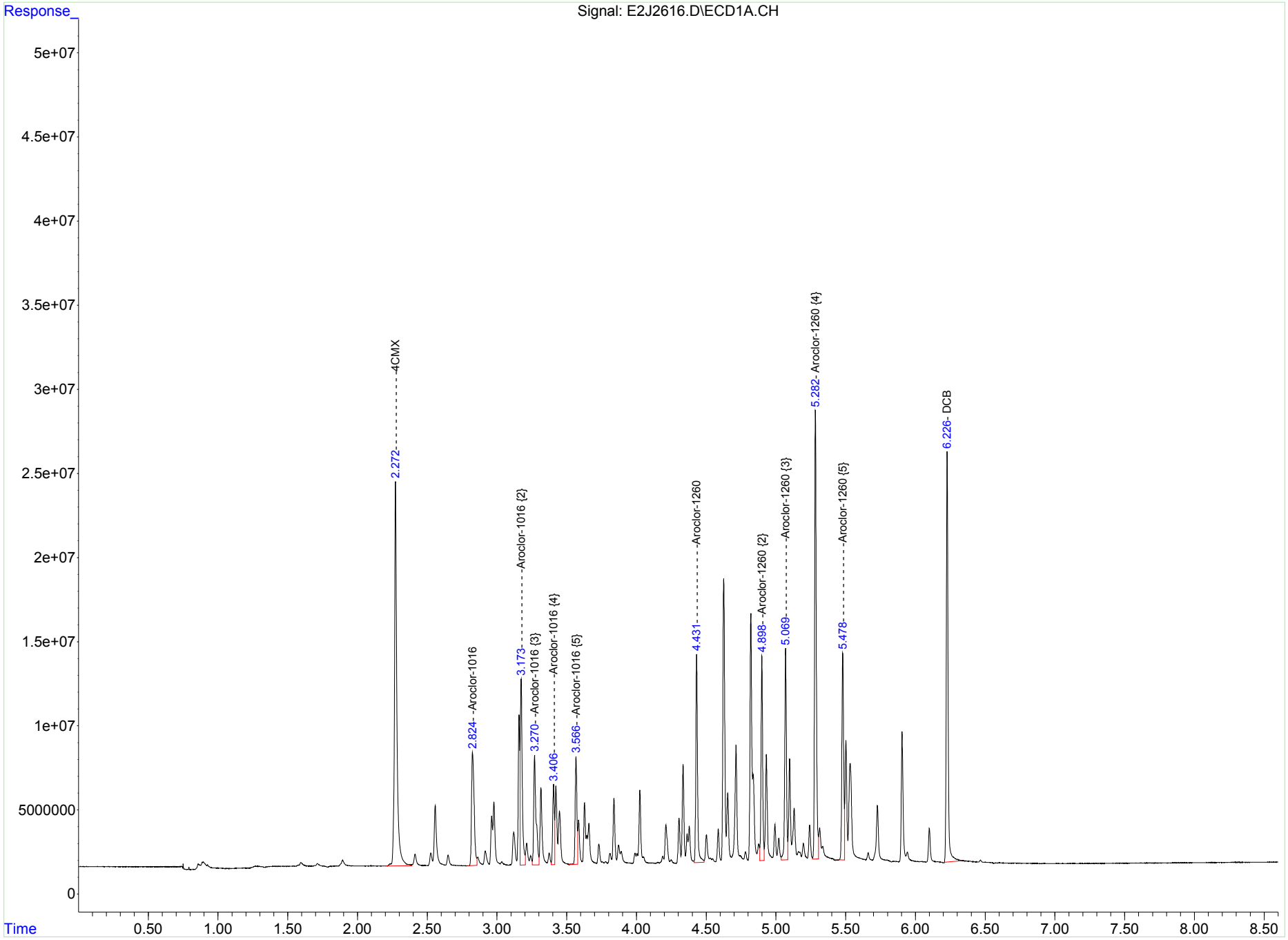
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:02:21 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

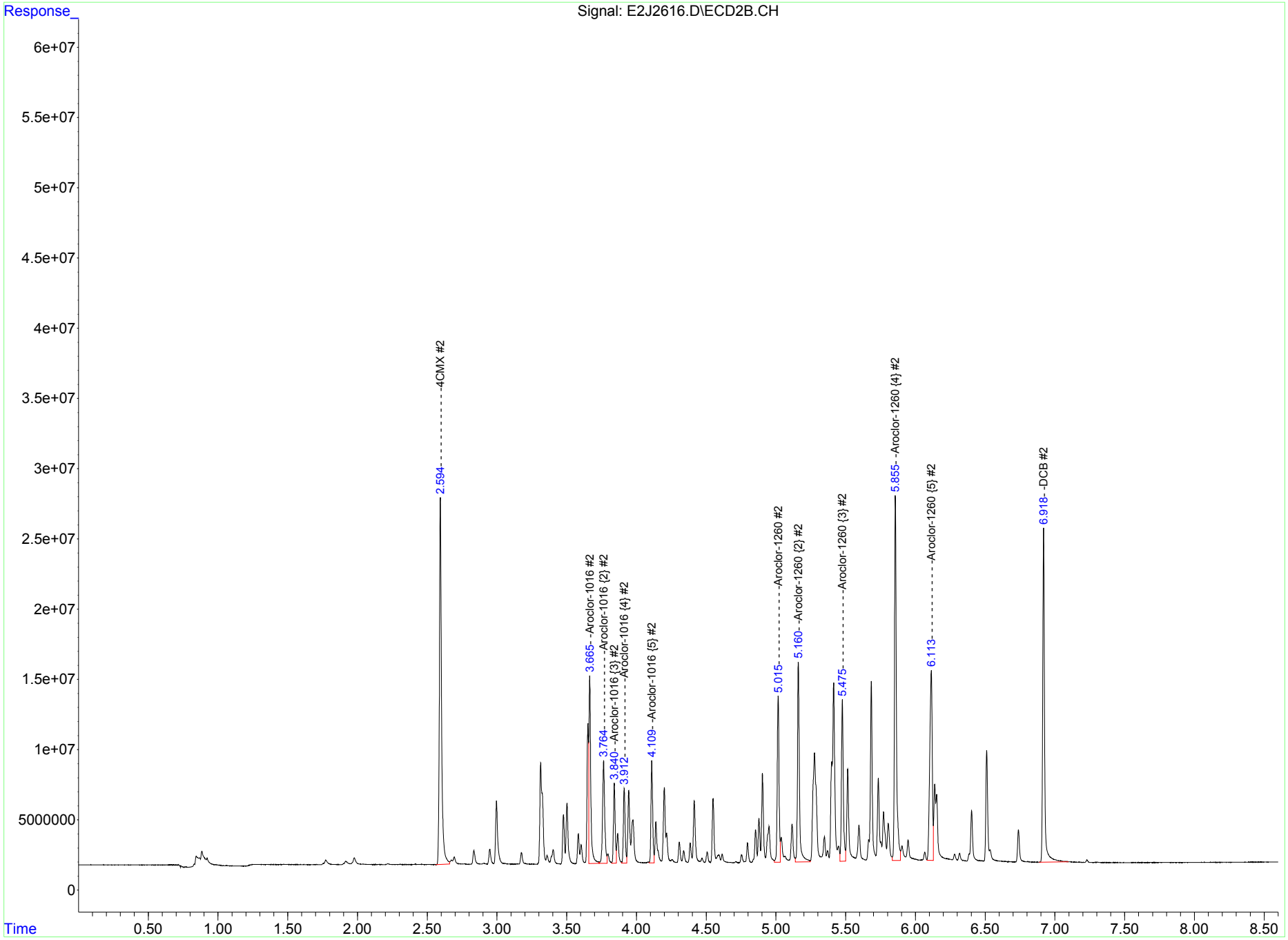
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.274	2.273	-0.001	270689530	49.543	2.595	2.594	-0.001	278128123	48.532
DCB	6.226	6.227	0.001	211544213	49.212	6.918	6.918	0.000	221959294	47.954
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.825	0.000	87517565	491.706	3.665	3.665	0.000	125080595	477.608
Aroclor-1016 {2}	3.173	3.173	0.000	109206921	481.670	3.764	3.765	0.001	77876980	475.430
Aroclor-1016 {3}	3.270	3.270	0.000	75064631	480.952	3.841	3.841	0.000	47021107	475.377
Aroclor-1016 {4}	3.406	3.406	0.000	38842044	475.173	3.912	3.912	0.000	45711098	475.491
Aroclor-1016 {5}	3.566	3.567	0.001	55895301	476.029	4.109	4.110	0.001	61303602	473.825
Sum Aroclor-1016				366526462	2405.530				356993382	2377.731
Average Aroclor-1016					481.106					475.546
Aroclor-1260	4.431	4.431	0.000	106522448	488.972	5.015	5.016	0.001	105361301	476.412
Aroclor-1260 {2}	4.898	4.899	0.001	97418448	481.487	5.160	5.160	0.000	135243118	475.778
Aroclor-1260 {3}	5.068	5.069	0.001	106613113	486.223	5.475	5.476	0.001	105414714	470.884
Aroclor-1260 {4}	5.282	5.283	0.001	231610313	482.956	5.855	5.856	0.001	245074071	475.316
Aroclor-1260 {5}	5.477	5.479	0.002	108439392	491.080	6.113	6.114	0.001	169872901	475.870
Sum Aroclor-1260				650603714	2430.718				760966104	2374.260
Average Aroclor-1260					486.144					474.852

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2616.D



Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2616.D



GS 10/26/2020

JC 10/26/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2617.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 07:39 (#1); 26 Oct 2020 7:39 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR201009-04|ICAL|1|SVA|1|AR1660-4
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 17 (Sig #2) Sample Multiplier: 1

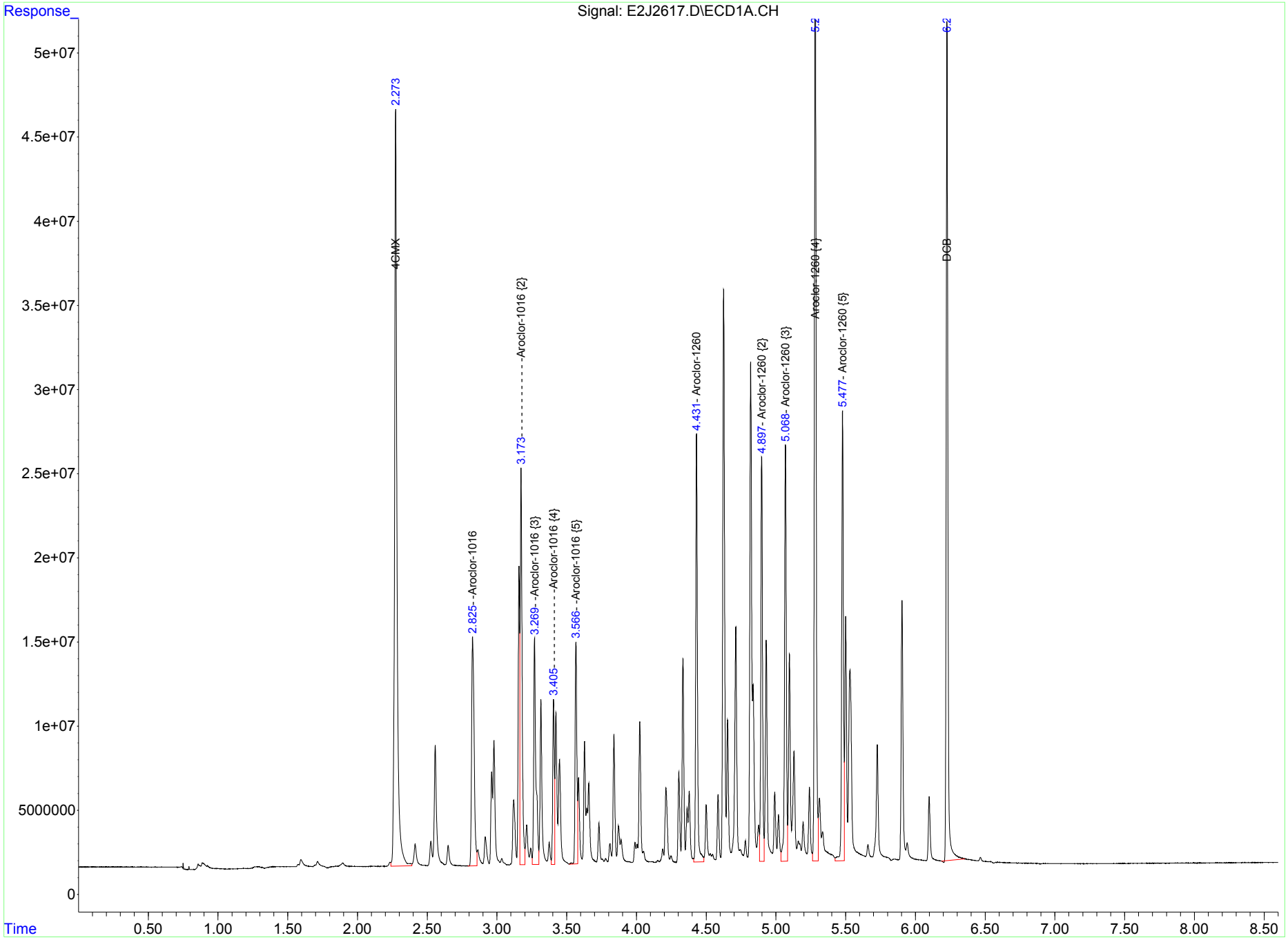
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:02:23 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

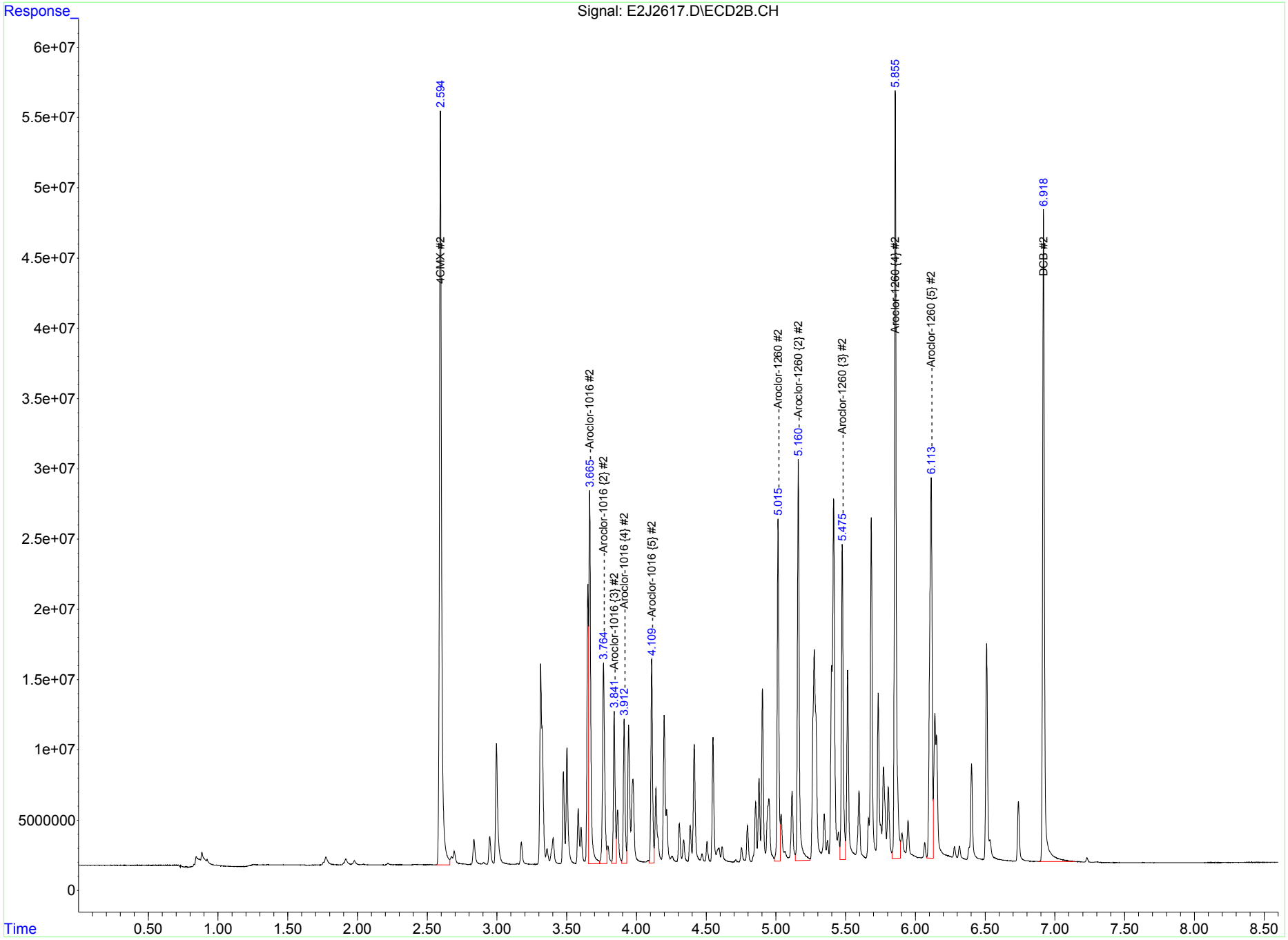
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.274	2.274	0.000	549631902	100.596	2.595	2.595	0.000	567788742	99.075
DCB	6.226	6.226	0.000	420744581	97.878	6.918	6.918	0.000	438179368	94.669
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.825	0.000	173953140	977.333	3.665	3.665	0.000	246552773	941.438
Aroclor-1016 {2}	3.173	3.173	0.000	221082196	975.110	3.764	3.764	0.000	149280740	911.342
Aroclor-1016 {3}	3.270	3.270	0.000	147450694	944.743	3.841	3.841	0.000	91021816	920.217
Aroclor-1016 {4}	3.406	3.406	0.000	76494413	935.792	3.912	3.912	0.000	86779482	902.688
Aroclor-1016 {5}	3.566	3.566	0.000	111581514	950.277	4.109	4.109	0.000	118540783	916.220
Sum Aroclor-1016				730561957	4783.254				692175593	4591.905
Average Aroclor-1016					956.651					918.381
Aroclor-1260	4.431	4.431	0.000	214970185	986.782	5.015	5.015	0.000	201947495	913.146
Aroclor-1260 {2}	4.898	4.898	0.000	199673495	986.879	5.160	5.160	0.000	259244073	912.007
Aroclor-1260 {3}	5.068	5.068	0.000	222429002	1014.416	5.475	5.475	0.000	203402042	908.590
Aroclor-1260 {4}	5.282	5.282	0.000	476449915	993.498	5.855	5.855	0.000	485272299	941.175
Aroclor-1260 {5}	5.477	5.477	0.000	234174458	1060.486	6.113	6.113	0.000	333506469	934.261
Sum Aroclor-1260				1347697055	5042.060				1483372378	4609.180
Average Aroclor-1260					1008.412					921.836

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2617.D



Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2617.D



Quantitation Report
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GS 10/26/2020

JC 10/26/2020

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2618.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 07:51 (#1); 26 Oct 2020 7:51 (#2)
Operator : YS1 InstName : ECD2
Sample : |IAR200730-01|ICAL|1|SVA|1|AR1660-5
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 18 (Sig #2) Sample Multiplier: 1

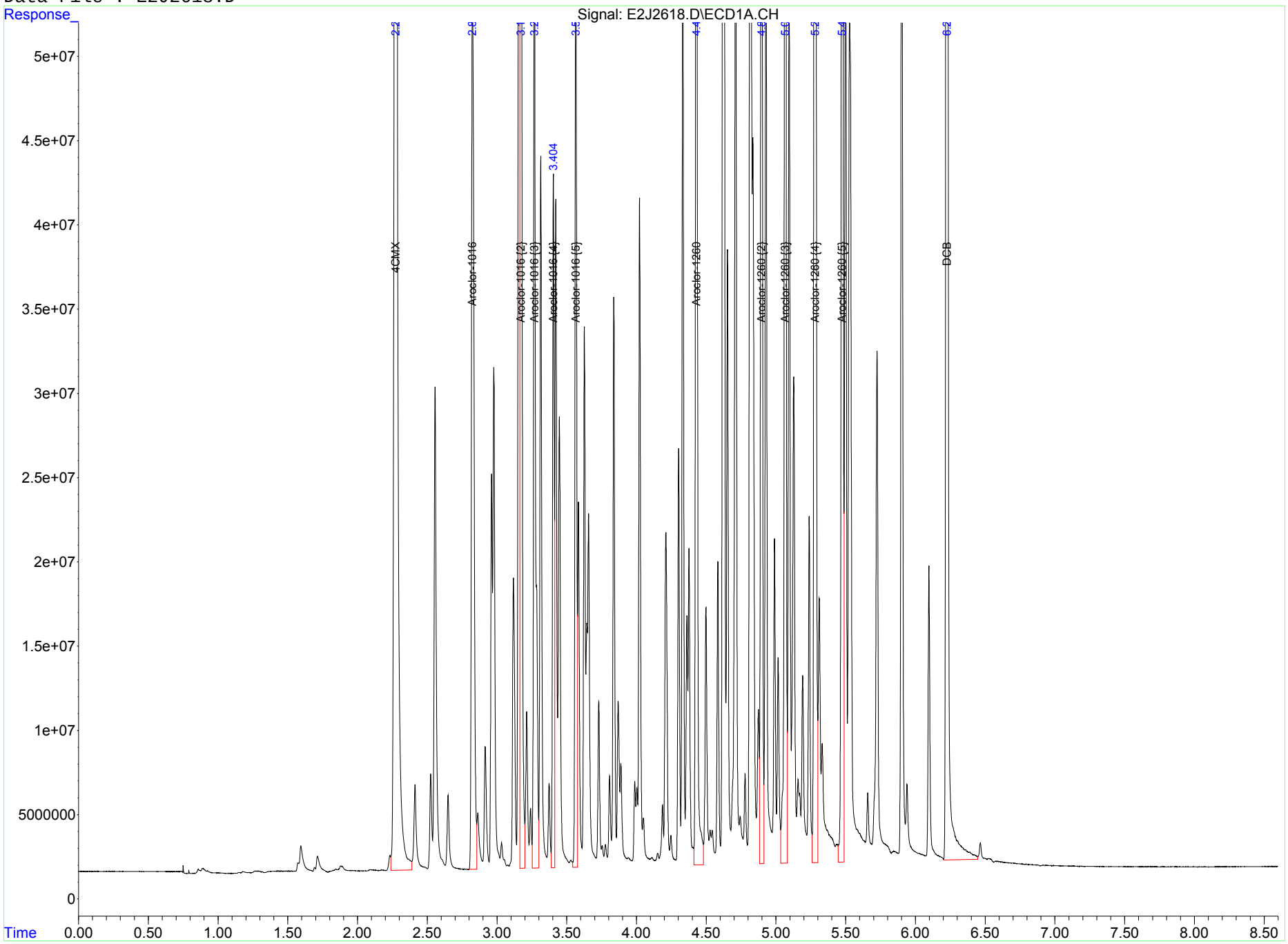
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:02:25 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

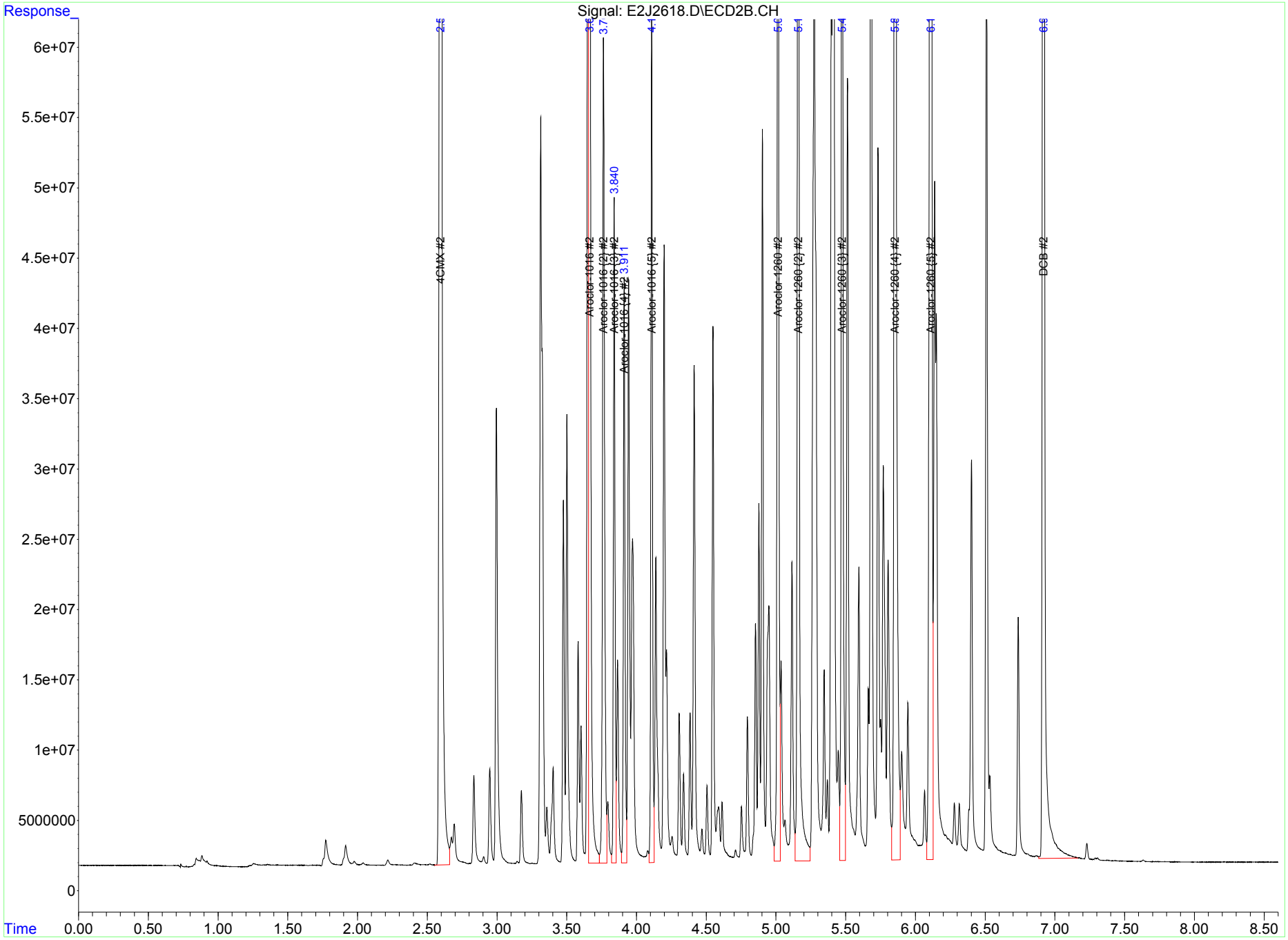
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.274	2.273	-0.001	2143874349	392.383	2.595	2.594	-0.001	2272721994	396.575
DCB	6.226	6.226	0.000	1781818556	414.505 A	6.918	6.918	0.000	1895793669	409.586 A
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.824	-0.001	678351205	3811.227	3.665	3.665	0.000	1013483094	3869.887
Aroclor-1016 {2}	3.173	3.172	-0.001	887473840	3914.311	3.764	3.764	0.000	595565402	3635.861
Aroclor-1016 {3}	3.270	3.269	-0.001	609390578	3904.474	3.841	3.841	0.000	372067522	3761.549
Aroclor-1016 {4}	3.406	3.405	-0.001	321999522	3939.170	3.912	3.912	0.000	343790584	3576.140
Aroclor-1016 {5}	3.566	3.565	-0.001	467219185	3979.042	4.109	4.109	0.000	479443876	3705.695
Sum Aroclor-1016				2964434330	19548.223				2804350478	18549.132
Average Aroclor-1016					3909.645					3709.826
Aroclor-1260	4.431	4.430	-0.001	903763652	4148.563 A	5.015	5.014	-0.001	868639463	3927.728
Aroclor-1260 {2}	4.898	4.897	-0.001	842470960	4163.881 A	5.160	5.160	0.000	1126196000	3961.898
Aroclor-1260 {3}	5.068	5.067	-0.001	945800047	4313.443 A	5.475	5.474	-0.001	874497822	3906.354
Aroclor-1260 {4}	5.282	5.280	-0.002	1956562374	4079.843 A	5.855	5.854	-0.001	2159079823	4187.487 A
Aroclor-1260 {5}	5.477	5.475	-0.002	1006337228	4557.312 A	6.113	6.111	-0.002	1477209747	4138.150 A
Sum Aroclor-1260				5654934260	21263.042				6505622855	20121.617
Average Aroclor-1260					4252.608					4024.323

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2618.D



Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2618.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-130

Injection Date: 26-OCT-20 08:03

Data File: 102620.S\E2J2619.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200605-60

Method: 102620.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	192321.91	1000	8.05	20		Averaged
Aroclor-1016(2)	226725.43	251958.96	1000	11.13	20		Averaged
Aroclor-1016(3)	156074.97	167120.3	1000	7.08	20		Averaged
Aroclor-1016(4)	81742.99	83886.46	1000	2.62	20		Averaged
Aroclor-1016(5)	117420.02	122119.86	1000	4	20		Averaged
Aroclor-1260	217849.78	259023.59	1000	18.9	20		Averaged
Aroclor-1260(2)	202328.31	197836.5	1000	-2.22	20		Averaged
Aroclor-1260(3)	219268.02	229550.44	1000	4.69	20		Averaged
Aroclor-1260(4)	479568.07	484506.79	1000	1.03	20		Averaged
Aroclor-1260(5)	220818.14	255317.53	1000	15.62	20		Averaged
4cmx(Surr)	5463730.67	5812394.25	100	6.38	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4649314.67	100	8.16	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-130

Injection Date: 26-OCT-20 08:03

Data File: 102620.S\E2J2619.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200605-60

Method: 102620.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	290310	1000	10.85	20		Averaged
Aroclor-1016(2)	163803.13	170844.22	1000	4.3	20		Averaged
Aroclor-1016(3)	98913.38	104122.17	1000	5.27	20		Averaged
Aroclor-1016(4)	96134.55	96863.98	1000	0.76	20		Averaged
Aroclor-1016(5)	129380.27	134018.62	1000	3.59	20		Averaged
Aroclor-1260	221155.69	249860.79	1000	12.98	20		Averaged
Aroclor-1260(2)	284256.72	324344.88	1000	14.1	20		Averaged
Aroclor-1260(3)	223865.49	209421.25	1000	-6.45	20		Averaged
Aroclor-1260(4)	515602.74	510944.42	1000	-0.9	20		Averaged
Aroclor-1260(5)	356973.45	351914.56	1000	-1.42	20		Averaged
4cmx(Surr)	5730871.59	6024196.19	100	5.12	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	4847665.32	100	4.73	20		Averaged

GS 10/26/2020

JC 10/26/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2619.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Oct 2020 08:03 (#1); 26 Oct 2020 8:03 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR200605-60|ICV|1|SVA|1|AR1660
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 19 (Sig #2) Sample Multiplier: 1

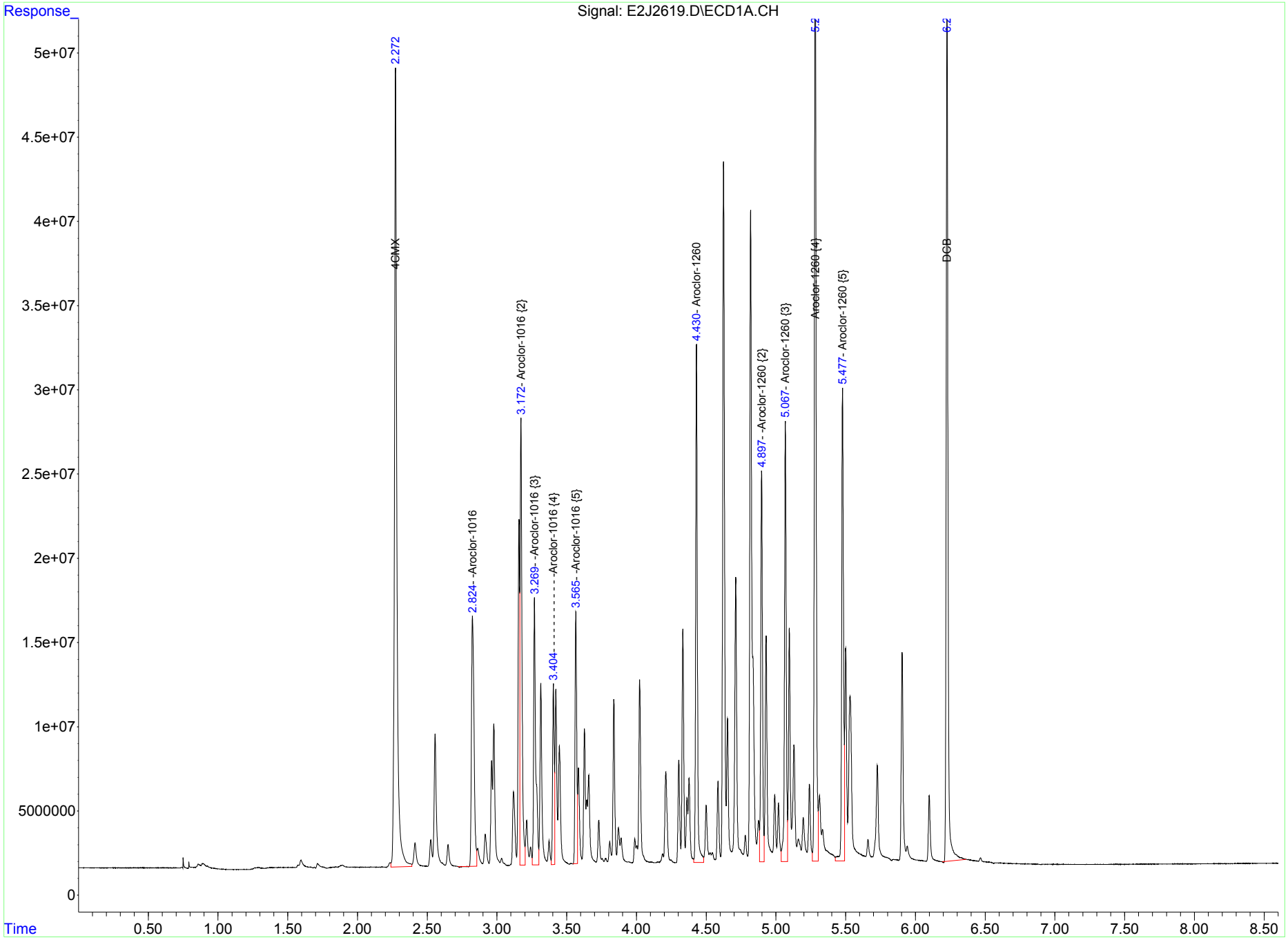
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Oct 26 08:17:13 2020
Quant Method : C:\msdchem\1\data\102620.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Mon Oct 26 08:01:35 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

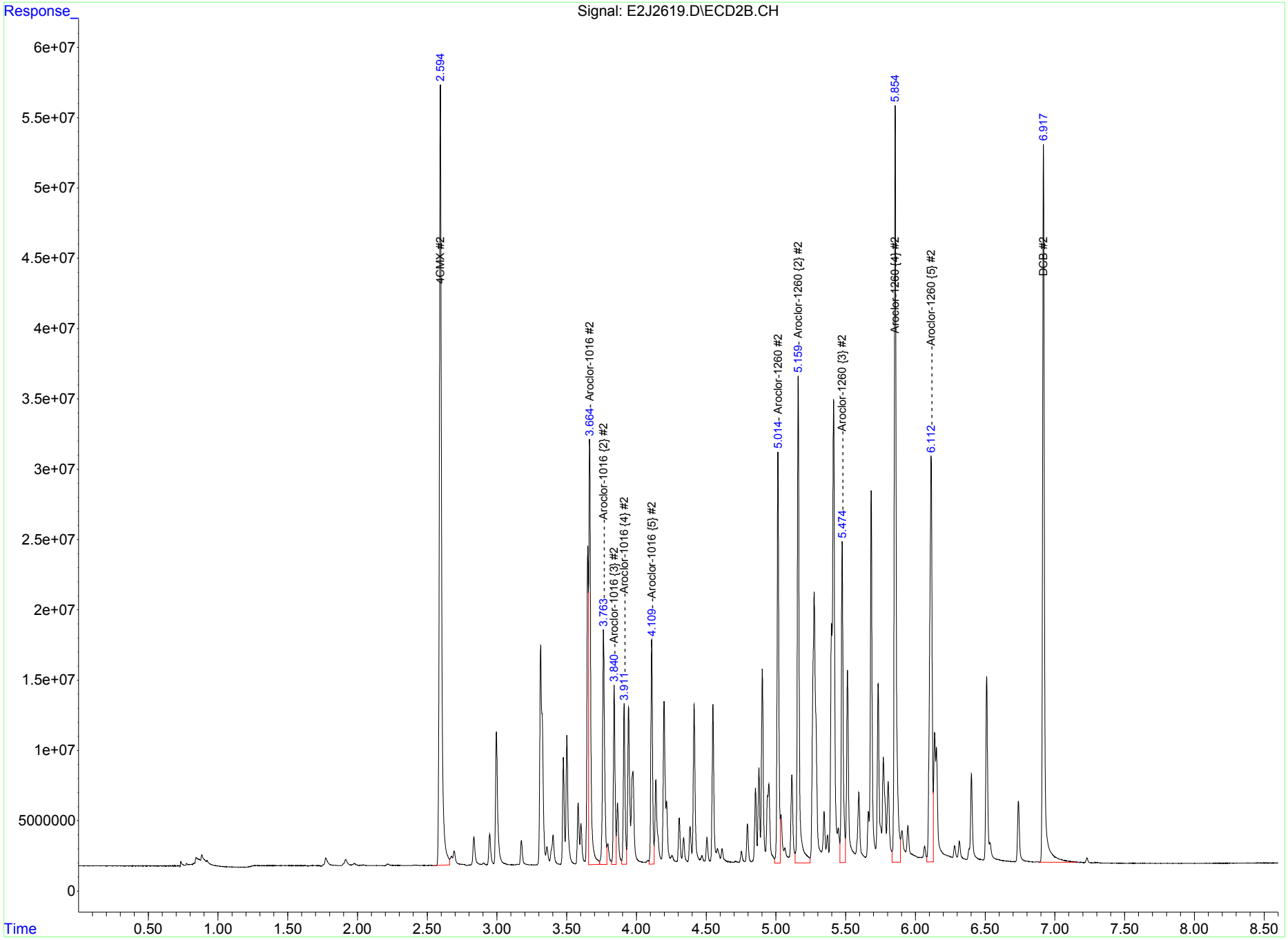
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.273	2.273	0.000	581239425	106.381	2.594	2.594	0.000	602419619	105.118
DCB	6.226	6.226	0.000	464931467	108.157	6.918	6.918	0.000	484766532	104.734
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.825	2.825	0.000	192321913	1080.535	3.664	3.664	0.000	290310001	1108.521
Aroclor-1016 {2}	3.173	3.173	0.000	251958960	1111.296	3.764	3.764	0.000	170844220	1042.985
Aroclor-1016 {3}	3.269	3.269	0.000	167120298	1070.769	3.841	3.841	0.000	104122166	1052.660
Aroclor-1016 {4}	3.405	3.405	0.000	83886459	1026.222	3.912	3.912	0.000	96863979	1007.588
Aroclor-1016 {5}	3.566	3.566	0.000	122119856	1040.026	4.109	4.109	0.000	134018617	1035.850
Sum Aroclor-1016				817407486	5328.848				796158983	5247.604
Average Aroclor-1016					1065.770					1049.521
Aroclor-1260	4.431	4.431	0.000	259023586	1189.001	5.014	5.014	0.000	249860786	1129.796
Aroclor-1260 {2}	4.897	4.897	0.000	197836500	977.799	5.159	5.159	0.000	324344880	1141.028
Aroclor-1260 {3}	5.068	5.068	0.000	229550441	1046.894	5.475	5.475	0.000	209421247	935.478
Aroclor-1260 {4}	5.282	5.282	0.000	484506791	1010.298	5.855	5.855	0.000	510944420	990.965
Aroclor-1260 {5}	5.477	5.477	0.000	255317533	1156.234	6.112	6.112	0.000	351914562	985.828
Sum Aroclor-1260				1426234850	5380.227				1646485895	5183.096
Average Aroclor-1260					1076.045					1036.619

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2619.D



Data Path : C:\msdchem\1\data\102620.S\
Data File : E2J2619.D



Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2003.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 05:23 (#1); 20 Nov 2020   5:23 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200707-32|CCV|1|SVA|1|AR1232
Misc   : MIX[F]
ALS Vial : 0 (Sig #1); 3 (Sig #2)   Sample Multiplier: 1

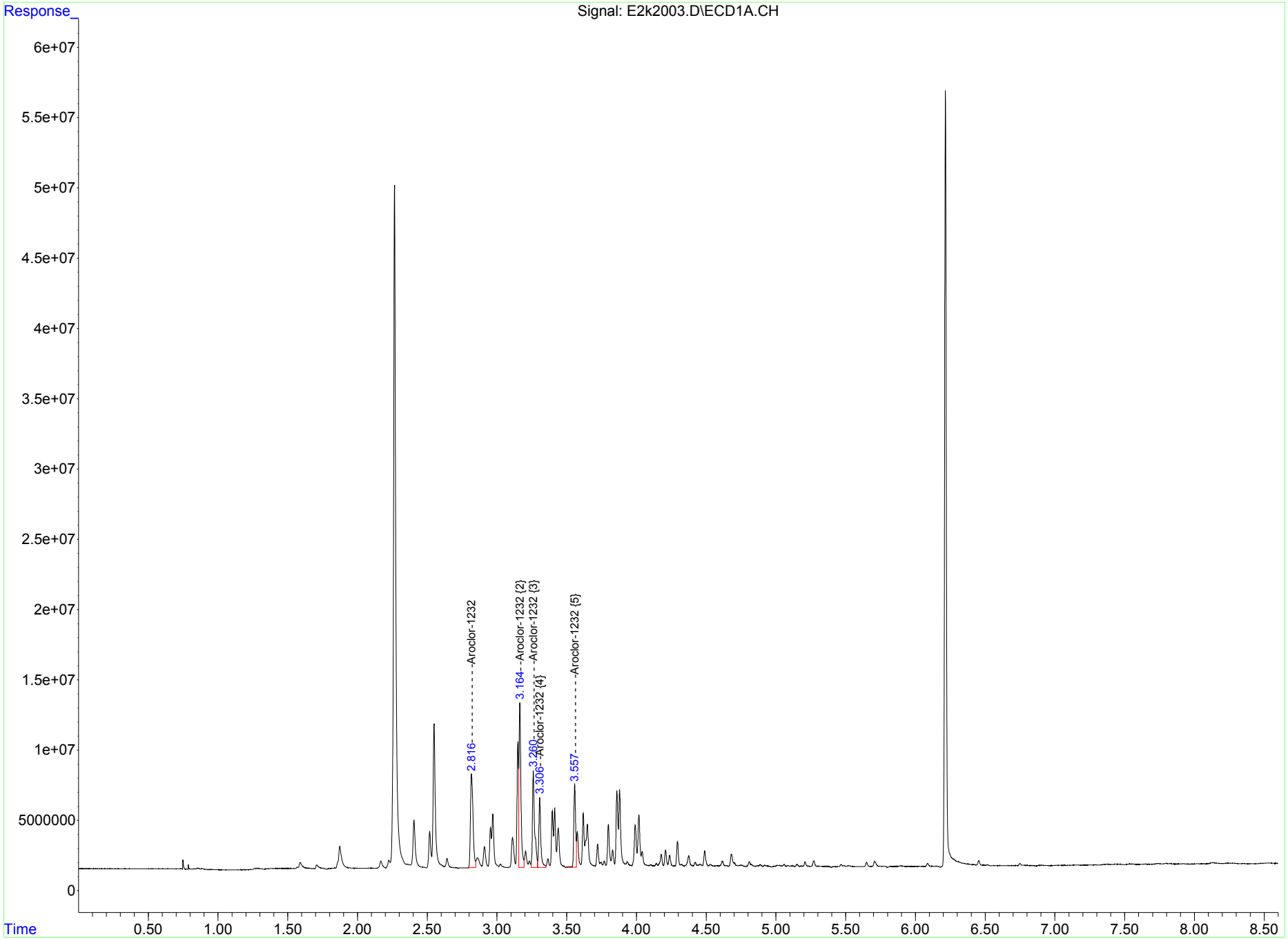
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:45:57 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

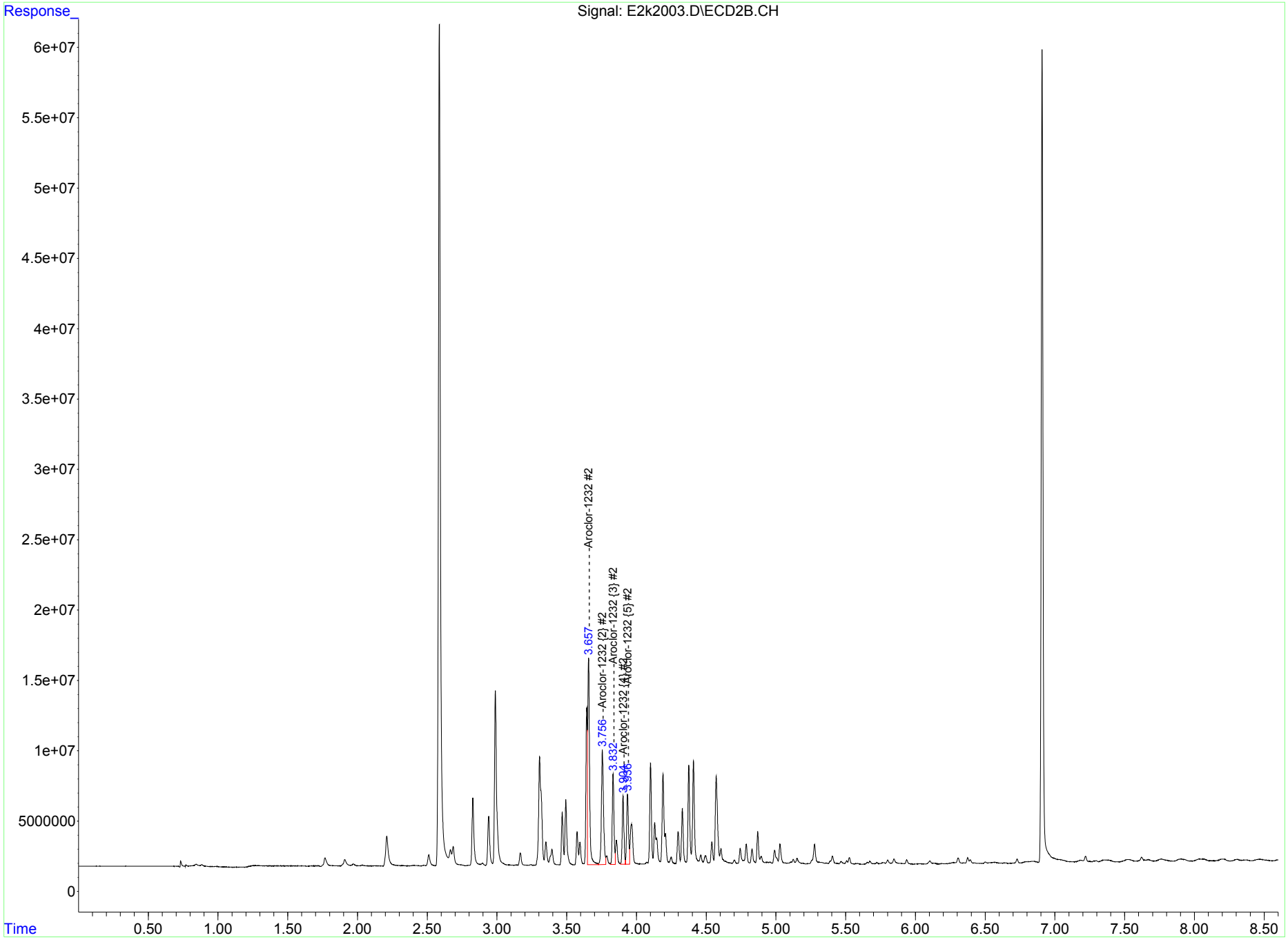
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Aroclor-1232	2.817	2.817	0.000	85863535	1095.447 A	3.657	3.657	0.000	132010597	1289.651 A
Aroclor-1232 {2}	3.165	3.165	0.000	111418585	1108.519 A	3.756	3.756	0.000	84832685	1281.342 A
Aroclor-1232 {3}	3.261	3.261	0.000	74780565	1120.214 A	3.832	3.832	0.000	52868455	1272.944 A
Aroclor-1232 {4}	3.307	3.307	0.000	48922417	1132.633 A	3.904	3.904	0.000	40453891	1243.056 A
Aroclor-1232 {5}	3.557	3.557	0.000	51709068	1154.452 A	3.936	3.936	0.000	45113589	1251.995 A
Sum Aroclor-1232				372694170	5611.265				355279218	6338.988
Average Aroclor-1232					1122.253					1267.798

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2003.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2003.D



Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2004.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 05:35 (#1); 20 Nov 2020   5:35 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200701-21|CCV|1|SVA|1|AR1221
Misc   : MIX[J]
ALS Vial : 0 (Sig #1); 4 (Sig #2)   Sample Multiplier: 1

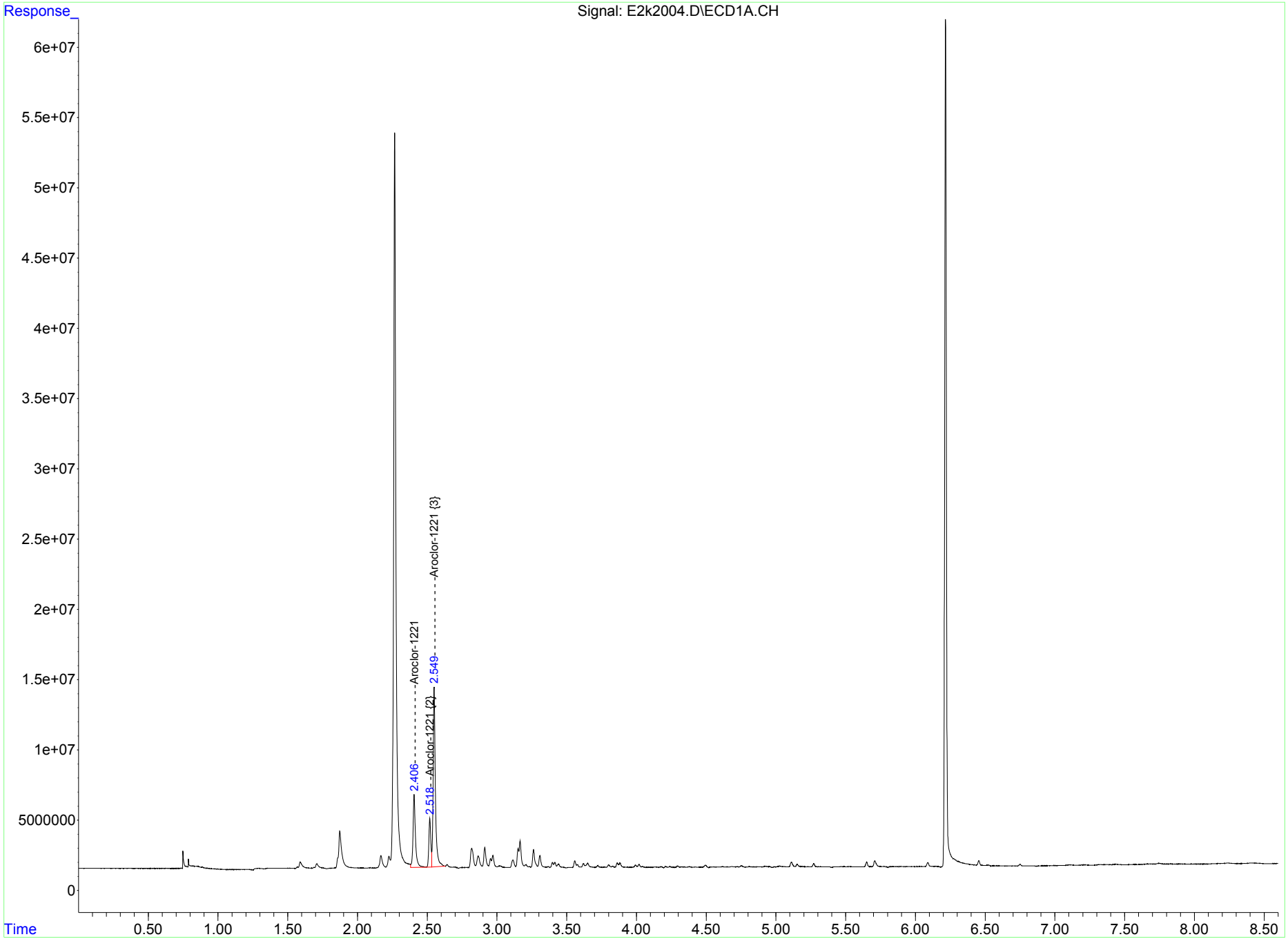
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:45:59 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

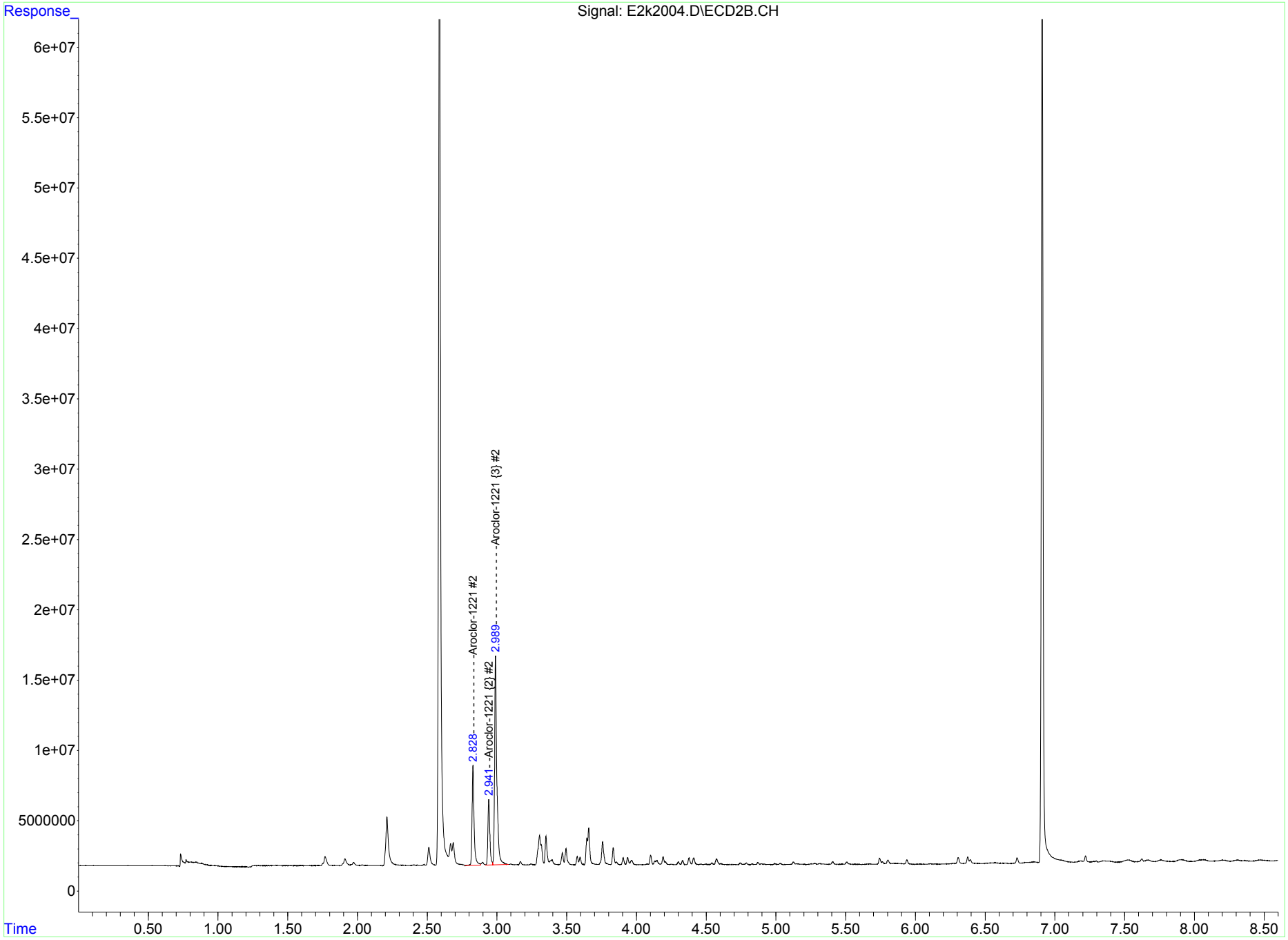
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Aroclor-1221	2.406	2.406	0.000	62153951	1048.469 A	2.828	2.828	0.000	72046220	1264.930 A
Aroclor-1221 {2}	2.519	2.519	0.000	33227454	1057.735 A	2.942	2.942	0.000	45211011	1239.122 A
Aroclor-1221 {3}	2.549	2.549	0.000	142433841	1083.741 A	2.990	2.990	0.000	164750316	1268.908 A
Sum Aroclor-1221				237815246	3189.944				282007547	3772.960
Average Aroclor-1221					1063.315					1257.653

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2004.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2004.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-130

Injection Date: 20-NOV-20 05:47

Data File: 112020.S\E2k2005.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	175642.52	1000	-1.32	20		Averaged
Aroclor-1016(2)	226725.43	234067.1	1000	3.24	20		Averaged
Aroclor-1016(3)	156074.97	153286.41	1000	-1.79	20		Averaged
Aroclor-1016(4)	81742.99	78411.86	1000	-4.08	20		Averaged
Aroclor-1016(5)	117420.02	114495.08	1000	-2.49	20		Averaged
Aroclor-1260	217849.78	232320.08	1000	6.64	20		Averaged
Aroclor-1260(2)	202328.31	215467.44	1000	6.49	20		Averaged
Aroclor-1260(3)	219268.02	241154.85	1000	9.98	20		Averaged
Aroclor-1260(4)	479568.07	525073.45	1000	9.49	20		Averaged
Aroclor-1260(5)	220818.14	254474.45	1000	15.24	20		Averaged
4cmx(Surr)	5463730.67	5456316.76	100	-0.14	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4708063.81	100	9.52	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-130

Injection Date: 20-NOV-20 05:47

Data File: 112020.S\E2k2005.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	272992.31	1000	4.24	20		Averaged
Aroclor-1016(2)	163803.13	169408.46	1000	3.42	20		Averaged
Aroclor-1016(3)	98913.38	105160.99	1000	6.32	20		Averaged
Aroclor-1016(4)	96134.55	97748.39	1000	1.68	20		Averaged
Aroclor-1016(5)	129380.27	136631.8	1000	5.6	20		Averaged
Aroclor-1260	221155.69	251790.87	1000	13.85	20		Averaged
Aroclor-1260(2)	284256.72	319137.21	1000	12.27	20		Averaged
Aroclor-1260(3)	223865.49	249760.85	1000	11.57	20		Averaged
Aroclor-1260(4)	515602.74	610714.56	1000	18.45	20		Averaged
Aroclor-1260(5)	356973.45	424217.01	1000	18.84	20		Averaged
4cmx(Surr)	5730871.59	5892837.52	100	2.83	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	5179848.23	100	11.91	20		Averaged

Quantitation Report
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Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2005.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 05:47 (#1); 20 Nov 2020   5:47 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200922-60|CCV|1|SVA|1|AR12660
Misc   : MIX[A]
ALS Vial : 0 (Sig #1); 5 (Sig #2)   Sample Multiplier: 1

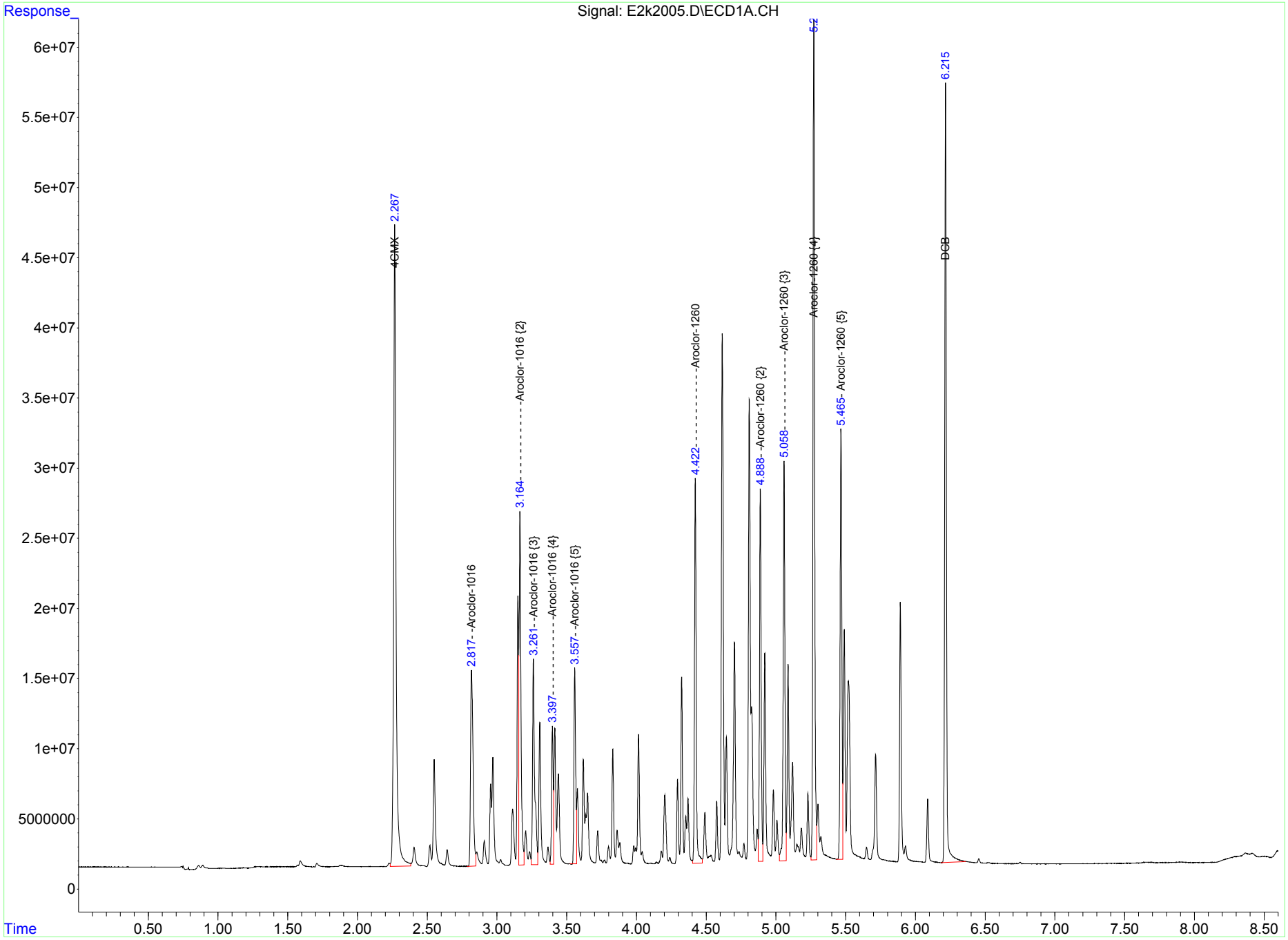
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:46:01 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

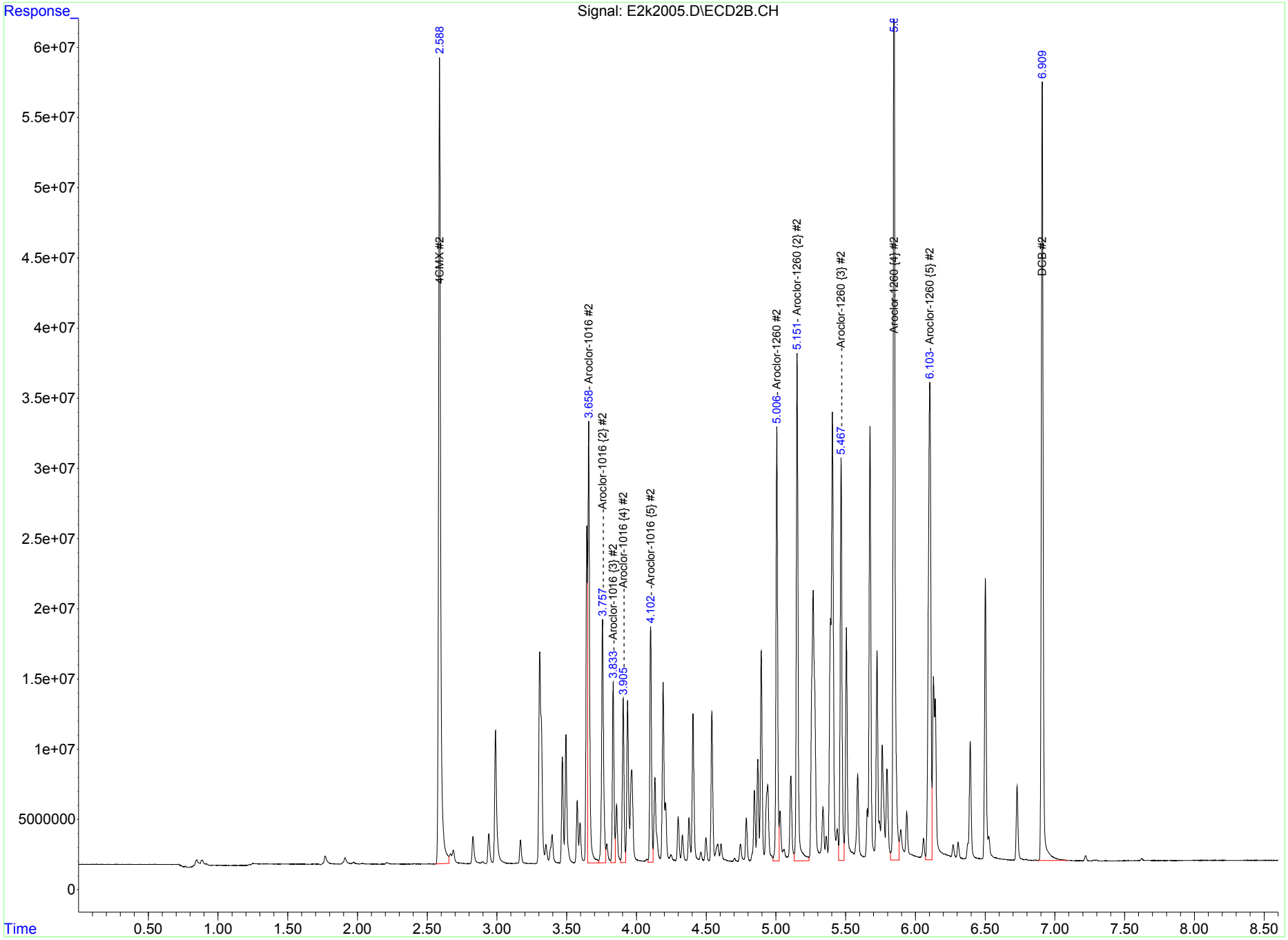
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.267	0.000	545631676	99.864	2.589	2.589	0.000	589283752	102.826
DCB	6.216	6.216	0.000	470806381	109.524	6.909	6.909	0.000	517984823	111.911
Target Compounds										
Aroclor-1016	2.817	2.817	0.000	175642523	986.824	3.658	3.658	0.000	272992309	1042.395
Aroclor-1016 {2}	3.165	3.165	0.000	234067095	1032.381	3.757	3.757	0.000	169408463	1034.220
Aroclor-1016 {3}	3.261	3.261	0.000	153286412	982.133	3.834	3.834	0.000	105160993	1063.162
Aroclor-1016 {4}	3.398	3.398	0.000	78411856	959.249	3.905	3.905	0.000	97748385	1016.787
Aroclor-1016 {5}	3.558	3.558	0.000	114495083	975.090	4.102	4.102	0.000	136631804	1056.048
Sum Aroclor-1016				755902969	4935.677				781941954	5212.613
Average Aroclor-1016					987.135					1042.523
Aroclor-1260	4.422	4.422	0.000	232320075	1066.423	5.006	5.006	0.000	251790865	1138.523
Aroclor-1260 {2}	4.888	4.888	0.000	215467438	1064.940	5.152	5.152	0.000	319137209	1122.708
Aroclor-1260 {3}	5.058	5.058	0.000	241154849	1099.818	5.467	5.467	0.000	249760846	1115.674
Aroclor-1260 {4}	5.272	5.272	0.000	525073452	1094.888	5.846	5.846	0.000	610714563	1184.467
Aroclor-1260 {5}	5.466	5.466	0.000	254474452	1152.416	6.103	6.103	0.000	424217011	1188.371
Sum Aroclor-1260				1468490265	5478.485				1855620493	5749.743
Average Aroclor-1260					1095.697					1149.949

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2005.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2005.D



Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2006.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 05:59 (#1); 20 Nov 2020   5:59 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200825-54|CCV|1|SVA|1|AR1254
Misc   : MIX[B]
ALS Vial : 0 (Sig #1); 6 (Sig #2)   Sample Multiplier: 1

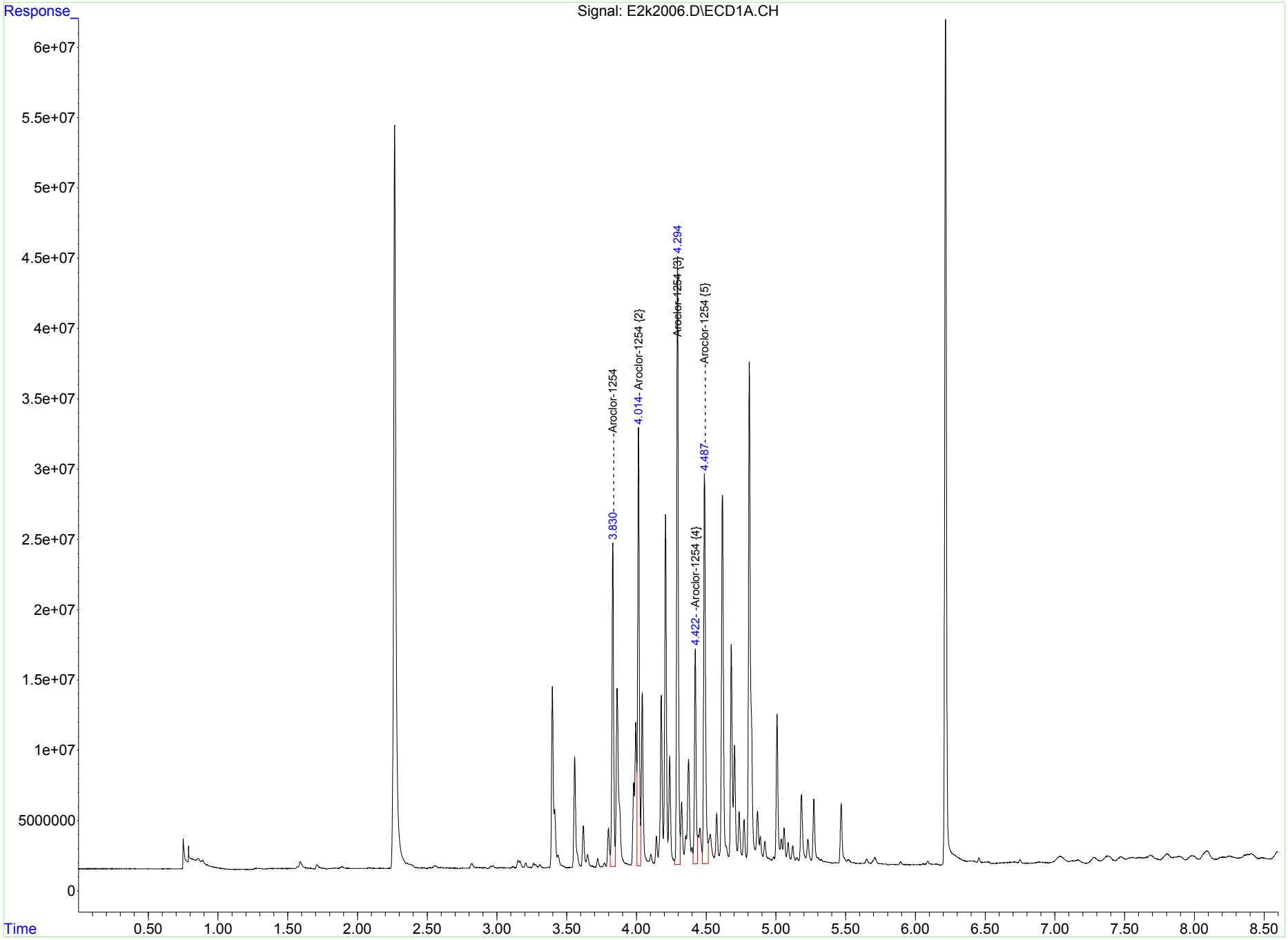
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:46:03 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

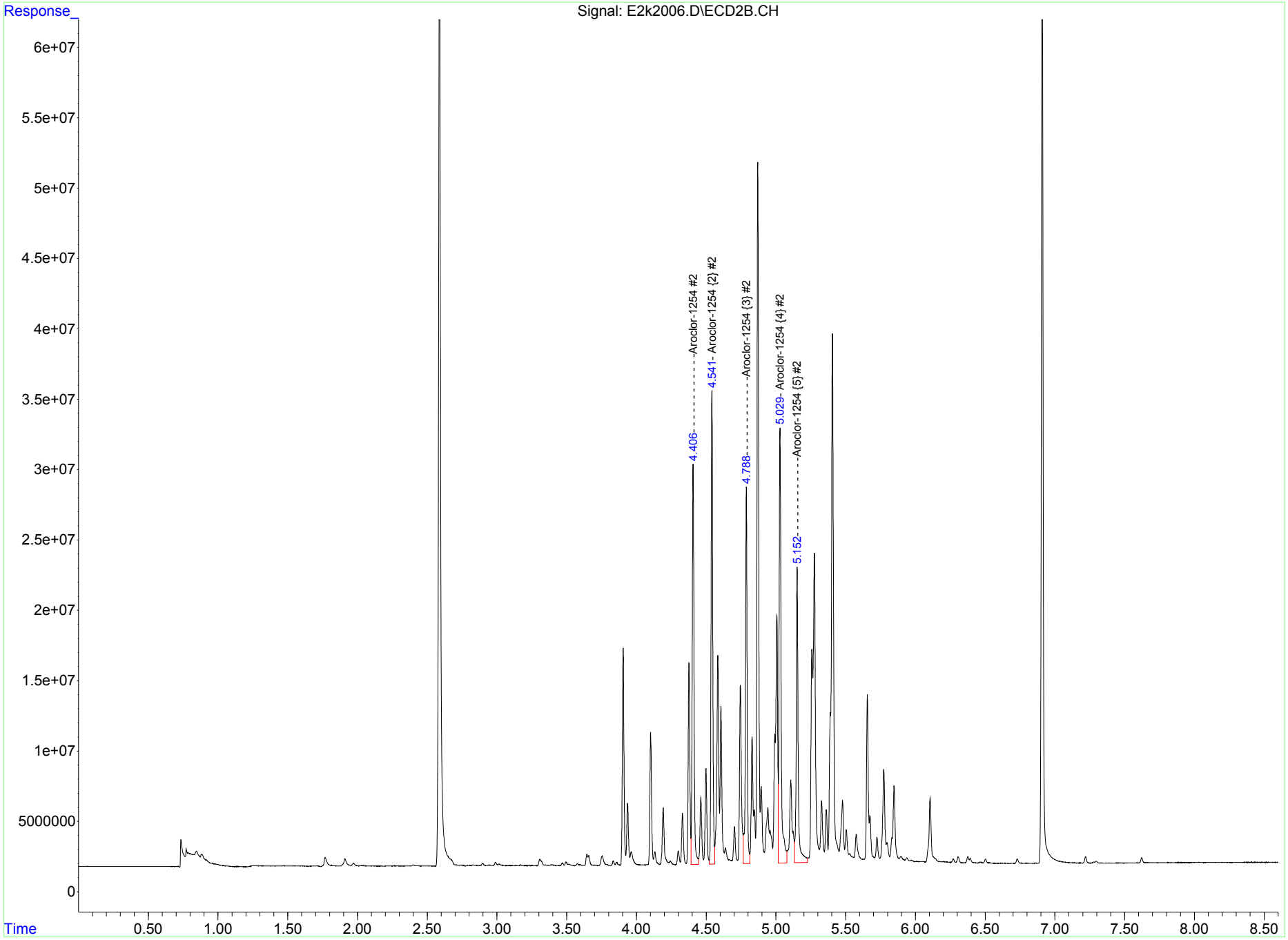
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1254	3.831	3.831	0.000	193204532	1028.942	4.406	4.406	0.000	250241035	1030.648
Aroclor-1254 {2}	4.015	4.015	0.000	258131970	1056.241	4.541	4.541	0.000	274019786	1073.551
Aroclor-1254 {3}	4.294	4.294	0.000	365678975	1103.088	4.788	4.788	0.000	223063522	1041.805
Aroclor-1254 {4}	4.422	4.422	0.000	127738322	1090.313	5.029	5.029	0.000	301403960	1068.369
Aroclor-1254 {5}	4.488	4.488	0.000	256103717	1113.592	5.152	5.152	0.000	200558804	1053.477
Sum Aroclor-1254				1200857516	5392.176				1249287107	5267.851
Average Aroclor-1254					1078.435					1053.570

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2006.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2006.D



Quantitation Report
GEL Laboratories, LLC

11/20/2020

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Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2007.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 06:11 (#1); 20 Nov 2020   6:11 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200612-42|CCV|1|SVA|1|AR1242
Misc   : MIX[D]
ALS Vial : 0 (Sig #1); 7 (Sig #2)   Sample Multiplier: 1

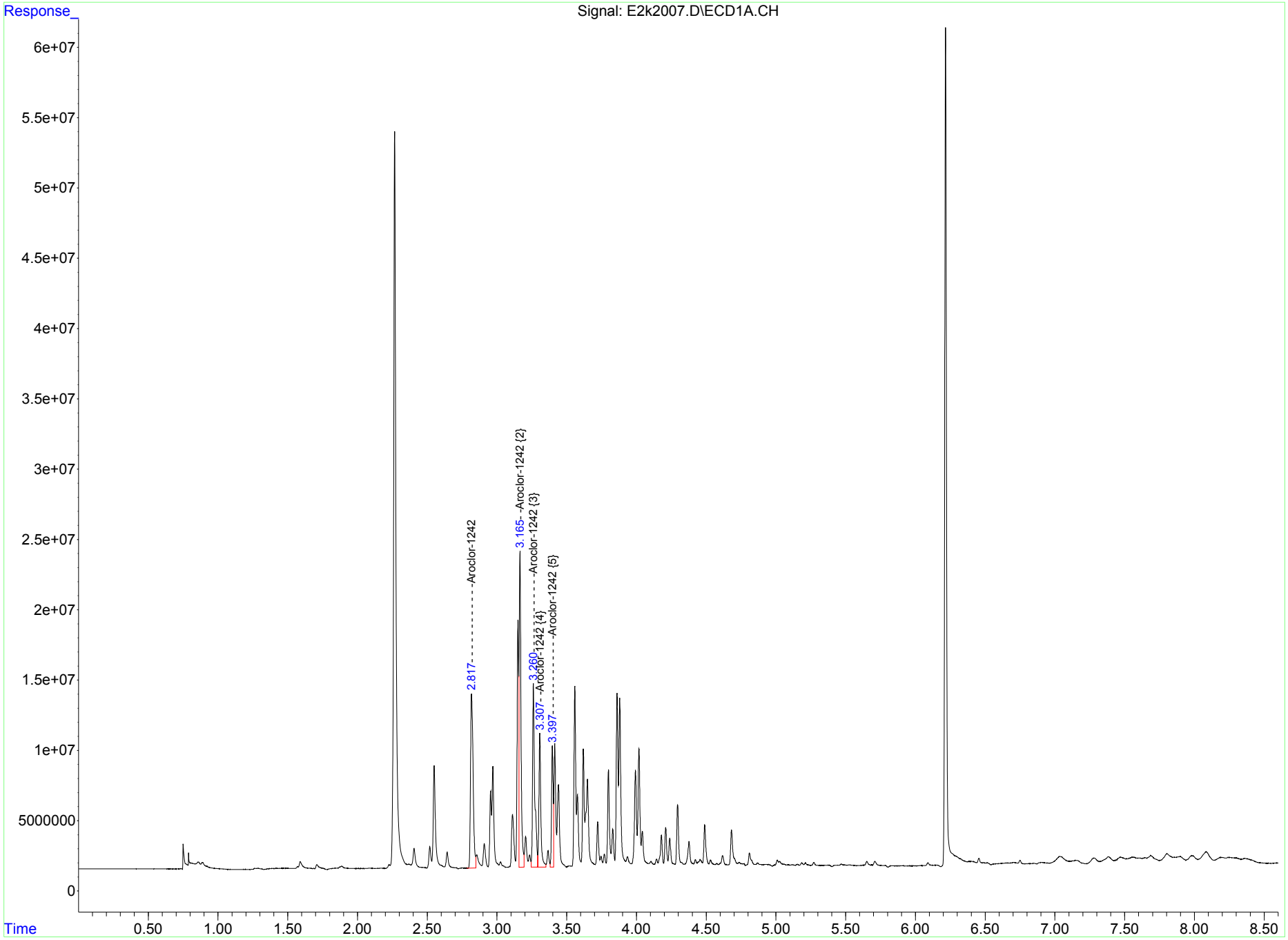
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:46:05 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

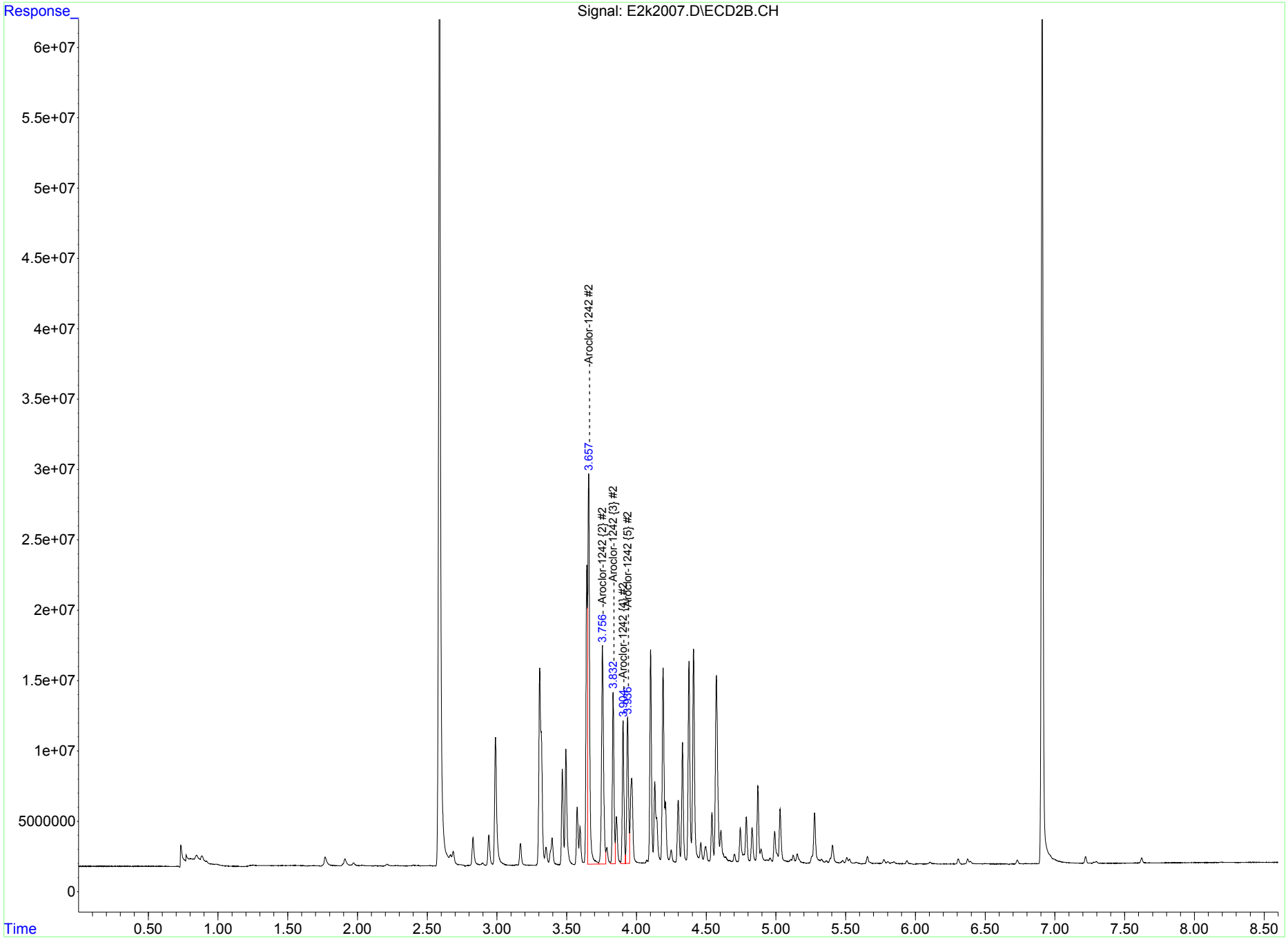
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1242	2.817	2.817	0.000	160933914	1068.293	3.657	3.657	0.000	246297245	1074.286
Aroclor-1242 {2}	3.165	3.165	0.000	206747311	1045.934	3.756	3.756	0.000	153808300	1046.611
Aroclor-1242 {3}	3.261	3.261	0.000	141179636	1068.891	3.833	3.833	0.000	95974437	1066.128
Aroclor-1242 {4}	3.307	3.307	0.000	89932037	1057.899	3.904	3.904	0.000	82237596	1027.812
Aroclor-1242 {5}	3.397	3.397	0.000	67113357	1016.458	3.937	3.937	0.000	91057403	1035.636
Sum Aroclor-1242				665906254	5257.475				669374980	5250.473
Average Aroclor-1242					1051.495					1050.095

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2007.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2007.D



Quantitation Report
GEL Laboratories, LLC

11/20/2020

11/20/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2008.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 06:23 (#1); 20 Nov 2020   6:23 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200916-48|CCV|1|SVA|1|AR1248
Misc   : MIX[E]
ALS Vial : 0 (Sig #1); 8 (Sig #2)   Sample Multiplier: 1

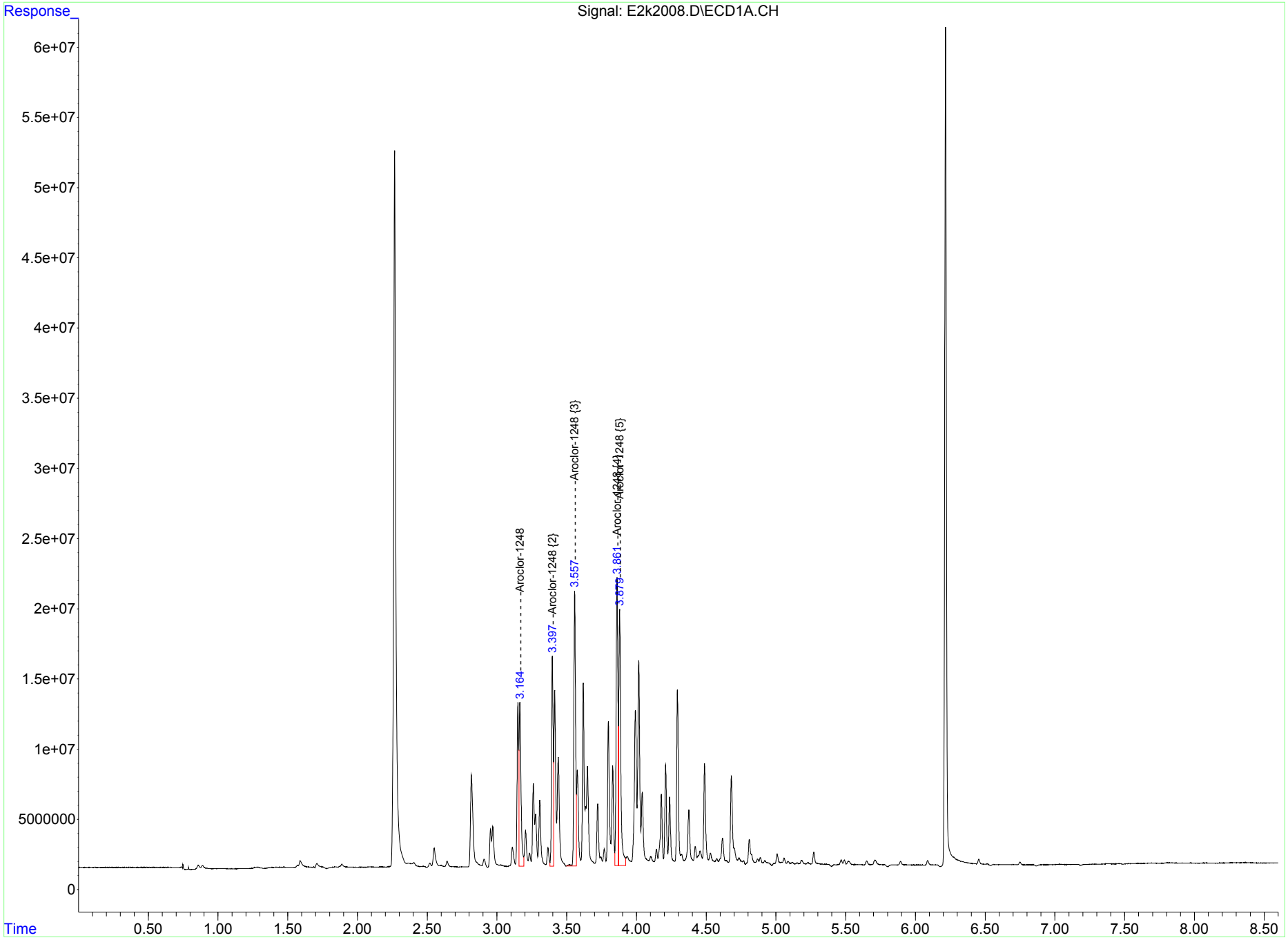
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 20 06:46:07 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

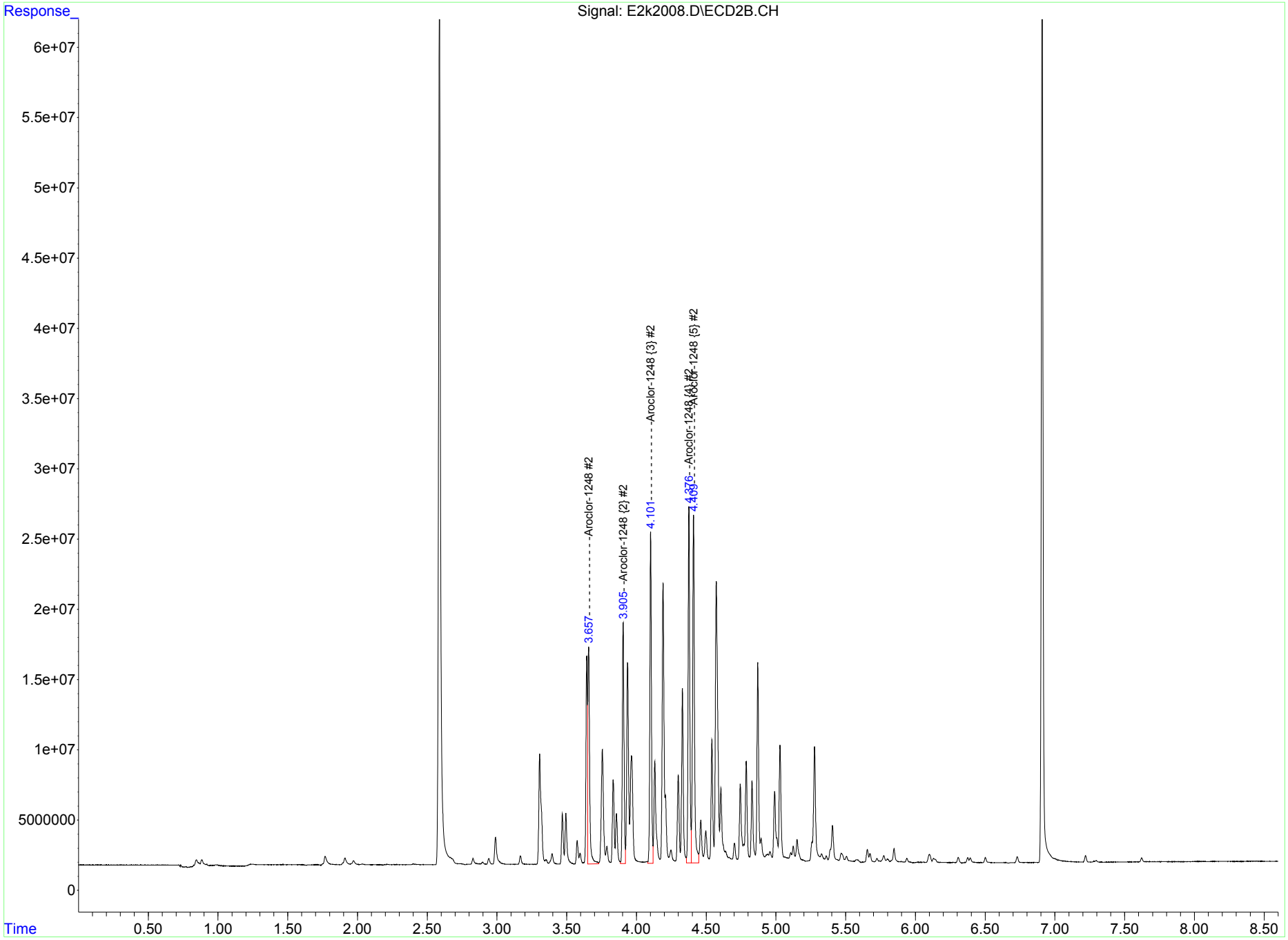
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1248	3.165	3.165	0.000	110912047	999.924	3.657	3.657	0.000	136631832	1055.899
Aroclor-1248 {2}	3.397	3.397	0.000	118541976	1001.720	3.905	3.905	0.000	141755466	1028.361
Aroclor-1248 {3}	3.557	3.557	0.000	166246188	1020.931	4.102	4.102	0.000	188902827	1034.707
Aroclor-1248 {4}	3.861	3.861	0.000	180891081	1018.024	4.376	4.376	0.000	206282269	1040.611
Aroclor-1248 {5}	3.880	3.880	0.000	176692722	1008.572	4.409	4.409	0.000	235381324	978.049
Sum Aroclor-1248				753284015	5049.172				908953719	5137.628
Average Aroclor-1248					1009.834					1027.526

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2008.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2008.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-130

Injection Date: 20-NOV-20 14:51

Data File: 112020.S\E2k2041.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	173855.08	1000	-2.32	20		Averaged
Aroclor-1016(2)	226725.43	233753.72	1000	3.1	20		Averaged
Aroclor-1016(3)	156074.97	153168.09	1000	-1.86	20		Averaged
Aroclor-1016(4)	81742.99	77749.69	1000	-4.89	20		Averaged
Aroclor-1016(5)	117420.02	113866.03	1000	-3.03	20		Averaged
Aroclor-1260	217849.78	230011.39	1000	5.58	20		Averaged
Aroclor-1260(2)	202328.31	214789.12	1000	6.16	20		Averaged
Aroclor-1260(3)	219268.02	239702.72	1000	9.32	20		Averaged
Aroclor-1260(4)	479568.07	525261.22	1000	9.53	20		Averaged
Aroclor-1260(5)	220818.14	253425.06	1000	14.77	20		Averaged
4cmx(Surr)	5463730.67	5447149.7	100	-0.3	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4818905.98	100	12.1	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Data File: 112020.S\E2k2041.D

Lab Sample ID WAR200922-60

Column ID: CLPesticides2

Client SDG: 2021-130

Injection Date: 20-NOV-20 14:51

Init. Cal. Date(s): NA

Method: 112020.S\ECD2_8082_102620.M

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	275288.9	1000	5.12	20		Averaged
Aroclor-1016(2)	163803.13	167167.84	1000	2.05	20		Averaged
Aroclor-1016(3)	98913.38	103532.18	1000	4.67	20		Averaged
Aroclor-1016(4)	96134.55	94941.9	1000	-1.24	20		Averaged
Aroclor-1016(5)	129380.27	133348.96	1000	3.07	20		Averaged
Aroclor-1260	221155.69	248357.2	1000	12.3	20		Averaged
Aroclor-1260(2)	284256.72	319070.58	1000	12.25	20		Averaged
Aroclor-1260(3)	223865.49	249171.07	1000	11.3	20		Averaged
Aroclor-1260(4)	515602.74	612594.5	1000	18.81	20		Averaged
Aroclor-1260(5)	356973.45	420285.86	1000	17.74	20		Averaged
4cmx(Surr)	5730871.59	6064367.7	100	5.82	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	5248493.69	100	13.39	20		Averaged

GS 11/21/2020

JC 11/23/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2041.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 14:51 (#1); 20 Nov 2020 14:51 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR200922-60|CCV|1|SVA|1|AR12660
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 39 (Sig #2) Sample Multiplier: 1

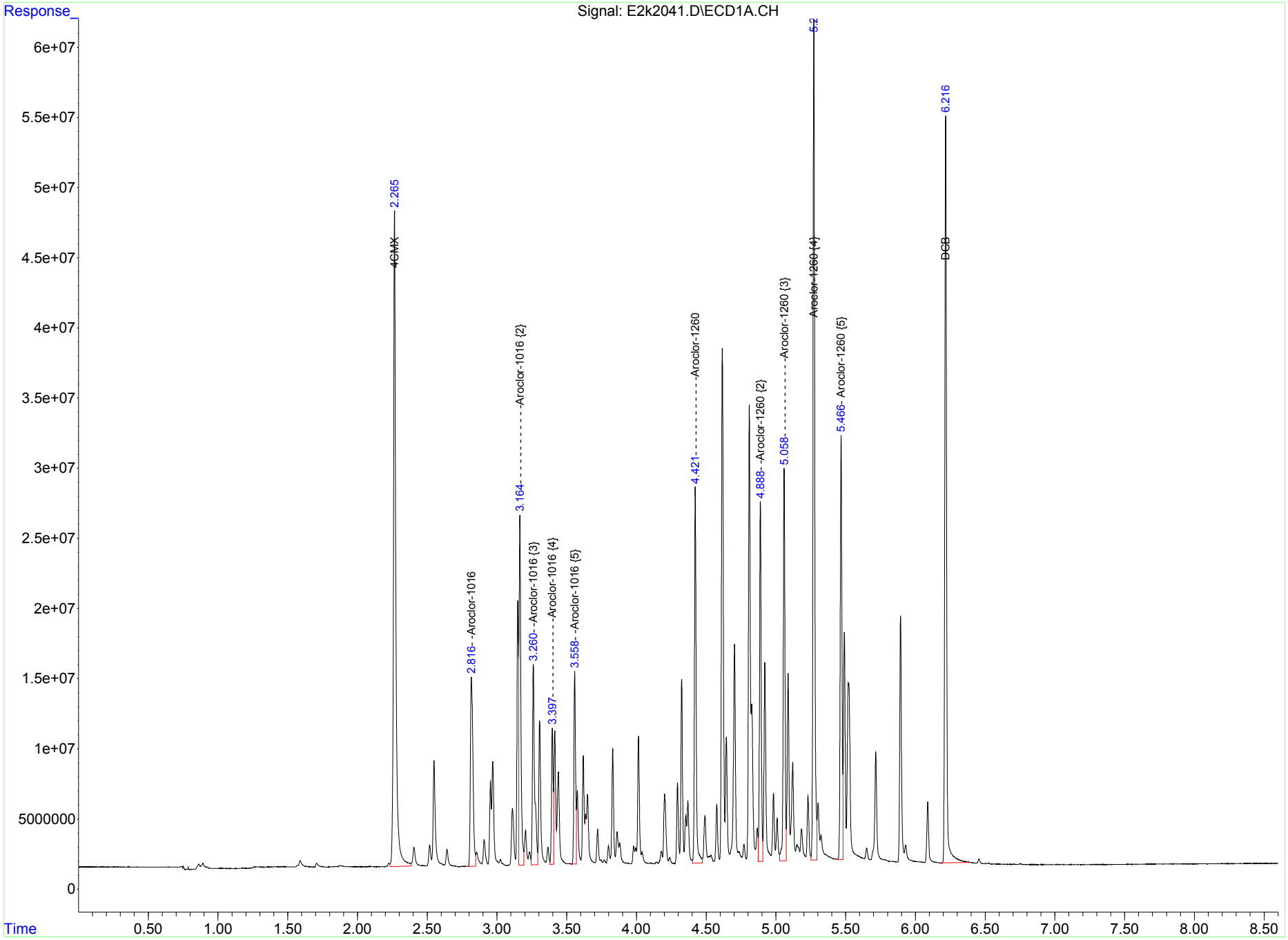
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 20 15:09:32 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

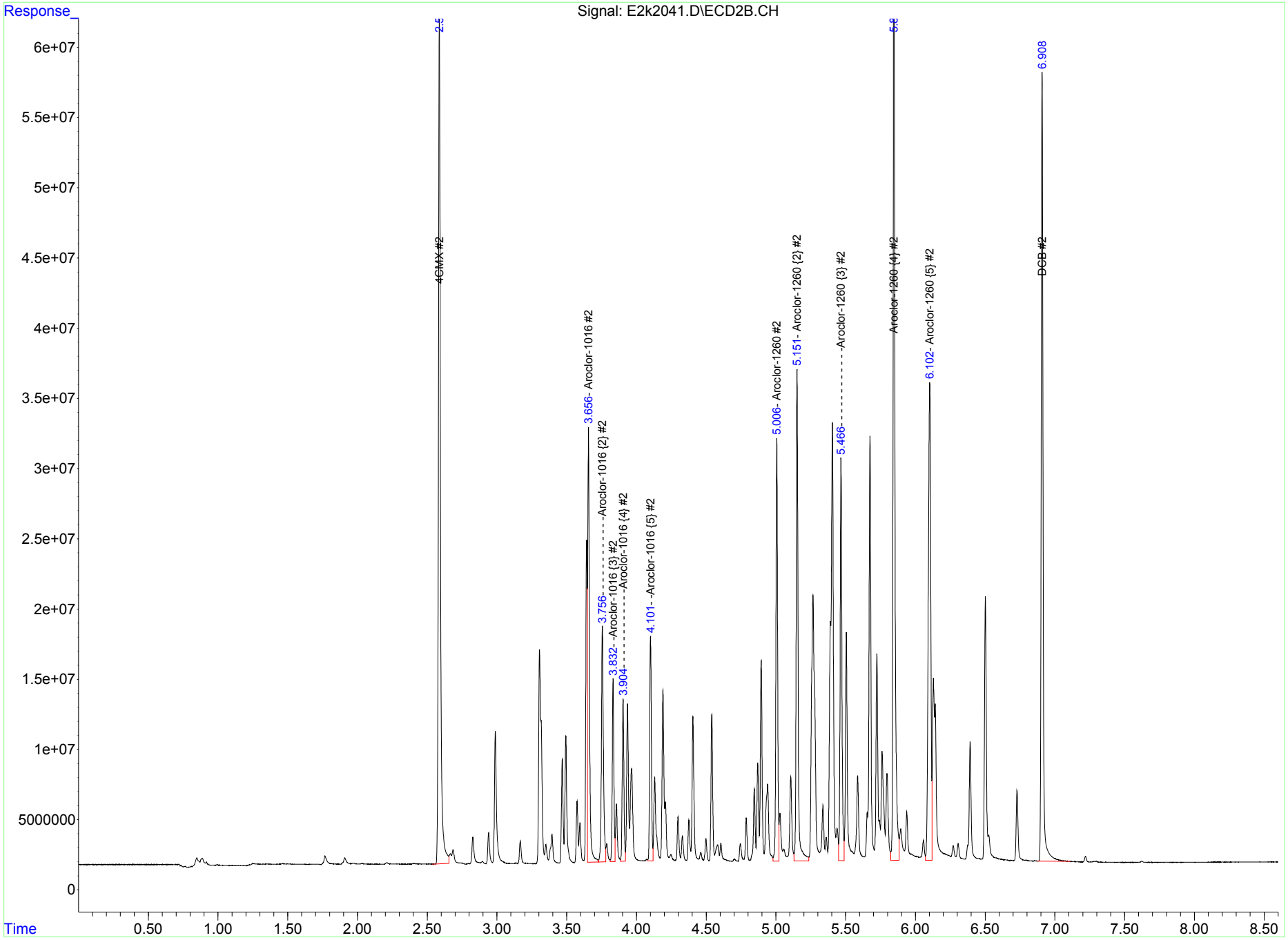
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.266	-0.001	544714970	99.697	2.589	2.587	-0.002	606436770	105.819
DCB	6.216	6.217	0.001	481890598	112.102	6.909	6.908	-0.001	524849369	113.394
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.817	0.000	173855084	976.782	3.658	3.657	-0.001	275288900	1051.164
Aroclor-1016 {2}	3.165	3.165	0.000	233753721	1030.999	3.757	3.756	-0.001	167167840	1020.541
Aroclor-1016 {3}	3.261	3.261	0.000	153168093	981.375	3.834	3.833	-0.001	103532181	1046.695
Aroclor-1016 {4}	3.398	3.397	-0.001	77749688	951.148	3.905	3.904	-0.001	94941900	987.594
Aroclor-1016 {5}	3.558	3.558	0.000	113866034	969.733	4.102	4.101	-0.001	133348955	1030.675
Sum Aroclor-1016				752392620	4910.037				774279776	5136.669
Average Aroclor-1016					982.007					1027.334
Aroclor-1260	4.422	4.421	-0.001	230011393	1055.826	5.006	5.006	0.000	248357204	1122.997
Aroclor-1260 {2}	4.888	4.888	0.000	214789121	1061.587	5.152	5.152	0.000	319070583	1122.473
Aroclor-1260 {3}	5.058	5.059	0.001	239702721	1093.195	5.467	5.466	-0.001	249171068	1113.039
Aroclor-1260 {4}	5.272	5.272	0.000	525261222	1095.280	5.846	5.846	0.000	612594503	1188.113
Aroclor-1260 {5}	5.466	5.467	0.001	253425062	1147.664	6.103	6.103	0.000	420285861	1177.359
Sum Aroclor-1260				1463189519	5453.552				1849479218	5723.982
Average Aroclor-1260					1090.710					1144.796

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2041.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2041.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-130

Injection Date: 20-NOV-20 17:28

Data File: 112020.S\E2k2053.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	176210.62	1000	-1	20		Averaged
Aroclor-1016(2)	226725.43	239390.62	1000	5.59	20		Averaged
Aroclor-1016(3)	156074.97	155822.69	1000	-0.16	20		Averaged
Aroclor-1016(4)	81742.99	79011.56	1000	-3.34	20		Averaged
Aroclor-1016(5)	117420.02	116129.19	1000	-1.1	20		Averaged
Aroclor-1260	217849.78	232258.64	1000	6.61	20		Averaged
Aroclor-1260(2)	202328.31	217654.27	1000	7.57	20		Averaged
Aroclor-1260(3)	219268.02	242029.63	1000	10.38	20		Averaged
Aroclor-1260(4)	479568.07	529572.59	1000	10.43	20		Averaged
Aroclor-1260(5)	220818.14	257819.97	1000	16.76	20		Averaged
4cmx(Surr)	5463730.67	5516418.15	100	0.96	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4885252.1	100	13.65	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-130

Injection Date: 20-NOV-20 17:28

Data File: 112020.S\E2k2053.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	277739.05	1000	6.05	20		Averaged
Aroclor-1016(2)	163803.13	171839.08	1000	4.91	20		Averaged
Aroclor-1016(3)	98913.38	107406.16	1000	8.59	20		Averaged
Aroclor-1016(4)	96134.55	97942.35	1000	1.88	20		Averaged
Aroclor-1016(5)	129380.27	136784.42	1000	5.72	20		Averaged
Aroclor-1260	221155.69	252225.74	1000	14.05	20		Averaged
Aroclor-1260(2)	284256.72	324162.01	1000	14.04	20		Averaged
Aroclor-1260(3)	223865.49	251961.88	1000	12.55	20		Averaged
Aroclor-1260(4)	515602.74	622574.27	1000	20.75	20	*	Averaged
Aroclor-1260(5)	356973.45	428714.8	1000	20.1	20	*	Averaged
4cmx(Surr)	5730871.59	6085075.8	100	6.18	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	5281477.41	100	14.11	20		Averaged

Quantitation Report
GEL Laboratories, LLC

11/21/2020

11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2053.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 17:28 (#1); 20 Nov 2020 17:28 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR200922-60|CCV|1|SVA|1|AR12660
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 51 (Sig #2) Sample Multiplier: 1

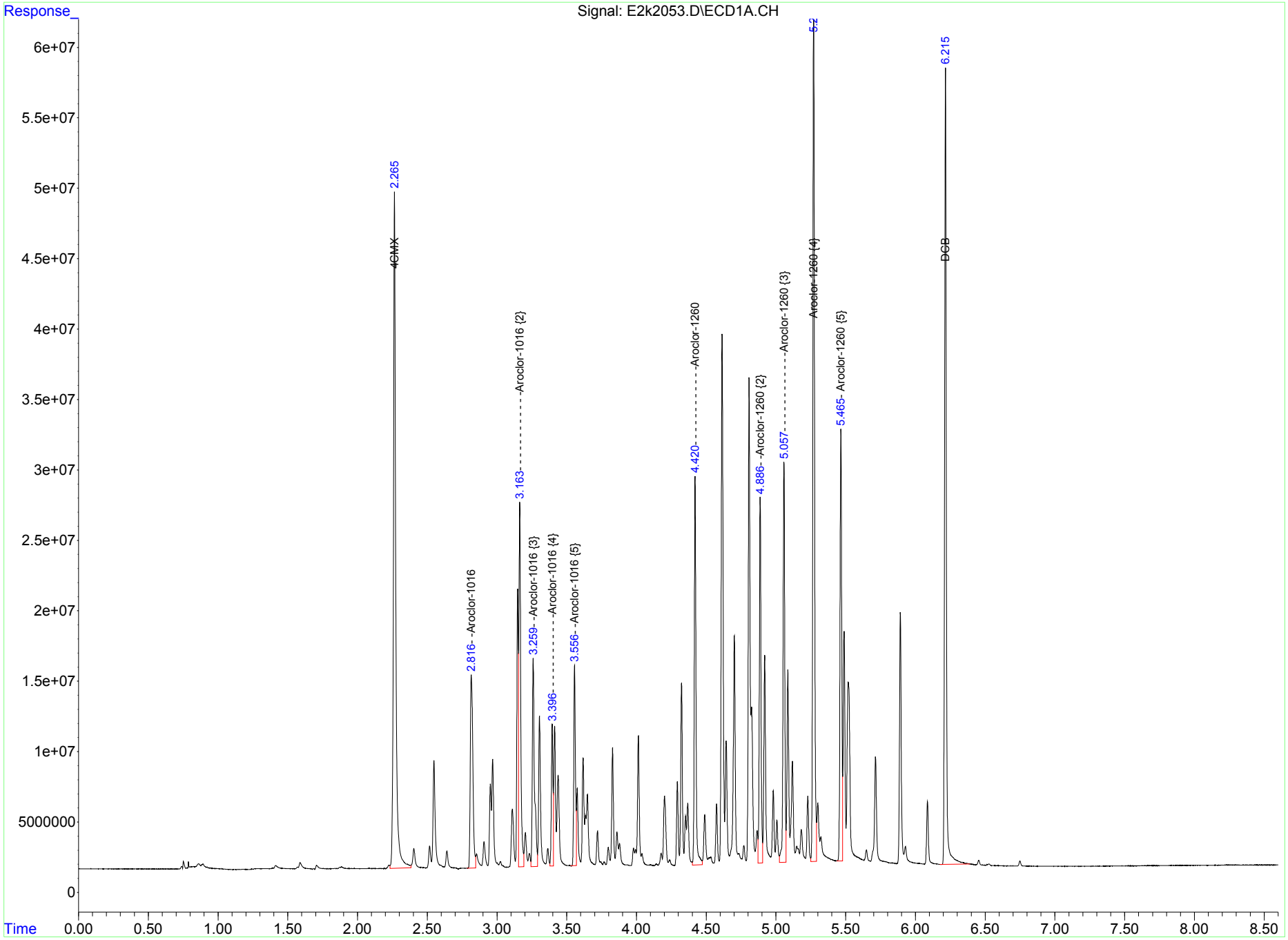
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:57:09 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

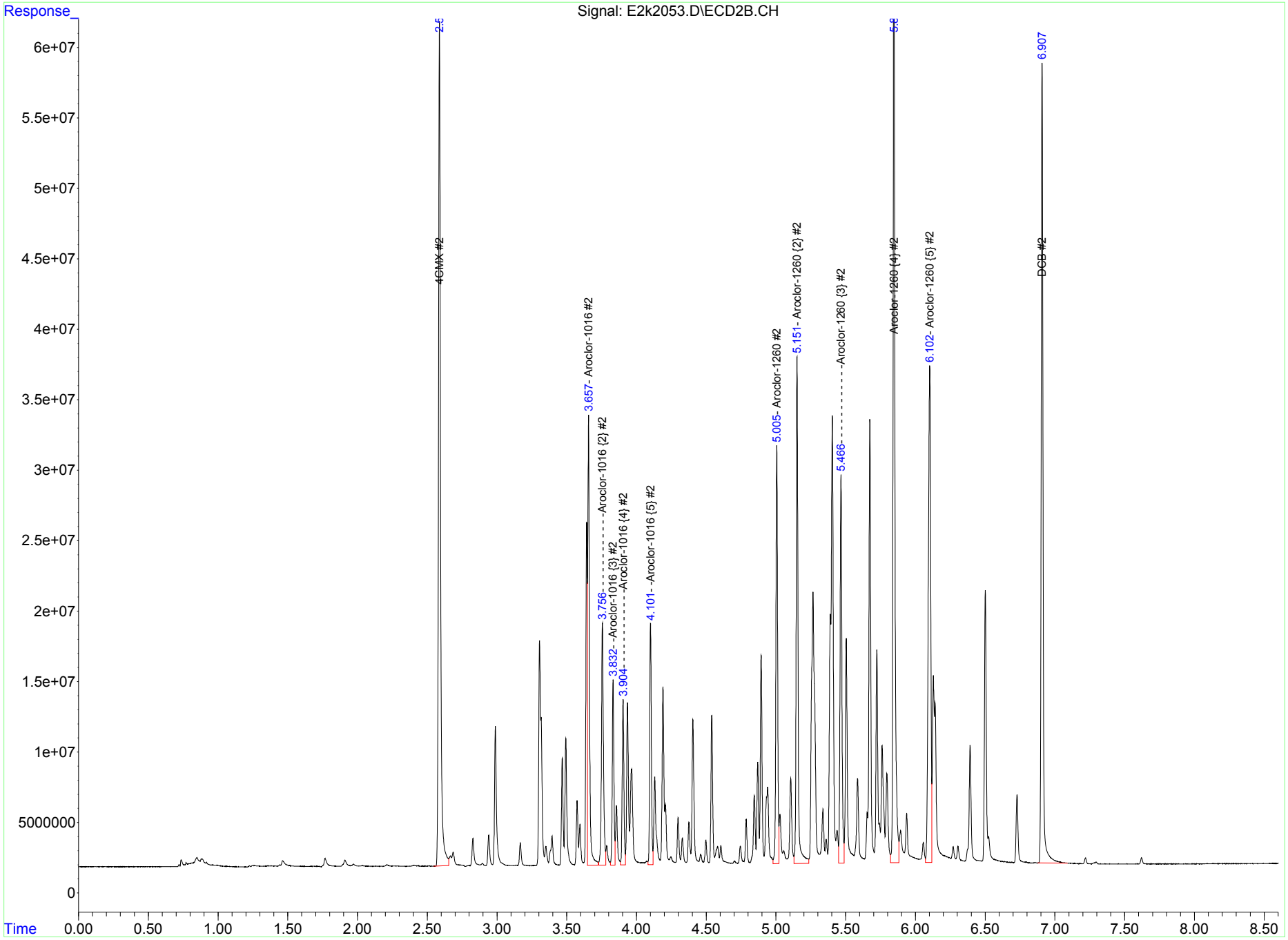
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.265	-0.002	551641815	100.964	2.589	2.588	-0.001	608507580	106.181
DCB	6.216	6.215	-0.001	488525210	113.646	6.909	6.908	-0.001	528147741	114.106
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.816	-0.001	176210619	990.016	3.658	3.657	-0.001	277739045	1060.520
Aroclor-1016 {2}	3.165	3.163	-0.002	239390624	1055.861	3.757	3.756	-0.001	171839079	1049.059
Aroclor-1016 {3}	3.261	3.260	-0.001	155822694	998.384	3.834	3.833	-0.001	107406164	1085.861
Aroclor-1016 {4}	3.398	3.396	-0.002	79011558	966.585	3.905	3.904	-0.001	97942345	1018.805
Aroclor-1016 {5}	3.558	3.557	-0.001	116129192	989.007	4.102	4.101	-0.001	136784418	1057.228
Sum Aroclor-1016				766564686	4999.853				791711051	5271.472
Average Aroclor-1016					999.971					1054.294
Aroclor-1260	4.422	4.420	-0.002	232258642	1066.141	5.006	5.006	0.000	252225743	1140.490
Aroclor-1260 {2}	4.888	4.887	-0.001	217654274	1075.748	5.152	5.151	-0.001	324162008	1140.385
Aroclor-1260 {3}	5.058	5.057	-0.001	242029630	1103.807	5.467	5.466	-0.001	251961877	1125.506
Aroclor-1260 {4}	5.272	5.270	-0.002	529572586	1104.270	5.846	5.846	0.000	622574270	1207.469
Aroclor-1260 {5}	5.466	5.465	-0.001	257819974	1167.567	6.103	6.102	-0.001	428714798	1200.971
Sum Aroclor-1260				1479335106	5517.533				1879638697	5814.820
Average Aroclor-1260					1103.507					1162.964

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2053.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2053.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-130

Injection Date: 20-NOV-20 18:35

Data File: 112020.S\E2k2058.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	172525.05	1000	-3.07	20		Averaged
Aroclor-1016(2)	226725.43	236127.88	1000	4.15	20		Averaged
Aroclor-1016(3)	156074.97	153620.74	1000	-1.57	20		Averaged
Aroclor-1016(4)	81742.99	77360.23	1000	-5.36	20		Averaged
Aroclor-1016(5)	117420.02	113065.49	1000	-3.71	20		Averaged
Aroclor-1260	217849.78	228332.97	1000	4.81	20		Averaged
Aroclor-1260(2)	202328.31	212807.99	1000	5.18	20		Averaged
Aroclor-1260(3)	219268.02	237752.82	1000	8.43	20		Averaged
Aroclor-1260(4)	479568.07	518430.01	1000	8.1	20		Averaged
Aroclor-1260(5)	220818.14	251797.02	1000	14.03	20		Averaged
4cmx(Surr)	5463730.67	5475329.01	100	0.21	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4763004.66	100	10.8	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-130

Injection Date: 20-NOV-20 18:35

Data File: 112020.S\E2k2058.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	276227.86	1000	5.47	20		Averaged
Aroclor-1016(2)	163803.13	170253.17	1000	3.94	20		Averaged
Aroclor-1016(3)	98913.38	106392.23	1000	7.56	20		Averaged
Aroclor-1016(4)	96134.55	97195.29	1000	1.1	20		Averaged
Aroclor-1016(5)	129380.27	135622.59	1000	4.82	20		Averaged
Aroclor-1260	221155.69	249392.48	1000	12.77	20		Averaged
Aroclor-1260(2)	284256.72	321669.01	1000	13.16	20		Averaged
Aroclor-1260(3)	223865.49	249241.91	1000	11.34	20		Averaged
Aroclor-1260(4)	515602.74	617331.75	1000	19.73	20		Averaged
Aroclor-1260(5)	356973.45	424006.95	1000	18.78	20		Averaged
4cmx(Surr)	5730871.59	6028344.99	100	5.19	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	5233009.46	100	13.06	20		Averaged

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2058.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 18:35 (#1); 20 Nov 2020 18:35 (#2)
Operator : YS1 InstName : ECD2
Sample : |WAR200922-60|CCV|1|SVA|1|AR12660
Misc : MIX[A]
ALS Vial : 0 (Sig #1); 56 (Sig #2) Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:57:19 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

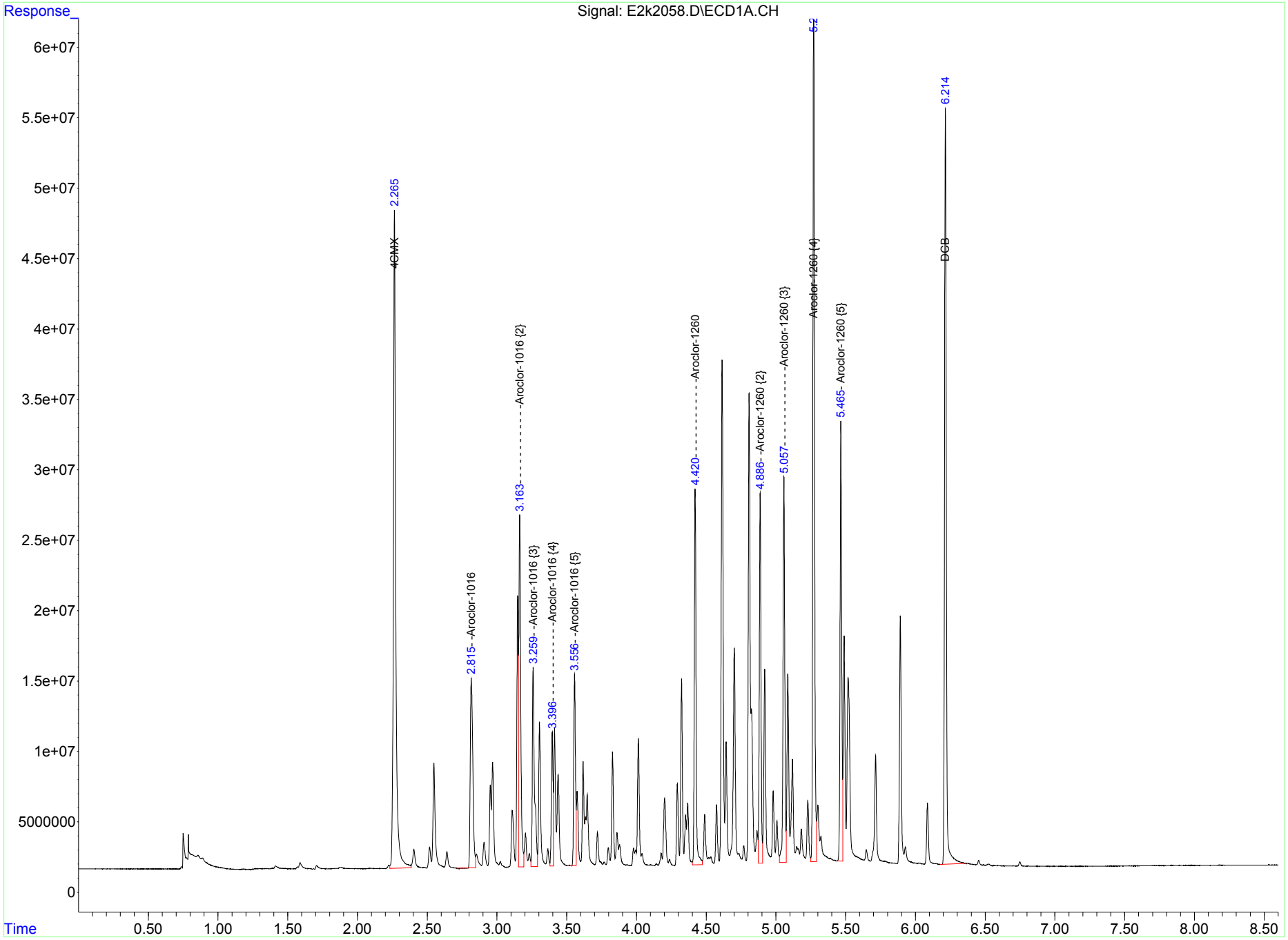
Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.265	-0.002	547532901	100.212	2.589	2.587	-0.002	602834499	105.191
DCB	6.216	6.215	-0.001	476300466	110.802	6.909	6.908	-0.001	523300946	113.059
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.816	-0.001	172525048	969.309	3.658	3.657	-0.001	276227863	1054.749
Aroclor-1016 {2}	3.165	3.163	-0.002	236127879	1041.471	3.757	3.756	-0.001	170253172	1039.377
Aroclor-1016 {3}	3.261	3.260	-0.001	153620742	984.275	3.834	3.832	-0.002	106392226	1075.610
Aroclor-1016 {4}	3.398	3.397	-0.001	77360229	946.384	3.905	3.904	-0.001	97195289	1011.034
Aroclor-1016 {5}	3.558	3.556	-0.002	113065486	962.915	4.102	4.101	-0.001	135622588	1048.248
Sum Aroclor-1016				752699384	4904.354				785691138	5229.018
Average Aroclor-1016					980.871					1045.804
Aroclor-1260	4.422	4.421	-0.001	228332974	1048.121	5.006	5.006	0.000	249392475	1127.678
Aroclor-1260 {2}	4.888	4.887	-0.001	212807988	1051.795	5.152	5.151	-0.001	321669006	1131.614
Aroclor-1260 {3}	5.058	5.057	-0.001	237752824	1084.302	5.467	5.466	-0.001	249241914	1113.356
Aroclor-1260 {4}	5.272	5.270	-0.002	518430007	1081.035	5.846	5.845	-0.001	617331748	1197.301
Aroclor-1260 {5}	5.466	5.465	-0.001	251797019	1140.291	6.103	6.102	-0.001	424006949	1187.783
Sum Aroclor-1260				1449120812	5405.546				1861642092	5757.732
Average Aroclor-1260					1081.109					1151.546

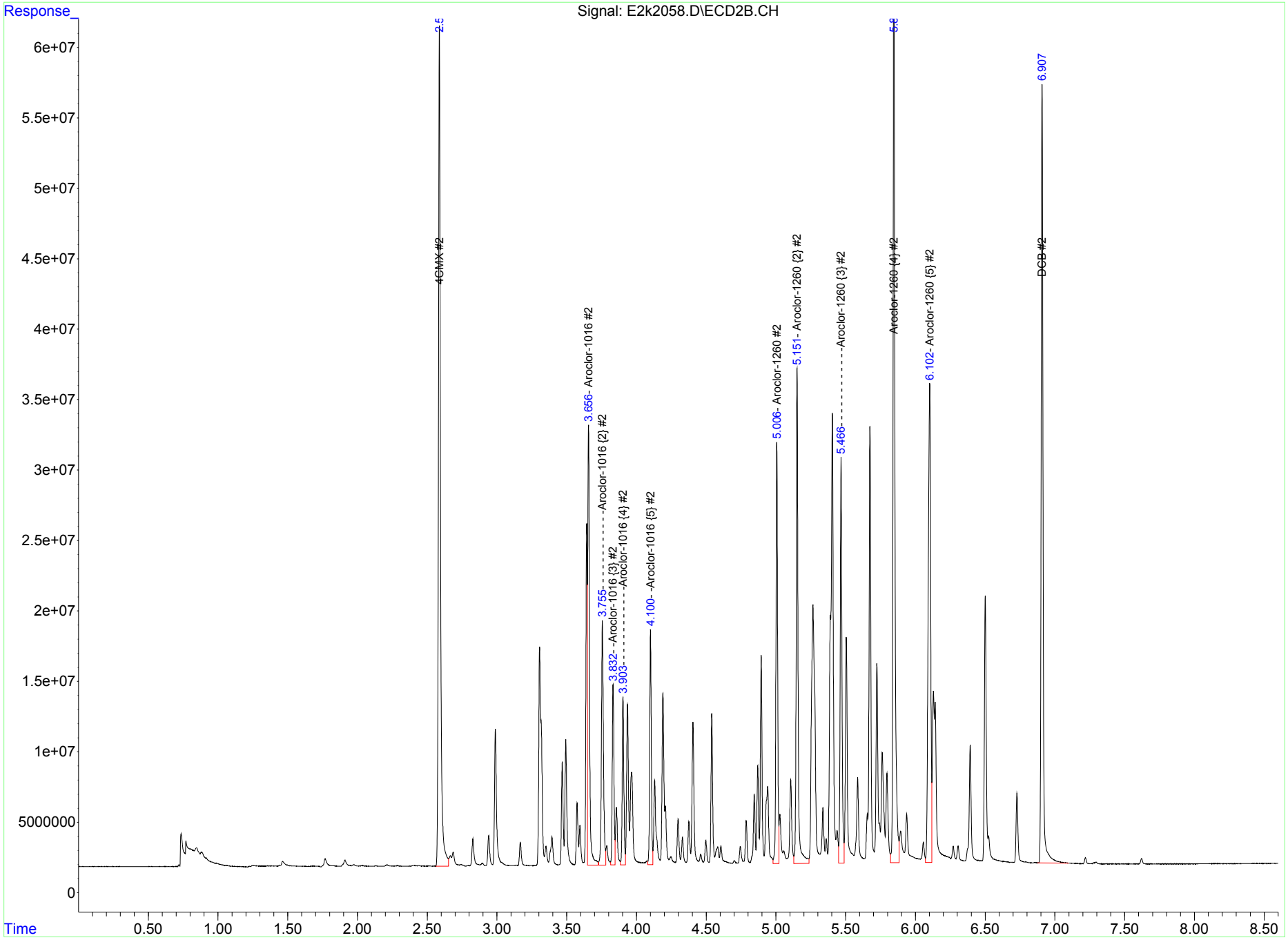
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

11/21/2020
11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2058.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2058.D



Continuing Calibration Summary

Instrument ID: ECD2A.I_1

Client SDG: 2021-130

Injection Date: 20-NOV-20 21:19

Data File: 112020.S\E2k2070.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	177987.64	174237.81	1000	-2.11	20		Averaged
Aroclor-1016(2)	226725.43	237750.46	1000	4.86	20		Averaged
Aroclor-1016(3)	156074.97	153910.87	1000	-1.39	20		Averaged
Aroclor-1016(4)	81742.99	76988.81	1000	-5.82	20		Averaged
Aroclor-1016(5)	117420.02	113019.83	1000	-3.75	20		Averaged
Aroclor-1260	217849.78	226411.45	1000	3.93	20		Averaged
Aroclor-1260(2)	202328.31	212773.82	1000	5.16	20		Averaged
Aroclor-1260(3)	219268.02	239097.79	1000	9.04	20		Averaged
Aroclor-1260(4)	479568.07	521749.76	1000	8.8	20		Averaged
Aroclor-1260(5)	220818.14	258492.16	1000	17.06	20		Averaged
4cmx(Surr)	5463730.67	5544702.96	100	1.48	20		Averaged
Decachlorobiphenyl(Surr)	4298667.39	4833101	100	12.43	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD2A.I_2

Client SDG: 2021-130

Injection Date: 20-NOV-20 21:19

Data File: 112020.S\E2k2070.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 112020.S\ECD2_8082_102620.M

Column ID: CLPesticides2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	261889.58	272435.39	1000	4.03	20		Averaged
Aroclor-1016(2)	163803.13	169026.16	1000	3.19	20		Averaged
Aroclor-1016(3)	98913.38	104895.98	1000	6.05	20		Averaged
Aroclor-1016(4)	96134.55	94813.94	1000	-1.37	20		Averaged
Aroclor-1016(5)	129380.27	133004.39	1000	2.8	20		Averaged
Aroclor-1260	221155.69	245785.09	1000	11.14	20		Averaged
Aroclor-1260(2)	284256.72	313607.11	1000	10.33	20		Averaged
Aroclor-1260(3)	223865.49	246868.34	1000	10.28	20		Averaged
Aroclor-1260(4)	515602.74	618403.9	1000	19.94	20		Averaged
Aroclor-1260(5)	356973.45	427314.31	1000	19.7	20		Averaged
4cmx(Surr)	5730871.59	6006063.35	100	4.8	20		Averaged
Decachlorobiphenyl(Surr)	4628556.18	5330937.08	100	15.17	20		Averaged

GS 11/21/2020

JC 11/23/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2070.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 21:19 (#1); 20 Nov 2020 21:19 (#2)
Operator : YS1   InstName : ECD2
Sample   : |WAR200922-60|CCV|1|SVA|1|AR12660
Misc   : MIX[A]
ALS Vial : 0 (Sig #1); 68 (Sig #2)   Sample Multiplier: 1

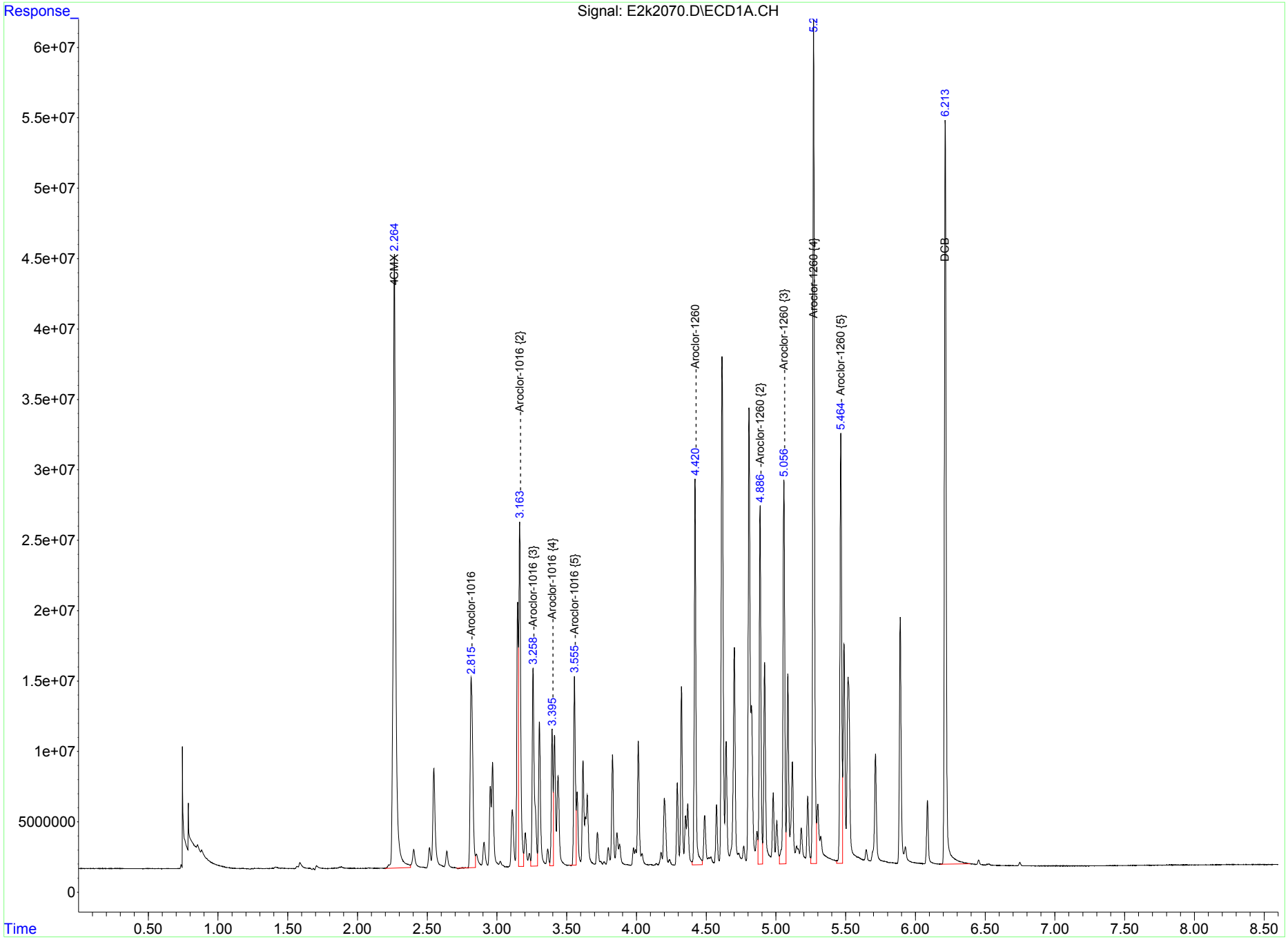
Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 21 04:57:43 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

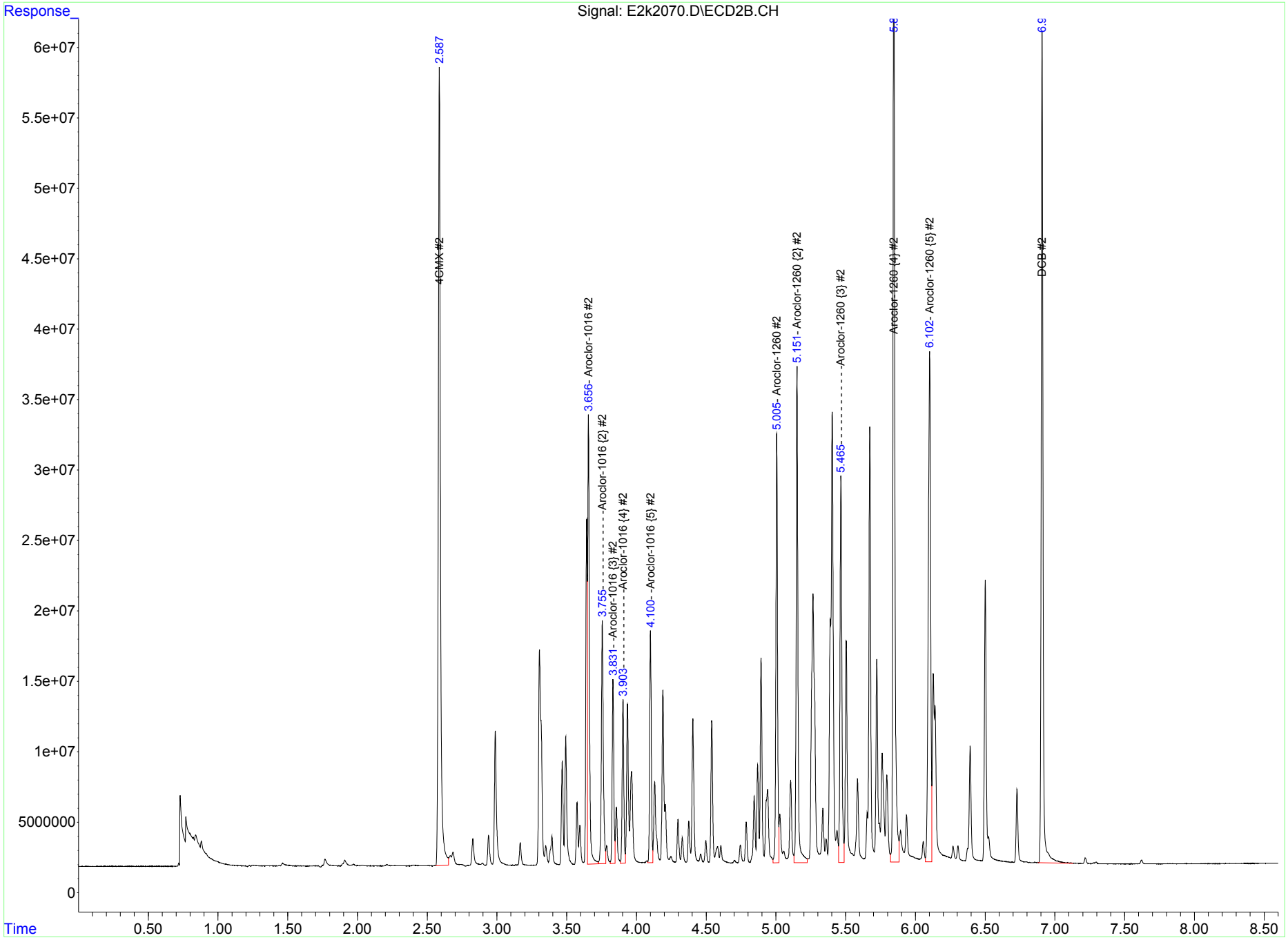
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.265	-0.002	554470296	101.482	2.589	2.587	-0.002	600606335	104.802
DCB	6.216	6.213	-0.003	483310100	112.433	6.909	6.908	-0.001	533093708	115.175
Target Compounds										
Aroclor-1016	2.817	2.815	-0.002	174237807	978.932	3.658	3.656	-0.002	272435392	1040.268
Aroclor-1016 {2}	3.165	3.163	-0.002	237750459	1048.627	3.757	3.755	-0.002	169026155	1031.886
Aroclor-1016 {3}	3.261	3.259	-0.002	153910874	986.134	3.834	3.832	-0.002	104895978	1060.483
Aroclor-1016 {4}	3.398	3.396	-0.002	76988813	941.840	3.905	3.904	-0.001	94813942	986.263
Aroclor-1016 {5}	3.558	3.556	-0.002	113019833	962.526	4.102	4.101	-0.001	133004390	1028.011
Sum Aroclor-1016				755907786	4918.060				774175858	5146.912
Average Aroclor-1016					983.612					1029.382
Aroclor-1260	4.422	4.420	-0.002	226411453	1039.301	5.006	5.005	-0.001	245785086	1111.367
Aroclor-1260 {2}	4.888	4.886	-0.002	212773822	1051.627	5.152	5.151	-0.001	313607112	1103.253
Aroclor-1260 {3}	5.058	5.057	-0.001	239097792	1090.436	5.467	5.466	-0.001	246868341	1102.753
Aroclor-1260 {4}	5.272	5.270	-0.002	521749755	1087.958	5.846	5.845	-0.001	618403901	1199.381
Aroclor-1260 {5}	5.466	5.465	-0.001	258492157	1170.611	6.103	6.102	-0.001	427314314	1197.048
Sum Aroclor-1260				1458524980	5439.932				1851978755	5713.801
Average Aroclor-1260					1087.986					1142.760

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2070.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2070.D



Lab Name: GEL Laboratories LLC **Client SDG:** 2021-130

GC Column: CLPesticides

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration: **RT Range Based on Calibration Verification:**				2.27 2.24 2.3 #	6.23 6.2 6.26 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2J2614.D	ICAL	WAR201009-01	26-OCT-20 07:03	2.27	6.23
E2J2615.D	ICAL	WAR201009-02	26-OCT-20 07:15	2.27	6.23
E2J2616.D	ICAL	WAR201009-03	26-OCT-20 07:27	2.27	6.23
E2J2617.D	ICAL	WAR201009-04	26-OCT-20 07:39	2.27	6.23
E2J2618.D	ICAL	IAR200730-01	26-OCT-20 07:51	2.27	6.23
E2J2619.D	ICV	WAR200605-60	26-OCT-20 08:03	2.27	6.23

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-130

GC Column: CLPesticides2

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.59	6.92
RT Range Based on Calibration Verification:				2.56 2.62 #	6.89 6.95 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2J2614.D	ICAL	WAR201009-01	26-OCT-20 07:03	2.6	6.92
E2J2615.D	ICAL	WAR201009-02	26-OCT-20 07:15	2.6	6.92
E2J2616.D	ICAL	WAR201009-03	26-OCT-20 07:27	2.59	6.92
E2J2617.D	ICAL	WAR201009-04	26-OCT-20 07:39	2.6	6.92
E2J2618.D	ICAL	IAR200730-01	26-OCT-20 07:51	2.59	6.92
E2J2619.D	ICV	WAR200605-60	26-OCT-20 08:03	2.59	6.92

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-130

GC Column: CLPesticides

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.27	6.22
RT Range Based on Calibration Verification:				2.24 2.3 #	6.19 6.25 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2001.D	CCB	WAR201102-99	20-NOV-20 04:59	2.27	6.22
E2k2002.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 05:11	NA	NA
E2k2003.D	CCV	WAR200707-32	20-NOV-20 05:23	NA	NA
E2k2004.D	CCV	WAR200701-21	20-NOV-20 05:35	NA	NA
E2k2005.D	CCV	WAR200922-60	20-NOV-20 05:47	2.27	6.22
E2k2006.D	CCV	WAR200825-54	20-NOV-20 05:59	NA	NA
E2k2007.D	CCV	WAR200612-42	20-NOV-20 06:11	NA	NA
E2k2008.D	CCV	WAR200916-48	20-NOV-20 06:23	NA	NA
E2k2009.D	CCV	WAR201112-68	20-NOV-20 06:35	NA	NA
E2k2010.D	CCV	WAR201104-62	20-NOV-20 06:47	NA	NA
E2k2011.D	CCB	WAR201102-99	20-NOV-20 07:01	2.27	6.22
E2k2012.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:13	2.27	6.22
E2k2013.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:25	2.27	6.22
E2k2014.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:37	2.27	6.22
E2k2015.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:49	2.27	6.22
E2k2016.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:01	2.27	6.22
E2k2017.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:13	2.27	6.21
E2k2018.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:25	2.27	6.21
E2k2019.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:37	2.27	6.22
E2k2020.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:49	2.27	6.21
E2k2021.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:01	2.27	6.22
E2k2022.D	CCV	WAR200922-60	20-NOV-20 09:13	2.27	6.22
E2k2023.D	CCB	WAR201102-99	20-NOV-20 09:25	2.27	6.22
E2k2024.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:37	2.27	6.21
E2k2025.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:49	2.27	6.21
E2k2026.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:01	2.27	6.21
E2k2027.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:13	2.27	6.21
E2k2028.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:25	2.27	6.21
E2k2029.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:37	2.27	6.22

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-130

GC Column: CLPesticides

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.27	6.22
RT Range Based on Calibration Verification:				2.24 2.3 #	6.19 6.25 #
	Sample Number	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2031.D	CCV	WAR200922-60	20-NOV-20 11:03	2.27	6.21
E2k2032.D	CCB	WAR201102-99	20-NOV-20 11:15	2.27	6.22
E2k2033.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:27	2.27	6.22
E2k2034.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:40	2.27	6.21
E2k2035.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:52	2.27	6.22
E2k2036.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 12:04	2.27	6.22
E2k2037.D	CCV	WAR200922-60	20-NOV-20 12:16	2.27	6.22
E2k2038.D	CCB	WAR201102-99	20-NOV-20 12:28	2.27	6.22
E2k2040.D	CCB	WAR201102-99	20-NOV-20 14:39	2.27	6.22
E2k2041.D	CCV	WAR200922-60	20-NOV-20 14:51	2.27	6.22
E2k2042.D	CCB	WAR201102-99	20-NOV-20 15:03	2.27	6.22
E2k2043.D	MB	1204699392	20-NOV-20 15:15	2.27	6.22
E2k2044.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 15:27	2.27	6.22
E2k2045.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 15:39	2.27	6.21
E2k2046.D	BLK01LCS	1204699393	20-NOV-20 15:51	2.27	6.21
E2k2047.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 16:03	2.27	6.21
E2k2048.D	400RIS208WA075MS	1204699394	20-NOV-20 16:17	2.27	6.21
E2k2049.D	400RIS208WA075MSD	1204699395	20-NOV-20 16:31	2.27	6.21
E2k2050.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 16:46	2.27	6.21
E2k2051.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:00	2.27	6.21
E2k2052.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:14	2.27	6.21
E2k2053.D	CCV	WAR200922-60	20-NOV-20 17:28	2.27	6.22
E2k2054.D	CCB	WAR201102-99	20-NOV-20 17:40	2.27	6.22
E2k2055.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:52	2.27	6.22
E2k2056.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 18:06	2.27	6.21
E2k2057.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 18:21	2.27	6.21
E2k2058.D	CCV	WAR200922-60	20-NOV-20 18:35	2.27	6.22
E2k2059.D	CCB	WAR201102-99	20-NOV-20 18:47	2.27	6.22
E2k2063.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 19:41	2.27	6.21

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-130

GC Column: CLPesticides

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.27	6.22
RT Range Based on Calibration Verification:				2.24 2.3 #	6.19 6.25 #
	Sample Number	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2064.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 19:55	2.27	6.21
E2k2065.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 20:09	2.27	6.21
E2k2066.D	SMEB03-20-209979	527510004	20-NOV-20 20:23	2.27	6.21
E2k2067.D	SMEB04-20-209982	527510010	20-NOV-20 20:37	2.27	6.21
E2k2068.D	SMEB05-20-209985	527510016	20-NOV-20 20:51	2.27	6.21
E2k2069.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 21:05	2.27	6.21
E2k2070.D	CCV	WAR200922-60	20-NOV-20 21:19	2.27	6.21

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-130

GC Column: CLPesticides2

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.59	6.91
RT Range Based on Calibration Verification:				2.56 2.62 #	6.88 6.94 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2001.D	CCB	WAR201102-99	20-NOV-20 04:59	2.58	6.91
E2k2002.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 05:11	NA	NA
E2k2003.D	CCV	WAR200707-32	20-NOV-20 05:23	NA	NA
E2k2004.D	CCV	WAR200701-21	20-NOV-20 05:35	NA	NA
E2k2005.D	CCV	WAR200922-60	20-NOV-20 05:47	2.59	6.91
E2k2006.D	CCV	WAR200825-54	20-NOV-20 05:59	NA	NA
E2k2007.D	CCV	WAR200612-42	20-NOV-20 06:11	NA	NA
E2k2008.D	CCV	WAR200916-48	20-NOV-20 06:23	NA	NA
E2k2009.D	CCV	WAR201112-68	20-NOV-20 06:35	NA	NA
E2k2010.D	CCV	WAR201104-62	20-NOV-20 06:47	NA	NA
E2k2011.D	CCB	WAR201102-99	20-NOV-20 07:01	2.59	6.91
E2k2012.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:13	2.59	6.91
E2k2013.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:25	2.59	6.91
E2k2014.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:37	2.59	6.91
E2k2015.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 07:49	2.59	6.91
E2k2016.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:01	2.59	6.91
E2k2017.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:13	2.59	6.91
E2k2018.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:25	2.59	6.91
E2k2019.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:37	2.59	6.91
E2k2020.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 08:49	2.59	6.91
E2k2021.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:01	2.59	6.91
E2k2022.D	CCV	WAR200922-60	20-NOV-20 09:13	2.59	6.91
E2k2023.D	CCB	WAR201102-99	20-NOV-20 09:25	2.59	6.91
E2k2024.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:37	2.59	6.91
E2k2025.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 09:49	2.59	6.91
E2k2026.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:01	2.59	6.91
E2k2027.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:13	2.59	6.91
E2k2028.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:25	2.59	6.91
E2k2029.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 10:37	2.59	6.91

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-130

GC Column: CLPesticides2

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.59	6.91
RT Range Based on Calibration Verification:				2.56 2.62 #	6.88 6.94 #
	Sample Number	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2031.D	CCV	WAR200922-60	20-NOV-20 11:03	2.59	6.91
E2k2032.D	CCB	WAR201102-99	20-NOV-20 11:15	2.59	6.91
E2k2033.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:27	2.59	6.91
E2k2034.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:40	2.59	6.91
E2k2035.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 11:52	2.59	6.91
E2k2036.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 12:04	2.59	6.91
E2k2037.D	CCV	WAR200922-60	20-NOV-20 12:16	2.59	6.91
E2k2038.D	CCB	WAR201102-99	20-NOV-20 12:28	2.59	6.91
E2k2040.D	CCB	WAR201102-99	20-NOV-20 14:39	2.59	6.91
E2k2041.D	CCV	WAR200922-60	20-NOV-20 14:51	2.59	6.91
E2k2042.D	CCB	WAR201102-99	20-NOV-20 15:03	2.59	6.91
E2k2043.D	MB	1204699392	20-NOV-20 15:15	2.59	6.91
E2k2044.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 15:27	2.59	6.91
E2k2045.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 15:39	2.59	6.91
E2k2046.D	BLK01LCS	1204699393	20-NOV-20 15:51	2.59	6.91
E2k2047.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 16:03	2.59	6.91
E2k2048.D	400RIS208WA075MS	1204699394	20-NOV-20 16:17	2.59	6.91
E2k2049.D	400RIS208WA075MSD	1204699395	20-NOV-20 16:31	2.59	6.91
E2k2050.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 16:46	2.59	6.91
E2k2051.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:00	2.59	6.91
E2k2052.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:14	2.59	6.91
E2k2053.D	CCV	WAR200922-60	20-NOV-20 17:28	2.59	6.91
E2k2054.D	CCB	WAR201102-99	20-NOV-20 17:40	2.59	6.91
E2k2055.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 17:52	2.59	6.91
E2k2056.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 18:06	2.59	6.91
E2k2057.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 18:21	2.59	6.91
E2k2058.D	CCV	WAR200922-60	20-NOV-20 18:35	2.59	6.91
E2k2059.D	CCB	WAR201102-99	20-NOV-20 18:47	2.59	6.91
E2k2063.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 19:41	2.59	6.91

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-130

GC Column: CLPesticides2

Instrument ID: ECD2A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.59	6.91
RT Range Based on Calibration Verification:				2.56 2.62 #	6.88 6.94 #
	Sample Number	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E2k2064.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 19:55	2.59	6.91
E2k2065.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 20:09	2.59	6.91
E2k2066.D	SMEB03-20-209979	527510004	20-NOV-20 20:23	2.59	6.91
E2k2067.D	SMEB04-20-209982	527510010	20-NOV-20 20:37	2.59	6.91
E2k2068.D	SMEB05-20-209985	527510016	20-NOV-20 20:51	2.59	6.91
E2k2069.D	ZZZZZZZ	ZZZZZZZ	20-NOV-20 21:05	2.59	6.91
E2k2070.D	CCV	WAR200922-60	20-NOV-20 21:19	2.59	6.91

Column used to flag retention time values with an asterisk.

Quality Control Data

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**			**Matrix:**	**WATER**
Lab Sample ID:	**1204699392**				
Client Sample:	**QC for batch 2065081**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2065081**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 15:15**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2043.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2043.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0333	ug/L	0.0333	0.100	1
11104-28-2	Aroclor-1221	U	0.0333	ug/L	0.0333	0.100	1
11141-16-5	Aroclor-1232	U	0.0333	ug/L	0.0333	0.100	1
53469-21-9	Aroclor-1242	U	0.0333	ug/L	0.0333	0.100	1
12672-29-6	Aroclor-1248	U	0.0333	ug/L	0.0333	0.100	1
11097-69-1	Aroclor-1254	U	0.0333	ug/L	0.0333	0.100	1
11096-82-5	Aroclor-1260	U	0.0333	ug/L	0.0333	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.107	0.200	ug/L	53	(30%-113%)
Decachlorobiphenyl	0.167	0.200	ug/L	83	(34%-130%)

11/21/2020

11/23/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2043.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 20 Nov 2020 15:15 (#1); 20 Nov 2020 15:15 (#2)
Operator : YS1   InstName : ECD2
Sample   : |1204699392|2065082|1|SVA|1|MB|||
Misc   : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 0 (Sig #1); 41 (Sig #2)   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Nov 21 04:56:49 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2   SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.269	0.002	582439064	106.601	2.589	2.590	0.001	639979546	111.672
DCB	6.216	6.216	0.000	716537781	166.688	6.909	6.908	-0.001	819244440	176.998

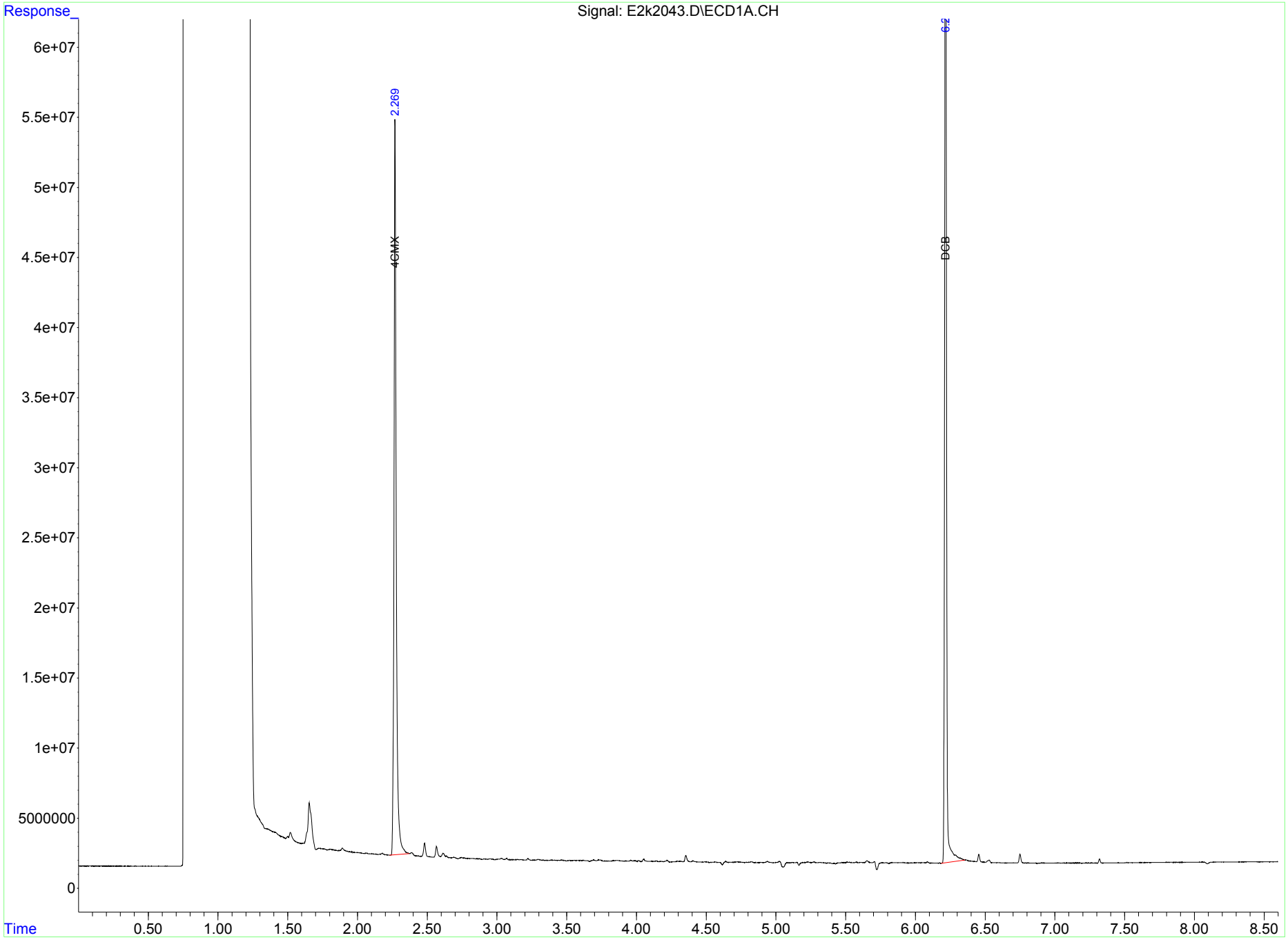
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	53%	56%
DCB	200.000	No Limits	83%	88%

Target Compounds

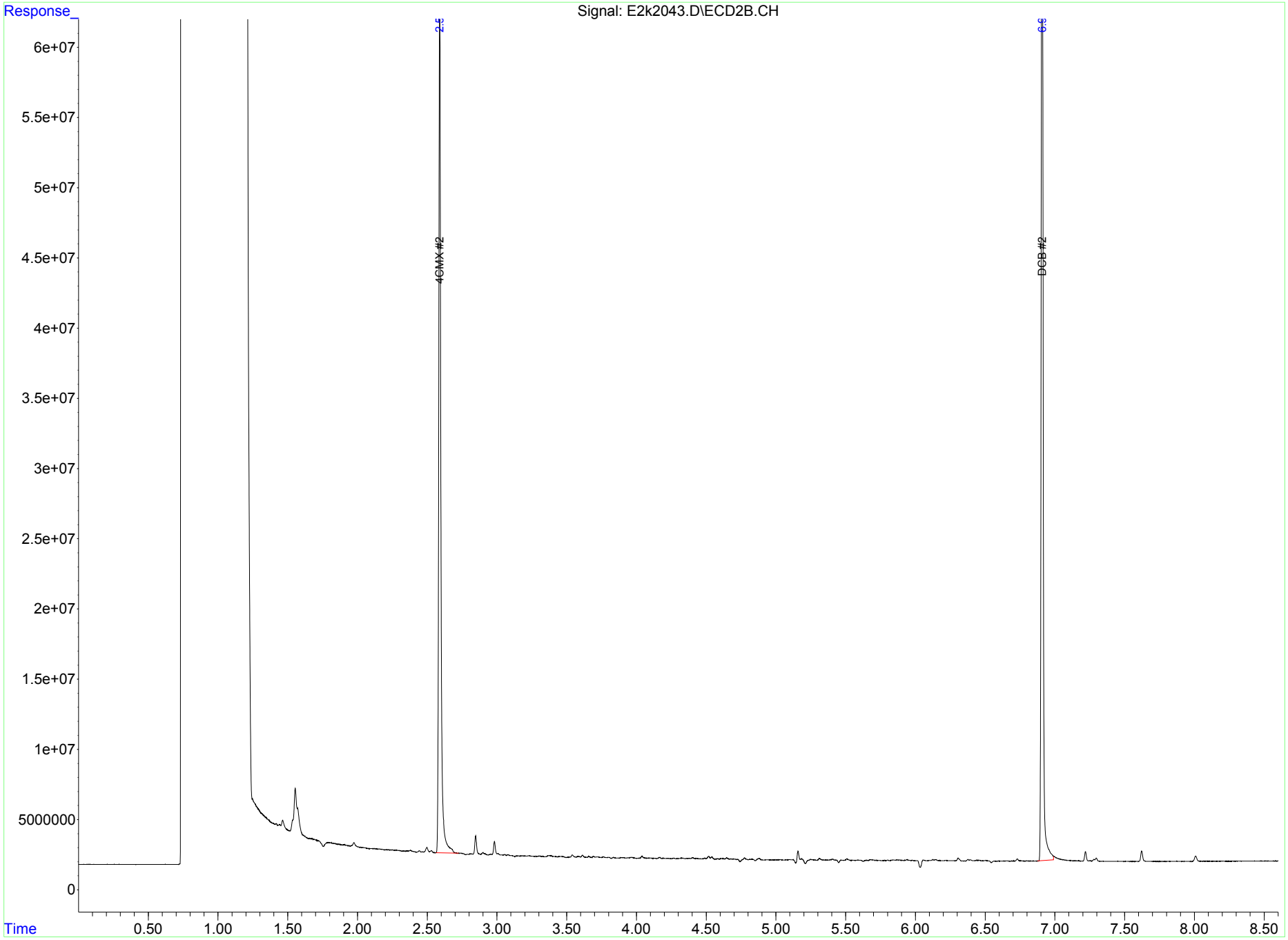
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2043.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2043.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.269	0.002	582439064	106.601	2.589	2.590	0.001	639979546	111.672
DCB	6.216	6.216	0.000	716537781	166.688	6.909	6.908	-0.001	819244440	176.998

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	53%	56%
DCB	200.000	No Limits	83%	88%
4CMX	200.000	No Limits	53%	56%
DCB	200.000	No Limits	83%	88%

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Target Compounds										
Aroclor-1221	2.406	0.000	-2.406	0	N.D.	2.828	2.848	0.020f	12841288	225.457
Aroclor-1221 {3}	2.549	2.567	0.018f	7235069	55.050	2.990	2.982	-0.008	7351533	56.622
Sum Aroclor-1221				7235069	55.050				20192822	282.079 #
Average Aroclor-1221					55.050					141.039 #
Aroclor-1254 {2}	4.015	0.000	-4.015	0	N.D.	4.541	4.540	-0.001	1570724	6.154
Aroclor-1254 {3}	4.294	0.000	-4.294	0	N.D.	4.788	4.788	0.000	286208	1.337
Aroclor-1254 {5}	4.488	0.000	-4.488	0	N.D.	5.152	5.159	0.007	8615599	45.255
Sum Aroclor-1254				0	N.D.				10472530	52.746
Average Aroclor-1254					N.D.					<MDL
Aroclor-1260 {2}	4.888	0.000	-4.888	0	N.D.	5.152	5.159	0.007	8615599	30.309
Aroclor-1260 {3}	5.058	0.000	-5.058	0	N.D.	5.467	5.466	-0.001	1385687	6.190
Aroclor-1260 {5}	5.466	0.000	-5.466	0	N.D.	6.103	6.088	-0.015f	2871519	8.044
Sum Aroclor-1260				0	N.D.				12872805	44.543
Average Aroclor-1260					N.D.					<MDL
Aroclor-1262	4.615	4.640	0.025f	-42821	N.D.	5.152	5.159	0.007	8615599	38.218
Aroclor-1262 {2}	4.887	0.000	-4.887	0	N.D.	5.466	5.466	0.000	1385687	4.559
Aroclor-1262 {5}	5.490	0.000	-5.490	0	N.D.	6.097	6.088	-0.009	2871519	7.150
Sum Aroclor-1262				0	N.D.				12872805	49.927
Average Aroclor-1262					N.D.					<MDL
Aroclor-1268	5.490	0.000	-5.490	0	N.D.	6.096	6.088	-0.008	2871519	3.670
Aroclor-1268 {2}	5.516	0.000	-5.516	0	N.D.	6.129	6.124	-0.005	6749116	7.941
Aroclor-1268 {3}	5.649	0.000	-5.649	0	N.D.	6.306	6.306	0.000	2154862	3.224
Aroclor-1268 {5}	6.088	0.000	-6.088	0	N.D.	6.729	6.730	0.001	1311747	0.629
Sum Aroclor-1268				0	N.D.				13087245	15.463
Average Aroclor-1268					N.D.					<MDL
4,4' DDD	4.638	4.640	0.002	-42821	N.D.	5.183	5.184	0.001	4573442	<MDL
4,4' DDE	4.220	0.000	-4.220	0	N.D.	4.773	4.774	0.001	2592468	<MDL

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2043.D

Aroclor-1221	Multi -	Deletion ==	DMP	
Aroclor-1254	Multi -	Deletion ==	DMP	
Aroclor-1260	Multi -	Deletion ==	DMP	
Aroclor-1262	Multi -	Deletion ==	DMP	
Aroclor-1268	Multi -	Deletion ==	DMP	
4,4' DDD #2	-	Deletion ==	DMP	
4,4' DDE #2	-	Deletion ==	DMP	

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**			**Matrix:**	**WATER**
Lab Sample ID:	**1204699393**				
Client Sample:	**QC for batch 2065081**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2065081**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 15:51**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2046.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2046.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		0.572	ug/L	0.0333	0.100	1
11104-28-2	Aroclor-1221	U	0.0333	ug/L	0.0333	0.100	1
11141-16-5	Aroclor-1232	U	0.0333	ug/L	0.0333	0.100	1
53469-21-9	Aroclor-1242	U	0.0333	ug/L	0.0333	0.100	1
12672-29-6	Aroclor-1248	U	0.0333	ug/L	0.0333	0.100	1
11097-69-1	Aroclor-1254	U	0.0333	ug/L	0.0333	0.100	1
11096-82-5	Aroclor-1260		0.638	ug/L	0.0333	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.109	0.200	ug/L	54	(30%-113%)
Decachlorobiphenyl	0.183	0.200	ug/L	91	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

11/21/2020

11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2046.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 15:51 (#1); 20 Nov 2020 15:51 (#2)
Operator : YS1 InstName : ECD2
Sample : |1204699393|2065082|1|SVA|1|LCS|||
Misc : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 0 (Sig #1); 44 (Sig #2) Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:56:55 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	594542616	108.816	2.589	2.590	0.001	562119324	98.086
DCB	6.216	6.214	-0.002	784571333	182.515	6.909	6.908	-0.001	857057916	185.167

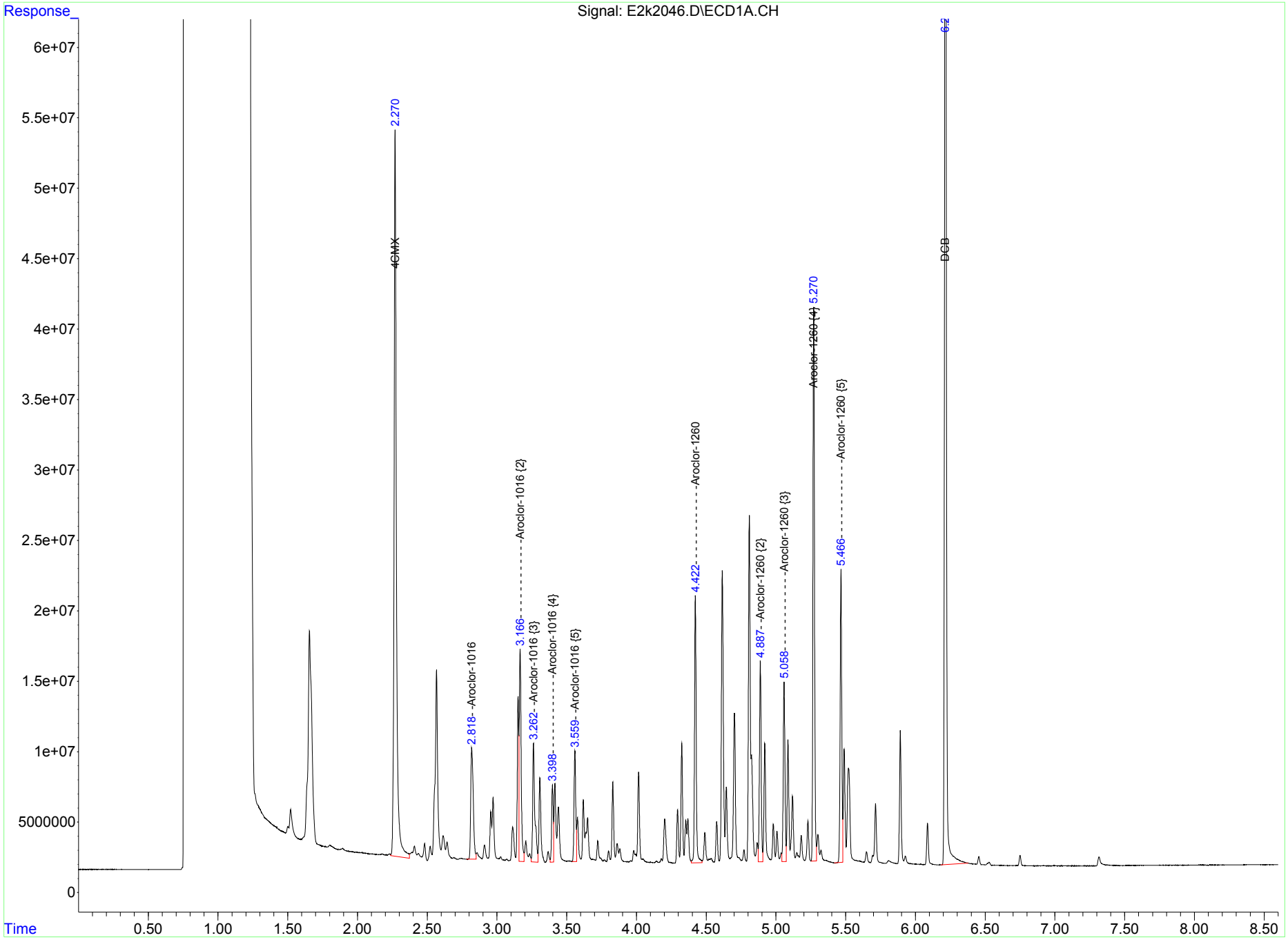
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	54%	49%
DCB	200.000	No Limits	91%	93%

Target Compounds

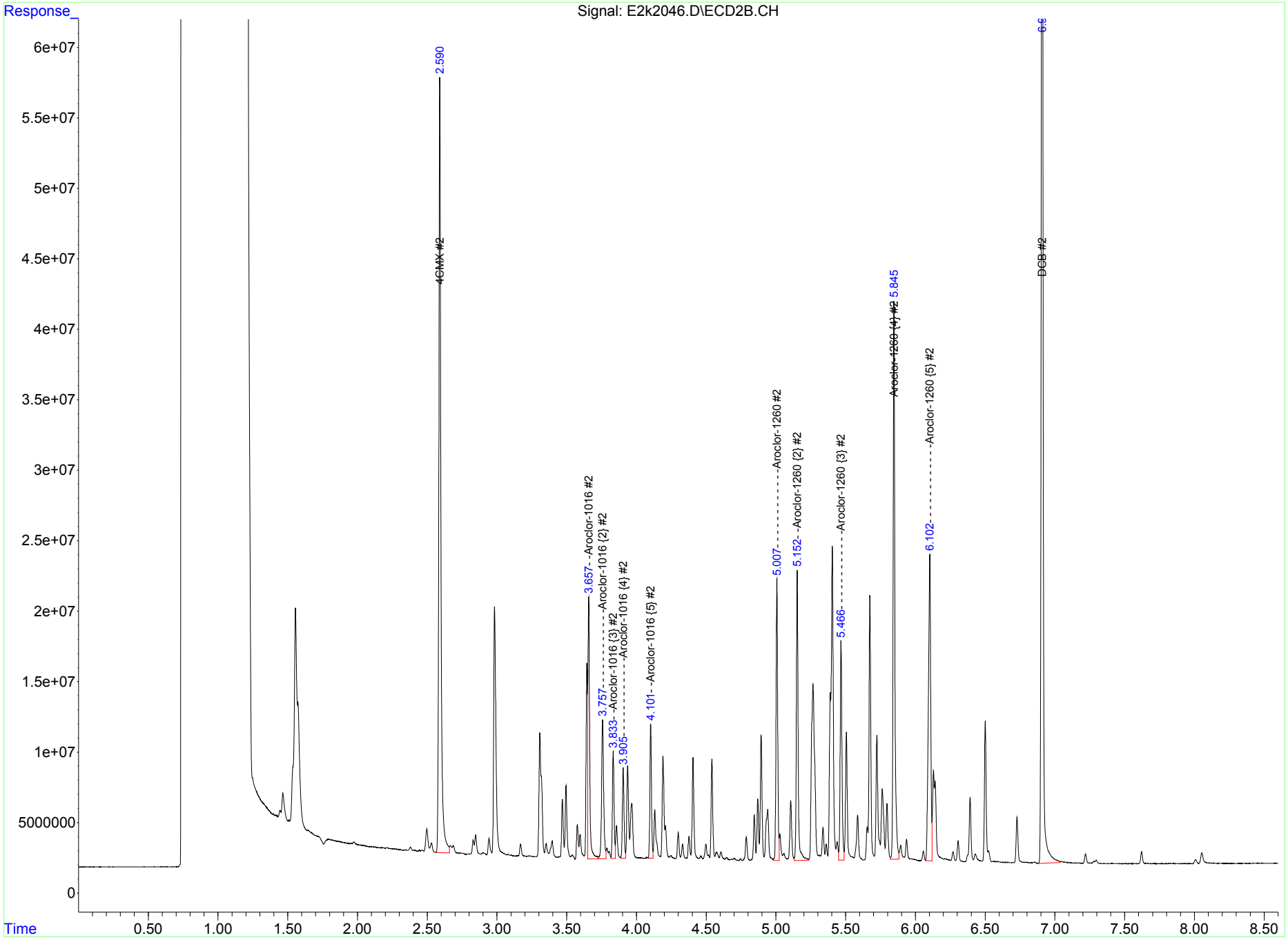
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.819	0.002	99559136	559.360	3.658	3.658	0.000	162140436	619.118
Aroclor-1016 {2}	3.165	3.167	0.002	141475540	623.995	3.757	3.757	0.000	99485784	607.350
Aroclor-1016 {3}	3.261	3.262	0.001	91756486	587.900	3.834	3.834	0.000	60646013	613.122
Aroclor-1016 {4}	3.398	3.398	0.000	43212844	528.643	3.905	3.905	0.000	53267013	554.088
Aroclor-1016 {5}	3.558	3.559	0.001	65733117	559.812	4.102	4.102	0.000	75822015	586.040
Sum Aroclor-1016				441737123	2859.710				451361261	2979.718
Average Aroclor-1016					571.942					595.944
Aroclor-1260	4.422	4.422	0.000	155202546	712.429	5.006	5.007	0.001	163774350	740.539
Aroclor-1260 {2}	4.888	4.888	0.000	119129921	588.795	5.152	5.152	0.000	181580389	638.790
Aroclor-1260 {3}	5.058	5.058	0.000	107518238	490.351	5.467	5.466	-0.001	137832734	615.694
Aroclor-1260 {4}	5.272	5.270	-0.002	304468170	634.880	5.846	5.846	0.000	341359091	662.058
Aroclor-1260 {5}	5.466	5.466	0.000	168132946	761.409	6.103	6.103	0.000	252106525	706.233
Sum Aroclor-1260				854451822	3187.864				1076653088	3363.315
Average Aroclor-1260					637.573					672.663

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2046.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2046.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	594542616	108.816	2.589	2.590	0.001	562119324	98.086
DCB	6.216	6.214	-0.002	784571333	182.515	6.909	6.908	-0.001	857057916	185.167

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	54%	49%
DCB	200.000	No Limits	91%	93%
4CMX	200.000	No Limits	54%	49%
DCB	200.000	No Limits	91%	93%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.819	0.002	99559136	559.360	3.658	3.658	0.000	162140436	619.118
Aroclor-1016 {2}	3.165	3.167	0.002	141475540	623.995	3.757	3.757	0.000	99485784	607.350
Aroclor-1016 {3}	3.261	3.262	0.001	91756486	587.900	3.834	3.834	0.000	60646013	613.122
Aroclor-1016 {4}	3.398	3.398	0.000	43212844	528.643	3.905	3.905	0.000	53267013	554.088
Aroclor-1016 {5}	3.558	3.559	0.001	65733117	559.812	4.102	4.102	0.000	75822015	586.040
Sum Aroclor-1016				441737123	2859.710				451361261	2979.718
Average Aroclor-1016					571.942					595.944
Aroclor-1221	2.406	2.408	0.002	11636573	196.296	2.828	2.829	0.001	8232803	144.545
Aroclor-1221 {2}	2.519	2.522	0.003	9992339	318.088	2.942	2.943	0.001	10740673	294.375
Aroclor-1221 {3}	2.549	2.567	0.018f	175721107	1337.014 A	2.990	2.983	-0.007	192632786	1483.659 A
Sum Aroclor-1221				197350019	1851.398				211606262	1922.580
Average Aroclor-1221					617.133					640.860
Aroclor-1232	2.817	2.819	0.002	99559136	1270.176 A	3.657	3.658	0.001	162140436	1583.998 A
Aroclor-1232 {2}	3.165	3.167	0.002	141475540	1407.560 A	3.756	3.757	0.001	99485784	1502.667 A
Aroclor-1232 {3}	3.261	3.262	0.001	91756486	1374.513 A	3.832	3.834	0.002	60646013	1460.209 A
Aroclor-1232 {4}	3.307	3.308	0.001	57653630	1334.774 A	3.904	3.905	0.001	53267013	1636.774 A
Aroclor-1232 {5}	3.557	3.559	0.002	65733117	1467.552 A	3.936	3.937	0.001	57291275	1589.951 A
Sum Aroclor-1232				456177909	6854.575				432830521	7773.600
Average Aroclor-1232					1370.915					1554.720
Aroclor-1242	2.817	2.819	0.002	99559136	660.882	3.657	3.658	0.001	162140436	707.215
Aroclor-1242 {2}	3.165	3.167	0.002	141475540	715.725	3.756	3.757	0.001	99485784	676.965
Aroclor-1242 {3}	3.261	3.262	0.001	91756486	694.702	3.833	3.834	0.001	60646013	673.684
Aroclor-1242 {4}	3.307	3.308	0.001	57653630	678.198	3.904	3.905	0.001	53267013	665.735
Aroclor-1242 {5}	3.397	3.398	0.001	43212844	654.475	3.937	3.937	0.000	57291275	651.599
Sum Aroclor-1242				433657637	3403.981				432830521	3375.199
Average Aroclor-1242					680.796					675.040
Aroclor-1248	3.165	3.167	0.002	141475540	1275.468	3.657	3.658	0.001	162140436	1253.032
Aroclor-1248 {2}	3.397	3.398	0.001	43212844	365.163	3.905	3.905	0.000	53267013	386.424
Aroclor-1248 {3}	3.557	3.559	0.002	65733117	403.672	4.102	4.102	0.000	75822015	415.312
Aroclor-1248 {4}	3.861	3.862	0.001	12315394	69.309	4.376	4.376	0.000	13673002	68.975
Aroclor-1248 {5}	3.880	3.881	0.001	8307541	47.420	4.409	4.405	-0.004	62629245	260.235
Sum Aroclor-1248				271044435	2161.033				367531711	2383.977
Average Aroclor-1248					432.207					476.795

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.831	3.831	0.000	45568246	242.681	4.406	4.405	-0.001	62629245	257.946	
Aroclor-1254 {2}	4.015	4.016	0.001	50461370	206.481	4.541	4.541	0.000	59177419	231.845	
Aroclor-1254 {3}	4.294	4.295	0.001	30864128	93.103	4.788	4.787	-0.001	15364122	71.757	
Aroclor-1254 {4}	4.422	4.422	0.000	155202546	1324.734	5.029	5.028	-0.001	16424266	58.218	
Aroclor-1254 {5}	4.488	4.490	0.002	20307240	88.300	5.152	5.152	0.000	181580389	953.789	
Sum Aroclor-1254				302403532	1955.300				335175441	1573.555	
Average Aroclor-1254					391.060					314.711	
Aroclor-1260	4.422	4.422	0.000	155202546	712.429	5.006	5.007	0.001	163774350	740.539	
Aroclor-1260 {2}	4.888	4.888	0.000	119129921	588.795	5.152	5.152	0.000	181580389	638.790	
Aroclor-1260 {3}	5.058	5.058	0.000	107518238	490.351	5.467	5.466	-0.001	137832734	615.694	
Aroclor-1260 {4}	5.272	5.270	-0.002	304468170	634.880	5.846	5.846	0.000	341359091	662.058	
Aroclor-1260 {5}	5.466	5.466	0.000	168132946	761.409	6.103	6.103	0.000	252106525	706.233	
Sum Aroclor-1260				854451822	3187.864				1076653088	3363.315	
Average Aroclor-1260					637.573					672.663	
Aroclor-1262	4.615	4.615	0.000	196325323	963.923	5.152	5.152	0.000	181580389	805.468	
Aroclor-1262 {2}	4.887	4.888	0.001	119129921	449.855	5.466	5.466	0.000	137832734	453.510	
Aroclor-1262 {3}	5.058	5.058	0.000	107518238	426.943	5.674	5.673	-0.001	158757973	520.088	
Aroclor-1262 {4}	5.271	5.270	-0.001	304468170	595.020	5.846	5.846	0.000	341359091	594.442	
Aroclor-1262 {5}	5.490	5.489	-0.001	68554272	318.199	6.097	6.103	0.006	252106525	627.695	
Sum Aroclor-1262				795995924	2753.941				1071636712	3001.203	
Average Aroclor-1262					550.788					600.241	
Aroclor-1268	5.490	5.489	-0.001	68554272	96.240	6.096	6.103	0.007	252106525	322.178	
Aroclor-1268 {2}	5.516	5.520	0.004	89137866	120.231	6.129	6.129	0.000	52650309	61.946	
Aroclor-1268 {3}	5.649	5.649	0.000	6250775	10.308	6.306	6.306	0.000	13253202	19.826	
Aroclor-1268 {4}	5.892	5.891	-0.001	75314166	291.158	6.501	6.500	-0.001	84556266	301.328	
Aroclor-1268 {5}	6.088	6.086	-0.002	24814515	13.299	6.729	6.728	-0.001	30182389	14.474	
Sum Aroclor-1268				264071594	531.235				432748690	719.753	
Average Aroclor-1268					106.247					143.951	
4,4' DDT	4.830	4.825	-0.005	60460598	55.444	5.402	5.404	0.002	222464049	127.975	#
4,4' DDD	4.638	4.644	0.006	48102909	<MDL	5.183	0.000	-5.183	0	N.D.	#
4,4' DDE	4.220	4.202	-0.018	35395400	<MDL	4.773	4.787	0.014	15364122	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2046.D

Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD		-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**10/29/2020 12:04**	**Matrix:**	**WG**
Lab Sample ID:	**1204699394**	**Date Received:**	**10/30/2020 10:00**		
Client Sample:	**QC for batch 2065081**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**400RIS208WA075MS**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 16:17**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2048.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2048.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		0.677	ug/L	0.0333	0.100	1
11104-28-2	Aroclor-1221	U	0.0333	ug/L	0.0333	0.100	1
11141-16-5	Aroclor-1232	U	0.0333	ug/L	0.0333	0.100	1
53469-21-9	Aroclor-1242		0.792	ug/L	0.0333	0.100	1
12672-29-6	Aroclor-1248	U	0.0333	ug/L	0.0333	0.100	1
11097-69-1	Aroclor-1254	U	0.0333	ug/L	0.0333	0.100	1
11096-82-5	Aroclor-1260		0.688	ug/L	0.0333	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.0977	0.200	ug/L	49	(30%-113%)
Decachlorobiphenyl	0.166	0.200	ug/L	83	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

11/21/2020

11/23/2020

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2048.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 16:17 (#1); 20 Nov 2020 16:17 (#2)
Operator : YS1 InstName : ECD2
Sample : |1204699394|2065082|1|SVA|1|MS|||
Misc : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 0 (Sig #1); 46 (Sig #2) Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:56:59 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	533710325	97.682	2.589	2.591	0.002	602472519	105.128
DCB	6.216	6.213	-0.003	714354082	166.180m	6.909	6.906	-0.003	824512353	178.136m

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	49%	53%
DCB	200.000	No Limits	83%	89%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.818	0.001	121744899	684.008	3.658	3.658	0.000	198059029	756.269
Aroclor-1016 {2}	3.165	3.165	0.000	169420245	747.249	3.757	3.757	0.000	119903655	731.999
Aroclor-1016 {3}	3.261	3.261	0.000	91222020	584.476	3.834	3.833	-0.001	75599963	764.305
Aroclor-1016 {4}	3.398	3.397	-0.001	53852324	658.800	3.905	3.904	-0.001	66669904	693.506
Aroclor-1016 {5}	3.558	3.557	-0.001	83584565	711.843	4.102	4.102	0.000	96213800	743.651
Sum Aroclor-1016				519824052	3386.375				556446351	3689.730
Average Aroclor-1016					677.275					737.946
Aroclor-1242	2.817	2.818	0.001	121744899	808.153	3.657	3.658	0.001	198059029	863.883
Aroclor-1242 {2}	3.165	3.165	0.000	169420245	857.097	3.756	3.757	0.001	119903655	815.902
Aroclor-1242 {3}	3.261	3.261	0.000	91222020	690.655	3.833	3.833	0.000	75599963	839.799
Aroclor-1242 {4}	3.307	3.306	-0.001	66965583	787.737	3.904	3.904	0.000	66669904	833.246
Aroclor-1242 {5}	3.397	3.397	0.000	53852324	815.614	3.937	3.937	0.000	71107180	808.734
Sum Aroclor-1242				503205070	3959.256				531339731	4161.563
Average Aroclor-1242					791.851					832.313
Aroclor-1260	4.422	4.419	-0.003	157965038	725.110	5.006	5.005	-0.001	171742535	776.568
Aroclor-1260 {2}	4.888	4.885	-0.003	124871848	617.174	5.152	5.150	-0.002	203632537	716.368
Aroclor-1260 {3}	5.058	5.055	-0.003	124875714	569.512	5.467	5.465	-0.002	142548792	636.761
Aroclor-1260 {4}	5.272	5.268	-0.004	331977603	692.243	5.846	5.845	-0.001	386906966	750.397

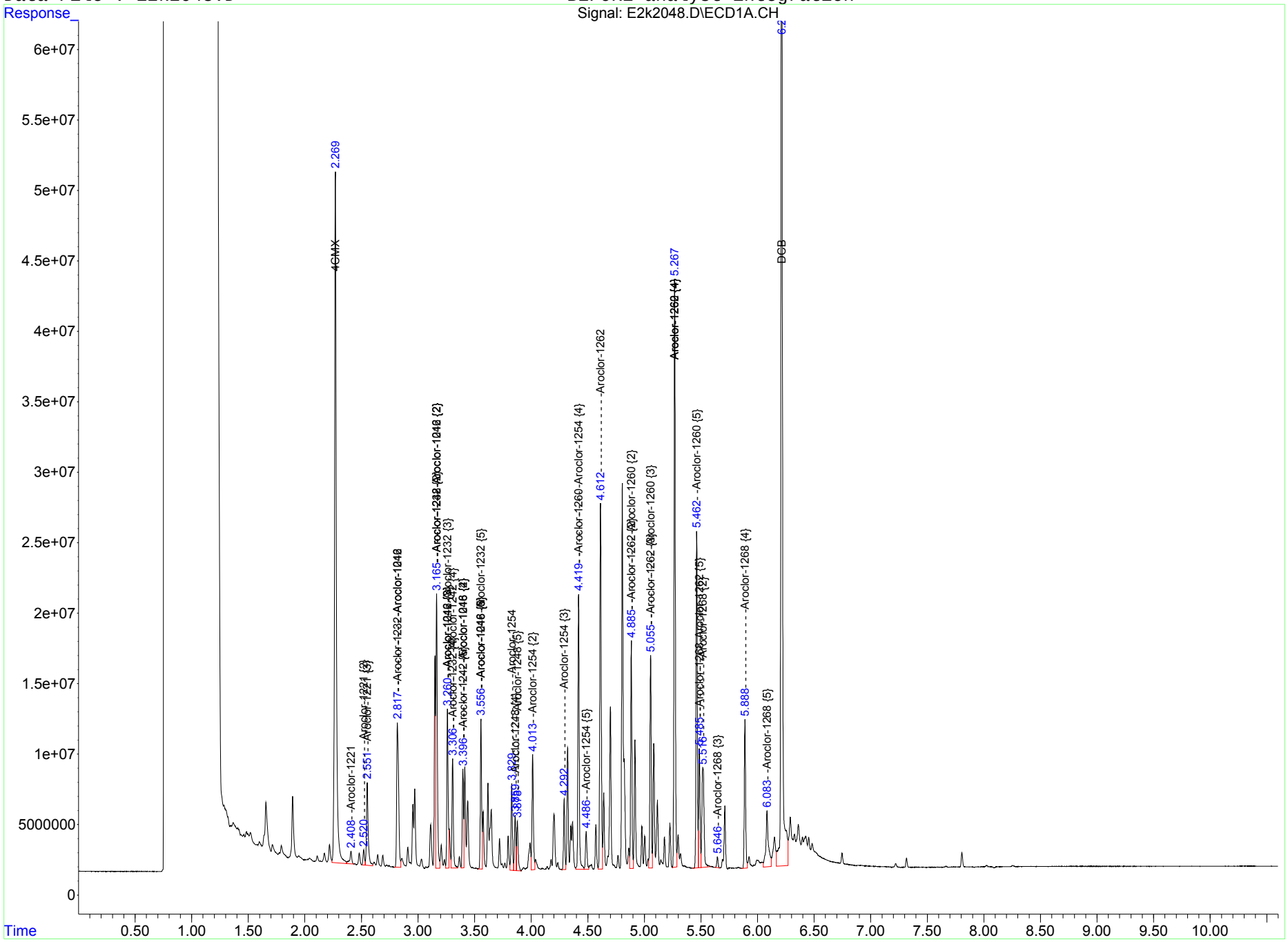
Quantitation Report
GEL Laboratories, LLC

Aroclor-1260 {5}	5.466	5.463	-0.003	184797661	836.877	6.103	6.102	-0.001	280538611	785.881
Sum Aroclor-1260				924487864	3440.916				1185369440	3665.976
Average Aroclor-1260					688.183					733.195

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2048.D

BEFORE analyst integration



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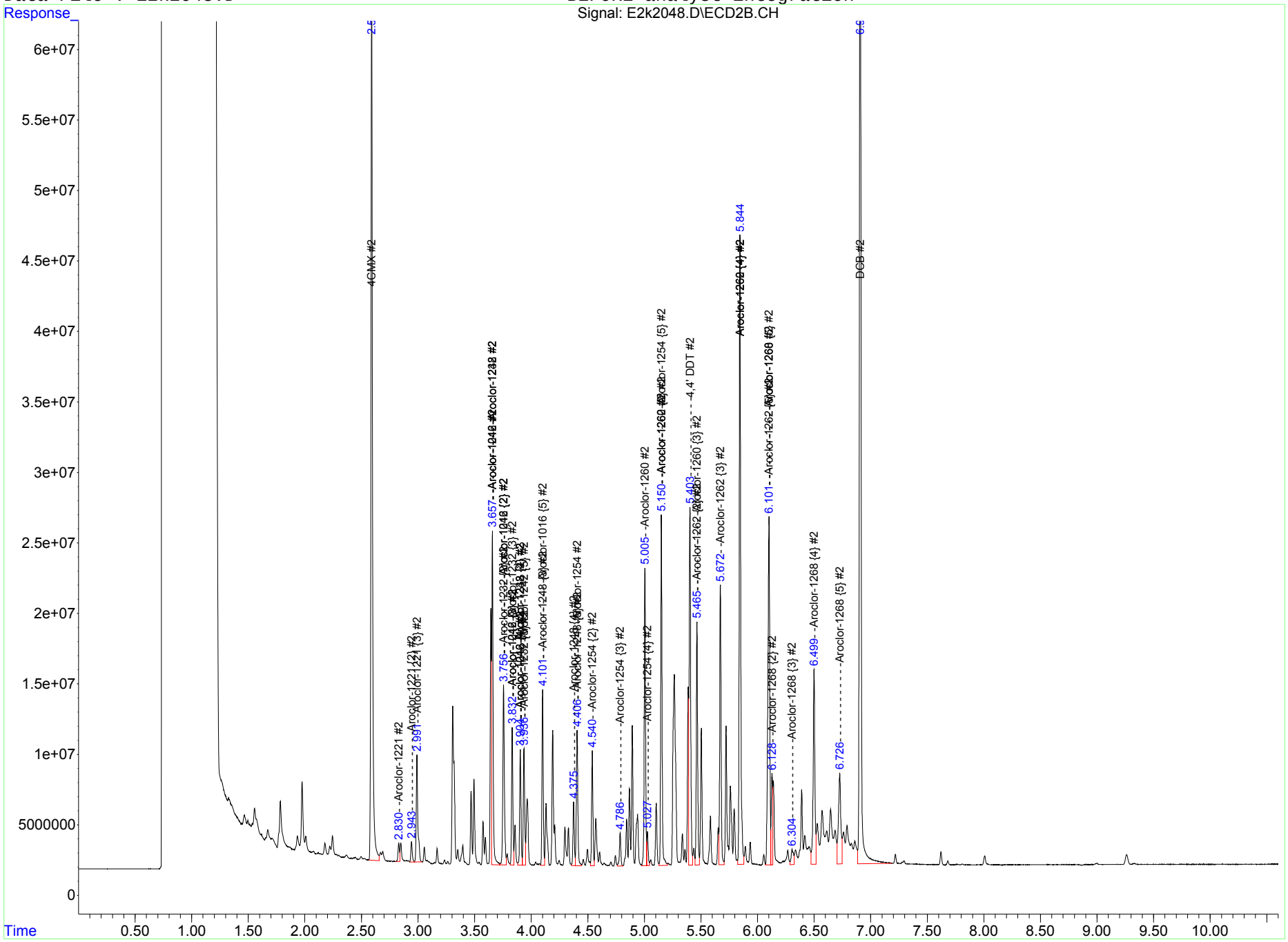
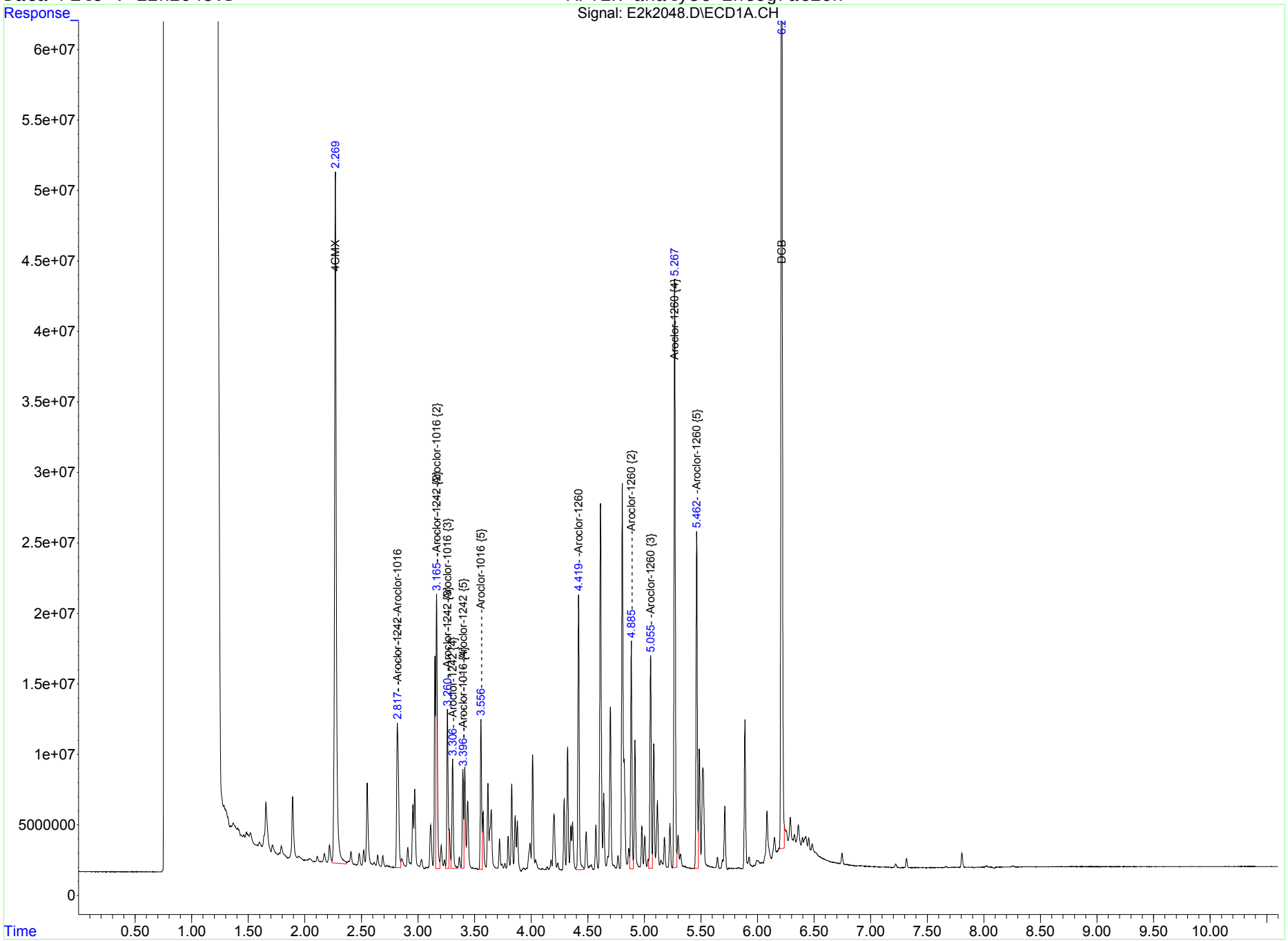
Data File : E2k2048.D

BEFORE analyst integration



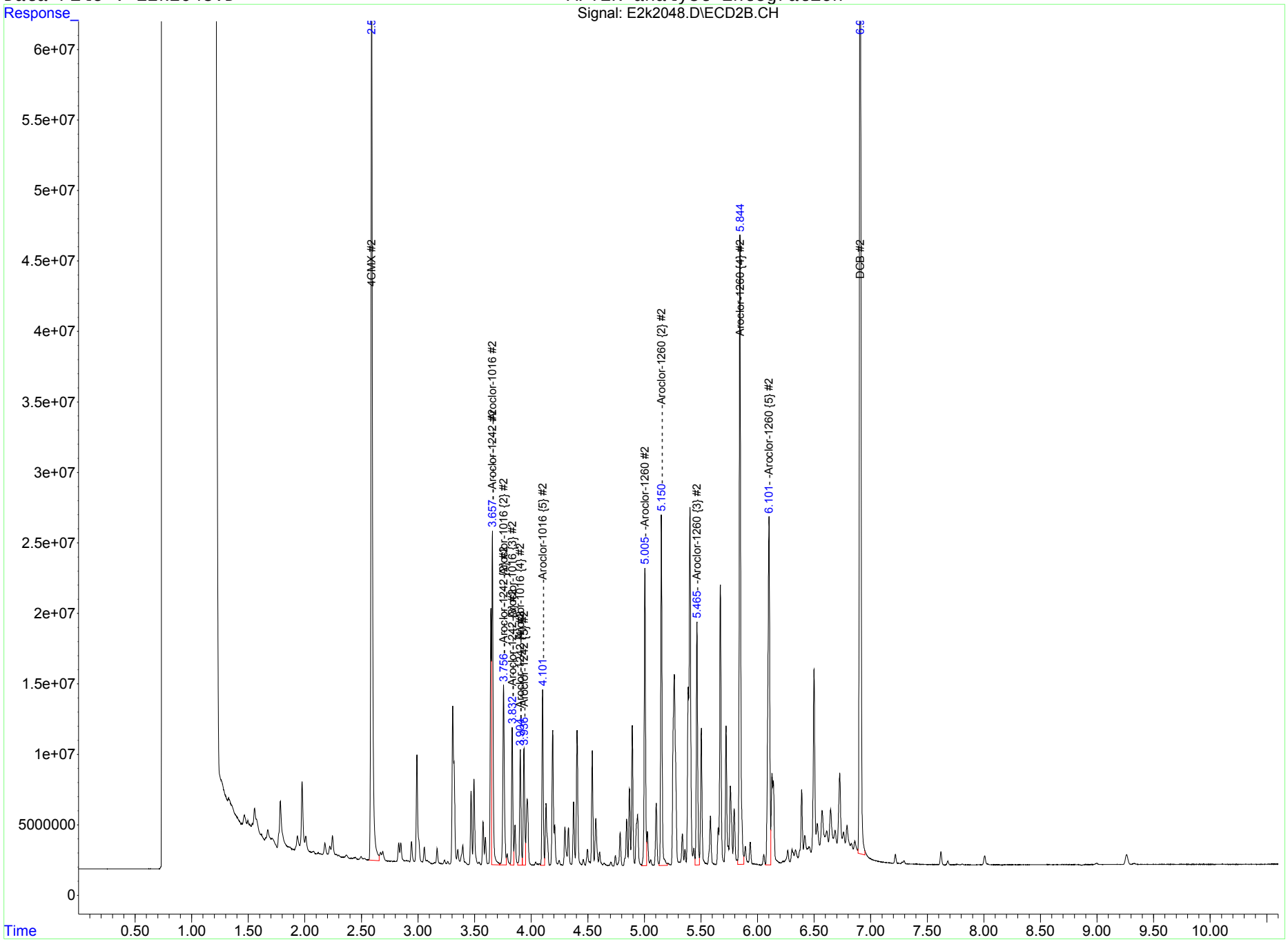
Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2048.D

AFTER analyst integration



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2048.D

AFTER analyst integration



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	533710325	97.682	2.589	2.591	0.002	602472519	105.128
DCB	6.216	6.213	-0.003	811759707	188.840	6.909	6.907	-0.002	881963813	190.548

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	49%	53%
DCB	200.000	No Limits	83%	89%
4CMX	200.000	No Limits	49%	53%
DCB	200.000	No Limits	94%	95%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.818	0.001	121744899	684.008	3.658	3.658	0.000	198059029	756.269
Aroclor-1016 {2}	3.165	3.165	0.000	169420245	747.249	3.757	3.757	0.000	119903655	731.999
Aroclor-1016 {3}	3.261	3.261	0.000	91222020	584.476	3.834	3.833	-0.001	75599963	764.305
Aroclor-1016 {4}	3.398	3.397	-0.001	53852324	658.800	3.905	3.904	-0.001	66669904	693.506
Aroclor-1016 {5}	3.558	3.557	-0.001	83584565	711.843	4.102	4.102	0.000	96213800	743.651
Sum Aroclor-1016				519824052	3386.375				556446351	3689.730
Average Aroclor-1016					677.275					737.946
Aroclor-1221	2.406	2.408	0.002	10825729	182.618	2.828	2.830	0.002	10847998	190.461
Aroclor-1221 {2}	2.519	2.521	0.002	9529649	303.359	2.942	2.943	0.001	12470026	341.772
Aroclor-1221 {3}	2.549	2.552	0.003	61084085	464.772	2.990	2.991	0.001	74466959	573.545
Sum Aroclor-1221				81439463	950.749				97784983	1105.778
Average Aroclor-1221					316.916					368.593
Aroclor-1232	2.817	2.818	0.001	121744899	1553.222 A	3.657	3.658	0.001	198059029	1934.897 A
Aroclor-1232 {2}	3.165	3.165	0.000	169420245	1685.585 A	3.756	3.757	0.001	119903655	1811.066 A
Aroclor-1232 {3}	3.261	3.261	0.000	91222020	1366.507 A	3.832	3.833	0.001	75599963	1820.264 A
Aroclor-1232 {4}	3.307	3.306	-0.001	66965583	1550.361 A	3.904	3.904	0.000	66669904	2048.615 A
Aroclor-1232 {5}	3.557	3.557	0.000	83584565	1866.102 A	3.936	3.937	0.001	71107180	1973.371 A
Sum Aroclor-1232				532937311	8021.777				531339731	9588.213
Average Aroclor-1232					1604.355					1917.643
Aroclor-1242	2.817	2.818	0.001	121744899	808.153	3.657	3.658	0.001	198059029	863.883
Aroclor-1242 {2}	3.165	3.165	0.000	169420245	857.097	3.756	3.757	0.001	119903655	815.902
Aroclor-1242 {3}	3.261	3.261	0.000	91222020	690.655	3.833	3.833	0.000	75599963	839.799
Aroclor-1242 {4}	3.307	3.306	-0.001	66965583	787.737	3.904	3.904	0.000	66669904	833.246
Aroclor-1242 {5}	3.397	3.397	0.000	53852324	815.614	3.937	3.937	0.000	71107180	808.734
Sum Aroclor-1242				503205070	3959.256				531339731	4161.563
Average Aroclor-1242					791.851					832.313
Aroclor-1248	3.165	3.165	0.000	169420245	1527.403	3.657	3.658	0.001	198059029	1530.613
Aroclor-1248 {2}	3.397	3.397	0.000	53852324	455.071	3.905	3.904	-0.001	66669904	483.655
Aroclor-1248 {3}	3.557	3.557	0.000	83584565	513.299	4.102	4.102	0.000	96213800	527.007
Aroclor-1248 {4}	3.861	3.859	-0.002	33515385	188.619	4.376	4.376	0.000	36880417	186.047
Aroclor-1248 {5}	3.880	3.878	-0.002	31672839	180.790	4.409	4.406	-0.003	87364601	363.015
Sum Aroclor-1248				372045358	2865.182				485187751	3090.336
Average Aroclor-1248					573.036					618.067

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.831	3.829	-0.002	50828083	270.693	4.406	4.406	0.000	87364601	359.822	
Aroclor-1254 {2}	4.015	4.013	-0.002	70237535	287.402	4.541	4.540	-0.001	64637448	253.236	
Aroclor-1254 {3}	4.294	4.292	-0.002	38310851	115.566	4.788	4.786	-0.002	20832180	97.295	
Aroclor-1254 {4}	4.422	4.419	-0.003	157965038	1348.314	5.029	5.027	-0.002	20014645	70.945	
Aroclor-1254 {5}	4.488	4.487	-0.001	24571182	106.841	5.152	5.150	-0.002	203632537	1069.623	
Sum Aroclor-1254				341912688	2128.816				396481411	1850.921	
Average Aroclor-1254					425.763					370.184	
Aroclor-1260	4.422	4.419	-0.003	157965038	725.110	5.006	5.005	-0.001	171742535	776.568	
Aroclor-1260 {2}	4.888	4.885	-0.003	124871848	617.174	5.152	5.150	-0.002	203632537	716.368	
Aroclor-1260 {3}	5.058	5.055	-0.003	124875714	569.512	5.467	5.465	-0.002	142548792	636.761	
Aroclor-1260 {4}	5.272	5.268	-0.004	331977603	692.243	5.846	5.845	-0.001	386906966	750.397	
Aroclor-1260 {5}	5.466	5.463	-0.003	184797661	836.877	6.103	6.102	-0.001	280538611	785.881	
Sum Aroclor-1260				924487864	3440.916				1185369440	3665.976	
Average Aroclor-1260					688.183					733.195	
Aroclor-1262	4.615	4.613	-0.002	228538901	1122.086	5.152	5.150	-0.002	203632537	903.288	
Aroclor-1262 {2}	4.887	4.885	-0.002	124871848	471.538	5.466	5.465	-0.001	142548792	469.027	
Aroclor-1262 {3}	5.058	5.055	-0.003	124875714	495.868	5.674	5.672	-0.002	167477591	548.654	
Aroclor-1262 {4}	5.271	5.268	-0.003	331977603	648.782	5.846	5.845	-0.001	386906966	673.759	
Aroclor-1262 {5}	5.490	5.486	-0.004	70587382	327.636	6.097	6.102	0.005	280538611	698.486	
Sum Aroclor-1262				880851449	3065.909				1181104496	3293.213	
Average Aroclor-1262					613.182					658.643	
Aroclor-1268	5.490	5.486	-0.004	70587382	99.094	6.096	6.102	0.006	280538611	358.513	
Aroclor-1268 {2}	5.516	5.517	0.001	94190667	127.046	6.129	6.128	-0.001	53053985	62.421	
Aroclor-1268 {3}	5.649	5.646	-0.003	5956990	9.823	6.306	6.305	-0.001	15358441	22.975	
Aroclor-1268 {4}	5.892	5.889	-0.003	85312754	329.811	6.501	6.499	-0.002	143975300	513.076	
Aroclor-1268 {5}	6.088	6.084	-0.004	62331263	33.405	6.729	6.726	-0.003	96108449	46.090	
Sum Aroclor-1268				318379056	599.180				589034785	1003.075	#
Average Aroclor-1268					119.836					200.615	#
4,4' DDT	4.830	4.821	-0.009	59809728	54.847	5.402	5.403	0.001	233457453	134.299	#
4,4' DDD	4.638	4.641	0.003	45031326	<MDL	5.183	0.000	-5.183	0	N.D.	#
4,4' DDE	4.220	4.236	0.016	4129657	<MDL	4.773	4.786	0.013	20832180	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2048.D

		DCB - Manual Integration ==	AB/AP	DCB #2 - Manual Integration ==	AB/AP
Aroclor-1221	Multi	- Deletion ==	DMP		
Aroclor-1232	Multi	- Deletion ==	DMP		
Aroclor-1248	Multi	- Deletion ==	DMP		
Aroclor-1254	Multi	- Deletion ==	DMP		
Aroclor-1262	Multi	- Deletion ==	DMP		
Aroclor-1268	Multi	- Deletion ==	DMP		
4,4' DDT	Both	- Deletion ==	DMP		
4,4' DDD		- Deletion ==	DMP		
4,4' DDE	Both	- Deletion ==	DMP		

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-130**	**Date Collected:**	**10/29/2020 12:04**	**Matrix:**	**WG**
Lab Sample ID:	**1204699395**	**Date Received:**	**10/30/2020 10:00**		
Client Sample:	**QC for batch 2065081**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**400RIS208WA075MSD**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2065082**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**11/20/2020 16:31**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**11/20/2020 05:50**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**112020.S\E2k2049.D**	**Column:**	**1 CLPesticides**		
	112020.S\E2k2049.D		**2 CLPesticides2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		0.635	ug/L	0.0333	0.100	1
11104-28-2	Aroclor-1221	U	0.0333	ug/L	0.0333	0.100	1
11141-16-5	Aroclor-1232	U	0.0333	ug/L	0.0333	0.100	1
53469-21-9	Aroclor-1242		0.756	ug/L	0.0333	0.100	1
12672-29-6	Aroclor-1248	U	0.0333	ug/L	0.0333	0.100	1
11097-69-1	Aroclor-1254	U	0.0333	ug/L	0.0333	0.100	1
11096-82-5	Aroclor-1260		0.720	ug/L	0.0333	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.114	0.200	ug/L	57	(30%-113%)
Decachlorobiphenyl	0.176	0.200	ug/L	88	(34%-130%)

GS 11/21/2020

JC 11/23/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2049.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Nov 2020 16:31 (#1); 20 Nov 2020 16:31 (#2)
Operator : YS1 InstName : ECD2
Sample : |1204699395|2065082|1|SVA|1|MSD|||
Misc : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 0 (Sig #1); 47 (Sig #2) Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Nov 21 04:57:01 2020
Quant Method : C:\msdchem\1\data\112020.S\ECD2_8082_102620.M
Quant Title : ECD2 SubList :
QLast Update : Wed Nov 04 12:00:51 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	623617702	114.138	2.589	2.591	0.002	620675198	108.304
DCB	6.216	6.214	-0.002	754668440	175.559	6.909	6.907	-0.002	892692598	192.866

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	57%	54%
DCB	200.000	No Limits	88%	96%

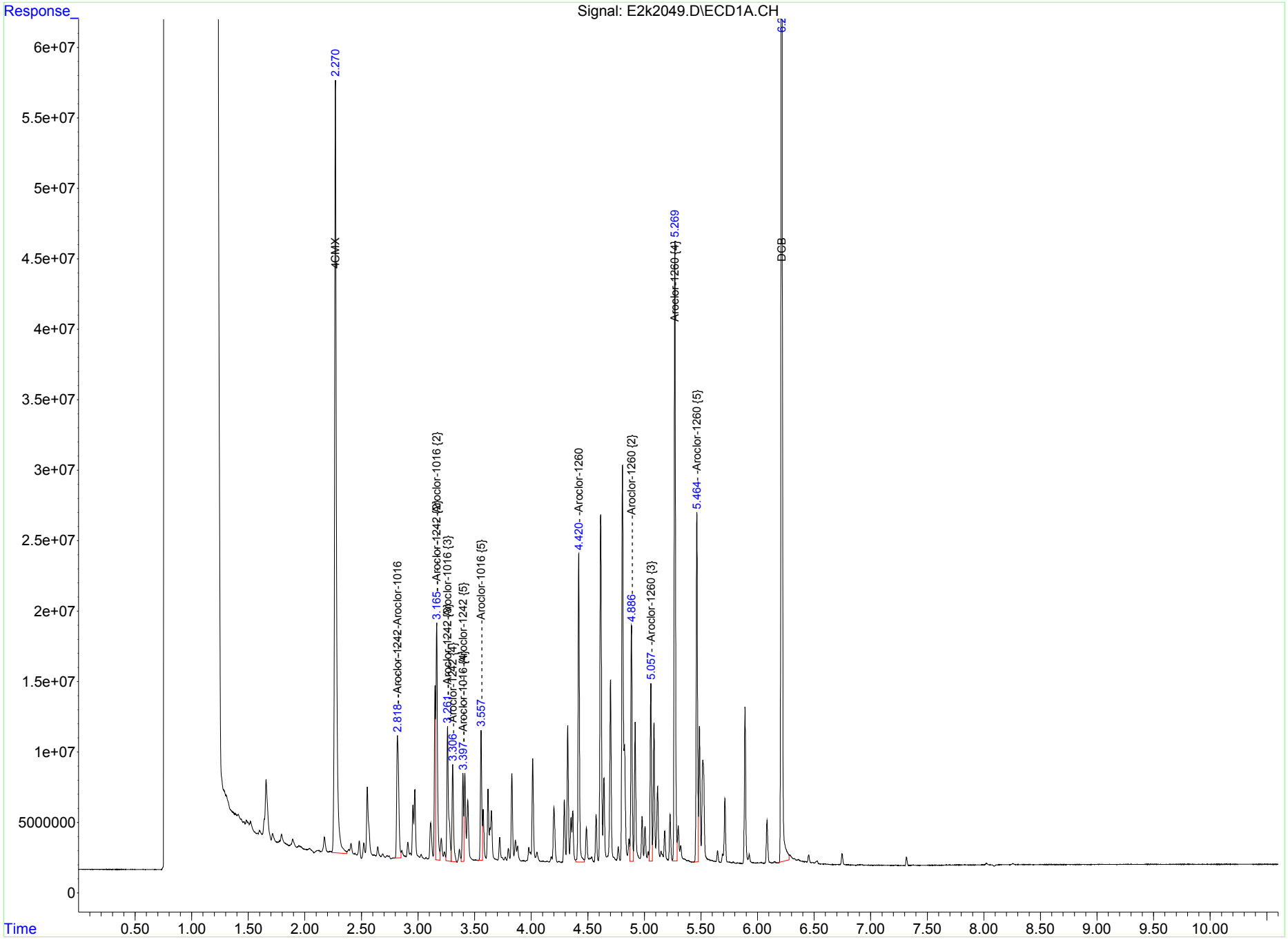
Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.819	0.002	108947617	612.108	3.658	3.658	0.000	176951041	675.670
Aroclor-1016 {2}	3.165	3.166	0.001	155085261	684.022	3.757	3.757	0.000	113113125	690.543
Aroclor-1016 {3}	3.261	3.262	0.001	102263171	655.218	3.834	3.833	-0.001	70520833	712.955
Aroclor-1016 {4}	3.398	3.398	0.000	48908788	598.324	3.905	3.905	0.000	62820699	653.466
Aroclor-1016 {5}	3.558	3.558	0.000	73596168	626.777	4.102	4.102	0.000	88372957	683.048
Sum Aroclor-1016				488801005	3176.449				511778654	3415.684
Average Aroclor-1016					635.290					683.137
Aroclor-1242	2.817	2.819	0.002	108947617	723.203	3.657	3.658	0.001	176951041	771.815
Aroclor-1242 {2}	3.165	3.166	0.001	155085261	784.576	3.756	3.757	0.001	113113125	769.695
Aroclor-1242 {3}	3.261	3.262	0.001	102263171	774.249	3.833	3.833	0.000	70520833	783.378
Aroclor-1242 {4}	3.307	3.307	0.000	64301334	756.397	3.904	3.905	0.001	62820699	785.138
Aroclor-1242 {5}	3.397	3.398	0.001	48908788	740.742	3.937	3.937	0.000	67455312	767.199
Sum Aroclor-1242				479506171	3779.168				490861010	3877.225
Average Aroclor-1242					755.834					775.445
Aroclor-1260	4.422	4.420	-0.002	178182712	817.915	5.006	5.006	0.000	184287765	833.294
Aroclor-1260 {2}	4.888	4.886	-0.002	136096997	672.654	5.152	5.152	0.000	180866668	636.279
Aroclor-1260 {3}	5.058	5.058	0.000	104164601	475.056	5.467	5.466	-0.001	158900600	709.804
Aroclor-1260 {4}	5.272	5.270	-0.002	356093487	742.530	5.846	5.845	-0.001	408169558	791.636

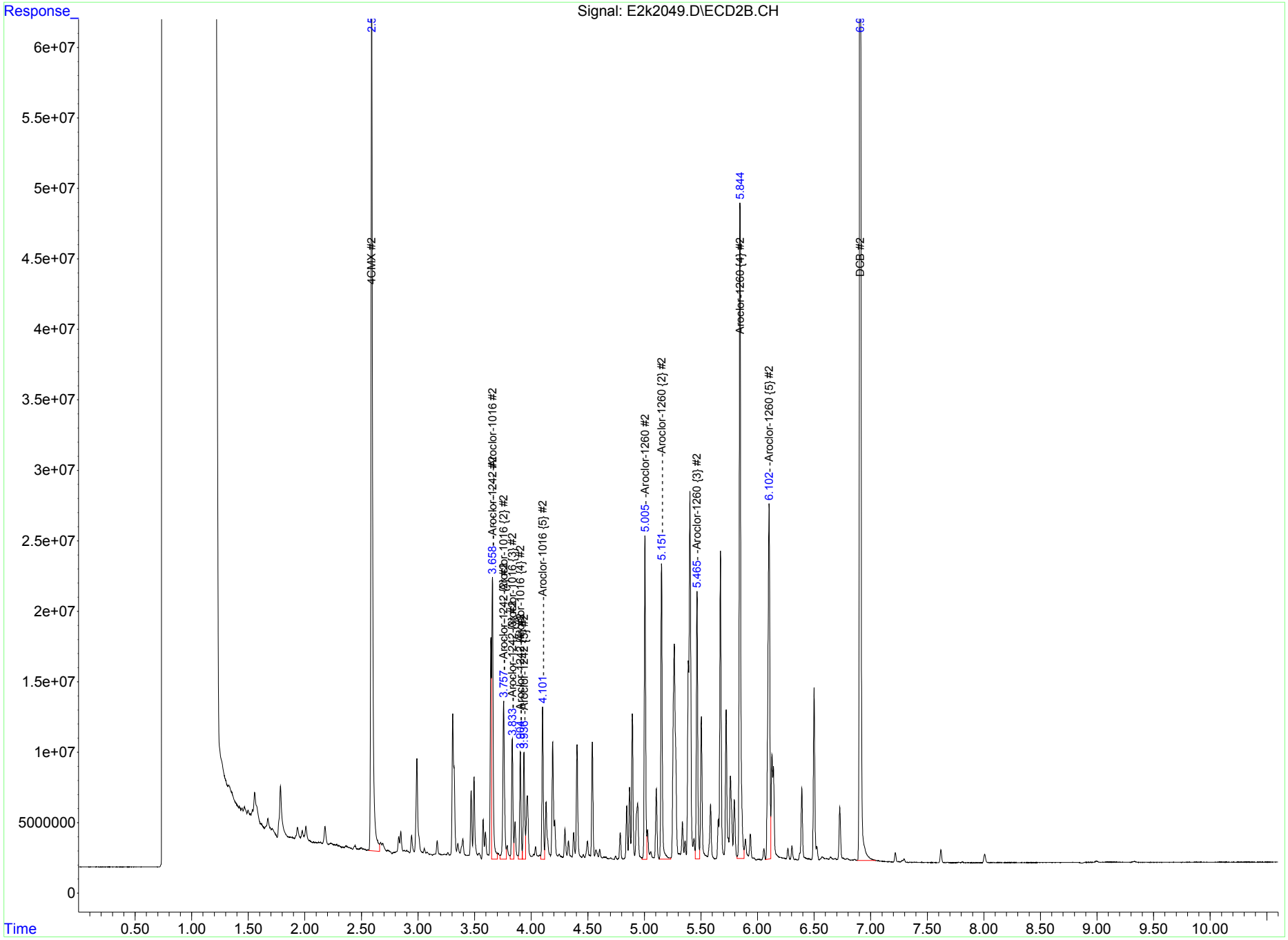
Aroclor-1260 {5}	5.466	5.464	-0.002	196716659	890.854	6.103	6.102	-0.001	293086123	821.031
Sum Aroclor-1260				971254456	3599.009				1225310714	3792.044
Average Aroclor-1260					719.802					758.409

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2049.D



Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2049.D



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These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.267	2.270	0.003	623617702	114.138	2.589	2.591	0.002	620675198	108.304
DCB	6.216	6.214	-0.002	754668440	175.559	6.909	6.907	-0.002	892692598	192.866

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	57%	54%
DCB	200.000	No Limits	88%	96%
4CMX	200.000	No Limits	57%	54%
DCB	200.000	No Limits	88%	96%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.817	2.819	0.002	108947617	612.108	3.658	3.658	0.000	176951041	675.670
Aroclor-1016 {2}	3.165	3.166	0.001	155085261	684.022	3.757	3.757	0.000	113113125	690.543
Aroclor-1016 {3}	3.261	3.262	0.001	102263171	655.218	3.834	3.833	-0.001	70520833	712.955
Aroclor-1016 {4}	3.398	3.398	0.000	48908788	598.324	3.905	3.905	0.000	62820699	653.466
Aroclor-1016 {5}	3.558	3.558	0.000	73596168	626.777	4.102	4.102	0.000	88372957	683.048
Sum Aroclor-1016				488801005	3176.449				511778654	3415.684
Average Aroclor-1016					635.290					683.137
Aroclor-1221	2.406	2.408	0.002	7308700	123.290	2.828	2.830	0.002	10288889	180.644
Aroclor-1221 {2}	2.519	2.522	0.003	11134357	354.442	2.942	2.943	0.001	12315617	337.540
Aroclor-1221 {3}	2.549	2.552	0.003	70451772	536.049	2.990	2.990	0.000	77098010	593.810
Sum Aroclor-1221				88894828	1013.780				99702517	1111.994
Average Aroclor-1221					337.927					370.665
Aroclor-1232	2.817	2.819	0.002	108947617	1389.954 A	3.657	3.658	0.001	176951041	1728.687 A
Aroclor-1232 {2}	3.165	3.166	0.001	155085261	1542.965 A	3.756	3.757	0.001	113113125	1708.499 A
Aroclor-1232 {3}	3.261	3.262	0.001	102263171	1531.904 A	3.832	3.833	0.001	70520833	1697.971 A
Aroclor-1232 {4}	3.307	3.307	0.000	64301334	1488.680 A	3.904	3.905	0.001	62820699	1930.337 A
Aroclor-1232 {5}	3.557	3.558	0.001	73596168	1643.102 A	3.936	3.937	0.001	67455312	1872.024 A
Sum Aroclor-1232				504193551	7596.604				490861010	8937.519
Average Aroclor-1232					1519.321					1787.504
Aroclor-1242	2.817	2.819	0.002	108947617	723.203	3.657	3.658	0.001	176951041	771.815
Aroclor-1242 {2}	3.165	3.166	0.001	155085261	784.576	3.756	3.757	0.001	113113125	769.695
Aroclor-1242 {3}	3.261	3.262	0.001	102263171	774.249	3.833	3.833	0.000	70520833	783.378
Aroclor-1242 {4}	3.307	3.307	0.000	64301334	756.397	3.904	3.905	0.001	62820699	785.138
Aroclor-1242 {5}	3.397	3.398	0.001	48908788	740.742	3.937	3.937	0.000	67455312	767.199
Sum Aroclor-1242				479506171	3779.168				490861010	3877.225
Average Aroclor-1242					755.834					775.445
Aroclor-1248	3.165	3.166	0.001	155085261	1398.166	3.657	3.658	0.001	176951041	1367.489
Aroclor-1248 {2}	3.397	3.398	0.001	48908788	413.296	3.905	3.905	0.000	62820699	455.731
Aroclor-1248 {3}	3.557	3.558	0.001	73596168	451.960	4.102	4.102	0.000	88372957	484.059
Aroclor-1248 {4}	3.861	3.861	0.000	13942405	78.465	4.376	4.376	0.000	16659675	84.041
Aroclor-1248 {5}	3.880	3.880	0.000	9918838	56.617	4.409	4.405	-0.004	73246435	304.351
Sum Aroclor-1248				301451460	2398.505				418050807	2695.672
Average Aroclor-1248					479.701					539.134

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.831	3.830	-0.001	52001846	276.944	4.406	4.405	-0.001	73246435	301.674	
Aroclor-1254 {2}	4.015	4.014	-0.001	62639678	256.313	4.541	4.541	0.000	67746068	265.415	
Aroclor-1254 {3}	4.294	4.293	-0.001	35367044	106.686	4.788	4.787	-0.001	15944680	74.469	
Aroclor-1254 {4}	4.422	4.420	-0.002	178182712	1520.882	5.029	5.028	-0.001	18136731	64.288	
Aroclor-1254 {5}	4.488	4.489	0.001	23066047	100.296	5.152	5.152	0.000	180866668	950.040	
Sum Aroclor-1254				351257327	2261.122				355940582	1655.886	
Average Aroclor-1254					452.224					331.177	
Aroclor-1260	4.422	4.420	-0.002	178182712	817.915	5.006	5.006	0.000	184287765	833.294	
Aroclor-1260 {2}	4.888	4.886	-0.002	136096997	672.654	5.152	5.152	0.000	180866668	636.279	
Aroclor-1260 {3}	5.058	5.058	0.000	104164601	475.056	5.467	5.466	-0.001	158900600	709.804	
Aroclor-1260 {4}	5.272	5.270	-0.002	356093487	742.530	5.846	5.845	-0.001	408169558	791.636	
Aroclor-1260 {5}	5.466	5.464	-0.002	196716659	890.854	6.103	6.102	-0.001	293086123	821.031	
Sum Aroclor-1260				971254456	3599.009				1225310714	3792.044	
Average Aroclor-1260					719.802					758.409	
Aroclor-1262	4.615	4.614	-0.001	231494844	1136.599	5.152	5.152	0.000	180866668	802.302	
Aroclor-1262 {2}	4.887	4.886	-0.001	136096997	513.926	5.466	5.466	0.000	158900600	522.829	
Aroclor-1262 {3}	5.058	5.058	0.000	104164601	413.626	5.674	5.673	-0.001	182351443	597.380	
Aroclor-1262 {4}	5.271	5.270	-0.001	356093487	695.911	5.846	5.845	-0.001	408169558	710.785	
Aroclor-1262 {5}	5.490	5.487	-0.003	78670902	365.156	6.097	6.102	0.005	293086123	729.727	
Sum Aroclor-1262				906520831	3125.219				1223374392	3363.023	
Average Aroclor-1262					625.044					672.605	
Aroclor-1268	5.490	5.487	-0.003	78670902	110.442	6.096	6.102	0.006	293086123	374.548	
Aroclor-1268 {2}	5.516	5.516	0.000	101646867	137.103	6.129	6.128	-0.001	59935137	70.517	
Aroclor-1268 {3}	5.649	5.647	-0.002	5961313	9.830	6.306	6.304	-0.002	7852818	11.747	
Aroclor-1268 {4}	5.892	5.889	-0.003	89505336	346.019	6.501	6.500	-0.001	102334859	364.685	
Aroclor-1268 {5}	6.088	6.084	-0.004	26590536	14.251	6.729	6.727	-0.002	37671287	18.066	
Sum Aroclor-1268				302374953	617.646				500880223	839.562	
Average Aroclor-1268					123.529					167.912	
4,4' DDT	4.830	4.824	-0.006	66009458	60.532	5.402	5.403	0.001	253466278	145.810	#
4,4' DDD	4.638	4.643	0.005	52545254	<MDL	5.183	0.000	-5.183	0	N.D.	#
4,4' DDE	4.220	4.202	-0.018	40986917	<MDL	4.773	4.787	0.014	15944680	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\112020.S\
Data File : E2k2049.D

Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD		-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

Miscellaneous

Prep Logbook

Solid-Phase Extraction

Batch ID: 2065081 **Verified by:** _____
Analyst: Sanquetta Coakley
Method: SW846 3535A

Lab SOP: GL-OA-E-070 REV# 11
Instrument: Semi-Volatiles Manual

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Ph 1	Ph 2	Clean Up	Final Volume (mL)	Prepped Factor (mL/mL)
1204699392 MB	20-NOV-2020 05:50:00			1000	7	1	H2SO4/KMnO4	1	0.001
1204683090 FLTB	20-NOV-2020 05:50:00	1564.1	501.59	1062.51	7	1	H2SO4/KMnO4	1	0.00094
1204685276 FLTB	20-NOV-2020 05:50:00	1556.47	498.71	1057.76	7	1	H2SO4/KMnO4	1	0.00095
1204699393 LCS	20-NOV-2020 05:50:00			1000	7	1	H2SO4/KMnO4	1	0.001
525871007	20-NOV-2020 05:50:00			1000	7	1	H2SO4/KMnO4	1	0.001
1204699394 MS (525871007)	20-NOV-2020 05:50:00			1000	7	1	H2SO4/KMnO4	1	0.001
1204699395 MSD (525871007)	20-NOV-2020 05:50:00			1000	7	1	H2SO4/KMnO4	1	0.001
525871008	20-NOV-2020 05:50:00	1521.85	501.39	1020.46	7	1	H2SO4/KMnO4	1	0.00098
526153008	20-NOV-2020 05:50:00	1506.82	498.34	1008.48	7	1	H2SO4/KMnO4	1	0.00099
526258001	20-NOV-2020 05:50:00			720	7	1	H2SO4/KMnO4	1	0.00139
526258003	20-NOV-2020 05:50:00	1418.32	499.18	919.14	7	1	H2SO4/KMnO4	1	0.00109
526270013	20-NOV-2020 05:50:00	1530.32	501.93	1028.39	7	1	H2SO4/KMnO4	1	0.00097
526270014	20-NOV-2020 05:50:00	1552.28	501.73	1050.55	7	1	H2SO4/KMnO4	1	0.00095
527509004	20-NOV-2020 05:50:00			1000	10	1	H2SO4/KMnO4	1	0.001
1204699396 MS (527509004)	20-NOV-2020 05:50:00			945	10	1	H2SO4/KMnO4	1	0.00106
1204699397 MSD (527509004)	20-NOV-2020 05:50:00			945	10	1	H2SO4/KMnO4	1	0.00106
527509006	20-NOV-2020 05:50:00	1317.55	410.66	906.89	7	1	H2SO4/KMnO4	1	0.0011
527509013	20-NOV-2020 05:50:00	1407.25	412.08	995.17	10	1	H2SO4/KMnO4	1	0.001
527509015	20-NOV-2020 05:50:00	1387.42	410.75	976.67	10	1	H2SO4/KMnO4	1	0.00102
527510004	20-NOV-2020 05:50:00	1434.18	412.62	1021.56	10	1	H2SO4/KMnO4	1	0.00098
527510010	20-NOV-2020 05:50:00	1510.46	441.18	1069.28	10	1	H2SO4/KMnO4	1	0.00094
527510016	20-NOV-2020 05:50:00	1450.19	439.84	1010.35	10	1	H2SO4/KMnO4	1	0.00099
527731002	20-NOV-2020 05:50:00	1448.97	438.79	1010.18	7	1	H2SO4/KMnO4	1	0.00099

Type	Sample Id	Description	Serial Number	Spike Amt	Units

Comments:

Prep Logbook

Batch ID: 2065081 **Verified by:** _____
Analyst: Sanquetta Coakley
Method: SW846 3535A

Lab SOP: GL-OA-E-070 REV# 11
Instrument: Semi-Volatiles Manual

Sample ID		Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Ph 1	Ph 2	Clean Up	Final Volume (mL)	Prepped Factor (mL/mL)
LCS	1204699393	PCB Laboratory Control			WE201002-06	1	mL			
MS	1204699394	PCB Laboratory Control			WE201002-06	1	mL			
MS	1204699396	PCB Laboratory Control			WE201002-06	1	mL			
MSD	1204699395	PCB Laboratory Control			WE201002-06	1	mL			
MSD	1204699397	PCB Laboratory Control			WE201002-06	1	mL			
SURR	All	PEST LOW LEVEL SURROGATE 200 UG/L			WE201030-12	1	mL			
REGNT	All	5% Potassium Permanganate			3126559	5	mL			
REGNT	All	Hexane			3133107	10	mL			
REGNT	All	Methylene Chloride			3138096	100	mL			
REGNT	All	Acetone			3140994-B4	5	mL			
REGNT	All	1:1 sulfuric acid			3145032	15	mL			
SOURC	All	SODIUM SULFATE			3129846	30	g			

Turbovap #: 1,2
Cartridge lot #: 054893-CI
Final Solvent: Hexane
Clean up SOP: GL-OA-E-037
Verified by: DPF

ORGANIC RUN LOG - INSTRUMENT ID#ECD2

GEL ORGANIC RUN LOG 102620.S

DATE: 26-Oct-20 METHOD: See Data OPERATOR: YS1

Solvent ID
Alumina ID
Copper ID

Calibration & QC Information:
Initial Calibration Dates: See Calibration History and Standards Log
Initial Calibration Std ID's: See Calibration History and Standards Log
Sequence Number: 102620.S
GEL SOP: GL-OA-E-040
GL-OA-E-041

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
10/26/2020	04:27	E2J2601.D	WAR200710-99	IB	BLANK	1	1	YS1	
10/26/2020	04:39	E2J2602.D	WAR201016-DDT	DDT	ICS	1	2	YS1	
10/26/2020	04:51	E2J2603.D	WAR200707-32	AR1232	CCV	1	3	YS1	
10/26/2020	05:03	E2J2604.D	WAR200701-21	AR1221	CCV	1	4	YS1	
10/26/2020	05:15	E2J2605.D	WAR200605-60	AR1660	DUSE	1	5	YS1	
10/26/2020	05:27	E2J2606.D	WAR200825-54	AR1254	DUSE	1	6	YS1	
10/26/2020	05:39	E2J2607.D	WAR200612-42	AR1242	CCV	1	7	YS1	
10/26/2020	05:51	E2J2608.D	WAR200916-48	AR1248	DUSE	1	8	YS1	
10/26/2020	06:03	E2J2609.D	WAR200707-68	AR1268	CCV	1	9	YS1	
10/26/2020	06:15	E2J2610.D	WAR200604-62	AR1262	CCV	1	10	YS1	
10/26/2020	06:27	E2J2611.D	WAR200605-60	AR1660	DUSE	1	11	YS1	
10/26/2020	06:39	E2J2612.D	WAR200825-54	AR1254	CCV	1	12	YS1	
10/26/2020	06:51	E2J2613.D	WAR200916-48	AR1248	CCV	1	13	YS1	
10/26/2020	07:03	E2J2614.D	WAR201009-01	AR1660-1	ICAL	1	14	YS1	
10/26/2020	07:15	E2J2615.D	WAR201009-02	AR1660-2	ICAL	1	15	YS1	
10/26/2020	07:27	E2J2616.D	WAR201009-03	AR1660-3	ICAL	1	16	YS1	
10/26/2020	07:39	E2J2617.D	WAR201009-04	AR1660-4	ICAL	1	17	YS1	
10/26/2020	07:51	E2J2618.D	IAR200730-01	AR1660-5	ICAL	1	18	YS1	
10/26/2020	08:03	E2J2619.D	WAR200605-60	AR1660	ICV	1	19	YS1	
10/26/2020	08:15	E2J2620.D	WAR200710-99	IB	BLANK	1	20	YS1	
10/26/2020	08:27	E2J2621.D	1204675765	MB	2054523	1	21	YS1	
10/26/2020	08:39	E2J2622.D	1204675766	LCS	2054523	1	22	YS1	
10/26/2020	08:51	E2J2623.D	523982005	CPRC	2054523	1	23	YS1	
10/26/2020	09:03	E2J2624.D	1204675767	MS	2054523	1	24	YS1	
10/26/2020	09:15	E2J2625.D	1204675768	MSD	2054523	1	25	YS1	
10/26/2020	09:27	E2J2626.D	523982010	CPRC	2054523	1	26	YS1	
10/26/2020	09:39	E2J2627.D	523982011	CPRC	2054523	1	27	YS1	
10/26/2020	09:51	E2J2628.D	524084012	CPRC	2054523	1	28	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD2

GEL ORGANIC RUN LOG 102620.S

10/26/2020 10:04	E2J2629.D	524084013	CPRC	2054523	1	29	YS1	
10/26/2020 10:15	E2J2630.D	WAR200605-60	AR1660	CCV	1	30	YS1	
10/26/2020 10:28	E2J2631.D	WAR200710-99	IB	BLANK	1	31	YS1	
10/26/2020 10:42	E2J2632.D	1204676828	MB	2055002	1	32	YS1	
10/26/2020 10:54	E2J2633.D	1204676829	LCS	2055002	1	33	YS1	
10/26/2020 11:06	E2J2634.D	524558007	RSIE	2055002	1	34	YS1	
10/26/2020 11:18	E2J2635.D	1204676830	MS	2055002	1	35	YS1	
10/26/2020 11:30	E2J2636.D	1204676831	MSD	2055002	1	36	YS1	
10/26/2020 11:42	E2J2637.D	524558008	RSIE	2055002	1	37	YS1	
10/26/2020 11:54	E2J2638.D	WAR200605-60	AR1660	CCV	1	38	YS1	
10/26/2020 12:06	E2J2639.D	WAR200710-99	IB	BLANK	1	39	YS1	
10/26/2020 12:18	E2J2640.D	524125001	WSRB	2054523	1	40	YS1	
10/26/2020 12:30	E2J2641.D	524125018	WSRB	2054523	1	41	YS1	
10/26/2020 12:42	E2J2642.D	524438005	WSRB	2054523	1	42	YS1	DUSE
10/26/2020 12:54	E2J2643.D	1204675769	MS	2054523	1	43	YS1	DUSE
10/26/2020 13:06	E2J2644.D	1204675770	MSD	2054523	1	44	YS1	DUSE
10/26/2020 13:18	E2J2645.D	524438007	WSRB	2054523	1	45	YS1	DUSE
10/26/2020 13:30	E2J2646.D	524438008	WSRB	2054523	1	46	YS1	DUSE
10/26/2020 13:42	E2J2647.D	524438010	WSRB	2054523	1	47	YS1	DUSE
10/26/2020 13:54	E2J2648.D	524948001	GEEL	2054523	1	48	YS1	
10/26/2020 14:06	E2J2649.D	WAR200605-60	AR1660	CCV	1	49	YS1	
10/26/2020 14:18	E2J2650.D	WAR200710-99	IB	BLANK	1	50	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD2

GEL ORGANIC RUN LOG 112020.S

DATE: 20-Nov-20 METHOD: See Data OPERATOR: YS1

Solvent ID
Alumina ID
Copper ID

Calibration & QC Information:
Initial Calibration Dates: See Calibration History and Standards Log
Initial Calibration Std ID's: See Calibration History and Standards Log
GEL SOP: GL-OA-E-040
GL-OA-E-041

Sequence Number: 112020.S

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
11/20/2020	04:59	E2k2001.D	WAR201102-99	IB	BLANK	1	1	YS1	
11/20/2020	05:11	E2k2002.D	WAR201016-DDT	DDT	ICS	1	2	YS1	
11/20/2020	05:23	E2k2003.D	WAR200707-32	AR1232	CCV	1	3	YS1	
11/20/2020	05:35	E2k2004.D	WAR200701-21	AR1221	CCV	1	4	YS1	
11/20/2020	05:47	E2k2005.D	WAR200922-60	AR12660	CCV	1	5	YS1	
11/20/2020	05:59	E2k2006.D	WAR200825-54	AR1254	CCV	1	6	YS1	
11/20/2020	06:11	E2k2007.D	WAR200612-42	AR1242	CCV	1	7	YS1	
11/20/2020	06:23	E2k2008.D	WAR200916-48	AR1248	CCV	1	8	YS1	
11/20/2020	06:35	E2k2009.D	WAR201112-68	AR1268	CCV	1	9	YS1	
11/20/2020	06:47	E2k2010.D	WAR201104-62	AR1262	CCV	1	10	YS1	
11/20/2020	07:01	E2k2011.D	WAR201102-99	IB	BLANK	1	11	YS1	
11/20/2020	07:13	E2k2012.D	1204697226	MB	2064081	1	12	YS1	
11/20/2020	07:25	E2k2013.D	1204677039	FLTB	2064081	1	13	YS1	
11/20/2020	07:37	E2k2014.D	1204679781	FLTB	2064081	1	14	YS1	
11/20/2020	07:49	E2k2015.D	1204697227	LCS	2064081	1	15	YS1	
11/20/2020	08:01	E2k2016.D	525182001	FRNP	2064081	1	16	YS1	
11/20/2020	08:13	E2k2017.D	1204697228	MS	2064081	1	17	YS1	
11/20/2020	08:25	E2k2018.D	1204697229	MSD	2064081	1	18	YS1	
11/20/2020	08:37	E2k2019.D	525182002	FRNP	2064081	1	19	YS1	
11/20/2020	08:49	E2k2020.D	525182004	FRNP	2064081	1	20	YS1	
11/20/2020	09:01	E2k2021.D	525182005	FRNP	2064081	1	21	YS1	
11/20/2020	09:13	E2k2022.D	WAR200922-60	AR12660	CCV	1	22	YS1	
11/20/2020	09:25	E2k2023.D	WAR201102-99	IB	BLANK	1	23	YS1	
11/20/2020	09:37	E2k2024.D	525470007	FRNP	2064081	1	24	YS1	
11/20/2020	09:49	E2k2025.D	525470008	FRNP	2064081	1	25	YS1	
11/20/2020	10:01	E2k2026.D	525475017	FRNP	2064081	1	26	YS1	
11/20/2020	10:13	E2k2027.D	525475018	FRNP	2064081	1	27	YS1	
11/20/2020	10:25	E2k2028.D	525527014	ORNL	2064081	1	28	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD2

GEL ORGANIC RUN LOG 112020.S

11/20/2020 10:37	E2k2029.D	525527015	ORNL	2064081	1	29	YS1	
11/20/2020 10:49	E2k2030.D	525475018	FRNP	2064081	1	27	YS1	
11/20/2020 11:03	E2k2031.D	WAR200922-60	AR12660	CCV	1	30	YS1	
11/20/2020 11:15	E2k2032.D	WAR201102-99	IB	BLANK	1	31	YS1	
11/20/2020 11:27	E2k2033.D	1204699003	MB	2064866	1	32	YS1	
11/20/2020 11:40	E2k2034.D	1204699004	LCS	2064866	1	33	YS1	
11/20/2020 11:52	E2k2035.D	1204699005	LCSD	2064866	1	34	YS1	
11/20/2020 12:04	E2k2036.D	526537004	MCLI	2064866	1	35	YS1	
11/20/2020 12:16	E2k2037.D	WAR200922-60	AR12660	CCV	1	36	YS1	
11/20/2020 12:28	E2k2038.D	WAR201102-99	IB	BLANK	1	37	YS1	
11/20/2020 12:40	E2k2039.D	WAR200922-60	AR12660	CCV	1	38	YS1	
11/20/2020 14:39	E2k2040.D	WAR201102-99	IB	BLANK	1	40	YS1	
11/20/2020 14:51	E2k2041.D	WAR200922-60	AR12660	CCV	1	39	YS1	
11/20/2020 15:03	E2k2042.D	WAR201102-99	IB	BLANK	1	40	YS1	
11/20/2020 15:15	E2k2043.D	1204699392	MB	2065082	1	41	YS1	
11/20/2020 15:27	E2k2044.D	1204683090	FLTB	2065082	1	42	YS1	
11/20/2020 15:39	E2k2045.D	1204685276	FLTB	2065082	1	43	YS1	
11/20/2020 15:51	E2k2046.D	1204699393	LCS	2065082	1	44	YS1	
11/20/2020 16:03	E2k2047.D	525871007	FRNP	2065082	1	45	YS1	
11/20/2020 16:17	E2k2048.D	1204699394	MS	2065082	1	46	YS1	
11/20/2020 16:31	E2k2049.D	1204699395	MSD	2065082	1	47	YS1	
11/20/2020 16:46	E2k2050.D	525871008	FRNP	2065082	1	48	YS1	
11/20/2020 17:00	E2k2051.D	526153008	FRNP	2065082	1	49	YS1	
11/20/2020 17:14	E2k2052.D	526258001	FRNP	2065082	1	50	YS1	
11/20/2020 17:28	E2k2053.D	WAR200922-60	AR12660	CCV	1	51	YS1	
11/20/2020 17:40	E2k2054.D	WAR201102-99	IB	BLANK	1	52	YS1	
11/20/2020 17:52	E2k2055.D	526258003	FRNP	2065082	1	53	YS1	
11/20/2020 18:06	E2k2056.D	526270013	FRNP	2065082	1	54	YS1	
11/20/2020 18:21	E2k2057.D	526270014	FRNP	2065082	1	55	YS1	
11/20/2020 18:35	E2k2058.D	WAR200922-60	AR12660	CCV	1	56	YS1	
11/20/2020 18:47	E2k2059.D	WAR201102-99	IB	BLANK	1	57	YS1	
11/20/2020 18:59	E2k2060.D	527509004	ARSL	2065082	1	58	YS1	
11/20/2020 19:13	E2k2061.D	1204699396	MS	2065082	1	59	YS1	
11/20/2020 19:27	E2k2062.D	1204699397	MSD	2065082	1	60	YS1	
11/20/2020 19:41	E2k2063.D	527509006	ARSL	2065082	1	61	YS1	
11/20/2020 19:55	E2k2064.D	527509013	ARSL	2065082	1	62	YS1	
11/20/2020 20:09	E2k2065.D	527509015	ARSL	2065082	1	63	YS1	
11/20/2020 20:23	E2k2066.D	527510004	ARSL	2065082	1	64	YS1	
11/20/2020 20:37	E2k2067.D	527510010	ARSL	2065082	1	65	YS1	
11/20/2020 20:51	E2k2068.D	527510016	ARSL	2065082	1	66	YS1	
11/20/2020 21:05	E2k2069.D	527731002	ARSL	2065082	1	67	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD2

GEL ORGANIC RUN LOG 112020.S

11/20/2020 21:19	E2k2070.D	WAR200922-60	AR12660	CCV	1	68	YS1	
11/20/2020 21:31	E2k2071.D	WAR201102-99	IB	BLANK	1	69	YS1	

11/25/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2517.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On   : 25 Nov 2020 07:27 (#1); 25 Nov 2020 07:27 (#2)
Operator : JXM   InstName : ECD8
Sample   : |527510004|2066216|1|SVA|2|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB03-20-209979|||
ALS Vial : 17   Sample Multiplier: 1

Quant Time: Nov 25 08:20:27 2020
Quant Method : D:\MSDCHEM\1\DATA\112520.b\ECD8_8082_112420.m
Quant Title : ECD8   SubList :
QLast Update : Tue Nov 24 07:09:11 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.400	2.400	0.000	47312654	7.612	2.767	2.768	0.001	83040339	6.592
DCB	6.411	6.407	-0.004	69534179	11.753	7.134	7.132	-0.002	174863676	16.828

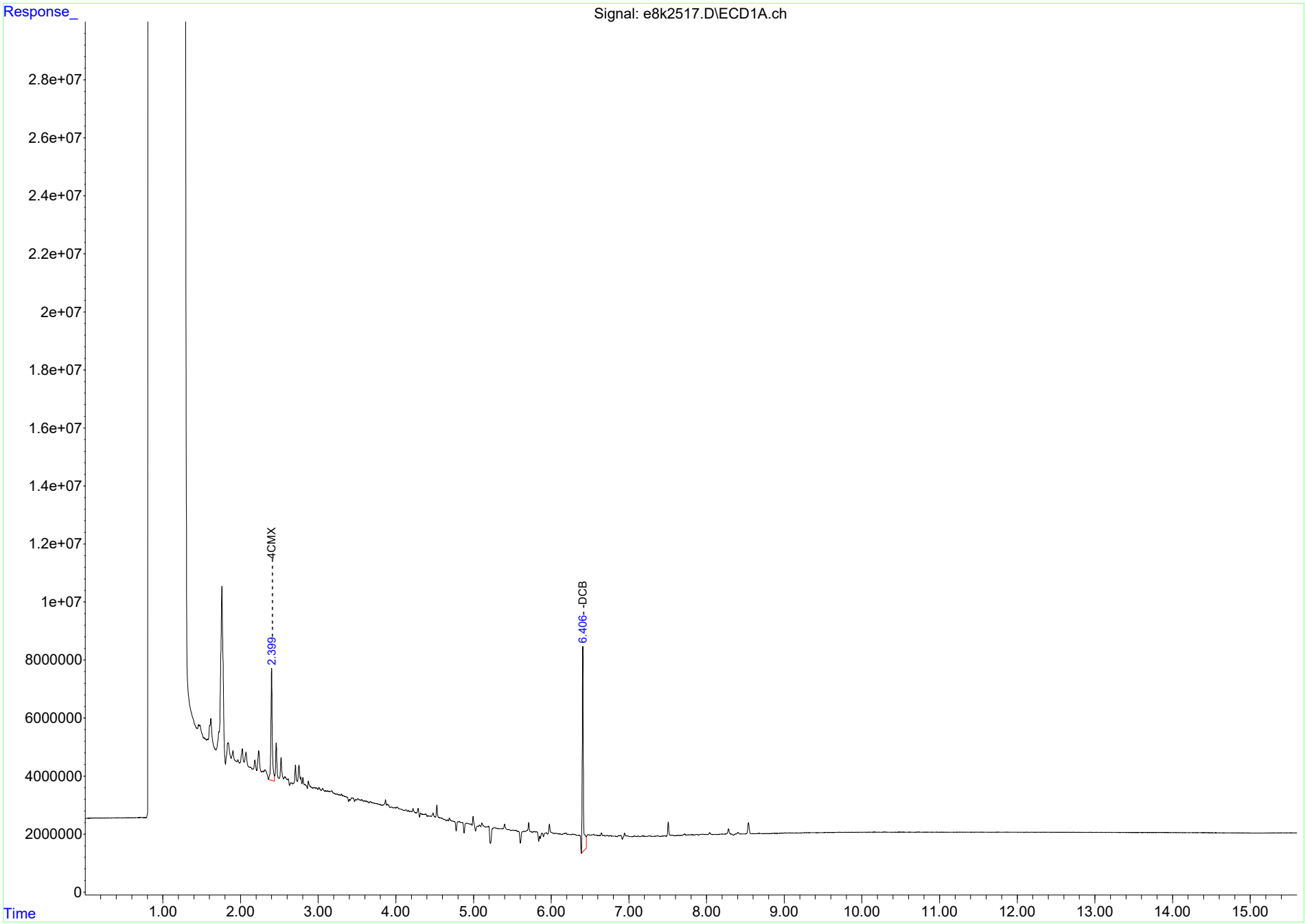
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	4%	3%
DCB	200.000	No Limits	6%	8%

Target Compounds

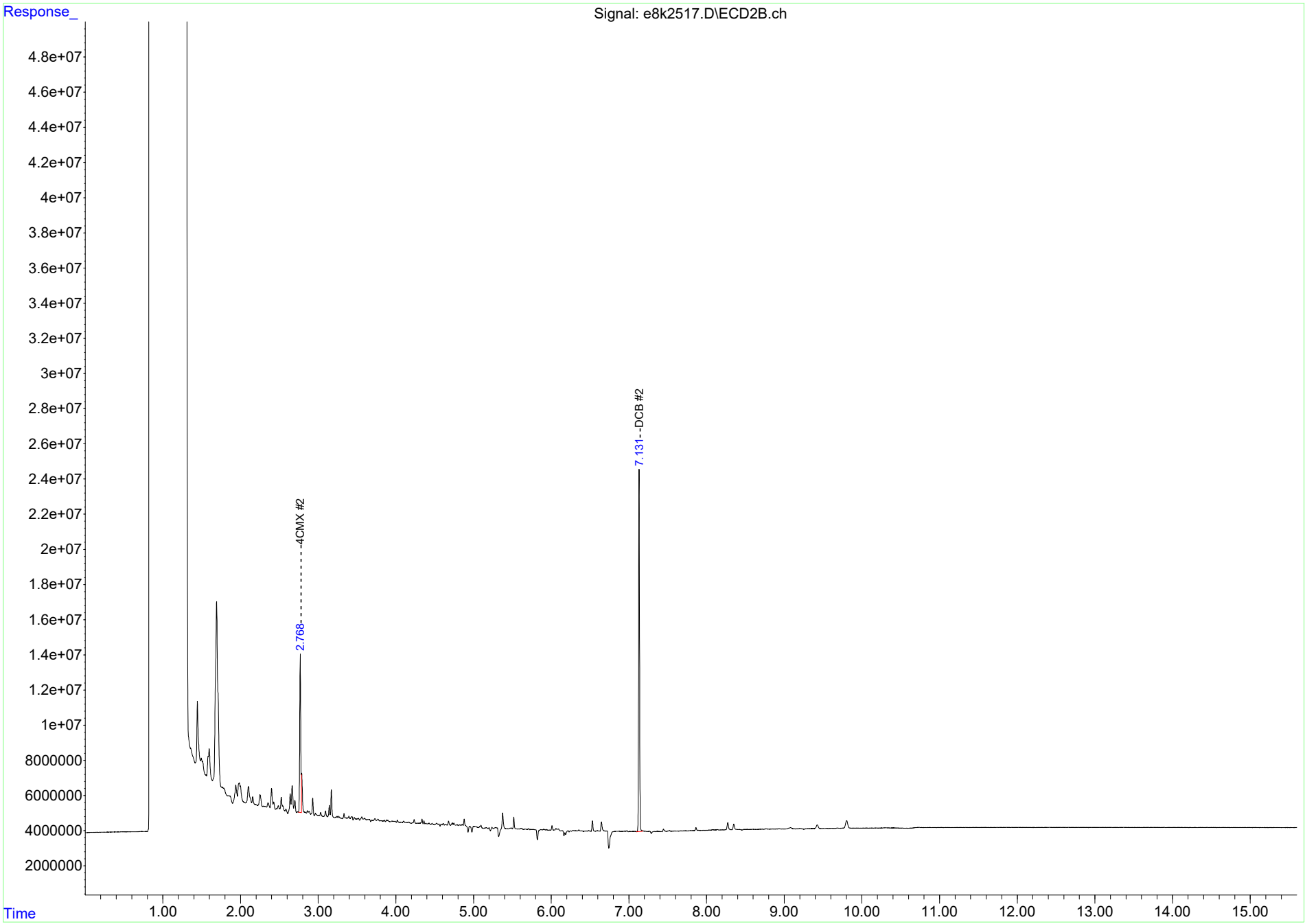
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2517.D



Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2517.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.400	2.400	0.000	47312654	7.612	2.767	2.768	0.001	83040339	6.592
DCB	6.411	6.407	-0.004	69534179	11.753	7.134	7.132	-0.002	174863676	16.828

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	4%	3%
DCB	200.000	No Limits	6%	8%
4CMX	200.000	No Limits	4%	3%
DCB	200.000	No Limits	6%	8%

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Target Compounds										
Aroclor-1016	2.965	0.000	-2.965	0	N.D.	3.496	3.517	0.021f	1025025	3.286
Aroclor-1016 {2}	3.320	0.000	-3.320	0	N.D.	3.852	3.852	0.000	572524	1.065
Aroclor-1016 {3}	3.418	3.431	0.013	1155604	6.816	3.953	0.000	-3.953	0	N.D.
Aroclor-1016 {4}	3.557	0.000	-3.557	0	N.D.	4.101	4.099	-0.002	817813	3.682
Sum Aroclor-1016				1155604	6.816				2415362	8.033
Average Aroclor-1016					<MDL					<MDL
Aroclor-1221	2.542	2.522	-0.020f	12929305	180.743	3.010	3.031	0.021f	2051254	15.274
Aroclor-1221 {2}	2.658	2.661	0.003	1464144	36.434	3.125	3.143	0.018f	6271111	74.993
Aroclor-1221 {3}	2.690	2.707	0.017f	10821826	69.911	3.174	3.169	-0.005	14164207	46.264
Sum Aroclor-1221				25215275	287.088				22486572	136.530 #
Average Aroclor-1221					95.696					45.510 #
Aroclor-1232	2.966	0.000	-2.966	0	N.D.	3.852	3.852	0.000	572524	2.175
Aroclor-1232 {3}	3.465	3.484	0.019f	626589	9.483	4.030	4.018	-0.012	1276217	11.611
Aroclor-1232 {4}	3.557	0.000	-3.557	0	N.D.	4.102	4.099	-0.003	817813	8.909
Sum Aroclor-1232				626589	9.483				2666555	22.695 #
Average Aroclor-1232					<MDL					<MDL
Aroclor-1242	2.965	0.000	-2.965	0	N.D.	3.853	3.852	-0.001	572524	1.255
Aroclor-1242 {3}	3.465	3.484	0.019f	626589	6.092	4.031	4.018	-0.013	1276217	6.832
Aroclor-1242 {4}	3.557	0.000	-3.557	0	N.D.	4.102	4.099	-0.003	817813	4.625
Sum Aroclor-1242				626589	6.092				2666555	12.711 #
Average Aroclor-1242					<MDL					<MDL
Aroclor-1248	3.320	0.000	-3.320	0	N.D.	3.853	3.852	-0.001	572524	2.350
Aroclor-1248 {2}	3.558	0.000	-3.558	0	N.D.	4.102	4.099	-0.003	817813	2.684
Aroclor-1248 {4}	4.028	0.000	-4.028	0	N.D.	4.579	4.582	0.003	1233207	2.895
Sum Aroclor-1248				0	N.D.				2623544	7.929
Average Aroclor-1248					N.D.					<MDL
Aroclor-1254	3.998	0.000	-3.998	0	N.D.	4.610	4.609	-0.001	1307316	2.567
Aroclor-1254 {2}	4.186	0.000	-4.186	0	N.D.	4.746	4.747	0.001	1177022	2.142
Aroclor-1254 {3}	4.470	4.478	0.008	1540383	3.864	5.078	5.079	0.001	6711321	8.962

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
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Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1254 {4}	4.665	4.688	0.023f	2533786	8.227	5.238	5.237	-0.001	9903292	18.502
Aroclor-1254 {5}	4.796	4.798	0.002	4213020	14.268	5.362	5.375	0.013	21306842	56.548
Sum Aroclor-1254				8287189	26.360				40405793	88.721 #
Average Aroclor-1254					<MDL					<MDL
Aroclor-1260	4.599	0.000	-4.599	0	N.D.	5.216	5.200	-0.016f	6501103	11.910
Aroclor-1260 {2}	4.793	4.798	0.005	4213020	9.557	5.361	5.375	0.014	21306842	31.107
Aroclor-1260 {3}	5.071	5.076	0.005	8345783	29.671	5.680	0.000	-5.680	0	N.D.
Aroclor-1260 {4}	5.457	0.000	-5.457	0	N.D.	6.062	6.060	-0.002	7827706	6.058
Aroclor-1260 {5}	5.655	5.649	-0.006	1595780	4.724	6.321	6.325	0.004	829053	0.930
Sum Aroclor-1260				14154584	43.951				36464704	50.005
Average Aroclor-1260					<MDL					<MDL
Aroclor-1262	4.598	0.000	-4.598	0	N.D.	5.216	5.200	-0.016f	6501103	12.978
Aroclor-1262 {2}	4.793	4.798	0.005	4213020	12.733	5.361	5.375	0.014	21306842	36.546
Aroclor-1262 {3}	5.070	5.076	0.006	8345783	20.062	5.679	0.000	-5.679	0	N.D.
Aroclor-1262 {4}	5.457	0.000	-5.457	0	N.D.	6.061	6.060	-0.001	7827706	4.998
Aroclor-1262 {5}	5.678	5.690	0.012	958988	2.954	6.315	6.308	-0.007	1513345	1.364
Sum Aroclor-1262				13517791	35.749				37148996	55.887 #
Average Aroclor-1262					<MDL					<MDL
Aroclor-1268	5.679	5.690	0.011	958988	0.937	6.315	6.308	-0.007	1513345	0.710
Aroclor-1268 {2}	5.705	5.711	0.006	5742936	5.805	6.347	6.356	0.009	2031683	1.005
Aroclor-1268 {3}	5.840	5.851	0.011	1194148	1.439	6.527	6.531	0.004	5623605	3.340
Aroclor-1268 {4}	6.084	6.063	-0.021f	520604	1.373	6.721	0.000	-6.721	0	N.D.
Sum Aroclor-1268				8416677	9.554				9168633	5.054 #
Average Aroclor-1268					<MDL					<MDL
4,4' DDT	5.014	4.994	-0.020f	12956635	<MDL	5.615	0.000	-5.615	0	N.D. #
4,4' DDD	4.818	4.818	0.000	8523381	1.430	5.393	5.375	-0.018f	21306842	2.051
4,4' DDE	4.393	4.374	-0.019	1433088	0.194	4.979	4.998	0.019	4719811	0.307 #

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2517.D

Aroclor-1016	Multi	-	Deletion ==	DMP
Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1260	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT		-	Deletion ==	DMP
4,4' DDD	Both	-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

11/25/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2518.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On   : 25 Nov 2020 07:46 (#1); 25 Nov 2020 07:46 (#2)
Operator : JXM   InstName : ECD8
Sample   : |527510010|2066216|1|SVA|2|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB04-20-209982|||
ALS Vial : 18   Sample Multiplier: 1

Quant Time: Nov 25 08:20:30 2020
Quant Method : D:\MSDCHEM\1\DATA\112520.b\ECD8_8082_112420.m
Quant Title : ECD8   SubList :
QLast Update : Tue Nov 24 07:09:11 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.400	2.398	-0.002	52207213	8.400	2.767	2.767	0.000	107835518	8.561
DCB	6.411	6.407	-0.004	74272016	12.554	7.134	7.131	-0.003	156322278	15.044

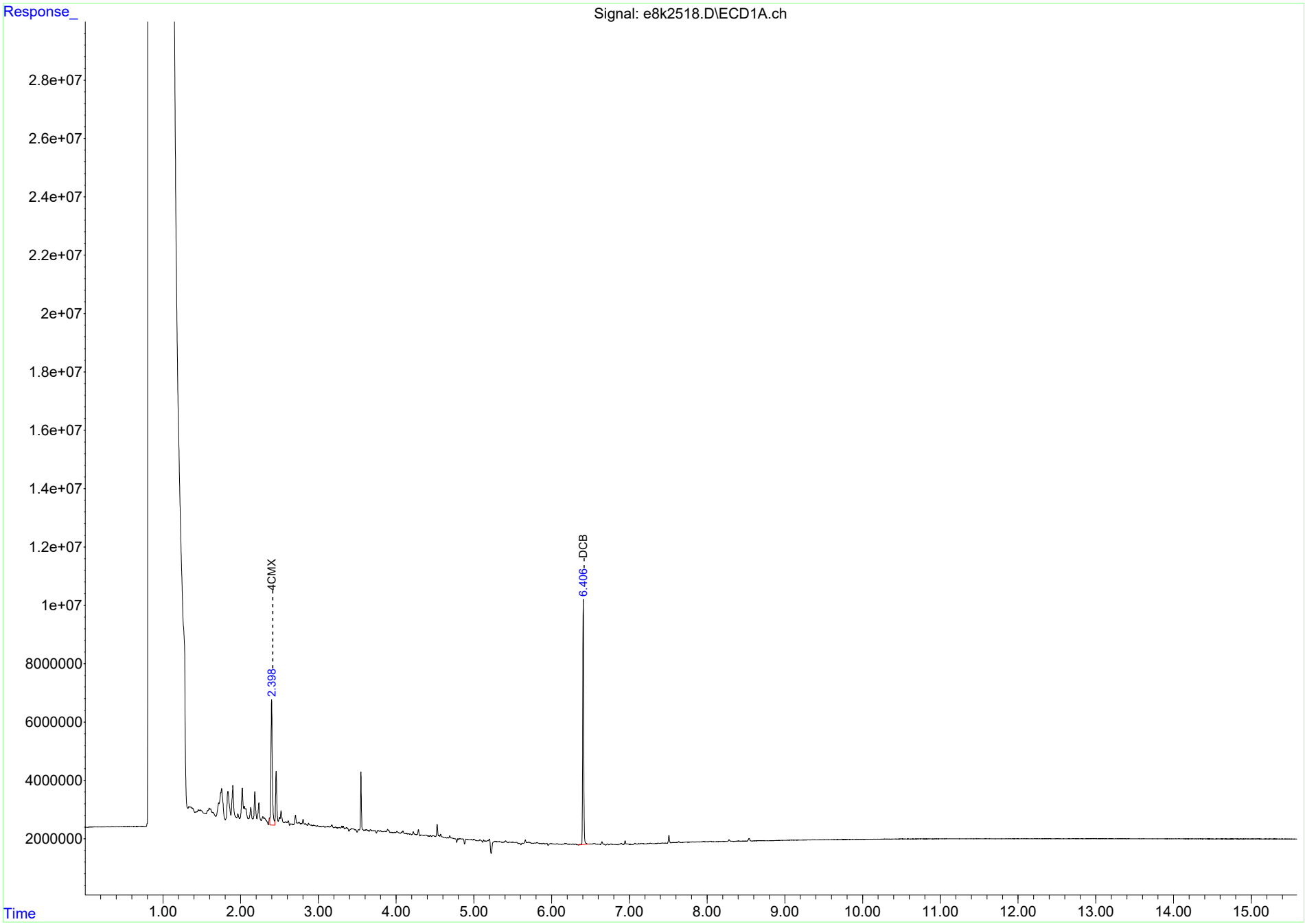
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	4%	4%
DCB	200.000	No Limits	6%	8%

Target Compounds

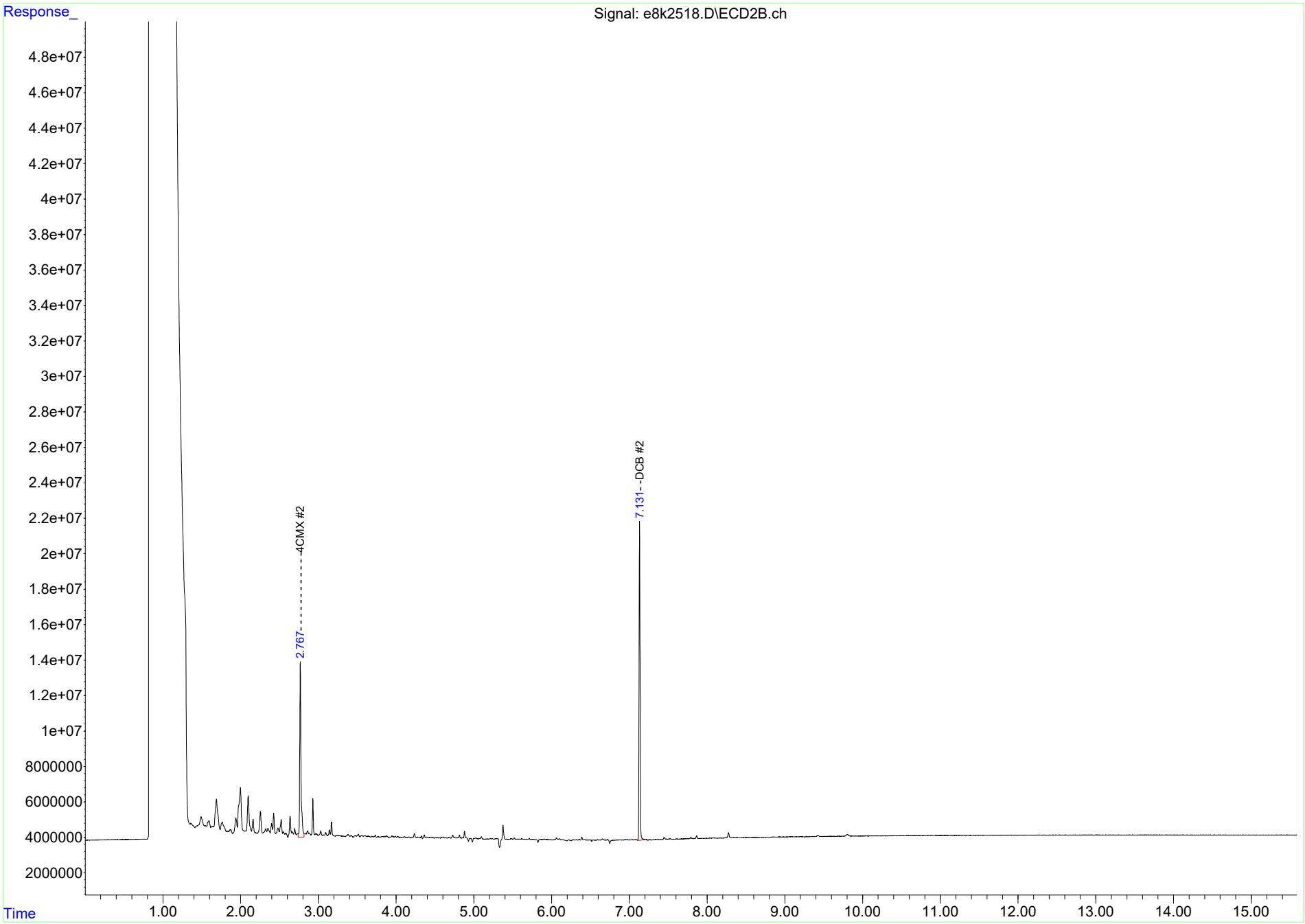
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2518.D



Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2518.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
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Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.400	2.398	-0.002	52207213	8.400	2.767	2.767	0.000	107835518	8.561
DCB	6.411	6.407	-0.004	74272016	12.554	7.134	7.131	-0.003	156322278	15.044

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	4%	4%
DCB	200.000	No Limits	6%	8%
4CMX	200.000	No Limits	4%	4%
DCB	200.000	No Limits	6%	8%

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Target Compounds										
Aroclor-1016	2.965	0.000	-2.965	0	N.D.	3.496	3.515	0.019f	3099548	9.935
Aroclor-1016 {2}	3.320	3.320	0.000	939827	3.263	3.852	3.855	0.003	897012	1.669
Aroclor-1016 {3}	3.418	3.428	0.010	773545	4.563	3.953	3.945	-0.008	1275645	3.577
Aroclor-1016 {4}	3.557	3.547	-0.010	16957878	147.910	4.101	4.102	0.001	565753	2.547
Aroclor-1016 {5}	3.721	0.000	-3.721	0	N.D.	4.302	4.326	0.024f	1477379	5.020
Sum Aroclor-1016				18671250	155.736				7315338	22.748 #
Average Aroclor-1016					51.912					<MDL
Aroclor-1221	2.542	2.520	-0.022f	7216200	100.878	3.010	3.030	0.020f	4716021	35.116
Aroclor-1221 {2}	2.658	0.000	-2.658	0	N.D.	3.125	3.142	0.017f	3798158	45.420
Aroclor-1221 {3}	2.690	2.705	0.015	4154118	26.836	3.174	3.168	-0.006	7343532	23.986
Sum Aroclor-1221				11370317	127.714				15857710	104.521
Average Aroclor-1221					63.857					34.840 #
Aroclor-1232	2.966	0.000	-2.966	0	N.D.	3.852	3.855	0.003	897012	3.408
Aroclor-1232 {2}	3.320	3.320	0.000	939827	6.326	3.953	3.945	-0.008	1275645	7.178
Aroclor-1232 {3}	3.465	3.443	-0.022f	201205	3.045	4.030	4.018	-0.012	1107386	10.075
Aroclor-1232 {4}	3.557	3.547	-0.010	16957878	346.790	4.102	4.102	0.000	565753	6.163
Aroclor-1232 {5}	3.721	0.000	-3.721	0	N.D.	4.302	4.326	0.024f	1477379	11.058
Sum Aroclor-1232				18098910	356.161				5323176	37.882 #
Average Aroclor-1232					118.720					<MDL
Aroclor-1242	2.965	0.000	-2.965	0	N.D.	3.853	3.855	0.002	897012	1.966
Aroclor-1242 {2}	3.320	3.320	0.000	939827	3.962	3.953	3.945	-0.008	1275645	4.169
Aroclor-1242 {3}	3.465	3.443	-0.022f	201205	1.956	4.031	4.018	-0.013	1107386	5.928
Aroclor-1242 {4}	3.557	3.547	-0.010	16957878	186.502	4.102	4.102	0.000	565753	3.199
Aroclor-1242 {5}	3.721	0.000	-3.721	0	N.D.	4.302	4.326	0.024f	1477379	5.958
Sum Aroclor-1242				18098910	192.420				5323176	21.221 #
Average Aroclor-1242					64.140					<MDL
Aroclor-1248	3.320	3.320	0.000	939827	7.200	3.853	3.855	0.002	897012	3.682
Aroclor-1248 {2}	3.558	3.547	-0.011	16957878	111.182	4.102	4.102	0.000	565753	1.856
Aroclor-1248 {3}	3.722	0.000	-3.722	0	N.D.	4.303	4.326	0.023f	1477379	3.884
Aroclor-1248 {4}	4.028	0.000	-4.028	0	N.D.	4.579	4.581	0.002	620477	1.457

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Sum Aroclor-1248				17897705	118.383				3560622	10.879 #
Average Aroclor-1248					59.191					<MDL
Aroclor-1254	3.998	0.000	-3.998	0	N.D.	4.610	4.609	-0.001	551077	1.082
Aroclor-1254 {2}	4.186	0.000	-4.186	0	N.D.	4.746	4.727	-0.019f	1007132	1.833
Aroclor-1254 {3}	4.470	0.000	-4.470	0	N.D.	5.078	5.080	0.002	1224419	1.635
Aroclor-1254 {4}	4.665	4.689	0.024f	606925	1.971	5.238	0.000	-5.238	0	N.D.
Aroclor-1254 {5}	4.796	4.794	-0.002	1047049	3.546	5.362	5.374	0.012	24211620	64.257
Sum Aroclor-1254				1653973	5.517				26994248	68.807 #
Average Aroclor-1254					<MDL					<MDL
Aroclor-1260	4.599	4.572	-0.027f	730231	2.517	5.216	0.000	-5.216	0	N.D.
Aroclor-1260 {2}	4.793	4.794	0.001	1047049	2.375	5.361	5.374	0.013	24211620	35.348
Aroclor-1260 {4}	5.457	5.455	-0.002	668494	1.018	6.062	6.061	-0.001	1212653	0.938
Aroclor-1260 {5}	5.655	5.662	0.007	1288534	3.814	6.321	0.000	-6.321	0	N.D.
Sum Aroclor-1260				3734308	9.725				25424273	36.287 #
Average Aroclor-1260					<MDL					<MDL
Aroclor-1262 {2}	4.793	4.794	0.001	1047049	3.164	5.361	5.374	0.013	24211620	41.528
Aroclor-1262 {4}	5.457	5.455	-0.002	668494	0.872	6.061	6.061	0.000	1212653	0.774
Aroclor-1262 {5}	5.678	5.686	0.008	100102	0.308	6.315	0.000	-6.315	0	N.D.
Sum Aroclor-1262				1815645	4.345				25424273	42.303 #
Average Aroclor-1262					<MDL					<MDL
Aroclor-1268	5.679	5.686	0.007	100102	0.098	6.315	0.000	-6.315	0	N.D.
Aroclor-1268 {2}	5.705	5.704	-0.001	48838	0.049	6.347	6.354	0.007	591031	0.292
Aroclor-1268 {3}	5.840	0.000	-5.840	0	N.D.	6.527	6.535	0.008	1191400	0.708
Aroclor-1268 {5}	6.280	0.000	-6.280	0	N.D.	6.952	6.947	-0.005	2741710	0.530
Sum Aroclor-1268				148941	0.147				4524141	1.530 #
Average Aroclor-1268					<MDL					<MDL
4,4' DDD	4.818	4.818	0.000	686116	0.115	5.393	5.374	-0.019f	24211620	2.331 #
4,4' DDE	4.393	0.000	-4.393	0	N.D.	4.979	4.965	-0.014	1297183	0.084 #

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2518.D

Aroclor-1016	Multi	-	Deletion ==	DMP
Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1260	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDD	Both	-	Deletion ==	DMP
4,4' DDE #2		-	Deletion ==	DMP

11/25/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2519.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On   : 25 Nov 2020 08:06 (#1); 25 Nov 2020 08:06 (#2)
Operator : JXM   InstName : ECD8
Sample   : |527510016|2066216|1|SVA|2|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB05-20-209985|||
ALS Vial : 19   Sample Multiplier: 1

Quant Time: Nov 25 08:22:11 2020
Quant Method : D:\MSDCHEM\1\DATA\112520.b\ECD8_8082_112420.m
Quant Title : ECD8   SubList :
QLast Update : Tue Nov 24 07:09:11 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj.   : 1.0 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.400	2.400	0.000	247447626	39.812	2.767	2.768	0.001	543119091	43.116
DCB	6.411	6.406	-0.005	231291433	39.094	7.134	7.132	-0.002	511110005	49.187

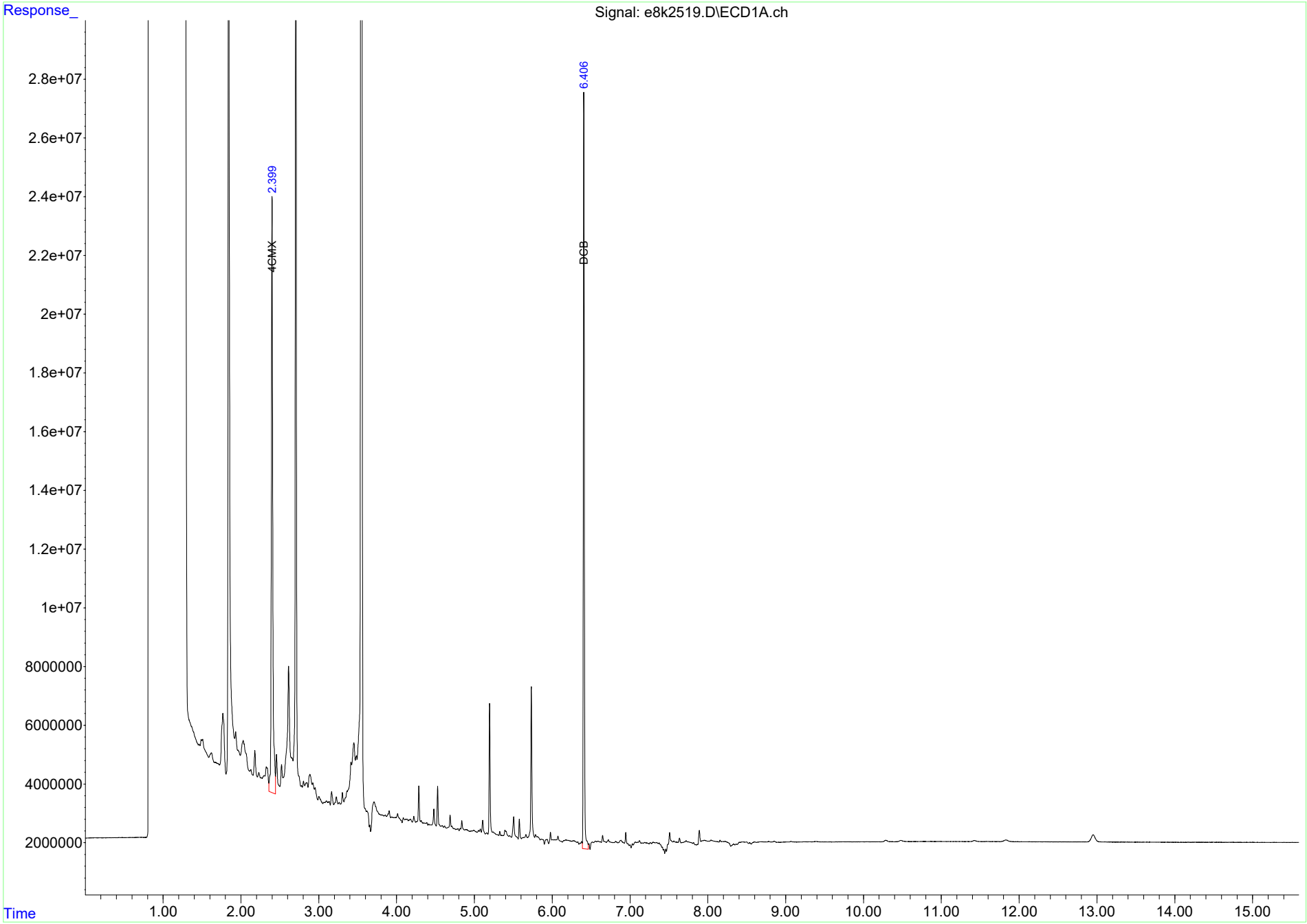
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	20%	22%
DCB	200.000	No Limits	20%	25%

Target Compounds

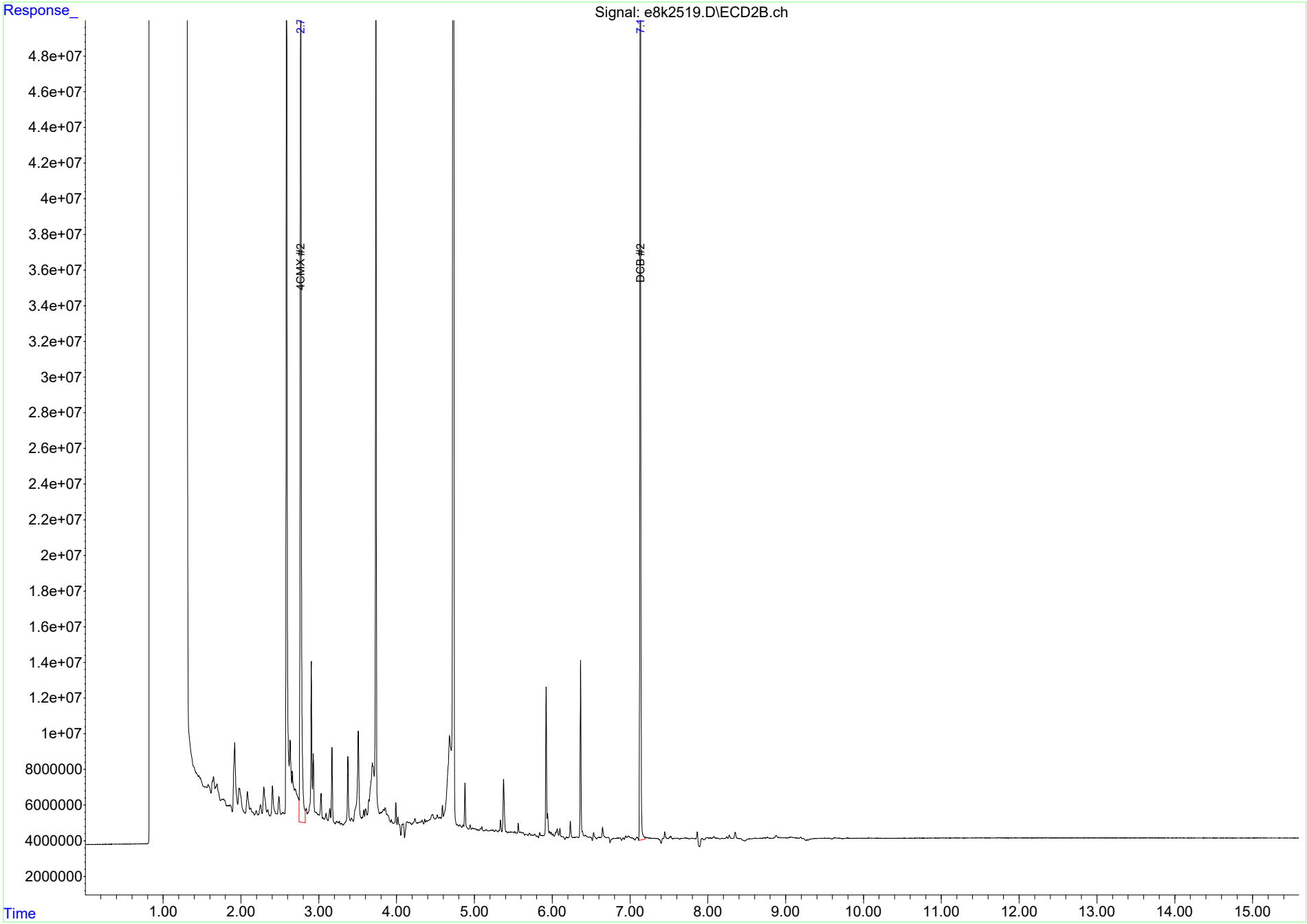
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2519.D



Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2519.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1		Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
System Monitoring Compounds												
4CMX	2.400	2.400	0.000	247447626	39.812		2.767	2.768	0.001	543119091	43.116	
DCB	6.411	6.406	-0.005	231291433	39.094		7.134	7.132	-0.002	511110005	49.187	

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	20%	22%
DCB	200.000	No Limits	20%	25%
4CMX	200.000	No Limits	20%	22%
DCB	200.000	No Limits	20%	25%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1		Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1016	2.965	2.953	-0.012	14536558	61.637		3.496	3.507	0.011	112573184	360.833	
Aroclor-1016 {2}	3.320	3.303	-0.017f	17451856	60.597		3.852	3.852	0.000	25423076	47.308	
Aroclor-1016 {3}	3.418	3.415	-0.003	49211036	290.269		3.953	3.932	-0.021f	16758163	46.990	
Aroclor-1016 {4}	3.557	3.548	-0.009	2466082091	21509.705	A	4.101	4.087	-0.014	15335997	69.039	
Aroclor-1016 {5}	3.721	3.708	-0.013	40248143	259.036		4.302	4.300	-0.002	8906410	30.260	
Sum Aroclor-1016				2587529685	22181.244					178996830	554.430	#
Average Aroclor-1016					4436.249						110.886	#
Aroclor-1221	2.542	2.521	-0.021f	16462052	230.128		3.010	3.029	0.019f	24508850	182.493	
Aroclor-1221 {2}	2.658	2.656	-0.002	15223414	378.824		3.125	3.142	0.017f	14554776	174.052	
Aroclor-1221 {3}	2.690	2.705	0.015	403305929	2605.424	A	3.174	3.169	-0.005	44762067	146.204	
Sum Aroclor-1221				434991396	3214.376					83825693	502.749	#
Average Aroclor-1221					1071.459						167.583	#
Aroclor-1232	2.966	2.953	-0.013	14536558	120.847		3.852	3.852	0.000	25423076	96.589	
Aroclor-1232 {2}	3.320	3.303	-0.017f	17451856	117.465		3.953	3.932	-0.021f	16758163	94.295	
Aroclor-1232 {3}	3.465	3.450	-0.015	70520909	1067.246		4.030	4.016	-0.014	20625049	187.645	
Aroclor-1232 {4}	3.557	3.548	-0.009	2466082091	50431.616	A	4.102	4.087	-0.015	15335997	167.065	
Aroclor-1232 {5}	3.721	3.708	-0.013	40248143	553.461		4.302	4.300	-0.002	8906410	66.665	
Sum Aroclor-1232				2608839558	52290.636					87048695	612.258	#
Average Aroclor-1232					10458.127						122.452	#
Aroclor-1242	2.965	2.953	-0.012	14536558	71.909		3.853	3.852	-0.001	25423076	55.728	
Aroclor-1242 {2}	3.320	3.303	-0.017f	17451856	73.566		3.953	3.932	-0.021f	16758163	54.766	
Aroclor-1242 {3}	3.465	3.450	-0.015	70520909	685.630		4.031	4.016	-0.015	20625049	110.410	
Aroclor-1242 {4}	3.557	3.548	-0.009	2466082091	27121.827	A	4.102	4.087	-0.015	15335997	86.722	
Aroclor-1242 {5}	3.721	3.708	-0.013	40248143	305.752		4.302	4.300	-0.002	8906410	35.919	
Sum Aroclor-1242				2608839558	28258.683					87048695	343.546	#
Average Aroclor-1242					5651.737						68.709	#
Aroclor-1248	3.320	3.303	-0.017f	17451856	133.706		3.853	3.852	-0.001	25423076	104.357	
Aroclor-1248 {2}	3.558	3.548	-0.010	2466082091	16168.546	A	4.102	4.087	-0.015	15335997	50.323	
Aroclor-1248 {3}	3.722	3.708	-0.014	40248143	207.119		4.303	4.300	-0.003	8906410	23.416	
Aroclor-1248 {4}	4.028	4.012	-0.016f	4704880	20.845		4.579	4.589	0.010	21686983	50.914	

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1248 {5}	4.189	4.177	-0.012	1609744	8.744	4.780	0.000	-4.780	0	N.D.	
Sum Aroclor-1248				2530096714	16538.959				71352466	229.009	#
Average Aroclor-1248					3307.792					57.252	#
Aroclor-1254	3.998	4.012	0.014	4704880	20.140	4.610	4.589	-0.021f	21686983	42.578	
Aroclor-1254 {2}	4.186	4.177	-0.009	1609744	5.128	4.746	4.729	-0.017f	2185898429	3978.811	
Aroclor-1254 {3}	4.470	4.478	0.008	5450328	13.673	5.078	5.077	-0.001	1575488	2.104	
Aroclor-1254 {4}	4.665	4.687	0.022f	4658079	15.125	5.238	5.237	-0.001	1580275	2.952	
Aroclor-1254 {5}	4.796	4.816	0.020f	568965	1.927	5.362	5.375	0.013	35517530	94.263	
Sum Aroclor-1254				16991996	55.993				2246258706	4120.708	#
Average Aroclor-1254					<MDL					824.142	
Aroclor-1260	4.599	4.617	0.018f	463486	1.598	5.216	5.215	-0.001	1612235	2.954	
Aroclor-1260 {2}	4.793	4.816	0.023f	568965	1.291	5.361	5.375	0.014	35517530	51.854	
Aroclor-1260 {3}	5.071	5.077	0.006	1530601	5.442	5.680	5.659	-0.021f	1517093	2.789	
Aroclor-1260 {4}	5.457	0.000	-5.457	0	N.D.	6.062	6.064	0.002	5664824	4.384	
Aroclor-1260 {5}	5.655	5.662	0.007	976450	2.891	6.321	6.321	0.000	1285695	1.442	
Sum Aroclor-1260				3539503	11.221				45597378	63.423	#
Average Aroclor-1260					<MDL					<MDL	
Aroclor-1262	4.598	4.617	0.019f	463486	1.837	5.216	5.215	-0.001	1612235	3.219	
Aroclor-1262 {2}	4.793	4.816	0.023f	568965	1.720	5.361	5.375	0.014	35517530	60.921	
Aroclor-1262 {3}	5.070	5.077	0.007	1530601	3.679	5.679	5.659	-0.020f	1517093	1.803	
Aroclor-1262 {4}	5.457	0.000	-5.457	0	N.D.	6.061	6.064	0.003	5664824	3.617	
Aroclor-1262 {5}	5.678	5.662	-0.016f	976450	3.008	6.315	6.314	-0.001	1242021	1.119	
Sum Aroclor-1262				3539503	10.244				45553704	70.678	#
Average Aroclor-1262					<MDL					<MDL	
Aroclor-1268	5.679	5.662	-0.017f	976450	0.954	6.315	6.314	-0.001	1242021	0.583	
Aroclor-1268 {2}	5.705	5.731	0.026f	48633126	49.155	6.347	6.365	0.018f	80242722	39.676	
Aroclor-1268 {3}	5.840	0.000	-5.840	0	N.D.	6.527	6.532	0.005	7879764	4.680	
Aroclor-1268 {4}	6.084	6.074	-0.010	6802324	17.944	6.721	0.000	-6.721	0	N.D.	
Aroclor-1268 {5}	6.280	0.000	-6.280	0	N.D.	6.952	6.944	-0.008	4574848	0.885	
Sum Aroclor-1268				56411900	68.054				93939355	45.823	
Average Aroclor-1268					<MDL					<MDL	
4,4' DDT	5.014	0.000	-5.014	0	N.D.	5.615	5.595	-0.020f	1967868	0.210	#
4,4' DDD	4.818	4.816	-0.002	568965	0.095	5.393	5.375	-0.018f	35517530	3.419	#
4,4' DDE	4.393	0.000	-4.393	0	N.D.	4.979	4.975	-0.004	2804527	0.183	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : D:\MSDCHEM\1\DATA\112520.b\
Data File : e8k2519.D

Aroclor-1016	Multi	-	Deletion ==	DMP			
Aroclor-1221	Multi	-	Deletion ==	DMP			
Aroclor-1232	Multi	-	Deletion ==	DMP			
Aroclor-1242	Multi	-	Deletion ==	DMP			
Aroclor-1248	Multi	-	Deletion ==	DMP			
Aroclor-1254	Multi	-	Deletion ==	DMP			
Aroclor-1260	Multi	-	Deletion ==	DMP			
Aroclor-1262	Multi	-	Deletion ==	DMP			
Aroclor-1268	Multi	-	Deletion ==	DMP			
4,4' DDD	Both	-	Deletion ==	DMP	4,4' DDT #2	-	Deletion == DMP
					4,4' DDE #2	-	Deletion == DMP

Metals Analysis

Case Narrative

Metals
Technical Case Narrative
ARS International, LLC
SDG #: 2021-130
Work Order #: 527510

Product: **Determination of Metals by ICP**
Analytical Method: EPA 200.7 4.4 1994
Analytical Procedure: GL-MA-E-013 REV# 31
Analytical Batch: 2063261

Product: **Determination of Metals by ICP-MS**
Analytical Method: EPA 200.8 5.4 1994
Analytical Procedure: GL-MA-E-014 REV# 34
Analytical Batch: 2063263

Product: **Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer**
Analytical Method: EPA 245.2 1974
Analytical Procedure: GL-MA-E-010 REV# 38
Analytical Batch: 2064143

Preparation Method: EPA 200.2
Preparation Procedure: GL-MA-E-016 REV# 18
Preparation Batches: 2063260 and 2063262

Preparation Method: EPA 245.1/245.2 Prep
Preparation Procedure: GL-MA-E-010 REV# 38
Preparation Batch: 2064140

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527510001	SMEB03-20-209977
527510002	SMEB03-20-209978
527510007	SMEB04-20-209980
527510008	SMEB04-20-209981
527510012	SMEB04-20-209997
527510013	SMEB05-20-209983
527510014	SMEB05-20-209984
1204695446	Method Blank (MB)**ICP**
1204695447	Laboratory Control Sample (LCS)
1204695450	527509002(SMEB01-20-209971L) Serial Dilution (SD)
1204695448	527509002(SMEB01-20-209971D) Sample Duplicate (DUP)
1204695449	527509002(SMEB01-20-209971S) Matrix Spike (MS)
1204695451	Method Blank (MB)**ICP-MS**
1204695452	Laboratory Control Sample (LCS)
1204695455	527509002(SMEB01-20-209971L) Serial Dilution (SD)
1204695453	527509002(SMEB01-20-209971D) Sample Duplicate (DUP)
1204695454	527509002(SMEB01-20-209971S) Matrix Spike (MS)
1204697398	Method Blank (MB)**CVAA**
1204697399	Laboratory Control Sample (LCS)
1204697402	527510001(SMEB03-20-209977L) Serial Dilution (SD)

1204697400	527510001(SMEB03-20-209977D) Sample Duplicate (DUP)
1204697401	527510001(SMEB03-20-209977S) Matrix Spike (MS)
1204697403	527510001(SMEB03-20-209977PS) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

CRDL/PQL Requirements
The initial PQL standard recoveries for EPA 200.7/SW846 6010B met the advisory control limits with the exception of boron. The methods do not require qualifying the data, only narrating the recoveries outside the criteria. 527510002 (SMEB03-20-209978), 527510008 (SMEB04-20-209981), 527510012 (SMEB04-20-209997) and 527510014 (SMEB05-20-209984)-ICP.

ICSA/ICSAB Statement
For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

Quality Control (QC) Information

Method Blank (MB) Statement
The samples in this SDG did not contain the above noted analytes at concentrations higher than the RDL, therefore the data was not adversely affected.

Sample	Analyte	Value
1204695451 (MB)	Aluminum	61.1 * 10 > 25.2

Matrix Spike (MS/MSD) Recovery Statement
The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analytes.

Sample	Analyte	Value
1204695454 (SMEB01-20-209971MS)	Arsenic, Chromium	0* (75%-125%)
	Copper	73.3* (75%-125%)
	Selenium	0* (75%-125%)
	Thallium	74* (75%-125%)

The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analyte. The post spike also did not meet the required control limits; thus, confirming matrix interferences and/or sample non-homogeneity.

Sample	Analyte	Value
1204697401 (SMEB03-20-209977MS)	Mercury	69.3* (75%-125%)

Post Spike (PS) Recovery Statement
The percent recoveries (%R) obtained from the PS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The PS did not meet the recommended quality control acceptance criteria for percent recoveries for all applicable analytes and verifies the presence of matrix interferences.

Sample	Analyte	Value
1204697403 (SMEB03-20-209977PS)	Mercury	65.4* (80%-120%)

Technical Information

Sample Dilutions
Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range. Per the SOP, samples were diluted due to internal standard recoveries outside the acceptable control limits. 527510002 (SMEB03-20-209978), 527510008 (SMEB04-20-209981) and 527510012 (SMEB04-20-209997)-ICP. Per the SOP, samples 527510002 (SMEB03-20-209978), 527510008 (SMEB04-20-209981), 527510012 (SMEB04-20-209997) and 527510014 (SMEB05-20-209984)-ICP-MS were diluted due to internal standard recoveries outside the acceptable control limits.

Analyte	527510			
	002	008	012	014
Aluminum	125X	125X	125X	25X
Antimony	125X	125X	125X	25X
Arsenic	125X	125X	125X	25X
Barium	125X	125X	125X	25X
Beryllium	125X	125X	125X	25X
Boron	20X	20X	20X	1X
Cadmium	125X	125X	125X	25X
Chromium	125X	125X	125X	25X
Cobalt	125X	125X	125X	25X
Copper	125X	125X	125X	25X
Iron	20X	20X	20X	1X
Lead	125X	125X	125X	25X
Manganese	20X	20X	20X	1X
Molybdenum	125X	125X	125X	25X
Nickel	125X	125X	125X	25X
Selenium	125X	125X	125X	25X
Silver	125X	125X	125X	25X
Thallium	125X	125X	125X	25X
Uranium	125X	125X	125X	25X
Zinc	20X	20X	20X	1X

Preparation Information
The samples and associated matrix QC 1204697400 (SMEB03-20-209977DUP), 1204697401 (SMEB03-20-209977MS), 1204697402 (SMEB03-20-209977SDILT), 527510001 (SMEB03-20-209977) and 527510002 (SMEB03-20-209978)-CVAA were prepared at a dilution for CVAA analysis because larger volumes of the matrix consume excessive amounts of potassium permanganate.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-130 GEL Work Order: 527510

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
J Value is estimated
N Metals--The Matrix spike sample recovery is not within specified control limits
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Jamie Johnson**

Date: 23 NOV 2020 **Title: Group Leader**

Sample Data Summary

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−130 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527510001 **BASIS:** As Received **DATE COLLECTED** 12−NOV−20

CLIENT ID: SMEB03−20−209977 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439−97−6	Mercury	0.670	ug/L	UN	0.670	2.00	2.00	1	AV	MTM1	11/20/20 12:30	112020W2−6	2064143

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2064143	2064140	EPA 245.1/245.2 Prep	2	mL	20	mL	11/19/20	AXS5

***Analytical Methods:**

AV **EPA 245.2 1974**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−130 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527510002 **BASIS:** As Received **DATE COLLECTED** 12−NOV−20

CLIENT ID: SMEB03−20−209978 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	2410	ug/L	U	2410	6250	6250	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−36−0	Antimony	125	ug/L	U	125	375	375	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−38−2	Arsenic	250	ug/L	U	250	625	625	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−39−3	Barium	221	ug/L	J	83.8	500	500	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−41−7	Beryllium	25.0	ug/L	U	25.0	62.5	62.5	125	MS	BAJ	11/20/20 19:35	201120−5	2063263
7440−42−8	Boron	5080	ug/L		300	1000	1000	20	P	HSC	11/19/20 07:58	111920−1	2063261
7440−43−9	Cadmium	37.5	ug/L	U	37.5	125	125	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−47−3	Chromium	375	ug/L	U	375	1250	1250	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−48−4	Cobalt	37.5	ug/L	U	37.5	125	125	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−50−8	Copper	37.5	ug/L	U	37.5	250	250	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7439−89−6	Iron	600	ug/L	U	600	2000	2000	20	P	HSC	11/19/20 07:58	111920−1	2063261
7439−92−1	Lead	62.5	ug/L	U	62.5	250	250	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7439−96−5	Manganese	40.0	ug/L	U	40.0	200	200	20	P	HSC	11/19/20 07:58	111920−1	2063261
7439−97−6	Mercury	0.670	ug/L	UN	0.670	2.00	2.00	1	AV	MTM1	11/20/20 12:38	112020W2−6	2064143
7439−98−7	Molybdenum	734	ug/L		25.0	125	125	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−02−0	Nickel	75.0	ug/L	U	75.0	250	250	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7782−49−2	Selenium	250	ug/L	U	250	625	625	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−22−4	Silver	37.5	ug/L	U	37.5	125	125	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−28−0	Thallium	75.0	ug/L	U	75.0	250	250	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−61−1	Uranium	8.38	ug/L	U	8.38	25.0	25.0	125	MS	BAJ	11/20/20 17:42	201120−2	2063263
7440−66−6	Zinc	88.0	ug/L	J	66.0	400	400	20	P	HSC	11/19/20 07:58	111920−1	2063261

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2063261	2063260	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2063263	2063262	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2064143	2064140	EPA 245.1/245.2 Prep	2	mL	20	mL	11/19/20	AXS5

***Analytical Methods:**

MS **EPA 200.8 5.4 1994**
P **EPA 200.7 4.4 1994**
AV **EPA 245.2 1974**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−130 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527510007 **BASIS:** As Received **DATE COLLECTED** 12−NOV−20

CLIENT ID: SMEB04−20−209980 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439−97−6	Mercury	0.108	ug/L	JN	0.0670	0.200	0.200	1	AV	MTM1	11/20/20 07:31	112020W2−6	2064143

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2064143	2064140	EPA 245.1/245.2 Prep	20	mL	20	mL	11/19/20	AXS5

***Analytical Methods:**

AV EPA 245.2 1974

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−130 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527510008 **BASIS:** As Received **DATE COLLECTED** 12−NOV−20

CLIENT ID: SMEB04−20−209981 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	2410	ug/L	U	2410	6250	6250	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−36−0	Antimony	125	ug/L	U	125	375	375	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−38−2	Arsenic	250	ug/L	U	250	625	625	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−39−3	Barium	191	ug/L	J	83.8	500	500	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−41−7	Beryllium	25.0	ug/L	U	25.0	62.5	62.5	125	MS	BAJ	11/20/20 19:36	201120−5	2063263
7440−42−8	Boron	5680	ug/L		300	1000	1000	20	P	HSC	11/19/20 08:02	111920−1	2063261
7440−43−9	Cadmium	37.5	ug/L	U	37.5	125	125	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−47−3	Chromium	375	ug/L	U	375	1250	1250	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−48−4	Cobalt	37.5	ug/L	U	37.5	125	125	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−50−8	Copper	37.5	ug/L	U	37.5	250	250	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7439−89−6	Iron	600	ug/L	U	600	2000	2000	20	P	HSC	11/19/20 08:02	111920−1	2063261
7439−92−1	Lead	62.5	ug/L	U	62.5	250	250	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7439−96−5	Manganese	40.0	ug/L	U	40.0	200	200	20	P	HSC	11/19/20 08:02	111920−1	2063261
7439−97−6	Mercury	0.0920	ug/L	JN	0.0670	0.200	0.200	1	AV	MTM1	11/20/20 07:33	112020W2−6	2064143
7439−98−7	Molybdenum	821	ug/L		25.0	125	125	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−02−0	Nickel	75.0	ug/L	U	75.0	250	250	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7782−49−2	Selenium	250	ug/L	U	250	625	625	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−22−4	Silver	37.5	ug/L	U	37.5	125	125	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−28−0	Thallium	75.0	ug/L	U	75.0	250	250	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−61−1	Uranium	8.38	ug/L	U	8.38	25.0	25.0	125	MS	BAJ	11/20/20 17:45	201120−2	2063263
7440−66−6	Zinc	95.1	ug/L	J	66.0	400	400	20	P	HSC	11/19/20 08:02	111920−1	2063261

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2063261	2063260	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2063263	2063262	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2064143	2064140	EPA 245.1/245.2 Prep	20	mL	20	mL	11/19/20	AXS5

***Analytical Methods:**

MS **EPA 200.8 5.4 1994**
P **EPA 200.7 4.4 1994**
AV **EPA 245.2 1974**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−130 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527510012 **BASIS:** As Received **DATE COLLECTED** 12−NOV−20

CLIENT ID: SMEB04−20−209997 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	2410	ug/L	U	2410	6250	6250	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−36−0	Antimony	125	ug/L	U	125	375	375	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−38−2	Arsenic	250	ug/L	U	250	625	625	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−39−3	Barium	197	ug/L	J	83.8	500	500	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−41−7	Beryllium	25.0	ug/L	U	25.0	62.5	62.5	125	MS	BAJ	11/20/20 19:38	201120−5	2063263
7440−42−8	Boron	4660	ug/L		300	1000	1000	20	P	HSC	11/19/20 08:06	111920−1	2063261
7440−43−9	Cadmium	37.5	ug/L	U	37.5	125	125	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−47−3	Chromium	375	ug/L	U	375	1250	1250	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−48−4	Cobalt	37.5	ug/L	U	37.5	125	125	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−50−8	Copper	37.5	ug/L	U	37.5	250	250	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7439−89−6	Iron	600	ug/L	U	600	2000	2000	20	P	HSC	11/19/20 08:06	111920−1	2063261
7439−92−1	Lead	62.5	ug/L	U	62.5	250	250	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7439−96−5	Manganese	40.0	ug/L	U	40.0	200	200	20	P	HSC	11/19/20 08:06	111920−1	2063261
7439−97−6	Mercury	0.0670	ug/L	UN	0.0670	0.200	0.200	1	AV	MTM1	11/20/20 07:35	112020W2−6	2064143
7439−98−7	Molybdenum	825	ug/L		25.0	125	125	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−02−0	Nickel	75.0	ug/L	U	75.0	250	250	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7782−49−2	Selenium	250	ug/L	U	250	625	625	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−22−4	Silver	37.5	ug/L	U	37.5	125	125	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−28−0	Thallium	75.0	ug/L	U	75.0	250	250	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−61−1	Uranium	8.38	ug/L	U	8.38	25.0	25.0	125	MS	BAJ	11/20/20 17:48	201120−2	2063263
7440−66−6	Zinc	80.5	ug/L	J	66.0	400	400	20	P	HSC	11/19/20 08:06	111920−1	2063261

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2063261	2063260	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2063263	2063262	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2064143	2064140	EPA 245.1/245.2 Prep	20	mL	20	mL	11/19/20	AXS5

***Analytical Methods:**

MS **EPA 200.8 5.4 1994**
P **EPA 200.7 4.4 1994**
AV **EPA 245.2 1974**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−130 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527510013 **BASIS:** As Received **DATE COLLECTED** 12−NOV−20

CLIENT ID: SMEB05−20−209983 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439−97−6	Mercury	0.342	ug/L	N	0.0670	0.200	0.200	1	AV	MTM1	11/20/20 07:36	112020W2−6	2064143

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2064143	2064140	EPA 245.1/245.2 Prep	20	mL	20	mL	11/19/20	AXS5

***Analytical Methods:**

AV EPA 245.2 1974

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 2021−130 **CONTRACT:** ESHL00118 **METHOD TYPE:** EPA

SAMPLE ID: 527510014 **BASIS:** As Received **DATE COLLECTED** 12−NOV−20

CLIENT ID: SMEB05−20−209984 **LEVEL:** Low **DATE RECEIVED** 14−NOV−20

MATRIX: W **%SOLIDS:** 0

CAS	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	483	ug/L	U	483	1250	1250	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−36−0	Antimony	25.0	ug/L	U	25.0	75.0	75.0	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−38−2	Arsenic	50.0	ug/L	U	50.0	125	125	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−39−3	Barium	118	ug/L		16.8	100	100	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−41−7	Beryllium	5.00	ug/L	U	5.00	12.5	12.5	25	MS	BAJ	11/20/20 19:40	201120−5	2063263
7440−42−8	Boron	1770	ug/L		15.0	50.0	50.0	1	P	HSC	11/19/20 06:10	111920−1	2063261
7440−43−9	Cadmium	7.50	ug/L	U	7.50	25.0	25.0	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−47−3	Chromium	75.0	ug/L	U	75.0	250	250	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−48−4	Cobalt	7.50	ug/L	U	7.50	25.0	25.0	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−50−8	Copper	7.50	ug/L	U	7.50	50.0	50.0	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7439−89−6	Iron	30.0	ug/L	U	30.0	100	100	1	P	HSC	11/19/20 06:10	111920−1	2063261
7439−92−1	Lead	12.5	ug/L	U	12.5	50.0	50.0	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7439−96−5	Manganese	2.49	ug/L	J	2.00	10.0	10.0	1	P	HSC	11/19/20 06:10	111920−1	2063261
7439−97−6	Mercury	0.0720	ug/L	JN	0.0670	0.200	0.200	1	AV	MTM1	11/20/20 07:38	112020W2−6	2064143
7439−98−7	Molybdenum	214	ug/L		5.00	25.0	25.0	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−02−0	Nickel	18.1	ug/L	J	15.0	50.0	50.0	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7782−49−2	Selenium	50.0	ug/L	U	50.0	125	125	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−22−4	Silver	7.50	ug/L	U	7.50	25.0	25.0	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−28−0	Thallium	15.0	ug/L	U	15.0	50.0	50.0	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−61−1	Uranium	1.68	ug/L	U	1.68	5.00	5.00	25	MS	BAJ	11/20/20 17:01	201120−2	2063263
7440−66−6	Zinc	3.96	ug/L	J	3.30	20.0	20.0	1	P	HSC	11/19/20 06:10	111920−1	2063261

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
2063261	2063260	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2063263	2063262	EPA 200.2	50	mL	50	mL	11/18/20	RG1
2064143	2064140	EPA 245.1/245.2 Prep	20	mL	20	mL	11/19/20	AXS5

***Analytical Methods:**

MS **EPA 200.8 5.4 1994**
P **EPA 200.7 4.4 1994**
AV **EPA 245.2 1974**

Quality Control Summary

METALS
−2a−
Initial and Continuing Calibration Verification

SDG No: 2021−130

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M*	Analysis Date/Time	Run Number
ICV01										
	Boron	518	ug/L	500	ug/L	103.6	95.0 − 105.0	P	19−NOV−20 04:45	111920−1
	Iron	5260	ug/L	5000	ug/L	105.2	95.0 − 105.0 *	P	19−NOV−20 04:45	111920−1
	Manganese	485	ug/L	500	ug/L	97.1	95.0 − 105.0	P	19−NOV−20 04:45	111920−1
	Zinc	481	ug/L	500	ug/L	96.2	95.0 − 105.0	P	19−NOV−20 04:45	111920−1
	Mercury	4.9	ug/L	5	ug/L	97.9	95.0 − 105.0	AV	20−NOV−20 07:17	112020W2−6
	Aluminum	5390	ug/L	5050	ug/L	106.7	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Antimony	48.7	ug/L	50	ug/L	97.3	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Arsenic	49.3	ug/L	50	ug/L	98.7	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Barium	49.6	ug/L	50	ug/L	99.1	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Cadmium	53	ug/L	50	ug/L	105.9	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Chromium	52.5	ug/L	50	ug/L	105	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Cobalt	52.8	ug/L	50	ug/L	105.7	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Copper	51.9	ug/L	50	ug/L	103.8	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Lead	50.8	ug/L	50	ug/L	101.5	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Molybdenum	49.2	ug/L	50	ug/L	98.5	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Nickel	52.8	ug/L	50	ug/L	105.7	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Selenium	52	ug/L	50	ug/L	104	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Silver	51.1	ug/L	50	ug/L	102.2	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Thallium	47.9	ug/L	50	ug/L	95.9	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Uranium	50.9	ug/L	50	ug/L	101.9	90.0 − 110.0	MS	20−NOV−20 15:54	201120−2
	Beryllium	51.3	ug/L	50	ug/L	102.7	90.0 − 110.0	MS	20−NOV−20 19:05	201120−5
CCV01										
	Boron	596	ug/L	500	ug/L	119.2	90.0 − 110.0 *	P	19−NOV−20 05:07	111920−1
	Iron	5200	ug/L	5000	ug/L	104.1	90.0 − 110.0	P	19−NOV−20 05:07	111920−1
	Manganese	486	ug/L	500	ug/L	97.3	90.0 − 110.0	P	19−NOV−20 05:07	111920−1
	Zinc	484	ug/L	500	ug/L	96.8	90.0 − 110.0	P	19−NOV−20 05:07	111920−1
	Mercury	5.11	ug/L	5	ug/L	102.1	90.0 − 110.0	AV	20−NOV−20 07:22	112020W2−6
	Aluminum	5400	ug/L	5050	ug/L	106.9	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Antimony	49.9	ug/L	50	ug/L	99.7	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Arsenic	49.9	ug/L	50	ug/L	99.7	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Barium	49.1	ug/L	50	ug/L	98.1	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2

METALS
−2a−
Initial and Continuing Calibration Verification

SDG No: 2021−130

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M*	Analysis Date/Time	Run Number
	Cadmium	52.1	ug/L	50	ug/L	104.2	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Chromium	52.8	ug/L	50	ug/L	105.6	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Cobalt	53.2	ug/L	50	ug/L	106.4	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Copper	52.9	ug/L	50	ug/L	105.9	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Lead	50.8	ug/L	50	ug/L	101.6	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Molybdenum	50.5	ug/L	50	ug/L	101	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Nickel	52.8	ug/L	50	ug/L	105.6	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Selenium	50.8	ug/L	50	ug/L	101.5	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Silver	51.2	ug/L	50	ug/L	102.3	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Thallium	49.1	ug/L	50	ug/L	98.1	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Uranium	51.4	ug/L	50	ug/L	102.7	90.0 − 110.0	MS	20−NOV−20 16:09	201120−2
	Beryllium	54.3	ug/L	50	ug/L	108.6	90.0 − 110.0	MS	20−NOV−20 19:14	201120−5
CCV02										
	Boron	523	ug/L	500	ug/L	104.5	90.0 − 110.0	P	19−NOV−20 05:18	111920−1
	Iron	5230	ug/L	5000	ug/L	104.7	90.0 − 110.0	P	19−NOV−20 05:18	111920−1
	Manganese	487	ug/L	500	ug/L	97.5	90.0 − 110.0	P	19−NOV−20 05:18	111920−1
	Zinc	485	ug/L	500	ug/L	97	90.0 − 110.0	P	19−NOV−20 05:18	111920−1
	Mercury	5.06	ug/L	5	ug/L	101.1	90.0 − 110.0	AV	20−NOV−20 07:45	112020W2−6
	Aluminum	5440	ug/L	5050	ug/L	107.8	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Antimony	49.6	ug/L	50	ug/L	99.1	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Arsenic	49.4	ug/L	50	ug/L	98.8	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Barium	48.8	ug/L	50	ug/L	97.6	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Cadmium	52	ug/L	50	ug/L	104.1	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Chromium	52	ug/L	50	ug/L	103.9	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Cobalt	51.7	ug/L	50	ug/L	103.4	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Copper	53.4	ug/L	50	ug/L	106.9	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Lead	50.4	ug/L	50	ug/L	100.8	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Molybdenum	51.1	ug/L	50	ug/L	102.1	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Nickel	52.2	ug/L	50	ug/L	104.4	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Selenium	50.9	ug/L	50	ug/L	101.7	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Silver	51.3	ug/L	50	ug/L	102.6	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2

METALS
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Initial and Continuing Calibration Verification

SDG No: 2021−130

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M*	Analysis Date/Time	Run Number
	Thallium	48.8	ug/L	50	ug/L	97.5	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Uranium	51.4	ug/L	50	ug/L	102.7	90.0 − 110.0	MS	20−NOV−20 16:18	201120−2
	Beryllium	51.7	ug/L	50	ug/L	103.4	90.0 − 110.0	MS	20−NOV−20 19:28	201120−5
CCV03										
	Boron	524	ug/L	500	ug/L	104.7	90.0 − 110.0	P	19−NOV−20 05:45	111920−1
	Iron	5140	ug/L	5000	ug/L	102.8	90.0 − 110.0	P	19−NOV−20 05:45	111920−1
	Manganese	485	ug/L	500	ug/L	97.1	90.0 − 110.0	P	19−NOV−20 05:45	111920−1
	Zinc	480	ug/L	500	ug/L	96.1	90.0 − 110.0	P	19−NOV−20 05:45	111920−1
	Mercury	4.8	ug/L	5	ug/L	96	90.0 − 110.0	AV	20−NOV−20 12:23	112020W2−6
	Aluminum	5220	ug/L	5050	ug/L	103.4	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Antimony	50.1	ug/L	50	ug/L	100.2	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Arsenic	50.2	ug/L	50	ug/L	100.4	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Barium	49.3	ug/L	50	ug/L	98.6	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Cadmium	52.6	ug/L	50	ug/L	105.3	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Chromium	51.2	ug/L	50	ug/L	102.4	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Cobalt	50.5	ug/L	50	ug/L	100.9	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Copper	51.9	ug/L	50	ug/L	103.8	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Lead	50.5	ug/L	50	ug/L	101	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Molybdenum	50.2	ug/L	50	ug/L	100.4	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Nickel	51	ug/L	50	ug/L	101.9	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Selenium	50.7	ug/L	50	ug/L	101.4	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Silver	51.6	ug/L	50	ug/L	103.1	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Thallium	49	ug/L	50	ug/L	98	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Uranium	50.8	ug/L	50	ug/L	101.5	90.0 − 110.0	MS	20−NOV−20 16:41	201120−2
	Beryllium	49.6	ug/L	50	ug/L	99.2	90.0 − 110.0	MS	20−NOV−20 19:42	201120−5
CCV04										
	Boron	530	ug/L	500	ug/L	105.9	90.0 − 110.0	P	19−NOV−20 06:20	111920−1
	Iron	4700	ug/L	5000	ug/L	93.9	90.0 − 110.0	P	19−NOV−20 06:20	111920−1
	Manganese	481	ug/L	500	ug/L	96.2	90.0 − 110.0	P	19−NOV−20 06:20	111920−1
	Zinc	479	ug/L	500	ug/L	95.7	90.0 − 110.0	P	19−NOV−20 06:20	111920−1
	Mercury	4.73	ug/L	5	ug/L	94.6	90.0 − 110.0	AV	20−NOV−20 12:41	112020W2−6

METALS
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Initial and Continuing Calibration Verification

SDG No: 2021−130

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M*	Analysis Date/Time	Run Number
	Aluminum	5090	ug/L	5050	ug/L	100.8	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Antimony	48.7	ug/L	50	ug/L	97.5	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Arsenic	49.4	ug/L	50	ug/L	98.9	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Barium	52.5	ug/L	50	ug/L	104.9	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Cadmium	50.4	ug/L	50	ug/L	100.9	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Chromium	50.9	ug/L	50	ug/L	101.7	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Cobalt	52.2	ug/L	50	ug/L	104.4	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Copper	52.7	ug/L	50	ug/L	105.4	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Lead	50.1	ug/L	50	ug/L	100.2	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Molybdenum	49.3	ug/L	50	ug/L	98.6	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Nickel	52.1	ug/L	50	ug/L	104.3	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Selenium	52	ug/L	50	ug/L	104.1	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Silver	50.1	ug/L	50	ug/L	100.2	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Thallium	48.5	ug/L	50	ug/L	97.1	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
	Uranium	50.5	ug/L	50	ug/L	101	90.0 − 110.0	MS	20−NOV−20 17:04	201120−2
CCV05										
	Boron	508	ug/L	500	ug/L	101.6	90.0 − 110.0	P	19−NOV−20 07:52	111920−1
	Iron	5080	ug/L	5000	ug/L	101.6	90.0 − 110.0	P	19−NOV−20 07:52	111920−1
	Manganese	487	ug/L	500	ug/L	97.4	90.0 − 110.0	P	19−NOV−20 07:52	111920−1
	Zinc	483	ug/L	500	ug/L	96.6	90.0 − 110.0	P	19−NOV−20 07:52	111920−1
	Aluminum	4760	ug/L	5050	ug/L	94.2	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Antimony	49.1	ug/L	50	ug/L	98.2	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Arsenic	51	ug/L	50	ug/L	102	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Barium	52.5	ug/L	50	ug/L	105	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Cadmium	51.7	ug/L	50	ug/L	103.4	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Chromium	49.8	ug/L	50	ug/L	99.6	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Cobalt	50.8	ug/L	50	ug/L	101.7	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Copper	51.5	ug/L	50	ug/L	103.1	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Lead	50.7	ug/L	50	ug/L	101.3	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Molybdenum	49.4	ug/L	50	ug/L	98.8	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Nickel	51.5	ug/L	50	ug/L	102.9	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2

METALS
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Initial and Continuing Calibration Verification

SDG No: 2021−130

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M*	Analysis Date/Time	Run Number
	Selenium	54	ug/L	50	ug/L	107.9	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Silver	50.5	ug/L	50	ug/L	101	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Thallium	48.3	ug/L	50	ug/L	96.6	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
	Uranium	50.9	ug/L	50	ug/L	101.8	90.0 − 110.0	MS	20−NOV−20 17:54	201120−2
CCV06										
	Boron	507	ug/L	500	ug/L	101.4	90.0 − 110.0	P	19−NOV−20 08:16	111920−1
	Iron	4770	ug/L	5000	ug/L	95.4	90.0 − 110.0	P	19−NOV−20 08:16	111920−1
	Manganese	485	ug/L	500	ug/L	96.9	90.0 − 110.0	P	19−NOV−20 08:16	111920−1
	Zinc	481	ug/L	500	ug/L	96.3	90.0 − 110.0	P	19−NOV−20 08:16	111920−1

***Analytical Methods:**

MS EPA 200.8 DOE−AL
P EPA 200.7
AV EPA 245.1/245.2

METALS
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CRDL Standard for ICP & ICPMS

SDG No: 2021−130

Contract: ESHL00118 **Lab Code:** GEL

Instrument ID: AVIO1,HG4,ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Advisory Limits (%R)	M*	Analysis Date/Time	Run Number
CRDL01										
	Mercury	.179	ug/L	.2	ug/L	89.5	70.0 − 130.0	AV	20−NOV−20 07:20	112020W2−6
	Aluminum	52.3	ug/L	50	ug/L	104.5	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Arsenic	4.76	ug/L	5	ug/L	95.2	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Barium	4.03	ug/L	4	ug/L	100.9	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Antimony	2.94	ug/L	3	ug/L	97.9	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Cadmium	1.08	ug/L	1	ug/L	108.3	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Cobalt	1.04	ug/L	1	ug/L	103.7	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Lead	2.08	ug/L	2	ug/L	103.8	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Nickel	2.14	ug/L	2	ug/L	106.8	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Uranium	.246	ug/L	.2	ug/L	123	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Thallium	1.94	ug/L	2	ug/L	96.9	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Silver	1.05	ug/L	1	ug/L	105.4	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Selenium	4.92	ug/L	5	ug/L	98.3	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Molybdenum	1.05	ug/L	1	ug/L	104.7	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Copper	2.08	ug/L	2	ug/L	104	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Chromium	10.3	ug/L	10	ug/L	102.6	70.0 − 130.0	MS	20−NOV−20 16:00	201120−2
	Beryllium	.537	ug/L	.5	ug/L	107.4	70.0 − 130.0	MS	20−NOV−20 19:08	201120−5
PQL01										
	Boron	70.1	ug/L	50	ug/L	140.1	70.0 − 130.0	P	19−NOV−20 04:51	111920−1
	Iron	98.2	ug/L	100	ug/L	98.2	70.0 − 130.0	P	19−NOV−20 04:51	111920−1
	Manganese	11.2	ug/L	10	ug/L	112.1	70.0 − 130.0	P	19−NOV−20 04:51	111920−1
	Zinc	23.7	ug/L	20	ug/L	118.3	70.0 − 130.0	P	19−NOV−20 04:51	111920−1

***Analytical Methods:**

MS	**EPA 200.8 DOE−AL**
P	**EPA 200.7**
AV	**EPA 245.1/245.2**

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 2021−130

Contract: ESHL00118

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
ICB01										
	Boron	15.0	+/−50	U	15.0	50.0	LIQ	P	19−NOV−20 04:47	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 04:47	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 04:47	111920−1
	Zinc	3.3	+/−20	U	3.3	20.0	LIQ	P	19−NOV−20 04:47	111920−1
	Mercury	0.067	+/−.2	U	0.067	0.2	LIQ	AV	20−NOV−20 07:18	112020W2−6
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Molybdenum	0.2	+/−1	U	0.2	1.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 15:57	201120−2
	Uranium	0.067	+/−.2	U	0.067	0.2	LIQ	MS	20−NOV−20 15:57	201120−2
	Beryllium	0.2	+/−.5	U	0.2	0.5	LIQ	MS	20−NOV−20 19:07	201120−5
CCB01										
	Boron	63.66	+/−50		15.0	50.0	LIQ	P	19−NOV−20 05:09	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 05:09	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 05:09	111920−1
	Zinc	4.03	+/−20	J	3.3	20.0	LIQ	P	19−NOV−20 05:09	111920−1
	Mercury	0.067	+/−.2	U	0.067	0.2	LIQ	AV	20−NOV−20 07:24	112020W2−6
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 16:12	201120−2

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 2021−130

Contract: ESHL00118

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Molybdenum	0.387	+/−1	J	0.2	1.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:12	201120−2
	Uranium	0.067	+/−.2	U	0.067	0.2	LIQ	MS	20−NOV−20 16:12	201120−2
	Beryllium	0.2	+/−.5	U	0.2	0.5	LIQ	MS	20−NOV−20 19:15	201120−5
CCB02										
	Boron	27.46	+/−50	J	15.0	50.0	LIQ	P	19−NOV−20 05:21	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 05:21	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 05:21	111920−1
	Zinc	3.3	+/−20	U	3.3	20.0	LIQ	P	19−NOV−20 05:21	111920−1
	Mercury	0.067	+/−.2	U	0.067	0.2	LIQ	AV	20−NOV−20 07:47	112020W2−6
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Molybdenum	0.316	+/−1	J	0.2	1.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:20	201120−2

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 2021−130

Contract: ESHL00118

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:20	201120−2
	Uranium	0.153	+/−.2	J	0.067	0.2	LIQ	MS	20−NOV−20 16:20	201120−2
	Beryllium	0.2	+/−.5	U	0.2	0.5	LIQ	MS	20−NOV−20 19:29	201120−5
CCB03										
	Boron	24.71	+/−50	J	15.0	50.0	LIQ	P	19−NOV−20 05:47	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 05:47	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 05:47	111920−1
	Zinc	3.3	+/−20	U	3.3	20.0	LIQ	P	19−NOV−20 05:47	111920−1
	Mercury	0.067	+/−.2	U	0.067	0.2	LIQ	AV	20−NOV−20 12:25	112020W2−6
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Molybdenum	0.2	+/−1	U	0.2	1.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 16:44	201120−2
	Uranium	0.067	+/−.2	U	0.067	0.2	LIQ	MS	20−NOV−20 16:44	201120−2
	Beryllium	0.2	+/−.5	U	0.2	0.5	LIQ	MS	20−NOV−20 19:43	201120−5
CCB04										
	Boron	30.49	+/−50	J	15.0	50.0	LIQ	P	19−NOV−20 06:23	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 06:23	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 06:23	111920−1
	Zinc	3.3	+/−20	U	3.3	20.0	LIQ	P	19−NOV−20 06:23	111920−1
	Mercury	0.067	+/−.2	U	0.067	0.2	LIQ	AV	20−NOV−20 12:43	112020W2−6

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 2021−130

Contract: ESHL00118

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Molybdenum	0.2	+/−1	U	0.2	1.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 17:07	201120−2
	Uranium	0.067	+/−.2	U	0.067	0.2	LIQ	MS	20−NOV−20 17:07	201120−2
CCB05										
	Boron	15.81	+/−50	J	15.0	50.0	LIQ	P	19−NOV−20 07:54	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 07:54	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 07:54	111920−1
	Zinc	3.3	+/−20	U	3.3	20.0	LIQ	P	19−NOV−20 07:54	111920−1
	Aluminum	19.3	+/−50	U	19.3	50.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Antimony	1.0	+/−3	U	1.0	3.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Arsenic	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Barium	0.67	+/−4	U	0.67	4.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Cadmium	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Chromium	3.0	+/−10	U	3.0	10.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Cobalt	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Copper	0.3	+/−2	U	0.3	2.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Lead	0.5	+/−2	U	0.5	2.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Molybdenum	0.2	+/−1	U	0.2	1.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Nickel	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 17:57	201120−2

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 2021−130

Contract: ESHL00118

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M*	Analysis Date/Time	Run
	Selenium	2.0	+/−5	U	2.0	5.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Silver	0.3	+/−1	U	0.3	1.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Thallium	0.6	+/−2	U	0.6	2.0	LIQ	MS	20−NOV−20 17:57	201120−2
	Uranium	0.067	+/−.2	U	0.067	0.2	LIQ	MS	20−NOV−20 17:57	201120−2
CCB06										
	Boron	18.44	+/−50	J	15.0	50.0	LIQ	P	19−NOV−20 08:18	111920−1
	Iron	30.0	+/−100	U	30.0	100	LIQ	P	19−NOV−20 08:18	111920−1
	Manganese	2.0	+/−10	U	2.0	10.0	LIQ	P	19−NOV−20 08:18	111920−1
	Zinc	3.3	+/−20	U	3.3	20.0	LIQ	P	19−NOV−20 08:18	111920−1

***Analytical Methods:**

MS	**EPA 200.8 DOE−AL**
P	**EPA 200.7**
AV	**EPA 245.1/245.2**

METALS
−3b−
PREPARATION BLANK SUMMARY

SDG NO. 2021−130
Contract: ESHL00118
Matrix: W

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M*	MDL	RDL
1204695446								
	Boron	20.9	ug/L	+/−50	J	P	15.0	50.0
	Iron	30.0	ug/L	+/−100	U	P	30.0	100
	Manganese	2.00	ug/L	+/−10	U	P	2.00	10.0
	Zinc	3.30	ug/L	+/−20	U	P	3.30	20.0
1204695451								
	Aluminum	61.1	ug/L	+/−50		MS	19.3	50.0
	Beryllium	0.200	ug/L	+/−0.5	U	MS	0.200	0.500
	Chromium	3.00	ug/L	+/−10	U	MS	3.00	10.0
	Copper	0.300	ug/L	+/−2	U	MS	0.300	2.00
	Molybdenum	0.200	ug/L	+/−1	U	MS	0.200	1.00
	Uranium	0.0700	ug/L	+/−0.2	J	MS	0.0670	0.200
	Thallium	0.600	ug/L	+/−2	U	MS	0.600	2.00
	Silver	0.300	ug/L	+/−1	U	MS	0.300	1.00
	Selenium	2.00	ug/L	+/−5	U	MS	2.00	5.00
	Nickel	0.600	ug/L	+/−2	U	MS	0.600	2.00
	Lead	0.500	ug/L	+/−2	U	MS	0.500	2.00
	Cobalt	0.300	ug/L	+/−1	U	MS	0.300	1.00
	Cadmium	0.300	ug/L	+/−1	U	MS	0.300	1.00
	Barium	0.670	ug/L	+/−4	U	MS	0.670	4.00
	Antimony	1.00	ug/L	+/−3	U	MS	1.00	3.00
	Arsenic	2.00	ug/L	+/−5	U	MS	2.00	5.00
1204697398								
	Mercury	0.0670	ug/L	+/−0.2	U	AV	0.0670	0.200

***Analytical Methods:**

MS	**EPA 200.8 DOE−AL**
P	**EPA 200.7**
AV	**EPA 245.1/245.2**

METALS
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Interference Check Sample

SDG No: 2021−130

Contract: ESHL00118 **Lab Code:** GEL

Instrument: AVIO1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Boron	32.0	ug/L					19−NOV−20 04:54	111920−1
	Iron	200000	ug/L	200000	ug/L	99.8	80.0 − 120.0	19−NOV−20 04:54	111920−1
	Manganese	−2.89	ug/L					19−NOV−20 04:54	111920−1
	Zinc	1.56	ug/L					19−NOV−20 04:54	111920−1
ICSAB01									
	Boron	519	ug/L	500	ug/L	104	80.0 − 120.0	19−NOV−20 04:57	111920−1
	Iron	200000	ug/L	200000	ug/L	100	80.0 − 120.0	19−NOV−20 04:57	111920−1
	Manganese	455	ug/L	500	ug/L	91	80.0 − 120.0	19−NOV−20 04:57	111920−1
	Zinc	482	ug/L	500	ug/L	96.4	80.0 − 120.0	19−NOV−20 04:57	111920−1
ICSA02									
	Boron	39.7	ug/L					19−NOV−20 06:14	111920−1
	Iron	195000	ug/L	200000	ug/L	97.7	80.0 − 120.0	19−NOV−20 06:14	111920−1
	Manganese	−2.57	ug/L					19−NOV−20 06:14	111920−1
	Zinc	1.13	ug/L					19−NOV−20 06:14	111920−1
ICSAB02									
	Boron	509	ug/L	500	ug/L	102	80.0 − 120.0	19−NOV−20 06:17	111920−1
	Iron	192000	ug/L	200000	ug/L	96.2	80.0 − 120.0	19−NOV−20 06:17	111920−1
	Manganese	449	ug/L	500	ug/L	89.9	80.0 − 120.0	19−NOV−20 06:17	111920−1
	Zinc	474	ug/L	500	ug/L	94.9	80.0 − 120.0	19−NOV−20 06:17	111920−1
ICSA03									
	Boron	58.8	ug/L					19−NOV−20 08:10	111920−1
	Iron	196000	ug/L	200000	ug/L	97.8	80.0 − 120.0	19−NOV−20 08:10	111920−1
	Manganese	−2.68	ug/L					19−NOV−20 08:10	111920−1
	Zinc	2.35	ug/L					19−NOV−20 08:10	111920−1
ICSAB03									
	Boron	540	ug/L	500	ug/L	108	80.0 − 120.0	19−NOV−20 08:13	111920−1
	Iron	197000	ug/L	200000	ug/L	98.6	80.0 − 120.0	19−NOV−20 08:13	111920−1
	Manganese	452	ug/L	500	ug/L	90.3	80.0 − 120.0	19−NOV−20 08:13	111920−1
	Zinc	480	ug/L	500	ug/L	96.1	80.0 − 120.0	19−NOV−20 08:13	111920−1

METALS
−4−
Interference Check Sample

SDG No: 2021−130

Contract: ESHL00118 **Lab Code:** GEL

Instrument: ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Aluminum	97000	ug/L	100000	ug/L	97	80.0 − 120.0	20−NOV−20 16:03	201120−2
	Antimony	0.048	ug/L					20−NOV−20 16:03	201120−2
	Arsenic	0.261	ug/L					20−NOV−20 16:03	201120−2
	Barium	2.68	ug/L					20−NOV−20 16:03	201120−2
	Cadmium	0.514	ug/L					20−NOV−20 16:03	201120−2
	Chromium	0.75	ug/L					20−NOV−20 16:03	201120−2
	Cobalt	0.471	ug/L					20−NOV−20 16:03	201120−2
	Copper	0.183	ug/L					20−NOV−20 16:03	201120−2
	Lead	0.212	ug/L					20−NOV−20 16:03	201120−2
	Molybdenum	2060	ug/L	2000	ug/L	103	80.0 − 120.0	20−NOV−20 16:03	201120−2
	Nickel	0.352	ug/L					20−NOV−20 16:03	201120−2
	Selenium	0.328	ug/L					20−NOV−20 16:03	201120−2
	Silver	0.127	ug/L					20−NOV−20 16:03	201120−2
	Thallium	0.049	ug/L					20−NOV−20 16:03	201120−2
	Uranium	0.028	ug/L					20−NOV−20 16:03	201120−2
ICSAB01									
	Aluminum	100000	ug/L	100000	ug/L	100	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Antimony	18.6	ug/L	20	ug/L	93.2	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Arsenic	20.2	ug/L	20	ug/L	101	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Barium	22.7	ug/L	22.35	ug/L	102	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Cadmium	19.8	ug/L	20.72	ug/L	95.5	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Chromium	20.7	ug/L	20	ug/L	103	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Cobalt	19.3	ug/L	20.65	ug/L	93.4	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Copper	17.7	ug/L	20	ug/L	88.3	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Lead	19.4	ug/L	20	ug/L	97.2	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Molybdenum	2080	ug/L	2000	ug/L	104	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Nickel	18.1	ug/L	20	ug/L	90.6	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Selenium	19.8	ug/L	20	ug/L	99	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Silver	18.7	ug/L	20	ug/L	93.3	80.0 − 120.0	20−NOV−20 16:06	201120−2
	Thallium	19.0	ug/L	20	ug/L	95.2	80.0 − 120.0	20−NOV−20 16:06	201120−2

METALS
−4−
Interference Check Sample

SDG No: 2021−130

Contract: ESHL00118 **Lab Code:** GEL

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
	Uranium	21.8	ug/L	20	ug/L	109	80.0 − 120.0	20−NOV−20 16:06	201120−2

METALS
−4−
Interference Check Sample

SDG No: 2021−130

Contract: ESHL00118 **Lab Code:** GEL

Instrument: ICPMS14

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Beryllium	0.004	ug/L					20−NOV−20 19:10	201120−5
ICSAB01									
	Beryllium	19.3	ug/L	20	ug/L	96.5	80.0 − 120.0	20−NOV−20 19:12	201120−5

METALS
−5a−

Matrix Spike Summary

SDG NO. 2021−130 **Client ID** SMEB01−20−209971S

Contract: ESHL00118 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 527509002 **Spike ID:** 1204695449

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Boron	ug/L		3590		3270		500	64.3	N/A	P
Iron	ug/L	75−125	3960		30.0	U	5000	78.7		P
Manganese	ug/L	75−125	419		2.00	U	500	83.5		P
Zinc	ug/L	75−125	630		8.74	J	500	124		P

***Analytical Methods:**

P **EPA 200.7**

METALS
−5a−

Matrix Spike Summary

SDG NO. 2021−130 **Client ID** SMEB01−20−209971S

Contract: ESHL00118 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 527509002 **Spike ID:** 1204695454

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Antimony	ug/L	75−125	53.2	J	25.0	U	50.0	85.4		MS
Aluminum	ug/L	75−125	1920		483	U	2000	91.3		MS
Arsenic	ug/L	75−125	100	U	100	U	50.0	0	N	MS
Barium	ug/L	75−125	179		132		50.0	94.6		MS
Beryllium	ug/L	75−125	42.3		5.00	U	50.0	84.1		MS
Cadmium	ug/L	75−125	40.5		7.50	U	50.0	80.9		MS
Chromium	ug/L	75−125	75.0	U	75.0	U	50.0	0	N	MS
Cobalt	ug/L	75−125	44.1		7.50	U	50.0	85.2		MS
Copper	ug/L	75−125	46.4	J	9.80	J	50.0	73.3	N	MS
Lead	ug/L	75−125	40.3	J	12.5	U	50.0	79.2		MS
Molybdenum	ug/L		326		285		50.0	83.2	N/A	MS
Nickel	ug/L	75−125	59.2		19.9	J	50.0	78.7		MS
Selenium	ug/L	75−125	100	U	100	U	50.0	0	N	MS
Silver	ug/L	75−125	41.6		7.50	U	50.0	83.1		MS
Thallium	ug/L	75−125	39.2	J	15.0	U	50.0	74	N	MS
Uranium	ug/L	75−125	48.8		2.03	J	50.0	93.5		MS

***Analytical Methods:**

MS EPA 200.8 DOE−AL

METALS
−5a−

Matrix Spike Summary

SDG NO. 2021−130 **Client ID** SMEB03−20−209977S

Contract: ESHL00118 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 527510001 **Spike ID:** 1204697401

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Mercury	ug/L	75−125	13.9		0.670	U	20.0	69.3	N	AV

***Analytical Methods:**

AV **EPA 245.1/245.2**

METALS
−5a−

Spike Summary

SDG NO. 2021−130 **Client ID** SMEB03−20−209977PS

Contract: ESHL00118 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 527510001 **Spike ID:** 1204697403

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M*
Mercury	ug/L	80−120	1.31		0.670	U	2.00	65.4	N	AV

***Analytical Methods:**

AV **EPA 245.1/245.2**

Metals
−6−
Duplicate Sample Summary

SDG No.: 2021−130 **Lab Code:** GEL

Contract: ESHL00118 **Client ID:** SMEB01−20−209971D

Matrix: WATER **Level:** Low

Sample ID: 527509002 **Duplicate ID:** 1204695448 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Boron	ug/L	+/−20%	3270		3310		1.29		P
Iron	ug/L		30.0	U	30.0	U			P
Manganese	ug/L		2.00	U	2.00	U			P
Zinc	ug/L	+/−20	8.74	J	7.40	J	16.5		P

***Analytical Methods:**
P EPA 200.7

Metals
−6−
Duplicate Sample Summary

SDG No.: 2021−130 **Lab Code:** GEL

Contract: ESHL00118 **Client ID:** SMEB01−20−209971D

Matrix: WATER **Level:** Low

Sample ID: 527509002 **Duplicate ID:** 1204695453 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Aluminum	ug/L		483	U	483	U			MS
Antimony	ug/L		25.0	U	25.0	U			MS
Arsenic	ug/L		100	U	100	U			MS
Barium	ug/L	+/−100	132		131		.684		MS
Beryllium	ug/L		5.00	U	5.00	U			MS
Cadmium	ug/L		7.50	U	7.50	U			MS
Chromium	ug/L		75.0	U	75.0	U			MS
Cobalt	ug/L		7.50	U	7.50	U			MS
Copper	ug/L	+/−50	9.80	J	9.40	J	4.17		MS
Lead	ug/L		12.5	U	12.5	U			MS
Molybdenum	ug/L	+/−20%	285		285		.0615		MS
Nickel	ug/L	+/−50	19.9	J	19.7	J	.884		MS
Selenium	ug/L		100	U	100	U			MS
Silver	ug/L		7.50	U	7.50	U			MS
Thallium	ug/L		15.0	U	15.0	U			MS
Uranium	ug/L		2.03	J	1.68	U	200		MS

***Analytical Methods:**
MS EPA 200.8 DOE−AL

Metals
−6−
Duplicate Sample Summary

SDG No.: 2021−130 **Lab Code:** GEL

Contract: ESHL00118 **Client ID:** SMEB03−20−209977D

Matrix: WATER **Level:** Low

Sample ID: 527510001 **Duplicate ID:** 1204697400 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M*
Mercury	ug/L		0.670	U	0.670	U			AV

***Analytical Methods:**
AV EPA 245.1/245.2

METALS
−7−
Laboratory Control Sample Summary

SDG NO. 2021−130

Contract: ESHL00118

Aqueous LCS Source: Inorganic Ventures **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M*
1204695447								
	Boron	ug/L	500	518		104	85−115	P
	Iron	ug/L	5000	5120		102	85−115	P
	Manganese	ug/L	500	475		95.1	85−115	P
	Zinc	ug/L	500	466		93.2	85−115	P

***Analytical Methods:**

P **EPA 200.7**

METALS
−7−
Laboratory Control Sample Summary

SDG NO. 2021−130

Contract: ESHL00118

Aqueous LCS Source: Inorganic Ventures **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M*
1204695452								
	Antimony	ug/L	50.0	49.0		98.1	85−115	MS
	Aluminum	ug/L	2000	2180		109	85−115	MS
	Arsenic	ug/L	50.0	49.0		97.9	85−115	MS
	Barium	ug/L	50.0	49.5		98.9	85−115	MS
	Beryllium	ug/L	50.0	54.3		109	85−115	MS
	Cadmium	ug/L	50.0	51.8		104	85−115	MS
	Chromium	ug/L	50.0	52.7		105	85−115	MS
	Cobalt	ug/L	50.0	52.1		104	85−115	MS
	Copper	ug/L	50.0	52.5		105	85−115	MS
	Lead	ug/L	50.0	51.1		102	85−115	MS
	Molybdenum	ug/L	50.0	50.2		100	85−115	MS
	Nickel	ug/L	50.0	53.3		107	85−115	MS
	Selenium	ug/L	50.0	51.0		102	85−115	MS
	Silver	ug/L	50.0	51.9		104	85−115	MS
	Thallium	ug/L	50.0	48.8		97.6	85−115	MS
	Uranium	ug/L	50.0	51.2		102	85−115	MS

***Analytical Methods:**

MS **EPA 200.8 DOE−AL**

METALS
−7−
Laboratory Control Sample Summary

SDG NO. 2021−130

Contract: ESHL00118

Aqueous LCS Source: GEL **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M*
1204697399								
	Mercury	ug/L	2.00	2.23		112	85−115	AV

***Analytical Methods:**

AV **EPA 245.1/245.2**

METALS
−9−
Serial Dilution Sample Summary

SDG NO. 2021−130 **Client ID** SMEB01−20−209971L

Contract: ESHL00118

Matrix: LIQUID **Level:** Low

Sample ID: 527509002 **Serial Dilution ID:** 1204695450

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Boron	3270		2980		8.893		10	P
Iron	30	U	150	U				P
Manganese	2	U	10	U				P
Zinc	8.74	J	27.1	J	209.649			P

***Analytical Methods:**

P **EPA 200.7**

METALS
−9−
Serial Dilution Sample Summary

SDG NO. 2021−130 **Client ID** SMEB01−20−209971L

Contract: ESHL00118

Matrix: LIQUID **Level:** Low

Sample ID: 527509002 **Serial Dilution ID:** 1204695455

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Aluminum	19.3	U	96.5	U				MS
Antimony	1	U	5	U				MS
Arsenic	2	U	10	U				MS
Barium	5.28		5.64	J	6.838			MS
Beryllium	.2	U	1	U				MS
Cadmium	.3	U	1.5	U				MS
Chromium	3	U	15	U				MS
Cobalt	.3	U	1.5	U				MS
Copper	.392	J	1.5	U	33.929			MS
Lead	.5	U	2.5	U				MS
Molybdenum	11.4		11.5		.571			MS
Nickel	.795	J	3	U	2.516			MS
Selenium	2	U	10	U				MS
Silver	.3	U	1.5	U				MS
Thallium	.6	U	3	U				MS
Uranium	.081	J	.335	U	48.148			MS

***Analytical Methods:**

MS **EPA 200.8 DOE−AL**

METALS
−9−
Serial Dilution Sample Summary

SDG NO. 2021−130 **Client ID** SMEB03−20−209977L

Contract: ESHL00118

Matrix: LIQUID **Level:** Low

Sample ID: 527510001 **Serial Dilution ID:** 1204697402

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M*
Mercury	.067	U	.335	U				AV

***Analytical Methods:**

AV **EPA 245.1/245.2**

METALS
−13−
SAMPLE PREPARATION SUMMARY

SDG No: 2021−130 **Method Type:** P

Contract: ESHL00118 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 2063260							
1204695446	MB for batch 2063260	MB	W	18−NOV−20	50mL	50mL	
1204695447	LCS for batch 2063260	LCS	W	18−NOV−20	50mL	50mL	
1204695449	SMEB01−20−209971S	MS	W	18−NOV−20	50mL	50mL	
1204695448	SMEB01−20−209971D	DUP	W	18−NOV−20	50mL	50mL	
527510002	SMEB03−20−209978	SAMPLE	W	18−NOV−20	50mL	50mL	
527510008	SMEB04−20−209981	SAMPLE	W	18−NOV−20	50mL	50mL	
527510012	SMEB04−20−209997	SAMPLE	W	18−NOV−20	50mL	50mL	
527510014	SMEB05−20−209984	SAMPLE	W	18−NOV−20	50mL	50mL	

METALS
−13−
SAMPLE PREPARATION SUMMARY

SDG No: 2021−130 **Method Type:** MS

Contract: ESHL00118 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 2063262							
1204695451	MB for batch 2063262	MB	W	18−NOV−20	50mL	50mL	
1204695452	LCS for batch 2063262	LCS	W	18−NOV−20	50mL	50mL	
1204695454	SMEB01−20−209971S	MS	W	18−NOV−20	50mL	50mL	
1204695453	SMEB01−20−209971D	DUP	W	18−NOV−20	50mL	50mL	
527510002	SMEB03−20−209978	SAMPLE	W	18−NOV−20	50mL	50mL	
527510008	SMEB04−20−209981	SAMPLE	W	18−NOV−20	50mL	50mL	
527510012	SMEB04−20−209997	SAMPLE	W	18−NOV−20	50mL	50mL	
527510014	SMEB05−20−209984	SAMPLE	W	18−NOV−20	50mL	50mL	

METALS
−13−
SAMPLE PREPARATION SUMMARY

SDG No: 2021−130 **Method Type:** AV

Contract: ESHL00118 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 2064140							
1204697398	MB for batch 2064140	MB	W	19−NOV−20	20mL	20mL	
1204697399	LCS for batch 2064140	LCS	W	19−NOV−20	20mL	20mL	
1204697401	SMEB03−20−209977S	MS	W	19−NOV−20	2mL	20mL	
1204697400	SMEB03−20−209977D	DUP	W	19−NOV−20	2mL	20mL	
527510001	SMEB03−20−209977	SAMPLE	W	19−NOV−20	2mL	20mL	
527510002	SMEB03−20−209978	SAMPLE	W	19−NOV−20	2mL	20mL	
527510007	SMEB04−20−209980	SAMPLE	W	19−NOV−20	20mL	20mL	
527510008	SMEB04−20−209981	SAMPLE	W	19−NOV−20	20mL	20mL	
527510012	SMEB04−20−209997	SAMPLE	W	19−NOV−20	20mL	20mL	
527510013	SMEB05−20−209983	SAMPLE	W	19−NOV−20	20mL	20mL	
527510014	SMEB05−20−209984	SAMPLE	W	19−NOV−20	20mL	20mL	

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-130

Inst Name: HG4 **Instrument Type:** AV

Start Date: 20-NOV-20 **End Date:** 20-NOV-20 **Data File:** 112020W2-6

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
S0.0	1	07:06:00														X							
S0.2	1	07:08:00														X							
S0.5	1	07:10:00														X							
S2.0	1	07:11:00														X							
S5.0	1	07:13:00														X							
S10.0	1	07:15:00														X							
ICV01	1	07:17:00														X							
ICB01	1	07:18:00														X							
CRDL01	1	07:20:00														X							
CCV01	1	07:22:00														X							
CCB01	1	07:24:00														X							
1204697398	1	07:28:00														X							
1204697399	1	07:29:00														X							
527510007	1	07:31:00														X							
527510008	1	07:33:00														X							
527510012	1	07:35:00														X							
527510013	1	07:36:00														X							
527510014	1	07:38:00														X							
ZZZZZZ	1	07:40:00																					
ZZZZZZ	1	07:42:00																					
ZZZZZZ	1	07:43:00																					
CCV02	1	07:45:00														X							
CCB02	1	07:47:00														X							
ZZZZZZ	1	07:49:00																					
ZZZZZZ	1	07:50:00																					
ZZZZZZ	5	07:52:00																					
ZZZZZZ	1	07:54:00																					
ZZZZZZ	1	07:56:00																					
ZZZZZZ	1	07:57:00																					
ZZZZZZ	1	07:59:00																					
ZZZZZZ	1	08:01:00																					
ZZZZZZ	1	08:03:00																					
ZZZZZZ	1	08:04:00																					
CCV	1	08:06:00														X							
CCB	1	08:08:00														X							
ZZZZZZ	1	08:10:00																					
ZZZZZZ	1	08:11:00																					
ZZZZZZ	1	08:13:00																					
ZZZZZZ	1	08:15:00																					
ZZZZZZ	1	08:17:00																					
ZZZZZZ	1	08:18:00																					

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-130

Inst Name: HG4 **Instrument Type:** AV

Start Date: 20-NOV-20 **End Date:** 20-NOV-20 **Data File:** 112020W2-6

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
CCV	1	08:21:00														X							
CCB	1	08:22:00														X							
ZZZZZZ	1	08:24:00																					
ZZZZZZ	5	08:26:00																					
ZZZZZZ	1	08:28:00																					
ZZZZZZ	1	08:29:00																					
ZZZZZZ	1	08:31:00																					
ZZZZZZ	1	08:33:00																					
ZZZZZZ	1	08:35:00																					
ZZZZZZ	1	08:36:00																					
ZZZZZZ	1	08:38:00																					
ZZZZZZ	1	08:40:00																					
CCV	1	08:42:00														X							
CCB	1	08:43:00														X							
ZZZZZZ	1	08:45:00																					
ZZZZZZ	1	08:47:00																					
ZZZZZZ	1	08:48:00																					
ZZZZZZ	1	08:50:00																					
ZZZZZZ	1	08:52:00																					
ZZZZZZ	1	08:53:00																					
ZZZZZZ	5	08:55:00																					
ZZZZZZ	1	08:57:00																					
ZZZZZZ	1	08:58:00																					
ZZZZZZ	1	09:00:00																					
CCV	1	09:02:00														X							
CCB	1	09:03:00														X							
ZZZZZZ	1	09:05:00																					
ZZZZZZ	1	09:07:00																					
ZZZZZZ	1	09:08:00																					
ZZZZZZ	1	09:10:00																					
ZZZZZZ	1	09:12:00																					
ZZZZZZ	1	09:13:00																					
ZZZZZZ	1	09:15:00																					
ZZZZZZ	1	09:17:00																					
ZZZZZZ	1	09:18:00																					
ZZZZZZ	1	09:20:00																					
CCV	1	09:22:00														X							
CCB	1	09:24:00														X							
ZZZZZZ	1	09:25:00																					
ZZZZZZ	1	09:27:00																					
ZZZZZZ	1	09:29:00																					

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-130

Inst Name: HG4 **Instrument Type:** AV

Start Date: 20-NOV-20 **End Date:** 20-NOV-20 **Data File:** 112020W2-6

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
ZZZZZZ	1	09:30:00																					
ZZZZZZ	1	09:32:00																					
ZZZZZZ	1	09:34:00																					
CCV	1	09:36:00														X							
CCB	1	09:38:00														X							
ZZZZZZ	1	09:40:00																					
ZZZZZZ	1	09:42:00																					
ZZZZZZ	1	09:43:00																					
ZZZZZZ	1	09:45:00																					
ZZZZZZ	5	09:47:00																					
ZZZZZZ	1	09:49:00																					
ZZZZZZ	1	09:50:00																					
ZZZZZZ	1	09:52:00																					
ZZZZZZ	1	09:54:00																					
ZZZZZZ	1	09:56:00																					
CCV	1	09:57:00														X							
CCB	1	09:59:00														X							
ZZZZZZ	1	10:01:00																					
ZZZZZZ	1	10:03:00																					
ZZZZZZ	1	10:05:00																					
ZZZZZZ	5	10:06:00																					
ZZZZZZ	1	10:08:00																					
ZZZZZZ	1	10:10:00																					
ZZZZZZ	1	10:12:00																					
ZZZZZZ	1	10:13:00																					
ZZZZZZ	1	10:15:00																					
ZZZZZZ	1	10:17:00																					
CCV	1	10:19:00														X							
CCB	1	10:20:00														X							
ZZZZZZ	1	10:22:00																					
ZZZZZZ	1	10:24:00																					
ZZZZZZ	1	10:26:00																					
ZZZZZZ	1	10:27:00																					
ZZZZZZ	5	10:29:00																					
ZZZZZZ	1	10:31:00																					
ZZZZZZ	1	10:33:00																					
ZZZZZZ	1	10:35:00																					
ZZZZZZ	1	10:36:00																					
ZZZZZZ	1	10:38:00																					
CCV	1	10:40:00														X							
CCB	1	10:42:00														X							

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-130

Inst Name: HG4 **Instrument Type:** AV

Start Date: 20-NOV-20 **End Date:** 20-NOV-20 **Data File:** 112020W2-6

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
ZZZZZZ	1	10:43:00																					
ZZZZZZ	1	10:45:00																					
ZZZZZZ	1	10:47:00																					
ZZZZZZ	1	10:49:00																					
ZZZZZZ	1	10:51:00																					
ZZZZZZ	1	10:52:00																					
ZZZZZZ	1	10:54:00																					
ZZZZZZ	1	10:56:00																					
ZZZZZZ	1	10:58:00																					
ZZZZZZ	1	10:59:00																					
CCV	1	11:01:00														X							
CCB	1	11:03:00														X							
ZZZZZZ	1	11:05:00																					
ZZZZZZ	1	11:06:00																					
ZZZZZZ	1	11:08:00																					
ZZZZZZ	1	11:10:00																					
ZZZZZZ	5	11:12:00																					
ZZZZZZ	1	11:14:00																					
ZZZZZZ	1	11:15:00																					
ZZZZZZ	1	11:17:00																					
ZZZZZZ	1	11:19:00																					
ZZZZZZ	1	11:21:00																					
CCV	1	11:23:00														X							
CCB	1	11:24:00														X							
ZZZZZZ	1	11:26:00																					
ZZZZZZ	1	11:28:00																					
ZZZZZZ	5	11:30:00																					
ZZZZZZ	1	11:31:00																					
ZZZZZZ	1	11:33:00																					
ZZZZZZ	1	11:35:00																					
ZZZZZZ	1	11:37:00																					
ZZZZZZ	1	11:39:00																					
ZZZZZZ	5	11:40:00																					
ZZZZZZ	1	11:42:00																					
CCV	1	11:44:00														X							
CCB	1	11:46:00														X							
ZZZZZZ	1	11:47:00																					
ZZZZZZ	1	11:49:00																					
CCV	1	11:51:00														X							
CCB	1	11:53:00														X							
CCV	1	11:57:00														X							

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-130

Inst Name: HG4 **Instrument Type:** AV

Start Date: 20-NOV-20 **End Date:** 20-NOV-20 **Data File:** 112020W2-6

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
CCB	1	11:59:00														X							
ZZZZZZ	1	12:00:00																					
ZZZZZZ	10	12:02:00																					
ZZZZZZ	10	12:04:00																					
CCV	1	12:06:00														X							
CCB	1	12:08:00														X							
CCV	1	12:15:00														X							
CCB	1	12:16:00														X							
CCV	1	12:18:00														X							
CCB	1	12:20:00														X							
ZZZZZZ	1	12:22:00																					
CCV03	1	12:23:00														X							
CCB03	1	12:25:00														X							
527510001	1	12:30:00														X							
1204697400	1	12:32:00														X							
1204697401	1	12:33:00														X							
1204697402	5	12:35:00														X							
1204697403	1	12:37:00														X							
527510002	1	12:38:00														X							
CCV04	1	12:41:00														X							
CCB04	1	12:43:00														X							

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-130

Inst Name: AVIO1 **Instrument Type:** P

Start Date: 19-NOV-20 **End Date:** 19-NOV-20 **Data File:** 111920-1

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
S0.0	1	04:32:35						X					X		X								X
S0.1	1	04:36:50						X							X								X
S0.5	1	04:39:08						X							X								X
SCAL	1	04:41:32						X					X		X								X
S10	1	04:44:05											X										
ICV01	1	04:45:26						X					X		X								X
ICB01	1	04:47:59						X					X		X								X
PQL01	1	04:51:26						X					X		X								X
ICSA01	1	04:54:55						X					X		X								X
ICSAB01	1	04:57:58						X					X		X								X
LR01	1	05:00:53						X					X		X								X
LR02	1	05:04:00						X					X		X								X
CCV01	1	05:07:26						X					X		X								X
CCB01	1	05:09:59						X					X		X								X
CCV02	1	05:18:46						X					X		X								X
CCB02	1	05:21:18						X					X		X								X
1204695446	1	05:24:38						X					X		X								X
1204695447	1	05:28:01						X					X		X								X
ZZZZZZ	1	05:30:32																					
1204695448	1	05:34:34						X					X		X								X
1204695449	1	05:38:29						X					X		X								X
1204695450	5	05:41:24						X					X		X								X
CCV03	1	05:45:12						X					X		X								X
CCB03	1	05:47:40						X					X		X								X
ZZZZZZ	1	05:51:00																					
ZZZZZZ	1	05:54:22																					
ZZZZZZ	1	05:58:24																					
ZZZZZZ	1	06:02:26																					
ZZZZZZ	1	06:06:28																					
527510014	1	06:10:30						X					X		X								X
ICSA02	1	06:14:24						X					X		X								X
ICSAB02	1	06:17:22						X					X		X								X
CCV04	1	06:20:17						X					X		X								X
CCB04	1	06:23:14						X					X		X								X
ZZZZZZ	1	06:32:20																					
ZZZZZZ	1	06:35:50																					
CCV	1	06:39:09						X					X		X								X
CCB	1	06:41:40						X					X		X								X
ZZZZZZ	1	06:47:22																					
ZZZZZZ	1	06:50:46																					
ZZZZZZ	1	06:54:06																					

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-130

Inst Name: AVIO1 **Instrument Type:** P

Start Date: 19-NOV-20 **End Date:** 19-NOV-20 **Data File:** 111920-1

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
ZZZZZZ	1	06:57:25																					
ZZZZZZ	1	07:00:49																					
CCV	1	07:04:11						X					X		X								X
CCB	1	07:06:42						X					X		X								X
ZZZZZZ	1	07:10:33																					
ZZZZZZ	1	07:13:57																					
ZZZZZZ	1	07:17:21																					
ZZZZZZ	1	07:20:41																					
ZZZZZZ	1	07:24:06																					
CCV	1	07:27:30						X					X		X								X
CCB	1	07:30:02						X					X		X								X
CCV05	1	07:52:09						X					X		X								X
CCB05	1	07:54:41						X					X		X								X
527510002	20	07:58:02						X					X		X								X
527510008	20	08:02:07						X					X		X								X
527510012	20	08:06:08						X					X		X								X
ICSA03	1	08:10:08						X					X		X								X
ICSAB03	1	08:13:08						X					X		X								X
CCV06	1	08:16:04						X					X		X								X
CCB06	1	08:18:31						X					X		X								X

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-130

Inst Name: ICPMS14 **Instrument Type:** MS

Start Date: 20-NOV-20 **End Date:** 20-NOV-20 **Data File:** 201120-2

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
S0.0	1	15:46:07	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
S10	1	15:49:02	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
S100	1	15:51:56	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ICV01	1	15:54:49	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ICB01	1	15:57:43	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CRDL01	1	16:00:38	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ICSA01	1	16:03:32	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ICSAB01	1	16:06:26	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCV01	1	16:09:20	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCB01	1	16:12:15	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
LR01	1	16:15:09	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCV02	1	16:18:03	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCB02	1	16:20:57	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
1204695451	1	16:23:52	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
1204695452	1	16:26:46	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ZZZZZZ	25	16:29:40																					
1204695453	25	16:32:33	X	X		X			X	X	X	X		X			X	X		X	X	X	
1204695454	25	16:35:26	X	X		X			X	X	X	X		X			X	X		X	X	X	
1204695455	125	16:38:19	X	X		X			X	X	X	X		X			X	X		X	X	X	
CCV03	1	16:41:15	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCB03	1	16:44:09	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ZZZZZZ	1	16:47:04																					
ZZZZZZ	25	16:49:58																					
ZZZZZZ	25	16:52:51																					
ZZZZZZ	25	16:55:45																					
ZZZZZZ	25	16:58:38																					
527510014	25	17:01:31	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCV04	1	17:04:27	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCB04	1	17:07:21	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ZZZZZZ	50	17:28:16																					
1204695453	50	17:31:10			X														X				
1204695454	50	17:34:03			X														X				
1204695455	250	17:36:56			X														X				
ZZZZZZ	50	17:39:50																					
527510002	125	17:42:44	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
527510008	125	17:45:37	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
527510012	125	17:48:30	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
ZZZZZZ	50	17:51:43																					
CCV05	1	17:54:38	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	
CCB05	1	17:57:31	X	X	X	X			X	X	X	X		X			X	X	X	X	X	X	

Metals
-14-
Analysis Run Log

Contract: ESHL00118

Lab Code : GEL **Client Sdg:** 2021-130

Inst Name: ICPMS14 **Instrument Type:** MS

Start Date: 20-NOV-20 **End Date:** 20-NOV-20 **Data File:** 201120-5

Samp ID	D/F	Run Time	Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	Zn
S0.0	1	19:00:00					X																
S10	1	19:01:46					X																
S100	1	19:03:31					X																
ICV01	1	19:05:16					X																
ICB01	1	19:07:02					X																
CRDL01	1	19:08:47					X																
ICSA01	1	19:10:33					X																
ICSAB01	1	19:12:18					X																
CCV01	1	19:14:04					X																
CCB01	1	19:15:49					X																
1204695451	1	19:17:36					X																
1204695452	1	19:19:20					X																
ZZZZZZ	25	19:21:05																					
1204695453	25	19:22:51					X																
1204695454	25	19:24:36					X																
1204695455	125	19:26:21					X																
CCV02	1	19:28:07					X																
CCB02	1	19:29:53					X																
ZZZZZZ	1	19:31:39																					
ZZZZZZ	25	19:33:24																					
527510002	125	19:35:10					X																
527510008	125	19:36:56					X																
527510012	125	19:38:40					X																
527510014	25	19:40:27					X																
CCV03	1	19:42:14					X																
CCB03	1	19:43:59					X																

Standards

METALS
−10−
Instrument Detection Limits

SDG NO. 2021−130

Contract: ESHL00118 **Lab Code: GEL** **MDL** **Effective Date:** 16−APR−17

Instrument(s): ICPMS14 **Verified on:** 30−OCT−2020

ICP/MS	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
LIQUID	Aluminum		19.3	50.0
	Antimony		1.0	3.0
	Arsenic		2.0	5.0
	Barium		0.67	4.0
	Beryllium		0.2	0.5
	Boron		5.2	15.0
	Cadmium		0.3	1.0
	Chromium		3.0	10.0
	Cobalt		0.3	1.0
	Copper		0.3	2.0
	Iron		33.0	100
	Lead		0.5	2.0
	Manganese		1.0	5.0
	Molybdenum		0.2	1.0
	Nickel		0.6	2.0
	Selenium		2.0	5.0
	Silver		0.3	1.0
	Thallium		0.6	2.0
	Uranium		0.067	0.2
	Zinc		3.3	20.0

METALS
−10−
Instrument Detection Limits

SDG NO. 2021−130

Contract: ESHL00118 **Lab Code: GEL** **MDL** **Hg Effective Date:** 01−MAY−12

Instrument(s): HG4 **Verified on:** 25−SEP−2020

	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
MERCURY				
LIQUID	Mercury	253.7	0.067	0.2

METALS
−10−
Instrument Detection Limits

SDG NO. 2021−130

Contract: ESHL00118 **Lab Code: GEL** **MDL** **Effective Date:** 23−JAN−11

Instrument(s): AVIO1 **Verified on:** 09−OCT−2020

ICP	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
LIQUID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.5	20.0
	Arsenic	188.979	5.0	30.0
	Barium	233.527	1.0	5.0
	Beryllium	313.107	1.0	5.0
	Boron	249.677	15.0	50.0
	Cadmium	226.502	1.0	5.0
	Chromium	267.716	1.0	10.0
	Cobalt	228.616	1.0	5.0
	Copper	324.752	3.0	20.0
	Iron	238.204	30.0	100
	Lead	220.353	3.3	20.0
	Manganese	257.61	2.0	10.0
	Molybdenum	202.031	2.0	10.0
	Nickel	231.604	1.5	5.0
	Selenium	196.026	6.0	30.0
	Silver	328.068	1.0	5.0
	Thallium	190.801	5.0	20.0
	Uranium	367.007	10.0	50.0
	Zinc	213.857	3.3	20.0

METALS
−11−
Interelement Correction Factors

Lab Code: GEL **GEL Job No:** **2021−130**
Contract: **ESHL00118**
Instrument: **AVIO1** **Effective Dates:** **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Aluminum	Antimony	Arsenic	Barium	Beryllium
Aluminum	**396.153**	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	**188.979**	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	**233.527**	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	**313.107**	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	**249.677**	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.00000	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.00000	0.00000	−1.29991	0.00000
Copper	**324.752**	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	**220.353**	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	**279.077**	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	**202.031**	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	−1.01874	0.00000	13.9826	0.00000	0.00000
Potassium	**766.49**	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	**251.611**	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	0.00000	0.00000	0.00000	0.00000
Sodium	**589.592**	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	**190.801**	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	**189.927**	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	**367.007**	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	**292.402**	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	**213.857**	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
−11−
Interelement Correction Factors

Lab Code: GEL **GEL Job No:** **2021−130**
Contract: **ESHL00118**
Instrument: **AVIO1** **Effective Dates:** **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Boron	Cadmium	Calcium	Chromium	Cobalt
Aluminum	**396.153**	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	0.00000	0.00000	0.00000	−0.04326	0.00000
Arsenic	**188.979**	0.00000	0.00000	0.00000	−9.76288	0.00000
Barium	**233.527**	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	**313.107**	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	**249.677**	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.00000	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	**324.752**	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	−10.6640
Lead	**220.353**	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	**279.077**	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	**202.031**	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	**766.49**	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	**251.611**	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	0.00000	0.00000	0.00000	0.00000
Sodium	**589.592**	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	**190.801**	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	**189.927**	0.00000	0.00000	−0.07096	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	−0.00190	0.25469	0.00000
Uranium	**367.007**	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	**292.402**	0.00000	0.00000	0.00000	−2.08103	0.00000
Zinc	**213.857**	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
−11−
Interelement Correction Factors

Lab Code: GEL
GEL Job No: **2021−130**
Contract: **ESHL00118**
Instrument: **AVIO1**
Effective Dates: **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Copper	Iron	Lead	Magnesium	Manganese
Aluminum	**396.153**	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	0.00000	−0.02780	0.00000	0.00000	0.00000
Arsenic	**188.979**	0.00000	−0.06802	0.00000	0.00000	0.00000
Barium	**233.527**	0.00000	0.04431	0.00000	0.00000	0.00000
Beryllium	**313.107**	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	**249.677**	0.00000	−2.91763	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.14328	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00266	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.01395	0.00000	0.00000	0.00000
Copper	**324.752**	0.00000	−0.07460	0.00000	0.00000	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	**220.353**	0.00000	−0.02163	0.00000	0.00000	0.00000
Magnesium	**279.077**	0.00000	−0.46794	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	−0.00349	0.00000	0.00099	0.00000
Molybdenum	**202.031**	0.00000	−0.01611	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	23.5326	1.50400	6.11276	0.00000	0.00000
Potassium	**766.49**	0.00000	−0.26359	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	−0.55734	0.00000	0.00000	0.00000
Silicon	**251.611**	0.00000	−0.40554	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	−0.02027	0.00000	0.00000	0.00000
Sodium	**589.592**	0.00000	0.17928	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.13326	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.11339	0.00000	0.00000	0.00000
Thallium	**190.801**	0.00000	−0.05485	0.00000	0.00000	0.00000
Tin	**189.927**	0.00000	0.21596	0.00000	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	**367.007**	0.00000	2.75777	0.00000	0.00000	0.00000
Vanadium	**292.402**	0.00000	0.00182	0.00000	0.00000	0.00000
Zinc	**213.857**	1.07974	0.15952	0.00000	0.00000	0.00000

METALS
−11−
Interelement Correction Factors

Lab Code: GEL **GEL Job No:** **2021−130**
Contract: **ESHL00118**
Instrument: **AVIO1** **Effective Dates:** **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Molybdenum	Nickel	Phosphorous	Potassium	Selenium
Aluminum	**396.153**	42.7749	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	−14.5830	0.00000	0.00000	0.00000	0.00000
Arsenic	**188.979**	−4.00340	0.00000	0.00000	0.00000	0.00000
Barium	**233.527**	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	**313.107**	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	**249.677**	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.00000	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	**324.752**	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	**220.353**	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	**279.077**	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	**202.031**	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	19.5682	0.00000	0.00000	0.00000	0.00000
Potassium	**766.49**	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	**251.611**	24.8171	0.00000	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	0.00000	0.00000	0.00000	0.00000
Sodium	**589.592**	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	**190.801**	−1.51986	0.00000	0.00000	0.00000	0.00000
Tin	**189.927**	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	**367.007**	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	**292.402**	−0.59203	0.00000	0.00000	0.00000	0.00000
Zinc	**213.857**	0.00000	6.02565	0.00000	0.00000	0.00000

METALS
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Interelement Correction Factors

Lab Code: GEL **GEL Job No:** **2021−130**
Contract: **ESHL00118**
Instrument: **AVIO1** **Effective Dates:** **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Silicon	Silver	Sodium	Strontium	Sulfur
Aluminum	**396.153**	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	**188.979**	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	**233.527**	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	**313.107**	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	**249.677**	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.00000	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	**324.752**	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	**220.353**	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	**279.077**	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	**202.031**	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	**766.49**	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	**251.611**	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	0.00000	0.00000	0.00000	0.00000
Sodium	**589.592**	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	**190.801**	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	**189.927**	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	**367.007**	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	**292.402**	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	**213.857**	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
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Interelement Correction Factors

Lab Code: GEL **GEL Job No:** **2021−130**
Contract: **ESHL00118**
Instrument: **AVIO1** **Effective Dates:** **15−AUG−20**
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Thallium	Tin	Titanium	Uranium	Vanadium
Aluminum	**396.153**	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	**206.836**	0.00000	0.00000	0.00000	0.00000	−0.35644
Arsenic	**188.979**	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	**233.527**	0.00000	0.00000	0.00000	0.00000	−1.38836
Beryllium	**313.107**	0.00000	0.00000	−3.56559	0.00000	0.00000
Boron	**249.677**	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	**226.502**	0.00000	0.00000	0.00000	0.00000	0.00000
Calcium	**317.933**	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	**267.716**	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	**228.616**	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	**324.752**	0.00000	0.00000	0.00000	−1.32322	0.00000
Iron	**238.204**	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	**220.353**	0.00000	0.00000	0.00000	1.13486	0.00000
Magnesium	**279.077**	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	**257.61**	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	**202.031**	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	**231.604**	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	**214.914**	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	**766.49**	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	**196.026**	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	**251.611**	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	**328.068**	0.00000	0.00000	0.00000	1.00741	−2.44324
Sodium	**589.592**	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	**421.552**	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	**181.975**	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	**190.801**	0.00000	0.00000	−2.73345	0.00000	0.00000
Tin	**189.927**	0.00000	0.00000	−7.92379	0.00000	0.00000
Titanium	**334.94**	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	**367.007**	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	**292.402**	0.00000	0.00000	0.68914	−0.68086	0.00000
Zinc	**213.857**	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
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Interelement Correction Factors

Lab Code: GEL
GEL Job No: 2021−130
Contract: ESHL00118
Instrument: AVIO1
Effective Dates: 15−AUG−20
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Zinc
Parmname	**Wavelength**	
Aluminum	**396.153**	0.00000
Antimony	**206.836**	0.00000
Arsenic	**188.979**	0.00000
Barium	**233.527**	0.00000
Beryllium	**313.107**	0.00000
Boron	**249.677**	0.00000
Cadmium	**226.502**	0.00000
Calcium	**317.933**	0.00000
Chromium	**267.716**	0.00000
Cobalt	**228.616**	0.00000
Copper	**324.752**	0.00000
Iron	**238.204**	0.00000
Lead	**220.353**	0.00000
Magnesium	**279.077**	0.00000
Manganese	**257.61**	0.00000
Molybdenum	**202.031**	0.00000
Nickel	**231.604**	0.00000
Phosphorous	**214.914**	0.00000
Potassium	**766.49**	0.00000
Selenium	**196.026**	0.00000
Silicon	**251.611**	0.00000
Silver	**328.068**	0.00000
Sodium	**589.592**	0.00000
Strontium	**421.552**	0.00000
Sulfur	**181.975**	0.00000
Thallium	**190.801**	0.00000
Tin	**189.927**	0.00000
Titanium	**334.94**	0.00000
Uranium	**367.007**	0.00000
Vanadium	**292.402**	0.00000
Zinc	**213.857**	0.00000

METALS
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Linear Ranges

SDG NO. 2021−130

Contract: ESHL00118 **Lab Code: GEL**

Instrument ID AVIO1

Analyte	Integration Time (sec)	LDR	Units	Effective Date
Aluminum		500000	ug/L	15−AUG−18
Antimony		1000	ug/L	15−AUG−18
Arsenic		10000	ug/L	15−AUG−18
Barium		15000	ug/L	15−AUG−18
Beryllium		1000	ug/L	15−AUG−18
Boron		50000	ug/L	15−AUG−18
Cadmium		10000	ug/L	15−AUG−18
Chromium		25000	ug/L	15−AUG−18
Cobalt		10000	ug/L	15−AUG−18
Copper		20000	ug/L	15−AUG−18
Iron		500000	ug/L	15−AUG−18
Lead		25000	ug/L	15−AUG−18
Manganese		10000	ug/L	15−AUG−18
Molybdenum		10000	ug/L	15−AUG−18
Nickel		10000	ug/L	15−AUG−18
Selenium		1000	ug/L	15−AUG−18
Silver		1000	ug/L	15−AUG−18
Thallium		1000	ug/L	15−AUG−18
Uranium		15000	ug/L	15−AUG−18
Zinc		15000	ug/L	15−AUG−18

METALS
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Linear Ranges

SDG NO. 2021−130

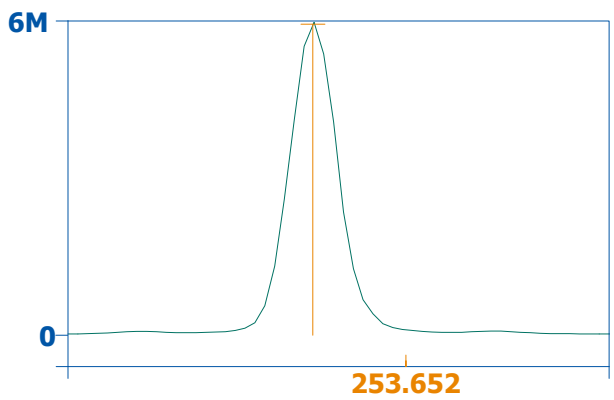
Contract: ESHL00118 **Lab Code: GEL**

Instrument ID ICPMS14

Analyte	Integration Time (msec)	LDR	Units	Effective Date
Aluminum	1	50000	ug/L	01−AUG−17
Antimony	1000	250	ug/L	01−AUG−17
Arsenic	1000	1000	ug/L	01−AUG−17
Barium	1000	1000	ug/L	01−AUG−17
Beryllium	1000	1000	ug/L	01−AUG−17
Boron	1000	200	ug/L	01−AUG−17
Cadmium	1000	1000	ug/L	01−AUG−17
Chromium	1000	1000	ug/L	01−AUG−17
Cobalt	1000	1000	ug/L	01−AUG−17
Copper	1000	1000	ug/L	01−AUG−17
Iron	500	50000	ug/L	01−AUG−17
Lead	1000	5000	ug/L	01−AUG−17
Manganese	1000	1000	ug/L	01−AUG−17
Molybdenum	1000	1000	ug/L	01−AUG−17
Nickel	1000	1000	ug/L	01−AUG−17
Selenium	1000	500	ug/L	01−AUG−17
Silver	1000	250	ug/L	01−AUG−17
Thallium	1000	500	ug/L	01−AUG−17
Uranium	1000	5000	ug/L	01−AUG−17
Zinc	1000	2500	ug/L	01−AUG−17

Raw Data

Method: Hg_ReAlign **Sample ID: Hg_ReAlign**
Result: 111920



Intensity: 6137088.1
1 **Conc:**

11/19/2020 04:31:47 Hg ReAlign... Actual peak offset (nm): -0.002
Drift (nm): 0.000 Slit adjustment: 0

Analysis Begun

Start Time: 11/19/2020 04:32:24 **Plasma On Time: 11/16/2020 04:42:02**
Originator: Avio1 **Technique: ICP Continuous**
Spectrometer: Avio 500, S/N 081S1711281 **Autosampler: ESI**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Sample Information\ 111920.sifx
Results Data Set: 111920
Results Library: C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Results\Results.mdb

Batch ID:
Sequence No.: 1 **Autosampler Location: 8**
Sample ID: S0 **Date Collected: 11/19/2020 04:32:35**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample):

Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Al 396.153Radial	-16.1	-16.1	[0.00]	µg/L	04:33:18
1	Ca 317.933Radial	238.0	238.0	[0.00]	µg/L	04:33:38
1	Fe 238.204 Radial	50.7	50.7	[0.00]	µg/L	04:33:38
1	K 766.490 Radial	-192.3	-192.3	[0.00]	µg/L	04:33:18
1	Mg 279.077 IEC	4.6	4.6	[0.00]	µg/L	04:33:38
1	Na 589.592 Radial	1447.6	1447.6	[0.00]	µg/L	04:33:18
1	Sr 421.552	-564.3	-564.3	[0.00]	µg/L	04:33:18
1	Ag 328.068	-158.9	-158.9	[0.00]	µg/L	04:35:04
1	As 188.979	0.4	0.4	[0.00]	µg/L	04:35:04
1	B 249.677	94.0	94.0	[0.00]	µg/L	04:35:04
1	Ba 233.527	-35.2	-35.2	[0.00]	µg/L	04:35:04
1	Be 313.107	-243.0	-243.0	[0.00]	µg/L	04:34:44
1	Cd 226.502	-59.8	-59.8	[0.00]	µg/L	04:35:04
1	Co 228.616	-15.1	-15.1	[0.00]	µg/L	04:35:04
1	Cr 267.716	51.1	51.1	[0.00]	µg/L	04:35:04
1	Cu 324.752	307.1	307.1	[0.00]	µg/L	04:35:04
1	Mn 257.610	-25.0	-25.0	[0.00]	µg/L	04:35:04
1	Mo 202.031	29.4	29.4	[0.00]	µg/L	04:35:04
1	Ni 231.604	-61.5	-61.5	[0.00]	µg/L	04:35:04
1	P 214.914	46.5	46.5	[0.00]	µg/L	04:35:04
1	Pb 220.353	4.2	4.2	[0.00]	µg/L	04:35:04
1	S 181.975 Axial	0.5	0.5	[0.00]	µg/L	04:35:04
1	Sb 206.836	30.9	30.9	[0.00]	µg/L	04:35:04
1	Se 196.026	28.1	28.1	[0.00]	µg/L	04:35:04
1	SiO2	167.1	167.1	[0.00]	µg/L	04:35:04
1	Si 251.611	125.5	125.5	[0.00]	µg/L	04:35:04
1	Sn 189.927	13.5	13.5	[0.00]	µg/L	04:35:04
1	Ti 334.940	14.3	14.3	[0.00]	µg/L	04:35:04
1	Tl 190.801	-12.4	-12.4	[0.00]	µg/L	04:35:04
1	U 367.007	-28.7	-28.7	[0.00]	µg/L	04:34:44
1	V 292.402	-14.3	-14.3	[0.00]	µg/L	04:35:04
1	Zn 213.857	-23.3	-23.3	[0.00]	µg/L	04:35:04
2	Al 396.153Radial	-10.3	-10.3	[0.00]	µg/L	04:33:40
2	Ca 317.933Radial	233.2	233.2	[0.00]	µg/L	04:34:00
2	Fe 238.204 Radial	53.8	53.8	[0.00]	µg/L	04:34:00
2	K 766.490 Radial	-123.9	-123.9	[0.00]	µg/L	04:33:40
2	Mg 279.077 IEC	7.3	7.3	[0.00]	µg/L	04:34:00
2	Na 589.592 Radial	1525.5	1525.5	[0.00]	µg/L	04:33:40
2	Sr 421.552	-375.1	-375.1	[0.00]	µg/L	04:33:40
2	Ag 328.068	-145.4	-145.4	[0.00]	µg/L	04:35:44
2	As 188.979	0.9	0.9	[0.00]	µg/L	04:35:44

2	B 249.677	94.6	94.6	[0.00] µg/L	04:35:44
2	Ba 233.527	-32.7	-32.7	[0.00] µg/L	04:35:44
2	Be 313.107	-243.2	-243.2	[0.00] µg/L	04:35:24
2	Cd 226.502	-61.1	-61.1	[0.00] µg/L	04:35:44
2	Co 228.616	-17.0	-17.0	[0.00] µg/L	04:35:44
2	Cr 267.716	64.3	64.3	[0.00] µg/L	04:35:44
2	Cu 324.752	291.1	291.1	[0.00] µg/L	04:35:44
2	Mn 257.610	-18.4	-18.4	[0.00] µg/L	04:35:44
2	Mo 202.031	28.1	28.1	[0.00] µg/L	04:35:44
2	Ni 231.604	-48.4	-48.4	[0.00] µg/L	04:35:44
2	P 214.914	46.4	46.4	[0.00] µg/L	04:35:44
2	Pb 220.353	13.2	13.2	[0.00] µg/L	04:35:44
2	S 181.975 Axial	6.5	6.5	[0.00] µg/L	04:35:44
2	Sb 206.836	29.8	29.8	[0.00] µg/L	04:35:44
2	Se 196.026	30.6	30.6	[0.00] µg/L	04:35:44
2	SiO2	164.5	164.5	[0.00] µg/L	04:35:44
2	Si 251.611	120.4	120.4	[0.00] µg/L	04:35:44
2	Sn 189.927	12.4	12.4	[0.00] µg/L	04:35:44
2	Ti 334.940	25.5	25.5	[0.00] µg/L	04:35:44
2	Tl 190.801	-7.3	-7.3	[0.00] µg/L	04:35:44
2	U 367.007	-23.7	-23.7	[0.00] µg/L	04:35:24
2	V 292.402	-4.9	-4.9	[0.00] µg/L	04:35:44
2	Zn 213.857	-28.0	-28.0	[0.00] µg/L	04:35:44
3	Al 396.153Radial	19.8	19.8	[0.00] µg/L	04:34:02
3	Ca 317.933Radial	230.1	230.1	[0.00] µg/L	04:34:22
3	Fe 238.204 Radial	50.4	50.4	[0.00] µg/L	04:34:22
3	K 766.490 Radial	-342.2	-342.2	[0.00] µg/L	04:34:02
3	Mg 279.077 IEC	3.5	3.5	[0.00] µg/L	04:34:22
3	Na 589.592 Radial	1442.6	1442.6	[0.00] µg/L	04:34:02
3	Sr 421.552	-427.7	-427.7	[0.00] µg/L	04:34:02
3	Ag 328.068	-157.1	-157.1	[0.00] µg/L	04:36:24
3	As 188.979	-3.1	-3.1	[0.00] µg/L	04:36:24
3	B 249.677	102.1	102.1	[0.00] µg/L	04:36:24
3	Ba 233.527	-29.9	-29.9	[0.00] µg/L	04:36:24
3	Be 313.107	-232.6	-232.6	[0.00] µg/L	04:36:04
3	Cd 226.502	-59.9	-59.9	[0.00] µg/L	04:36:24
3	Co 228.616	-16.5	-16.5	[0.00] µg/L	04:36:24
3	Cr 267.716	53.5	53.5	[0.00] µg/L	04:36:24
3	Cu 324.752	288.4	288.4	[0.00] µg/L	04:36:24
3	Mn 257.610	-20.8	-20.8	[0.00] µg/L	04:36:24
3	Mo 202.031	26.1	26.1	[0.00] µg/L	04:36:24
3	Ni 231.604	-49.4	-49.4	[0.00] µg/L	04:36:24
3	P 214.914	41.9	41.9	[0.00] µg/L	04:36:24
3	Pb 220.353	11.1	11.1	[0.00] µg/L	04:36:24
3	S 181.975 Axial	0.5	0.5	[0.00] µg/L	04:36:24
3	Sb 206.836	30.8	30.8	[0.00] µg/L	04:36:24
3	Se 196.026	24.3	24.3	[0.00] µg/L	04:36:24
3	SiO2	163.4	163.4	[0.00] µg/L	04:36:24
3	Si 251.611	133.5	133.5	[0.00] µg/L	04:36:24
3	Sn 189.927	7.0	7.0	[0.00] µg/L	04:36:24
3	Ti 334.940	7.3	7.3	[0.00] µg/L	04:36:24
3	Tl 190.801	-11.2	-11.2	[0.00] µg/L	04:36:24
3	U 367.007	-23.2	-23.2	[0.00] µg/L	04:36:04
3	V 292.402	-12.5	-12.5	[0.00] µg/L	04:36:24
3	Zn 213.857	-21.9	-21.9	[0.00] µg/L	04:36:24

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ag 328.068	-153.8	7.34	4.77%	[0.00]	µg/L
Al 396.153Radial	-2.2	19.23	874.56%	[0.00]	µg/L
As 188.979	-0.6	2.16	363.97%	[0.00]	µg/L
B 249.677	96.9	4.51	4.66%	[0.00]	µg/L
Ba 233.527	-32.6	2.64	8.10%	[0.00]	µg/L
Be 313.107	-239.6	6.03	2.52%	[0.00]	µg/L
Ca 317.933Radial	233.8	3.96	1.70%	[0.00]	µg/L
Cd 226.502	-60.3	0.74	1.23%	[0.00]	µg/L
Co 228.616	-16.2	0.97	5.96%	[0.00]	µg/L
Cr 267.716	56.3	7.04	12.50%	[0.00]	µg/L
Cu 324.752	295.5	10.10	3.42%	[0.00]	µg/L

Fe 238.204 Radial	51.6	1.91	3.69%	[0.00]	µg/L
K 766.490 Radial	-219.5	111.64	50.87%	[0.00]	µg/L
Mg 279.077 IEC	5.1	1.96	38.19%	[0.00]	µg/L
Mn 257.610	-21.4	3.38	15.82%	[0.00]	µg/L
Mo 202.031	27.9	1.63	5.85%	[0.00]	µg/L
Na 589.592 Radial	1471.9	46.48	3.16%	[0.00]	µg/L
Ni 231.604	-53.1	7.26	13.67%	[0.00]	µg/L
P 214.914	44.9	2.65	5.90%	[0.00]	µg/L
Pb 220.353	9.5	4.67	49.19%	[0.00]	µg/L
S 181.975 Axial	2.5	3.46	138.58%	[0.00]	µg/L
Sb 206.836	30.5	0.60	1.97%	[0.00]	µg/L
Se 196.026	27.6	3.19	11.53%	[0.00]	µg/L
SiO2	165.0	1.89	1.14%	[0.00]	µg/L
Si 251.611	126.5	6.59	5.21%	[0.00]	µg/L
Sn 189.927	11.0	3.52	32.02%	[0.00]	µg/L
Sr 421.552	-455.7	97.64	21.43%	[0.00]	µg/L
Ti 334.940	15.7	9.15	58.29%	[0.00]	µg/L
Tl 190.801	-10.3	2.65	25.66%	[0.00]	µg/L
U 367.007	-25.2	3.02	11.99%	[0.00]	µg/L
V 292.402	-10.6	4.99	47.10%	[0.00]	µg/L
Zn 213.857	-24.4	3.18	13.05%	[0.00]	µg/L

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Batch ID:
Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S0.1 **Date Collected: 11/19/2020 04:36:50**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	63073.3	63073.3	98.985	%	04:37:29
1	K 766.490 Radial†	1903.5	2142.5	[1000]	µg/L	04:37:29
1	Sr 421.552†	73535.5	74745.2	[100]	µg/L	04:37:29
1	Sc 361.383	213816.7	213816.7	100.06	%	04:37:38
1	Y 371.029	124771.7	124771.7	100.14	%	04:37:38
1	Ag 328.068†	2343.7	2496.1	[100]	µg/L	04:37:38
1	As 188.979†	35.8	36.4	[100]	µg/L	04:37:58
1	B 249.677†	1022.4	925.0	[100]	µg/L	04:37:58
1	Ba 233.527†	2102.7	2134.0	[100]	µg/L	04:37:58
1	Be 313.107†	37615.7	37833.4	[100]	µg/L	04:37:38
1	Cd 226.502†	2113.5	2172.6	[100]	µg/L	04:37:58
1	Co 228.616†	475.6	491.5	[100]	µg/L	04:37:58
1	Cr 267.716†	2201.5	2143.9	[100]	µg/L	04:37:58
1	Cu 324.752†	3231.4	2934.0	[100]	µg/L	04:37:38
1	Mn 257.610†	6616.2	6633.7	[100]	µg/L	04:37:38
1	Mo 202.031†	486.4	458.3	[100]	µg/L	04:37:58
1	Ni 231.604†	873.7	926.3	[100]	µg/L	04:37:58
1	P 214.914†	124.8	79.8	[500]	µg/L	04:37:58
1	Pb 220.353†	149.4	139.9	[100]	µg/L	04:37:58
1	S 181.975 Axial†	33.2	30.6	[200]	µg/L	04:37:58
1	Sb 206.836†	87.2	56.7	[100]	µg/L	04:37:58
1	Se 196.026†	71.9	44.2	[100]	µg/L	04:37:58
1	SiO2†	1158.4	992.7	[1069.5]	µg/L	04:37:58
1	Si 251.611†	2648.3	2520.3	[500]	µg/L	04:37:58
1	Sn 189.927†	123.2	112.1	[100]	µg/L	04:37:58
1	Ti 334.940†	9930.4	9908.9	[100]	µg/L	04:37:38
1	Tl 190.801†	37.1	47.4	[100]	µg/L	04:37:58
1	U 367.007†	159.3	184.4	[100]	µg/L	04:37:38
1	V 292.402†	2014.2	2023.6	[100]	µg/L	04:37:58
1	Zn 213.857†	2054.7	2077.9	[100]	µg/L	04:37:58
2	Sc RADIAL	63967.6	63967.6	100.39	%	04:37:32
2	K 766.490 Radial†	1945.7	2157.6	[1000]	µg/L	04:37:32
2	Sr 421.552†	74524.3	74691.6	[100]	µg/L	04:37:32
2	Sc 361.383	220387.0	220387.0	103.13	%	04:38:00
2	Y 371.029	128400.2	128400.2	103.06	%	04:38:00
2	Ag 328.068†	2429.4	2509.4	[100]	µg/L	04:38:00
2	As 188.979†	40.0	39.4	[100]	µg/L	04:38:20
2	B 249.677†	1024.5	896.5	[100]	µg/L	04:38:20
2	Ba 233.527†	2054.5	2024.7	[100]	µg/L	04:38:20
2	Be 313.107†	39055.4	38108.5	[100]	µg/L	04:38:00
2	Cd 226.502†	2081.1	2078.2	[100]	µg/L	04:38:20
2	Co 228.616†	465.3	467.4	[100]	µg/L	04:38:20
2	Cr 267.716†	2177.6	2055.1	[100]	µg/L	04:38:20
2	Cu 324.752†	3357.2	2959.7	[100]	µg/L	04:38:00
2	Mn 257.610†	6874.8	6687.3	[100]	µg/L	04:38:00
2	Mo 202.031†	475.2	432.9	[100]	µg/L	04:38:20
2	Ni 231.604†	866.2	893.0	[100]	µg/L	04:38:20
2	P 214.914†	124.2	75.5	[500]	µg/L	04:38:20
2	Pb 220.353†	155.8	141.5	[100]	µg/L	04:38:20
2	S 181.975 Axial†	29.6	26.2	[200]	µg/L	04:38:20
2	Sb 206.836†	83.0	50.0	[100]	µg/L	04:38:20
2	Se 196.026†	68.9	39.1	[100]	µg/L	04:38:20
2	SiO2†	1125.0	925.8	[1069.5]	µg/L	04:38:20
2	Si 251.611†	2611.1	2405.4	[500]	µg/L	04:38:20
2	Sn 189.927†	118.4	103.8	[100]	µg/L	04:38:20
2	Ti 334.940†	10325.2	9995.8	[100]	µg/L	04:38:00
2	Tl 190.801†	39.2	48.3	[100]	µg/L	04:38:20

2	U 367.007†	126.3	147.6	[100]	µg/L	04:38:00
2	V 292.402†	1997.8	1947.7	[100]	µg/L	04:38:20
2	Zn 213.857†	2024.5	1987.4	[100]	µg/L	04:38:20
3	Sc RADIAL	64119.3	64119.3	100.63	%	04:37:34
3	K 766.490 Radial†	1937.6	2145.0	[1000]	µg/L	04:37:34
3	Sr 421.552†	74592.4	74583.7	[100]	µg/L	04:37:34
3	Sc 361.383	206871.7	206871.7	96.808	%	04:38:22
3	Y 371.029	120606.6	120606.6	96.801	%	04:38:22
3	Ag 328.068†	2308.3	2538.2	[100]	µg/L	04:38:22
3	As 188.979†	41.7	43.7	[100]	µg/L	04:38:42
3	B 249.677†	1030.2	967.3	[100]	µg/L	04:38:42
3	Ba 233.527†	2080.9	2182.1	[100]	µg/L	04:38:42
3	Be 313.107†	36737.4	38188.2	[100]	µg/L	04:38:22
3	Cd 226.502†	2130.5	2261.0	[100]	µg/L	04:38:42
3	Co 228.616†	481.3	513.3	[100]	µg/L	04:38:42
3	Cr 267.716†	2211.9	2228.5	[100]	µg/L	04:38:42
3	Cu 324.752†	3218.1	3028.7	[100]	µg/L	04:38:22
3	Mn 257.610†	6468.7	6703.4	[100]	µg/L	04:38:22
3	Mo 202.031†	471.1	458.8	[100]	µg/L	04:38:42
3	Ni 231.604†	876.4	958.4	[100]	µg/L	04:38:42
3	P 214.914†	120.2	79.2	[500]	µg/L	04:38:42
3	Pb 220.353†	152.5	148.0	[100]	µg/L	04:38:42
3	S 181.975 Axial†	31.8	30.4	[200]	µg/L	04:38:42
3	Sb 206.836†	91.4	63.9	[100]	µg/L	04:38:42
3	Se 196.026†	75.2	50.1	[100]	µg/L	04:38:42
3	SiO2†	1151.5	1024.4	[1069.5]	µg/L	04:38:42
3	Si 251.611†	2641.6	2602.3	[500]	µg/L	04:38:42
3	Sn 189.927†	121.5	114.5	[100]	µg/L	04:38:42
3	Ti 334.940†	9774.6	10081.1	[100]	µg/L	04:38:22
3	Tl 190.801†	41.4	53.1	[100]	µg/L	04:38:42
3	U 367.007†	111.6	140.5	[100]	µg/L	04:38:22
3	V 292.402†	2031.8	2109.4	[100]	µg/L	04:38:42
3	Zn 213.857†	2050.9	2142.9	[100]	µg/L	04:38:42

Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	213691.8	6758.52	3.16%	100.00	%
Sc RADIAL	63720.0	565.22	0.89%	100.00	%
Y 371.029	124592.8	3899.87	3.13%	100.00	%
Ag 328.068†	2514.6	21.52	0.86%	[100]	µg/L
As 188.979†	39.8	3.67	9.23%	[100]	µg/L
B 249.677†	929.6	35.64	3.83%	[100]	µg/L
Ba 233.527†	2113.6	80.66	3.82%	[100]	µg/L
Be 313.107†	38043.3	186.15	0.49%	[100]	µg/L
Cd 226.502†	2170.6	91.45	4.21%	[100]	µg/L
Co 228.616†	490.7	22.97	4.68%	[100]	µg/L
Cr 267.716†	2142.5	86.69	4.05%	[100]	µg/L
Cu 324.752†	2974.2	48.97	1.65%	[100]	µg/L
K 766.490 Radial†	2148.4	8.11	0.38%	[1000]	µg/L
Mn 257.610†	6674.8	36.48	0.55%	[100]	µg/L
Mo 202.031†	450.0	14.79	3.29%	[100]	µg/L
Ni 231.604†	925.9	32.68	3.53%	[100]	µg/L
P 214.914†	78.2	2.32	2.97%	[500]	µg/L
Pb 220.353†	143.1	4.31	3.01%	[100]	µg/L
S 181.975 Axial†	29.1	2.48	8.54%	[200]	µg/L
Sb 206.836†	56.9	6.97	12.26%	[100]	µg/L
Se 196.026†	44.5	5.48	12.32%	[100]	µg/L
SiO2†	981.0	50.33	5.13%	[1069.5]	µg/L
Si 251.611†	2509.3	98.92	3.94%	[500]	µg/L
Sn 189.927†	110.1	5.60	5.09%	[100]	µg/L
Sr 421.552†	74673.5	82.27	0.11%	[100]	µg/L
Ti 334.940†	9995.3	86.11	0.86%	[100]	µg/L
Tl 190.801†	49.6	3.06	6.16%	[100]	µg/L
U 367.007†	157.5	23.55	14.95%	[100]	µg/L
V 292.402†	2026.9	80.89	3.99%	[100]	µg/L
Zn 213.857†	2069.4	78.11	3.77%	[100]	µg/L

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Batch ID:
Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S0.5 **Date Collected: 11/19/2020 04:39:08**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	66005.2	66005.2	103.59	%	04:39:45
1	Al 396.153Radial†	16660.8	16086.1	[5000]	µg/L	04:39:48
1	Ca 317.933Radial†	32096.9	30751.9	[5000]	µg/L	04:39:48
1	K 766.490 Radial†	11977.3	11782.1	[5000]	µg/L	04:39:48
1	Mg 279.077 IEC†	3401.0	3278.2	[5000]	µg/L	04:39:48
1	Sr 421.552†	389905.1	376861.9	[500]	µg/L	04:39:45
1	Sc 361.383	222615.4	222615.4	104.18	%	04:40:00
1	Y 371.029	129539.0	129539.0	103.97	%	04:40:00
1	Ag 328.068†	12668.4	12314.4	[500]	µg/L	04:40:00
1	As 188.979†	196.4	189.1	[500]	µg/L	04:40:20
1	B 249.677†	4286.2	4017.5	[500]	µg/L	04:40:00
1	Ba 233.527†	10103.1	9730.7	[500]	µg/L	04:40:00
1	Be 313.107†	203966.9	196030.4	[500]	µg/L	04:40:00
1	Cd 226.502†	9907.6	9570.7	[500]	µg/L	04:40:00
1	Co 228.616†	2574.0	2487.1	[500]	µg/L	04:40:20
1	Cr 267.716†	9723.6	9277.5	[500]	µg/L	04:40:00
1	Cu 324.752†	15786.6	14858.3	[500]	µg/L	04:40:00
1	Mn 257.610†	34301.1	32947.5	[500]	µg/L	04:40:00
1	Mo 202.031†	2392.7	2268.9	[500]	µg/L	04:40:20
1	Ni 231.604†	4293.2	4174.2	[500]	µg/L	04:40:00
1	P 214.914†	439.7	377.1	[2500]	µg/L	04:40:20
1	Pb 220.353†	770.5	730.1	[500]	µg/L	04:40:20
1	S 181.975 Axial†	149.2	140.7	[1000]	µg/L	04:40:20
1	Sb 206.836†	310.5	267.5	[500]	µg/L	04:40:20
1	Se 196.026†	264.7	226.5	[500]	µg/L	04:40:20
1	SiO2†	4852.4	4492.9	[5347.5]	µg/L	04:40:00
1	Si 251.611†	12041.9	11432.7	[2500]	µg/L	04:40:00
1	Sn 189.927†	537.2	504.7	[500]	µg/L	04:40:20
1	Ti 334.940†	51599.9	49515.8	[500]	µg/L	04:40:00
1	Tl 190.801†	241.4	242.1	[500]	µg/L	04:40:20
1	U 367.007†	719.2	715.6	[500]	µg/L	04:40:00
1	V 292.402†	9088.7	8734.9	[500]	µg/L	04:40:00
1	Zn 213.857†	9138.4	8796.5	[500]	µg/L	04:40:00
2	Sc RADIAL	68254.5	68254.5	107.12	%	04:39:50
2	Al 396.153Radial†	16158.2	15087.0	[5000]	µg/L	04:39:52
2	Ca 317.933Radial†	30633.8	28364.8	[5000]	µg/L	04:39:52
2	K 766.490 Radial†	11621.2	11068.6	[5000]	µg/L	04:39:52
2	Mg 279.077 IEC†	3216.1	2997.3	[5000]	µg/L	04:39:52
2	Sr 421.552†	403410.2	377065.6	[500]	µg/L	04:39:50
2	Sc 361.383	222517.2	222517.2	104.13	%	04:40:22
2	Y 371.029	129314.3	129314.3	103.79	%	04:40:22
2	Ag 328.068†	12723.8	12373.0	[500]	µg/L	04:40:22
2	As 188.979†	191.5	184.5	[500]	µg/L	04:40:42
2	B 249.677†	4309.9	4042.1	[500]	µg/L	04:40:22
2	Ba 233.527†	10036.3	9670.8	[500]	µg/L	04:40:22
2	Be 313.107†	204090.7	196235.7	[500]	µg/L	04:40:22
2	Cd 226.502†	9935.1	9601.3	[500]	µg/L	04:40:22
2	Co 228.616†	2503.7	2420.6	[500]	µg/L	04:40:42
2	Cr 267.716†	9744.0	9301.2	[500]	µg/L	04:40:22
2	Cu 324.752†	15756.2	14835.8	[500]	µg/L	04:40:22
2	Mn 257.610†	34375.6	33033.6	[500]	µg/L	04:40:22
2	Mo 202.031†	2340.8	2220.1	[500]	µg/L	04:40:42
2	Ni 231.604†	4233.7	4118.9	[500]	µg/L	04:40:22
2	P 214.914†	442.1	379.6	[2500]	µg/L	04:40:42
2	Pb 220.353†	752.7	713.4	[500]	µg/L	04:40:42
2	S 181.975 Axial†	151.9	143.4	[1000]	µg/L	04:40:42
2	Sb 206.836†	307.1	264.4	[500]	µg/L	04:40:42

2	Se 196.026†	246.4	209.0	[500]	µg/L	04:40:42
2	SiO2†	4840.2	4483.2	[5347.5]	µg/L	04:40:22
2	Si 251.611†	12038.7	11434.7	[2500]	µg/L	04:40:22
2	Sn 189.927†	525.8	493.9	[500]	µg/L	04:40:42
2	Ti 334.940†	51416.8	49361.9	[500]	µg/L	04:40:22
2	Tl 190.801†	235.0	236.0	[500]	µg/L	04:40:42
2	U 367.007†	757.6	752.8	[500]	µg/L	04:40:22
2	V 292.402†	9159.0	8806.3	[500]	µg/L	04:40:22
2	Zn 213.857†	9184.6	8844.7	[500]	µg/L	04:40:22
3	Sc RADIAL	65719.7	65719.7	103.14	%	04:39:54
3	Al 396.153Radial†	16201.4	15710.6	[5000]	µg/L	04:39:56
3	Ca 317.933Radial†	30757.1	29587.5	[5000]	µg/L	04:39:56
3	K 766.490 Radial†	11434.9	11306.5	[5000]	µg/L	04:39:56
3	Mg 279.077 IEC†	3224.4	3121.2	[5000]	µg/L	04:39:56
3	Sr 421.552†	390661.4	379230.2	[500]	µg/L	04:39:54
3	Sc 361.383	215204.9	215204.9	100.71	%	04:40:44
3	Y 371.029	125260.1	125260.1	100.54	%	04:40:44
3	Ag 328.068†	12421.8	12488.3	[500]	µg/L	04:40:44
3	As 188.979†	193.6	192.9	[500]	µg/L	04:41:04
3	B 249.677†	4294.7	4167.6	[500]	µg/L	04:40:44
3	Ba 233.527†	9775.4	9739.3	[500]	µg/L	04:40:44
3	Be 313.107†	198934.8	197775.7	[500]	µg/L	04:40:44
3	Cd 226.502†	9695.1	9687.2	[500]	µg/L	04:40:44
3	Co 228.616†	2579.2	2577.2	[500]	µg/L	04:41:04
3	Cr 267.716†	9415.4	9292.9	[500]	µg/L	04:40:44
3	Cu 324.752†	15478.3	15073.9	[500]	µg/L	04:40:44
3	Mn 257.610†	33462.2	33248.3	[500]	µg/L	04:40:44
3	Mo 202.031†	2400.6	2355.9	[500]	µg/L	04:41:04
3	Ni 231.604†	4156.2	4180.1	[500]	µg/L	04:40:44
3	P 214.914†	445.2	397.1	[2500]	µg/L	04:41:04
3	Pb 220.353†	762.0	747.1	[500]	µg/L	04:41:04
3	S 181.975 Axial†	157.4	153.8	[1000]	µg/L	04:41:04
3	Sb 206.836†	315.6	282.8	[500]	µg/L	04:41:04
3	Se 196.026†	261.1	231.7	[500]	µg/L	04:41:04
3	SiO2†	4796.2	4597.4	[5347.5]	µg/L	04:40:44
3	Si 251.611†	11752.1	11543.0	[2500]	µg/L	04:40:44
3	Sn 189.927†	547.9	533.1	[500]	µg/L	04:41:04
3	Ti 334.940†	50300.6	49931.3	[500]	µg/L	04:40:44
3	Tl 190.801†	245.6	254.2	[500]	µg/L	04:41:04
3	U 367.007†	777.5	797.2	[500]	µg/L	04:40:44
3	V 292.402†	8882.9	8831.0	[500]	µg/L	04:40:44
3	Zn 213.857†	8971.4	8932.7	[500]	µg/L	04:40:44

Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	220112.5	4250.42	1.93%	103.00	%
Sc RADIAL	66659.8	1388.38	2.08%	104.61	%
Y 371.029	128037.8	2408.21	1.88%	102.76	%
Ag 328.068†	12391.9	88.49	0.71%	[500]	µg/L
Al 396.153Radial†	15627.9	504.71	3.23%	[5000]	µg/L
As 188.979†	188.8	4.18	2.21%	[500]	µg/L
B 249.677†	4075.7	80.51	1.98%	[500]	µg/L
Ba 233.527†	9713.6	37.31	0.38%	[500]	µg/L
Be 313.107†	196680.6	953.95	0.49%	[500]	µg/L
Ca 317.933Radial†	29568.1	1193.65	4.04%	[5000]	µg/L
Cd 226.502†	9619.7	60.38	0.63%	[500]	µg/L
Co 228.616†	2495.0	78.59	3.15%	[500]	µg/L
Cr 267.716†	9290.5	12.03	0.13%	[500]	µg/L
Cu 324.752†	14922.7	131.48	0.88%	[500]	µg/L
K 766.490 Radial†	11385.7	363.28	3.19%	[5000]	µg/L
Mg 279.077 IEC†	3132.2	140.73	4.49%	[5000]	µg/L
Mn 257.610†	33076.5	154.91	0.47%	[500]	µg/L
Mo 202.031†	2281.6	68.80	3.02%	[500]	µg/L
Ni 231.604†	4157.7	33.76	0.81%	[500]	µg/L
P 214.914†	384.6	10.89	2.83%	[2500]	µg/L
Pb 220.353†	730.2	16.86	2.31%	[500]	µg/L
S 181.975 Axial†	145.9	6.90	4.73%	[1000]	µg/L
Sb 206.836†	271.6	9.84	3.62%	[500]	µg/L
Se 196.026†	222.4	11.89	5.35%	[500]	µg/L

SiO2†	4524.5	63.32	1.40%	[5347.5]	µg/L
Si 251.611†	11470.1	63.09	0.55%	[2500]	µg/L
Sn 189.927†	510.5	20.23	3.96%	[500]	µg/L
Sr 421.552†	377719.2	1312.51	0.35%	[500]	µg/L
Ti 334.940†	49603.0	294.55	0.59%	[500]	µg/L
Tl 190.801†	244.1	9.24	3.79%	[500]	µg/L
U 367.007†	755.2	40.85	5.41%	[500]	µg/L
V 292.402†	8790.8	49.90	0.57%	[500]	µg/L
Zn 213.857†	8858.0	69.07	0.78%	[500]	µg/L

Batch ID:
Sequence No.: 4 **Autosampler Location: 4**
Sample ID: SCAL **Date Collected: 11/19/2020 04:41:32**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	69314.7	69314.7	108.78	%	04:42:19
1	Al 396.153Radial†	33988.2	31247.1	[10000]	µg/L	04:42:19
1	Ca 317.933Radial†	64390.0	58959.1	[10000]	µg/L	04:42:19
1	Fe 238.204 Radial†	31589.4	28988.0	[10000]	µg/L	04:42:19
1	K 766.490 Radial†	24268.7	22529.3	[10000]	µg/L	04:42:19
1	Mg 279.077 IEC†	6872.4	6312.6	[10000]	µg/L	04:42:19
1	Na 589.592 Radial†	88569.5	79948.9	[10000]	µg/L	04:42:17
1	Sr 421.552†	803982.8	739546.2	[1000]	µg/L	04:42:17
1	Sc 361.383	212920.1	212920.1	99.639	%	04:42:31
1	Y 371.029	124643.4	124643.4	100.04	%	04:42:31
1	Ag 328.068†	26109.8	26358.2	[1000]	µg/L	04:42:31
1	As 188.979†	400.9	402.9	[1000]	µg/L	04:42:51
1	B 249.677†	8400.8	8334.4	[1000]	µg/L	04:42:31
1	Ba 233.527†	20230.6	20336.5	[1000]	µg/L	04:42:31
1	Be 313.107†	409586.0	411310.0	[1000]	µg/L	04:42:31
1	Cd 226.502†	19793.8	19925.8	[1000]	µg/L	04:42:31
1	Co 228.616†	5253.8	5289.0	[1000]	µg/L	04:42:51
1	Cr 267.716†	19426.9	19441.0	[1000]	µg/L	04:42:31
1	Cu 324.752†	31540.8	31359.6	[1000]	µg/L	04:42:31
1	Mn 257.610†	68685.6	68956.0	[1000]	µg/L	04:42:31
1	Mo 202.031†	4939.1	4929.1	[1000]	µg/L	04:42:51
1	Ni 231.604†	8498.5	8582.4	[1000]	µg/L	04:42:31
1	P 214.914†	856.4	814.6	[5000]	µg/L	04:42:51
1	Pb 220.353†	1527.2	1523.3	[1000]	µg/L	04:42:51
1	S 181.975 Axial†	316.9	315.6	[2000]	µg/L	04:42:51
1	Sb 206.836†	638.1	609.9	[1000]	µg/L	04:42:51
1	Se 196.026†	503.6	477.8	[1000]	µg/L	04:42:51
1	SiO2†	9512.7	9382.2	[10695]	µg/L	04:42:31
1	Si 251.611†	23669.5	23628.9	[5000]	µg/L	04:42:31
1	Sn 189.927†	1131.2	1124.3	[1000]	µg/L	04:42:51
1	Ti 334.940†	105530.1	105896.9	[1000]	µg/L	04:42:31
1	Tl 190.801†	500.6	512.7	[1000]	µg/L	04:42:51
1	U 367.007†	1538.2	1568.9	[1000]	µg/L	04:42:31
1	V 292.402†	18529.8	18607.6	[1000]	µg/L	04:42:31
1	Zn 213.857†	18347.9	18438.8	[1000]	µg/L	04:42:31
2	Sc RADIAL	66344.9	66344.9	104.12	%	04:42:23
2	Al 396.153Radial†	32565.3	31279.1	[10000]	µg/L	04:42:23
2	Ca 317.933Radial†	61356.2	58695.0	[10000]	µg/L	04:42:23
2	Fe 238.204 Radial†	30089.8	28847.7	[10000]	µg/L	04:42:23
2	K 766.490 Radial†	23064.3	22371.3	[10000]	µg/L	04:42:23
2	Mg 279.077 IEC†	6508.1	6245.5	[10000]	µg/L	04:42:23
2	Na 589.592 Radial†	87509.7	82575.7	[10000]	µg/L	04:42:21
2	Sr 421.552†	792780.9	761871.5	[1000]	µg/L	04:42:21
2	Sc 361.383	210042.7	210042.7	98.292	%	04:42:54
2	Y 371.029	123531.8	123531.8	99.148	%	04:42:54
2	Ag 328.068†	25643.5	26242.8	[1000]	µg/L	04:42:54
2	As 188.979†	404.5	412.1	[1000]	µg/L	04:43:14
2	B 249.677†	8312.1	8359.6	[1000]	µg/L	04:42:54
2	Ba 233.527†	19948.8	20328.0	[1000]	µg/L	04:42:54
2	Be 313.107†	403537.9	410788.2	[1000]	µg/L	04:42:54
2	Cd 226.502†	19549.9	19949.8	[1000]	µg/L	04:42:54
2	Co 228.616†	5286.2	5394.2	[1000]	µg/L	04:43:14
2	Cr 267.716†	19232.2	19510.0	[1000]	µg/L	04:42:54
2	Cu 324.752†	31218.4	31465.2	[1000]	µg/L	04:42:54
2	Mn 257.610†	67816.2	69015.8	[1000]	µg/L	04:42:54
2	Mo 202.031†	4959.5	5017.8	[1000]	µg/L	04:43:14
2	Ni 231.604†	8353.1	8551.3	[1000]	µg/L	04:42:54

2	P 214.914†	859.7	829.7	[5000]	µg/L	04:43:14
2	Pb 220.353†	1547.8	1565.2	[1000]	µg/L	04:43:14
2	S 181.975 Axial†	317.4	320.4	[2000]	µg/L	04:43:14
2	Sb 206.836†	645.7	626.4	[1000]	µg/L	04:43:14
2	Se 196.026†	499.0	480.0	[1000]	µg/L	04:43:14
2	SiO2†	9391.0	9389.2	[10695]	µg/L	04:42:54
2	Si 251.611†	23335.5	23614.4	[5000]	µg/L	04:42:54
2	Sn 189.927†	1148.3	1157.2	[1000]	µg/L	04:43:14
2	Ti 334.940†	104022.5	105814.0	[1000]	µg/L	04:42:54
2	Tl 190.801†	508.4	527.6	[1000]	µg/L	04:43:14
2	U 367.007†	1480.1	1531.0	[1000]	µg/L	04:42:54
2	V 292.402†	18238.3	18565.7	[1000]	µg/L	04:42:54
2	Zn 213.857†	18135.0	18474.5	[1000]	µg/L	04:42:54
3	Sc RADIAL	69389.0	69389.0	108.90	%	04:42:28
3	Al 396.153Radial†	34078.1	31296.2	[10000]	µg/L	04:42:28
3	Ca 317.933Radial†	64697.2	59177.8	[10000]	µg/L	04:42:28
3	Fe 238.204 Radial†	31605.8	28972.1	[10000]	µg/L	04:42:28
3	K 766.490 Radial†	24188.9	22432.2	[10000]	µg/L	04:42:28
3	Mg 279.077 IEC†	6833.5	6270.0	[10000]	µg/L	04:42:28
3	Na 589.592 Radial†	86171.1	77659.3	[10000]	µg/L	04:42:25
3	Sr 421.552†	780177.1	716894.2	[1000]	µg/L	04:42:25
3	Sc 361.383	206576.2	206576.2	96.670	%	04:43:16
3	Y 371.029	121156.6	121156.6	97.242	%	04:43:16
3	Ag 328.068†	25354.8	26382.0	[1000]	µg/L	04:43:16
3	As 188.979†	396.6	410.9	[1000]	µg/L	04:43:36
3	B 249.677†	8308.0	8497.3	[1000]	µg/L	04:43:16
3	Ba 233.527†	19708.0	20419.4	[1000]	µg/L	04:43:16
3	Be 313.107†	396124.7	410008.9	[1000]	µg/L	04:43:16
3	Cd 226.502†	19160.8	19881.1	[1000]	µg/L	04:43:16
3	Co 228.616†	5191.1	5386.1	[1000]	µg/L	04:43:36
3	Cr 267.716†	18870.7	19464.4	[1000]	µg/L	04:43:16
3	Cu 324.752†	30685.0	31446.4	[1000]	µg/L	04:43:16
3	Mn 257.610†	66587.1	68902.1	[1000]	µg/L	04:43:16
3	Mo 202.031†	4870.1	5010.0	[1000]	µg/L	04:43:36
3	Ni 231.604†	8238.3	8575.1	[1000]	µg/L	04:43:16
3	P 214.914†	847.9	832.1	[5000]	µg/L	04:43:36
3	Pb 220.353†	1521.6	1564.5	[1000]	µg/L	04:43:36
3	S 181.975 Axial†	311.3	319.6	[2000]	µg/L	04:43:36
3	Sb 206.836†	627.9	619.0	[1000]	µg/L	04:43:36
3	Se 196.026†	500.0	489.6	[1000]	µg/L	04:43:36
3	SiO2†	9235.3	9388.4	[10695]	µg/L	04:43:16
3	Si 251.611†	22962.6	23627.0	[5000]	µg/L	04:43:16
3	Sn 189.927†	1124.8	1152.6	[1000]	µg/L	04:43:36
3	Ti 334.940†	102316.8	105825.5	[1000]	µg/L	04:43:16
3	Tl 190.801†	496.8	524.2	[1000]	µg/L	04:43:36
3	U 367.007†	1510.3	1587.5	[1000]	µg/L	04:43:16
3	V 292.402†	17933.6	18561.9	[1000]	µg/L	04:43:16
3	Zn 213.857†	17820.5	18458.7	[1000]	µg/L	04:43:16

Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	209846.4	3176.51	1.51%	98.200	%
Sc RADIAL	68349.5	1736.46	2.54%	107.27	%
Y 371.029	123110.6	1781.14	1.45%	98.810	%
Ag 328.068†	26327.7	74.44	0.28%	[1000]	µg/L
Al 396.153Radial†	31274.1	24.94	0.08%	[10000]	µg/L
As 188.979†	408.6	4.96	1.21%	[1000]	µg/L
B 249.677†	8397.1	87.71	1.04%	[1000]	µg/L
Ba 233.527†	20361.3	50.51	0.25%	[1000]	µg/L
Be 313.107†	410702.4	654.77	0.16%	[1000]	µg/L
Ca 317.933Radial†	58944.0	241.76	0.41%	[10000]	µg/L
Cd 226.502†	19918.9	34.86	0.18%	[1000]	µg/L
Co 228.616†	5356.4	58.52	1.09%	[1000]	µg/L
Cr 267.716†	19471.8	35.08	0.18%	[1000]	µg/L
Cu 324.752†	31423.7	56.34	0.18%	[1000]	µg/L
Fe 238.204 Radial†	28935.9	76.83	0.27%	[10000]	µg/L
K 766.490 Radial†	22444.3	79.72	0.36%	[10000]	µg/L
Mg 279.077 IEC†	6276.0	33.95	0.54%	[10000]	µg/L
Mn 257.610†	68958.0	56.85	0.08%	[1000]	µg/L

Mo 202.031†	4985.6	49.11	0.98%	[1000]	µg/L
Na 589.592 Radial†	80061.3	2460.13	3.07%	[10000]	µg/L
Ni 231.604†	8569.6	16.23	0.19%	[1000]	µg/L
P 214.914†	825.5	9.52	1.15%	[5000]	µg/L
Pb 220.353†	1551.0	24.00	1.55%	[1000]	µg/L
S 181.975 Axial†	318.5	2.58	0.81%	[2000]	µg/L
Sb 206.836†	618.4	8.27	1.34%	[1000]	µg/L
Se 196.026†	482.5	6.27	1.30%	[1000]	µg/L
SiO2†	9386.6	3.85	0.04%	[10695]	µg/L
Si 251.611†	23623.4	7.85	0.03%	[5000]	µg/L
Sn 189.927†	1144.7	17.83	1.56%	[1000]	µg/L
Sr 421.552†	739437.3	22488.88	3.04%	[1000]	µg/L
Ti 334.940†	105845.4	44.91	0.04%	[1000]	µg/L
Tl 190.801†	521.5	7.80	1.49%	[1000]	µg/L
U 367.007†	1562.5	28.80	1.84%	[1000]	µg/L
V 292.402†	18578.4	25.32	0.14%	[1000]	µg/L
Zn 213.857†	18457.3	17.88	0.10%	[1000]	µg/L

Batch ID:
Sequence No.: 5 **Autosampler Location: 5**
Sample ID: S10 **Date Collected: 11/19/2020 04:44:05**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	68978.0	68978.0	108.25	%	04:44:49
1	Al 396.153Radial†	173469.9	160249.0	[50000]	µg/L	04:44:49
1	Ca 317.933Radial†	330953.0	305491.7	[50000]	µg/L	04:44:49
1	Fe 238.204 Radial†	62999.7	58145.7	[20000]	µg/L	04:44:49
1	Mg 279.077 IEC†	34713.6	32062.3	[50000]	µg/L	04:44:49
1	Na 589.592 Radial†	188395.5	172562.8	[20000]	µg/L	04:44:49
1	Sc 361.383	221852.2	221852.2	103.82	%	04:44:57
1	Y 371.029	130759.9	130759.9	104.95	%	04:44:57
2	Sc RADIAL	67240.2	67240.2	105.52	%	04:44:51
2	Al 396.153Radial†	169230.4	160373.0	[50000]	µg/L	04:44:51
2	Ca 317.933Radial†	320307.4	303304.8	[50000]	µg/L	04:44:51
2	Fe 238.204 Radial†	61285.1	58025.1	[20000]	µg/L	04:44:51
2	Mg 279.077 IEC†	33635.3	31869.2	[50000]	µg/L	04:44:51
2	Na 589.592 Radial†	183824.9	172729.4	[20000]	µg/L	04:44:51
2	Sc 361.383	218916.4	218916.4	102.44	%	04:44:59
2	Y 371.029	129148.8	129148.8	103.66	%	04:44:59
3	Sc RADIAL	69288.1	69288.1	108.74	%	04:44:53
3	Al 396.153Radial†	174225.0	160226.4	[50000]	µg/L	04:44:53
3	Ca 317.933Radial†	332317.2	305378.3	[50000]	µg/L	04:44:53
3	Fe 238.204 Radial†	63392.1	58246.3	[20000]	µg/L	04:44:53
3	Mg 279.077 IEC†	34773.2	31973.6	[50000]	µg/L	04:44:53
3	Na 589.592 Radial†	189097.7	172429.9	[20000]	µg/L	04:44:53
3	Sc 361.383	214718.6	214718.6	100.48	%	04:45:01
3	Y 371.029	126439.4	126439.4	101.48	%	04:45:01

Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	218495.7	3585.32	1.64%	102.25	%
Sc RADIAL	68502.1	1103.76	1.61%	107.50	%
Y 371.029	128782.7	2183.38	1.70%	103.36	%
Al 396.153Radial†	160282.8	78.91	0.05%	[50000]	µg/L
Ca 317.933Radial†	304724.9	1231.18	0.40%	[50000]	µg/L
Fe 238.204 Radial†	58139.0	110.75	0.19%	[20000]	µg/L
Mg 279.077 IEC†	31968.4	96.66	0.30%	[50000]	µg/L
Na 589.592 Radial†	172574.0	150.05	0.09%	[20000]	µg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	26.01	0.00000	0.999716	
Al 396.153Radial	3	Lin Thru 0	0.0	3.202	0.00000	0.999986	
As 188.979	3	Lin Thru 0	0.0	0.4024	0.00000	0.999531	
B 249.677	3	Lin Thru 0	0.0	8.356	0.00000	0.999881	
Ba 233.527	3	Lin Thru 0	0.0	20.18	0.00000	0.999821	
Be 313.107	3	Lin Thru 0	0.0	407.0	0.00000	0.999839	
Ca 317.933Radial	3	Lin Thru 0	0.0	6.085	0.00000	0.999976	
Cd 226.502	3	Lin Thru 0	0.0	19.80	0.00000	0.999869	
Co 228.616	3	Lin Thru 0	0.0	5.280	0.00000	0.999598	
Cr 267.716	3	Lin Thru 0	0.0	19.31	0.00000	0.999783	
Cu 324.752	3	Lin Thru 0	0.0	31.10	0.00000	0.999788	
Fe 238.204 Radia	2	Lin Thru 0	0.0	2.904	0.00000	0.999998	
K 766.490 Radial	3	Lin Thru 0	0.0	2.250	0.00000	0.999975	
Mg 279.077 IEC	3	Lin Thru 0	0.0	0.6388	0.00000	0.999992	
Mn 257.610	3	Lin Thru 0	0.0	68.38	0.00000	0.999864	

Mo 202.031	3	Lin Thru 0	0.0	4.898	0.00000	0.999384
Na 589.592 Radia	2	Lin Thru 0	0.0	8.504	0.00000	0.999572
Ni 231.604	3	Lin Thru 0	0.0	8.525	0.00000	0.999900
P 214.914	3	Lin Thru 0	0.0	0.1628	0.00000	0.999615
Pb 220.353	3	Lin Thru 0	0.0	1.532	0.00000	0.999705
S 181.975 Axial	3	Lin Thru 0	0.0	0.1565	0.00000	0.999406
Sb 206.836	3	Lin Thru 0	0.0	0.6031	0.00000	0.998755
Se 196.026	3	Lin Thru 0	0.0	0.4747	0.00000	0.999482
SiO2	3	Lin Thru 0	0.0	0.8717	0.00000	0.999885
Si 251.611	3	Lin Thru 0	0.0	4.700	0.00000	0.999915
Sn 189.927	3	Lin Thru 0	0.0	1.120	0.00000	0.999033
Sr 421.552	3	Lin Thru 0	0.0	742.7	0.00000	0.999963
Ti 334.940	3	Lin Thru 0	0.0	104.5	0.00000	0.999672
Tl 190.801	3	Lin Thru 0	0.0	0.5147	0.00000	0.999662
U 367.007	3	Lin Thru 0	0.0	1.552	0.00000	0.999910
V 292.402	3	Lin Thru 0	0.0	18.39	0.00000	0.999725
Zn 213.857	3	Lin Thru 0	0.0	18.33	0.00000	0.999804

Batch ID:
Sequence No.: 6 **Autosampler Location: 9**
Sample ID: ICV **Date Collected: 11/19/2020 04:45:26**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	66809.0	66809.0	104.85	%	104.85	%	04:46:10
1	Al 396.153Radial†	17360.9	16560.4	5152.7	µg/L	5152.7	ppb	04:46:12
1	Ca 317.933Radial†	33884.7	32084.3	5272.5	µg/L	5272.5	ppb	04:46:12
1	Fe 238.204 Radial†	16312.0	15506.1	5344.0	µg/L	5344.0	ppb	04:46:12
1	K 766.490 Radial†	6098.4	6035.9	2683.9	µg/L	2683.9	ppb	04:46:12
1	Mg 279.077 IEC†	3528.9	3360.6	5263.4	µg/L	5263.4	ppb	04:46:12
1	Na 589.592 Radial†	23293.7	20744.8	2438.4	µg/L	2438.4	ppb	04:46:10
1	Sr 421.552†	399207.6	381205.4	512.65	µg/L	512.65	ppb	04:46:10
1	Sc 361.383	226260.1	226260.1	105.88	%	105.88	%	04:46:24
1	Y 371.029	131730.4	131730.4	105.73	%	105.73	%	04:46:24
1	Ag 328.068†	6466.7	6261.3	241.55	µg/L	241.55	ppb	04:46:24
1	As 188.979†	200.3	189.8	478.43	µg/L	478.43	ppb	04:46:44
1	B 249.677†	4449.8	4105.8	507.94	µg/L	507.94	ppb	04:46:24
1	Ba 233.527†	10322.7	9781.9	484.92	µg/L	484.92	ppb	04:46:24
1	Be 313.107†	101135.9	95757.6	236.99	µg/L	236.99	ppb	04:46:24
1	Cd 226.502†	10260.6	9751.0	491.89	µg/L	491.89	ppb	04:46:24
1	Co 228.616†	2586.2	2458.7	466.19	µg/L	466.19	ppb	04:46:44
1	Cr 267.716†	9977.9	9367.3	485.08	µg/L	485.08	ppb	04:46:24
1	Cu 324.752†	16210.3	15014.3	483.78	µg/L	483.78	ppb	04:46:24
1	Mn 257.610†	34798.9	32887.3	480.87	µg/L	480.87	ppb	04:46:24
1	Mo 202.031†	2378.4	2218.4	452.86	µg/L	452.86	ppb	04:46:44
1	Ni 231.604†	4727.9	4518.3	530.07	µg/L	530.07	ppb	04:46:44
1	P 214.914†	441.9	372.4	2255.1	µg/L	2255.1	ppb	04:46:44
1	Pb 220.353†	777.7	725.0	473.68	µg/L	473.68	ppb	04:46:44
1	S 181.975 Axial†	388.6	364.5	2329.9	µg/L	2329.9	ppb	04:46:44
1	Sb 206.836†	326.6	277.9	468.03	µg/L	468.03	ppb	04:46:44
1	Se 196.026†	1252.0	1154.8	2435.2	µg/L	2435.2	ppb	04:46:44
1	SiO2†	10038.0	9315.4	10683	µg/L	10683	ppb	04:46:24
1	Si 251.611†	24841.9	23335.6	4952.1	µg/L	4952.1	ppb	04:46:24
1	Sn 189.927†	586.9	543.3	487.79	µg/L	487.79	ppb	04:46:44
1	Ti 334.940†	53615.7	50621.8	484.81	µg/L	484.81	ppb	04:46:24
1	Tl 190.801†	253.0	249.2	486.44	µg/L	486.44	ppb	04:46:44
1	U 367.007†	678.5	666.0	411.19	µg/L	411.19	ppb	04:46:24
1	V 292.402†	9266.4	8762.3	477.64	µg/L	477.64	ppb	04:46:24
1	Zn 213.857†	9298.4	8806.3	476.02	µg/L	476.02	ppb	04:46:24
2	Sc RADIAL	65684.0	65684.0	103.08	%	103.08	%	04:46:14
2	Al 396.153Radial†	17099.3	16590.2	5161.4	µg/L	5161.4	ppb	04:46:16
2	Ca 317.933Radial†	33078.1	31855.2	5234.9	µg/L	5234.9	ppb	04:46:16
2	Fe 238.204 Radial†	15912.3	15384.9	5302.4	µg/L	5302.4	ppb	04:46:16
2	K 766.490 Radial†	6091.1	6128.4	2724.9	µg/L	2724.9	ppb	04:46:16
2	Mg 279.077 IEC†	3444.9	3336.8	5226.0	µg/L	5226.0	ppb	04:46:16
2	Na 589.592 Radial†	22981.4	20822.4	2447.5	µg/L	2447.5	ppb	04:46:14
2	Sr 421.552†	393430.2	382122.4	513.89	µg/L	513.89	ppb	04:46:14
2	Sc 361.383	224612.7	224612.7	105.11	%	105.11	%	04:46:46
2	Y 371.029	130481.8	130481.8	104.73	%	104.73	%	04:46:46
2	Ag 328.068†	6442.4	6282.9	242.33	µg/L	242.33	ppb	04:46:46
2	As 188.979†	206.1	196.7	495.54	µg/L	495.54	ppb	04:47:06
2	B 249.677†	4565.4	4246.6	524.66	µg/L	524.66	ppb	04:46:46
2	Ba 233.527†	10372.1	9900.4	490.80	µg/L	490.80	ppb	04:46:46
2	Be 313.107†	101457.0	96763.7	239.48	µg/L	239.48	ppb	04:46:46
2	Cd 226.502†	10272.5	9833.3	496.05	µg/L	496.05	ppb	04:46:46
2	Co 228.616†	2630.9	2519.2	477.65	µg/L	477.65	ppb	04:47:06
2	Cr 267.716†	9973.8	9432.5	488.46	µg/L	488.46	ppb	04:46:46
2	Cu 324.752†	16380.7	15288.8	492.69	µg/L	492.69	ppb	04:46:46
2	Mn 257.610†	35018.0	33336.7	487.44	µg/L	487.44	ppb	04:46:46
2	Mo 202.031†	2424.6	2278.9	465.20	µg/L	465.20	ppb	04:47:06
2	Ni 231.604†	4781.8	4602.4	539.93	µg/L	539.93	ppb	04:47:06

2	P 214.914†	445.8	379.2	2296.1 µg/L	2296.1 ppb	04:47:06
2	Pb 220.353†	781.2	733.7	479.29 µg/L	479.29 ppb	04:47:06
2	S 181.975 Axial†	392.7	371.1	2372.0 µg/L	2372.0 ppb	04:47:06
2	Sb 206.836†	325.9	279.5	470.78 µg/L	470.78 ppb	04:47:06
2	Se 196.026†	1257.0	1168.2	2463.4 µg/L	2463.4 ppb	04:47:06
2	SiO2†	10110.1	9453.6	10842 µg/L	10842 ppb	04:46:46
2	Si 251.611†	25032.4	23688.9	5027.0 µg/L	5027.0 ppb	04:46:46
2	Sn 189.927†	593.2	553.3	496.80 µg/L	496.80 ppb	04:47:06
2	Ti 334.940†	53872.9	51237.8	490.70 µg/L	490.70 ppb	04:46:46
2	Tl 190.801†	255.3	253.2	494.20 µg/L	494.20 ppb	04:47:06
2	U 367.007†	781.7	768.9	477.61 µg/L	477.61 ppb	04:46:46
2	V 292.402†	9330.0	8886.9	484.47 µg/L	484.47 ppb	04:46:46
2	Zn 213.857†	9420.5	8986.8	485.80 µg/L	485.80 ppb	04:46:46
3	Sc RADIAL	64514.5	64514.5	101.25 %	101.25 %	04:46:18
3	Al 396.153Radial†	16311.6	16112.9	5012.6 µg/L	5012.6 ppb	04:46:20
3	Ca 317.933Radial†	31399.7	30779.3	5058.1 µg/L	5058.1 ppb	04:46:20
3	Fe 238.204 Radial†	15135.5	14897.4	5134.5 µg/L	5134.5 ppb	04:46:20
3	K 766.490 Radial†	5860.5	6007.8	2671.3 µg/L	2671.3 ppb	04:46:20
3	Mg 279.077 IEC†	3267.7	3222.3	5046.8 µg/L	5046.8 ppb	04:46:20
3	Na 589.592 Radial†	22539.0	20789.6	2443.7 µg/L	2443.7 ppb	04:46:18
3	Sr 421.552†	386879.5	382571.1	514.51 µg/L	514.51 ppb	04:46:18
3	Sc 361.383	223863.6	223863.6	104.76 %	104.76 %	04:47:09
3	Y 371.029	130300.7	130300.7	104.58 %	104.58 %	04:47:09
3	Ag 328.068†	6515.9	6373.6	245.83 µg/L	245.83 ppb	04:47:09
3	As 188.979†	201.5	192.9	486.23 µg/L	486.23 ppb	04:47:29
3	B 249.677†	4522.0	4219.6	520.92 µg/L	520.92 ppb	04:47:09
3	Ba 233.527†	10380.4	9941.4	492.85 µg/L	492.85 ppb	04:47:09
3	Be 313.107†	101053.6	96701.5	239.33 µg/L	239.33 ppb	04:47:09
3	Cd 226.502†	10241.0	9836.0	496.20 µg/L	496.20 ppb	04:47:09
3	Co 228.616†	2590.0	2488.5	471.84 µg/L	471.84 ppb	04:47:29
3	Cr 267.716†	10002.4	9491.6	491.52 µg/L	491.52 ppb	04:47:09
3	Cu 324.752†	16322.4	15285.3	492.55 µg/L	492.55 ppb	04:47:09
3	Mn 257.610†	34953.0	33386.3	488.16 µg/L	488.16 ppb	04:47:09
3	Mo 202.031†	2389.9	2253.5	460.01 µg/L	460.01 ppb	04:47:29
3	Ni 231.604†	4717.0	4555.8	534.46 µg/L	534.46 ppb	04:47:29
3	P 214.914†	441.6	376.6	2280.8 µg/L	2280.8 ppb	04:47:29
3	Pb 220.353†	777.8	732.9	478.78 µg/L	478.78 ppb	04:47:29
3	S 181.975 Axial†	384.5	364.6	2330.2 µg/L	2330.2 ppb	04:47:29
3	Sb 206.836†	334.2	288.5	485.55 µg/L	485.55 ppb	04:47:29
3	Se 196.026†	1256.9	1172.2	2471.6 µg/L	2471.6 ppb	04:47:29
3	SiO2†	10013.2	9393.3	10773 µg/L	10773 ppb	04:47:09
3	Si 251.611†	24970.9	23709.8	5031.6 µg/L	5031.6 ppb	04:47:09
3	Sn 189.927†	591.2	553.3	496.82 µg/L	496.82 ppb	04:47:29
3	Ti 334.940†	53671.5	51217.1	490.49 µg/L	490.49 ppb	04:47:09
3	Tl 190.801†	248.6	247.6	483.31 µg/L	483.31 ppb	04:47:29
3	U 367.007†	750.2	741.3	460.42 µg/L	460.42 ppb	04:47:09
3	V 292.402†	9327.6	8914.4	485.96 µg/L	485.96 ppb	04:47:09
3	Zn 213.857†	9309.2	8910.6	481.70 µg/L	481.70 ppb	04:47:09

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	224912.1	105.25	%	0.574	105.25	%	0.574	0.55%
Sc RADIAL	65669.2	103.06	%	1.801	103.06	%	1.801	1.75%
Y 371.029	130837.6	105.01	%	0.625	105.01	%	0.625	0.59%
Ag 328.068†	6305.9	243.24	µg/L	2.282	243.24	ppb	2.282	0.94%
QC value within limits for Ag 328.068 Recovery = 97.29%								
Al 396.153Radial†	16421.2	5108.9	µg/L	83.52	5108.9	ppb	83.52	1.63%
QC value within limits for Al 396.153Radial Recovery = 102.18%								
As 188.979†	193.1	486.73	µg/L	8.562	486.73	ppb	8.562	1.76%
QC value within limits for As 188.979 Recovery = 97.35%								
B 249.677†	4190.7	517.84	µg/L	8.774	517.84	ppb	8.774	1.69%
QC value within limits for B 249.677 Recovery = 103.57%								
Ba 233.527†	9874.6	489.53	µg/L	4.116	489.53	ppb	4.116	0.84%
QC value within limits for Ba 233.527 Recovery = 97.91%								
Be 313.107†	96407.6	238.60	µg/L	1.397	238.60	ppb	1.397	0.59%
QC value within limits for Be 313.107 Recovery = 95.44%								
Ca 317.933Radial†	31572.9	5188.5	µg/L	114.51	5188.5	ppb	114.51	2.21%
QC value within limits for Ca 317.933Radial Recovery = 103.77%								
Cd 226.502†	9806.7	494.71	µg/L	2.450	494.71	ppb	2.450	0.50%

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   QC value within limits for Cd 226.502  Recovery = 98.94%
Co 228.616†          2488.8      471.89 µg/L         5.730      471.89 ppb          5.730   1.21%
   QC value within limits for Co 228.616  Recovery = 94.38%
Cr 267.716†          9430.5      488.36 µg/L         3.220      488.36 ppb          3.220   0.66%
   QC value within limits for Cr 267.716  Recovery = 97.67%
Cu 324.752†         15196.1      489.67 µg/L         5.102      489.67 ppb          5.102   1.04%
   QC value within limits for Cu 324.752  Recovery = 97.93%
Fe 238.204 Radial†  15262.8      5260.3 µg/L        110.92      5260.3 ppb         110.92   2.11%
   QC value within limits for Fe 238.204 Radial  Recovery = 105.21%
K 766.490 Radial†    6057.4      2693.4 µg/L         28.05      2693.4 ppb          28.05   1.04%
   QC value within limits for K 766.490 Radial  Recovery = 107.73%
Mg 279.077 IEC†      3306.6      5178.7 µg/L        115.78      5178.7 ppb         115.78   2.24%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.57%
Mn 257.610†         33203.4      485.49 µg/L         4.021      485.49 ppb          4.021   0.83%
   QC value within limits for Mn 257.610  Recovery = 97.10%
Mo 202.031†          2250.2      459.36 µg/L         6.197      459.36 ppb          6.197   1.35%
   QC value within limits for Mo 202.031  Recovery = 91.87%
Na 589.592 Radial†  20785.6      2443.2 µg/L          4.58      2443.2 ppb           4.58   0.19%
   QC value within limits for Na 589.592 Radial  Recovery = 97.73%
Ni 231.604†          4558.8      534.82 µg/L         4.940      534.82 ppb          4.940   0.92%
   QC value within limits for Ni 231.604  Recovery = 106.96%
P 214.914†            376.1      2277.3 µg/L         20.72      2277.3 ppb          20.72   0.91%
   QC value within limits for P 214.914  Recovery = 91.09%
Pb 220.353†           730.5      477.25 µg/L         3.098      477.25 ppb          3.098   0.65%
   QC value within limits for Pb 220.353  Recovery = 95.45%
S 181.975 Axial†      366.7      2344.0 µg/L         24.20      2344.0 ppb          24.20   1.03%
   QC value within limits for S 181.975 Axial  Recovery = 93.76%
Sb 206.836†           282.0      474.78 µg/L         9.422      474.78 ppb          9.422   1.98%
   QC value within limits for Sb 206.836  Recovery = 94.96%
Se 196.026†          1165.1      2456.7 µg/L         19.10      2456.7 ppb          19.10   0.78%
   QC value within limits for Se 196.026  Recovery = 98.27%
SiO2†                9387.4       10766 µg/L         79.36       10766 ppb          79.36   0.74%
   QC value within limits for SiO2  Recovery = 100.66%
Si 251.611†         23578.1      5003.6 µg/L         44.63      5003.6 ppb          44.63   0.89%
   QC value within limits for Si 251.611  Recovery = 100.07%
Sn 189.927†           550.0      493.80 µg/L         5.205      493.80 ppb          5.205   1.05%
   QC value within limits for Sn 189.927  Recovery = 98.76%
Sr 421.552†        381966.3      513.68 µg/L         0.949      513.68 ppb          0.949   0.18%
   QC value within limits for Sr 421.552  Recovery = 102.74%
Ti 334.940†         51025.6      488.67 µg/L         3.342      488.67 ppb          3.342   0.68%
   QC value within limits for Ti 334.940  Recovery = 97.73%
Tl 190.801†           250.0      487.98 µg/L         5.605      487.98 ppb          5.605   1.15%
   QC value within limits for Tl 190.801  Recovery = 97.60%
U 367.007†            725.4      449.74 µg/L        34.474      449.74 ppb         34.474   7.67%
   QC value less than the lower limit for U 367.007  Recovery = 89.95%
V 292.402†            8854.5      482.69 µg/L         4.436      482.69 ppb          4.436   0.92%
   QC value within limits for V 292.402  Recovery = 96.54%
Zn 213.857†           8901.3      481.17 µg/L         4.914      481.17 ppb          4.914   1.02%
   QC value within limits for Zn 213.857  Recovery = 96.23%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 7 **Autosampler Location: 10**
Sample ID: ICB **Date Collected: 11/19/2020 04:47:59**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	63233.4	63233.4	99.236	%	99.236	%	04:48:43
1	Al 396.153Radial†	40.9	43.5	13.587	µg/L	13.587	ppb	04:48:43
1	Ca 317.933Radial†	279.7	48.1	7.8970	µg/L	7.8970	ppb	04:49:03
1	Fe 238.204 Radial†	66.0	14.8	5.0991	µg/L	5.0991	ppb	04:49:03
1	K 766.490 Radial†	-245.1	-27.6	-12.251	µg/L	-12.251	ppb	04:48:43
1	Mg 279.077 IEC†	10.2	5.1	8.0628	µg/L	8.0628	ppb	04:49:03
1	Na 589.592 Radial†	1493.4	33.1	3.8872	µg/L	3.8872	ppb	04:48:43
1	Sr 421.552†	-334.1	119.1	0.1597	µg/L	0.1597	ppb	04:48:43
1	Sc 361.383	207215.2	207215.2	96.969	%	96.969	%	04:49:51
1	Y 371.029	120391.5	120391.5	96.628	%	96.628	%	04:49:51
1	Ag 328.068†	-143.6	5.7	0.2405	µg/L	0.2405	ppb	04:50:11
1	As 188.979†	-1.2	-0.7	-1.7258	µg/L	-1.7258	ppb	04:50:11
1	B 249.677†	170.0	78.4	9.4002	µg/L	9.4002	ppb	04:50:11
1	Ba 233.527†	-36.6	-5.1	-0.2529	µg/L	-0.2529	ppb	04:50:11
1	Be 313.107†	90.2	332.7	0.8174	µg/L	0.8174	ppb	04:49:51
1	Cd 226.502†	-49.9	8.8	0.4445	µg/L	0.4445	ppb	04:50:11
1	Co 228.616†	-18.5	-2.9	-0.5500	µg/L	-0.5500	ppb	04:50:11
1	Cr 267.716†	56.6	2.1	0.1065	µg/L	0.1065	ppb	04:50:11
1	Cu 324.752†	317.9	32.3	1.0145	µg/L	1.0145	ppb	04:50:11
1	Mn 257.610†	-14.5	6.4	0.0938	µg/L	0.0938	ppb	04:50:11
1	Mo 202.031†	25.6	-1.5	-0.3061	µg/L	-0.3061	ppb	04:50:11
1	Ni 231.604†	-54.1	-2.7	-0.3152	µg/L	-0.3152	ppb	04:50:11
1	P 214.914†	41.2	-2.4	-14.815	µg/L	-14.815	ppb	04:50:11
1	Pb 220.353†	12.5	3.3	2.2063	µg/L	2.2063	ppb	04:50:11
1	S 181.975 Axial†	1.5	-0.9	-5.8706	µg/L	-5.8706	ppb	04:50:11
1	Sb 206.836†	34.6	5.2	8.6219	µg/L	8.6219	ppb	04:50:11
1	Se 196.026†	25.9	-1.0	-2.0246	µg/L	-2.0246	ppb	04:50:11
1	SiO2†	163.8	3.9	4.4955	µg/L	4.4955	ppb	04:50:11
1	Si 251.611†	118.7	-4.0	-0.8508	µg/L	-0.8508	ppb	04:50:11
1	Sn 189.927†	16.8	6.3	5.6254	µg/L	5.6254	ppb	04:50:11
1	Ti 334.940†	19.8	4.7	0.0453	µg/L	0.0453	ppb	04:50:11
1	Tl 190.801†	-11.2	-1.2	-2.3050	µg/L	-2.3050	ppb	04:50:11
1	U 367.007†	-54.1	-30.6	-19.743	µg/L	-19.743	ppb	04:49:51
1	V 292.402†	-9.7	0.6	0.0173	µg/L	0.0173	ppb	04:50:11
1	Zn 213.857†	-21.5	2.3	0.1246	µg/L	0.1246	ppb	04:50:11
2	Sc RADIAL	62364.6	62364.6	97.873	%	97.873	%	04:49:06
2	Al 396.153Radial†	-32.5	-31.0	-9.7240	µg/L	-9.7240	ppb	04:49:06
2	Ca 317.933Radial†	241.0	12.5	2.0547	µg/L	2.0547	ppb	04:49:26
2	Fe 238.204 Radial†	55.4	5.0	1.7112	µg/L	1.7112	ppb	04:49:26
2	K 766.490 Radial†	-137.6	78.8	35.033	µg/L	35.033	ppb	04:49:06
2	Mg 279.077 IEC†	-0.5	-5.7	-8.8698	µg/L	-8.8698	ppb	04:49:26
2	Na 589.592 Radial†	1455.7	15.4	1.8148	µg/L	1.8148	ppb	04:49:06
2	Sr 421.552†	-451.4	-5.5	-0.0076	µg/L	-0.0076	ppb	04:49:06
2	Sc 361.383	195348.1	195348.1	91.416	%	91.416	%	04:50:14
2	Y 371.029	114113.1	114113.1	91.589	%	91.589	%	04:50:14
2	Ag 328.068†	-144.5	-4.2	-0.1486	µg/L	-0.1486	ppb	04:50:34
2	As 188.979†	-1.8	-1.3	-3.3298	µg/L	-3.3298	ppb	04:50:34
2	B 249.677†	173.1	92.4	11.067	µg/L	11.067	ppb	04:50:34
2	Ba 233.527†	-34.8	-5.5	-0.2714	µg/L	-0.2714	ppb	04:50:34
2	Be 313.107†	-222.2	-3.5	-0.0080	µg/L	-0.0080	ppb	04:50:14
2	Cd 226.502†	-55.7	-0.7	-0.0352	µg/L	-0.0352	ppb	04:50:34
2	Co 228.616†	-12.9	2.1	0.3974	µg/L	0.3974	ppb	04:50:34
2	Cr 267.716†	62.9	12.5	0.6452	µg/L	0.6452	ppb	04:50:34
2	Cu 324.752†	314.3	48.3	1.5343	µg/L	1.5343	ppb	04:50:34
2	Mn 257.610†	-15.8	4.1	0.0601	µg/L	0.0601	ppb	04:50:34
2	Mo 202.031†	28.4	3.2	0.6603	µg/L	0.6603	ppb	04:50:34
2	Ni 231.604†	-54.6	-6.6	-0.7775	µg/L	-0.7775	ppb	04:50:34

2	P 214.914†	48.0	7.5	46.298 µg/L	46.298 ppb	04:50:34
2	Pb 220.353†	12.0	3.6	2.3968 µg/L	2.3968 ppb	04:50:34
2	S 181.975 Axial†	2.4	0.2	1.0746 µg/L	1.0746 ppb	04:50:34
2	Sb 206.836†	34.7	7.4	12.309 µg/L	12.309 ppb	04:50:34
2	Se 196.026†	34.8	10.4	21.937 µg/L	21.937 ppb	04:50:34
2	SiO2†	170.2	21.2	24.316 µg/L	24.316 ppb	04:50:34
2	Si 251.611†	137.9	24.4	5.1799 µg/L	5.1799 ppb	04:50:34
2	Sn 189.927†	18.2	9.0	8.0117 µg/L	8.0117 ppb	04:50:34
2	Ti 334.940†	28.0	14.9	0.1424 µg/L	0.1424 ppb	04:50:34
2	Tl 190.801†	-8.6	0.9	1.7025 µg/L	1.7025 ppb	04:50:34
2	U 367.007†	-42.3	-21.0	-13.565 µg/L	-13.565 ppb	04:50:14
2	V 292.402†	-2.6	7.7	0.4125 µg/L	0.4125 ppb	04:50:34
2	Zn 213.857†	-17.0	5.8	0.3177 µg/L	0.3177 ppb	04:50:34
3	Sc RADIAL	61094.3	61094.3	95.879 %	95.879 %	04:49:28
3	Al 396.153Radial†	-53.5	-53.6	-16.784 µg/L	-16.784 ppb	04:49:28
3	Ca 317.933Radial†	234.5	10.8	1.7724 µg/L	1.7724 ppb	04:49:48
3	Fe 238.204 Radial†	48.5	-1.1	-0.3765 µg/L	-0.3765 ppb	04:49:48
3	K 766.490 Radial†	-465.0	-265.5	-118.01 µg/L	-118.01 ppb	04:49:28
3	Mg 279.077 IEC†	10.6	5.9	9.2700 µg/L	9.2700 ppb	04:49:48
3	Na 589.592 Radial†	1428.5	18.1	2.1249 µg/L	2.1249 ppb	04:49:28
3	Sr 421.552†	-381.4	57.9	0.0780 µg/L	0.0780 ppb	04:49:28
3	Sc 361.383	194795.9	194795.9	91.157 %	91.157 %	04:50:36
3	Y 371.029	113735.3	113735.3	91.286 %	91.286 %	04:50:36
3	Ag 328.068†	-141.1	-1.1	-0.0516 µg/L	-0.0516 ppb	04:50:56
3	As 188.979†	-2.2	-1.8	-4.5408 µg/L	-4.5408 ppb	04:50:56
3	B 249.677†	153.7	71.8	8.5863 µg/L	8.5863 ppb	04:50:56
3	Ba 233.527†	-26.1	4.0	0.1957 µg/L	0.1957 ppb	04:50:56
3	Be 313.107†	-205.8	13.9	0.0342 µg/L	0.0342 ppb	04:50:36
3	Cd 226.502†	-53.5	1.7	0.0835 µg/L	0.0835 ppb	04:50:56
3	Co 228.616†	-18.4	-4.0	-0.7634 µg/L	-0.7634 ppb	04:50:56
3	Cr 267.716†	51.9	0.6	0.0328 µg/L	0.0328 ppb	04:50:56
3	Cu 324.752†	299.9	33.5	1.0920 µg/L	1.0920 ppb	04:50:56
3	Mn 257.610†	-21.9	-2.6	-0.0382 µg/L	-0.0382 ppb	04:50:56
3	Mo 202.031†	29.4	4.4	0.9079 µg/L	0.9079 ppb	04:50:56
3	Ni 231.604†	-54.8	-7.0	-0.8269 µg/L	-0.8269 ppb	04:50:56
3	P 214.914†	47.8	7.5	46.298 µg/L	46.298 ppb	04:50:56
3	Pb 220.353†	1.4	-8.0	-5.2213 µg/L	-5.2213 ppb	04:50:56
3	S 181.975 Axial†	2.2	-0.1	-0.7179 µg/L	-0.7179 ppb	04:50:56
3	Sb 206.836†	35.7	8.6	14.258 µg/L	14.258 ppb	04:50:56
3	Se 196.026†	21.7	-3.8	-8.0635 µg/L	-8.0635 ppb	04:50:56
3	SiO2†	173.9	25.7	29.483 µg/L	29.483 ppb	04:50:56
3	Si 251.611†	135.6	22.3	4.7171 µg/L	4.7171 ppb	04:50:56
3	Sn 189.927†	20.6	11.6	10.351 µg/L	10.351 ppb	04:50:56
3	Ti 334.940†	18.9	5.1	0.0482 µg/L	0.0482 ppb	04:50:56
3	Tl 190.801†	-9.4	0.0	0.0690 µg/L	0.0690 ppb	04:50:56
3	U 367.007†	-8.2	16.2	10.469 µg/L	10.469 ppb	04:50:36
3	V 292.402†	-13.8	-4.5	-0.2370 µg/L	-0.2370 ppb	04:50:56
3	Zn 213.857†	-16.8	6.0	0.3323 µg/L	0.3323 ppb	04:50:56

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	199119.8	93.181	%	3.2834	93.181	%	3.2834	3.52%
Sc RADIAL	62230.8	97.663	%	1.6883	97.663	%	1.6883	1.73%
Y 371.029	116080.0	93.167	%	3.0007	93.167	%	3.0007	3.22%
Ag 328.068†	0.1	0.0134	µg/L	0.20251	0.0134	ppb	0.20251	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-13.7	-4.3070	µg/L	15.89325	-4.3070	ppb	15.89325	369.01%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-1.3	-3.1988	µg/L	1.41206	-3.1988	ppb	1.41206	44.14%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	80.9	9.6845	µg/L	1.26450	9.6845	ppb	1.26450	13.06%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-2.2	-0.1095	µg/L	0.26454	-0.1095	ppb	0.26454	241.51%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	114.3	0.2812	µg/L	0.46487	0.2812	ppb	0.46487	165.31%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	23.8	3.9080	µg/L	3.45738	3.9080	ppb	3.45738	88.47%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	3.3	0.1642	µg/L	0.24982	0.1642	ppb	0.24982	152.10%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              -1.6     -0.3053 µg/L       0.61785     -0.3053 ppb        0.61785 202.36%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               5.0      0.2615 µg/L       0.33435      0.2615 ppb        0.33435 127.86%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†              38.0      1.2136 µg/L       0.28039      1.2136 ppb        0.28039  23.10%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†        6.2      2.1446 µg/L       2.76339      2.1446 ppb        2.76339 128.85%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†       -71.4     -31.742 µg/L       78.3596     -31.742 ppb        78.3596 246.87%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           1.8      2.8210 µg/L      10.14252      2.8210 ppb       10.14252 359.53%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               2.6      0.0386 µg/L       0.06858      0.0386 ppb        0.06858 177.77%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               2.1      0.4207 µg/L       0.64150      0.4207 ppb        0.64150 152.49%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†       22.2      2.6090 µg/L       1.11783      2.6090 ppb        1.11783  42.85%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              -5.5     -0.6398 µg/L       0.28222     -0.6398 ppb        0.28222  44.11%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                4.2      25.927 µg/L       35.2839      25.927 ppb        35.2839 136.09%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†              -0.3     -0.2060 µg/L       4.34435     -0.2060 ppb        4.34435 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         -0.3     -1.8380 µg/L       3.60553     -1.8380 ppb        3.60553 196.17%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               7.1      11.730 µg/L        2.8623      11.730 ppb         2.8623  24.40%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               1.9      3.9497 µg/L      15.86750      3.9497 ppb       15.86750 401.74%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    16.9      19.432 µg/L       13.1906      19.432 ppb        13.1906  67.88%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              14.2      3.0154 µg/L       3.35624      3.0154 ppb        3.35624 111.30%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               9.0      7.9960 µg/L       2.36273      7.9960 ppb        2.36273  29.55%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†              57.2      0.0767 µg/L       0.08365      0.0767 ppb        0.08365 109.05%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               8.2      0.0786 µg/L       0.05523      0.0786 ppb        0.05523  70.23%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -0.1     -0.1778 µg/L       2.01514     -0.1778 ppb        2.01514 >999.9%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†              -11.8     -7.6131 µg/L      15.96138     -7.6131 ppb       15.96138 209.66%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†                1.3      0.0643 µg/L       0.32733      0.0643 ppb        0.32733 509.44%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               4.7      0.2582 µg/L       0.11592      0.2582 ppb        0.11592  44.90%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Batch ID:
Sequence No.: 8 **Autosampler Location: 101**
Sample ID: PQL **Date Collected: 11/19/2020 04:51:26**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	69829.7	69829.7	109.59	%	109.59	%	04:52:11
1	Al 396.153Radial†	649.0	594.4	185.20	µg/L	185.20	ppb	04:52:31
1	Ca 317.933Radial†	1493.6	1129.2	185.56	µg/L	185.56	ppb	04:52:31
1	Fe 238.204 Radial†	360.8	277.6	95.646	µg/L	95.646	ppb	04:52:31
1	K 766.490 Radial†	-7.1	213.0	94.668	µg/L	94.668	ppb	04:52:11
1	Mg 279.077 IEC†	197.1	174.8	273.61	µg/L	273.61	ppb	04:52:31
1	Na 589.592 Radial†	4212.6	2372.2	278.92	µg/L	278.92	ppb	04:52:11
1	Sr 421.552†	3645.5	3782.2	5.0812	µg/L	5.0812	ppb	04:52:11
1	Sc 361.383	192752.8	192752.8	90.201	%	90.201	%	04:53:19
1	Y 371.029	112635.3	112635.3	90.403	%	90.403	%	04:53:19
1	Ag 328.068†	-10.2	142.5	5.4602	µg/L	5.4602	ppb	04:53:39
1	As 188.979†	10.5	12.3	30.638	µg/L	30.638	ppb	04:53:39
1	B 249.677†	620.8	591.4	71.076	µg/L	71.076	ppb	04:53:39
1	Ba 233.527†	67.2	107.0	5.3042	µg/L	5.3042	ppb	04:53:39
1	Be 313.107†	1545.7	1953.2	4.8194	µg/L	4.8194	ppb	04:53:19
1	Cd 226.502†	39.9	104.5	5.2656	µg/L	5.2656	ppb	04:53:39
1	Co 228.616†	10.5	27.8	5.2706	µg/L	5.2706	ppb	04:53:39
1	Cr 267.716†	259.7	231.6	11.995	µg/L	11.995	ppb	04:53:39
1	Cu 324.752†	968.1	777.7	25.061	µg/L	25.061	ppb	04:53:39
1	Mn 257.610†	668.4	762.4	11.147	µg/L	11.147	ppb	04:53:39
1	Mo 202.031†	69.9	49.6	10.133	µg/L	10.133	ppb	04:53:39
1	Ni 231.604†	-8.7	43.5	5.1025	µg/L	5.1025	ppb	04:53:39
1	P 214.914†	66.9	29.3	178.57	µg/L	178.57	ppb	04:53:39
1	Pb 220.353†	30.4	24.2	15.796	µg/L	15.796	ppb	04:53:39
1	S 181.975 Axial†	20.9	20.7	132.38	µg/L	132.38	ppb	04:53:39
1	Sb 206.836†	44.4	18.7	31.148	µg/L	31.148	ppb	04:53:39
1	Se 196.026†	33.8	9.8	20.716	µg/L	20.716	ppb	04:53:39
1	SiO2†	352.5	225.8	258.96	µg/L	258.96	ppb	04:53:39
1	Si 251.611†	602.9	541.9	115.02	µg/L	115.02	ppb	04:53:39
1	Sn 189.927†	25.2	17.0	15.191	µg/L	15.191	ppb	04:53:39
1	Ti 334.940†	562.5	607.9	5.8193	µg/L	5.8193	ppb	04:53:39
1	Tl 190.801†	0.4	10.7	20.899	µg/L	20.899	ppb	04:53:39
1	U 367.007†	24.7	52.6	33.550	µg/L	33.550	ppb	04:53:19
1	V 292.402†	81.4	100.8	5.5313	µg/L	5.5313	ppb	04:53:39
1	Zn 213.857†	369.1	433.6	23.586	µg/L	23.586	ppb	04:53:39
2	Sc RADIAL	63761.5	63761.5	100.07	%	100.07	%	04:52:33
2	Al 396.153Radial†	627.7	629.5	196.21	µg/L	196.21	ppb	04:52:53
2	Ca 317.933Radial†	1467.8	1233.1	202.63	µg/L	202.63	ppb	04:52:53
2	Fe 238.204 Radial†	346.8	295.0	101.62	µg/L	101.62	ppb	04:52:53
2	K 766.490 Radial†	-42.4	177.0	78.708	µg/L	78.708	ppb	04:52:33
2	Mg 279.077 IEC†	210.0	204.7	320.52	µg/L	320.52	ppb	04:52:53
2	Na 589.592 Radial†	3880.6	2406.2	282.92	µg/L	282.92	ppb	04:52:33
2	Sr 421.552†	3329.8	3783.3	5.0820	µg/L	5.0820	ppb	04:52:33
2	Sc 361.383	190792.5	190792.5	89.284	%	89.284	%	04:53:41
2	Y 371.029	111305.4	111305.4	89.335	%	89.335	%	04:53:41
2	Ag 328.068†	-2.6	150.8	5.7501	µg/L	5.7501	ppb	04:54:01
2	As 188.979†	8.8	10.5	26.142	µg/L	26.142	ppb	04:54:01
2	B 249.677†	608.2	584.3	70.243	µg/L	70.243	ppb	04:54:01
2	Ba 233.527†	70.0	111.0	5.4998	µg/L	5.4998	ppb	04:54:01
2	Be 313.107†	1522.8	1945.2	4.8001	µg/L	4.8001	ppb	04:53:41
2	Cd 226.502†	37.3	102.0	5.1424	µg/L	5.1424	ppb	04:54:01
2	Co 228.616†	9.0	26.3	4.9898	µg/L	4.9898	ppb	04:54:01
2	Cr 267.716†	249.7	223.4	11.568	µg/L	11.568	ppb	04:54:01
2	Cu 324.752†	975.7	797.3	25.729	µg/L	25.729	ppb	04:54:01
2	Mn 257.610†	666.5	767.9	11.228	µg/L	11.228	ppb	04:54:01
2	Mo 202.031†	66.2	46.3	9.4550	µg/L	9.4550	ppb	04:54:01
2	Ni 231.604†	-16.6	34.5	4.0440	µg/L	4.0440	ppb	04:54:01

2	P 214.914†	68.9	32.2	196.81 µg/L	196.81 ppb	04:54:01
2	Pb 220.353†	33.7	28.2	18.355 µg/L	18.355 ppb	04:54:01
2	S 181.975 Axial†	16.4	15.9	101.50 µg/L	101.50 ppb	04:54:01
2	Sb 206.836†	46.1	21.2	35.233 µg/L	35.233 ppb	04:54:01
2	Se 196.026†	40.5	17.7	37.340 µg/L	37.340 ppb	04:54:01
2	SiO2†	357.5	235.4	269.96 µg/L	269.96 ppb	04:54:01
2	Si 251.611†	584.2	527.9	112.05 µg/L	112.05 ppb	04:54:01
2	Sn 189.927†	30.6	23.3	20.862 µg/L	20.862 ppb	04:54:01
2	Ti 334.940†	561.8	613.5	5.8730 µg/L	5.8730 ppb	04:54:01
2	Tl 190.801†	-5.2	4.5	8.7205 µg/L	8.7205 ppb	04:54:01
2	U 367.007†	65.9	99.0	63.449 µg/L	63.449 ppb	04:53:41
2	V 292.402†	84.1	104.8	5.7675 µg/L	5.7675 ppb	04:54:01
2	Zn 213.857†	364.8	433.0	23.556 µg/L	23.556 ppb	04:54:01
3	Sc RADIAL	64377.7	64377.7	101.03 %	101.03 %	04:52:55
3	Al 396.153Radial†	604.6	600.7	187.19 µg/L	187.19 ppb	04:53:15
3	Ca 317.933Radial†	1429.5	1181.1	194.10 µg/L	194.10 ppb	04:53:15
3	Fe 238.204 Radial†	337.4	282.4	97.257 µg/L	97.257 ppb	04:53:15
3	K 766.490 Radial†	106.9	325.3	144.57 µg/L	144.57 ppb	04:52:55
3	Mg 279.077 IEC†	196.1	189.0	295.84 µg/L	295.84 ppb	04:53:15
3	Na 589.592 Radial†	3968.2	2455.8	288.76 µg/L	288.76 ppb	04:52:55
3	Sr 421.552†	3401.1	3822.1	5.1347 µg/L	5.1347 ppb	04:52:55
3	Sc 361.383	195576.2	195576.2	91.523 %	91.523 %	04:54:03
3	Y 371.029	114364.9	114364.9	91.791 %	91.791 %	04:54:03
3	Ag 328.068†	-14.4	138.1	5.2692 µg/L	5.2692 ppb	04:54:23
3	As 188.979†	8.9	10.3	25.674 µg/L	25.674 ppb	04:54:23
3	B 249.677†	612.9	572.8	68.853 µg/L	68.853 ppb	04:54:23
3	Ba 233.527†	68.1	107.0	5.3003 µg/L	5.3003 ppb	04:54:23
3	Be 313.107†	1591.9	1979.0	4.8834 µg/L	4.8834 ppb	04:54:03
3	Cd 226.502†	37.4	101.2	5.1000 µg/L	5.1000 ppb	04:54:23
3	Co 228.616†	2.1	18.5	3.5171 µg/L	3.5171 ppb	04:54:23
3	Cr 267.716†	252.6	219.7	11.375 µg/L	11.375 ppb	04:54:23
3	Cu 324.752†	967.4	761.5	24.564 µg/L	24.564 ppb	04:54:23
3	Mn 257.610†	685.5	770.4	11.265 µg/L	11.265 ppb	04:54:23
3	Mo 202.031†	68.5	47.0	9.5963 µg/L	9.5963 ppb	04:54:23
3	Ni 231.604†	-9.8	42.4	4.9689 µg/L	4.9689 ppb	04:54:23
3	P 214.914†	69.3	30.7	187.55 µg/L	187.55 ppb	04:54:23
3	Pb 220.353†	36.9	30.8	20.094 µg/L	20.094 ppb	04:54:23
3	S 181.975 Axial†	16.5	15.5	98.986 µg/L	98.986 ppb	04:54:23
3	Sb 206.836†	43.9	17.4	29.049 µg/L	29.049 ppb	04:54:23
3	Se 196.026†	42.1	18.4	38.823 µg/L	38.823 ppb	04:54:23
3	SiO2†	363.8	232.6	266.73 µg/L	266.73 ppb	04:54:23
3	Si 251.611†	609.0	539.0	114.41 µg/L	114.41 ppb	04:54:23
3	Sn 189.927†	32.1	24.1	21.531 µg/L	21.531 ppb	04:54:23
3	Ti 334.940†	584.6	623.0	5.9642 µg/L	5.9642 ppb	04:54:23
3	Tl 190.801†	0.6	11.0	21.344 µg/L	21.344 ppb	04:54:23
3	U 367.007†	50.9	80.8	51.742 µg/L	51.742 ppb	04:54:03
3	V 292.402†	71.3	88.5	4.8731 µg/L	4.8731 ppb	04:54:23
3	Zn 213.857†	379.0	438.5	23.853 µg/L	23.853 ppb	04:54:23

Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	193040.5	90.336	%	1.1253	90.336	%	1.1253	1.25%
Sc RADIAL	65989.6	103.56	%	5.241	103.56	%	5.241	5.06%
Y 371.029	112768.5	90.510	%	1.2313	90.510	%	1.2313	1.36%
Ag 328.068†	143.8	5.4932	µg/L	0.24215	5.4932	ppb	0.24215	4.41%
QC value within limits for Ag 328.068 Recovery = 109.86%								
Al 396.153Radial†	608.2	189.53	µg/L	5.866	189.53	ppb	5.866	3.09%
QC value within limits for Al 396.153Radial Recovery = 94.77%								
As 188.979†	11.0	27.485	µg/L	2.7409	27.485	ppb	2.7409	9.97%
QC value within limits for As 188.979 Recovery = 91.62%								
B 249.677†	582.8	70.057	µg/L	1.1233	70.057	ppb	1.1233	1.60%
QC value greater than the upper limit for B 249.677 Recovery = 140.11%								
Ba 233.527†	108.3	5.3681	µg/L	0.11404	5.3681	ppb	0.11404	2.12%
QC value within limits for Ba 233.527 Recovery = 107.36%								
Be 313.107†	1959.1	4.8343	µg/L	0.04360	4.8343	ppb	0.04360	0.90%
QC value within limits for Be 313.107 Recovery = 96.69%								
Ca 317.933Radial†	1181.1	194.10	µg/L	8.538	194.10	ppb	8.538	4.40%
QC value within limits for Ca 317.933Radial Recovery = 97.05%								
Cd 226.502†	102.6	5.1693	µg/L	0.08605	5.1693	ppb	0.08605	1.66%

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   QC value within limits for Cd 226.502  Recovery = 103.39%
Co 228.616†              24.2      4.5925 µg/L       0.94183      4.5925 ppb        0.94183  20.51%
   QC value within limits for Co 228.616  Recovery = 91.85%
Cr 267.716†             224.9      11.646 µg/L        0.3169      11.646 ppb         0.3169   2.72%
   QC value within limits for Cr 267.716  Recovery = 116.46%
Cu 324.752†             778.8      25.118 µg/L        0.5849      25.118 ppb         0.5849   2.33%
   QC value within limits for Cu 324.752  Recovery = 125.59%
Fe 238.204 Radial†      285.0      98.174 µg/L        3.0897      98.174 ppb         3.0897   3.15%
   QC value within limits for Fe 238.204 Radial  Recovery = 98.17%
K 766.490 Radial†       238.4      105.98 µg/L        34.361      105.98 ppb         34.361  32.42%
   QC value within limits for K 766.490 Radial  Recovery = 70.66%
Mg 279.077 IEC†         189.5      296.66 µg/L        23.468      296.66 ppb         23.468   7.91%
   QC value within limits for Mg 279.077 IEC  Recovery = 98.89%
Mn 257.610†             766.9      11.214 µg/L        0.0602      11.214 ppb         0.0602   0.54%
   QC value within limits for Mn 257.610  Recovery = 112.14%
Mo 202.031†              47.7      9.7280 µg/L       0.35766      9.7280 ppb        0.35766   3.68%
   QC value within limits for Mo 202.031  Recovery = 97.28%
Na 589.592 Radial†     2411.4      283.53 µg/L         4.946      283.53 ppb          4.946   1.74%
   QC value within limits for Na 589.592 Radial  Recovery = 94.51%
Ni 231.604†              40.1      4.7051 µg/L       0.57644      4.7051 ppb        0.57644  12.25%
   QC value within limits for Ni 231.604  Recovery = 94.10%
P 214.914†               30.7      187.64 µg/L         9.119      187.64 ppb          9.119   4.86%
   QC value within limits for P 214.914  Recovery = 125.10%
Pb 220.353†              27.8      18.082 µg/L        2.1621      18.082 ppb         2.1621  11.96%
   QC value within limits for Pb 220.353  Recovery = 90.41%
S 181.975 Axial†         17.4      110.95 µg/L        18.600      110.95 ppb         18.600  16.76%
   QC value within limits for S 181.975 Axial  Recovery = 110.95%
Sb 206.836†              19.1      31.810 µg/L        3.1448      31.810 ppb         3.1448   9.89%
   QC value greater than the upper limit for Sb 206.836  Recovery = 159.05%
Se 196.026†              15.3      32.293 µg/L       10.0533      32.293 ppb        10.0533  31.13%
   QC value within limits for Se 196.026  Recovery = 107.64%
SiO2†                   231.2      265.21 µg/L         5.655      265.21 ppb          5.655   2.13%
   QC value within limits for SiO2  Recovery = 124.51%
Si 251.611†             536.3      113.83 µg/L         1.565      113.83 ppb          1.565   1.37%
   QC value within limits for Si 251.611  Recovery = 113.83%
Sn 189.927†              21.5      19.195 µg/L        3.4833      19.195 ppb         3.4833  18.15%
   QC value greater than the upper limit for Sn 189.927  Recovery = 191.95%
Sr 421.552†             3795.9      5.0993 µg/L       0.03066      5.0993 ppb        0.03066   0.60%
   QC value within limits for Sr 421.552  Recovery = 101.99%
Ti 334.940†             614.8      5.8855 µg/L       0.07324      5.8855 ppb        0.07324   1.24%
   QC value within limits for Ti 334.940  Recovery = 117.71%
Tl 190.801†               8.7      16.988 µg/L        7.1633      16.988 ppb         7.1633  42.17%
   QC value within limits for Tl 190.801  Recovery = 84.94%
U 367.007†               77.5      49.580 µg/L       15.0664      49.580 ppb        15.0664  30.39%
   QC value within limits for U 367.007  Recovery = 99.16%
V 292.402†               98.0      5.3907 µg/L       0.46350      5.3907 ppb        0.46350   8.60%
   QC value within limits for V 292.402  Recovery = 107.81%
Zn 213.857†             435.0      23.665 µg/L        0.1636      23.665 ppb         0.1636   0.69%
   QC value within limits for Zn 213.857  Recovery = 118.33%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 9 **Autosampler Location: 103**
Sample ID: ICSA **Date Collected: 11/19/2020 04:54:55**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	64986.1	64986.1	101.99	%	101.99	%	04:55:41
1	Al 396.153Radial†	1694590.5	1661579.0	518930	µg/L	518930	ppb	04:55:39
1	Ca 317.933Radial†	2992182.9	2933655.8	482100	µg/L	482100	ppb	04:55:39
1	Fe 238.204 Radial†	593074.4	581468.6	200210	µg/L	200210	ppb	04:55:41
1	K 766.490 Radial†	-431.6	-203.7	-37.765	µg/L	-37.765	ppb	04:55:41
1	Mg 279.077 IEC†	329607.7	323181.2	506020	µg/L	506020	ppb	04:55:41
1	Na 589.592 Radial†	2188.2	673.7	43.324	µg/L	43.324	ppb	04:55:41
1	Sr 421.552†	15222.2	15381.3	-3.3457	µg/L	-3.3457	ppb	04:55:41
1	Sc 361.383	199475.0	199475.0	93.347	%	93.347	%	04:55:53
1	Y 371.029	115698.1	115698.1	92.861	%	92.861	%	04:55:53
1	Ag 328.068†	-217.6	-79.3	0.3965	µg/L	0.3965	ppb	04:56:13
1	As 188.979†	-5.2	-4.9	-4.8032	µg/L	-4.8032	ppb	04:56:13
1	B 249.677†	-4549.1	-4970.2	25.927	µg/L	25.927	ppb	04:55:53
1	Ba 233.527†	265.8	317.3	-0.1453	µg/L	-0.1453	ppb	04:56:13
1	Be 313.107†	-272.1	-51.9	-0.1432	µg/L	-0.1432	ppb	04:56:13
1	Cd 226.502†	416.8	506.8	1.9702	µg/L	1.9702	ppb	04:56:13
1	Co 228.616†	6.7	23.4	0.8957	µg/L	0.8957	ppb	04:56:13
1	Cr 267.716†	60.5	8.5	0.3002	µg/L	0.3002	ppb	04:56:13
1	Cu 324.752†	-298.1	-614.9	-4.0504	µg/L	-4.0504	ppb	04:56:13
1	Mn 257.610†	-50.2	-32.4	-2.8910	µg/L	-2.8910	ppb	04:55:53
1	Mo 202.031†	-2.3	-30.4	-8.6737	µg/L	-8.6737	ppb	04:56:13
1	Ni 231.604†	-55.8	-6.7	0.7813	µg/L	0.7813	ppb	04:56:13
1	P 214.914†	3.9	-40.8	-21.921	µg/L	-21.921	ppb	04:56:13
1	Pb 220.353†	-36.9	-49.0	3.0075	µg/L	3.0075	ppb	04:56:13
1	S 181.975 Axial†	1.8	-0.6	25.566	µg/L	25.566	ppb	04:56:13
1	Sb 206.836†	22.3	-6.7	3.2347	µg/L	3.2347	ppb	04:56:13
1	Se 196.026†	-19.0	-48.0	-8.4629	µg/L	-8.4629	ppb	04:56:13
1	SiO2†	148.3	-6.2	-6.9240	µg/L	-6.9240	ppb	04:56:13
1	Si 251.611†	176.0	62.0	-53.251	µg/L	-53.251	ppb	04:56:13
1	Sn 189.927†	36.2	27.7	-0.6768	µg/L	-0.6768	ppb	04:56:13
1	Ti 334.940†	-411.2	-456.2	0.1873	µg/L	0.1873	ppb	04:55:53
1	Tl 190.801†	-18.5	-9.5	-11.082	µg/L	-11.082	ppb	04:56:13
1	U 367.007†	838.3	923.3	-75.294	µg/L	-75.294	ppb	04:55:53
1	V 292.402†	-93.8	-89.9	-3.0451	µg/L	-3.0451	ppb	04:56:13
1	Zn 213.857†	508.7	569.3	2.8631	µg/L	2.8631	ppb	04:56:13
2	Sc RADIAL	66378.6	66378.6	104.17	%	104.17	%	04:55:45
2	Al 396.153Radial†	1680826.9	1613509.7	503920	µg/L	503920	ppb	04:55:43
2	Ca 317.933Radial†	2964251.0	2845295.0	467580	µg/L	467580	ppb	04:55:43
2	Fe 238.204 Radial†	606191.5	581861.1	200350	µg/L	200350	ppb	04:55:45
2	K 766.490 Radial†	-296.5	-65.1	23.860	µg/L	23.860	ppb	04:55:45
2	Mg 279.077 IEC†	336681.9	323192.2	506030	µg/L	506030	ppb	04:55:45
2	Na 589.592 Radial†	2085.6	530.2	26.426	µg/L	26.426	ppb	04:55:45
2	Sr 421.552†	15376.6	15216.4	-3.5840	µg/L	-3.5840	ppb	04:55:45
2	Sc 361.383	205372.3	205372.3	96.107	%	96.107	%	04:56:16
2	Y 371.029	118946.3	118946.3	95.468	%	95.468	%	04:56:16
2	Ag 328.068†	-203.9	-58.3	1.2690	µg/L	1.2690	ppb	04:56:36
2	As 188.979†	-0.5	0.0	7.5922	µg/L	7.5922	ppb	04:56:36
2	B 249.677†	-4612.3	-4896.0	35.225	µg/L	35.225	ppb	04:56:16
2	Ba 233.527†	239.7	282.0	-1.9044	µg/L	-1.9044	ppb	04:56:36
2	Be 313.107†	-288.5	-60.6	-0.1668	µg/L	-0.1668	ppb	04:56:36
2	Cd 226.502†	400.8	477.3	0.4675	µg/L	0.4675	ppb	04:56:36
2	Co 228.616†	10.7	27.3	1.6344	µg/L	1.6344	ppb	04:56:36
2	Cr 267.716†	58.0	4.0	0.0678	µg/L	0.0678	ppb	04:56:36
2	Cu 324.752†	-306.3	-614.2	-4.0972	µg/L	-4.0972	ppb	04:56:36
2	Mn 257.610†	-37.9	-18.0	-2.6819	µg/L	-2.6819	ppb	04:56:16
2	Mo 202.031†	-2.9	-30.8	-8.7696	µg/L	-8.7696	ppb	04:56:36
2	Ni 231.604†	-56.5	-5.7	0.8957	µg/L	0.8957	ppb	04:56:36

2	P 214.914†	12.0	-32.5	13.284 µg/L	13.284 ppb	04:56:36
2	Pb 220.353†	-27.0	-37.6	10.563 µg/L	10.563 ppb	04:56:36
2	S 181.975 Axial†	-3.3	-6.0	-8.7137 µg/L	-8.7137 ppb	04:56:36
2	Sb 206.836†	29.5	0.2	14.597 µg/L	14.597 ppb	04:56:36
2	Se 196.026†	-21.8	-50.3	-13.229 µg/L	-13.229 ppb	04:56:36
2	SiO2†	162.9	4.5	5.3567 µg/L	5.3567 ppb	04:56:36
2	Si 251.611†	168.8	49.2	-56.031 µg/L	-56.031 ppb	04:56:36
2	Sn 189.927†	49.3	40.3	9.4251 µg/L	9.4251 ppb	04:56:36
2	Ti 334.940†	-486.5	-521.9	0.1623 µg/L	0.1623 ppb	04:56:16
2	Tl 190.801†	-6.9	3.1	13.506 µg/L	13.506 ppb	04:56:36
2	U 367.007†	774.5	831.1	-135.14 µg/L	-135.14 ppb	04:56:16
2	V 292.402†	-81.2	-73.9	-2.2150 µg/L	-2.2150 ppb	04:56:36
2	Zn 213.857†	477.5	521.2	0.2193 µg/L	0.2193 ppb	04:56:36
3	Sc RADIAL	64836.2	64836.2	101.75 %	101.75 %	04:55:50
3	Al 396.153Radial†	1680752.5	1651820.4	515890 µg/L	515890 ppb	04:55:48
3	Ca 317.933Radial†	2963574.9	2912322.8	478590 µg/L	478590 ppb	04:55:48
3	Fe 238.204 Radial†	585245.1	575118.4	198020 µg/L	198020 ppb	04:55:50
3	K 766.490 Radial†	-283.2	-58.8	26.055 µg/L	26.055 ppb	04:55:50
3	Mg 279.077 IEC†	325377.3	319770.8	500680 µg/L	500680 ppb	04:55:50
3	Na 589.592 Radial†	2192.2	682.6	44.759 µg/L	44.759 ppb	04:55:50
3	Sr 421.552†	15016.2	15213.4	-3.3091 µg/L	-3.3091 ppb	04:55:50
3	Sc 361.383	197979.6	197979.6	92.647 %	92.647 %	04:56:38
3	Y 371.029	115095.3	115095.3	92.377 %	92.377 %	04:56:38
3	Ag 328.068†	-204.3	-66.8	0.8474 µg/L	0.8474 ppb	04:56:58
3	As 188.979†	-8.3	-8.4	-13.511 µg/L	-13.511 ppb	04:56:58
3	B 249.677†	-4392.7	-4838.2	34.947 µg/L	34.947 ppb	04:56:38
3	Ba 233.527†	245.8	297.9	-0.9339 µg/L	-0.9339 ppb	04:56:58
3	Be 313.107†	-262.4	-43.6	-0.1224 µg/L	-0.1224 ppb	04:56:58
3	Cd 226.502†	413.2	506.3	2.2054 µg/L	2.2054 ppb	04:56:58
3	Co 228.616†	-0.2	16.0	-0.4797 µg/L	-0.4797 ppb	04:56:58
3	Cr 267.716†	34.4	-19.2	-1.1345 µg/L	-1.1345 ppb	04:56:58
3	Cu 324.752†	-279.7	-597.5	-3.6698 µg/L	-3.6698 ppb	04:56:58
3	Mn 257.610†	-64.6	-48.4	-3.0986 µg/L	-3.0986 ppb	04:56:38
3	Mo 202.031†	-10.0	-38.6	-10.337 µg/L	-10.337 ppb	04:56:58
3	Ni 231.604†	-47.9	1.4	1.7127 µg/L	1.7127 ppb	04:56:58
3	P 214.914†	-7.4	-52.9	-96.180 µg/L	-96.180 ppb	04:56:58
3	Pb 220.353†	-37.3	-49.7	2.1819 µg/L	2.1819 ppb	04:56:58
3	S 181.975 Axial†	0.4	-2.1	15.918 µg/L	15.918 ppb	04:56:58
3	Sb 206.836†	26.3	-2.1	10.588 µg/L	10.588 ppb	04:56:58
3	Se 196.026†	-15.4	-44.2	-1.5885 µg/L	-1.5885 ppb	04:56:58
3	SiO2†	145.9	-7.5	-8.4423 µg/L	-8.4423 ppb	04:56:58
3	Si 251.611†	174.4	61.8	-52.538 µg/L	-52.538 ppb	04:56:58
3	Sn 189.927†	40.4	32.6	4.0793 µg/L	4.0793 ppb	04:56:58
3	Ti 334.940†	-399.8	-447.2	0.1530 µg/L	0.1530 ppb	04:56:38
3	Tl 190.801†	-10.9	-1.4	4.6201 µg/L	4.6201 ppb	04:56:58
3	U 367.007†	814.8	904.7	-79.941 µg/L	-79.941 ppb	04:56:38
3	V 292.402†	-92.2	-88.9	-3.0186 µg/L	-3.0186 ppb	04:56:58
3	Zn 213.857†	478.4	540.8	1.6083 µg/L	1.6083 ppb	04:56:58

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	200942.3	94.034	%	1.8291	94.034	%	1.8291	1.95%
Sc RADIAL	65400.3	102.64	%	1.335	102.64	%	1.335	1.30%
Y 371.029	116579.9	93.569	%	1.6626	93.569	%	1.6626	1.78%
Ag 328.068†	-68.2	0.8376	µg/L	0.43633	0.8376	ppb	0.43633	52.09%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	1642303.0	512910	µg/L	7935.46	512910	ppb	7935.46	1.55%
QC value within limits for Al 396.153Radial Recovery = 102.58%								
As 188.979†	-4.4	-3.5740	µg/L	10.60516	-3.5740	ppb	10.60516	296.73%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-4901.5	32.033	µg/L	5.2897	32.033	ppb	5.2897	16.51%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	299.1	-0.9945	µg/L	0.88107	-0.9945	ppb	0.88107	88.59%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-52.1	-0.1441	µg/L	0.02222	-0.1441	ppb	0.02222	15.42%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	2897091.2	476090	µg/L	7577.07	476090	ppb	7577.07	1.59%
QC value within limits for Ca 317.933Radial Recovery = 95.22%								
Cd 226.502†	496.8	1.5477	µg/L	0.94284	1.5477	ppb	0.94284	60.92%

```
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              22.2      0.6835 µg/L       1.07288      0.6835 ppb        1.07288 156.98%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -2.2     -0.2555 µg/L       0.77003     -0.2555 ppb        0.77003 301.39%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†            -608.8     -3.9391 µg/L       0.23442     -3.9391 ppb        0.23442   5.95%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†    579482.7      199530 µg/L       1303.14      199530 ppb        1303.14   0.65%
   QC value within limits for Fe 238.204 Radial  Recovery = 99.76%
K 766.490 Radial†      -109.2      4.0501 µg/L      36.22974      4.0501 ppb       36.22974 894.55%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†       322048.1      504240 µg/L       3088.00      504240 ppb        3088.00   0.61%
   QC value within limits for Mg 279.077 IEC  Recovery = 100.85%
Mn 257.610†             -32.9     -2.8905 µg/L       0.20835     -2.8905 ppb        0.20835   7.21%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†             -33.3     -9.2602 µg/L       0.93408     -9.2602 ppb        0.93408  10.09%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†       628.8      38.170 µg/L       10.1955      38.170 ppb        10.1955  26.71%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              -3.7      1.1299 µg/L       0.50797      1.1299 ppb        0.50797  44.96%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†              -42.0     -34.939 µg/L       55.8811     -34.939 ppb        55.8811 159.94%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†             -45.4      5.2507 µg/L       4.61875      5.2507 ppb        4.61875  87.96%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         -2.9      10.923 µg/L       17.6773      10.923 ppb        17.6773 161.83%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†              -2.9      9.4733 µg/L       5.76261      9.4733 ppb        5.76261  60.83%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†             -47.5     -7.7603 µg/L       5.85216     -7.7603 ppb        5.85216  75.41%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    -3.0     -3.3365 µg/L       7.56676     -3.3365 ppb        7.56676 226.79%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              57.7     -53.940 µg/L        1.8457     -53.940 ppb         1.8457   3.42%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              33.5      4.2758 µg/L       5.05380      4.2758 ppb        5.05380 118.19%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†           15270.4     -3.4129 µg/L       0.14926     -3.4129 ppb        0.14926   4.37%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†            -475.1      0.1676 µg/L       0.01775      0.1676 ppb        0.01775  10.59%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -2.6      2.3482 µg/L      12.45053      2.3482 ppb       12.45053 530.21%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†              886.3     -96.792 µg/L       33.2925     -96.792 ppb        33.2925  34.40%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†              -84.2     -2.7595 µg/L       0.47182     -2.7595 ppb        0.47182  17.10%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             543.8      1.5636 µg/L       1.32247      1.5636 ppb        1.32247  84.58%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Batch ID:
Sequence No.: 10 **Autosampler Location: 104**
Sample ID: ICSAB **Date Collected: 11/19/2020 04:57:58**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	66321.4	66321.4	104.08	%	104.08	%	04:58:36
1	Al 396.153Radial†	1684226.6	1618166.6	505360	µg/L	505360	ppb	04:58:34
1	Ca 317.933Radial†	2979993.3	2862872.2	470470	µg/L	470470	ppb	04:58:34
1	Fe 238.204 Radial†	603044.5	579339.0	199480	µg/L	199480	ppb	04:58:36
1	K 766.490 Radial†	11654.4	11416.7	5126.3	µg/L	5126.3	ppb	04:58:36
1	Mg 279.077 IEC†	334884.8	321744.1	503770	µg/L	503770	ppb	04:58:36
1	Na 589.592 Radial†	48001.9	44647.2	5214.3	µg/L	5214.3	ppb	04:58:36
1	Sr 421.552†	397067.1	381948.2	490.32	µg/L	490.32	ppb	04:58:34
1	Sc 361.383	205695.9	205695.9	96.258	%	96.258	%	04:58:48
1	Y 371.029	119452.0	119452.0	95.874	%	95.874	%	04:58:48
1	Ag 328.068†	6846.8	7266.7	283.56	µg/L	283.56	ppb	04:59:09
1	As 188.979†	171.3	178.6	457.98	µg/L	457.98	ppb	04:59:09
1	B 249.677†	-756.8	-883.1	512.81	µg/L	512.81	ppb	04:58:48
1	Ba 233.527†	9992.4	10413.5	500.90	µg/L	500.90	ppb	04:59:09
1	Be 313.107†	86772.0	90384.7	223.77	µg/L	223.77	ppb	04:58:48
1	Cd 226.502†	9247.9	9667.6	464.77	µg/L	464.77	ppb	04:59:09
1	Co 228.616†	2003.2	2097.3	394.32	µg/L	394.32	ppb	04:59:09
1	Cr 267.716†	9669.0	9988.6	517.12	µg/L	517.12	ppb	04:59:09
1	Cu 324.752†	14510.2	14778.7	491.61	µg/L	491.61	ppb	04:58:48
1	Mn 257.610†	30141.2	31334.3	455.80	µg/L	455.80	ppb	04:58:48
1	Mo 202.031†	2055.6	2107.7	427.85	µg/L	427.85	ppb	04:59:09
1	Ni 231.604†	3522.4	3712.5	437.06	µg/L	437.06	ppb	04:59:09
1	P 214.914†	357.7	326.7	2193.6	µg/L	2193.6	ppb	04:59:09
1	Pb 220.353†	582.7	595.8	423.18	µg/L	423.18	ppb	04:59:09
1	S 181.975 Axial†	364.3	376.0	2431.9	µg/L	2431.9	ppb	04:59:09
1	Sb 206.836†	295.6	276.6	479.37	µg/L	479.37	ppb	04:59:09
1	Se 196.026†	1019.0	1031.0	2264.1	µg/L	2264.1	ppb	04:59:09
1	SiO2†	9778.2	9993.3	11462	µg/L	11462	ppb	04:59:09
1	Si 251.611†	22887.3	23650.5	4955.1	µg/L	4955.1	ppb	04:58:48
1	Sn 189.927†	498.0	506.4	429.99	µg/L	429.99	ppb	04:59:09
1	Ti 334.940†	48205.8	50063.9	483.97	µg/L	483.97	ppb	04:58:48
1	Tl 190.801†	193.5	211.4	420.04	µg/L	420.04	ppb	04:59:09
1	U 367.007†	1657.2	1746.9	457.75	µg/L	457.75	ppb	04:59:09
1	V 292.402†	9309.1	9681.5	529.54	µg/L	529.54	ppb	04:59:09
1	Zn 213.857†	9104.8	9483.1	486.15	µg/L	486.15	ppb	04:59:09
2	Sc RADIAL	66021.6	66021.6	103.61	%	103.61	%	04:58:40
2	Al 396.153Radial†	1666143.2	1608063.6	502200	µg/L	502200	ppb	04:58:38
2	Ca 317.933Radial†	2943333.9	2840495.4	466790	µg/L	466790	ppb	04:58:38
2	Fe 238.204 Radial†	603772.0	582672.9	200630	µg/L	200630	ppb	04:58:40
2	K 766.490 Radial†	11717.9	11528.9	5176.5	µg/L	5176.5	ppb	04:58:40
2	Mg 279.077 IEC†	335878.2	324164.4	507550	µg/L	507550	ppb	04:58:40
2	Na 589.592 Radial†	47827.7	44688.6	5218.9	µg/L	5218.9	ppb	04:58:40
2	Sr 421.552†	393016.2	379771.3	487.25	µg/L	487.25	ppb	04:58:38
2	Sc 361.383	203681.6	203681.6	95.316	%	95.316	%	04:59:11
2	Y 371.029	118212.0	118212.0	94.879	%	94.879	%	04:59:11
2	Ag 328.068†	6693.4	7176.1	280.10	µg/L	280.10	ppb	04:59:31
2	As 188.979†	179.0	188.4	482.32	µg/L	482.32	ppb	04:59:31
2	B 249.677†	-720.8	-853.1	519.96	µg/L	519.96	ppb	04:59:11
2	Ba 233.527†	9800.4	10314.6	495.91	µg/L	495.91	ppb	04:59:31
2	Be 313.107†	85738.1	90191.4	223.30	µg/L	223.30	ppb	04:59:11
2	Cd 226.502†	9087.0	9593.9	460.91	µg/L	460.91	ppb	04:59:31
2	Co 228.616†	1971.7	2084.8	391.93	µg/L	391.93	ppb	04:59:31
2	Cr 267.716†	9515.3	9926.6	513.91	µg/L	513.91	ppb	04:59:31
2	Cu 324.752†	14337.1	14746.2	490.63	µg/L	490.63	ppb	04:59:11
2	Mn 257.610†	29718.7	31200.6	453.83	µg/L	453.83	ppb	04:59:11
2	Mo 202.031†	2011.6	2082.6	422.72	µg/L	422.72	ppb	04:59:31
2	Ni 231.604†	3452.4	3675.2	432.70	µg/L	432.70	ppb	04:59:31

2	P 214.914†	347.9	320.0	2147.4 µg/L	2147.4 ppb		04:59:31
2	Pb 220.353†	570.0	588.6	418.66 µg/L	418.66 ppb		04:59:31
2	S 181.975 Axial†	348.0	362.6	2346.7 µg/L	2346.7 ppb		04:59:31
2	Sb 206.836†	299.4	283.6	490.99 µg/L	490.99 ppb		04:59:31
2	Se 196.026†	995.3	1016.6	2234.3 µg/L	2234.3 ppb		04:59:31
2	SiO2†	9620.6	9928.4	11388 µg/L	11388 ppb		04:59:31
2	Si 251.611†	22622.5	23607.9	4945.8 µg/L	4945.8 ppb		04:59:11
2	Sn 189.927†	500.8	514.5	436.57 µg/L	436.57 ppb		04:59:31
2	Ti 334.940†	47705.4	50034.3	483.97 µg/L	483.97 ppb		04:59:11
2	Tl 190.801†	188.3	207.9	413.35 µg/L	413.35 ppb		04:59:31
2	U 367.007†	1618.2	1722.9	438.46 µg/L	438.46 ppb		04:59:31
2	V 292.402†	9150.8	9611.1	525.70 µg/L	525.70 ppb		04:59:31
2	Zn 213.857†	8960.5	9425.3	482.86 µg/L	482.86 ppb		04:59:31
3	Sc RADIAL	65583.0	65583.0	102.92 %	102.92 %		04:58:45
3	Al 396.153Radial†	1729892.5	1680755.1	524900 µg/L	524900 ppb		04:58:43
3	Ca 317.933Radial†	3073623.1	2986079.5	490720 µg/L	490720 ppb		04:58:43
3	Fe 238.204 Radial†	599158.9	582087.5	200430 µg/L	200430 ppb		04:58:45
3	K 766.490 Radial†	11599.3	11489.3	5158.8 µg/L	5158.8 ppb		04:58:45
3	Mg 279.077 IEC†	332922.2	323460.0	506450 µg/L	506450 ppb		04:58:45
3	Na 589.592 Radial†	47683.9	44857.5	5238.8 µg/L	5238.8 ppb		04:58:45
3	Sr 421.552†	408077.5	396941.3	510.40 µg/L	510.40 ppb		04:58:43
3	Sc 361.383	205192.2	205192.2	96.022 %	96.022 %		04:59:33
3	Y 371.029	119161.7	119161.7	95.641 %	95.641 %		04:59:33
3	Ag 328.068†	6719.3	7151.5	279.17 µg/L	279.17 ppb		04:59:53
3	As 188.979†	174.3	182.1	466.64 µg/L	466.64 ppb		04:59:53
3	B 249.677†	-679.9	-804.9	525.10 µg/L	525.10 ppb		04:59:33
3	Ba 233.527†	9797.9	10236.4	492.04 µg/L	492.04 ppb		04:59:53
3	Be 313.107†	86556.0	90381.0	223.76 µg/L	223.76 ppb		04:59:33
3	Cd 226.502†	9071.9	9508.0	456.59 µg/L	456.59 ppb		04:59:53
3	Co 228.616†	1966.8	2064.5	388.08 µg/L	388.08 ppb		04:59:53
3	Cr 267.716†	9458.6	9794.0	507.05 µg/L	507.05 ppb		04:59:53
3	Cu 324.752†	14469.0	14772.9	491.43 µg/L	491.43 ppb		04:59:33
3	Mn 257.610†	29985.7	31249.2	454.55 µg/L	454.55 ppb		04:59:33
3	Mo 202.031†	2011.4	2066.8	419.50 µg/L	419.50 ppb		04:59:53
3	Ni 231.604†	3425.8	3620.8	426.31 µg/L	426.31 ppb		04:59:53
3	P 214.914†	354.4	324.1	2196.2 µg/L	2196.2 ppb		04:59:53
3	Pb 220.353†	569.2	583.3	415.25 µg/L	415.25 ppb		04:59:53
3	S 181.975 Axial†	354.0	366.1	2369.0 µg/L	2369.0 ppb		04:59:53
3	Sb 206.836†	303.3	285.3	493.82 µg/L	493.82 ppb		04:59:53
3	Se 196.026†	992.3	1005.7	2211.3 µg/L	2211.3 ppb		04:59:53
3	SiO2†	9588.5	9820.7	11264 µg/L	11264 ppb		04:59:53
3	Si 251.611†	22819.7	23638.4	4952.4 µg/L	4952.4 ppb		04:59:33
3	Sn 189.927†	491.5	500.9	426.20 µg/L	426.20 ppb		04:59:53
3	Ti 334.940†	48026.2	49999.9	482.66 µg/L	482.66 ppb		04:59:33
3	Tl 190.801†	181.5	199.3	396.67 µg/L	396.67 ppb		04:59:53
3	U 367.007†	1578.8	1669.4	404.65 µg/L	404.65 ppb		04:59:53
3	V 292.402†	9083.6	9470.5	518.02 µg/L	518.02 ppb		04:59:53
3	Zn 213.857†	8933.5	9328.0	477.62 µg/L	477.62 ppb		04:59:53

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	204856.6	95.865	%	0.4905	95.865	%	0.4905	0.51%
Sc RADIAL	65975.3	103.54	%	0.583	103.54	%	0.583	0.56%
Y 371.029	118941.9	95.464	%	0.5206	95.464	%	0.5206	0.55%
Ag 328.068†	7198.1	280.94	µg/L	2.312	280.94	ppb	2.312	0.82%
QC value within limits for Ag 328.068 Recovery = 112.38%								
Al 396.153Radial†	1635661.8	510820	µg/L	12298.20	510820	ppb	12298.20	2.41%
QC value within limits for Al 396.153Radial Recovery = 102.16%								
As 188.979†	183.0	468.98	µg/L	12.336	468.98	ppb	12.336	2.63%
QC value within limits for As 188.979 Recovery = 93.80%								
B 249.677†	-847.0	519.29	µg/L	6.172	519.29	ppb	6.172	1.19%
QC value within limits for B 249.677 Recovery = 103.86%								
Ba 233.527†	10321.5	496.28	µg/L	4.445	496.28	ppb	4.445	0.90%
QC value within limits for Ba 233.527 Recovery = 99.26%								
Be 313.107†	90319.0	223.61	µg/L	0.272	223.61	ppb	0.272	0.12%
QC value within limits for Be 313.107 Recovery = 89.44%								
Ca 317.933Radial†	2896482.4	475990	µg/L	12883.15	475990	ppb	12883.15	2.71%
QC value within limits for Ca 317.933Radial Recovery = 95.20%								
Cd 226.502†	9589.8	460.75	µg/L	4.089	460.75	ppb	4.089	0.89%

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   QC value within limits for Cd 226.502  Recovery = 92.15%
Co 228.616†          2082.2      391.44 µg/L         3.148      391.44 ppb          3.148   0.80%
   QC value less than the lower limit for Co 228.616  Recovery = 78.29%
Cr 267.716†          9903.1      512.69 µg/L         5.146      512.69 ppb          5.146   1.00%
   QC value within limits for Cr 267.716  Recovery = 102.54%
Cu 324.752†         14765.9      491.22 µg/L         0.522      491.22 ppb          0.522   0.11%
   QC value within limits for Cu 324.752  Recovery = 98.24%
Fe 238.204 Radial†  581366.4      200180 µg/L        612.88      200180 ppb         612.88   0.31%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.09%
K 766.490 Radial†   11478.3      5153.9 µg/L         25.44      5153.9 ppb          25.44   0.49%
   QC value within limits for K 766.490 Radial  Recovery = 103.08%
Mg 279.077 IEC†     323122.8      505920 µg/L       1949.04      505920 ppb        1949.04   0.39%
   QC value within limits for Mg 279.077 IEC  Recovery = 101.18%
Mn 257.610†          31261.4      454.73 µg/L         0.997      454.73 ppb          0.997   0.22%
   QC value within limits for Mn 257.610  Recovery = 90.95%
Mo 202.031†          2085.7      423.36 µg/L         4.209      423.36 ppb          4.209   0.99%
   QC value within limits for Mo 202.031  Recovery = 84.67%
Na 589.592 Radial†   44731.1      5224.0 µg/L         13.04      5224.0 ppb          13.04   0.25%
   QC value within limits for Na 589.592 Radial  Recovery = 104.48%
Ni 231.604†          3669.5      432.02 µg/L         5.406      432.02 ppb          5.406   1.25%
   QC value within limits for Ni 231.604  Recovery = 86.40%
P 214.914†            323.6      2179.1 µg/L         27.48      2179.1 ppb          27.48   1.26%
   QC value within limits for P 214.914  Recovery = 87.16%
Pb 220.353†           589.2      419.03 µg/L         3.980      419.03 ppb          3.980   0.95%
   QC value within limits for Pb 220.353  Recovery = 83.81%
S 181.975 Axial†      368.3      2382.5 µg/L         44.20      2382.5 ppb          44.20   1.86%
   QC value within limits for S 181.975 Axial  Recovery = 95.30%
Sb 206.836†           281.8      488.06 µg/L         7.658      488.06 ppb          7.658   1.57%
   QC value within limits for Sb 206.836  Recovery = 97.61%
Se 196.026†          1017.8      2236.6 µg/L         26.48      2236.6 ppb          26.48   1.18%
   QC value within limits for Se 196.026  Recovery = 89.46%
SiO2†                9914.1       11371 µg/L        100.03       11371 ppb         100.03   0.88%
   QC value within limits for SiO2  Recovery = 106.32%
Si 251.611†         23632.3      4951.1 µg/L          4.80      4951.1 ppb           4.80   0.10%
   QC value within limits for Si 251.611  Recovery = 99.02%
Sn 189.927†           507.3      430.92 µg/L         5.245      430.92 ppb          5.245   1.22%
   QC value within limits for Sn 189.927  Recovery = 86.18%
Sr 421.552†         386220.3      495.99 µg/L        12.570      495.99 ppb         12.570   2.53%
   QC value within limits for Sr 421.552  Recovery = 99.20%
Ti 334.940†          50032.7      483.53 µg/L         0.760      483.53 ppb          0.760   0.16%
   QC value within limits for Ti 334.940  Recovery = 96.71%
Tl 190.801†           206.2      410.02 µg/L        12.036      410.02 ppb         12.036   2.94%
   QC value within limits for Tl 190.801  Recovery = 82.00%
U 367.007†           1713.0      433.62 µg/L        26.879      433.62 ppb         26.879   6.20%
   QC value within limits for U 367.007  Recovery = 86.72%
V 292.402†           9587.7      524.42 µg/L         5.868      524.42 ppb          5.868   1.12%
   QC value within limits for V 292.402  Recovery = 104.88%
Zn 213.857†          9412.1      482.21 µg/L         4.304      482.21 ppb          4.304   0.89%
   QC value within limits for Zn 213.857  Recovery = 96.44%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 11 **Autosampler Location: 105**
Sample ID: LR1 **Date Collected: 11/19/2020 05:00:53**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	64716.7	64716.7	101.56	%	101.56	%	05:01:34
1	Al 396.153Radial†	1714770.1	1688365.5	526920	µg/L	526920	ppb	05:01:32
1	Ca 317.933Radial†	3122539.0	3074219.3	505200	µg/L	505200	ppb	05:01:32
1	Fe 238.204 Radial†	1434546.9	1412403.8	486410	µg/L	486410	ppb	05:01:32
1	K 766.490 Radial†	472894.3	465831.4	207150	µg/L	207150	ppb	05:01:32
1	Mg 279.077 IEC†	328687.8	323621.0	506840	µg/L	506840	ppb	05:01:34
1	Na 589.592 Radial†	4193562.1	4127510.9	485260	µg/L	485260	ppb	05:01:30
1	Sr 421.552†	7767631.9	7648469.0	10240	µg/L	10240	ppb	05:01:30
1	Sc 361.383	192183.8	192183.8	89.935	%	89.935	%	05:01:55
1	Y 371.029	113089.0	113089.0	90.767	%	90.767	%	05:01:55
1	Ag 328.068†	-282.3	-160.1	12.974	µg/L	12.974	ppb	05:02:15
1	As 188.979†	3478.8	3868.8	9903.8	µg/L	9903.8	ppb	05:02:15
1	B 249.677†	379984.6	422413.2	52063	µg/L	52063	ppb	05:01:55
1	Ba 233.527†	261208.5	290473.8	14368	µg/L	14368	ppb	05:01:55
1	Be 313.107†	-11856.1	-12943.4	4.9195	µg/L	4.9195	ppb	05:01:55
1	Cd 226.502†	157334.0	175002.1	8781.9	µg/L	8781.9	ppb	05:01:55
1	Co 228.616†	38751.6	43104.6	8173.6	µg/L	8173.6	ppb	05:01:55
1	Cr 267.716†	420738.1	467768.0	24223	µg/L	24223	ppb	05:01:55
1	Cu 324.752†	595854.0	662242.6	21352	µg/L	21352	ppb	05:01:55
1	Mn 257.610†	588528.5	654414.2	9564.6	µg/L	9564.6	ppb	05:01:55
1	Mo 202.031†	38612.9	42906.4	8754.0	µg/L	8754.0	ppb	05:01:55
1	Ni 231.604†	66572.8	74076.3	8693.5	µg/L	8693.5	ppb	05:01:55
1	P 214.914†	85.5	50.2	-824.62	µg/L	-824.62	ppb	05:02:15
1	Pb 220.353†	29669.8	32980.7	21597	µg/L	21597	ppb	05:01:55
1	S 181.975 Axial†	7234.6	8041.8	51456	µg/L	51456	ppb	05:02:15
1	Sb 206.836†	192.8	183.9	472.17	µg/L	472.17	ppb	05:02:15
1	Se 196.026†	-137.3	-180.3	-154.85	µg/L	-154.85	ppb	05:02:15
1	SiO2†	87965.5	97645.0	112180	µg/L	112180	ppb	05:01:55
1	Si 251.611†	222449.0	247217.6	52221	µg/L	52221	ppb	05:01:55
1	Sn 189.927†	-47.2	-63.4	-84.055	µg/L	-84.055	ppb	05:02:15
1	Ti 334.940†	967703.8	1075987.2	10330	µg/L	10330	ppb	05:01:55
1	Tl 190.801†	-47.2	-42.2	-22.326	µg/L	-22.326	ppb	05:02:15
1	U 367.007†	20855.0	23214.1	13328	µg/L	13328	ppb	05:01:55
1	V 292.402†	164774.6	183225.7	10023	µg/L	10023	ppb	05:01:55
1	Zn 213.857†	240155.1	267056.1	14427	µg/L	14427	ppb	05:01:55
2	Sc RADIAL	64347.2	64347.2	100.98	%	100.98	%	05:01:42
2	Al 396.153Radial†	1681409.4	1665023.6	519630	µg/L	519630	ppb	05:01:40
2	Ca 317.933Radial†	3059674.6	3029619.4	497870	µg/L	497870	ppb	05:01:40
2	Fe 238.204 Radial†	1405771.3	1392018.2	479390	µg/L	479390	ppb	05:01:40
2	K 766.490 Radial†	463520.5	459222.2	204210	µg/L	204210	ppb	05:01:40
2	Mg 279.077 IEC†	326690.7	323501.4	506650	µg/L	506650	ppb	05:01:42
2	Na 589.592 Radial†	4273317.4	4230195.3	497340	µg/L	497340	ppb	05:01:38
2	Sr 421.552†	7921612.0	7844858.9	10505	µg/L	10505	ppb	05:01:38
2	Sc 361.383	190317.4	190317.4	89.062	%	89.062	%	05:02:17
2	Y 371.029	111929.5	111929.5	89.836	%	89.836	%	05:02:17
2	Ag 328.068†	-271.0	-150.5	13.132	µg/L	13.132	ppb	05:02:37
2	As 188.979†	3383.7	3799.9	9731.7	µg/L	9731.7	ppb	05:02:37
2	B 249.677†	380003.1	426577.4	52540	µg/L	52540	ppb	05:02:17
2	Ba 233.527†	258433.3	290206.1	14355	µg/L	14355	ppb	05:02:17
2	Be 313.107†	-11562.7	-12743.3	5.3656	µg/L	5.3656	ppb	05:02:17
2	Cd 226.502†	155541.9	174705.5	8767.7	µg/L	8767.7	ppb	05:02:17
2	Co 228.616†	38377.7	43107.4	8174.2	µg/L	8174.2	ppb	05:02:17
2	Cr 267.716†	415620.3	466609.5	24163	µg/L	24163	ppb	05:02:17
2	Cu 324.752†	590854.4	663126.4	21380	µg/L	21380	ppb	05:02:17
2	Mn 257.610†	582034.9	653540.6	9551.9	µg/L	9551.9	ppb	05:02:17
2	Mo 202.031†	38253.9	42924.3	8757.8	µg/L	8757.8	ppb	05:02:17
2	Ni 231.604†	65628.6	73742.1	8654.2	µg/L	8654.2	ppb	05:02:17

2	P 214.914†	82.2	47.4	-836.42 µg/L	-836.42 ppb		05:02:37
2	Pb 220.353†	29268.6	32853.8	21513 µg/L	21513 ppb		05:02:17
2	S 181.975 Axial†	7041.6	7903.9	50574 µg/L	50574 ppb		05:02:37
2	Sb 206.836†	182.9	174.9	456.79 µg/L	456.79 ppb		05:02:37
2	Se 196.026†	-121.6	-164.2	-124.11 µg/L	-124.11 ppb		05:02:37
2	SiO2†	87071.0	97599.8	112130 µg/L	112130 ppb		05:02:17
2	Si 251.611†	220068.8	246970.7	52171 µg/L	52171 ppb		05:02:17
2	Sn 189.927†	-60.1	-78.5	-95.984 µg/L	-95.984 ppb		05:02:37
2	Ti 334.940†	957116.5	1074651.8	10317 µg/L	10317 ppb		05:02:17
2	Tl 190.801†	-44.1	-39.2	-16.848 µg/L	-16.848 ppb		05:02:37
2	U 367.007†	20694.1	23260.9	13381 µg/L	13381 ppb		05:02:17
2	V 292.402†	162909.9	182928.8	10007 µg/L	10007 ppb		05:02:17
2	Zn 213.857†	237448.1	266635.4	14405 µg/L	14405 ppb		05:02:17
3	Sc RADIAL	63805.0	63805.0	100.13 %	100.13 %		05:01:50
3	Al 396.153Radial†	1677219.6	1674988.0	522740 µg/L	522740 ppb		05:01:48
3	Ca 317.933Radial†	3045619.7	3041329.6	499800 µg/L	499800 ppb		05:01:48
3	Fe 238.204 Radial†	1399949.3	1398033.2	481460 µg/L	481460 ppb		05:01:48
3	K 766.490 Radial†	463467.2	463069.4	205920 µg/L	205920 ppb		05:01:48
3	Mg 279.077 IEC†	324461.7	324024.4	507470 µg/L	507470 ppb		05:01:50
3	Na 589.592 Radial†	4159359.7	4152348.2	488180 µg/L	488180 ppb		05:01:46
3	Sr 421.552†	7692318.9	7682529.6	10287 µg/L	10287 ppb		05:01:46
3	Sc 361.383	186930.9	186930.9	87.477 %	87.477 %		05:02:40
3	Y 371.029	110173.3	110173.3	88.427 %	88.427 %		05:02:40
3	Ag 328.068†	-273.9	-159.3	12.746 µg/L	12.746 ppb		05:03:00
3	As 188.979†	3408.9	3897.5	9975.0 µg/L	9975.0 ppb		05:03:00
3	B 249.677†	374641.7	428178.3	52738 µg/L	52738 ppb		05:02:40
3	Ba 233.527†	254482.5	290946.7	14392 µg/L	14392 ppb		05:02:40
3	Be 313.107†	-11440.3	-12838.5	5.2556 µg/L	5.2556 ppb		05:02:40
3	Cd 226.502†	152742.6	174669.4	8765.6 µg/L	8765.6 ppb		05:02:40
3	Co 228.616†	37828.0	43259.6	8203.0 µg/L	8203.0 ppb		05:02:40
3	Cr 267.716†	409089.8	467598.5	24214 µg/L	24214 ppb		05:02:40
3	Cu 324.752†	583008.8	666176.5	21478 µg/L	21478 ppb		05:02:40
3	Mn 257.610†	572964.0	655010.6	9573.3 µg/L	9573.3 ppb		05:02:40
3	Mo 202.031†	37708.3	43078.8	8789.3 µg/L	8789.3 ppb		05:02:40
3	Ni 231.604†	64492.0	73777.7	8658.4 µg/L	8658.4 ppb		05:02:40
3	P 214.914†	87.3	54.8	-796.88 µg/L	-796.88 ppb		05:03:00
3	Pb 220.353†	28737.7	32842.3	21505 µg/L	21505 ppb		05:02:40
3	S 181.975 Axial†	7107.3	8122.2	51969 µg/L	51969 ppb		05:03:00
3	Sb 206.836†	183.8	179.6	465.17 µg/L	465.17 ppb		05:03:00
3	Se 196.026†	-111.5	-155.1	-104.11 µg/L	-104.11 ppb		05:03:00
3	SiO2†	85393.3	97453.2	111960 µg/L	111960 ppb		05:02:40
3	Si 251.611†	216445.3	247305.1	52241 µg/L	52241 ppb		05:02:40
3	Sn 189.927†	-57.9	-77.2	-95.094 µg/L	-95.094 ppb		05:03:00
3	Ti 334.940†	943263.6	1078285.0	10352 µg/L	10352 ppb		05:02:40
3	Tl 190.801†	-45.2	-41.4	-20.924 µg/L	-20.924 ppb		05:03:00
3	U 367.007†	20521.1	23484.0	13518 µg/L	13518 ppb		05:02:40
3	V 292.402†	160391.9	183364.1	10031 µg/L	10031 ppb		05:02:40
3	Zn 213.857†	233745.5	267232.7	14437 µg/L	14437 ppb		05:02:40

Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	189810.7	88.825	%	1.2461	88.825	%	1.2461	1.40%
Sc RADIAL	64289.6	100.89	%	0.720	100.89	%	0.720	0.71%
Y 371.029	111730.6	89.677	%	1.1782	89.677	%	1.1782	1.31%
Ag 328.068†	-156.6	12.951	µg/L	0.1939	12.951	ppb	0.1939	1.50%
Al 396.153Radial†	1676125.7	523100	µg/L	3658.11	523100	ppb	3658.11	0.70%
QC value within limits for Al 396.153Radial Recovery = 104.62%								
As 188.979†	3855.4	9870.2	µg/L	125.04	9870.2	ppb	125.04	1.27%
QC value within limits for As 188.979 Recovery = 98.70%								
B 249.677†	425723.0	52447	µg/L	346.77	52447	ppb	346.77	0.66%
QC value within limits for B 249.677 Recovery = 104.89%								
Ba 233.527†	290542.2	14372	µg/L	18.56	14372	ppb	18.56	0.13%
Be 313.107†	-12841.7	5.1803	µg/L	0.23241	5.1803	ppb	0.23241	4.49%
Ca 317.933Radial†	3048389.5	500960	µg/L	3799.89	500960	ppb	3799.89	0.76%
QC value within limits for Ca 317.933Radial Recovery = 100.19%								
Cd 226.502†	174792.3	8771.7	µg/L	8.83	8771.7	ppb	8.83	0.10%
Co 228.616†	43157.2	8183.6	µg/L	16.83	8183.6	ppb	16.83	0.21%
Cr 267.716†	467325.4	24200	µg/L	32.40	24200	ppb	32.40	0.13%
QC value within limits for Cr 267.716 Recovery = 96.80%								

Cu 324.752†	663848.5	21403 µg/L	66.38	21403 ppb	66.38	0.31%
QC value within limits for Cu 324.752 Recovery = 107.02%						
Fe 238.204 Radial†	1400818.4	482420 µg/L	3606.47	482420 ppb	3606.47	0.75%
QC value within limits for Fe 238.204 Radial Recovery = 96.48%						
K 766.490 Radial†	462707.7	205760 µg/L	1476.08	205760 ppb	1476.08	0.72%
QC value within limits for K 766.490 Radial Recovery = 102.88%						
Mg 279.077 IEC†	323715.6	506980 µg/L	428.99	506980 ppb	428.99	0.08%
QC value within limits for Mg 279.077 IEC Recovery = 101.40%						
Mn 257.610†	654321.8	9563.2 µg/L	10.80	9563.2 ppb	10.80	0.11%
Mo 202.031†	42969.8	8767.0 µg/L	19.37	8767.0 ppb	19.37	0.22%
QC value less than the lower limit for Mo 202.031 Recovery = 87.67%						
Na 589.592 Radial†	4170018.1	490260 µg/L	6300.30	490260 ppb	6300.30	1.29%
QC value within limits for Na 589.592 Radial Recovery = 98.05%						
Ni 231.604†	73865.4	8668.7 µg/L	21.56	8668.7 ppb	21.56	0.25%
P 214.914†	50.8	-819.30 µg/L	20.298	-819.30 ppb	20.298	2.48%
Pb 220.353†	32892.3	21538 µg/L	50.82	21538 ppb	50.82	0.24%
S 181.975 Axial†	8022.6	51333 µg/L	705.70	51333 ppb	705.70	1.37%
QC value within limits for S 181.975 Axial Recovery = 102.67%						
Sb 206.836†	179.5	464.71 µg/L	7.701	464.71 ppb	7.701	1.66%
Se 196.026†	-166.5	-127.69 µg/L	25.559	-127.69 ppb	25.559	20.02%
SiO2†	97566.0	112090 µg/L	115.42	112090 ppb	115.42	0.10%
QC value within limits for SiO2 Recovery = 104.76%						
Si 251.611†	247164.5	52211 µg/L	35.96	52211 ppb	35.96	0.07%
QC value within limits for Si 251.611 Recovery = 104.42%						
Sn 189.927†	-73.0	-91.711 µg/L	6.6452	-91.711 ppb	6.6452	7.25%
Sr 421.552†	7725285.8	10344 µg/L	141.67	10344 ppb	141.67	1.37%
QC value within limits for Sr 421.552 Recovery = 103.44%						
Ti 334.940†	1076308.0	10333 µg/L	17.63	10333 ppb	17.63	0.17%
QC value within limits for Ti 334.940 Recovery = 103.33%						
Tl 190.801†	-40.9	-20.033 µg/L	2.8454	-20.033 ppb	2.8454	14.20%
U 367.007†	23319.7	13409 µg/L	98.21	13409 ppb	98.21	0.73%
V 292.402†	183172.9	10020 µg/L	12.20	10020 ppb	12.20	0.12%
QC value within limits for V 292.402 Recovery = 100.20%						
Zn 213.857†	266974.7	14423 µg/L	16.42	14423 ppb	16.42	0.11%
QC value within limits for Zn 213.857 Recovery = 96.15%						

QC Failed. Continue with analysis.

Batch ID:
Sequence No.: 12 **Autosampler Location: 108**
Sample ID: LR2 **Date Collected: 11/19/2020 05:04:00**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	69957.9	69957.9	109.79	%	109.79	%	05:04:37
1	Al 396.153Radial†	283.3	260.3	81.144	µg/L	81.144	ppb	05:04:57
1	Ca 317.933Radial†	981.4	660.1	108.48	µg/L	108.48	ppb	05:04:57
1	Fe 238.204 Radial†	106.9	45.8	119.58	µg/L	119.58	ppb	05:04:57
1	K 766.490 Radial†	-169.8	64.8	28.820	µg/L	28.820	ppb	05:04:37
1	Mg 279.077 IEC†	133.2	116.2	181.92	µg/L	181.92	ppb	05:04:57
1	Na 589.592 Radial†	2854.1	1127.7	132.60	µg/L	132.60	ppb	05:04:37
1	Sr 421.552†	993.0	1360.1	1.8295	µg/L	1.8295	ppb	05:04:37
1	Sc 361.383	215536.6	215536.6	100.86	%	100.86	%	05:05:46
1	Y 371.029	126775.9	126775.9	101.75	%	101.75	%	05:05:46
1	Ag 328.068†	73.7	226.8	-6.7401	µg/L	-6.7401	ppb	05:05:48
1	As 188.979†	-70.2	-69.1	103.39	µg/L	103.39	ppb	05:06:08
1	B 249.677†	2883.2	2761.7	330.57	µg/L	330.57	ppb	05:05:48
1	Ba 233.527†	309824.5	307205.3	15222	µg/L	15222	ppb	05:05:46
1	Be 313.107†	-1888.2	-1632.5	-3.9464	µg/L	-3.9464	ppb	05:05:46
1	Cd 226.502†	202571.7	200898.2	10147	µg/L	10147	ppb	05:05:46
1	Co 228.616†	51835.4	51407.9	9755.8	µg/L	9755.8	ppb	05:05:48
1	Cr 267.716†	548624.9	543872.8	28165	µg/L	28165	ppb	05:05:46
1	Cu 324.752†	204.8	-92.5	17.129	µg/L	17.129	ppb	05:05:48
1	Mn 257.610†	710133.5	704076.8	10296	µg/L	10296	ppb	05:05:46
1	Mo 202.031†	44.4	16.2	3.3083	µg/L	3.3083	ppb	05:06:08
1	Ni 231.604†	86760.1	86070.7	10097	µg/L	10097	ppb	05:05:46
1	P 214.914†	53.5	8.1	-98.288	µg/L	-98.288	ppb	05:06:08
1	Pb 220.353†	38134.7	37798.8	24655	µg/L	24655	ppb	05:05:48
1	S 181.975 Axial†	6.1	3.5	22.497	µg/L	22.497	ppb	05:06:08
1	Sb 206.836†	367.5	333.8	554.69	µg/L	554.69	ppb	05:06:08
1	Se 196.026†	2.9	-24.7	-52.103	µg/L	-52.103	ppb	05:06:08
1	SiO2†	69.8	-95.8	313.18	µg/L	313.18	ppb	05:06:08
1	Si 251.611†	225.1	96.7	20.485	µg/L	20.485	ppb	05:06:08
1	Sn 189.927†	22.6	11.4	10.364	µg/L	10.364	ppb	05:06:08
1	Ti 334.940†	1921.3	1889.1	10.906	µg/L	10.906	ppb	05:05:48
1	Tl 190.801†	-19.4	-8.9	-17.247	µg/L	-17.247	ppb	05:06:08
1	U 367.007†	23758.9	23580.8	15191	µg/L	15191	ppb	05:05:48
1	V 292.402†	-1196.9	-1176.0	5.0090	µg/L	5.0090	ppb	05:05:48
1	Zn 213.857†	1377.2	1389.8	14.991	µg/L	14.991	ppb	05:06:08
2	Sc RADIAL	70222.7	70222.7	110.21	%	110.21	%	05:05:00
2	Al 396.153Radial†	262.0	240.0	74.837	µg/L	74.837	ppb	05:05:20
2	Ca 317.933Radial†	916.7	598.0	98.274	µg/L	98.274	ppb	05:05:20
2	Fe 238.204 Radial†	85.9	26.3	113.07	µg/L	113.07	ppb	05:05:20
2	K 766.490 Radial†	-220.6	19.2	8.5550	µg/L	8.5550	ppb	05:05:00
2	Mg 279.077 IEC†	121.5	105.1	164.56	µg/L	164.56	ppb	05:05:20
2	Na 589.592 Radial†	2535.3	828.7	97.443	µg/L	97.443	ppb	05:05:00
2	Sr 421.552†	898.2	1270.7	1.7099	µg/L	1.7099	ppb	05:05:00
2	Sc 361.383	213068.0	213068.0	99.708	%	99.708	%	05:06:10
2	Y 371.029	125226.8	125226.8	100.51	%	100.51	%	05:06:10
2	Ag 328.068†	142.4	296.6	-4.1026	µg/L	-4.1026	ppb	05:06:12
2	As 188.979†	-67.9	-67.5	107.47	µg/L	107.47	ppb	05:06:32
2	B 249.677†	2430.7	2340.9	280.19	µg/L	280.19	ppb	05:06:12
2	Ba 233.527†	306263.7	307192.9	15221	µg/L	15221	ppb	05:06:10
2	Be 313.107†	-1812.2	-1577.9	-3.8138	µg/L	-3.8138	ppb	05:06:10
2	Cd 226.502†	199838.3	200483.7	10126	µg/L	10126	ppb	05:06:10
2	Co 228.616†	51331.1	51497.6	9772.8	µg/L	9772.8	ppb	05:06:12
2	Cr 267.716†	543030.6	544564.1	28200	µg/L	28200	ppb	05:06:10
2	Cu 324.752†	129.5	-165.6	14.821	µg/L	14.821	ppb	05:06:12
2	Mn 257.610†	703392.5	705473.3	10316	µg/L	10316	ppb	05:06:10
2	Mo 202.031†	39.8	12.1	2.4641	µg/L	2.4641	ppb	05:06:32
2	Ni 231.604†	85732.5	86036.7	10093	µg/L	10093	ppb	05:06:10

2	P 214.914†	64.5	19.8	-27.161 µg/L	-27.161 ppb	05:06:32
2	Pb 220.353†	37772.2	37873.3	24703 µg/L	24703 ppb	05:06:12
2	S 181.975 Axial†	9.8	7.3	46.786 µg/L	46.786 ppb	05:06:32
2	Sb 206.836†	373.7	344.3	572.13 µg/L	572.13 ppb	05:06:32
2	Se 196.026†	3.5	-24.2	-50.876 µg/L	-50.876 ppb	05:06:32
2	SiO2†	72.4	-92.4	317.62 µg/L	317.62 ppb	05:06:32
2	Si 251.611†	225.8	100.0	21.205 µg/L	21.205 ppb	05:06:32
2	Sn 189.927†	18.1	7.2	6.5545 µg/L	6.5545 ppb	05:06:32
2	Ti 334.940†	1853.5	1843.3	10.457 µg/L	10.457 ppb	05:06:12
2	Tl 190.801†	-20.5	-10.3	-19.884 µg/L	-19.884 ppb	05:06:32
2	U 367.007†	23538.5	23632.6	15225 µg/L	15225 ppb	05:06:12
2	V 292.402†	-1274.6	-1267.7	0.1218 µg/L	0.1218 ppb	05:06:12
2	Zn 213.857†	1375.2	1403.6	15.772 µg/L	15.772 ppb	05:06:32
3	Sc RADIAL	71929.2	71929.2	112.88 %	112.88 %	05:05:22
3	Al 396.153Radial†	250.0	223.6	69.706 µg/L	69.706 ppb	05:05:42
3	Ca 317.933Radial†	874.0	540.5	88.821 µg/L	88.821 ppb	05:05:42
3	Fe 238.204 Radial†	80.2	19.4	104.89 µg/L	104.89 ppb	05:05:42
3	K 766.490 Radial†	-172.3	66.8	29.692 µg/L	29.692 ppb	05:05:22
3	Mg 279.077 IEC†	117.4	98.9	154.80 µg/L	154.80 ppb	05:05:42
3	Na 589.592 Radial†	2518.6	759.3	89.280 µg/L	89.280 ppb	05:05:22
3	Sr 421.552†	907.7	1259.8	1.6955 µg/L	1.6955 ppb	05:05:22
3	Sc 361.383	219603.7	219603.7	102.77 %	102.77 %	05:06:34
3	Y 371.029	128890.1	128890.1	103.45 %	103.45 %	05:06:34
3	Ag 328.068†	120.0	270.5	-4.3712 µg/L	-4.3712 ppb	05:06:36
3	As 188.979†	-63.0	-60.7	124.72 µg/L	124.72 ppb	05:06:56
3	B 249.677†	2029.0	1877.5	224.72 µg/L	224.72 ppb	05:06:36
3	Ba 233.527†	316477.8	307990.5	15260 µg/L	15260 ppb	05:06:34
3	Be 313.107†	-1887.3	-1596.9	-3.8631 µg/L	-3.8631 ppb	05:06:34
3	Cd 226.502†	206787.1	201280.5	10167 µg/L	10167 ppb	05:06:34
3	Co 228.616†	49952.4	48623.8	9228.6 µg/L	9228.6 ppb	05:06:36
3	Cr 267.716†	560323.7	545182.9	28232 µg/L	28232 ppb	05:06:34
3	Cu 324.752†	143.7	-155.7	14.188 µg/L	14.188 ppb	05:06:36
3	Mn 257.610†	725901.5	706380.9	10330 µg/L	10330 ppb	05:06:34
3	Mo 202.031†	44.7	15.6	3.1848 µg/L	3.1848 ppb	05:06:56
3	Ni 231.604†	88562.0	86230.9	10115 µg/L	10115 ppb	05:06:34
3	P 214.914†	60.0	13.4	-57.781 µg/L	-57.781 ppb	05:06:56
3	Pb 220.353†	36695.3	35697.9	23284 µg/L	23284 ppb	05:06:36
3	S 181.975 Axial†	9.4	6.7	42.763 µg/L	42.763 ppb	05:06:56
3	Sb 206.836†	378.0	337.3	560.50 µg/L	560.50 ppb	05:06:56
3	Se 196.026†	15.7	-12.4	-26.069 µg/L	-26.069 ppb	05:06:56
3	SiO2†	97.6	-70.0	343.78 µg/L	343.78 ppb	05:06:56
3	Si 251.611†	223.9	91.4	19.360 µg/L	19.360 ppb	05:06:56
3	Sn 189.927†	21.1	9.5	8.6215 µg/L	8.6215 ppb	05:06:56
3	Ti 334.940†	1831.5	1766.5	9.7139 µg/L	9.7139 ppb	05:06:36
3	Tl 190.801†	-19.6	-8.7	-16.927 µg/L	-16.927 ppb	05:06:56
3	U 367.007†	23113.6	22516.5	14506 µg/L	14506 ppb	05:06:36
3	V 292.402†	-1233.4	-1189.6	3.9434 µg/L	3.9434 ppb	05:06:36
3	Zn 213.857†	1372.2	1359.7	13.237 µg/L	13.237 ppb	05:06:56

Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	216069.4	101.11	%	1.544	101.11	%	1.544	1.53%
Sc RADIAL	70703.3	110.96	%	1.679	110.96	%	1.679	1.51%
Y 371.029	126964.3	101.90	%	1.476	101.90	%	1.476	1.45%
Ag 328.068†	264.7	-5.0713	µg/L	1.45149	-5.0713	ppb	1.45149	28.62%
Al 396.153Radial†	241.3	75.229	µg/L	5.7290	75.229	ppb	5.7290	7.62%
As 188.979†	-65.8	111.86	µg/L	11.325	111.86	ppb	11.325	10.12%
B 249.677†	2326.7	278.49	µg/L	52.948	278.49	ppb	52.948	19.01%
Ba 233.527†	307462.9	15234	µg/L	22.64	15234	ppb	22.64	0.15%
QC value within limits for Ba 233.527 Recovery = 101.56%								
Be 313.107†	-1602.4	-3.8744	µg/L	0.06700	-3.8744	ppb	0.06700	1.73%
Ca 317.933Radial†	599.5	98.525	µg/L	9.8314	98.525	ppb	9.8314	9.98%
Cd 226.502†	200887.4	10147	µg/L	20.13	10147	ppb	20.13	0.20%
QC value within limits for Cd 226.502 Recovery = 101.47%								
Co 228.616†	50509.8	9585.7	µg/L	309.41	9585.7	ppb	309.41	3.23%
QC value within limits for Co 228.616 Recovery = 95.86%								
Cr 267.716†	544539.9	28199	µg/L	33.94	28199	ppb	33.94	0.12%
Cu 324.752†	-137.9	15.379	µg/L	1.5481	15.379	ppb	1.5481	10.07%
Fe 238.204 Radial†	30.5	112.51	µg/L	7.361	112.51	ppb	7.361	6.54%

K 766.490 Radial†	50.3	22.356 µg/L	11.9595	22.356 ppb	11.9595	53.50%
Mg 279.077 IEC†	106.7	167.09 µg/L	13.732	167.09 ppb	13.732	8.22%
Mn 257.610†	705310.3	10314 µg/L	16.97	10314 ppb	16.97	0.16%
QC value within limits for Mn 257.610 Recovery = 103.14%						
Mo 202.031†	14.6	2.9857 µg/L	0.45592	2.9857 ppb	0.45592	15.27%
Na 589.592 Radial†	905.2	106.44 µg/L	23.021	106.44 ppb	23.021	21.63%
Ni 231.604†	86112.7	10102 µg/L	12.17	10102 ppb	12.17	0.12%
QC value within limits for Ni 231.604 Recovery = 101.02%						
P 214.914†	13.8	-61.077 µg/L	35.6783	-61.077 ppb	35.6783	58.42%
Pb 220.353†	37123.3	24214 µg/L	805.66	24214 ppb	805.66	3.33%
QC value within limits for Pb 220.353 Recovery = 96.86%						
S 181.975 Axial†	5.8	37.349 µg/L	13.0182	37.349 ppb	13.0182	34.86%
Sb 206.836†	338.5	562.44 µg/L	8.881	562.44 ppb	8.881	1.58%
Se 196.026†	-20.4	-43.016 µg/L	14.6892	-43.016 ppb	14.6892	34.15%
SiO2†	-86.1	324.86 µg/L	16.539	324.86 ppb	16.539	5.09%
Si 251.611†	96.0	20.350 µg/L	0.9297	20.350 ppb	0.9297	4.57%
Sn 189.927†	9.4	8.5134 µg/L	1.90712	8.5134 ppb	1.90712	22.40%
Sr 421.552†	1296.9	1.7450 µg/L	0.07357	1.7450 ppb	0.07357	4.22%
Ti 334.940†	1833.0	10.359 µg/L	0.6019	10.359 ppb	0.6019	5.81%
Tl 190.801†	-9.3	-18.019 µg/L	1.6229	-18.019 ppb	1.6229	9.01%
U 367.007†	23243.3	14974 µg/L	405.82	14974 ppb	405.82	2.71%
QC value within limits for U 367.007 Recovery = 99.83%						
V 292.402†	-1211.1	3.0248 µg/L	2.56984	3.0248 ppb	2.56984	84.96%
Zn 213.857†	1384.3	14.666 µg/L	1.2983	14.666 ppb	1.2983	8.85%

All analyte(s) passed QC.

Batch ID:
Sequence No.: 13 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/19/2020 05:07:26**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	69829.5	69829.5	109.59	%	109.59	%	05:08:10
1	Al 396.153Radial†	17512.4	15982.5	4970.8	µg/L	4970.8	ppb	05:08:12
1	Ca 317.933Radial†	33975.1	30768.8	5056.4	µg/L	5056.4	ppb	05:08:12
1	Fe 238.204 Radial†	16565.4	15064.4	5192.2	µg/L	5192.2	ppb	05:08:12
1	K 766.490 Radial†	12592.8	11710.5	5205.7	µg/L	5205.7	ppb	05:08:12
1	Mg 279.077 IEC†	3623.8	3301.6	5171.0	µg/L	5171.0	ppb	05:08:12
1	Na 589.592 Radial†	94125.7	84418.7	9925.8	µg/L	9925.8	ppb	05:08:10
1	Sr 421.552†	418824.4	382636.7	514.59	µg/L	514.59	ppb	05:08:10
1	Sc 361.383	227085.6	227085.6	106.27	%	106.27	%	05:08:24
1	Y 371.029	131782.6	131782.6	105.77	%	105.77	%	05:08:24
1	Ag 328.068†	13056.0	12439.8	479.06	µg/L	479.06	ppb	05:08:24
1	As 188.979†	215.0	202.9	511.12	µg/L	511.12	ppb	05:08:44
1	B 249.677†	5347.6	4935.4	606.75	µg/L	606.75	ppb	05:08:24
1	Ba 233.527†	10452.3	9868.4	489.23	µg/L	489.23	ppb	05:08:24
1	Be 313.107†	210528.5	198350.8	489.02	µg/L	489.02	ppb	05:08:24
1	Cd 226.502†	10333.1	9783.9	493.57	µg/L	493.57	ppb	05:08:24
1	Co 228.616†	2755.0	2608.7	494.60	µg/L	494.60	ppb	05:08:44
1	Cr 267.716†	10107.8	9455.3	489.64	µg/L	489.64	ppb	05:08:24
1	Cu 324.752†	16203.5	14952.2	481.81	µg/L	481.81	ppb	05:08:24
1	Mn 257.610†	35504.2	33431.6	488.83	µg/L	488.83	ppb	05:08:24
1	Mo 202.031†	2552.7	2374.3	484.68	µg/L	484.68	ppb	05:08:44
1	Ni 231.604†	4438.9	4230.2	496.27	µg/L	496.27	ppb	05:08:24
1	P 214.914†	468.1	395.5	2395.9	µg/L	2395.9	ppb	05:08:44
1	Pb 220.353†	848.9	789.4	515.65	µg/L	515.65	ppb	05:08:44
1	S 181.975 Axial†	163.7	151.5	968.91	µg/L	968.91	ppb	05:08:44
1	Sb 206.836†	337.3	286.9	483.36	µg/L	483.36	ppb	05:08:44
1	Se 196.026†	274.6	230.8	488.56	µg/L	488.56	ppb	05:08:44
1	SiO2†	5051.4	4588.5	5260.1	µg/L	5260.1	ppb	05:08:24
1	Si 251.611†	12456.4	11595.3	2453.4	µg/L	2453.4	ppb	05:08:24
1	Sn 189.927†	579.7	534.5	479.91	µg/L	479.91	ppb	05:08:44
1	Ti 334.940†	52982.9	49842.2	477.34	µg/L	477.34	ppb	05:08:24
1	Tl 190.801†	261.1	256.0	499.64	µg/L	499.64	ppb	05:08:44
1	U 367.007†	723.9	706.4	437.72	µg/L	437.72	ppb	05:08:24
1	V 292.402†	9400.4	8856.6	482.81	µg/L	482.81	ppb	05:08:24
1	Zn 213.857†	9526.9	8989.4	486.23	µg/L	486.23	ppb	05:08:24
2	Sc RADIAL	69179.4	69179.4	108.57	%	108.57	%	05:08:14
2	Al 396.153Radial†	17578.6	16193.5	5036.5	µg/L	5036.5	ppb	05:08:16
2	Ca 317.933Radial†	34376.8	31430.2	5165.1	µg/L	5165.1	ppb	05:08:16
2	Fe 238.204 Radial†	16713.9	15343.3	5288.3	µg/L	5288.3	ppb	05:08:16
2	K 766.490 Radial†	12654.6	11875.4	5279.0	µg/L	5279.0	ppb	05:08:16
2	Mg 279.077 IEC†	3605.3	3315.7	5193.0	µg/L	5193.0	ppb	05:08:16
2	Na 589.592 Radial†	92978.9	84169.6	9896.5	µg/L	9896.5	ppb	05:08:14
2	Sr 421.552†	412533.7	380434.0	511.62	µg/L	511.62	ppb	05:08:14
2	Sc 361.383	218330.2	218330.2	102.17	%	102.17	%	05:08:47
2	Y 371.029	126804.1	126804.1	101.77	%	101.77	%	05:08:47
2	Ag 328.068†	12533.0	12420.5	478.30	µg/L	478.30	ppb	05:08:47
2	As 188.979†	205.2	201.4	507.50	µg/L	507.50	ppb	05:09:07
2	B 249.677†	5046.0	4842.0	595.87	µg/L	595.87	ppb	05:08:47
2	Ba 233.527†	9946.5	9767.8	484.23	µg/L	484.23	ppb	05:08:47
2	Be 313.107†	200978.1	196948.0	485.57	µg/L	485.57	ppb	05:08:47
2	Cd 226.502†	9862.2	9713.0	489.97	µg/L	489.97	ppb	05:08:47
2	Co 228.616†	2663.1	2622.8	497.26	µg/L	497.26	ppb	05:09:07
2	Cr 267.716†	9619.9	9359.2	484.66	µg/L	484.66	ppb	05:08:47
2	Cu 324.752†	15509.9	14884.8	479.67	µg/L	479.67	ppb	05:08:47
2	Mn 257.610†	33890.2	33191.6	485.32	µg/L	485.32	ppb	05:08:47
2	Mo 202.031†	2481.7	2401.1	490.16	µg/L	490.16	ppb	05:09:07
2	Ni 231.604†	4163.7	4128.3	484.32	µg/L	484.32	ppb	05:08:47

2	P 214.914†	457.2	402.5	2438.8 µg/L	2438.8 ppb	05:09:07
2	Pb 220.353†	821.4	794.5	518.98 µg/L	518.98 ppb	05:09:07
2	S 181.975 Axial†	160.3	154.4	987.55 µg/L	987.55 ppb	05:09:07
2	Sb 206.836†	327.3	289.8	488.26 µg/L	488.26 ppb	05:09:07
2	Se 196.026†	275.0	241.5	511.13 µg/L	511.13 ppb	05:09:07
2	SiO2†	4830.9	4563.2	5231.0 µg/L	5231.0 ppb	05:08:47
2	Si 251.611†	11921.7	11542.0	2441.9 µg/L	2441.9 ppb	05:08:47
2	Sn 189.927†	564.7	541.7	486.32 µg/L	486.32 ppb	05:09:07
2	Ti 334.940†	50801.5	49706.5	476.05 µg/L	476.05 ppb	05:08:47
2	Tl 190.801†	248.6	253.6	495.00 µg/L	495.00 ppb	05:09:07
2	U 367.007†	722.9	732.7	454.37 µg/L	454.37 ppb	05:08:47
2	V 292.402†	8998.2	8817.6	480.70 µg/L	480.70 ppb	05:08:47
2	Zn 213.857†	9105.7	8936.6	483.42 µg/L	483.42 ppb	05:08:47
3	Sc RADIAL	70342.4	70342.4	110.39 %	110.39 %	05:08:18
3	Al 396.153Radial†	17394.2	15758.9	4901.2 µg/L	4901.2 ppb	05:08:20
3	Ca 317.933Radial†	33812.5	30395.5	4995.0 µg/L	4995.0 ppb	05:08:20
3	Fe 238.204 Radial†	16501.0	14895.9	5134.2 µg/L	5134.2 ppb	05:08:20
3	K 766.490 Radial†	12483.6	11527.8	5124.5 µg/L	5124.5 ppb	05:08:20
3	Mg 279.077 IEC†	3617.4	3271.7	5124.1 µg/L	5124.1 ppb	05:08:20
3	Na 589.592 Radial†	94603.8	84225.5	9903.1 µg/L	9903.1 ppb	05:08:18
3	Sr 421.552†	420138.4	381040.5	512.45 µg/L	512.45 ppb	05:08:18
3	Sc 361.383	223989.4	223989.4	104.82 %	104.82 %	05:09:09
3	Y 371.029	129898.0	129898.0	104.26 %	104.26 %	05:09:09
3	Ag 328.068†	12773.9	12340.4	475.21 µg/L	475.21 ppb	05:09:09
3	As 188.979†	204.9	196.1	494.14 µg/L	494.14 ppb	05:09:29
3	B 249.677†	5094.9	4763.8	586.04 µg/L	586.04 ppb	05:09:09
3	Ba 233.527†	10223.3	9785.9	485.14 µg/L	485.14 ppb	05:09:09
3	Be 313.107†	206641.8	197381.4	486.64 µg/L	486.64 ppb	05:09:09
3	Cd 226.502†	10205.0	9796.1	494.19 µg/L	494.19 ppb	05:09:09
3	Co 228.616†	2690.6	2583.1	489.75 µg/L	489.75 ppb	05:09:29
3	Cr 267.716†	9944.0	9430.5	488.36 µg/L	488.36 ppb	05:09:09
3	Cu 324.752†	15931.0	14903.1	480.26 µg/L	480.26 ppb	05:09:09
3	Mn 257.610†	34767.5	33190.5	485.30 µg/L	485.30 ppb	05:09:09
3	Mo 202.031†	2494.0	2351.5	480.03 µg/L	480.03 ppb	05:09:29
3	Ni 231.604†	4285.7	4141.8	485.90 µg/L	485.90 ppb	05:09:09
3	P 214.914†	464.5	398.2	2412.7 µg/L	2412.7 ppb	05:09:29
3	Pb 220.353†	825.1	777.6	507.95 µg/L	507.95 ppb	05:09:29
3	S 181.975 Axial†	164.2	154.2	985.98 µg/L	985.98 ppb	05:09:29
3	Sb 206.836†	321.3	276.0	465.19 µg/L	465.19 ppb	05:09:29
3	Se 196.026†	279.7	239.2	506.27 µg/L	506.27 ppb	05:09:29
3	SiO2†	4992.7	4598.1	5271.3 µg/L	5271.3 ppb	05:09:09
3	Si 251.611†	12226.7	11538.2	2441.4 µg/L	2441.4 ppb	05:09:09
3	Sn 189.927†	572.2	534.9	480.28 µg/L	480.28 ppb	05:09:29
3	Ti 334.940†	52087.1	49676.8	475.75 µg/L	475.75 ppb	05:09:09
3	Tl 190.801†	249.2	248.0	484.09 µg/L	484.09 ppb	05:09:29
3	U 367.007†	750.7	741.4	460.46 µg/L	460.46 ppb	05:09:09
3	V 292.402†	9282.3	8866.1	483.35 µg/L	483.35 ppb	05:09:09
3	Zn 213.857†	9332.7	8928.0	482.96 µg/L	482.96 ppb	05:09:09

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	223135.1	104.42	%	2.078	104.42	%	2.078	1.99%
Sc RADIAL	69783.8	109.52	%	0.915	109.52	%	0.915	0.84%
Y 371.029	129494.9	103.93	%	2.017	103.93	%	2.017	1.94%
Ag 328.068†	12400.2	477.52	µg/L	2.035	477.52	ppb	2.035	0.43%
QC value within limits for Ag 328.068 Recovery = 95.50%								
Al 396.153Radial†	15978.3	4969.5	µg/L	67.67	4969.5	ppb	67.67	1.36%
QC value within limits for Al 396.153Radial Recovery = 99.39%								
As 188.979†	200.1	504.25	µg/L	8.947	504.25	ppb	8.947	1.77%
QC value within limits for As 188.979 Recovery = 100.85%								
B 249.677†	4847.0	596.22	µg/L	10.360	596.22	ppb	10.360	1.74%
QC value greater than the upper limit for B 249.677 Recovery = 119.24%								
Ba 233.527†	9807.4	486.20	µg/L	2.662	486.20	ppb	2.662	0.55%
QC value within limits for Ba 233.527 Recovery = 97.24%								
Be 313.107†	197560.1	487.08	µg/L	1.767	487.08	ppb	1.767	0.36%
QC value within limits for Be 313.107 Recovery = 97.42%								
Ca 317.933Radial†	30864.8	5072.2	µg/L	86.11	5072.2	ppb	86.11	1.70%
QC value within limits for Ca 317.933Radial Recovery = 101.44%								
Cd 226.502†	9764.4	492.58	µg/L	2.276	492.58	ppb	2.276	0.46%

```
   QC value within limits for Cd 226.502  Recovery = 98.52%
Co 228.616†          2604.9      493.87 µg/L         3.804      493.87 ppb          3.804   0.77%
   QC value within limits for Co 228.616  Recovery = 98.77%
Cr 267.716†          9415.0      487.55 µg/L         2.584      487.55 ppb          2.584   0.53%
   QC value within limits for Cr 267.716  Recovery = 97.51%
Cu 324.752†         14913.4      480.58 µg/L         1.105      480.58 ppb          1.105   0.23%
   QC value within limits for Cu 324.752  Recovery = 96.12%
Fe 238.204 Radial†  15101.2      5204.9 µg/L         77.83      5204.9 ppb          77.83   1.50%
   QC value within limits for Fe 238.204 Radial  Recovery = 104.10%
K 766.490 Radial†   11704.6      5203.0 µg/L         77.29      5203.0 ppb          77.29   1.49%
   QC value within limits for K 766.490 Radial  Recovery = 104.06%
Mg 279.077 IEC†      3296.4      5162.7 µg/L         35.16      5162.7 ppb          35.16   0.68%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.25%
Mn 257.610†         33271.2      486.48 µg/L         2.030      486.48 ppb          2.030   0.42%
   QC value within limits for Mn 257.610  Recovery = 97.30%
Mo 202.031†          2375.6      484.96 µg/L         5.070      484.96 ppb          5.070   1.05%
   QC value within limits for Mo 202.031  Recovery = 96.99%
Na 589.592 Radial†  84271.3      9908.5 µg/L         15.38      9908.5 ppb          15.38   0.16%
   QC value within limits for Na 589.592 Radial  Recovery = 99.08%
Ni 231.604†          4166.8      488.83 µg/L         6.492      488.83 ppb          6.492   1.33%
   QC value within limits for Ni 231.604  Recovery = 97.77%
P 214.914†            398.7      2415.8 µg/L         21.62      2415.8 ppb          21.62   0.89%
   QC value within limits for P 214.914  Recovery = 96.63%
Pb 220.353†           787.2      514.19 µg/L         5.657      514.19 ppb          5.657   1.10%
   QC value within limits for Pb 220.353  Recovery = 102.84%
S 181.975 Axial†      153.4      980.81 µg/L        10.340      980.81 ppb         10.340   1.05%
   QC value within limits for S 181.975 Axial  Recovery = 98.08%
Sb 206.836†           284.2      478.94 µg/L        12.159      478.94 ppb         12.159   2.54%
   QC value within limits for Sb 206.836  Recovery = 95.79%
Se 196.026†           237.2      501.99 µg/L        11.881      501.99 ppb         11.881   2.37%
   QC value within limits for Se 196.026  Recovery = 100.40%
SiO2†                4583.3      5254.1 µg/L         20.82      5254.1 ppb          20.82   0.40%
   QC value within limits for SiO2  Recovery = 98.25%
Si 251.611†         11558.5      2445.5 µg/L          6.80      2445.5 ppb           6.80   0.28%
   QC value within limits for Si 251.611  Recovery = 97.82%
Sn 189.927†           537.1      482.17 µg/L         3.594      482.17 ppb          3.594   0.75%
   QC value within limits for Sn 189.927  Recovery = 96.43%
Sr 421.552†         381370.4      512.89 µg/L         1.536      512.89 ppb          1.536   0.30%
   QC value within limits for Sr 421.552  Recovery = 102.58%
Ti 334.940†          49741.8      476.38 µg/L         0.844      476.38 ppb          0.844   0.18%
   QC value within limits for Ti 334.940  Recovery = 95.28%
Tl 190.801†           252.5      492.91 µg/L         7.986      492.91 ppb          7.986   1.62%
   QC value within limits for Tl 190.801  Recovery = 98.58%
U 367.007†            726.8      450.85 µg/L        11.769      450.85 ppb         11.769   2.61%
   QC value within limits for U 367.007  Recovery = 90.17%
V 292.402†           8846.8      482.29 µg/L         1.397      482.29 ppb          1.397   0.29%
   QC value within limits for V 292.402  Recovery = 96.46%
Zn 213.857†          8951.4      484.20 µg/L         1.775      484.20 ppb          1.775   0.37%
   QC value within limits for Zn 213.857  Recovery = 96.84%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 14 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/19/2020 05:09:59**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	70881.3	70881.3	111.24	%	111.24	%	05:10:43
1	Al 396.153Radial†	25.9	25.4	7.9139	µg/L	7.9139	ppb	05:10:43
1	Ca 317.933Radial†	359.0	89.0	14.620	µg/L	14.620	ppb	05:11:03
1	Fe 238.204 Radial†	96.0	34.7	11.970	µg/L	11.970	ppb	05:11:03
1	K 766.490 Radial†	-257.4	-12.0	-5.3091	µg/L	-5.3091	ppb	05:10:43
1	Mg 279.077 IEC†	11.5	5.2	8.1335	µg/L	8.1335	ppb	05:11:03
1	Na 589.592 Radial†	2006.1	331.6	38.989	µg/L	38.989	ppb	05:10:43
1	Sr 421.552†	-423.9	74.6	0.0990	µg/L	0.0990	ppb	05:10:43
1	Sc 361.383	201895.9	201895.9	94.480	%	94.480	%	05:11:51
1	Y 371.029	117896.6	117896.6	94.626	%	94.626	%	05:11:51
1	Ag 328.068†	-157.4	-12.8	-0.4970	µg/L	-0.4970	ppb	05:12:11
1	As 188.979†	3.0	3.8	9.4643	µg/L	9.4643	ppb	05:12:11
1	B 249.677†	620.0	559.3	66.977	µg/L	66.977	ppb	05:12:11
1	Ba 233.527†	-16.2	15.5	0.7663	µg/L	0.7663	ppb	05:12:11
1	Be 313.107†	-212.1	15.1	0.0388	µg/L	0.0388	ppb	05:11:51
1	Cd 226.502†	-17.9	41.4	2.0885	µg/L	2.0885	ppb	05:12:11
1	Co 228.616†	-5.7	10.2	1.9283	µg/L	1.9283	ppb	05:12:11
1	Cr 267.716†	73.9	21.9	1.1356	µg/L	1.1356	ppb	05:12:11
1	Cu 324.752†	346.3	71.0	2.2958	µg/L	2.2958	ppb	05:12:11
1	Mn 257.610†	18.5	41.0	0.5998	µg/L	0.5998	ppb	05:12:11
1	Mo 202.031†	29.9	3.8	0.7745	µg/L	0.7745	ppb	05:12:11
1	Ni 231.604†	-55.6	-5.8	-0.6747	µg/L	-0.6747	ppb	05:12:11
1	P 214.914†	42.9	0.4	2.4739	µg/L	2.4739	ppb	05:12:11
1	Pb 220.353†	27.7	19.8	12.918	µg/L	12.918	ppb	05:12:11
1	S 181.975 Axial†	1.2	-1.2	-7.5957	µg/L	-7.5957	ppb	05:12:11
1	Sb 206.836†	36.1	7.7	12.762	µg/L	12.762	ppb	05:12:11
1	Se 196.026†	21.1	-5.3	-11.141	µg/L	-11.141	ppb	05:12:11
1	SiO2†	178.9	24.3	27.922	µg/L	27.922	ppb	05:12:11
1	Si 251.611†	130.7	11.8	2.4946	µg/L	2.4946	ppb	05:12:11
1	Sn 189.927†	22.8	13.2	11.768	µg/L	11.768	ppb	05:12:11
1	Ti 334.940†	61.7	49.7	0.4758	µg/L	0.4758	ppb	05:12:11
1	Tl 190.801†	-6.6	3.3	6.4895	µg/L	6.4895	ppb	05:12:11
1	U 367.007†	-11.1	13.5	8.6308	µg/L	8.6308	ppb	05:11:51
1	V 292.402†	9.7	20.8	1.1401	µg/L	1.1401	ppb	05:12:11
1	Zn 213.857†	58.8	86.6	4.7244	µg/L	4.7244	ppb	05:12:11
2	Sc RADIAL	64721.6	64721.6	101.57	%	101.57	%	05:11:05
2	Al 396.153Radial†	56.2	57.6	17.973	µg/L	17.973	ppb	05:11:05
2	Ca 317.933Radial†	320.0	81.3	13.353	µg/L	13.353	ppb	05:11:25
2	Fe 238.204 Radial†	91.3	38.3	13.197	µg/L	13.197	ppb	05:11:25
2	K 766.490 Radial†	-225.6	-2.6	-1.1649	µg/L	-1.1649	ppb	05:11:05
2	Mg 279.077 IEC†	9.5	4.2	6.6419	µg/L	6.6419	ppb	05:11:25
2	Na 589.592 Radial†	1844.3	343.9	40.431	µg/L	40.431	ppb	05:11:05
2	Sr 421.552†	-329.4	131.4	0.1754	µg/L	0.1754	ppb	05:11:05
2	Sc 361.383	196569.1	196569.1	91.987	%	91.987	%	05:12:13
2	Y 371.029	114771.6	114771.6	92.117	%	92.117	%	05:12:13
2	Ag 328.068†	-171.0	-32.1	-1.2371	µg/L	-1.2371	ppb	05:12:33
2	As 188.979†	-1.9	-1.4	-3.5223	µg/L	-3.5223	ppb	05:12:33
2	B 249.677†	584.7	538.8	64.520	µg/L	64.520	ppb	05:12:33
2	Ba 233.527†	-17.4	13.7	0.6782	µg/L	0.6782	ppb	05:12:33
2	Be 313.107†	-232.2	-12.9	-0.0302	µg/L	-0.0302	ppb	05:12:13
2	Cd 226.502†	-30.3	27.3	1.3780	µg/L	1.3780	ppb	05:12:33
2	Co 228.616†	-7.1	8.5	1.6117	µg/L	1.6117	ppb	05:12:33
2	Cr 267.716†	83.7	34.7	1.7949	µg/L	1.7949	ppb	05:12:33
2	Cu 324.752†	346.3	81.0	2.6109	µg/L	2.6109	ppb	05:12:33
2	Mn 257.610†	7.8	29.9	0.4368	µg/L	0.4368	ppb	05:12:33
2	Mo 202.031†	26.6	1.0	0.2139	µg/L	0.2139	ppb	05:12:33
2	Ni 231.604†	-52.8	-4.3	-0.5012	µg/L	-0.5012	ppb	05:12:33

2	P 214.914†	39.7	-1.8	-11.240 µg/L	-11.240 ppb	05:12:33
2	Pb 220.353†	14.5	6.3	4.0948 µg/L	4.0948 ppb	05:12:33
2	S 181.975 Axial†	3.9	1.7	10.915 µg/L	10.915 ppb	05:12:33
2	Sb 206.836†	36.2	8.8	14.655 µg/L	14.655 ppb	05:12:33
2	Se 196.026†	33.3	8.6	18.077 µg/L	18.077 ppb	05:12:33
2	SiO2†	175.6	25.9	29.695 µg/L	29.695 ppb	05:12:33
2	Si 251.611†	140.6	26.4	5.6021 µg/L	5.6021 ppb	05:12:33
2	Sn 189.927†	17.9	8.5	7.6056 µg/L	7.6056 ppb	05:12:33
2	Ti 334.940†	54.2	43.2	0.4140 µg/L	0.4140 ppb	05:12:33
2	Tl 190.801†	-11.7	-2.5	-4.7714 µg/L	-4.7714 ppb	05:12:33
2	U 367.007†	-17.6	6.1	3.8638 µg/L	3.8638 ppb	05:12:13
2	V 292.402†	-14.1	-4.8	-0.2524 µg/L	-0.2524 ppb	05:12:33
2	Zn 213.857†	42.1	70.2	3.8294 µg/L	3.8294 ppb	05:12:33
3	Sc RADIAL	62314.1	62314.1	97.794 %	97.794 %	05:11:27
3	Al 396.153Radial†	13.2	15.7	4.8436 µg/L	4.8436 ppb	05:11:27
3	Ca 317.933Radial†	340.9	114.8	18.863 µg/L	18.863 ppb	05:11:47
3	Fe 238.204 Radial†	98.0	48.5	16.713 µg/L	16.713 ppb	05:11:47
3	K 766.490 Radial†	-160.4	55.5	24.647 µg/L	24.647 ppb	05:11:27
3	Mg 279.077 IEC†	5.5	0.5	0.7502 µg/L	0.7502 ppb	05:11:47
3	Na 589.592 Radial†	1775.2	343.4	40.380 µg/L	40.380 ppb	05:11:27
3	Sr 421.552†	-419.4	26.9	0.0342 µg/L	0.0342 ppb	05:11:27
3	Sc 361.383	199665.5	199665.5	93.436 %	93.436 %	05:12:35
3	Y 371.029	116795.6	116795.6	93.742 %	93.742 %	05:12:35
3	Ag 328.068†	-155.8	-13.0	-0.5072 µg/L	-0.5072 ppb	05:12:55
3	As 188.979†	-1.4	-0.9	-2.1385 µg/L	-2.1385 ppb	05:12:55
3	B 249.677†	554.6	496.6	59.490 µg/L	59.490 ppb	05:12:55
3	Ba 233.527†	-7.5	24.6	1.2202 µg/L	1.2202 ppb	05:12:55
3	Be 313.107†	-207.8	17.2	0.0441 µg/L	0.0441 ppb	05:12:35
3	Cd 226.502†	-27.4	31.0	1.5618 µg/L	1.5618 ppb	05:12:55
3	Co 228.616†	-14.1	1.1	0.2059 µg/L	0.2059 ppb	05:12:55
3	Cr 267.716†	59.9	7.8	0.4018 µg/L	0.4018 ppb	05:12:55
3	Cu 324.752†	346.3	75.1	2.4333 µg/L	2.4333 ppb	05:12:55
3	Mn 257.610†	9.1	31.1	0.4551 µg/L	0.4551 ppb	05:12:55
3	Mo 202.031†	33.6	8.1	1.6592 µg/L	1.6592 ppb	05:12:55
3	Ni 231.604†	-48.9	0.8	0.0930 µg/L	0.0930 ppb	05:12:55
3	P 214.914†	47.9	6.3	38.730 µg/L	38.730 ppb	05:12:55
3	Pb 220.353†	19.4	11.2	7.3178 µg/L	7.3178 ppb	05:12:55
3	S 181.975 Axial†	2.0	-0.3	-2.0412 µg/L	-2.0412 ppb	05:12:55
3	Sb 206.836†	28.6	0.1	0.2209 µg/L	0.2209 ppb	05:12:55
3	Se 196.026†	20.2	-6.0	-12.697 µg/L	-12.697 ppb	05:12:55
3	SiO2†	177.8	25.3	29.036 µg/L	29.036 ppb	05:12:55
3	Si 251.611†	144.9	28.6	6.0468 µg/L	6.0468 ppb	05:12:55
3	Sn 189.927†	16.8	7.0	6.2541 µg/L	6.2541 ppb	05:12:55
3	Ti 334.940†	63.6	52.4	0.5025 µg/L	0.5025 ppb	05:12:55
3	Tl 190.801†	-6.6	3.2	6.2200 µg/L	6.2200 ppb	05:12:55
3	U 367.007†	-6.3	18.5	11.837 µg/L	11.837 ppb	05:12:35
3	V 292.402†	15.7	27.4	1.5002 µg/L	1.5002 ppb	05:12:55
3	Zn 213.857†	37.9	65.0	3.5418 µg/L	3.5418 ppb	05:12:55

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	199376.8	93.301	%	1.2519	93.301	%	1.2519	1.34%
Sc RADIAL	65972.4	103.53	%	6.934	103.53	%	6.934	6.70%
Y 371.029	116488.0	93.495	%	1.2722	93.495	%	1.2722	1.36%
Ag 328.068†	-19.3	-0.7471	µg/L	0.42436	-0.7471	ppb	0.42436	56.80%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	32.9	10.244	µg/L	6.8679	10.244	ppb	6.8679	67.05%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	0.5	1.2679	µg/L	7.13201	1.2679	ppb	7.13201	562.53%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	531.6	63.663	µg/L	3.8167	63.663	ppb	3.8167	6.00%
QC value greater than the upper limit for B 249.677 Recovery = Not calculated								
Ba 233.527†	17.9	0.8882	µg/L	0.29086	0.8882	ppb	0.29086	32.75%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	6.5	0.0176	µg/L	0.04144	0.0176	ppb	0.04144	235.65%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	95.0	15.612	µg/L	2.8855	15.612	ppb	2.8855	18.48%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	33.2	1.6761	µg/L	0.36881	1.6761	ppb	0.36881	22.00%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              6.6      1.2486 µg/L       0.91680      1.2486 ppb        0.91680  73.42%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†             21.4      1.1107 µg/L       0.69689      1.1107 ppb        0.69689  62.74%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             75.7      2.4467 µg/L       0.15799      2.4467 ppb        0.15799   6.46%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†      40.5      13.960 µg/L        2.4617      13.960 ppb         2.4617  17.63%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†       13.6      6.0578 µg/L      16.23182      6.0578 ppb       16.23182 267.95%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†          3.3      5.1752 µg/L       3.90408      5.1752 ppb        3.90408  75.44%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†             34.0      0.4972 µg/L       0.08927      0.4972 ppb        0.08927  17.95%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              4.3      0.8826 µg/L       0.72869      0.8826 ppb        0.72869  82.56%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†     339.6      39.933 µg/L        0.8184      39.933 ppb         0.8184   2.05%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†             -3.1     -0.3610 µg/L       0.40262     -0.3610 ppb        0.40262 111.54%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†               1.7      9.9880 µg/L      25.81869      9.9880 ppb       25.81869 258.50%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†             12.4      8.1103 µg/L       4.46489      8.1103 ppb        4.46489  55.05%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         0.1      0.4260 µg/L       9.49878      0.4260 ppb        9.49878 >999.9%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†              5.5      9.2125 µg/L       7.84424      9.2125 ppb        7.84424  85.15%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†             -0.9     -1.9202 µg/L      17.33564     -1.9202 ppb       17.33564 902.81%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                   25.2      28.884 µg/L        0.8960      28.884 ppb         0.8960   3.10%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†             22.3      4.7145 µg/L       1.93528      4.7145 ppb        1.93528  41.05%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              9.6      8.5426 µg/L       2.87395      8.5426 ppb        2.87395  33.64%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†             77.6      0.1029 µg/L       0.07068      0.1029 ppb        0.07068  68.72%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†             48.4      0.4641 µg/L       0.04541      0.4641 ppb        0.04541   9.78%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              1.4      2.6460 µg/L       6.42510      2.6460 ppb        6.42510 242.82%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†              12.7      8.1105 µg/L       4.01185      8.1105 ppb        4.01185  49.47%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†              14.5      0.7959 µg/L       0.92558      0.7959 ppb        0.92558 116.29%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             73.9      4.0319 µg/L       0.61675      4.0319 ppb        0.61675  15.30%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

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Analysis Begun

Start Time: 11/19/2020 05:18:35
Originator: Avio1
Spectrometer: Avio 500, S/N 081S1711281
Plasma On Time: 11/16/2020 04:42:02
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Sample Information\111920.SIF
Results Data Set: 111920
Results Library: C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Results\Results.mdb

==========

Batch ID:
Sequence No.: 1
Sample ID: CCV
Analyst: HSC
Initial Sample Wt:
Dilution:
Wash Time (before sample):
Autosampler Location: 7
Date Collected: 11/19/2020 05:18:46
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	67228.6	67228.6	105.51	%	105.51	%	05:19:29
1	Al 396.153Radial†	17135.1	16243.0	5053.4	µg/L	5053.4	ppb	05:19:31
1	Ca 317.933Radial†	33205.2	31238.5	5133.6	µg/L	5133.6	ppb	05:19:31
1	Fe 238.204 Radial†	16159.9	15264.9	5261.0	µg/L	5261.0	ppb	05:19:31
1	K 766.490 Radial†	12286.5	11864.8	5274.2	µg/L	5274.2	ppb	05:19:31
1	Mg 279.077 IEC†	3497.6	3309.9	5183.9	µg/L	5183.9	ppb	05:19:31
1	Na 589.592 Radial†	90014.2	83844.5	9858.3	µg/L	9858.3	ppb	05:19:29
1	Sr 421.552†	400470.6	380026.1	511.07	µg/L	511.07	ppb	05:19:29
1	Sc 361.383	231799.1	231799.1	108.47	%	108.47	%	05:19:43
1	Y 371.029	134477.4	134477.4	107.93	%	107.93	%	05:19:43
1	Ag 328.068†	13216.3	12337.7	475.10	µg/L	475.10	ppb	05:19:43
1	As 188.979†	203.8	188.4	475.06	µg/L	475.06	ppb	05:20:03
1	B 249.677†	4606.3	4149.6	512.92	µg/L	512.92	ppb	05:19:43
1	Ba 233.527†	10635.6	9837.4	487.69	µg/L	487.69	ppb	05:19:43
1	Be 313.107†	215413.3	198825.5	490.19	µg/L	490.19	ppb	05:19:43
1	Cd 226.502†	10543.8	9780.5	493.39	µg/L	493.39	ppb	05:19:43
1	Co 228.616†	2642.1	2451.9	464.91	µg/L	464.91	ppb	05:20:03
1	Cr 267.716†	10285.6	9425.8	488.11	µg/L	488.11	ppb	05:19:43
1	Cu 324.752†	16515.6	14930.0	481.15	µg/L	481.15	ppb	05:19:43
1	Mn 257.610†	36134.3	33333.0	487.38	µg/L	487.38	ppb	05:19:43
1	Mo 202.031†	2459.0	2239.1	457.08	µg/L	457.08	ppb	05:20:03
1	Ni 231.604†	4434.6	4141.3	485.85	µg/L	485.85	ppb	05:19:43
1	P 214.914†	456.1	375.5	2274.5	µg/L	2274.5	ppb	05:20:03
1	Pb 220.353†	799.1	727.2	475.03	µg/L	475.03	ppb	05:20:03
1	S 181.975 Axial†	159.1	144.1	921.76	µg/L	921.76	ppb	05:20:03
1	Sb 206.836†	324.3	268.5	452.37	µg/L	452.37	ppb	05:20:03
1	Se 196.026†	264.9	216.6	458.67	µg/L	458.67	ppb	05:20:03
1	SiO2†	5160.0	4591.9	5264.7	µg/L	5264.7	ppb	05:19:43
1	Si 251.611†	12657.5	11542.3	2442.8	µg/L	2442.8	ppb	05:19:43
1	Sn 189.927†	560.6	505.8	454.30	µg/L	454.30	ppb	05:20:03
1	Ti 334.940†	54089.0	49848.1	477.40	µg/L	477.40	ppb	05:19:43
1	Tl 190.801†	244.1	235.3	459.46	µg/L	459.46	ppb	05:20:03
1	U 367.007†	799.4	762.2	473.43	µg/L	473.43	ppb	05:19:43
1	V 292.402†	9619.8	8879.0	484.04	µg/L	484.04	ppb	05:19:43
1	Zn 213.857†	9666.6	8935.9	483.37	µg/L	483.37	ppb	05:19:43
2	Sc RADIAL	68964.9	68964.9	108.23	%	108.23	%	05:19:33
2	Al 396.153Radial†	17227.1	15919.1	4952.1	µg/L	4952.1	ppb	05:19:35
2	Ca 317.933Radial†	33536.5	30752.2	5053.7	µg/L	5053.7	ppb	05:19:35
2	Fe 238.204 Radial†	16316.0	15023.5	5177.9	µg/L	5177.9	ppb	05:19:35
2	K 766.490 Radial†	12446.9	11719.8	5209.8	µg/L	5209.8	ppb	05:19:35
2	Mg 279.077 IEC†	3585.7	3307.9	5180.7	µg/L	5180.7	ppb	05:19:35
2	Na 589.592 Radial†	92316.4	83823.8	9855.8	µg/L	9855.8	ppb	05:19:33
2	Sr 421.552†	411493.1	380654.5	511.93	µg/L	511.93	ppb	05:19:33
2	Sc 361.383	228393.4	228393.4	106.88	%	106.88	%	05:20:06
2	Y 371.029	132423.6	132423.6	106.29	%	106.29	%	05:20:06

2	Ag 328.068†	13165.0	12471.4	480.27 µg/L	480.27 ppb	05:20:06
2	As 188.979†	206.1	193.4	487.41 µg/L	487.41 ppb	05:20:26
2	B 249.677†	4637.1	4241.8	523.70 µg/L	523.70 ppb	05:20:06
2	Ba 233.527†	10579.5	9931.1	492.34 µg/L	492.34 ppb	05:20:06
2	Be 313.107†	213343.0	199849.8	492.71 µg/L	492.71 ppb	05:20:06
2	Cd 226.502†	10402.0	9792.7	494.01 µg/L	494.01 ppb	05:20:06
2	Co 228.616†	2621.1	2468.6	468.07 µg/L	468.07 ppb	05:20:26
2	Cr 267.716†	10162.0	9451.5	489.45 µg/L	489.45 ppb	05:20:06
2	Cu 324.752†	16359.3	15010.7	483.71 µg/L	483.71 ppb	05:20:06
2	Mn 257.610†	35722.0	33444.0	489.01 µg/L	489.01 ppb	05:20:06
2	Mo 202.031†	2430.3	2246.0	458.49 µg/L	458.49 ppb	05:20:26
2	Ni 231.604†	4397.5	4167.6	488.93 µg/L	488.93 ppb	05:20:06
2	P 214.914†	448.6	374.8	2269.6 µg/L	2269.6 ppb	05:20:26
2	Pb 220.353†	791.7	731.2	477.66 µg/L	477.66 ppb	05:20:26
2	S 181.975 Axial†	154.7	142.2	909.39 µg/L	909.39 ppb	05:20:26
2	Sb 206.836†	319.1	268.1	451.73 µg/L	451.73 ppb	05:20:26
2	Se 196.026†	258.5	214.2	453.58 µg/L	453.58 ppb	05:20:26
2	SiO2†	5113.9	4619.7	5296.6 µg/L	5296.6 ppb	05:20:06
2	Si 251.611†	12622.4	11683.4	2472.8 µg/L	2472.8 ppb	05:20:06
2	Sn 189.927†	555.6	508.9	457.04 µg/L	457.04 ppb	05:20:26
2	Ti 334.940†	53361.2	49910.6	477.99 µg/L	477.99 ppb	05:20:06
2	Tl 190.801†	248.4	242.7	473.71 µg/L	473.71 ppb	05:20:26
2	U 367.007†	746.3	723.5	448.78 µg/L	448.78 ppb	05:20:06
2	V 292.402†	9550.0	8945.9	487.66 µg/L	487.66 ppb	05:20:06
2	Zn 213.857†	9575.5	8983.5	485.96 µg/L	485.96 ppb	05:20:06
3	Sc RADIAL	67505.9	67505.9	105.94 %	105.94 %	05:19:38
3	Al 396.153Radial†	17230.5	16266.4	5059.7 µg/L	5059.7 ppb	05:19:40
3	Ca 317.933Radial†	33326.5	31223.7	5131.1 µg/L	5131.1 ppb	05:19:40
3	Fe 238.204 Radial†	16236.3	15274.1	5264.4 µg/L	5264.4 ppb	05:19:40
3	K 766.490 Radial†	12206.8	11741.7	5219.5 µg/L	5219.5 ppb	05:19:40
3	Mg 279.077 IEC†	3516.8	3314.4	5191.0 µg/L	5191.0 ppb	05:19:40
3	Na 589.592 Radial†	91304.3	84712.0	9960.3 µg/L	9960.3 ppb	05:19:38
3	Sr 421.552†	407069.7	384696.4	517.36 µg/L	517.36 ppb	05:19:38
3	Sc 361.383	216351.0	216351.0	101.24 %	101.24 %	05:20:28
3	Y 371.029	125747.1	125747.1	100.93 %	100.93 %	05:20:28
3	Ag 328.068†	12395.7	12397.1	477.40 µg/L	477.40 ppb	05:20:28
3	As 188.979†	197.2	195.4	492.37 µg/L	492.37 ppb	05:20:48
3	B 249.677†	4454.7	4303.0	531.30 µg/L	531.30 ppb	05:20:28
3	Ba 233.527†	9905.2	9816.1	486.63 µg/L	486.63 ppb	05:20:28
3	Be 313.107†	199570.1	197356.8	486.58 µg/L	486.58 ppb	05:20:28
3	Cd 226.502†	9719.2	9660.0	487.30 µg/L	487.30 ppb	05:20:28
3	Co 228.616†	2593.5	2577.8	488.74 µg/L	488.74 ppb	05:20:48
3	Cr 267.716†	9499.5	9326.4	482.97 µg/L	482.97 ppb	05:20:28
3	Cu 324.752†	15476.1	14990.4	483.07 µg/L	483.07 ppb	05:20:28
3	Mn 257.610†	33622.3	33230.4	485.88 µg/L	485.88 ppb	05:20:28
3	Mo 202.031†	2406.7	2349.2	479.57 µg/L	479.57 ppb	05:20:48
3	Ni 231.604†	4151.1	4153.2	487.24 µg/L	487.24 ppb	05:20:28
3	P 214.914†	447.5	397.0	2405.7 µg/L	2405.7 ppb	05:20:48
3	Pb 220.353†	769.2	750.2	490.10 µg/L	490.10 ppb	05:20:48
3	S 181.975 Axial†	155.8	151.4	968.28 µg/L	968.28 ppb	05:20:48
3	Sb 206.836†	318.7	284.3	478.90 µg/L	478.90 ppb	05:20:48
3	Se 196.026†	253.7	222.9	472.01 µg/L	472.01 ppb	05:20:48
3	SiO2†	4797.8	4573.8	5243.3 µg/L	5243.3 ppb	05:20:28
3	Si 251.611†	11825.8	11554.0	2444.7 µg/L	2444.7 ppb	05:20:28
3	Sn 189.927†	554.5	536.7	481.84 µg/L	481.84 ppb	05:20:48
3	Ti 334.940†	50392.1	49757.0	476.53 µg/L	476.53 ppb	05:20:28
3	Tl 190.801†	244.4	251.7	491.27 µg/L	491.27 ppb	05:20:48
3	U 367.007†	717.6	734.0	455.24 µg/L	455.24 ppb	05:20:28
3	V 292.402†	8936.1	8836.9	481.74 µg/L	481.74 ppb	05:20:28
3	Zn 213.857†	9056.6	8969.7	485.20 µg/L	485.20 ppb	05:20:28

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	225514.5	105.53	%	3.798	105.53	%	3.798	3.60%
Sc RADIAL	67899.8	106.56	%	1.464	106.56	%	1.464	1.37%
Y 371.029	130882.7	105.05	%	3.664	105.05	%	3.664	3.49%
Ag 328.068†	12402.0	477.59	µg/L	2.591	477.59	ppb	2.591	0.54%
QC value within limits for Ag 328.068 Recovery = 95.52%								
Al 396.153Radial†	16142.8	5021.7	µg/L	60.35	5021.7	ppb	60.35	1.20%

```
   QC value within limits for Al 396.153Radial  Recovery = 100.43%
As 188.979†             192.4      484.95 µg/L         8.918      484.95 ppb          8.918   1.84%
   QC value within limits for As 188.979  Recovery = 96.99%
B 249.677†             4231.5      522.64 µg/L         9.236      522.64 ppb          9.236   1.77%
   QC value within limits for B 249.677  Recovery = 104.53%
Ba 233.527†            9861.5      488.88 µg/L         3.039      488.88 ppb          3.039   0.62%
   QC value within limits for Ba 233.527  Recovery = 97.78%
Be 313.107†          198677.4      489.83 µg/L         3.081      489.83 ppb          3.081   0.63%
   QC value within limits for Be 313.107  Recovery = 97.97%
Ca 317.933Radial†     31071.5      5106.1 µg/L         45.45      5106.1 ppb          45.45   0.89%
   QC value within limits for Ca 317.933Radial  Recovery = 102.12%
Cd 226.502†            9744.4      491.57 µg/L         3.708      491.57 ppb          3.708   0.75%
   QC value within limits for Cd 226.502  Recovery = 98.31%
Co 228.616†            2499.4      473.90 µg/L        12.945      473.90 ppb         12.945   2.73%
   QC value within limits for Co 228.616  Recovery = 94.78%
Cr 267.716†            9401.2      486.84 µg/L         3.421      486.84 ppb          3.421   0.70%
   QC value within limits for Cr 267.716  Recovery = 97.37%
Cu 324.752†           14977.0      482.64 µg/L         1.332      482.64 ppb          1.332   0.28%
   QC value within limits for Cu 324.752  Recovery = 96.53%
Fe 238.204 Radial†    15187.5      5234.4 µg/L         48.99      5234.4 ppb          48.99   0.94%
   QC value within limits for Fe 238.204 Radial  Recovery = 104.69%
K 766.490 Radial†     11775.4      5234.5 µg/L         34.74      5234.5 ppb          34.74   0.66%
   QC value within limits for K 766.490 Radial  Recovery = 104.69%
Mg 279.077 IEC†        3310.7      5185.2 µg/L          5.28      5185.2 ppb           5.28   0.10%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.70%
Mn 257.610†           33335.8      487.43 µg/L         1.562      487.43 ppb          1.562   0.32%
   QC value within limits for Mn 257.610  Recovery = 97.49%
Mo 202.031†            2278.1      465.05 µg/L        12.598      465.05 ppb         12.598   2.71%
   QC value within limits for Mo 202.031  Recovery = 93.01%
Na 589.592 Radial†    84126.8      9891.5 µg/L         59.60      9891.5 ppb          59.60   0.60%
   QC value within limits for Na 589.592 Radial  Recovery = 98.91%
Ni 231.604†            4154.0      487.34 µg/L         1.542      487.34 ppb          1.542   0.32%
   QC value within limits for Ni 231.604  Recovery = 97.47%
P 214.914†              382.5      2316.6 µg/L         77.21      2316.6 ppb          77.21   3.33%
   QC value within limits for P 214.914  Recovery = 92.66%
Pb 220.353†             736.2      480.93 µg/L         8.052      480.93 ppb          8.052   1.67%
   QC value within limits for Pb 220.353  Recovery = 96.19%
S 181.975 Axial†        145.9      933.14 µg/L        31.053      933.14 ppb         31.053   3.33%
   QC value within limits for S 181.975 Axial  Recovery = 93.31%
Sb 206.836†             273.6      461.00 µg/L        15.503      461.00 ppb         15.503   3.36%
   QC value within limits for Sb 206.836  Recovery = 92.20%
Se 196.026†             217.9      461.42 µg/L         9.522      461.42 ppb          9.522   2.06%
   QC value within limits for Se 196.026  Recovery = 92.28%
SiO2†                  4595.2      5268.2 µg/L         26.81      5268.2 ppb          26.81   0.51%
   QC value within limits for SiO2  Recovery = 98.52%
Si 251.611†           11593.2      2453.4 µg/L         16.80      2453.4 ppb          16.80   0.68%
   QC value within limits for Si 251.611  Recovery = 98.14%
Sn 189.927†             517.1      464.39 µg/L        15.172      464.39 ppb         15.172   3.27%
   QC value within limits for Sn 189.927  Recovery = 92.88%
Sr 421.552†          381792.3      513.45 µg/L         3.410      513.45 ppb          3.410   0.66%
   QC value within limits for Sr 421.552  Recovery = 102.69%
Ti 334.940†           49838.6      477.31 µg/L         0.735      477.31 ppb          0.735   0.15%
   QC value within limits for Ti 334.940  Recovery = 95.46%
Tl 190.801†             243.2      474.81 µg/L        15.934      474.81 ppb         15.934   3.36%
   QC value within limits for Tl 190.801  Recovery = 94.96%
U 367.007†              739.9      459.15 µg/L        12.785      459.15 ppb         12.785   2.78%
   QC value within limits for U 367.007  Recovery = 91.83%
V 292.402†             8887.2      484.48 µg/L         2.985      484.48 ppb          2.985   0.62%
   QC value within limits for V 292.402  Recovery = 96.90%
Zn 213.857†            8963.0      484.84 µg/L         1.331      484.84 ppb          1.331   0.27%
   QC value within limits for Zn 213.857  Recovery = 96.97%
All analyte(s) passed QC.
```

Batch ID:
Sequence No.: 2 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/19/2020 05:21:18**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	67817.8	67817.8	106.43	%	106.43	%	05:21:55
1	Al 396.153Radial†	-15.8	-12.6	-4.0274	µg/L	-4.0274	ppb	05:21:55
1	Ca 317.933Radial†	295.2	43.6	7.1655	µg/L	7.1655	ppb	05:22:15
1	Fe 238.204 Radial†	84.5	27.8	9.5687	µg/L	9.5687	ppb	05:22:15
1	K 766.490 Radial†	-224.7	8.3	3.7130	µg/L	3.7130	ppb	05:21:55
1	Mg 279.077 IEC†	7.5	1.9	3.0098	µg/L	3.0098	ppb	05:22:15
1	Na 589.592 Radial†	1728.7	152.4	17.920	µg/L	17.920	ppb	05:21:55
1	Sr 421.552†	-417.9	63.1	0.0838	µg/L	0.0838	ppb	05:21:55
1	Sc 361.383	197700.4	197700.4	92.517	%	92.517	%	05:23:03
1	Y 371.029	115352.9	115352.9	92.584	%	92.584	%	05:23:03
1	Ag 328.068†	-146.5	-4.6	-0.1577	µg/L	-0.1577	ppb	05:23:23
1	As 188.979†	-3.9	-3.7	-9.0929	µg/L	-9.0929	ppb	05:23:23
1	B 249.677†	308.4	236.4	28.325	µg/L	28.325	ppb	05:23:23
1	Ba 233.527†	-18.5	12.6	0.6261	µg/L	0.6261	ppb	05:23:23
1	Be 313.107†	-211.1	11.4	0.0288	µg/L	0.0288	ppb	05:23:03
1	Cd 226.502†	-48.8	7.5	0.3778	µg/L	0.3778	ppb	05:23:23
1	Co 228.616†	-13.5	1.6	0.3125	µg/L	0.3125	ppb	05:23:23
1	Cr 267.716†	72.3	21.8	1.1288	µg/L	1.1288	ppb	05:23:23
1	Cu 324.752†	337.9	69.7	2.2190	µg/L	2.2190	ppb	05:23:23
1	Mn 257.610†	-10.0	10.6	0.1550	µg/L	0.1550	ppb	05:23:23
1	Mo 202.031†	34.0	8.9	1.8113	µg/L	1.8113	ppb	05:23:23
1	Ni 231.604†	-55.5	-6.9	-0.8107	µg/L	-0.8107	ppb	05:23:23
1	P 214.914†	41.1	-0.5	-3.1379	µg/L	-3.1379	ppb	05:23:23
1	Pb 220.353†	17.7	9.6	6.3050	µg/L	6.3050	ppb	05:23:23
1	S 181.975 Axial†	1.4	-1.0	-6.5177	µg/L	-6.5177	ppb	05:23:23
1	Sb 206.836†	40.8	13.6	22.602	µg/L	22.602	ppb	05:23:23
1	Se 196.026†	30.0	4.8	10.176	µg/L	10.176	ppb	05:23:23
1	SiO2†	173.0	21.9	25.155	µg/L	25.155	ppb	05:23:23
1	Si 251.611†	137.2	21.8	4.5859	µg/L	4.5859	ppb	05:23:23
1	Sn 189.927†	23.4	14.3	12.764	µg/L	12.764	ppb	05:23:23
1	Ti 334.940†	32.6	19.5	0.1874	µg/L	0.1874	ppb	05:23:23
1	Tl 190.801†	-10.0	-0.5	-0.9523	µg/L	-0.9523	ppb	05:23:23
1	U 367.007†	-48.0	-26.7	-17.230	µg/L	-17.230	ppb	05:23:03
1	V 292.402†	-3.2	7.1	0.3798	µg/L	0.3798	ppb	05:23:23
1	Zn 213.857†	9.6	34.8	1.8974	µg/L	1.8974	ppb	05:23:23
2	Sc RADIAL	64997.2	64997.2	102.00	%	102.00	%	05:22:17
2	Al 396.153Radial†	-1.5	0.7	0.1980	µg/L	0.1980	ppb	05:22:17
2	Ca 317.933Radial†	311.8	71.9	11.818	µg/L	11.818	ppb	05:22:37
2	Fe 238.204 Radial†	79.7	26.5	9.1225	µg/L	9.1225	ppb	05:22:37
2	K 766.490 Radial†	-228.0	-4.1	-1.8183	µg/L	-1.8183	ppb	05:22:17
2	Mg 279.077 IEC†	3.2	-2.0	-3.1979	µg/L	-3.1979	ppb	05:22:37
2	Na 589.592 Radial†	1709.5	204.0	23.988	µg/L	23.988	ppb	05:22:17
2	Sr 421.552†	-334.4	127.8	0.1710	µg/L	0.1710	ppb	05:22:17
2	Sc 361.383	202150.2	202150.2	94.599	%	94.599	%	05:23:26
2	Y 371.029	118015.7	118015.7	94.721	%	94.721	%	05:23:26
2	Ag 328.068†	-164.2	-19.8	-0.7271	µg/L	-0.7271	ppb	05:23:46
2	As 188.979†	-3.0	-2.6	-6.4598	µg/L	-6.4598	ppb	05:23:46
2	B 249.677†	299.0	219.2	26.268	µg/L	26.268	ppb	05:23:46
2	Ba 233.527†	-21.0	10.4	0.5171	µg/L	0.5171	ppb	05:23:46
2	Be 313.107†	-198.8	29.5	0.0738	µg/L	0.0738	ppb	05:23:26
2	Cd 226.502†	-51.5	5.9	0.2946	µg/L	0.2946	ppb	05:23:46
2	Co 228.616†	-12.9	2.5	0.4826	µg/L	0.4826	ppb	05:23:46
2	Cr 267.716†	70.5	18.2	0.9412	µg/L	0.9412	ppb	05:23:46
2	Cu 324.752†	332.6	56.0	1.7600	µg/L	1.7600	ppb	05:23:46
2	Mn 257.610†	6.0	27.7	0.4050	µg/L	0.4050	ppb	05:23:46
2	Mo 202.031†	28.1	1.9	0.3871	µg/L	0.3871	ppb	05:23:46
2	Ni 231.604†	-51.8	-1.7	-0.1945	µg/L	-0.1945	ppb	05:23:46

2	P 214.914†	44.0	1.6	9.5675 µg/L	9.5675 ppb	05:23:46
2	Pb 220.353†	14.3	5.6	3.6993 µg/L	3.6993 ppb	05:23:46
2	S 181.975 Axial†	5.3	3.2	20.158 µg/L	20.158 ppb	05:23:46
2	Sb 206.836†	37.0	8.6	14.185 µg/L	14.185 ppb	05:23:46
2	Se 196.026†	28.7	2.7	5.6549 µg/L	5.6549 ppb	05:23:46
2	SiO2†	183.8	29.3	33.593 µg/L	33.593 ppb	05:23:46
2	Si 251.611†	135.0	16.3	3.4525 µg/L	3.4525 ppb	05:23:46
2	Sn 189.927†	14.7	4.5	4.0460 µg/L	4.0460 ppb	05:23:46
2	Ti 334.940†	54.1	41.4	0.3970 µg/L	0.3970 ppb	05:23:46
2	Tl 190.801†	-10.9	-1.2	-2.3035 µg/L	-2.3035 ppb	05:23:46
2	U 367.007†	-71.4	-50.3	-32.454 µg/L	-32.454 ppb	05:23:26
2	V 292.402†	2.5	13.2	0.6995 µg/L	0.6995 ppb	05:23:46
2	Zn 213.857†	10.5	35.5	1.9368 µg/L	1.9368 ppb	05:23:46
3	Sc RADIAL	62442.8	62442.8	97.996 %	97.996 %	05:22:39
3	Al 396.153Radial†	46.9	50.0	15.590 µg/L	15.590 ppb	05:22:39
3	Ca 317.933Radial†	281.9	53.9	8.8588 µg/L	8.8588 ppb	05:23:00
3	Fe 238.204 Radial†	77.0	27.0	9.3011 µg/L	9.3011 ppb	05:23:00
3	K 766.490 Radial†	-221.4	-6.5	-2.8948 µg/L	-2.8948 ppb	05:22:39
3	Mg 279.077 IEC†	15.6	10.7	16.824 µg/L	16.824 ppb	05:23:00
3	Na 589.592 Radial†	1704.7	267.7	31.477 µg/L	31.477 ppb	05:22:39
3	Sr 421.552†	-451.5	-5.1	-0.0079 µg/L	-0.0079 ppb	05:22:39
3	Sc 361.383	187209.5	187209.5	87.607 %	87.607 %	05:23:48
3	Y 371.029	109320.1	109320.1	87.742 %	87.742 %	05:23:48
3	Ag 328.068†	-157.1	-25.5	-0.9260 µg/L	-0.9260 ppb	05:24:08
3	As 188.979†	-1.2	-0.8	-2.0097 µg/L	-2.0097 ppb	05:24:08
3	B 249.677†	288.1	231.9	27.787 µg/L	27.787 ppb	05:24:08
3	Ba 233.527†	-24.1	5.1	0.2539 µg/L	0.2539 ppb	05:24:08
3	Be 313.107†	-268.9	-67.3	-0.1647 µg/L	-0.1647 ppb	05:23:48
3	Cd 226.502†	-48.9	4.5	0.2239 µg/L	0.2239 ppb	05:24:08
3	Co 228.616†	-8.2	6.8	1.2867 µg/L	1.2867 ppb	05:24:08
3	Cr 267.716†	69.6	23.1	1.1975 µg/L	1.1975 ppb	05:24:08
3	Cu 324.752†	334.9	86.8	2.7213 µg/L	2.7213 ppb	05:24:08
3	Mn 257.610†	-3.1	17.9	0.2613 µg/L	0.2613 ppb	05:24:08
3	Mo 202.031†	27.3	3.3	0.6806 µg/L	0.6806 ppb	05:24:08
3	Ni 231.604†	-52.7	-7.1	-0.8315 µg/L	-0.8315 ppb	05:24:08
3	P 214.914†	43.4	4.6	28.091 µg/L	28.091 ppb	05:24:08
3	Pb 220.353†	11.5	3.6	2.4396 µg/L	2.4396 ppb	05:24:08
3	S 181.975 Axial†	1.3	-1.0	-6.5678 µg/L	-6.5678 ppb	05:24:08
3	Sb 206.836†	28.2	1.6	2.7026 µg/L	2.7026 ppb	05:24:08
3	Se 196.026†	24.6	0.4	0.8911 µg/L	0.8911 ppb	05:24:08
3	SiO2†	173.1	32.6	37.371 µg/L	37.371 ppb	05:24:08
3	Si 251.611†	127.0	18.5	3.9211 µg/L	3.9211 ppb	05:24:08
3	Sn 189.927†	13.5	4.4	3.9309 µg/L	3.9309 ppb	05:24:08
3	Ti 334.940†	31.3	20.0	0.1923 µg/L	0.1923 ppb	05:24:08
3	Tl 190.801†	-13.0	-4.5	-8.7978 µg/L	-8.7978 ppb	05:24:08
3	U 367.007†	-94.4	-82.5	-53.195 µg/L	-53.195 ppb	05:23:48
3	V 292.402†	-0.2	10.4	0.5333 µg/L	0.5333 ppb	05:24:08
3	Zn 213.857†	3.6	28.5	1.5538 µg/L	1.5538 ppb	05:24:08

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	195686.7	91.574	%	3.5899	91.574	%	3.5899	3.92%
Sc RADIAL	65086.0	102.14	%	4.219	102.14	%	4.219	4.13%
Y 371.029	114229.6	91.682	%	3.5759	91.682	%	3.5759	3.90%
Ag 328.068†	-16.6	-0.6036	µg/L	0.39878	-0.6036	ppb	0.39878	66.07%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	12.7	3.9201	µg/L	10.32463	3.9201	ppb	10.32463	263.38%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-2.4	-5.8541	µg/L	3.58024	-5.8541	ppb	3.58024	61.16%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	229.2	27.460	µg/L	1.0670	27.460	ppb	1.0670	3.89%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	9.4	0.4657	µg/L	0.19133	0.4657	ppb	0.19133	41.09%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-8.8	-0.0207	µg/L	0.12672	-0.0207	ppb	0.12672	611.71%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	56.5	9.2807	µg/L	2.35459	9.2807	ppb	2.35459	25.37%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	5.9	0.2988	µg/L	0.07700	0.2988	ppb	0.07700	25.77%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              3.7      0.6939 µg/L       0.52038      0.6939 ppb        0.52038  74.99%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†             21.0      1.0892 µg/L       0.13264      1.0892 ppb        0.13264  12.18%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             70.8      2.2335 µg/L       0.48083      2.2335 ppb        0.48083  21.53%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†      27.1      9.3308 µg/L       0.22459      9.3308 ppb        0.22459   2.41%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†       -0.8     -0.3334 µg/L       3.54537     -0.3334 ppb        3.54537 >999.9%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†          3.5      5.5452 µg/L      10.24868      5.5452 ppb       10.24868 184.82%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†             18.7      0.2737 µg/L       0.12547      0.2737 ppb        0.12547  45.84%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              4.7      0.9597 µg/L       0.75196      0.9597 ppb        0.75196  78.36%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†     208.0      24.462 µg/L        6.7909      24.462 ppb         6.7909  27.76%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†             -5.2     -0.6122 µg/L       0.36196     -0.6122 ppb        0.36196  59.12%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†               1.9      11.507 µg/L       15.7047      11.507 ppb        15.7047 136.48%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†              6.3      4.1480 µg/L       1.97138      4.1480 ppb        1.97138  47.53%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         0.4      2.3574 µg/L      15.41563      2.3574 ppb       15.41563 653.91%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†              7.9      13.163 µg/L        9.9889      13.163 ppb         9.9889  75.88%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              2.6      5.5739 µg/L       4.64273      5.5739 ppb        4.64273  83.29%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                   27.9      32.040 µg/L        6.2543      32.040 ppb         6.2543  19.52%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†             18.9      3.9865 µg/L       0.56954      3.9865 ppb        0.56954  14.29%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              7.7      6.9135 µg/L       5.06669      6.9135 ppb        5.06669  73.29%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†             61.9      0.0823 µg/L       0.08948      0.0823 ppb        0.08948 108.75%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†             27.0      0.2589 µg/L       0.11963      0.2589 ppb        0.11963  46.20%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†             -2.1     -4.0179 µg/L       4.19432     -4.0179 ppb        4.19432 104.39%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†             -53.2     -34.293 µg/L       18.0530     -34.293 ppb        18.0530  52.64%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†              10.3      0.5375 µg/L       0.15992      0.5375 ppb        0.15992  29.75%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             32.9      1.7960 µg/L       0.21068      1.7960 ppb        0.21068  11.73%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
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Batch ID:
Sequence No.: 3 **Autosampler Location: 301**
Sample ID: 1204695446|2063261|1| **Date Collected: 11/19/2020 05:24:38**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: 1204695446|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	67306.5	67306.5	105.63	%	105.63	%	05:25:17
1	Al 396.153Radial†	91.3	88.6	27.700	µg/L	27.700	ppb	05:25:17
1	Ca 317.933Radial†	351.6	99.1	16.286	µg/L	16.286	ppb	05:25:37
1	Fe 238.204 Radial†	73.8	18.2	6.2979	µg/L	6.2979	ppb	05:25:37
1	K 766.490 Radial†	-212.6	18.2	8.0815	µg/L	8.0815	ppb	05:25:17
1	Mg 279.077 IEC†	21.2	15.0	23.428	µg/L	23.428	ppb	05:25:37
1	Na 589.592 Radial†	1739.9	175.3	20.611	µg/L	20.611	ppb	05:25:17
1	Sr 421.552†	-432.6	46.2	0.0614	µg/L	0.0614	ppb	05:25:17
1	Sc 361.383	201923.7	201923.7	94.493	%	94.493	%	05:26:25
1	Y 371.029	117924.9	117924.9	94.648	%	94.648	%	05:26:25
1	Ag 328.068†	-163.7	-19.5	-0.7511	µg/L	-0.7511	ppb	05:26:45
1	As 188.979†	-3.5	-3.1	-7.6964	µg/L	-7.6964	ppb	05:26:45
1	B 249.677†	269.8	188.6	22.595	µg/L	22.595	ppb	05:26:45
1	Ba 233.527†	-22.4	8.9	0.4418	µg/L	0.4418	ppb	05:26:45
1	Be 313.107†	-210.9	16.4	0.0414	µg/L	0.0414	ppb	05:26:25
1	Cd 226.502†	-43.4	14.3	0.7226	µg/L	0.7226	ppb	05:26:45
1	Co 228.616†	-8.3	7.4	1.4075	µg/L	1.4075	ppb	05:26:45
1	Cr 267.716†	64.2	11.6	0.5993	µg/L	0.5993	ppb	05:26:45
1	Cu 324.752†	338.0	62.2	2.0059	µg/L	2.0059	ppb	05:26:45
1	Mn 257.610†	-15.1	5.4	0.0795	µg/L	0.0795	ppb	05:26:45
1	Mo 202.031†	23.7	-2.7	-0.5587	µg/L	-0.5587	ppb	05:26:45
1	Ni 231.604†	-49.3	1.0	0.1145	µg/L	0.1145	ppb	05:26:45
1	P 214.914†	45.4	3.1	18.954	µg/L	18.954	ppb	05:26:45
1	Pb 220.353†	9.1	0.1	0.0518	µg/L	0.0518	ppb	05:26:45
1	S 181.975 Axial†	4.6	2.4	15.193	µg/L	15.193	ppb	05:26:45
1	Sb 206.836†	34.4	5.9	9.6972	µg/L	9.6972	ppb	05:26:45
1	Se 196.026†	23.0	-3.3	-6.8626	µg/L	-6.8626	ppb	05:26:45
1	SiO2†	174.6	19.8	22.755	µg/L	22.755	ppb	05:26:45
1	Si 251.611†	127.6	8.6	1.8452	µg/L	1.8452	ppb	05:26:45
1	Sn 189.927†	13.7	3.5	3.1557	µg/L	3.1557	ppb	05:26:45
1	Ti 334.940†	45.5	32.4	0.3103	µg/L	0.3103	ppb	05:26:45
1	Tl 190.801†	-14.1	-4.6	-9.0288	µg/L	-9.0288	ppb	05:26:45
1	U 367.007†	-18.6	5.5	3.5284	µg/L	3.5284	ppb	05:26:25
1	V 292.402†	1.2	11.8	0.6469	µg/L	0.6469	ppb	05:26:45
1	Zn 213.857†	23.3	49.1	2.6737	µg/L	2.6737	ppb	05:26:45
2	Sc RADIAL	62542.4	62542.4	98.152	%	98.152	%	05:25:39
2	Al 396.153Radial†	-20.3	-18.5	-5.7804	µg/L	-5.7804	ppb	05:25:39
2	Ca 317.933Radial†	305.4	77.4	12.721	µg/L	12.721	ppb	05:25:59
2	Fe 238.204 Radial†	71.2	20.9	7.2262	µg/L	7.2262	ppb	05:25:59
2	K 766.490 Radial†	-276.4	-62.1	-27.597	µg/L	-27.597	ppb	05:25:39
2	Mg 279.077 IEC†	4.9	-0.2	-0.2553	µg/L	-0.2553	ppb	05:25:59
2	Na 589.592 Radial†	1674.3	233.9	27.507	µg/L	27.507	ppb	05:25:39
2	Sr 421.552†	-307.9	142.0	0.1903	µg/L	0.1903	ppb	05:25:39
2	Sc 361.383	195095.8	195095.8	91.298	%	91.298	%	05:26:47
2	Y 371.029	113994.2	113994.2	91.493	%	91.493	%	05:26:47
2	Ag 328.068†	-146.3	-6.4	-0.2405	µg/L	-0.2405	ppb	05:27:07
2	As 188.979†	-0.5	0.0	0.0797	µg/L	0.0797	ppb	05:27:07
2	B 249.677†	239.1	165.0	19.776	µg/L	19.776	ppb	05:27:07
2	Ba 233.527†	-14.8	16.4	0.8112	µg/L	0.8112	ppb	05:27:07
2	Be 313.107†	-259.4	-44.5	-0.1083	µg/L	-0.1083	ppb	05:26:47
2	Cd 226.502†	-51.2	4.2	0.2119	µg/L	0.2119	ppb	05:27:07
2	Co 228.616†	-6.7	8.9	1.6808	µg/L	1.6808	ppb	05:27:07
2	Cr 267.716†	67.4	17.5	0.9041	µg/L	0.9041	ppb	05:27:07
2	Cu 324.752†	342.8	79.9	2.5629	µg/L	2.5629	ppb	05:27:07
2	Mn 257.610†	-4.0	17.0	0.2480	µg/L	0.2480	ppb	05:27:07
2	Mo 202.031†	26.1	0.8	0.1531	µg/L	0.1531	ppb	05:27:07
2	Ni 231.604†	-41.6	7.5	0.8857	µg/L	0.8857	ppb	05:27:07

2	P 214.914†	48.3	8.0	49.085 µg/L	49.085 ppb	05:27:07
2	Pb 220.353†	11.7	3.4	2.1986 µg/L	2.1986 ppb	05:27:07
2	S 181.975 Axial†	2.6	0.3	2.0016 µg/L	2.0016 ppb	05:27:07
2	Sb 206.836†	39.8	13.0	21.613 µg/L	21.613 ppb	05:27:07
2	Se 196.026†	30.4	5.7	11.925 µg/L	11.925 ppb	05:27:07
2	SiO2†	174.5	26.2	30.020 µg/L	30.020 ppb	05:27:07
2	Si 251.611†	139.9	26.8	5.6922 µg/L	5.6922 ppb	05:27:07
2	Sn 189.927†	18.7	9.5	8.5085 µg/L	8.5085 ppb	05:27:07
2	Ti 334.940†	42.3	30.7	0.2935 µg/L	0.2935 ppb	05:27:07
2	Tl 190.801†	-7.1	2.5	4.8258 µg/L	4.8258 ppb	05:27:07
2	U 367.007†	-31.2	-8.9	-5.7816 µg/L	-5.7816 ppb	05:26:47
2	V 292.402†	-7.4	2.5	0.1341 µg/L	0.1341 ppb	05:27:07
2	Zn 213.857†	29.6	56.8	3.0907 µg/L	3.0907 ppb	05:27:07
3	Sc RADIAL	63591.8	63591.8	99.799 %	99.799 %	05:26:01
3	Al 396.153Radial†	20.8	23.0	7.1878 µg/L	7.1878 ppb	05:26:01
3	Ca 317.933Radial†	320.4	87.3	14.348 µg/L	14.348 ppb	05:26:21
3	Fe 238.204 Radial†	71.5	20.0	6.8739 µg/L	6.8739 ppb	05:26:21
3	K 766.490 Radial†	-179.2	39.9	17.713 µg/L	17.713 ppb	05:26:01
3	Mg 279.077 IEC†	5.0	-0.2	-0.2627 µg/L	-0.2627 ppb	05:26:21
3	Na 589.592 Radial†	1700.4	231.9	27.270 µg/L	27.270 ppb	05:26:01
3	Sr 421.552†	-467.8	-13.1	-0.0184 µg/L	-0.0184 ppb	05:26:01
3	Sc 361.383	201395.0	201395.0	94.246 %	94.246 %	05:27:10
3	Y 371.029	117685.5	117685.5	94.456 %	94.456 %	05:27:10
3	Ag 328.068†	-157.9	-13.8	-0.5264 µg/L	-0.5264 ppb	05:27:30
3	As 188.979†	-2.8	-2.4	-5.9554 µg/L	-5.9554 ppb	05:27:30
3	B 249.677†	250.7	169.1	20.262 µg/L	20.262 ppb	05:27:30
3	Ba 233.527†	-15.9	15.7	0.7777 µg/L	0.7777 ppb	05:27:30
3	Be 313.107†	-259.9	-36.1	-0.0877 µg/L	-0.0877 ppb	05:27:10
3	Cd 226.502†	-40.3	17.5	0.8839 µg/L	0.8839 ppb	05:27:30
3	Co 228.616†	-14.8	0.5	0.0881 µg/L	0.0881 ppb	05:27:30
3	Cr 267.716†	67.0	14.8	0.7647 µg/L	0.7647 ppb	05:27:30
3	Cu 324.752†	316.3	40.1	1.2879 µg/L	1.2879 ppb	05:27:30
3	Mn 257.610†	2.0	23.5	0.3431 µg/L	0.3431 ppb	05:27:30
3	Mo 202.031†	26.4	0.1	0.0296 µg/L	0.0296 ppb	05:27:30
3	Ni 231.604†	-50.0	0.0	0.0053 µg/L	0.0053 ppb	05:27:30
3	P 214.914†	43.7	1.4	8.8277 µg/L	8.8277 ppb	05:27:30
3	Pb 220.353†	6.2	-2.9	-1.9176 µg/L	-1.9176 ppb	05:27:30
3	S 181.975 Axial†	2.0	-0.3	-2.2161 µg/L	-2.2161 ppb	05:27:30
3	Sb 206.836†	35.0	6.6	10.901 µg/L	10.901 ppb	05:27:30
3	Se 196.026†	29.6	3.8	7.9441 µg/L	7.9441 ppb	05:27:30
3	SiO2†	170.9	16.4	18.804 µg/L	18.804 ppb	05:27:30
3	Si 251.611†	140.3	22.4	4.7632 µg/L	4.7632 ppb	05:27:30
3	Sn 189.927†	20.1	10.4	9.2445 µg/L	9.2445 ppb	05:27:30
3	Ti 334.940†	45.0	32.1	0.3072 µg/L	0.3072 ppb	05:27:30
3	Tl 190.801†	-8.8	1.0	1.9626 µg/L	1.9626 ppb	05:27:30
3	U 367.007†	-27.7	-4.2	-2.6971 µg/L	-2.6971 ppb	05:27:10
3	V 292.402†	-6.3	3.9	0.2129 µg/L	0.2129 ppb	05:27:30
3	Zn 213.857†	25.4	51.3	2.7973 µg/L	2.7973 ppb	05:27:30

Mean Data: 1204695446|2063261|1|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	199471.5	93.345	%	1.7776	93.345	%	1.7776	1.90%
Sc RADIAL	64480.2	101.19	%	3.928	101.19	%	3.928	3.88%
Y 371.029	116534.9	93.533	%	1.7686	93.533	%	1.7686	1.89%
Ag 328.068†	-13.2	-0.5060	µg/L	0.25592	-0.5060	ppb	0.25592	50.58%
Al 396.153Radial†	31.0	9.7024	µg/L	16.88124	9.7024	ppb	16.88124	173.99%
As 188.979†	-1.8	-4.5240	µg/L	4.08091	-4.5240	ppb	4.08091	90.20%
B 249.677†	174.3	20.877	µg/L	1.5071	20.877	ppb	1.5071	7.22%
Ba 233.527†	13.7	0.6769	µg/L	0.20429	0.6769	ppb	0.20429	30.18%
Be 313.107†	-21.4	-0.0515	µg/L	0.08112	-0.0515	ppb	0.08112	157.48%
Ca 317.933Radial†	87.9	14.452	µg/L	1.7849	14.452	ppb	1.7849	12.35%
Cd 226.502†	12.0	0.6061	µg/L	0.35080	0.6061	ppb	0.35080	57.88%
Co 228.616†	5.6	1.0588	µg/L	0.85171	1.0588	ppb	0.85171	80.44%
Cr 267.716†	14.6	0.7560	µg/L	0.15262	0.7560	ppb	0.15262	20.19%
Cu 324.752†	60.8	1.9522	µg/L	0.63919	1.9522	ppb	0.63919	32.74%
Fe 238.204 Radial†	19.7	6.7993	µg/L	0.46864	6.7993	ppb	0.46864	6.89%
K 766.490 Radial†	-1.4	-0.6009	µg/L	23.87008	-0.6009	ppb	23.87008	>999.9%
Mg 279.077 IEC†	4.9	7.6365	µg/L	13.67549	7.6365	ppb	13.67549	179.08%
Mn 257.610†	15.3	0.2235	µg/L	0.13345	0.2235	ppb	0.13345	59.70%

Mo 202.031†	-0.6	-0.1254 µg/L	0.38033	-0.1254 ppb	0.38033	303.40%
Na 589.592 Radial†	213.7	25.130 µg/L	3.9146	25.130 ppb	3.9146	15.58%
Ni 231.604†	2.9	0.3352 µg/L	0.47986	0.3352 ppb	0.47986	143.18%
P 214.914†	4.2	25.622 µg/L	20.9409	25.622 ppb	20.9409	81.73%
Pb 220.353†	0.2	0.1109 µg/L	2.05874	0.1109 ppb	2.05874	>999.9%
S 181.975 Axial†	0.8	4.9929 µg/L	9.08194	4.9929 ppb	9.08194	181.90%
Sb 206.836†	8.5	14.070 µg/L	6.5597	14.070 ppb	6.5597	46.62%
Se 196.026†	2.1	4.3354 µg/L	9.89992	4.3354 ppb	9.89992	228.35%
SiO2†	20.8	23.860 µg/L	5.6887	23.860 ppb	5.6887	23.84%
Si 251.611†	19.3	4.1002 µg/L	2.00735	4.1002 ppb	2.00735	48.96%
Sn 189.927†	7.8	6.9696 µg/L	3.32334	6.9696 ppb	3.32334	47.68%
Sr 421.552†	58.4	0.0778 µg/L	0.10533	0.0778 ppb	0.10533	135.45%
Ti 334.940†	31.7	0.3037 µg/L	0.00897	0.3037 ppb	0.00897	2.95%
Tl 190.801†	-0.4	-0.7468 µg/L	7.31393	-0.7468 ppb	7.31393	979.39%
U 367.007†	-2.5	-1.6501 µg/L	4.74245	-1.6501 ppb	4.74245	287.40%
V 292.402†	6.1	0.3313 µg/L	0.27613	0.3313 ppb	0.27613	83.35%
Zn 213.857†	52.4	2.8539 µg/L	0.21417	2.8539 ppb	0.21417	7.50%

Batch ID:
Sequence No.: 4 **Autosampler Location: 302**
Sample ID: 1204695447|2063261|1| **Date Collected: 11/19/2020 05:28:01**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: 1204695447|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	69250.2	69250.2	108.68	%	108.68	%	05:28:44
1	Al 396.153Radial†	16641.7	15315.0	4762.7	µg/L	4762.7	ppb	05:28:46
1	Ca 317.933Radial†	31993.2	29204.5	4799.3	µg/L	4799.3	ppb	05:28:46
1	Fe 238.204 Radial†	15595.2	14298.1	4928.3	µg/L	4928.3	ppb	05:28:46
1	K 766.490 Radial†	12005.4	11266.1	5008.1	µg/L	5008.1	ppb	05:28:46
1	Mg 279.077 IEC†	3414.9	3137.0	4913.1	µg/L	4913.1	ppb	05:28:46
1	Na 589.592 Radial†	44776.5	39728.9	4670.8	µg/L	4670.8	ppb	05:28:44
1	Sr 421.552†	391557.7	360744.7	485.15	µg/L	485.15	ppb	05:28:44
1	Sc 361.383	225762.1	225762.1	105.65	%	105.65	%	05:28:58
1	Y 371.029	131274.3	131274.3	105.36	%	105.36	%	05:28:58
1	Ag 328.068†	2515.7	2535.0	98.245	µg/L	98.245	ppb	05:28:58
1	As 188.979†	198.1	188.1	474.08	µg/L	474.08	ppb	05:29:18
1	B 249.677†	4495.8	4158.6	512.97	µg/L	512.97	ppb	05:28:58
1	Ba 233.527†	10432.9	9907.7	491.19	µg/L	491.19	ppb	05:28:58
1	Be 313.107†	208880.5	197952.4	488.04	µg/L	488.04	ppb	05:28:58
1	Cd 226.502†	10238.3	9751.2	491.95	µg/L	491.95	ppb	05:28:58
1	Co 228.616†	2701.5	2573.3	487.90	µg/L	487.90	ppb	05:29:18
1	Cr 267.716†	9766.7	9188.2	475.81	µg/L	475.81	ppb	05:28:58
1	Cu 324.752†	15596.3	14466.9	466.21	µg/L	466.21	ppb	05:28:58
1	Mn 257.610†	34469.2	32647.7	477.37	µg/L	477.37	ppb	05:28:58
1	Mo 202.031†	2498.1	2336.7	477.00	µg/L	477.00	ppb	05:29:18
1	Ni 231.604†	4265.3	4090.4	479.87	µg/L	479.87	ppb	05:28:58
1	P 214.914†	129.5	77.6	444.58	µg/L	444.58	ppb	05:29:18
1	Pb 220.353†	801.3	749.0	489.21	µg/L	489.21	ppb	05:29:18
1	S 181.975 Axial†	776.0	732.0	4678.3	µg/L	4678.3	ppb	05:29:18
1	Sb 206.836†	336.6	288.0	485.10	µg/L	485.10	ppb	05:29:18
1	Se 196.026†	267.2	225.2	476.74	µg/L	476.74	ppb	05:29:18
1	SiO2†	9272.5	8611.7	9875.4	µg/L	9875.4	ppb	05:28:58
1	Si 251.611†	22940.8	21587.8	4579.8	µg/L	4579.8	ppb	05:28:58
1	Sn 189.927†	612.3	568.6	510.37	µg/L	510.37	ppb	05:29:18
1	Ti 334.940†	52397.2	49580.1	474.81	µg/L	474.81	ppb	05:28:58
1	Tl 190.801†	242.3	239.6	467.81	µg/L	467.81	ppb	05:29:18
1	U 367.007†	753.5	738.4	459.23	µg/L	459.23	ppb	05:28:58
1	V 292.402†	9287.5	8801.6	479.81	µg/L	479.81	ppb	05:28:58
1	Zn 213.857†	9168.1	8702.3	470.72	µg/L	470.72	ppb	05:28:58
2	Sc RADIAL	66111.4	66111.4	103.75	%	103.75	%	05:28:48
2	Al 396.153Radial†	17236.6	16615.3	5169.0	µg/L	5169.0	ppb	05:28:50
2	Ca 317.933Radial†	33310.4	31871.7	5237.6	µg/L	5237.6	ppb	05:28:50
2	Fe 238.204 Radial†	16183.0	15546.0	5357.9	µg/L	5357.9	ppb	05:28:50
2	K 766.490 Radial†	12372.6	12144.5	5398.6	µg/L	5398.6	ppb	05:28:50
2	Mg 279.077 IEC†	3508.8	3376.7	5288.6	µg/L	5288.6	ppb	05:28:50
2	Na 589.592 Radial†	45258.3	42149.4	4955.3	µg/L	4955.3	ppb	05:28:48
2	Sr 421.552†	397252.8	383339.2	515.52	µg/L	515.52	ppb	05:28:48
2	Sc 361.383	225382.7	225382.7	105.47	%	105.47	%	05:29:20
2	Y 371.029	130873.4	130873.4	105.04	%	105.04	%	05:29:20
2	Ag 328.068†	2465.9	2491.7	96.594	µg/L	96.594	ppb	05:29:20
2	As 188.979†	195.6	186.0	468.93	µg/L	468.93	ppb	05:29:40
2	B 249.677†	4470.6	4141.8	512.29	µg/L	512.29	ppb	05:29:20
2	Ba 233.527†	10331.8	9828.5	487.22	µg/L	487.22	ppb	05:29:20
2	Be 313.107†	205438.4	195021.7	480.81	µg/L	480.81	ppb	05:29:20
2	Cd 226.502†	10105.8	9641.9	486.38	µg/L	486.38	ppb	05:29:20
2	Co 228.616†	2675.6	2553.0	484.05	µg/L	484.05	ppb	05:29:40
2	Cr 267.716†	9586.4	9032.8	467.76	µg/L	467.76	ppb	05:29:20
2	Cu 324.752†	15394.5	14300.5	460.86	µg/L	460.86	ppb	05:29:20
2	Mn 257.610†	34008.5	32265.8	471.78	µg/L	471.78	ppb	05:29:20
2	Mo 202.031†	2472.5	2316.4	472.85	µg/L	472.85	ppb	05:29:40
2	Ni 231.604†	4202.5	4037.6	473.69	µg/L	473.69	ppb	05:29:20

2	P 214.914†	129.5	77.8	445.87 µg/L	445.87 ppb	05:29:40
2	Pb 220.353†	808.8	757.3	494.75 µg/L	494.75 ppb	05:29:40
2	S 181.975 Axial†	765.4	723.2	4621.9 µg/L	4621.9 ppb	05:29:40
2	Sb 206.836†	338.4	290.3	488.82 µg/L	488.82 ppb	05:29:40
2	Se 196.026†	255.5	214.6	454.63 µg/L	454.63 ppb	05:29:40
2	SiO2†	9142.5	8503.3	9751.0 µg/L	9751.0 ppb	05:29:20
2	Si 251.611†	22586.0	21288.0	4515.9 µg/L	4515.9 ppb	05:29:20
2	Sn 189.927†	619.2	576.1	516.92 µg/L	516.92 ppb	05:29:40
2	Ti 334.940†	51587.9	48896.3	468.30 µg/L	468.30 ppb	05:29:20
2	Tl 190.801†	239.3	237.2	462.97 µg/L	462.97 ppb	05:29:40
2	U 367.007†	711.0	699.3	432.60 µg/L	432.60 ppb	05:29:20
2	V 292.402†	9100.9	8639.4	470.96 µg/L	470.96 ppb	05:29:20
2	Zn 213.857†	8941.0	8501.6	459.75 µg/L	459.75 ppb	05:29:20
3	Sc RADIAL	68615.0	68615.0	107.68 %	107.68 %	05:28:52
3	Al 396.153Radial†	16902.8	15699.2	4882.3 µg/L	4882.3 ppb	05:28:54
3	Ca 317.933Radial†	32644.6	30082.0	4943.5 µg/L	4943.5 ppb	05:28:54
3	Fe 238.204 Radial†	15894.7	14709.1	5069.9 µg/L	5069.9 ppb	05:28:54
3	K 766.490 Radial†	12289.1	11631.9	5170.7 µg/L	5170.7 ppb	05:28:54
3	Mg 279.077 IEC†	3428.1	3178.4	4978.0 µg/L	4978.0 ppb	05:28:54
3	Na 589.592 Radial†	46574.3	41779.8	4911.9 µg/L	4911.9 ppb	05:28:52
3	Sr 421.552†	409372.0	380623.1	511.90 µg/L	511.90 ppb	05:28:52
3	Sc 361.383	214972.2	214972.2	100.60 %	100.60 %	05:29:42
3	Y 371.029	125111.2	125111.2	100.42 %	100.42 %	05:29:42
3	Ag 328.068†	2373.4	2513.0	97.387 µg/L	97.387 ppb	05:29:42
3	As 188.979†	191.1	190.5	480.16 µg/L	480.16 ppb	05:30:02
3	B 249.677†	4406.1	4283.0	528.30 µg/L	528.30 ppb	05:29:42
3	Ba 233.527†	9922.6	9896.2	490.60 µg/L	490.60 ppb	05:29:42
3	Be 313.107†	198158.6	197217.9	486.23 µg/L	486.23 ppb	05:29:42
3	Cd 226.502†	9691.1	9693.7	489.03 µg/L	489.03 ppb	05:29:42
3	Co 228.616†	2620.5	2621.1	496.95 µg/L	496.95 ppb	05:30:02
3	Cr 267.716†	9231.0	9119.7	472.26 µg/L	472.26 ppb	05:29:42
3	Cu 324.752†	14893.4	14509.2	467.58 µg/L	467.58 ppb	05:29:42
3	Mn 257.610†	32799.4	32625.5	477.04 µg/L	477.04 ppb	05:29:42
3	Mo 202.031†	2416.2	2374.0	484.62 µg/L	484.62 ppb	05:30:02
3	Ni 231.604†	3988.0	4017.3	471.30 µg/L	471.30 ppb	05:29:42
3	P 214.914†	126.9	81.2	465.92 µg/L	465.92 ppb	05:30:02
3	Pb 220.353†	788.6	774.4	505.80 µg/L	505.80 ppb	05:30:02
3	S 181.975 Axial†	754.8	747.8	4778.9 µg/L	4778.9 ppb	05:30:02
3	Sb 206.836†	338.4	305.9	514.76 µg/L	514.76 ppb	05:30:02
3	Se 196.026†	248.9	219.7	465.24 µg/L	465.24 ppb	05:30:02
3	SiO2†	8795.7	8578.3	9836.9 µg/L	9836.9 ppb	05:29:42
3	Si 251.611†	21831.2	21574.7	4576.7 µg/L	4576.7 ppb	05:29:42
3	Sn 189.927†	600.9	586.3	526.20 µg/L	526.20 ppb	05:30:02
3	Ti 334.940†	49795.6	49483.3	473.90 µg/L	473.90 ppb	05:29:42
3	Tl 190.801†	235.9	244.8	477.81 µg/L	477.81 ppb	05:30:02
3	U 367.007†	717.0	737.9	458.43 µg/L	458.43 ppb	05:29:42
3	V 292.402†	8720.2	8678.8	473.13 µg/L	473.13 ppb	05:29:42
3	Zn 213.857†	8673.3	8646.0	467.68 µg/L	467.68 ppb	05:29:42

Mean Data: 1204695447|2063261|1|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	222039.0	103.91	%	2.865	103.91	%	2.865	2.76%
Sc RADIAL	67992.2	106.70	%	2.604	106.70	%	2.604	2.44%
Y 371.029	129086.3	103.61	%	2.768	103.61	%	2.768	2.67%
Ag 328.068†	2513.2	97.408	µg/L	0.8256	97.408	ppb	0.8256	0.85%
Al 396.153Radial†	15876.5	4938.0	µg/L	208.79	4938.0	ppb	208.79	4.23%
As 188.979†	188.2	474.39	µg/L	5.621	474.39	ppb	5.621	1.18%
B 249.677†	4194.5	517.85	µg/L	9.055	517.85	ppb	9.055	1.75%
Ba 233.527†	9877.5	489.67	µg/L	2.143	489.67	ppb	2.143	0.44%
Be 313.107†	196730.7	485.03	µg/L	3.759	485.03	ppb	3.759	0.78%
Ca 317.933Radial†	30386.1	4993.5	µg/L	223.39	4993.5	ppb	223.39	4.47%
Cd 226.502†	9695.6	489.12	µg/L	2.787	489.12	ppb	2.787	0.57%
Co 228.616†	2582.5	489.63	µg/L	6.627	489.63	ppb	6.627	1.35%
Cr 267.716†	9113.6	471.94	µg/L	4.032	471.94	ppb	4.032	0.85%
Cu 324.752†	14425.5	464.89	µg/L	3.553	464.89	ppb	3.553	0.76%
Fe 238.204 Radial†	14851.1	5118.7	µg/L	218.92	5118.7	ppb	218.92	4.28%
K 766.490 Radial†	11680.8	5192.5	µg/L	196.16	5192.5	ppb	196.16	3.78%
Mg 279.077 IEC†	3230.7	5059.9	µg/L	200.66	5059.9	ppb	200.66	3.97%
Mn 257.610†	32513.0	475.39	µg/L	3.137	475.39	ppb	3.137	0.66%

Mo 202.031†	2342.3	478.16 µg/L	5.968	478.16 ppb	5.968	1.25%
Na 589.592 Radial†	41219.4	4846.0 µg/L	153.30	4846.0 ppb	153.30	3.16%
Ni 231.604†	4048.5	474.95 µg/L	4.423	474.95 ppb	4.423	0.93%
P 214.914†	78.9	452.12 µg/L	11.964	452.12 ppb	11.964	2.65%
Pb 220.353†	760.2	496.59 µg/L	8.448	496.59 ppb	8.448	1.70%
S 181.975 Axial†	734.4	4693.0 µg/L	79.55	4693.0 ppb	79.55	1.70%
Sb 206.836†	294.7	496.23 µg/L	16.155	496.23 ppb	16.155	3.26%
Se 196.026†	219.9	465.54 µg/L	11.056	465.54 ppb	11.056	2.37%
SiO2†	8564.4	9821.1 µg/L	63.71	9821.1 ppb	63.71	0.65%
Si 251.611†	21483.5	4557.5 µg/L	36.01	4557.5 ppb	36.01	0.79%
Sn 189.927†	577.0	517.83 µg/L	7.956	517.83 ppb	7.956	1.54%
Sr 421.552†	374902.4	504.19 µg/L	16.589	504.19 ppb	16.589	3.29%
Ti 334.940†	49319.9	472.34 µg/L	3.524	472.34 ppb	3.524	0.75%
Tl 190.801†	240.5	469.53 µg/L	7.570	469.53 ppb	7.570	1.61%
U 367.007†	725.2	450.09 µg/L	15.151	450.09 ppb	15.151	3.37%
V 292.402†	8706.6	474.63 µg/L	4.610	474.63 ppb	4.610	0.97%
Zn 213.857†	8616.7	466.05 µg/L	5.663	466.05 ppb	5.663	1.22%

Batch ID:
Sequence No.: 6 **Autosampler Location: 304**
Sample ID: 1204695448|2063261|1| **Date Collected: 11/19/2020 05:34:34**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: 1204695448|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	52802.6	52802.6	82.866	%	82.866	%	05:35:12
1	Al 396.153Radial†	64.3	79.8	15.006	µg/L	15.006	ppb	05:35:12
1	Ca 317.933Radial†	722563.9	871728.0	143250	µg/L	143250	ppb	05:35:10
1	Fe 238.204 Radial†	116.8	89.3	30.768	µg/L	30.768	ppb	05:35:32
1	K 766.490 Radial†	2074821.7	2504032.7	1112800	µg/L	1112800	ppb	05:35:10
1	Mg 279.077 IEC†	37989.0	45838.5	71758	µg/L	71758	ppb	05:35:12
1	Na 589.592 Radial†	Saturated3	Saturated3					05:35:32
Saturated in preshot (code 3)								
1	Sr 421.552†	525894.3	635084.2	855.13	µg/L	855.13	ppb	05:35:10
1	Sc 361.383	133505.6	133505.6	62.476	%	62.476	%	05:36:25
1	Y 371.029	77286.3	77286.3	62.031	%	62.031	%	05:36:25
1	Ag 328.068†	-96.5	-0.6	0.1131	µg/L	0.1131	ppb	05:36:45
1	As 188.979†	4.9	8.4	21.971	µg/L	21.971	ppb	05:36:45
1	B 249.677†	17353.9	27680.1	3312.9	µg/L	3312.9	ppb	05:36:25
1	Ba 233.527†	1824.7	2953.2	146.38	µg/L	146.38	ppb	05:36:45
1	Be 313.107†	-200.4	-81.2	-0.2085	µg/L	-0.2085	ppb	05:36:45
1	Cd 226.502†	-39.6	-3.1	-0.1586	µg/L	-0.1586	ppb	05:36:45
1	Co 228.616†	-5.6	7.2	1.5461	µg/L	1.5461	ppb	05:36:45
1	Cr 267.716†	94.2	94.5	4.8929	µg/L	4.8929	ppb	05:36:45
1	Cu 324.752†	500.1	504.9	16.172	µg/L	16.172	ppb	05:36:45
1	Mn 257.610†	45.1	93.5	1.2959	µg/L	1.2959	ppb	05:36:45
1	Mo 202.031†	727.0	1135.8	231.90	µg/L	231.90	ppb	05:36:45
1	Ni 231.604†	83.7	187.0	21.940	µg/L	21.940	ppb	05:36:45
1	P 214.914†	774.4	1194.6	7332.9	µg/L	7332.9	ppb	05:36:45
1	Pb 220.353†	4.1	-2.9	-1.8126	µg/L	-1.8126	ppb	05:36:45
1	S 181.975 Axial†	150674.1	241169.6	1541000	µg/L	1541000	ppb	05:36:25
1	Sb 206.836†	27.4	13.3	25.424	µg/L	25.424	ppb	05:36:45
1	Se 196.026†	42.8	40.8	85.950	µg/L	85.950	ppb	05:36:45
1	SiO2†	87277.3	139532.8	160060	µg/L	160060	ppb	05:36:25
1	Si 251.611†	228079.4	364942.1	77643	µg/L	77643	ppb	05:36:25
1	Sn 189.927†	18.6	18.8	26.901	µg/L	26.901	ppb	05:36:45
1	Ti 334.940†	-153.1	-260.8	-8.2855	µg/L	-8.2855	ppb	05:36:45
1	Tl 190.801†	-7.5	-1.8	-3.0724	µg/L	-3.0724	ppb	05:36:45
1	U 367.007†	-65.5	-79.7	-51.462	µg/L	-51.462	ppb	05:36:25
1	V 292.402†	396.4	645.0	35.181	µg/L	35.181	ppb	05:36:45
1	Zn 213.857†	71.3	138.5	7.4014	µg/L	7.4014	ppb	05:36:45
2	Sc RADIAL	54028.1	54028.1	84.790	%	84.790	%	05:35:37
2	Al 396.153Radial†	80.8	97.5	20.725	µg/L	20.725	ppb	05:35:37
2	Ca 317.933Radial†	729690.2	860353.9	141390	µg/L	141390	ppb	05:35:35
2	Fe 238.204 Radial†	78.3	40.7	14.039	µg/L	14.039	ppb	05:35:57
2	K 766.490 Radial†	2118560.5	2498824.0	1110500	µg/L	1110500	ppb	05:35:35
2	Mg 279.077 IEC†	39352.5	46406.7	72647	µg/L	72647	ppb	05:35:37
2	Na 589.592 Radial†	Saturated3	Saturated3					05:35:57
Saturated in preshot (code 3)								
2	Sr 421.552†	534366.1	630680.6	849.21	µg/L	849.21	ppb	05:35:35
2	Sc 361.383	138426.6	138426.6	64.779	%	64.779	%	05:36:47
2	Y 371.029	80180.5	80180.5	64.354	%	64.354	%	05:36:47
2	Ag 328.068†	-102.0	-3.6	-0.0176	µg/L	-0.0176	ppb	05:37:07
2	As 188.979†	3.7	6.3	16.603	µg/L	16.603	ppb	05:37:07
2	B 249.677†	17924.9	27574.1	3300.2	µg/L	3300.2	ppb	05:36:47
2	Ba 233.527†	1882.2	2938.3	145.64	µg/L	145.64	ppb	05:37:07
2	Be 313.107†	-197.4	-65.2	-0.1686	µg/L	-0.1686	ppb	05:37:07
2	Cd 226.502†	-36.1	4.6	0.2305	µg/L	0.2305	ppb	05:37:07
2	Co 228.616†	-5.6	7.6	1.6271	µg/L	1.6271	ppb	05:37:07
2	Cr 267.716†	95.8	91.5	4.7389	µg/L	4.7389	ppb	05:37:07
2	Cu 324.752†	542.6	542.1	17.389	µg/L	17.389	ppb	05:37:07
2	Mn 257.610†	50.2	98.9	1.3748	µg/L	1.3748	ppb	05:37:07

2	Mo 202.031†	739.2	1113.3	227.30 µg/L	227.30 ppb	05:37:07
2	Ni 231.604†	86.2	186.2	21.844 µg/L	21.844 ppb	05:37:07
2	P 214.914†	808.9	1203.8	7389.9 µg/L	7389.9 ppb	05:37:07
2	Pb 220.353†	7.6	2.2	1.4671 µg/L	1.4671 ppb	05:37:07
2	S 181.975 Axial†	156497.0	241585.0	1543700 µg/L	1543700 ppb	05:36:47
2	Sb 206.836†	28.9	14.1	26.780 µg/L	26.780 ppb	05:37:07
2	Se 196.026†	29.0	17.1	35.991 µg/L	35.991 ppb	05:37:07
2	SiO2†	90206.2	139088.0	159550 µg/L	159550 ppb	05:36:47
2	Si 251.611†	236310.2	364670.2	77585 µg/L	77585 ppb	05:36:47
2	Sn 189.927†	19.3	18.8	26.783 µg/L	26.783 ppb	05:37:07
2	Ti 334.940†	-150.8	-248.5	-8.0941 µg/L	-8.0941 ppb	05:37:07
2	Tl 190.801†	-6.6	0.2	0.6976 µg/L	0.6976 ppb	05:37:07
2	U 367.007†	-51.1	-53.7	-34.637 µg/L	-34.637 ppb	05:36:47
2	V 292.402†	411.2	645.4	35.209 µg/L	35.209 ppb	05:37:07
2	Zn 213.857†	77.1	143.4	7.6707 µg/L	7.6707 ppb	05:37:07
3	Sc RADIAL	52852.8	52852.8	82.945 %	82.945 %	05:36:01
3	Al 396.153Radial†	37.9	47.9	5.1331 µg/L	5.1331 ppb	05:36:01
3	Ca 317.933Radial†	722802.7	871187.4	143170 µg/L	143170 ppb	05:35:59
3	Fe 238.204 Radial†	92.2	59.5	20.478 µg/L	20.478 ppb	05:36:21
3	K 766.490 Radial†	2108620.5	2542402.1	1129900 µg/L	1129900 ppb	05:35:59
3	Mg 279.077 IEC†	38230.0	46085.5	72144 µg/L	72144 ppb	05:36:01
3	Na 589.592 Radial†	Saturated3	Saturated3			05:36:21
Saturated in preshot (code 3)						
3	Sr 421.552†	533054.5	643113.7	865.95 µg/L	865.95 ppb	05:35:59
3	Sc 361.383	135323.8	135323.8	63.327 %	63.327 %	05:37:09
3	Y 371.029	78354.8	78354.8	62.889 %	62.889 %	05:37:09
3	Ag 328.068†	-122.9	-40.3	-1.4589 µg/L	-1.4589 ppb	05:37:29
3	As 188.979†	6.5	10.9	27.939 µg/L	27.939 ppb	05:37:29
3	B 249.677†	17649.5	27773.8	3324.1 µg/L	3324.1 ppb	05:37:09
3	Ba 233.527†	1863.8	2975.8	147.49 µg/L	147.49 ppb	05:37:29
3	Be 313.107†	-189.1	-59.0	-0.1524 µg/L	-0.1524 ppb	05:37:29
3	Cd 226.502†	-43.5	-8.5	-0.4294 µg/L	-0.4294 ppb	05:37:29
3	Co 228.616†	-12.0	-2.8	-0.3356 µg/L	-0.3356 ppb	05:37:29
3	Cr 267.716†	101.5	104.0	5.3837 µg/L	5.3837 ppb	05:37:29
3	Cu 324.752†	519.6	525.0	16.875 µg/L	16.875 ppb	05:37:29
3	Mn 257.610†	38.9	82.8	1.1398 µg/L	1.1398 ppb	05:37:29
3	Mo 202.031†	730.9	1126.2	229.94 µg/L	229.94 ppb	05:37:29
3	Ni 231.604†	78.6	177.3	20.795 µg/L	20.795 ppb	05:37:29
3	P 214.914†	798.1	1215.4	7460.7 µg/L	7460.7 ppb	05:37:29
3	Pb 220.353†	-1.1	-11.3	-7.3409 µg/L	-7.3409 ppb	05:37:29
3	S 181.975 Axial†	152869.4	241395.7	1542400 µg/L	1542400 ppb	05:37:09
3	Sb 206.836†	26.5	11.3	22.104 µg/L	22.104 ppb	05:37:29
3	Se 196.026†	32.1	23.0	48.519 µg/L	48.519 ppb	05:37:29
3	SiO2†	88753.2	139986.4	160580 µg/L	160580 ppb	05:37:09
3	Si 251.611†	231179.3	364932.1	77641 µg/L	77641 ppb	05:37:09
3	Sn 189.927†	29.9	36.3	42.529 µg/L	42.529 ppb	05:37:29
3	Ti 334.940†	-129.1	-219.5	-7.8882 µg/L	-7.8882 ppb	05:37:29
3	Tl 190.801†	-10.3	-5.9	-11.119 µg/L	-11.119 ppb	05:37:29
3	U 367.007†	-23.3	-11.7	-7.5913 µg/L	-7.5913 ppb	05:37:09
3	V 292.402†	395.2	634.6	34.646 µg/L	34.646 ppb	05:37:29
3	Zn 213.857†	69.1	133.5	7.1372 µg/L	7.1372 ppb	05:37:29

Mean Data: 1204695448|2063261|1|

	Mean Corrected	Calib.		Sample		
Analyte	**Intensity**	**Conc. Units**	**Std.Dev.**	**Conc. Units**	**Std.Dev.**	**RSD**
Sc 361.383	135752.0	63.527 %	1.1644	63.527 %	1.1644	1.83%
Sc RADIAL	53227.8	83.534 %	1.0884	83.534 %	1.0884	1.30%
Y 371.029	78607.2	63.091 %	1.1746	63.091 %	1.1746	1.86%
Ag 328.068†	-14.9	-0.4545 µg/L	0.87233	-0.4545 ppb	0.87233	191.95%
Al 396.153Radial†	75.1	13.622 µg/L	7.8877	13.622 ppb	7.8877	57.91%
As 188.979†	8.5	22.171 µg/L	5.6706	22.171 ppb	5.6706	25.58%
B 249.677†	27676.0	3312.4 µg/L	11.97	3312.4 ppb	11.97	0.36%
Ba 233.527†	2955.8	146.50 µg/L	0.936	146.50 ppb	0.936	0.64%
Be 313.107†	-68.5	-0.1765 µg/L	0.02883	-0.1765 ppb	0.02883	16.34%
Ca 317.933Radial†	867756.4	142600 µg/L	1054.44	142600 ppb	1054.44	0.74%
Cd 226.502†	-2.3	-0.1192 µg/L	0.33172	-0.1192 ppb	0.33172	278.36%
Co 228.616†	4.0	0.9459 µg/L	1.11050	0.9459 ppb	1.11050	117.41%
Cr 267.716†	96.7	5.0052 µg/L	0.33675	5.0052 ppb	0.33675	6.73%
Cu 324.752†	524.0	16.812 µg/L	0.6110	16.812 ppb	0.6110	3.63%
Fe 238.204 Radial†	63.2	21.762 µg/L	8.4385	21.762 ppb	8.4385	38.78%

K 766.490 Radial†	2515086.3	1117700 µg/L	10576.65	1117700 ppb	10576.65	0.95%
Concentration greater than upper limit for K 766.490 Radial.						
Mg 279.077 IEC†	46110.2	72183 µg/L	446.00	72183 ppb	446.00	0.62%
Mn 257.610†	91.8	1.2702 µg/L	0.11961	1.2702 ppb	0.11961	9.42%
Mo 202.031†	1125.1	229.71 µg/L	2.307	229.71 ppb	2.307	1.00%
Na 589.592 Radial†	Saturated3					
Ni 231.604†	183.5	21.527 µg/L	0.6353	21.527 ppb	0.6353	2.95%
P 214.914†	1204.6	7394.5 µg/L	64.06	7394.5 ppb	64.06	0.87%
Concentration greater than upper limit for P 214.914.						
Pb 220.353†	-4.0	-2.5621 µg/L	4.45159	-2.5621 ppb	4.45159	173.75%
S 181.975 Axial†	241383.4	1542400 µg/L	1328.91	1542400 ppb	1328.91	0.09%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	12.9	24.769 µg/L	2.4055	24.769 ppb	2.4055	9.71%
Se 196.026†	27.0	56.820 µg/L	25.9933	56.820 ppb	25.9933	45.75%
SiO2†	139535.8	160070 µg/L	515.29	160070 ppb	515.29	0.32%
Concentration greater than upper limit for SiO2.						
Si 251.611†	364848.1	77623 µg/L	32.75	77623 ppb	32.75	0.04%
Concentration greater than upper limit for Si 251.611.						
Sn 189.927†	24.6	32.071 µg/L	9.0571	32.071 ppb	9.0571	28.24%
Sr 421.552†	636292.8	856.76 µg/L	8.488	856.76 ppb	8.488	0.99%
Ti 334.940†	-242.9	-8.0893 µg/L	0.19866	-8.0893 ppb	0.19866	2.46%
Concentration less than lower limit for Ti 334.940.						
Tl 190.801†	-2.5	-4.4978 µg/L	6.03575	-4.4978 ppb	6.03575	134.19%
U 367.007†	-48.4	-31.230 µg/L	22.1329	-31.230 ppb	22.1329	70.87%
V 292.402†	641.7	35.012 µg/L	0.3174	35.012 ppb	0.3174	0.91%
Zn 213.857†	138.5	7.4031 µg/L	0.26675	7.4031 ppb	0.26675	3.60%

Batch ID:
Sequence No.: 7 **Autosampler Location: 305**
Sample ID: 1204695449|2063261|1| **Date Collected: 11/19/2020 05:38:29**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: 1204695449|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	55031.4	55031.4	86.364	%	86.364	%	05:39:07
1	Al 396.153Radial†	12492.7	14467.3	4491.1	µg/L	4491.1	ppb	05:39:07
1	Ca 317.933Radial†	720923.9	834513.6	137140	µg/L	137140	ppb	05:39:05
1	Fe 238.204 Radial†	9904.9	11417.1	3935.1	µg/L	3935.1	ppb	05:39:07
1	K 766.490 Radial†	1988044.5	2302147.3	1023100	µg/L	1023100	ppb	05:39:05
1	Mg 279.077 IEC†	39244.4	45435.3	71128	µg/L	71128	ppb	05:39:07
1	Na 589.592 Radial†	Saturated3	Saturated3					05:39:07
	Saturated in preshot (code 3)							
1	Sr 421.552†	801551.1	928560.1	1249.8	µg/L	1249.8	ppb	05:39:05
1	Sc 361.383	141505.9	141505.9	66.220	%	66.220	%	05:39:19
1	Y 371.029	82051.6	82051.6	65.856	%	65.856	%	05:39:19
1	Ag 328.068†	2280.7	3597.9	139.37	µg/L	139.37	ppb	05:39:39
1	As 188.979†	152.6	231.1	580.89	µg/L	580.89	ppb	05:39:39
1	B 249.677†	19663.2	29597.1	3554.4	µg/L	3554.4	ppb	05:39:19
1	Ba 233.527†	8395.2	12710.4	630.22	µg/L	630.22	ppb	05:39:39
1	Be 313.107†	102150.1	154499.1	381.14	µg/L	381.14	ppb	05:39:19
1	Cd 226.502†	5947.2	9041.3	456.21	µg/L	456.21	ppb	05:39:39
1	Co 228.616†	1303.4	1984.4	376.58	µg/L	376.58	ppb	05:39:39
1	Cr 267.716†	5285.2	7925.0	410.40	µg/L	410.40	ppb	05:39:19
1	Cu 324.752†	11445.8	16989.0	547.07	µg/L	547.07	ppb	05:39:19
1	Mn 257.610†	18864.4	28509.1	416.79	µg/L	416.79	ppb	05:39:19
1	Mo 202.031†	2085.5	3121.5	637.26	µg/L	637.26	ppb	05:39:39
1	Ni 231.604†	2400.6	3678.3	431.53	µg/L	431.53	ppb	05:39:39
1	P 214.914†	851.0	1240.1	7580.9	µg/L	7580.9	ppb	05:39:39
1	Pb 220.353†	402.0	597.6	390.34	µg/L	390.34	ppb	05:39:39
1	S 181.975 Axial†	149403.5	225615.6	1441600	µg/L	1441600	ppb	05:39:19
1	Sb 206.836†	246.4	341.6	576.21	µg/L	576.21	ppb	05:39:39
1	Se 196.026†	186.9	254.6	538.23	µg/L	538.23	ppb	05:39:39
1	SiO2†	92586.3	139652.0	160200	µg/L	160200	ppb	05:39:19
1	Si 251.611†	241591.7	364707.6	77582	µg/L	77582	ppb	05:39:19
1	Sn 189.927†	348.0	514.5	471.50	µg/L	471.50	ppb	05:39:39
1	Ti 334.940†	30137.2	45495.3	430.26	µg/L	430.26	ppb	05:39:19
1	Tl 190.801†	108.5	174.1	340.59	µg/L	340.59	ppb	05:39:39
1	U 367.007†	337.7	535.2	331.66	µg/L	331.66	ppb	05:39:19
1	V 292.402†	6579.4	9946.4	541.93	µg/L	541.93	ppb	05:39:39
1	Zn 213.857†	7755.8	11736.6	636.62	µg/L	636.62	ppb	05:39:39
2	Sc RADIAL	54374.6	54374.6	85.334	%	85.334	%	05:39:11
2	Al 396.153Radial†	12593.8	14760.5	4583.7	µg/L	4583.7	ppb	05:39:11
2	Ca 317.933Radial†	705682.1	826734.4	135860	µg/L	135860	ppb	05:39:09
2	Fe 238.204 Radial†	9887.1	11534.8	3975.5	µg/L	3975.5	ppb	05:39:11
2	K 766.490 Radial†	1969341.2	2308032.8	1025700	µg/L	1025700	ppb	05:39:09
2	Mg 279.077 IEC†	39210.8	45944.9	71926	µg/L	71926	ppb	05:39:11
2	Na 589.592 Radial†	Saturated3	Saturated3					05:39:11
	Saturated in preshot (code 3)							
2	Sr 421.552†	787477.1	923277.0	1242.7	µg/L	1242.7	ppb	05:39:09
2	Sc 361.383	144865.1	144865.1	67.792	%	67.792	%	05:39:42
2	Y 371.029	83968.5	83968.5	67.394	%	67.394	%	05:39:42
2	Ag 328.068†	2265.3	3495.4	135.41	µg/L	135.41	ppb	05:40:02
2	As 188.979†	145.9	215.7	542.73	µg/L	542.73	ppb	05:40:02
2	B 249.677†	20631.1	30336.2	3643.0	µg/L	3643.0	ppb	05:39:42
2	Ba 233.527†	8306.2	12285.1	609.12	µg/L	609.12	ppb	05:40:02
2	Be 313.107†	105462.0	155807.5	384.37	µg/L	384.37	ppb	05:39:42
2	Cd 226.502†	5862.9	8708.7	439.40	µg/L	439.40	ppb	05:40:02
2	Co 228.616†	1288.1	1916.4	363.66	µg/L	363.66	ppb	05:40:02
2	Cr 267.716†	5390.1	7894.7	408.83	µg/L	408.83	ppb	05:39:42
2	Cu 324.752†	11763.2	17056.5	549.21	µg/L	549.21	ppb	05:39:42
2	Mn 257.610†	19428.9	28681.2	419.31	µg/L	419.31	ppb	05:39:42

2	Mo 202.031†	2054.6	3003.0	613.05 µg/L	613.05 ppb		05:40:02
2	Ni 231.604†	2386.7	3573.8	419.26 µg/L	419.26 ppb		05:40:02
2	P 214.914†	835.6	1187.6	7259.2 µg/L	7259.2 ppb		05:40:02
2	Pb 220.353†	403.9	586.3	383.06 µg/L	383.06 ppb		05:40:02
2	S 181.975 Axial†	156498.2	230849.4	1475100 µg/L	1475100 ppb		05:39:42
2	Sb 206.836†	241.1	325.1	548.52 µg/L	548.52 ppb		05:40:02
2	Se 196.026†	189.0	251.1	530.77 µg/L	530.77 ppb		05:40:02
2	SiO2†	96470.1	142138.9	163050 µg/L	163050 ppb		05:39:42
2	Si 251.611†	252253.1	371974.3	79128 µg/L	79128 ppb		05:39:42
2	Sn 189.927†	348.6	503.2	461.29 µg/L	461.29 ppb		05:40:02
2	Ti 334.940†	31259.9	46096.1	436.07 µg/L	436.07 ppb		05:39:42
2	Tl 190.801†	111.5	174.8	341.92 µg/L	341.92 ppb		05:40:02
2	U 367.007†	318.7	495.3	305.83 µg/L	305.83 ppb		05:39:42
2	V 292.402†	6487.1	9579.8	521.96 µg/L	521.96 ppb		05:40:02
2	Zn 213.857†	7626.5	11274.3	611.46 µg/L	611.46 ppb		05:40:02
3	Sc RADIAL	56273.0	56273.0	88.313 %	88.313 %		05:39:16
3	Al 396.153Radial†	12893.2	14601.7	4532.8 µg/L	4532.8 ppb		05:39:16
3	Ca 317.933Radial†	720297.3	815386.2	134000 µg/L	134000 ppb		05:39:14
3	Fe 238.204 Radial†	10205.9	11504.9	3965.4 µg/L	3965.4 ppb		05:39:16
3	K 766.490 Radial†	1996411.8	2260832.1	1004700 µg/L	1004700 ppb		05:39:14
3	Mg 279.077 IEC†	40363.8	45700.3	71543 µg/L	71543 ppb		05:39:16
3	Na 589.592 Radial†	Saturated3	Saturated3				05:39:16
Saturated in preshot (code 3)							
3	Sr 421.552†	804237.5	911124.3	1226.3 µg/L	1226.3 ppb		05:39:14
3	Sc 361.383	138570.6	138570.6	64.846 %	64.846 %		05:40:04
3	Y 371.029	80434.7	80434.7	64.558 %	64.558 %		05:40:04
3	Ag 328.068†	2272.5	3658.2	141.64 µg/L	141.64 ppb		05:40:24
3	As 188.979†	146.7	226.8	570.31 µg/L	570.31 ppb		05:40:24
3	B 249.677†	19376.1	29783.3	3576.8 µg/L	3576.8 ppb		05:40:04
3	Ba 233.527†	8322.4	12866.6	637.97 µg/L	637.97 ppb		05:40:24
3	Be 313.107†	100199.4	154758.5	381.79 µg/L	381.79 ppb		05:40:04
3	Cd 226.502†	5860.9	9098.4	459.09 µg/L	459.09 ppb		05:40:24
3	Co 228.616†	1286.5	2000.1	379.55 µg/L	379.55 ppb		05:40:24
3	Cr 267.716†	5138.7	7868.2	407.45 µg/L	407.45 ppb		05:40:04
3	Cu 324.752†	11242.7	17042.1	548.85 µg/L	548.85 ppb		05:40:04
3	Mn 257.610†	18620.0	28735.6	420.10 µg/L	420.10 ppb		05:40:04
3	Mo 202.031†	2059.6	3148.3	642.73 µg/L	642.73 ppb		05:40:24
3	Ni 231.604†	2378.0	3720.2	436.44 µg/L	436.44 ppb		05:40:24
3	P 214.914†	832.4	1238.8	7572.5 µg/L	7572.5 ppb		05:40:24
3	Pb 220.353†	391.0	593.5	387.62 µg/L	387.62 ppb		05:40:24
3	S 181.975 Axial†	145426.2	224261.5	1433000 µg/L	1433000 ppb		05:40:04
3	Sb 206.836†	242.8	343.9	580.12 µg/L	580.12 ppb		05:40:24
3	Se 196.026†	185.7	258.7	546.86 µg/L	546.86 ppb		05:40:24
3	SiO2†	90558.8	139487.2	160010 µg/L	160010 ppb		05:40:04
3	Si 251.611†	236512.5	364603.0	77559 µg/L	77559 ppb		05:40:04
3	Sn 189.927†	352.7	532.9	487.68 µg/L	487.68 ppb		05:40:24
3	Ti 334.940†	29712.8	45804.9	433.36 µg/L	433.36 ppb		05:40:04
3	Tl 190.801†	112.9	184.4	360.53 µg/L	360.53 ppb		05:40:24
3	U 367.007†	383.4	616.4	383.83 µg/L	383.83 ppb		05:40:04
3	V 292.402†	6466.7	9983.0	543.96 µg/L	543.96 ppb		05:40:24
3	Zn 213.857†	7663.2	11841.9	642.33 µg/L	642.33 ppb		05:40:24

Mean Data: 1204695449|2063261|1|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	141647.2	66.286	%	1.4739	66.286	%	1.4739	2.22%
Sc RADIAL	55226.3	86.670	%	1.5130	86.670	%	1.5130	1.75%
Y 371.029	82151.6	65.936	%	1.4198	65.936	%	1.4198	2.15%
Ag 328.068†	3583.8	138.81	µg/L	3.155	138.81	ppb	3.155	2.27%
Al 396.153Radial†	14609.8	4535.8	µg/L	46.38	4535.8	ppb	46.38	1.02%
As 188.979†	224.5	564.64	µg/L	19.702	564.64	ppb	19.702	3.49%
B 249.677†	29905.5	3591.4	µg/L	46.06	3591.4	ppb	46.06	1.28%
Ba 233.527†	12620.7	625.77	µg/L	14.929	625.77	ppb	14.929	2.39%
Be 313.107†	155021.7	382.43	µg/L	1.712	382.43	ppb	1.712	0.45%
Ca 317.933Radial†	825544.7	135670	µg/L	1580.74	135670	ppb	1580.74	1.17%
Cd 226.502†	8949.5	451.57	µg/L	10.632	451.57	ppb	10.632	2.35%
Co 228.616†	1967.0	373.26	µg/L	8.449	373.26	ppb	8.449	2.26%
Cr 267.716†	7896.0	408.89	µg/L	1.472	408.89	ppb	1.472	0.36%
Cu 324.752†	17029.2	548.38	µg/L	1.145	548.38	ppb	1.145	0.21%
Fe 238.204 Radial†	11485.6	3958.7	µg/L	21.02	3958.7	ppb	21.02	0.53%

K 766.490 Radial†	2290337.4	1017900 µg/L	11430.87	1017900 ppb	11430.87	1.12%
Concentration greater than upper limit for K 766.490 Radial.						
Mg 279.077 IEC†	45693.5	71532 µg/L	398.92	71532 ppb	398.92	0.56%
Mn 257.610†	28642.0	418.73 µg/L	1.729	418.73 ppb	1.729	0.41%
Mo 202.031†	3090.9	631.01 µg/L	15.792	631.01 ppb	15.792	2.50%
Na 589.592 Radial†	Saturated3					
Ni 231.604†	3657.5	429.08 µg/L	8.846	429.08 ppb	8.846	2.06%
P 214.914†	1222.2	7470.9 µg/L	183.33	7470.9 ppb	183.33	2.45%
Concentration greater than upper limit for P 214.914.						
Pb 220.353†	592.4	387.01 µg/L	3.682	387.01 ppb	3.682	0.95%
S 181.975 Axial†	226908.8	1449900 µg/L	22230.76	1449900 ppb	22230.76	1.53%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	336.9	568.28 µg/L	17.224	568.28 ppb	17.224	3.03%
Se 196.026†	254.8	538.62 µg/L	8.052	538.62 ppb	8.052	1.49%
SiO2†	140426.0	161080 µg/L	1704.72	161080 ppb	1704.72	1.06%
Concentration greater than upper limit for SiO2.						
Si 251.611†	367095.0	78090 µg/L	899.55	78090 ppb	899.55	1.15%
Concentration greater than upper limit for Si 251.611.						
Sn 189.927†	516.9	473.49 µg/L	13.306	473.49 ppb	13.306	2.81%
Sr 421.552†	920987.1	1239.6 µg/L	12.04	1239.6 ppb	12.04	0.97%
Ti 334.940†	45798.7	433.23 µg/L	2.905	433.23 ppb	2.905	0.67%
Tl 190.801†	177.8	347.68 µg/L	11.150	347.68 ppb	11.150	3.21%
U 367.007†	549.0	340.44 µg/L	39.736	340.44 ppb	39.736	11.67%
V 292.402†	9836.4	535.95 µg/L	12.157	535.95 ppb	12.157	2.27%
Zn 213.857†	11617.6	630.14 µg/L	16.424	630.14 ppb	16.424	2.61%

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Batch ID:
Sequence No.: 8 **Autosampler Location: 306**
Sample ID: 1204695450|2063261|5| **Date Collected: 11/19/2020 05:41:24**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: 1204695450|2063261|5|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	62977.5	62977.5	98.835	%	98.835	%	05:41:59
1	Al 396.153Radial†	56.0	58.8	16.449	µg/L	16.449	ppb	05:41:59
1	Ca 317.933Radial†	186445.1	188409.7	30962	µg/L	30962	ppb	05:41:59
1	Fe 238.204 Radial†	76.5	25.7	8.8595	µg/L	8.8595	ppb	05:42:19
1	K 766.490 Radial†	400671.0	405614.9	180260	µg/L	180260	ppb	05:41:59
1	Mg 279.077 IEC†	9837.8	9948.7	15574	µg/L	15574	ppb	05:41:59
1	Na 589.592 Radial†	Saturated2	Saturated2					05:42:19
	Saturated in preshot (code 2)							
1	Sr 421.552†	123718.0	125632.5	169.16	µg/L	169.16	ppb	05:41:59
1	Sc 361.383	195535.3	195535.3	91.503	%	91.503	%	05:43:07
1	Y 371.029	111703.2	111703.2	89.655	%	89.655	%	05:43:07
1	Ag 328.068†	-152.5	-12.8	-0.4539	µg/L	-0.4539	ppb	05:43:27
1	As 188.979†	-2.2	-1.9	-4.4385	µg/L	-4.4385	ppb	05:43:27
1	B 249.677†	4685.2	5023.4	601.24	µg/L	601.24	ppb	05:43:07
1	Ba 233.527†	505.9	585.5	29.018	µg/L	29.018	ppb	05:43:27
1	Be 313.107†	-282.2	-68.9	-0.1704	µg/L	-0.1704	ppb	05:43:07
1	Cd 226.502†	-38.3	18.5	0.9314	µg/L	0.9314	ppb	05:43:27
1	Co 228.616†	-13.9	1.0	0.2221	µg/L	0.2221	ppb	05:43:27
1	Cr 267.716†	73.1	23.6	1.2197	µg/L	1.2197	ppb	05:43:27
1	Cu 324.752†	423.7	167.5	5.3585	µg/L	5.3585	ppb	05:43:27
1	Mn 257.610†	-0.2	21.2	0.2947	µg/L	0.2947	ppb	05:43:27
1	Mo 202.031†	227.6	220.9	45.096	µg/L	45.096	ppb	05:43:27
1	Ni 231.604†	-12.4	39.6	4.6424	µg/L	4.6424	ppb	05:43:27
1	P 214.914†	227.7	203.9	1251.6	µg/L	1251.6	ppb	05:43:27
1	Pb 220.353†	9.0	0.3	0.2442	µg/L	0.2442	ppb	05:43:27
1	S 181.975 Axial†	37144.4	40590.9	259360	µg/L	259360	ppb	05:43:07
1	Sb 206.836†	30.5	2.8	5.3122	µg/L	5.3122	ppb	05:43:27
1	Se 196.026†	32.7	8.1	17.153	µg/L	17.153	ppb	05:43:27
1	SiO2†	20227.4	21940.7	25169	µg/L	25169	ppb	05:43:07
1	Si 251.611†	51304.7	55942.1	11902	µg/L	11902	ppb	05:43:07
1	Sn 189.927†	19.9	10.8	11.812	µg/L	11.812	ppb	05:43:27
1	Ti 334.940†	-17.1	-34.4	-1.5806	µg/L	-1.5806	ppb	05:43:27
1	Tl 190.801†	-9.2	0.2	0.5268	µg/L	0.5268	ppb	05:43:27
1	U 367.007†	-54.8	-34.7	-22.398	µg/L	-22.398	ppb	05:43:07
1	V 292.402†	108.8	129.5	7.0527	µg/L	7.0527	ppb	05:43:27
1	Zn 213.857†	72.5	103.6	5.6195	µg/L	5.6195	ppb	05:43:27
2	Sc RADIAL	62940.2	62940.2	98.776	%	98.776	%	05:42:21
2	Al 396.153Radial†	-29.5	-27.7	-10.581	µg/L	-10.581	ppb	05:42:21
2	Ca 317.933Radial†	186955.3	189038.0	31065	µg/L	31065	ppb	05:42:21
2	Fe 238.204 Radial†	75.0	24.3	8.3618	µg/L	8.3618	ppb	05:42:42
2	K 766.490 Radial†	401367.3	406559.9	180680	µg/L	180680	ppb	05:42:21
2	Mg 279.077 IEC†	9865.7	9982.8	15628	µg/L	15628	ppb	05:42:21
2	Na 589.592 Radial†	Saturated2	Saturated2					05:42:42
	Saturated in preshot (code 2)							
2	Sr 421.552†	124078.6	126071.7	169.75	µg/L	169.75	ppb	05:42:21
2	Sc 361.383	191309.1	191309.1	89.526	%	89.526	%	05:43:30
2	Y 371.029	109428.9	109428.9	87.829	%	87.829	%	05:43:30
2	Ag 328.068†	-146.4	-9.7	-0.3160	µg/L	-0.3160	ppb	05:43:50
2	As 188.979†	-1.4	-1.0	-2.3338	µg/L	-2.3338	ppb	05:43:50
2	B 249.677†	4502.7	4932.6	590.37	µg/L	590.37	ppb	05:43:30
2	Ba 233.527†	498.9	589.9	29.239	µg/L	29.239	ppb	05:43:50
2	Be 313.107†	-255.2	-45.4	-0.1130	µg/L	-0.1130	ppb	05:43:30
2	Cd 226.502†	-42.1	13.3	0.6691	µg/L	0.6691	ppb	05:43:50
2	Co 228.616†	-12.7	2.0	0.4246	µg/L	0.4246	ppb	05:43:50
2	Cr 267.716†	85.9	39.6	2.0499	µg/L	2.0499	ppb	05:43:50
2	Cu 324.752†	396.2	147.1	4.6780	µg/L	4.6780	ppb	05:43:50
2	Mn 257.610†	4.9	26.9	0.3773	µg/L	0.3773	ppb	05:43:50

2	Mo 202.031†	222.3	220.5	45.009 µg/L	45.009 ppb	05:43:50
2	Ni 231.604†	-16.1	35.2	4.1238 µg/L	4.1238 ppb	05:43:50
2	P 214.914†	219.1	199.8	1226.5 µg/L	1226.5 ppb	05:43:50
2	Pb 220.353†	-2.1	-11.9	-7.7181 µg/L	-7.7181 ppb	05:43:50
2	S 181.975 Axial†	36136.9	40362.3	257900 µg/L	257900 ppb	05:43:30
2	Sb 206.836†	30.7	3.8	6.8995 µg/L	6.8995 ppb	05:43:50
2	Se 196.026†	20.7	-4.5	-9.5306 µg/L	-9.5306 ppb	05:43:50
2	SiO2†	19700.4	21840.3	25053 µg/L	25053 ppb	05:43:30
2	Si 251.611†	49763.9	55459.7	11799 µg/L	11799 ppb	05:43:30
2	Sn 189.927†	27.0	19.2	19.300 µg/L	19.300 ppb	05:43:50
2	Ti 334.940†	-23.1	-41.5	-1.6525 µg/L	-1.6525 ppb	05:43:50
2	Tl 190.801†	-8.8	0.5	0.9520 µg/L	0.9520 ppb	05:43:50
2	U 367.007†	-76.6	-60.4	-38.950 µg/L	-38.950 ppb	05:43:30
2	V 292.402†	110.6	134.2	7.2987 µg/L	7.2987 ppb	05:43:50
2	Zn 213.857†	59.1	90.4	4.9032 µg/L	4.9032 ppb	05:43:50
3	Sc RADIAL	64966.3	64966.3	101.96 %	101.96 %	05:42:44
3	Al 396.153Radial†	-27.7	-24.9	-9.8166 µg/L	-9.8166 ppb	05:42:44
3	Ca 317.933Radial†	193570.2	189623.3	31162 µg/L	31162 ppb	05:42:44
3	Fe 238.204 Radial†	74.3	21.2	7.3211 µg/L	7.3211 ppb	05:43:04
3	K 766.490 Radial†	413236.5	405529.0	180220 µg/L	180220 ppb	05:42:44
3	Mg 279.077 IEC†	10049.8	9851.9	15423 µg/L	15423 ppb	05:42:44
3	Na 589.592 Radial†	Saturated2	Saturated2			05:43:04
Saturated in preshot (code 2)						
3	Sr 421.552†	127283.8	125297.8	168.71 µg/L	168.71 ppb	05:42:44
3	Sc 361.383	189759.9	189759.9	88.801 %	88.801 %	05:43:52
3	Y 371.029	108494.0	108494.0	87.079 %	87.079 %	05:43:52
3	Ag 328.068†	-159.6	-25.9	-0.9628 µg/L	-0.9628 ppb	05:44:12
3	As 188.979†	0.1	0.7	1.9696 µg/L	1.9696 ppb	05:44:12
3	B 249.677†	4507.1	4978.6	595.87 µg/L	595.87 ppb	05:43:52
3	Ba 233.527†	493.7	588.6	29.174 µg/L	29.174 ppb	05:44:12
3	Be 313.107†	-261.5	-54.9	-0.1356 µg/L	-0.1356 ppb	05:43:52
3	Cd 226.502†	-46.3	8.1	0.4102 µg/L	0.4102 ppb	05:44:12
3	Co 228.616†	-11.8	2.9	0.5835 µg/L	0.5835 ppb	05:44:12
3	Cr 267.716†	69.2	21.6	1.1160 µg/L	1.1160 ppb	05:44:12
3	Cu 324.752†	397.0	151.5	4.8489 µg/L	4.8489 ppb	05:44:12
3	Mn 257.610†	5.8	27.9	0.3926 µg/L	0.3926 ppb	05:44:12
3	Mo 202.031†	231.3	232.6	47.481 µg/L	47.481 ppb	05:44:12
3	Ni 231.604†	-18.5	32.3	3.7889 µg/L	3.7889 ppb	05:44:12
3	P 214.914†	222.0	205.1	1258.8 µg/L	1258.8 ppb	05:44:12
3	Pb 220.353†	3.1	-6.0	-3.9137 µg/L	-3.9137 ppb	05:44:12
3	S 181.975 Axial†	35669.7	40165.8	256650 µg/L	256650 ppb	05:43:52
3	Sb 206.836†	30.2	3.5	6.5511 µg/L	6.5511 ppb	05:44:12
3	Se 196.026†	37.8	14.9	31.428 µg/L	31.428 ppb	05:44:12
3	SiO2†	19652.9	21966.4	25198 µg/L	25198 ppb	05:43:52
3	Si 251.611†	49775.0	55926.0	11898 µg/L	11898 ppb	05:43:52
3	Sn 189.927†	18.2	9.5	10.701 µg/L	10.701 ppb	05:44:12
3	Ti 334.940†	-4.5	-20.8	-1.4579 µg/L	-1.4579 ppb	05:44:12
3	Tl 190.801†	-10.7	-1.7	-3.2628 µg/L	-3.2628 ppb	05:44:12
3	U 367.007†	-47.2	-27.9	-18.006 µg/L	-18.006 ppb	05:43:52
3	V 292.402†	100.9	124.3	6.7744 µg/L	6.7744 ppb	05:44:12
3	Zn 213.857†	71.8	105.2	5.7127 µg/L	5.7127 ppb	05:44:12

Mean Data: 1204695450|2063261|5|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	192201.5	89.943	%	1.3989	89.943	%	1.3989	1.56%
Sc RADIAL	63628.0	99.856	%	1.8191	99.856	%	1.8191	1.82%
Y 371.029	109875.4	88.188	%	1.3247	88.188	%	1.3247	1.50%
Ag 328.068†	-16.2	-0.5776	µg/L	0.34068	-0.5776	ppb	0.34068	58.99%
Al 396.153Radial†	2.1	-1.3162	µg/L	15.38967	-1.3162	ppb	15.38967	>999.9%
As 188.979†	-0.7	-1.6009	µg/L	3.26634	-1.6009	ppb	3.26634	204.03%
B 249.677†	4978.2	595.82	µg/L	5.433	595.82	ppb	5.433	0.91%
Ba 233.527†	588.0	29.144	µg/L	0.1133	29.144	ppb	0.1133	0.39%
Be 313.107†	-56.4	-0.1397	µg/L	0.02889	-0.1397	ppb	0.02889	20.69%
Ca 317.933Radial†	189023.7	31063	µg/L	99.73	31063	ppb	99.73	0.32%
Cd 226.502†	13.3	0.6702	µg/L	0.26061	0.6702	ppb	0.26061	38.88%
Co 228.616†	2.0	0.4101	µg/L	0.18116	0.4101	ppb	0.18116	44.18%
Cr 267.716†	28.2	1.4619	µg/L	0.51188	1.4619	ppb	0.51188	35.02%
Cu 324.752†	155.4	4.9618	µg/L	0.35401	4.9618	ppb	0.35401	7.13%
Fe 238.204 Radial†	23.7	8.1808	µg/L	0.78498	8.1808	ppb	0.78498	9.60%

K 766.490 Radial†	405901.3	180390 µg/L	254.19	180390 ppb	254.19	0.14%
Mg 279.077 IEC†	9927.8	15541 µg/L	106.30	15541 ppb	106.30	0.68%
Mn 257.610†	25.3	0.3549 µg/L	0.05267	0.3549 ppb	0.05267	14.84%
Mo 202.031†	224.6	45.862 µg/L	1.4030	45.862 ppb	1.4030	3.06%
Na 589.592 Radial†	Saturated2					
Ni 231.604†	35.7	4.1850 µg/L	0.43001	4.1850 ppb	0.43001	10.27%
P 214.914†	202.9	1245.6 µg/L	16.99	1245.6 ppb	16.99	1.36%
Pb 220.353†	-5.9	-3.7959 µg/L	3.98244	-3.7959 ppb	3.98244	104.91%
S 181.975 Axial†	40373.0	257970 µg/L	1359.52	257970 ppb	1359.52	0.53%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	3.4	6.2543 µg/L	0.83426	6.2543 ppb	0.83426	13.34%
Se 196.026†	6.2	13.017 µg/L	20.7904	13.017 ppb	20.7904	159.72%
SiO2†	21915.8	25140 µg/L	76.43	25140 ppb	76.43	0.30%
Si 251.611†	55775.9	11866 µg/L	58.28	11866 ppb	58.28	0.49%
Sn 189.927†	13.1	13.938 µg/L	4.6770	13.938 ppb	4.6770	33.56%
Sr 421.552†	125667.4	169.21 µg/L	0.523	169.21 ppb	0.523	0.31%
Ti 334.940†	-32.2	-1.5637 µg/L	0.09837	-1.5637 ppb	0.09837	6.29%
Tl 190.801†	-0.3	-0.5946 µg/L	2.32043	-0.5946 ppb	2.32043	390.23%
U 367.007†	-41.0	-26.451 µg/L	11.0450	-26.451 ppb	11.0450	41.76%
V 292.402†	129.3	7.0420 µg/L	0.26231	7.0420 ppb	0.26231	3.72%
Zn 213.857†	99.8	5.4118 µg/L	0.44292	5.4118 ppb	0.44292	8.18%

Batch ID:
Sequence No.: 9 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/19/2020 05:45:12**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	73392.1	73392.1	115.18	%	115.18	%	05:45:50
1	Al 396.153Radial†	18107.3	15723.2	4890.6	µg/L	4890.6	ppb	05:45:52
1	Ca 317.933Radial†	35372.1	30476.8	5008.4	µg/L	5008.4	ppb	05:45:52
1	Fe 238.204 Radial†	17137.1	14827.0	5110.3	µg/L	5110.3	ppb	05:45:52
1	K 766.490 Radial†	15159.6	13381.3	5948.2	µg/L	5948.2	ppb	05:45:50
1	Mg 279.077 IEC†	3701.1	3208.2	5024.6	µg/L	5024.6	ppb	05:45:52
1	Na 589.592 Radial†	249591.4	215226.9	25307	µg/L	25307	ppb	05:45:50
1	Sr 421.552†	439666.0	382179.9	513.99	µg/L	513.99	ppb	05:45:50
1	Sc 361.383	241778.2	241778.2	113.14	%	113.14	%	05:46:05
1	Y 371.029	139979.5	139979.5	112.35	%	112.35	%	05:46:05
1	Ag 328.068†	13821.0	12369.2	476.33	µg/L	476.33	ppb	05:46:05
1	As 188.979†	220.0	195.0	491.35	µg/L	491.35	ppb	05:46:25
1	B 249.677†	4839.7	4180.6	516.17	µg/L	516.17	ppb	05:46:05
1	Ba 233.527†	11132.6	9871.9	489.41	µg/L	489.41	ppb	05:46:05
1	Be 313.107†	224370.4	198545.8	489.50	µg/L	489.50	ppb	05:46:05
1	Cd 226.502†	11065.3	9840.2	496.42	µg/L	496.42	ppb	05:46:05
1	Co 228.616†	2821.8	2510.2	475.95	µg/L	475.95	ppb	05:46:25
1	Cr 267.716†	10642.5	9349.9	484.18	µg/L	484.18	ppb	05:46:05
1	Cu 324.752†	17063.0	14785.3	476.46	µg/L	476.46	ppb	05:46:05
1	Mn 257.610†	37439.6	33111.8	484.15	µg/L	484.15	ppb	05:46:05
1	Mo 202.031†	2621.5	2289.1	467.30	µg/L	467.30	ppb	05:46:25
1	Ni 231.604†	4678.4	4188.0	491.32	µg/L	491.32	ppb	05:46:05
1	P 214.914†	487.4	385.9	2337.7	µg/L	2337.7	ppb	05:46:25
1	Pb 220.353†	841.5	734.2	479.61	µg/L	479.61	ppb	05:46:25
1	S 181.975 Axial†	261.4	228.5	1460.8	µg/L	1460.8	ppb	05:46:25
1	Sb 206.836†	341.2	271.0	456.77	µg/L	456.77	ppb	05:46:25
1	Se 196.026†	286.0	225.1	476.56	µg/L	476.56	ppb	05:46:25
1	SiO2†	5469.7	4669.3	5353.2	µg/L	5353.2	ppb	05:46:05
1	Si 251.611†	13418.0	11732.8	2483.1	µg/L	2483.1	ppb	05:46:05
1	Sn 189.927†	601.8	520.9	467.74	µg/L	467.74	ppb	05:46:25
1	Ti 334.940†	56282.7	49728.8	476.25	µg/L	476.25	ppb	05:46:05
1	Tl 190.801†	260.5	240.6	469.57	µg/L	469.57	ppb	05:46:25
1	U 367.007†	794.8	727.7	451.72	µg/L	451.72	ppb	05:46:05
1	V 292.402†	9986.3	8836.8	481.73	µg/L	481.73	ppb	05:46:05
1	Zn 213.857†	10055.4	8911.7	482.04	µg/L	482.04	ppb	05:46:05
2	Sc RADIAL	69471.5	69471.5	109.03	%	109.03	%	05:45:55
2	Al 396.153Radial†	17478.2	16033.4	4987.7	µg/L	4987.7	ppb	05:45:57
2	Ca 317.933Radial†	34626.1	31525.6	5180.7	µg/L	5180.7	ppb	05:45:57
2	Fe 238.204 Radial†	16367.8	14961.1	5156.4	µg/L	5156.4	ppb	05:45:57
2	K 766.490 Radial†	17720.4	16472.8	7322.1	µg/L	7322.1	ppb	05:45:55
2	Mg 279.077 IEC†	3574.8	3273.7	5127.2	µg/L	5127.2	ppb	05:45:57
2	Na 589.592 Radial†	605893.6	554260.5	65174	µg/L	65174	ppb	05:45:55
2	Sr 421.552†	416207.7	382206.1	514.02	µg/L	514.02	ppb	05:45:55
2	Sc 361.383	239886.0	239886.0	112.26	%	112.26	%	05:46:27
2	Y 371.029	138721.0	138721.0	111.34	%	111.34	%	05:46:27
2	Ag 328.068†	13645.2	12309.0	474.00	µg/L	474.00	ppb	05:46:27
2	As 188.979†	211.2	188.8	475.84	µg/L	475.84	ppb	05:46:47
2	B 249.677†	4900.1	4268.2	526.79	µg/L	526.79	ppb	05:46:27
2	Ba 233.527†	10975.0	9809.2	486.29	µg/L	486.29	ppb	05:46:27
2	Be 313.107†	222698.3	198620.4	489.68	µg/L	489.68	ppb	05:46:27
2	Cd 226.502†	10950.3	9814.9	495.14	µg/L	495.14	ppb	05:46:27
2	Co 228.616†	2786.0	2498.0	473.63	µg/L	473.63	ppb	05:46:47
2	Cr 267.716†	10614.4	9399.0	486.73	µg/L	486.73	ppb	05:46:27
2	Cu 324.752†	16871.1	14733.4	474.79	µg/L	474.79	ppb	05:46:27
2	Mn 257.610†	37202.2	33161.3	484.87	µg/L	484.87	ppb	05:46:27
2	Mo 202.031†	2564.7	2256.8	460.69	µg/L	460.69	ppb	05:46:47
2	Ni 231.604†	4600.7	4151.4	487.03	µg/L	487.03	ppb	05:46:27

2	P 214.914†	480.2	382.9	2319.7 µg/L	2319.7 ppb	05:46:47
2	Pb 220.353†	826.1	726.4	474.51 µg/L	474.51 ppb	05:46:47
2	S 181.975 Axial†	228.3	200.9	1284.2 µg/L	1284.2 ppb	05:46:47
2	Sb 206.836†	331.0	264.4	445.64 µg/L	445.64 ppb	05:46:47
2	Se 196.026†	279.4	221.2	468.43 µg/L	468.43 ppb	05:46:47
2	SiO2†	5425.0	4667.6	5351.4 µg/L	5351.4 ppb	05:46:27
2	Si 251.611†	13270.8	11695.2	2475.2 µg/L	2475.2 ppb	05:46:27
2	Sn 189.927†	588.7	513.4	461.09 µg/L	461.09 ppb	05:46:47
2	Ti 334.940†	55644.1	49552.3	474.56 µg/L	474.56 ppb	05:46:27
2	Tl 190.801†	261.3	243.1	474.48 µg/L	474.48 ppb	05:46:47
2	U 367.007†	795.1	733.5	455.29 µg/L	455.29 ppb	05:46:27
2	V 292.402†	9880.1	8811.8	480.38 µg/L	480.38 ppb	05:46:27
2	Zn 213.857†	9931.5	8871.4	479.86 µg/L	479.86 ppb	05:46:27
3	Sc RADIAL	71587.1	71587.1	112.35 %	112.35 %	05:45:59
3	Al 396.153Radial†	17891.4	15927.4	4954.4 µg/L	4954.4 ppb	05:46:01
3	Ca 317.933Radial†	34937.4	30864.2	5072.1 µg/L	5072.1 ppb	05:46:01
3	Fe 238.204 Radial†	16854.9	14951.0	5153.0 µg/L	5153.0 ppb	05:46:01
3	K 766.490 Radial†	14833.1	13422.5	5966.5 µg/L	5966.5 ppb	05:45:59
3	Mg 279.077 IEC†	3665.4	3257.5	5101.8 µg/L	5101.8 ppb	05:46:01
3	Na 589.592 Radial†	240821.6	212884.8	25032 µg/L	25032 ppb	05:45:59
3	Sr 421.552†	429301.3	382579.3	514.52 µg/L	514.52 ppb	05:45:59
3	Sc 361.383	238360.0	238360.0	111.54 %	111.54 %	05:46:49
3	Y 371.029	138183.7	138183.7	110.91 %	110.91 %	05:46:49
3	Ag 328.068†	13555.7	12306.6	473.93 µg/L	473.93 ppb	05:46:49
3	As 188.979†	215.4	193.7	488.05 µg/L	488.05 ppb	05:47:09
3	B 249.677†	4878.1	4276.4	527.76 µg/L	527.76 ppb	05:46:49
3	Ba 233.527†	10937.6	9838.3	487.74 µg/L	487.74 ppb	05:46:49
3	Be 313.107†	221412.9	198738.1	489.98 µg/L	489.98 ppb	05:46:49
3	Cd 226.502†	10855.2	9792.1	493.98 µg/L	493.98 ppb	05:46:49
3	Co 228.616†	2777.1	2505.9	475.13 µg/L	475.13 ppb	05:47:09
3	Cr 267.716†	10493.5	9351.2	484.25 µg/L	484.25 ppb	05:46:49
3	Cu 324.752†	16994.6	14940.3	481.43 µg/L	481.43 ppb	05:46:49
3	Mn 257.610†	37137.8	33315.8	487.13 µg/L	487.13 ppb	05:46:49
3	Mo 202.031†	2573.9	2279.7	465.37 µg/L	465.37 ppb	05:47:09
3	Ni 231.604†	4590.6	4168.6	489.04 µg/L	489.04 ppb	05:46:49
3	P 214.914†	483.5	388.5	2354.0 µg/L	2354.0 ppb	05:47:09
3	Pb 220.353†	837.2	741.0	484.09 µg/L	484.09 ppb	05:47:09
3	S 181.975 Axial†	220.7	195.4	1249.2 µg/L	1249.2 ppb	05:47:09
3	Sb 206.836†	341.4	275.5	464.19 µg/L	464.19 ppb	05:47:09
3	Se 196.026†	285.4	228.2	483.11 µg/L	483.11 ppb	05:47:09
3	SiO2†	5316.0	4600.8	5274.6 µg/L	5274.6 ppb	05:46:49
3	Si 251.611†	13197.2	11704.9	2477.2 µg/L	2477.2 ppb	05:46:49
3	Sn 189.927†	588.4	516.5	463.83 µg/L	463.83 ppb	05:47:09
3	Ti 334.940†	55611.4	49840.4	477.32 µg/L	477.32 ppb	05:46:49
3	Tl 190.801†	258.3	241.9	472.17 µg/L	472.17 ppb	05:47:09
3	U 367.007†	768.0	713.7	442.57 µg/L	442.57 ppb	05:46:49
3	V 292.402†	9882.1	8870.0	483.52 µg/L	483.52 ppb	05:46:49
3	Zn 213.857†	9854.4	8858.9	479.16 µg/L	479.16 ppb	05:46:49

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	240008.1	112.32	%	0.801	112.32	%	0.801	0.71%
Sc RADIAL	71483.6	112.18	%	3.080	112.18	%	3.080	2.75%
Y 371.029	138961.4	111.53	%	0.740	111.53	%	0.740	0.66%
Ag 328.068†	12328.3	474.75	µg/L	1.362	474.75	ppb	1.362	0.29%
QC value within limits for Ag 328.068 Recovery = 94.95%								
Al 396.153Radial†	15894.7	4944.2	µg/L	49.38	4944.2	ppb	49.38	1.00%
QC value within limits for Al 396.153Radial Recovery = 98.88%								
As 188.979†	192.5	485.08	µg/L	8.172	485.08	ppb	8.172	1.68%
QC value within limits for As 188.979 Recovery = 97.02%								
B 249.677†	4241.7	523.57	µg/L	6.434	523.57	ppb	6.434	1.23%
QC value within limits for B 249.677 Recovery = 104.71%								
Ba 233.527†	9839.8	487.81	µg/L	1.558	487.81	ppb	1.558	0.32%
QC value within limits for Ba 233.527 Recovery = 97.56%								
Be 313.107†	198634.8	489.72	µg/L	0.241	489.72	ppb	0.241	0.05%
QC value within limits for Be 313.107 Recovery = 97.94%								
Ca 317.933Radial†	30955.5	5087.1	µg/L	87.15	5087.1	ppb	87.15	1.71%
QC value within limits for Ca 317.933Radial Recovery = 101.74%								
Cd 226.502†	9815.7	495.18	µg/L	1.219	495.18	ppb	1.219	0.25%

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   QC value within limits for Cd 226.502  Recovery = 99.04%
Co 228.616†          2504.7      474.90 µg/L         1.179      474.90 ppb          1.179   0.25%
   QC value within limits for Co 228.616  Recovery = 94.98%
Cr 267.716†          9366.7      485.05 µg/L         1.449      485.05 ppb          1.449   0.30%
   QC value within limits for Cr 267.716  Recovery = 97.01%
Cu 324.752†         14819.7      477.56 µg/L         3.453      477.56 ppb          3.453   0.72%
   QC value within limits for Cu 324.752  Recovery = 95.51%
Fe 238.204 Radial†  14913.0      5139.9 µg/L         25.70      5139.9 ppb          25.70   0.50%
   QC value within limits for Fe 238.204 Radial  Recovery = 102.80%
K 766.490 Radial†   14425.5      6412.2 µg/L        788.00      6412.2 ppb         788.00  12.29%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = 128.24%
Mg 279.077 IEC†      3246.5      5084.6 µg/L         53.44      5084.6 ppb          53.44   1.05%
   QC value within limits for Mg 279.077 IEC  Recovery = 101.69%
Mn 257.610†         33196.3      485.39 µg/L         1.556      485.39 ppb          1.556   0.32%
   QC value within limits for Mn 257.610  Recovery = 97.08%
Mo 202.031†          2275.2      464.45 µg/L         3.397      464.45 ppb          3.397   0.73%
   QC value within limits for Mo 202.031  Recovery = 92.89%
Na 589.592 Radial†  327457.4       38505 µg/L      23096.94       38505 ppb       23096.94  59.99%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = 385.05%
Ni 231.604†          4169.3      489.13 µg/L         2.145      489.13 ppb          2.145   0.44%
   QC value within limits for Ni 231.604  Recovery = 97.83%
P 214.914†            385.8      2337.1 µg/L         17.20      2337.1 ppb          17.20   0.74%
   QC value within limits for P 214.914  Recovery = 93.49%
Pb 220.353†           733.9      479.40 µg/L         4.796      479.40 ppb          4.796   1.00%
   QC value within limits for Pb 220.353  Recovery = 95.88%
S 181.975 Axial†      208.2      1331.4 µg/L        113.41      1331.4 ppb         113.41   8.52%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = 133.14%
Sb 206.836†           270.3      455.53 µg/L         9.334      455.53 ppb          9.334   2.05%
   QC value within limits for Sb 206.836  Recovery = 91.11%
Se 196.026†           224.8      476.03 µg/L         7.355      476.03 ppb          7.355   1.55%
   QC value within limits for Se 196.026  Recovery = 95.21%
SiO2†                4645.9      5326.4 µg/L         44.86      5326.4 ppb          44.86   0.84%
   QC value within limits for SiO2  Recovery = 99.61%
Si 251.611†         11711.0      2478.5 µg/L          4.09      2478.5 ppb           4.09   0.16%
   QC value within limits for Si 251.611  Recovery = 99.14%
Sn 189.927†           516.9      464.22 µg/L         3.343      464.22 ppb          3.343   0.72%
   QC value within limits for Sn 189.927  Recovery = 92.84%
Sr 421.552†         382321.7      514.18 µg/L         0.299      514.18 ppb          0.299   0.06%
   QC value within limits for Sr 421.552  Recovery = 102.84%
Ti 334.940†          49707.2      476.04 µg/L         1.392      476.04 ppb          1.392   0.29%
   QC value within limits for Ti 334.940  Recovery = 95.21%
Tl 190.801†           241.8      472.07 µg/L         2.456      472.07 ppb          2.456   0.52%
   QC value within limits for Tl 190.801  Recovery = 94.41%
U 367.007†            725.0      449.86 µg/L         6.557      449.86 ppb          6.557   1.46%
   QC value less than the lower limit for U 367.007  Recovery = 89.97%
V 292.402†           8839.5      481.88 µg/L         1.578      481.88 ppb          1.578   0.33%
   QC value within limits for V 292.402  Recovery = 96.38%
Zn 213.857†          8880.7      480.36 µg/L         1.501      480.36 ppb          1.501   0.31%
   QC value within limits for Zn 213.857  Recovery = 96.07%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 10 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/19/2020 05:47:40**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	62037.5	62037.5	97.359	%	97.359	%	05:48:17
1	Al 396.153Radial†	83.5	88.0	27.488	µg/L	27.488	ppb	05:48:17
1	Ca 317.933Radial†	293.6	67.8	11.136	µg/L	11.136	ppb	05:48:37
1	Fe 238.204 Radial†	62.3	12.4	4.2671	µg/L	4.2671	ppb	05:48:37
1	K 766.490 Radial†	1738.5	2005.1	891.08	µg/L	891.08	ppb	05:48:17
1	Mg 279.077 IEC†	19.6	15.0	23.484	µg/L	23.484	ppb	05:48:37
1	Na 589.592 Radial†	94996.9	96101.6	11300	µg/L	11300	ppb	05:48:17
1	Sr 421.552†	-444.5	-0.9	-0.0017	µg/L	-0.0017	ppb	05:48:17
1	Sc 361.383	207077.3	207077.3	96.905	%	96.905	%	05:49:25
1	Y 371.029	120650.1	120650.1	96.835	%	96.835	%	05:49:25
1	Ag 328.068†	-159.1	-10.4	-0.4319	µg/L	-0.4319	ppb	05:49:45
1	As 188.979†	-3.3	-2.8	-6.9714	µg/L	-6.9714	ppb	05:49:45
1	B 249.677†	292.9	205.3	24.589	µg/L	24.589	ppb	05:49:45
1	Ba 233.527†	-25.3	6.4	0.3190	µg/L	0.3190	ppb	05:49:45
1	Be 313.107†	-245.7	-14.0	-0.0330	µg/L	-0.0330	ppb	05:49:25
1	Cd 226.502†	-54.1	4.4	0.2242	µg/L	0.2242	ppb	05:49:45
1	Co 228.616†	-15.5	0.2	0.0421	µg/L	0.0421	ppb	05:49:45
1	Cr 267.716†	52.9	-1.7	-0.0882	µg/L	-0.0882	ppb	05:49:45
1	Cu 324.752†	341.1	56.5	1.8618	µg/L	1.8618	ppb	05:49:45
1	Mn 257.610†	-19.3	1.5	0.0217	µg/L	0.0217	ppb	05:49:45
1	Mo 202.031†	26.3	-0.7	-0.1391	µg/L	-0.1391	ppb	05:49:45
1	Ni 231.604†	-48.0	3.6	0.4229	µg/L	0.4229	ppb	05:49:45
1	P 214.914†	42.8	-0.7	-4.5394	µg/L	-4.5394	ppb	05:49:45
1	Pb 220.353†	14.9	5.9	3.8235	µg/L	3.8235	ppb	05:49:45
1	S 181.975 Axial†	28.9	27.3	174.75	µg/L	174.75	ppb	05:49:45
1	Sb 206.836†	37.8	8.5	14.123	µg/L	14.123	ppb	05:49:45
1	Se 196.026†	21.0	-6.0	-12.586	µg/L	-12.586	ppb	05:49:45
1	SiO2†	201.6	43.0	49.378	µg/L	49.378	ppb	05:49:45
1	Si 251.611†	186.9	66.4	14.131	µg/L	14.131	ppb	05:49:45
1	Sn 189.927†	13.2	2.6	2.3180	µg/L	2.3180	ppb	05:49:45
1	Ti 334.940†	54.8	40.9	0.3913	µg/L	0.3913	ppb	05:49:45
1	Tl 190.801†	-10.2	-0.2	-0.3780	µg/L	-0.3780	ppb	05:49:45
1	U 367.007†	25.9	51.9	33.411	µg/L	33.411	ppb	05:49:25
1	V 292.402†	-11.0	-0.7	-0.0169	µg/L	-0.0169	ppb	05:49:45
1	Zn 213.857†	3.0	27.5	1.4934	µg/L	1.4934	ppb	05:49:45
2	Sc RADIAL	63686.0	63686.0	99.947	%	99.947	%	05:48:39
2	Al 396.153Radial†	12.8	15.0	4.7009	µg/L	4.7009	ppb	05:48:39
2	Ca 317.933Radial†	280.2	46.6	7.6533	µg/L	7.6533	ppb	05:48:59
2	Fe 238.204 Radial†	73.2	21.6	7.4355	µg/L	7.4355	ppb	05:48:59
2	K 766.490 Radial†	1719.1	1939.5	861.92	µg/L	861.92	ppb	05:48:39
2	Mg 279.077 IEC†	1.7	-3.4	-5.3791	µg/L	-5.3791	ppb	05:48:59
2	Na 589.592 Radial†	92919.5	91497.3	10759	µg/L	10759	ppb	05:48:39
2	Sr 421.552†	-564.7	-109.3	-0.1481	µg/L	-0.1481	ppb	05:48:39
2	Sc 361.383	197697.3	197697.3	92.515	%	92.515	%	05:49:47
2	Y 371.029	115224.0	115224.0	92.480	%	92.480	%	05:49:47
2	Ag 328.068†	-164.8	-24.3	-0.9299	µg/L	-0.9299	ppb	05:50:07
2	As 188.979†	-0.5	0.0	0.1013	µg/L	0.1013	ppb	05:50:07
2	B 249.677†	284.9	211.1	25.284	µg/L	25.284	ppb	05:50:07
2	Ba 233.527†	-28.9	1.4	0.0682	µg/L	0.0682	ppb	05:50:07
2	Be 313.107†	-193.2	30.7	0.0759	µg/L	0.0759	ppb	05:49:47
2	Cd 226.502†	-60.9	-5.5	-0.2810	µg/L	-0.2810	ppb	05:50:07
2	Co 228.616†	-17.6	-2.8	-0.5254	µg/L	-0.5254	ppb	05:50:07
2	Cr 267.716†	64.4	13.3	0.6888	µg/L	0.6888	ppb	05:50:07
2	Cu 324.752†	334.7	66.2	2.1272	µg/L	2.1272	ppb	05:50:07
2	Mn 257.610†	-6.9	14.0	0.2041	µg/L	0.2041	ppb	05:50:07
2	Mo 202.031†	23.0	-3.0	-0.6200	µg/L	-0.6200	ppb	05:50:07
2	Ni 231.604†	-44.9	4.6	0.5367	µg/L	0.5367	ppb	05:50:07

2	P 214.914†	43.6	2.2	13.276 µg/L	13.276 ppb	05:50:07
2	Pb 220.353†	7.7	-1.1	-0.7424 µg/L	-0.7424 ppb	05:50:07
2	S 181.975 Axial†	29.0	28.8	184.19 µg/L	184.19 ppb	05:50:07
2	Sb 206.836†	30.3	2.3	3.7670 µg/L	3.7670 ppb	05:50:07
2	Se 196.026†	19.2	-6.8	-14.403 µg/L	-14.403 ppb	05:50:07
2	SiO2†	192.5	43.1	49.419 µg/L	49.419 ppb	05:50:07
2	Si 251.611†	180.4	68.5	14.594 µg/L	14.594 ppb	05:50:07
2	Sn 189.927†	16.6	7.0	6.2189 µg/L	6.2189 ppb	05:50:07
2	Ti 334.940†	25.9	12.2	0.1176 µg/L	0.1176 ppb	05:50:07
2	Tl 190.801†	-12.3	-3.0	-5.8088 µg/L	-5.8088 ppb	05:50:07
2	U 367.007†	-27.0	-4.0	-2.6002 µg/L	-2.6002 ppb	05:49:47
2	V 292.402†	2.5	13.3	0.7226 µg/L	0.7226 ppb	05:50:07
2	Zn 213.857†	-1.5	22.8	1.2385 µg/L	1.2385 ppb	05:50:07
3	Sc RADIAL	63081.9	63081.9	98.999 %	98.999 %	05:49:01
3	Al 396.153Radial†	21.3	23.7	7.3902 µg/L	7.3902 ppb	05:49:01
3	Ca 317.933Radial†	279.2	48.2	7.9289 µg/L	7.9289 ppb	05:49:21
3	Fe 238.204 Radial†	66.2	15.3	5.2618 µg/L	5.2618 ppb	05:49:21
3	K 766.490 Radial†	1494.9	1729.5	768.62 µg/L	768.62 ppb	05:49:01
3	Mg 279.077 IEC†	4.1	-1.0	-1.4909 µg/L	-1.4909 ppb	05:49:21
3	Na 589.592 Radial†	90123.4	89563.2	10532 µg/L	10532 ppb	05:49:01
3	Sr 421.552†	-429.1	22.3	0.0294 µg/L	0.0294 ppb	05:49:01
3	Sc 361.383	198731.9	198731.9	92.999 %	92.999 %	05:50:10
3	Y 371.029	115999.9	115999.9	93.103 %	93.103 %	05:50:10
3	Ag 328.068†	-174.7	-34.0	-1.3224 µg/L	-1.3224 ppb	05:50:30
3	As 188.979†	-3.2	-2.8	-6.9662 µg/L	-6.9662 ppb	05:50:30
3	B 249.677†	278.5	202.6	24.261 µg/L	24.261 ppb	05:50:30
3	Ba 233.527†	-23.7	7.1	0.3505 µg/L	0.3505 ppb	05:50:30
3	Be 313.107†	-244.6	-23.5	-0.0574 µg/L	-0.0574 ppb	05:50:10
3	Cd 226.502†	-45.9	11.0	0.5539 µg/L	0.5539 ppb	05:50:30
3	Co 228.616†	-14.5	0.6	0.1135 µg/L	0.1135 ppb	05:50:30
3	Cr 267.716†	46.2	-6.7	-0.3449 µg/L	-0.3449 ppb	05:50:30
3	Cu 324.752†	316.9	45.2	1.4708 µg/L	1.4708 ppb	05:50:30
3	Mn 257.610†	-16.9	3.2	0.0471 µg/L	0.0471 ppb	05:50:30
3	Mo 202.031†	27.7	1.9	0.3955 µg/L	0.3955 ppb	05:50:30
3	Ni 231.604†	-53.2	-4.1	-0.4765 µg/L	-0.4765 ppb	05:50:30
3	P 214.914†	46.7	5.3	32.637 µg/L	32.637 ppb	05:50:30
3	Pb 220.353†	14.3	5.9	3.8333 µg/L	3.8333 ppb	05:50:30
3	S 181.975 Axial†	24.3	23.7	151.32 µg/L	151.32 ppb	05:50:30
3	Sb 206.836†	28.9	0.5	0.8791 µg/L	0.8791 ppb	05:50:30
3	Se 196.026†	27.8	2.3	4.8437 µg/L	4.8437 ppb	05:50:30
3	SiO2†	195.2	44.9	51.516 µg/L	51.516 ppb	05:50:30
3	Si 251.611†	178.4	65.4	13.903 µg/L	13.903 ppb	05:50:30
3	Sn 189.927†	16.1	6.3	5.6408 µg/L	5.6408 ppb	05:50:30
3	Ti 334.940†	20.5	6.3	0.0609 µg/L	0.0609 ppb	05:50:30
3	Tl 190.801†	-7.1	2.7	5.2732 µg/L	5.2732 ppb	05:50:30
3	U 367.007†	-4.8	20.0	12.863 µg/L	12.863 ppb	05:50:10
3	V 292.402†	-16.9	-7.5	-0.4016 µg/L	-0.4016 ppb	05:50:30
3	Zn 213.857†	9.1	34.2	1.8649 µg/L	1.8649 ppb	05:50:30

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	201168.8	94.140	%	2.4067	94.140	%	2.4067	2.56%
Sc RADIAL	62935.1	98.768	%	1.3089	98.768	%	1.3089	1.33%
Y 371.029	117291.3	94.140	%	2.3553	94.140	%	2.3553	2.50%
Ag 328.068†	-22.9	-0.8947	µg/L	0.44631	-0.8947	ppb	0.44631	49.88%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	42.2	13.193	µg/L	12.4526	13.193	ppb	12.4526	94.39%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-1.9	-4.6121	µg/L	4.08191	-4.6121	ppb	4.08191	88.50%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	206.3	24.711	µg/L	0.5223	24.711	ppb	0.5223	2.11%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	5.0	0.2459	µg/L	0.15467	0.2459	ppb	0.15467	62.90%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-2.2	-0.0048	µg/L	0.07096	-0.0048	ppb	0.07096	>999.9%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	54.2	8.9061	µg/L	1.93623	8.9061	ppb	1.93623	21.74%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	3.3	0.1657	µg/L	0.42054	0.1657	ppb	0.42054	253.79%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              -0.7     -0.1233 µg/L       0.35005     -0.1233 ppb        0.35005 283.98%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               1.6      0.0852 µg/L       0.53822      0.0852 ppb        0.53822 631.57%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†              56.0      1.8199 µg/L       0.33020      1.8199 ppb        0.33020  18.14%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†       16.4      5.6548 µg/L       1.62038      5.6548 ppb        1.62038  28.65%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†      1891.3      840.54 µg/L        63.970      840.54 ppb         63.970   7.61%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           3.5      5.5379 µg/L      15.66260      5.5379 ppb       15.66260 282.83%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               6.2      0.0910 µg/L       0.09880      0.0910 ppb        0.09880 108.58%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -0.6     -0.1212 µg/L       0.50797     -0.1212 ppb        0.50797 419.15%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†     92387.4       10864 µg/L        394.96       10864 ppb         394.96   3.64%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†               1.4      0.1610 µg/L       0.55503      0.1610 ppb        0.55503 344.68%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                2.2      13.791 µg/L       18.5935      13.791 ppb        18.5935 134.82%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†               3.6      2.3048 µg/L       2.63895      2.3048 ppb        2.63895 114.50%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         26.6      170.09 µg/L        16.928      170.09 ppb         16.928   9.95%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               3.8      6.2564 µg/L       6.96402      6.2564 ppb        6.96402 111.31%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -3.5     -7.3819 µg/L      10.62662     -7.3819 ppb       10.62662 143.95%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    43.7      50.104 µg/L        1.2227      50.104 ppb         1.2227   2.44%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              66.8      14.209 µg/L        0.3523      14.209 ppb         0.3523   2.48%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               5.3      4.7259 µg/L       2.10525      4.7259 ppb        2.10525  44.55%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†             -29.3     -0.0401 µg/L       0.09476     -0.0401 ppb        0.09476 236.04%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†              19.8      0.1899 µg/L       0.17670      0.1899 ppb        0.17670  93.02%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -0.2     -0.3045 µg/L       5.54139     -0.3045 ppb        5.54139 >999.9%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†               22.6      14.558 µg/L       18.0653      14.558 ppb        18.0653 124.09%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†                1.7      0.1014 µg/L       0.57136      0.1014 ppb        0.57136 563.70%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†              28.2      1.5323 µg/L       0.31503      1.5323 ppb        0.31503  20.56%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 16 **Autosampler Location: 312**
Sample ID: 527510014|2063261|1| **Date Collected: 11/19/2020 06:10:30**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: 527510014|2063261|1|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	59346.2	59346.2	93.136	%	93.136	%	06:11:07
1	Al 396.153Radial†	3.6	6.1	-5.1411	µg/L	-5.1411	ppb	06:11:07
1	Ca 317.933Radial†	496740.4	533116.8	87609	µg/L	87609	ppb	06:11:05
1	Fe 238.204 Radial†	77.7	31.7	10.927	µg/L	10.927	ppb	06:11:27
1	K 766.490 Radial†	1367291.4	1468281.4	652520	µg/L	652520	ppb	06:11:05
1	Mg 279.077 IEC†	48272.7	51825.3	81130	µg/L	81130	ppb	06:11:07
1	Na 589.592 Radial†	Saturated3	Saturated3					06:11:27
Saturated in preshot (code 3)								
1	Sr 421.552†	606979.7	652170.3	878.14	µg/L	878.14	ppb	06:11:05
1	Sc 361.383	159245.2	159245.2	74.521	%	74.521	%	06:12:20
1	Y 371.029	91750.3	91750.3	73.640	%	73.640	%	06:12:20
1	Ag 328.068†	-121.3	-9.0	-0.2946	µg/L	-0.2946	ppb	06:12:40
1	As 188.979†	0.6	1.3	4.0487	µg/L	4.0487	ppb	06:12:40
1	B 249.677†	11212.3	14948.9	1789.1	µg/L	1789.1	ppb	06:12:20
1	Ba 233.527†	1636.0	2228.0	110.40	µg/L	110.40	ppb	06:12:40
1	Be 313.107†	-227.2	-65.3	-0.1655	µg/L	-0.1655	ppb	06:12:40
1	Cd 226.502†	-34.2	14.4	0.7281	µg/L	0.7281	ppb	06:12:40
1	Co 228.616†	-12.8	-1.0	-0.0413	µg/L	-0.0413	ppb	06:12:40
1	Cr 267.716†	107.5	87.9	4.5536	µg/L	4.5536	ppb	06:12:40
1	Cu 324.752†	265.1	60.3	1.8909	µg/L	1.8909	ppb	06:12:40
1	Mn 257.610†	108.8	167.4	2.3674	µg/L	2.3674	ppb	06:12:40
1	Mo 202.031†	622.4	807.3	164.82	µg/L	164.82	ppb	06:12:40
1	Ni 231.604†	68.6	145.2	17.032	µg/L	17.032	ppb	06:12:40
1	P 214.914†	602.7	763.8	4688.5	µg/L	4688.5	ppb	06:12:40
1	Pb 220.353†	13.8	9.0	5.9437	µg/L	5.9437	ppb	06:12:40
1	S 181.975 Axial†	99224.1	133146.8	850770	µg/L	850770	ppb	06:12:20
1	Sb 206.836†	32.1	12.5	23.212	µg/L	23.212	ppb	06:12:40
1	Se 196.026†	30.0	12.6	26.561	µg/L	26.561	ppb	06:12:40
1	SiO2†	36517.6	48838.1	56022	µg/L	56022	ppb	06:12:20
1	Si 251.611†	93733.0	125654.2	26731	µg/L	26731	ppb	06:12:20
1	Sn 189.927†	26.8	24.9	28.478	µg/L	28.478	ppb	06:12:40
1	Ti 334.940†	-99.5	-149.2	-4.9701	µg/L	-4.9701	ppb	06:12:40
1	Tl 190.801†	-11.4	-5.0	-9.4209	µg/L	-9.4209	ppb	06:12:40
1	U 367.007†	-60.7	-56.3	-36.320	µg/L	-36.320	ppb	06:12:20
1	V 292.402†	65.6	98.7	5.4468	µg/L	5.4468	ppb	06:12:40
1	Zn 213.857†	39.5	77.5	4.1201	µg/L	4.1201	ppb	06:12:40
2	Sc RADIAL	59988.8	59988.8	94.144	%	94.144	%	06:11:32
2	Al 396.153Radial†	78.7	85.8	19.501	µg/L	19.501	ppb	06:11:32
2	Ca 317.933Radial†	504022.0	535138.3	87942	µg/L	87942	ppb	06:11:30
2	Fe 238.204 Radial†	79.8	33.1	11.398	µg/L	11.398	ppb	06:11:52
2	K 766.490 Radial†	1389577.2	1476228.0	656060	µg/L	656060	ppb	06:11:30
2	Mg 279.077 IEC†	48426.2	51433.2	80516	µg/L	80516	ppb	06:11:32
2	Na 589.592 Radial†	Saturated3	Saturated3					06:11:52
Saturated in preshot (code 3)								
2	Sr 421.552†	615414.0	654148.3	880.80	µg/L	880.80	ppb	06:11:30
2	Sc 361.383	149932.0	149932.0	70.163	%	70.163	%	06:12:42
2	Y 371.029	86201.8	86201.8	69.187	%	69.187	%	06:12:42
2	Ag 328.068†	-128.2	-28.9	-1.0518	µg/L	-1.0518	ppb	06:13:02
2	As 188.979†	4.8	7.4	19.044	µg/L	19.044	ppb	06:13:02
2	B 249.677†	10254.1	14517.9	1737.6	µg/L	1737.6	ppb	06:12:42
2	Ba 233.527†	1601.0	2314.5	114.69	µg/L	114.69	ppb	06:13:02
2	Be 313.107†	-231.0	-89.6	-0.2255	µg/L	-0.2255	ppb	06:13:02
2	Cd 226.502†	-29.4	18.4	0.9271	µg/L	0.9271	ppb	06:13:02
2	Co 228.616†	-12.4	-1.5	-0.1329	µg/L	-0.1329	ppb	06:13:02
2	Cr 267.716†	105.5	94.0	4.8699	µg/L	4.8699	ppb	06:13:02
2	Cu 324.752†	264.4	81.3	2.5578	µg/L	2.5578	ppb	06:13:02
2	Mn 257.610†	114.6	184.7	2.6214	µg/L	2.6214	ppb	06:13:02

2	Mo 202.031†	605.3	834.8	170.44 µg/L	170.44 ppb	06:13:02
2	Ni 231.604†	67.3	149.0	17.476 µg/L	17.476 ppb	06:13:02
2	P 214.914†	583.2	786.3	4826.4 µg/L	4826.4 ppb	06:13:02
2	Pb 220.353†	13.7	10.0	6.5932 µg/L	6.5932 ppb	06:13:02
2	S 181.975 Axial†	89536.2	127609.8	815390 µg/L	815390 ppb	06:12:42
2	Sb 206.836†	30.1	12.4	23.099 µg/L	23.099 ppb	06:13:02
2	Se 196.026†	21.0	2.3	4.7934 µg/L	4.7934 ppb	06:13:02
2	SiO2†	33506.5	47590.4	54590 µg/L	54590 ppb	06:12:42
2	Si 251.611†	85862.4	122249.6	26007 µg/L	26007 ppb	06:12:42
2	Sn 189.927†	25.4	25.2	28.761 µg/L	28.761 ppb	06:13:02
2	Ti 334.940†	-96.8	-153.7	-5.0263 µg/L	-5.0263 ppb	06:13:02
2	Tl 190.801†	-11.2	-5.6	-10.622 µg/L	-10.622 ppb	06:13:02
2	U 367.007†	-64.8	-67.2	-43.317 µg/L	-43.317 ppb	06:12:42
2	V 292.402†	72.4	113.7	6.2664 µg/L	6.2664 ppb	06:13:02
2	Zn 213.857†	29.1	65.9	3.4851 µg/L	3.4851 ppb	06:13:02
3	Sc RADIAL	57461.2	57461.2	90.178 %	90.178 %	06:11:56
3	Al 396.153Radial†	22.8	27.4	1.1549 µg/L	1.1549 ppb	06:11:56
3	Ca 317.933Radial†	489687.4	542792.1	89199 µg/L	89199 ppb	06:11:54
3	Fe 238.204 Radial†	72.7	29.0	9.9680 µg/L	9.9680 ppb	06:12:16
3	K 766.490 Radial†	1350474.2	1497791.8	665640 µg/L	665640 ppb	06:11:54
3	Mg 279.077 IEC†	46496.6	51556.0	80708 µg/L	80708 ppb	06:11:56
3	Na 589.592 Radial†	Saturated3	Saturated3			06:12:16
Saturated in preshot (code 3)						
3	Sr 421.552†	600615.4	666492.2	897.43 µg/L	897.43 ppb	06:11:54
3	Sc 361.383	149432.7	149432.7	69.929 %	69.929 %	06:13:04
3	Y 371.029	85940.1	85940.1	68.977 %	68.977 %	06:13:04
3	Ag 328.068†	-113.3	-8.2	-0.3142 µg/L	-0.3142 ppb	06:13:24
3	As 188.979†	2.2	3.8	10.202 µg/L	10.202 ppb	06:13:24
3	B 249.677†	10447.3	14843.0	1776.5 µg/L	1776.5 ppb	06:13:04
3	Ba 233.527†	1603.8	2326.1	115.26 µg/L	115.26 ppb	06:13:24
3	Be 313.107†	-241.3	-105.4	-0.2645 µg/L	-0.2645 ppb	06:13:24
3	Cd 226.502†	-23.9	26.1	1.3186 µg/L	1.3186 ppb	06:13:24
3	Co 228.616†	-14.1	-4.0	-0.6037 µg/L	-0.6037 ppb	06:13:24
3	Cr 267.716†	119.7	114.9	5.9505 µg/L	5.9505 ppb	06:13:24
3	Cu 324.752†	264.3	82.5	2.6716 µg/L	2.6716 ppb	06:13:24
3	Mn 257.610†	107.3	174.9	2.4770 µg/L	2.4770 ppb	06:13:24
3	Mo 202.031†	612.9	848.6	173.26 µg/L	173.26 ppb	06:13:24
3	Ni 231.604†	73.6	158.3	18.575 µg/L	18.575 ppb	06:13:24
3	P 214.914†	580.8	785.6	4822.1 µg/L	4822.1 ppb	06:13:24
3	Pb 220.353†	-0.4	-10.0	-6.5483 µg/L	-6.5483 ppb	06:13:24
3	S 181.975 Axial†	91138.2	130326.9	832750 µg/L	832750 ppb	06:13:04
3	Sb 206.836†	23.7	3.3	8.0212 µg/L	8.0212 ppb	06:13:24
3	Se 196.026†	27.0	10.9	22.971 µg/L	22.971 ppb	06:13:24
3	SiO2†	34085.4	48577.8	55723 µg/L	55723 ppb	06:13:04
3	Si 251.611†	87247.1	124638.7	26515 µg/L	26515 ppb	06:13:04
3	Sn 189.927†	19.0	16.1	20.719 µg/L	20.719 ppb	06:13:24
3	Ti 334.940†	-99.5	-158.0	-5.1189 µg/L	-5.1189 ppb	06:13:24
3	Tl 190.801†	-8.5	-1.8	-3.2273 µg/L	-3.2273 ppb	06:13:24
3	U 367.007†	-3.0	20.9	13.462 µg/L	13.462 ppb	06:13:04
3	V 292.402†	75.3	118.3	6.5592 µg/L	6.5592 ppb	06:13:24
3	Zn 213.857†	39.3	80.6	4.2810 µg/L	4.2810 ppb	06:13:24

Mean Data: 527510014|2063261|1|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	152870.0	71.538	%	2.5863	71.538	%	2.5863	3.62%
Sc RADIAL	58932.0	92.486	%	2.0617	92.486	%	2.0617	2.23%
Y 371.029	87964.1	70.601	%	2.6338	70.601	%	2.6338	3.73%
Ag 328.068†	-15.4	-0.5535	µg/L	0.43162	-0.5535	ppb	0.43162	77.98%
Al 396.153Radial†	39.8	5.1717	µg/L	12.80280	5.1717	ppb	12.80280	247.56%
As 188.979†	4.2	11.098	µg/L	7.5378	11.098	ppb	7.5378	67.92%
B 249.677†	14769.9	1767.7	µg/L	26.88	1767.7	ppb	26.88	1.52%
Ba 233.527†	2289.5	113.45	µg/L	2.657	113.45	ppb	2.657	2.34%
Be 313.107†	-86.8	-0.2185	µg/L	0.04986	-0.2185	ppb	0.04986	22.82%
Ca 317.933Radial†	537015.7	88250	µg/L	838.69	88250	ppb	838.69	0.95%
Cd 226.502†	19.7	0.9912	µg/L	0.30045	0.9912	ppb	0.30045	30.31%
Co 228.616†	-2.1	-0.2593	µg/L	0.30173	-0.2593	ppb	0.30173	116.35%
Cr 267.716†	99.0	5.1247	µg/L	0.73248	5.1247	ppb	0.73248	14.29%
Cu 324.752†	74.7	2.3734	µg/L	0.42172	2.3734	ppb	0.42172	17.77%
Fe 238.204 Radial†	31.3	10.764	µg/L	0.7287	10.764	ppb	0.7287	6.77%

K 766.490 Radial†	1480767.1	658070 µg/L	6786.13	658070 ppb	6786.13	1.03%
Concentration greater than upper limit for K 766.490 Radial.						
Mg 279.077 IEC†	51604.8	80784 µg/L	313.98	80784 ppb	313.98	0.39%
Mn 257.610†	175.7	2.4886 µg/L	0.12739	2.4886 ppb	0.12739	5.12%
Mo 202.031†	830.3	169.51 µg/L	4.299	169.51 ppb	4.299	2.54%
Na 589.592 Radial†	Saturated3					
Ni 231.604†	150.8	17.695 µg/L	0.7942	17.695 ppb	0.7942	4.49%
P 214.914†	778.6	4779.0 µg/L	78.41	4779.0 ppb	78.41	1.64%
Pb 220.353†	3.0	1.9962 µg/L	7.40690	1.9962 ppb	7.40690	371.05%
S 181.975 Axial†	130361.1	832970 µg/L	17690.92	832970 ppb	17690.92	2.12%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	9.4	18.111 µg/L	8.7378	18.111 ppb	8.7378	48.25%
Se 196.026†	8.6	18.109 µg/L	11.6701	18.109 ppb	11.6701	64.45%
SiO2†	48335.5	55445 µg/L	755.10	55445 ppb	755.10	1.36%
Si 251.611†	124180.8	26418 µg/L	371.95	26418 ppb	371.95	1.41%
Sn 189.927†	22.1	25.986 µg/L	4.5637	25.986 ppb	4.5637	17.56%
Sr 421.552†	657603.6	885.46 µg/L	10.450	885.46 ppb	10.450	1.18%
Ti 334.940†	-153.6	-5.0385 µg/L	0.07515	-5.0385 ppb	0.07515	1.49%
Concentration less than lower limit for Ti 334.940.						
Tl 190.801†	-4.1	-7.7566 µg/L	3.96819	-7.7566 ppb	3.96819	51.16%
U 367.007†	-34.2	-22.058 µg/L	30.9599	-22.058 ppb	30.9599	140.35%
V 292.402†	110.2	6.0908 µg/L	0.57661	6.0908 ppb	0.57661	9.47%
Zn 213.857†	74.6	3.9621 µg/L	0.42086	3.9621 ppb	0.42086	10.62%

Batch ID:
Sequence No.: 17 **Autosampler Location: 103**
Sample ID: ICSA **Date Collected: 11/19/2020 06:14:24**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	62336.7	62336.7	97.829	%	97.829	%	06:15:04
1	Al 396.153Radial†	1669026.9	1706067.0	532830	µg/L	532830	ppb	06:15:02
1	Ca 317.933Radial†	2861458.8	2924724.6	480630	µg/L	480630	ppb	06:15:02
1	Fe 238.204 Radial†	554483.7	566736.8	195140	µg/L	195140	ppb	06:15:04
1	K 766.490 Radial†	10661.4	11117.4	4992.2	µg/L	4992.2	ppb	06:15:04
1	Mg 279.077 IEC†	308266.8	315102.5	493370	µg/L	493370	ppb	06:15:04
1	Na 589.592 Radial†	766217.4	781749.0	91890	µg/L	91890	ppb	06:15:02
1	Sr 421.552†	14477.9	15254.8	-2.9065	µg/L	-2.9065	ppb	06:15:04
1	Sc 361.383	200320.8	200320.8	93.743	%	93.743	%	06:15:17
1	Y 371.029	116062.2	116062.2	93.153	%	93.153	%	06:15:17
1	Ag 328.068†	-235.3	-97.3	-0.3673	µg/L	-0.3673	ppb	06:15:37
1	As 188.979†	-1.3	-0.8	5.3113	µg/L	5.3113	ppb	06:15:37
1	B 249.677†	-4288.8	-4672.0	45.896	µg/L	45.896	ppb	06:15:17
1	Ba 233.527†	241.7	290.4	-1.0752	µg/L	-1.0752	ppb	06:15:37
1	Be 313.107†	-307.4	-88.3	-0.2307	µg/L	-0.2307	ppb	06:15:37
1	Cd 226.502†	438.6	528.2	3.6512	µg/L	3.6512	ppb	06:15:37
1	Co 228.616†	2.2	18.5	0.0526	µg/L	0.0526	ppb	06:15:37
1	Cr 267.716†	57.9	5.4	0.1453	µg/L	0.1453	ppb	06:15:37
1	Cu 324.752†	-284.6	-599.2	-3.9523	µg/L	-3.9523	ppb	06:15:37
1	Mn 257.610†	-25.0	-5.2	-2.4328	µg/L	-2.4328	ppb	06:15:17
1	Mo 202.031†	-7.4	-35.8	-9.7119	µg/L	-9.7119	ppb	06:15:37
1	Ni 231.604†	-53.9	-4.4	1.0122	µg/L	1.0122	ppb	06:15:37
1	P 214.914†	-0.5	-45.5	-29.128	µg/L	-29.128	ppb	06:15:37
1	Pb 220.353†	-34.6	-46.4	3.8616	µg/L	3.8616	ppb	06:15:37
1	S 181.975 Axial†	394.0	417.8	2698.0	µg/L	2698.0	ppb	06:15:37
1	Sb 206.836†	17.8	-11.5	-5.1964	µg/L	-5.1964	ppb	06:15:37
1	Se 196.026†	-19.2	-48.2	-11.171	µg/L	-11.171	ppb	06:15:37
1	SiO2†	210.9	60.0	69.027	µg/L	69.027	ppb	06:15:37
1	Si 251.611†	291.8	184.8	-25.412	µg/L	-25.412	ppb	06:15:37
1	Sn 189.927†	39.9	31.6	4.1535	µg/L	4.1535	ppb	06:15:37
1	Ti 334.940†	-364.4	-404.4	0.1332	µg/L	0.1332	ppb	06:15:17
1	Tl 190.801†	-20.3	-11.3	-14.740	µg/L	-14.740	ppb	06:15:37
1	U 367.007†	810.3	889.6	-80.002	µg/L	-80.002	ppb	06:15:17
1	V 292.402†	-54.6	-47.7	-0.8004	µg/L	-0.8004	ppb	06:15:37
1	Zn 213.857†	452.6	507.3	0.1891	µg/L	0.1891	ppb	06:15:37
2	Sc RADIAL	63480.1	63480.1	99.623	%	99.623	%	06:15:09
2	Al 396.153Radial†	1666417.0	1672718.5	522410	µg/L	522410	ppb	06:15:07
2	Ca 317.933Radial†	2860866.7	2871447.5	471880	µg/L	471880	ppb	06:15:07
2	Fe 238.204 Radial†	567769.1	569863.7	196220	µg/L	196220	ppb	06:15:09
2	K 766.490 Radial†	10705.0	10965.0	4924.7	µg/L	4924.7	ppb	06:15:09
2	Mg 279.077 IEC†	315441.5	316628.8	495760	µg/L	495760	ppb	06:15:09
2	Na 589.592 Radial†	758660.3	760056.3	89339	µg/L	89339	ppb	06:15:07
2	Sr 421.552†	14952.1	15464.3	-2.7539	µg/L	-2.7539	ppb	06:15:09
2	Sc 361.383	191224.4	191224.4	89.486	%	89.486	%	06:15:39
2	Y 371.029	110773.1	110773.1	88.908	%	88.908	%	06:15:39
2	Ag 328.068†	-202.2	-72.1	0.6691	µg/L	0.6691	ppb	06:15:59
2	As 188.979†	1.8	2.6	13.713	µg/L	13.713	ppb	06:15:59
2	B 249.677†	-4128.0	-4709.9	44.694	µg/L	44.694	ppb	06:15:39
2	Ba 233.527†	228.5	287.9	-1.2837	µg/L	-1.2837	ppb	06:15:59
2	Be 313.107†	-309.5	-106.3	-0.2764	µg/L	-0.2764	ppb	06:15:59
2	Cd 226.502†	428.0	538.6	4.0484	µg/L	4.0484	ppb	06:15:59
2	Co 228.616†	1.5	17.9	-0.0765	µg/L	-0.0765	ppb	06:15:59
2	Cr 267.716†	57.1	7.5	0.2526	µg/L	0.2526	ppb	06:15:59
2	Cu 324.752†	-281.9	-610.5	-4.3023	µg/L	-4.3023	ppb	06:15:59
2	Mn 257.610†	-29.2	-11.2	-2.5332	µg/L	-2.5332	ppb	06:15:39
2	Mo 202.031†	-11.8	-41.0	-10.803	µg/L	-10.803	ppb	06:15:59
2	Ni 231.604†	-67.7	-22.6	-1.1099	µg/L	-1.1099	ppb	06:15:59

2	P 214.914†	12.7	-30.7	49.111 µg/L	49.111 ppb	06:15:59
2	Pb 220.353†	-13.4	-24.5	18.404 µg/L	18.404 ppb	06:15:59
2	S 181.975 Axial†	379.7	421.8	2723.9 µg/L	2723.9 ppb	06:15:59
2	Sb 206.836†	18.8	-9.5	-1.7998 µg/L	-1.7998 ppb	06:15:59
2	Se 196.026†	-29.8	-61.0	-37.684 µg/L	-37.684 ppb	06:15:59
2	SiO2†	218.3	78.9	90.725 µg/L	90.725 ppb	06:15:59
2	Si 251.611†	257.2	161.0	-30.820 µg/L	-30.820 ppb	06:15:59
2	Sn 189.927†	35.0	28.2	0.1575 µg/L	0.1575 ppb	06:15:59
2	Ti 334.940†	-387.4	-448.7	0.1932 µg/L	0.1932 ppb	06:15:39
2	Tl 190.801†	-16.4	-8.0	-8.2091 µg/L	-8.2091 ppb	06:15:59
2	U 367.007†	705.8	813.9	-132.39 µg/L	-132.39 ppb	06:15:39
2	V 292.402†	-52.4	-47.9	-0.8395 µg/L	-0.8395 ppb	06:15:59
2	Zn 213.857†	462.4	541.1	1.8978 µg/L	1.8978 ppb	06:15:59
3	Sc RADIAL	61531.0	61531.0	96.565 %	96.565 %	06:15:13
3	Al 396.153Radial†	1598229.8	1655089.9	516910 µg/L	516910 ppb	06:15:11
3	Ca 317.933Radial†	2716776.4	2813193.4	462300 µg/L	462300 ppb	06:15:11
3	Fe 238.204 Radial†	546036.4	565410.3	194680 µg/L	194680 ppb	06:15:13
3	K 766.490 Radial†	10543.5	11138.1	5001.2 µg/L	5001.2 ppb	06:15:13
3	Mg 279.077 IEC†	303543.2	314336.7	492170 µg/L	492170 ppb	06:15:13
3	Na 589.592 Radial†	712254.9	736121.9	86525 µg/L	86525 ppb	06:15:11
3	Sr 421.552†	14365.6	15332.3	-2.7473 µg/L	-2.7473 ppb	06:15:13
3	Sc 361.383	194932.5	194932.5	91.221 %	91.221 %	06:16:01
3	Y 371.029	112902.4	112902.4	90.617 %	90.617 %	06:16:01
3	Ag 328.068†	-196.6	-61.7	0.9998 µg/L	0.9998 ppb	06:16:21
3	As 188.979†	-5.3	-5.2	-5.6030 µg/L	-5.6030 ppb	06:16:21
3	B 249.677†	-4294.2	-4804.3	28.637 µg/L	28.637 ppb	06:16:01
3	Ba 233.527†	242.0	297.9	-0.6670 µg/L	-0.6670 ppb	06:16:21
3	Be 313.107†	-307.0	-96.9	-0.2547 µg/L	-0.2547 ppb	06:16:21
3	Cd 226.502†	438.4	540.8	4.3425 µg/L	4.3425 ppb	06:16:21
3	Co 228.616†	-4.1	11.7	-1.2192 µg/L	-1.2192 ppb	06:16:21
3	Cr 267.716†	53.8	2.6	0.0010 µg/L	0.0010 ppb	06:16:21
3	Cu 324.752†	-277.3	-599.5	-4.0166 µg/L	-4.0166 ppb	06:16:21
3	Mn 257.610†	-43.4	-26.2	-2.7335 µg/L	-2.7335 ppb	06:16:01
3	Mo 202.031†	-4.5	-32.8	-9.1085 µg/L	-9.1085 ppb	06:16:21
3	Ni 231.604†	-52.2	-4.1	1.0413 µg/L	1.0413 ppb	06:16:21
3	P 214.914†	1.3	-43.5	-32.589 µg/L	-32.589 ppb	06:16:21
3	Pb 220.353†	-31.5	-44.0	5.3316 µg/L	5.3316 ppb	06:16:21
3	S 181.975 Axial†	352.8	384.2	2483.7 µg/L	2483.7 ppb	06:16:21
3	Sb 206.836†	5.2	-24.8	-27.229 µg/L	-27.229 ppb	06:16:21
3	Se 196.026†	-14.0	-43.0	-0.4817 µg/L	-0.4817 ppb	06:16:21
3	SiO2†	200.8	55.2	63.433 µg/L	63.433 ppb	06:16:21
3	Si 251.611†	253.1	151.0	-32.469 µg/L	-32.469 ppb	06:16:21
3	Sn 189.927†	34.5	26.8	-1.2821 µg/L	-1.2821 ppb	06:16:21
3	Ti 334.940†	-428.7	-485.6	0.0422 µg/L	0.0422 ppb	06:16:01
3	Tl 190.801†	-14.6	-5.7	-3.7784 µg/L	-3.7784 ppb	06:16:21
3	U 367.007†	769.4	868.6	-91.994 µg/L	-91.994 ppb	06:16:01
3	V 292.402†	-68.5	-64.5	-1.7287 µg/L	-1.7287 ppb	06:16:21
3	Zn 213.857†	457.8	526.2	1.2885 µg/L	1.2885 ppb	06:16:21

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	195492.6	91.483	%	2.1404	91.483	%	2.1404	2.34%
Sc RADIAL	62449.3	98.006	%	1.5370	98.006	%	1.5370	1.57%
Y 371.029	113245.9	90.893	%	2.1360	90.893	%	2.1360	2.35%
Ag 328.068†	-77.0	0.4338	µg/L	0.71328	0.4338	ppb	0.71328	164.41%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	1677958.5	524050	µg/L	8085.60	524050	ppb	8085.60	1.54%
QC value within limits for Al 396.153Radial Recovery = 104.81%								
As 188.979†	-1.1	4.4739	µg/L	9.68540	4.4739	ppb	9.68540	216.49%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-4728.7	39.742	µg/L	9.6363	39.742	ppb	9.6363	24.25%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	292.1	-1.0086	µg/L	0.31370	-1.0086	ppb	0.31370	31.10%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-97.2	-0.2539	µg/L	0.02285	-0.2539	ppb	0.02285	9.00%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	2869788.5	471600	µg/L	9167.25	471600	ppb	9167.25	1.94%
QC value within limits for Ca 317.933Radial Recovery = 94.32%								
Cd 226.502†	535.9	4.0140	µg/L	0.34693	4.0140	ppb	0.34693	8.64%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              16.1     -0.4144 µg/L       0.69999     -0.4144 ppb        0.69999 168.92%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               5.2      0.1330 µg/L       0.12626      0.1330 ppb        0.12626  94.94%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†            -603.1     -4.0904 µg/L       0.18630     -4.0904 ppb        0.18630   4.55%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†    567336.9      195350 µg/L        787.32      195350 ppb         787.32   0.40%
   QC value within limits for Fe 238.204 Radial  Recovery = 97.67%
K 766.490 Radial†      11073.5      4972.7 µg/L         41.81      4972.7 ppb          41.81   0.84%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†       315356.0      493760 µg/L       1826.99      493760 ppb        1826.99   0.37%
   QC value within limits for Mg 279.077 IEC  Recovery = 98.75%
Mn 257.610†             -14.2     -2.5665 µg/L       0.15311     -2.5665 ppb        0.15311   5.97%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†             -36.5     -9.8746 µg/L       0.85904     -9.8746 ppb        0.85904   8.70%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†    759309.0       89251 µg/L       2683.66       89251 ppb        2683.66   3.01%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†             -10.4      0.3145 µg/L       1.23368      0.3145 ppb        1.23368 392.28%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†              -39.9     -4.2021 µg/L      46.20255     -4.2021 ppb       46.20255 >999.9%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†             -38.3      9.1989 µg/L       8.00532      9.1989 ppb        8.00532  87.02%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         407.9      2635.2 µg/L        131.86      2635.2 ppb         131.86   5.00%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†             -15.3     -11.408 µg/L       13.8056     -11.408 ppb        13.8056 121.01%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†             -50.7     -16.446 µg/L       19.1539     -16.446 ppb        19.1539 116.47%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    64.7      74.395 µg/L       14.4160      74.395 ppb        14.4160  19.38%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†             165.6     -29.567 µg/L        3.6917     -29.567 ppb         3.6917  12.49%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              28.8      1.0097 µg/L       2.81620      1.0097 ppb        2.81620 278.92%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†            15350.5     -2.8026 µg/L       0.09009     -2.8026 ppb        0.09009   3.21%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†            -446.2      0.1229 µg/L       0.07599      0.1229 ppb        0.07599  61.85%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -8.3     -8.9092 µg/L       5.51432     -8.9092 ppb        5.51432  61.89%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†              857.4     -101.46 µg/L        27.446     -101.46 ppb         27.446  27.05%
   QC value less than the lower limit for U 367.007  Recovery = Not calculated
V 292.402†              -53.4     -1.1229 µg/L       0.52503     -1.1229 ppb        0.52503  46.76%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             524.9      1.1251 µg/L       0.86599      1.1251 ppb        0.86599  76.97%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 18 **Autosampler Location: 104**
Sample ID: ICSAB **Date Collected: 11/19/2020 06:17:22**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	66329.5	66329.5	104.10	%	104.10	%	06:18:00
1	Al 396.153Radial†	1733495.4	1665300.2	520080	µg/L	520080	ppb	06:17:57
1	Ca 317.933Radial†	3027136.5	2907812.2	477850	µg/L	477850	ppb	06:17:57
1	Fe 238.204 Radial†	580290.5	557409.6	191930	µg/L	191930	ppb	06:18:00
1	K 766.490 Radial†	20846.0	20245.4	9047.9	µg/L	9047.9	ppb	06:18:00
1	Mg 279.077 IEC†	324305.3	311541.6	487790	µg/L	487790	ppb	06:18:00
1	Na 589.592 Radial†	633853.4	607445.1	71395	µg/L	71395	ppb	06:18:00
1	Sr 421.552†	415487.9	399597.9	514.99	µg/L	514.99	ppb	06:18:00
1	Sc 361.383	207269.6	207269.6	96.995	%	96.995	%	06:18:12
1	Y 371.029	119826.2	119826.2	96.174	%	96.174	%	06:18:12
1	Ag 328.068†	6828.2	7193.6	280.59	µg/L	280.59	ppb	06:18:32
1	As 188.979†	173.3	179.3	459.37	µg/L	459.37	ppb	06:18:32
1	B 249.677†	-591.8	-707.0	510.47	µg/L	510.47	ppb	06:18:12
1	Ba 233.527†	9816.8	10153.5	488.61	µg/L	488.61	ppb	06:18:32
1	Be 313.107†	86446.7	89364.9	221.25	µg/L	221.25	ppb	06:18:12
1	Cd 226.502†	9098.7	9440.9	454.21	µg/L	454.21	ppb	06:18:32
1	Co 228.616†	1979.6	2057.2	386.84	µg/L	386.84	ppb	06:18:32
1	Cr 267.716†	9490.3	9728.1	503.64	µg/L	503.64	ppb	06:18:32
1	Cu 324.752†	14609.0	14766.1	490.62	µg/L	490.62	ppb	06:18:12
1	Mn 257.610†	29980.3	30930.6	449.99	µg/L	449.99	ppb	06:18:12
1	Mo 202.031†	2028.8	2063.8	418.98	µg/L	418.98	ppb	06:18:32
1	Ni 231.604†	3472.5	3633.2	427.70	µg/L	427.70	ppb	06:18:32
1	P 214.914†	339.7	305.3	2088.3	µg/L	2088.3	ppb	06:18:32
1	Pb 220.353†	585.5	594.2	420.79	µg/L	420.79	ppb	06:18:32
1	S 181.975 Axial†	733.1	753.3	4841.4	µg/L	4841.4	ppb	06:18:32
1	Sb 206.836†	308.6	287.7	497.12	µg/L	497.12	ppb	06:18:32
1	Se 196.026†	999.6	1002.9	2201.6	µg/L	2201.6	ppb	06:18:32
1	SiO2†	9781.3	9919.4	11377	µg/L	11377	ppb	06:18:32
1	Si 251.611†	23020.4	23607.2	4948.6	µg/L	4948.6	ppb	06:18:12
1	Sn 189.927†	485.8	489.9	417.96	µg/L	417.96	ppb	06:18:32
1	Ti 334.940†	48121.6	49596.9	478.30	µg/L	478.30	ppb	06:18:12
1	Tl 190.801†	180.5	196.4	390.74	µg/L	390.74	ppb	06:18:32
1	U 367.007†	1641.1	1717.2	463.89	µg/L	463.89	ppb	06:18:32
1	V 292.402†	9213.0	9509.0	520.07	µg/L	520.07	ppb	06:18:32
1	Zn 213.857†	8981.4	9284.1	476.42	µg/L	476.42	ppb	06:18:32
2	Sc RADIAL	67137.9	67137.9	105.36	%	105.36	%	06:18:04
2	Al 396.153Radial†	1693852.3	1607624.3	502060	µg/L	502060	ppb	06:18:02
2	Ca 317.933Radial†	2941706.0	2791716.6	458780	µg/L	458780	ppb	06:18:02
2	Fe 238.204 Radial†	588822.2	558795.0	192410	µg/L	192410	ppb	06:18:04
2	K 766.490 Radial†	20861.0	20018.5	8947.2	µg/L	8947.2	ppb	06:18:04
2	Mg 279.077 IEC†	328735.2	311994.9	488500	µg/L	488500	ppb	06:18:04
2	Na 589.592 Radial†	635711.0	601876.5	70740	µg/L	70740	ppb	06:18:04
2	Sr 421.552†	421553.3	400548.7	516.22	µg/L	516.22	ppb	06:18:04
2	Sc 361.383	207785.1	207785.1	97.236	%	97.236	%	06:18:35
2	Y 371.029	120528.6	120528.6	96.738	%	96.738	%	06:18:35
2	Ag 328.068†	6772.0	7118.3	277.70	µg/L	277.70	ppb	06:18:55
2	As 188.979†	171.7	177.2	454.04	µg/L	454.04	ppb	06:18:55
2	B 249.677†	-627.3	-742.0	507.76	µg/L	507.76	ppb	06:18:35
2	Ba 233.527†	9722.9	10031.9	482.53	µg/L	482.53	ppb	06:18:55
2	Be 313.107†	86729.1	89434.2	221.42	µg/L	221.42	ppb	06:18:35
2	Cd 226.502†	9026.8	9343.7	449.24	µg/L	449.24	ppb	06:18:55
2	Co 228.616†	1966.0	2038.1	383.21	µg/L	383.21	ppb	06:18:55
2	Cr 267.716†	9418.2	9629.6	498.54	µg/L	498.54	ppb	06:18:55
2	Cu 324.752†	14652.9	14773.9	490.88	µg/L	490.88	ppb	06:18:35
2	Mn 257.610†	30001.9	30876.2	449.19	µg/L	449.19	ppb	06:18:35
2	Mo 202.031†	2010.7	2040.0	414.12	µg/L	414.12	ppb	06:18:55
2	Ni 231.604†	3452.6	3603.9	424.26	µg/L	424.26	ppb	06:18:55

2	P 214.914†	345.5	310.4	2101.2 µg/L	2101.2 ppb	06:18:55
2	Pb 220.353†	566.4	573.0	407.04 µg/L	407.04 ppb	06:18:55
2	S 181.975 Axial†	716.9	734.8	4723.5 µg/L	4723.5 ppb	06:18:55
2	Sb 206.836†	292.4	270.2	468.16 µg/L	468.16 ppb	06:18:55
2	Se 196.026†	990.0	990.5	2175.5 µg/L	2175.5 ppb	06:18:55
2	SiO2†	9702.5	9813.4	11256 µg/L	11256 ppb	06:18:55
2	Si 251.611†	23190.6	23723.4	4973.3 µg/L	4973.3 ppb	06:18:35
2	Sn 189.927†	494.1	497.2	422.99 µg/L	422.99 ppb	06:18:55
2	Ti 334.940†	48091.5	49442.9	477.65 µg/L	477.65 ppb	06:18:35
2	Tl 190.801†	188.6	204.3	406.02 µg/L	406.02 ppb	06:18:55
2	U 367.007†	1620.2	1691.4	445.70 µg/L	445.70 ppb	06:18:55
2	V 292.402†	9125.8	9395.8	513.89 µg/L	513.89 ppb	06:18:55
2	Zn 213.857†	8902.9	9180.4	470.71 µg/L	470.71 ppb	06:18:55
3	Sc RADIAL	66185.3	66185.3	103.87 %	103.87 %	06:18:09
3	Al 396.153Radial†	1663275.2	1601323.6	500100 µg/L	500100 ppb	06:18:06
3	Ca 317.933Radial†	2880538.4	2773010.1	455700 µg/L	455700 ppb	06:18:06
3	Fe 238.204 Radial†	580944.3	559253.6	192570 µg/L	192570 ppb	06:18:09
3	K 766.490 Radial†	20517.4	19972.6	8926.9 µg/L	8926.9 ppb	06:18:09
3	Mg 279.077 IEC†	324379.3	312291.7	488970 µg/L	488970 ppb	06:18:09
3	Na 589.592 Radial†	624148.3	599428.1	70452 µg/L	70452 ppb	06:18:09
3	Sr 421.552†	416487.8	401430.1	517.39 µg/L	517.39 ppb	06:18:09
3	Sc 361.383	201713.3	201713.3	94.395 %	94.395 %	06:18:57
3	Y 371.029	117099.2	117099.2	93.985 %	93.985 %	06:18:57
3	Ag 328.068†	6655.9	7205.0	281.04 µg/L	281.04 ppb	06:19:17
3	As 188.979†	168.4	178.9	458.52 µg/L	458.52 ppb	06:19:17
3	B 249.677†	-609.2	-742.2	508.22 µg/L	508.22 ppb	06:18:57
3	Ba 233.527†	9559.7	10160.0	488.88 µg/L	488.88 ppb	06:19:17
3	Be 313.107†	84166.6	89404.3	221.34 µg/L	221.34 ppb	06:18:57
3	Cd 226.502†	8822.8	9407.0	452.42 µg/L	452.42 ppb	06:19:17
3	Co 228.616†	1946.5	2078.3	390.84 µg/L	390.84 ppb	06:19:17
3	Cr 267.716†	9280.8	9775.6	506.10 µg/L	506.10 ppb	06:19:17
3	Cu 324.752†	14242.0	14792.2	491.51 µg/L	491.51 ppb	06:18:57
3	Mn 257.610†	29098.1	30847.4	448.77 µg/L	448.77 ppb	06:18:57
3	Mo 202.031†	1976.3	2065.8	419.39 µg/L	419.39 ppb	06:19:17
3	Ni 231.604†	3359.9	3612.5	425.28 µg/L	425.28 ppb	06:19:17
3	P 214.914†	355.7	331.9	2230.5 µg/L	2230.5 ppb	06:19:17
3	Pb 220.353†	567.6	591.8	419.32 µg/L	419.32 ppb	06:19:17
3	S 181.975 Axial†	699.8	738.9	4749.6 µg/L	4749.6 ppb	06:19:17
3	Sb 206.836†	287.7	274.2	474.87 µg/L	474.87 ppb	06:19:17
3	Se 196.026†	971.7	1001.8	2199.4 µg/L	2199.4 ppb	06:19:17
3	SiO2†	9497.9	9896.9	11351 µg/L	11351 ppb	06:19:17
3	Si 251.611†	22314.2	23512.8	4928.3 µg/L	4928.3 ppb	06:18:57
3	Sn 189.927†	477.8	495.2	420.94 µg/L	420.94 ppb	06:19:17
3	Ti 334.940†	46733.8	49493.3	478.28 µg/L	478.28 ppb	06:18:57
3	Tl 190.801†	177.0	197.8	393.50 µg/L	393.50 ppb	06:19:17
3	U 367.007†	1602.9	1723.2	465.68 µg/L	465.68 ppb	06:19:17
3	V 292.402†	8978.4	9522.1	520.79 µg/L	520.79 ppb	06:19:17
3	Zn 213.857†	8739.5	9282.9	476.27 µg/L	476.27 ppb	06:19:17

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	205589.3	96.208	%	1.5755	96.208	%	1.5755	1.64%
Sc RADIAL	66550.9	104.44	%	0.806	104.44	%	0.806	0.77%
Y 371.029	119151.3	95.633	%	1.4540	95.633	%	1.4540	1.52%
Ag 328.068†	7172.3	279.78	µg/L	1.808	279.78	ppb	1.808	0.65%
QC value within limits for Ag 328.068 Recovery = 111.91%								
Al 396.153Radial†	1624749.4	507410	µg/L	11011.83	507410	ppb	11011.83	2.17%
QC value within limits for Al 396.153Radial Recovery = 101.48%								
As 188.979†	178.5	457.31	µg/L	2.860	457.31	ppb	2.860	0.63%
QC value within limits for As 188.979 Recovery = 91.46%								
B 249.677†	-730.4	508.81	µg/L	1.449	508.81	ppb	1.449	0.28%
QC value within limits for B 249.677 Recovery = 101.76%								
Ba 233.527†	10115.1	486.67	µg/L	3.589	486.67	ppb	3.589	0.74%
QC value within limits for Ba 233.527 Recovery = 97.33%								
Be 313.107†	89401.1	221.34	µg/L	0.083	221.34	ppb	0.083	0.04%
QC value within limits for Be 313.107 Recovery = 88.53%								
Ca 317.933Radial†	2824179.6	464110	µg/L	12001.24	464110	ppb	12001.24	2.59%
QC value within limits for Ca 317.933Radial Recovery = 92.82%								
Cd 226.502†	9397.2	451.95	µg/L	2.517	451.95	ppb	2.517	0.56%

```
   QC value within limits for Cd 226.502  Recovery = 90.39%
Co 228.616†          2057.8      386.96 µg/L         3.813      386.96 ppb          3.813   0.99%
   QC value less than the lower limit for Co 228.616  Recovery = 77.39%
Cr 267.716†          9711.1      502.76 µg/L         3.856      502.76 ppb          3.856   0.77%
   QC value within limits for Cr 267.716  Recovery = 100.55%
Cu 324.752†         14777.4      491.00 µg/L         0.458      491.00 ppb          0.458   0.09%
   QC value within limits for Cu 324.752  Recovery = 98.20%
Fe 238.204 Radial†   558486.1      192300 µg/L        330.56      192300 ppb         330.56   0.17%
   QC value within limits for Fe 238.204 Radial  Recovery = 96.15%
K 766.490 Radial†    20078.8      8974.0 µg/L         64.82      8974.0 ppb          64.82   0.72%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = 179.48%
Mg 279.077 IEC†     311942.7      488420 µg/L        591.49      488420 ppb         591.49   0.12%
   QC value within limits for Mg 279.077 IEC  Recovery = 97.68%
Mn 257.610†          30884.7      449.31 µg/L         0.621      449.31 ppb          0.621   0.14%
   QC value within limits for Mn 257.610  Recovery = 89.86%
Mo 202.031†          2056.5      417.50 µg/L         2.931      417.50 ppb          2.931   0.70%
   QC value within limits for Mo 202.031  Recovery = 83.50%
Na 589.592 Radial†   602916.6       70862 µg/L        483.17       70862 ppb         483.17   0.68%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = 1417.24%
Ni 231.604†          3616.5      425.75 µg/L         1.768      425.75 ppb          1.768   0.42%
   QC value within limits for Ni 231.604  Recovery = 85.15%
P 214.914†            315.9      2140.0 µg/L         78.63      2140.0 ppb          78.63   3.67%
   QC value within limits for P 214.914  Recovery = 85.60%
Pb 220.353†           586.3      415.72 µg/L         7.549      415.72 ppb          7.549   1.82%
   QC value within limits for Pb 220.353  Recovery = 83.14%
S 181.975 Axial†      742.3      4771.5 µg/L         61.93      4771.5 ppb          61.93   1.30%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = 190.86%
Sb 206.836†           277.4      480.05 µg/L        15.160      480.05 ppb         15.160   3.16%
   QC value within limits for Sb 206.836  Recovery = 96.01%
Se 196.026†           998.4      2192.2 µg/L         14.46      2192.2 ppb          14.46   0.66%
   QC value within limits for Se 196.026  Recovery = 87.69%
SiO2†                9876.5       11328 µg/L         64.08       11328 ppb          64.08   0.57%
   QC value within limits for SiO2  Recovery = 105.92%
Si 251.611†         23614.5      4950.1 µg/L         22.53      4950.1 ppb          22.53   0.46%
   QC value within limits for Si 251.611  Recovery = 99.00%
Sn 189.927†           494.1      420.63 µg/L         2.531      420.63 ppb          2.531   0.60%
   QC value within limits for Sn 189.927  Recovery = 84.13%
Sr 421.552†         400525.6      516.20 µg/L         1.195      516.20 ppb          1.195   0.23%
   QC value within limits for Sr 421.552  Recovery = 103.24%
Ti 334.940†          49511.1      478.08 µg/L         0.366      478.08 ppb          0.366   0.08%
   QC value within limits for Ti 334.940  Recovery = 95.62%
Tl 190.801†           199.5      396.75 µg/L         8.140      396.75 ppb          8.140   2.05%
   QC value less than the lower limit for Tl 190.801  Recovery = 79.35%
U 367.007†           1710.6      458.42 µg/L        11.057      458.42 ppb         11.057   2.41%
   QC value within limits for U 367.007  Recovery = 91.68%
V 292.402†           9475.7      518.25 µg/L         3.791      518.25 ppb          3.791   0.73%
   QC value within limits for V 292.402  Recovery = 103.65%
Zn 213.857†          9249.1      474.46 µg/L         3.253      474.46 ppb          3.253   0.69%
   QC value within limits for Zn 213.857  Recovery = 94.89%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 19 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/19/2020 06:20:17**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	72903.9	72903.9	114.41	%	114.41	%	06:20:57
1	Al 396.153Radial†	17037.5	14893.5	4630.7	µg/L	4630.7	ppb	06:20:57
1	Ca 317.933Radial†	32013.6	27747.0	4559.8	µg/L	4559.8	ppb	06:20:57
1	Fe 238.204 Radial†	15564.4	13552.1	4671.5	µg/L	4671.5	ppb	06:20:57
1	K 766.490 Radial†	17710.9	15699.3	6978.2	µg/L	6978.2	ppb	06:20:55
1	Mg 279.077 IEC†	3386.5	2954.7	4627.7	µg/L	4627.7	ppb	06:20:57
1	Na 589.592 Radial†	500460.4	435944.8	51262	µg/L	51262	ppb	06:20:55
1	Sr 421.552†	394992.8	345690.6	464.91	µg/L	464.91	ppb	06:20:55
1	Sc 361.383	215572.6	215572.6	100.88	%	100.88	%	06:21:09
1	Y 371.029	125120.5	125120.5	100.42	%	100.42	%	06:21:09
1	Ag 328.068†	12400.9	12446.5	479.29	µg/L	479.29	ppb	06:21:09
1	As 188.979†	203.1	201.9	508.59	µg/L	508.59	ppb	06:21:29
1	B 249.677†	4374.0	4239.0	521.80	µg/L	521.80	ppb	06:21:09
1	Ba 233.527†	9766.2	9713.6	481.60	µg/L	481.60	ppb	06:21:09
1	Be 313.107†	198884.0	197388.4	486.66	µg/L	486.66	ppb	06:21:09
1	Cd 226.502†	9547.3	9524.3	480.52	µg/L	480.52	ppb	06:21:09
1	Co 228.616†	2589.8	2583.5	489.82	µg/L	489.82	ppb	06:21:29
1	Cr 267.716†	9438.3	9299.6	481.58	µg/L	481.58	ppb	06:21:09
1	Cu 324.752†	15410.0	14980.1	482.69	µg/L	482.69	ppb	06:21:09
1	Mn 257.610†	33078.4	32811.2	479.76	µg/L	479.76	ppb	06:21:09
1	Mo 202.031†	2424.5	2375.5	484.94	µg/L	484.94	ppb	06:21:29
1	Ni 231.604†	4067.9	4085.5	479.29	µg/L	479.29	ppb	06:21:09
1	P 214.914†	445.3	396.5	2402.4	µg/L	2402.4	ppb	06:21:29
1	Pb 220.353†	781.8	765.4	499.91	µg/L	499.91	ppb	06:21:29
1	S 181.975 Axial†	459.8	453.3	2897.0	µg/L	2897.0	ppb	06:21:29
1	Sb 206.836†	313.2	279.9	471.72	µg/L	471.72	ppb	06:21:29
1	Se 196.026†	269.1	239.1	505.90	µg/L	505.90	ppb	06:21:29
1	SiO2†	4803.6	4596.7	5269.4	µg/L	5269.4	ppb	06:21:09
1	Si 251.611†	11840.5	11610.7	2456.8	µg/L	2456.8	ppb	06:21:09
1	Sn 189.927†	530.0	514.4	462.05	µg/L	462.05	ppb	06:21:29
1	Ti 334.940†	50396.7	49941.3	478.25	µg/L	478.25	ppb	06:21:09
1	Tl 190.801†	243.6	251.8	491.51	µg/L	491.51	ppb	06:21:29
1	U 367.007†	708.4	727.5	453.03	µg/L	453.03	ppb	06:21:09
1	V 292.402†	8923.4	8856.2	482.78	µg/L	482.78	ppb	06:21:09
1	Zn 213.857†	8876.1	8823.1	477.33	µg/L	477.33	ppb	06:21:09
2	Sc RADIAL	75335.4	75335.4	118.23	%	118.23	%	06:21:01
2	Al 396.153Radial†	17579.0	14870.8	4624.0	µg/L	4624.0	ppb	06:21:01
2	Ca 317.933Radial†	33451.4	28060.0	4611.2	µg/L	4611.2	ppb	06:21:01
2	Fe 238.204 Radial†	16243.9	13687.7	4718.1	µg/L	4718.1	ppb	06:21:01
2	K 766.490 Radial†	18083.0	15514.4	6896.0	µg/L	6896.0	ppb	06:20:59
2	Mg 279.077 IEC†	3519.5	2971.7	4654.3	µg/L	4654.3	ppb	06:21:01
2	Na 589.592 Radial†	508665.9	428767.2	50418	µg/L	50418	ppb	06:20:59
2	Sr 421.552†	406908.9	344626.8	463.47	µg/L	463.47	ppb	06:20:59
2	Sc 361.383	218774.3	218774.3	102.38	%	102.38	%	06:21:31
2	Y 371.029	126932.4	126932.4	101.88	%	101.88	%	06:21:31
2	Ag 328.068†	12637.2	12497.4	481.24	µg/L	481.24	ppb	06:21:31
2	As 188.979†	200.5	196.5	495.05	µg/L	495.05	ppb	06:21:51
2	B 249.677†	4549.2	4346.6	534.83	µg/L	534.83	ppb	06:21:31
2	Ba 233.527†	9911.7	9714.0	481.61	µg/L	481.61	ppb	06:21:31
2	Be 313.107†	202076.3	197621.3	487.23	µg/L	487.23	ppb	06:21:31
2	Cd 226.502†	9698.7	9533.7	480.99	µg/L	480.99	ppb	06:21:31
2	Co 228.616†	2580.4	2536.7	480.96	µg/L	480.96	ppb	06:21:51
2	Cr 267.716†	9571.2	9292.5	481.21	µg/L	481.21	ppb	06:21:31
2	Cu 324.752†	15706.2	15045.8	484.81	µg/L	484.81	ppb	06:21:31
2	Mn 257.610†	33745.4	32982.9	482.27	µg/L	482.27	ppb	06:21:31
2	Mo 202.031†	2410.5	2326.7	474.97	µg/L	474.97	ppb	06:21:51
2	Ni 231.604†	4130.9	4088.0	479.59	µg/L	479.59	ppb	06:21:31

2	P 214.914†	447.4	392.0	2375.3 µg/L	2375.3 ppb	06:21:51
2	Pb 220.353†	778.8	751.2	490.63 µg/L	490.63 ppb	06:21:51
2	S 181.975 Axial†	435.9	423.3	2705.3 µg/L	2705.3 ppb	06:21:51
2	Sb 206.836†	318.9	280.9	473.30 µg/L	473.30 ppb	06:21:51
2	Se 196.026†	257.1	223.5	472.93 µg/L	472.93 ppb	06:21:51
2	SiO2†	4924.3	4644.9	5324.9 µg/L	5324.9 ppb	06:21:31
2	Si 251.611†	12047.5	11641.1	2463.5 µg/L	2463.5 ppb	06:21:31
2	Sn 189.927†	535.0	511.6	459.56 µg/L	459.56 ppb	06:21:51
2	Ti 334.940†	50971.1	49771.2	476.62 µg/L	476.62 ppb	06:21:31
2	Tl 190.801†	240.9	245.6	479.43 µg/L	479.43 ppb	06:21:51
2	U 367.007†	729.2	737.5	459.33 µg/L	459.33 ppb	06:21:31
2	V 292.402†	9057.9	8858.1	482.89 µg/L	482.89 ppb	06:21:31
2	Zn 213.857†	9011.6	8826.6	477.52 µg/L	477.52 ppb	06:21:31
3	Sc RADIAL	74556.9	74556.9	117.01 %	117.01 %	06:21:06
3	Al 396.153Radial†	17439.9	14907.2	4635.2 µg/L	4635.2 ppb	06:21:06
3	Ca 317.933Radial†	33061.3	28022.0	4605.0 µg/L	4605.0 ppb	06:21:06
3	Fe 238.204 Radial†	16001.1	13623.7	4696.1 µg/L	4696.1 ppb	06:21:06
3	K 766.490 Radial†	18252.6	15819.0	7031.4 µg/L	7031.4 ppb	06:21:03
3	Mg 279.077 IEC†	3512.5	2996.8	4693.6 µg/L	4693.6 ppb	06:21:06
3	Na 589.592 Radial†	515220.3	438861.1	51604 µg/L	51604 ppb	06:21:03
3	Sr 421.552†	410776.5	351525.7	472.76 µg/L	472.76 ppb	06:21:03
3	Sc 361.383	211324.7	211324.7	98.892 %	98.892 %	06:21:54
3	Y 371.029	122691.7	122691.7	98.474 %	98.474 %	06:21:54
3	Ag 328.068†	12116.7	12406.2	477.70 µg/L	477.70 ppb	06:21:54
3	As 188.979†	188.4	191.1	481.77 µg/L	481.77 ppb	06:22:14
3	B 249.677†	4371.3	4323.4	531.97 µg/L	531.97 ppb	06:21:54
3	Ba 233.527†	9524.1	9663.3	479.10 µg/L	479.10 ppb	06:21:54
3	Be 313.107†	194176.0	196590.6	484.69 µg/L	484.69 ppb	06:21:54
3	Cd 226.502†	9258.1	9422.1	475.35 µg/L	475.35 ppb	06:21:54
3	Co 228.616†	2507.7	2552.0	483.85 µg/L	483.85 ppb	06:22:14
3	Cr 267.716†	9178.4	9224.8	477.71 µg/L	477.71 ppb	06:21:54
3	Cu 324.752†	15271.4	15147.0	488.09 µg/L	488.09 ppb	06:21:54
3	Mn 257.610†	32502.3	32887.7	480.88 µg/L	480.88 ppb	06:21:54
3	Mo 202.031†	2353.9	2352.4	480.22 µg/L	480.22 ppb	06:22:14
3	Ni 231.604†	3959.2	4056.7	475.91 µg/L	475.91 ppb	06:21:54
3	P 214.914†	436.4	396.4	2402.1 µg/L	2402.1 ppb	06:22:14
3	Pb 220.353†	750.2	749.1	489.21 µg/L	489.21 ppb	06:22:14
3	S 181.975 Axial†	421.3	423.6	2707.2 µg/L	2707.2 ppb	06:22:14
3	Sb 206.836†	311.3	284.3	478.86 µg/L	478.86 ppb	06:22:14
3	Se 196.026†	259.5	234.8	496.75 µg/L	496.75 ppb	06:22:14
3	SiO2†	4706.2	4593.9	5266.3 µg/L	5266.3 ppb	06:21:54
3	Si 251.611†	11587.9	11591.2	2452.8 µg/L	2452.8 ppb	06:21:54
3	Sn 189.927†	516.5	511.3	459.30 µg/L	459.30 ppb	06:22:14
3	Ti 334.940†	49121.6	49656.1	475.52 µg/L	475.52 ppb	06:21:54
3	Tl 190.801†	239.9	252.9	493.51 µg/L	493.51 ppb	06:22:14
3	U 367.007†	740.1	773.6	482.66 µg/L	482.66 ppb	06:21:54
3	V 292.402†	8703.0	8811.1	480.34 µg/L	480.34 ppb	06:21:54
3	Zn 213.857†	8772.2	8894.8	481.26 µg/L	481.26 ppb	06:21:54

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	215223.9	100.72	%	1.749	100.72	%	1.749	1.74%
Sc RADIAL	74265.4	116.55	%	1.949	116.55	%	1.949	1.67%
Y 371.029	124914.9	100.26	%	1.708	100.26	%	1.708	1.70%
Ag 328.068†	12450.0	479.41	µg/L	1.772	479.41	ppb	1.772	0.37%
QC value within limits for Ag 328.068 Recovery = 95.88%								
Al 396.153Radial†	14890.5	4630.0	µg/L	5.60	4630.0	ppb	5.60	0.12%
QC value within limits for Al 396.153Radial Recovery = 92.60%								
As 188.979†	196.5	495.14	µg/L	13.410	495.14	ppb	13.410	2.71%
QC value within limits for As 188.979 Recovery = 99.03%								
B 249.677†	4303.0	529.53	µg/L	6.850	529.53	ppb	6.850	1.29%
QC value within limits for B 249.677 Recovery = 105.91%								
Ba 233.527†	9697.0	480.77	µg/L	1.445	480.77	ppb	1.445	0.30%
QC value within limits for Ba 233.527 Recovery = 96.15%								
Be 313.107†	197200.1	486.19	µg/L	1.331	486.19	ppb	1.331	0.27%
QC value within limits for Be 313.107 Recovery = 97.24%								
Ca 317.933Radial†	27943.0	4592.0	µg/L	28.07	4592.0	ppb	28.07	0.61%
QC value within limits for Ca 317.933Radial Recovery = 91.84%								
Cd 226.502†	9493.4	478.95	µg/L	3.126	478.95	ppb	3.126	0.65%

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   QC value within limits for Cd 226.502  Recovery = 95.79%
Co 228.616†          2557.4      484.88 µg/L         4.518      484.88 ppb          4.518   0.93%
   QC value within limits for Co 228.616  Recovery = 96.98%
Cr 267.716†          9272.3      480.16 µg/L         2.136      480.16 ppb          2.136   0.44%
   QC value within limits for Cr 267.716  Recovery = 96.03%
Cu 324.752†         15057.6      485.20 µg/L         2.724      485.20 ppb          2.724   0.56%
   QC value within limits for Cu 324.752  Recovery = 97.04%
Fe 238.204 Radial†  13621.2      4695.2 µg/L         23.32      4695.2 ppb          23.32   0.50%
   QC value within limits for Fe 238.204 Radial  Recovery = 93.90%
K 766.490 Radial†   15677.6      6968.6 µg/L         68.21      6968.6 ppb          68.21   0.98%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = 139.37%
Mg 279.077 IEC†      2974.4      4658.5 µg/L         33.17      4658.5 ppb          33.17   0.71%
   QC value within limits for Mg 279.077 IEC  Recovery = 93.17%
Mn 257.610†         32893.9      480.97 µg/L         1.257      480.97 ppb          1.257   0.26%
   QC value within limits for Mn 257.610  Recovery = 96.19%
Mo 202.031†          2351.5      480.04 µg/L         4.990      480.04 ppb          4.990   1.04%
   QC value within limits for Mo 202.031  Recovery = 96.01%
Na 589.592 Radial†  434524.4       51095 µg/L        610.84       51095 ppb         610.84   1.20%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = 510.95%
Ni 231.604†          4076.7      478.26 µg/L         2.041      478.26 ppb          2.041   0.43%
   QC value within limits for Ni 231.604  Recovery = 95.65%
P 214.914†            395.0      2393.3 µg/L         15.58      2393.3 ppb          15.58   0.65%
   QC value within limits for P 214.914  Recovery = 95.73%
Pb 220.353†           755.2      493.25 µg/L         5.812      493.25 ppb          5.812   1.18%
   QC value within limits for Pb 220.353  Recovery = 98.65%
S 181.975 Axial†      433.4      2769.8 µg/L        110.16      2769.8 ppb         110.16   3.98%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = 276.98%
Sb 206.836†           281.7      474.62 µg/L         3.753      474.62 ppb          3.753   0.79%
   QC value within limits for Sb 206.836  Recovery = 94.92%
Se 196.026†           232.5      491.86 µg/L        17.017      491.86 ppb         17.017   3.46%
   QC value within limits for Se 196.026  Recovery = 98.37%
SiO2†                4611.8      5286.9 µg/L         32.99      5286.9 ppb          32.99   0.62%
   QC value within limits for SiO2  Recovery = 98.87%
Si 251.611†         11614.4      2457.7 µg/L          5.42      2457.7 ppb           5.42   0.22%
   QC value within limits for Si 251.611  Recovery = 98.31%
Sn 189.927†           512.4      460.31 µg/L         1.517      460.31 ppb          1.517   0.33%
   QC value within limits for Sn 189.927  Recovery = 92.06%
Sr 421.552†         347281.1      467.05 µg/L         5.002      467.05 ppb          5.002   1.07%
   QC value within limits for Sr 421.552  Recovery = 93.41%
Ti 334.940†          49789.5      476.80 µg/L         1.372      476.80 ppb          1.372   0.29%
   QC value within limits for Ti 334.940  Recovery = 95.36%
Tl 190.801†           250.1      488.15 µg/L         7.622      488.15 ppb          7.622   1.56%
   QC value within limits for Tl 190.801  Recovery = 97.63%
U 367.007†            746.2      465.01 µg/L        15.610      465.01 ppb         15.610   3.36%
   QC value within limits for U 367.007  Recovery = 93.00%
V 292.402†           8841.8      482.00 µg/L         1.439      482.00 ppb          1.439   0.30%
   QC value within limits for V 292.402  Recovery = 96.40%
Zn 213.857†          8848.2      478.70 µg/L         2.216      478.70 ppb          2.216   0.46%
   QC value within limits for Zn 213.857  Recovery = 95.74%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 20 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/19/2020 06:23:14**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	58247.6	58247.6	91.412	%	91.412	%	06:23:50
1	Al 396.153Radial†	18.4	22.3	6.9574	µg/L	6.9574	ppb	06:23:50
1	Ca 317.933Radial†	332.7	130.2	21.397	µg/L	21.397	ppb	06:24:10
1	Fe 238.204 Radial†	79.2	35.0	12.036	µg/L	12.036	ppb	06:24:10
1	K 766.490 Radial†	5334.0	6054.6	2690.7	µg/L	2690.7	ppb	06:23:50
1	Mg 279.077 IEC†	10.6	6.4	10.091	µg/L	10.091	ppb	06:24:10
1	Na 589.592 Radial†	335439.8	365482.8	42977	µg/L	42977	ppb	06:23:50
1	Sr 421.552†	-441.5	-27.2	-0.0381	µg/L	-0.0381	ppb	06:23:50
1	Sc 361.383	183357.7	183357.7	85.805	%	85.805	%	06:24:58
1	Y 371.029	106652.5	106652.5	85.601	%	85.601	%	06:24:58
1	Ag 328.068†	-155.5	-27.4	-1.0838	µg/L	-1.0838	ppb	06:25:18
1	As 188.979†	-1.9	-1.6	-4.0331	µg/L	-4.0331	ppb	06:25:18
1	B 249.677†	296.0	248.1	29.732	µg/L	29.732	ppb	06:25:18
1	Ba 233.527†	-30.3	-2.7	-0.1334	µg/L	-0.1334	ppb	06:25:18
1	Be 313.107†	-234.8	-34.1	-0.0828	µg/L	-0.0828	ppb	06:24:58
1	Cd 226.502†	-42.9	10.3	0.5175	µg/L	0.5175	ppb	06:25:18
1	Co 228.616†	-15.9	-2.4	-0.4481	µg/L	-0.4481	ppb	06:25:18
1	Cr 267.716†	47.4	-1.1	-0.0550	µg/L	-0.0550	ppb	06:25:18
1	Cu 324.752†	306.0	61.1	2.0072	µg/L	2.0072	ppb	06:25:18
1	Mn 257.610†	-21.7	-3.9	-0.0566	µg/L	-0.0566	ppb	06:25:18
1	Mo 202.031†	25.5	1.8	0.3747	µg/L	0.3747	ppb	06:25:18
1	Ni 231.604†	-52.2	-7.7	-0.9072	µg/L	-0.9072	ppb	06:25:18
1	P 214.914†	49.0	12.1	74.581	µg/L	74.581	ppb	06:25:18
1	Pb 220.353†	9.0	1.0	0.6371	µg/L	0.6371	ppb	06:25:18
1	S 181.975 Axial†	180.8	208.2	1330.1	µg/L	1330.1	ppb	06:25:18
1	Sb 206.836†	30.2	4.7	7.7711	µg/L	7.7711	ppb	06:25:18
1	Se 196.026†	25.8	2.4	5.1515	µg/L	5.1515	ppb	06:25:18
1	SiO2†	184.0	49.4	56.680	µg/L	56.680	ppb	06:25:18
1	Si 251.611†	156.5	55.9	11.882	µg/L	11.882	ppb	06:25:18
1	Sn 189.927†	17.8	9.8	8.7169	µg/L	8.7169	ppb	06:25:18
1	Ti 334.940†	37.5	28.0	0.2681	µg/L	0.2681	ppb	06:25:18
1	Tl 190.801†	-8.3	0.6	1.2442	µg/L	1.2442	ppb	06:25:18
1	U 367.007†	20.1	48.6	31.247	µg/L	31.247	ppb	06:24:58
1	V 292.402†	0.6	11.3	0.6362	µg/L	0.6362	ppb	06:25:18
1	Zn 213.857†	-4.9	18.7	1.0230	µg/L	1.0230	ppb	06:25:18
2	Sc RADIAL	59125.0	59125.0	92.789	%	92.789	%	06:24:12
2	Al 396.153Radial†	41.6	47.0	14.626	µg/L	14.626	ppb	06:24:12
2	Ca 317.933Radial†	396.1	193.1	31.740	µg/L	31.740	ppb	06:24:32
2	Fe 238.204 Radial†	90.0	45.4	15.621	µg/L	15.621	ppb	06:24:32
2	K 766.490 Radial†	5165.0	5785.9	2571.3	µg/L	2571.3	ppb	06:24:12
2	Mg 279.077 IEC†	26.7	23.6	36.960	µg/L	36.960	ppb	06:24:32
2	Na 589.592 Radial†	332636.0	357015.7	41981	µg/L	41981	ppb	06:24:12
2	Sr 421.552†	-407.1	17.0	0.0210	µg/L	0.0210	ppb	06:24:12
2	Sc 361.383	181314.3	181314.3	84.848	%	84.848	%	06:25:20
2	Y 371.029	105714.7	105714.7	84.848	%	84.848	%	06:25:20
2	Ag 328.068†	-151.3	-24.5	-0.9492	µg/L	-0.9492	ppb	06:25:40
2	As 188.979†	0.0	0.6	1.5574	µg/L	1.5574	ppb	06:25:40
2	B 249.677†	315.3	274.8	32.935	µg/L	32.935	ppb	06:25:40
2	Ba 233.527†	-37.4	-11.4	-0.5666	µg/L	-0.5666	ppb	06:25:40
2	Be 313.107†	-209.7	-7.6	-0.0184	µg/L	-0.0184	ppb	06:25:20
2	Cd 226.502†	-56.1	-5.9	-0.2980	µg/L	-0.2980	ppb	06:25:40
2	Co 228.616†	-11.8	2.2	0.4238	µg/L	0.4238	ppb	06:25:40
2	Cr 267.716†	64.5	19.7	1.0201	µg/L	1.0201	ppb	06:25:40
2	Cu 324.752†	319.9	81.5	2.6334	µg/L	2.6334	ppb	06:25:40
2	Mn 257.610†	-19.2	-1.2	-0.0174	µg/L	-0.0174	ppb	06:25:40
2	Mo 202.031†	29.7	7.1	1.4585	µg/L	1.4585	ppb	06:25:40
2	Ni 231.604†	-46.5	-1.7	-0.2023	µg/L	-0.2023	ppb	06:25:40

2	P 214.914†	44.4	7.3	44.967 µg/L	44.967 ppb	06:25:40
2	Pb 220.353†	16.4	9.8	6.3874 µg/L	6.3874 ppb	06:25:40
2	S 181.975 Axial†	175.1	203.8	1302.4 µg/L	1302.4 ppb	06:25:40
2	Sb 206.836†	33.3	8.8	14.589 µg/L	14.589 ppb	06:25:40
2	Se 196.026†	26.2	3.3	6.9007 µg/L	6.9007 ppb	06:25:40
2	SiO2†	194.4	64.1	73.542 µg/L	73.542 ppb	06:25:40
2	Si 251.611†	168.4	72.0	15.281 µg/L	15.281 ppb	06:25:40
2	Sn 189.927†	22.1	15.0	13.411 µg/L	13.411 ppb	06:25:40
2	Ti 334.940†	22.2	10.4	0.1003 µg/L	0.1003 ppb	06:25:40
2	Tl 190.801†	-6.9	2.1	4.1684 µg/L	4.1684 ppb	06:25:40
2	U 367.007†	-11.3	11.9	7.6022 µg/L	7.6022 ppb	06:25:20
2	V 292.402†	-3.2	6.9	0.3812 µg/L	0.3812 ppb	06:25:40
2	Zn 213.857†	-1.1	23.2	1.2594 µg/L	1.2594 ppb	06:25:40
3	Sc RADIAL	59275.6	59275.6	93.025 %	93.025 %	06:24:34
3	Al 396.153Radial†	59.2	65.9	20.580 µg/L	20.580 ppb	06:24:34
3	Ca 317.933Radial†	371.4	165.5	27.192 µg/L	27.192 ppb	06:24:54
3	Fe 238.204 Radial†	90.4	45.5	15.671 µg/L	15.671 ppb	06:24:54
3	K 766.490 Radial†	5257.4	5871.1	2609.2 µg/L	2609.2 ppb	06:24:34
3	Mg 279.077 IEC†	30.2	27.3	42.811 µg/L	42.811 ppb	06:24:54
3	Na 589.592 Radial†	320585.8	343151.0	40351 µg/L	40351 ppb	06:24:34
3	Sr 421.552†	-510.4	-92.9	-0.1270 µg/L	-0.1270 ppb	06:24:34
3	Sc 361.383	187290.2	187290.2	87.645 %	87.645 %	06:25:43
3	Y 371.029	109039.7	109039.7	87.517 %	87.517 %	06:25:43
3	Ag 328.068†	-156.3	-24.6	-0.9506 µg/L	-0.9506 ppb	06:26:03
3	As 188.979†	-3.0	-2.9	-7.1527 µg/L	-7.1527 ppb	06:26:03
3	B 249.677†	295.4	240.1	28.787 µg/L	28.787 ppb	06:26:03
3	Ba 233.527†	-31.3	-3.1	-0.1564 µg/L	-0.1564 ppb	06:26:03
3	Be 313.107†	-188.3	24.7	0.0616 µg/L	0.0616 ppb	06:25:43
3	Cd 226.502†	-37.7	17.2	0.8693 µg/L	0.8693 ppb	06:26:03
3	Co 228.616†	-17.6	-3.9	-0.7324 µg/L	-0.7324 ppb	06:26:03
3	Cr 267.716†	66.3	19.3	0.9982 µg/L	0.9982 ppb	06:26:03
3	Cu 324.752†	301.4	48.3	1.5630 µg/L	1.5630 ppb	06:26:03
3	Mn 257.610†	-20.1	-1.6	-0.0233 µg/L	-0.0233 ppb	06:26:03
3	Mo 202.031†	23.5	-1.1	-0.2190 µg/L	-0.2190 ppb	06:26:03
3	Ni 231.604†	-58.5	-13.6	-1.5970 µg/L	-1.5970 ppb	06:26:03
3	P 214.914†	46.9	8.6	52.873 µg/L	52.873 ppb	06:26:03
3	Pb 220.353†	18.4	11.5	7.4753 µg/L	7.4753 ppb	06:26:03
3	S 181.975 Axial†	170.0	191.5	1223.5 µg/L	1223.5 ppb	06:26:03
3	Sb 206.836†	36.1	10.6	17.600 µg/L	17.600 ppb	06:26:03
3	Se 196.026†	19.0	-6.0	-12.531 µg/L	-12.531 ppb	06:26:03
3	SiO2†	187.2	48.5	55.704 µg/L	55.704 ppb	06:26:03
3	Si 251.611†	162.4	58.8	12.513 µg/L	12.513 ppb	06:26:03
3	Sn 189.927†	17.4	8.9	7.9418 µg/L	7.9418 ppb	06:26:03
3	Ti 334.940†	37.1	26.7	0.2556 µg/L	0.2556 ppb	06:26:03
3	Tl 190.801†	-9.9	-0.9	-1.8277 µg/L	-1.8277 ppb	06:26:03
3	U 367.007†	-14.8	8.3	5.3179 µg/L	5.3179 ppb	06:25:43
3	V 292.402†	-15.3	-6.9	-0.3692 µg/L	-0.3692 ppb	06:26:03
3	Zn 213.857†	-7.7	15.6	0.8562 µg/L	0.8562 ppb	06:26:03

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	183987.4	86.099	%	1.4214	86.099	%	1.4214	1.65%
Sc RADIAL	58882.8	92.409	%	0.8713	92.409	%	0.8713	0.94%
Y 371.029	107135.6	85.989	%	1.3760	85.989	%	1.3760	1.60%
Ag 328.068†	-25.5	-0.9945	µg/L	0.07731	-0.9945	ppb	0.07731	7.77%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	45.1	14.054	µg/L	6.8291	14.054	ppb	6.8291	48.59%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-1.3	-3.2094	µg/L	4.41307	-3.2094	ppb	4.41307	137.50%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	254.3	30.485	µg/L	2.1737	30.485	ppb	2.1737	7.13%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-5.7	-0.2855	µg/L	0.24374	-0.2855	ppb	0.24374	85.38%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-5.7	-0.0132	µg/L	0.07234	-0.0132	ppb	0.07234	548.47%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	162.9	26.776	µg/L	5.1841	26.776	ppb	5.1841	19.36%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	7.2	0.3629	µg/L	0.59884	0.3629	ppb	0.59884	165.00%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              -1.3     -0.2522 µg/L       0.60248     -0.2522 ppb        0.60248 238.86%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              12.6      0.6544 µg/L       0.61445      0.6544 ppb        0.61445  93.89%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†              63.7      2.0679 µg/L       0.53778      2.0679 ppb        0.53778  26.01%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†       42.0      14.443 µg/L        2.0845      14.443 ppb         2.0845  14.43%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†       5903.8      2623.7 µg/L         61.03      2623.7 ppb          61.03   2.33%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†          19.1      29.954 µg/L       17.4485      29.954 ppb        17.4485  58.25%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†              -2.2     -0.0324 µg/L       0.02111     -0.0324 ppb        0.02111  65.09%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               2.6      0.5381 µg/L       0.85059      0.5381 ppb        0.85059 158.08%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†    355216.5       41770 µg/L       1325.71       41770 ppb        1325.71   3.17%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              -7.7     -0.9022 µg/L       0.69736     -0.9022 ppb        0.69736  77.30%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                9.4      57.474 µg/L       15.3340      57.474 ppb        15.3340  26.68%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†               7.4      4.8332 µg/L       3.67447      4.8332 ppb        3.67447  76.02%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         201.2      1285.3 µg/L         55.32      1285.3 ppb          55.32   4.30%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               8.0      13.320 µg/L        5.0356      13.320 ppb         5.0356  37.81%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -0.1     -0.1595 µg/L      10.74947     -0.1595 ppb       10.74947 >999.9%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    54.0      61.975 µg/L       10.0293      61.975 ppb        10.0293  16.18%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              62.2      13.225 µg/L        1.8078      13.225 ppb         1.8078  13.67%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              11.2      10.023 µg/L        2.9596      10.023 ppb         2.9596  29.53%
   QC value greater than the upper limit for Sn 189.927  Recovery = Not calculated
Sr 421.552†             -34.4     -0.0480 µg/L       0.07450     -0.0480 ppb        0.07450 155.06%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†              21.7      0.2080 µg/L       0.09353      0.2080 ppb        0.09353  44.96%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               0.6      1.1950 µg/L       2.99834      1.1950 ppb        2.99834 250.92%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†               22.9      14.722 µg/L       14.3564      14.722 ppb        14.3564  97.51%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†                3.8      0.2161 µg/L       0.52267      0.2161 ppb        0.52267 241.88%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†              19.2      1.0462 µg/L       0.20260      1.0462 ppb        0.20260  19.37%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
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Analysis Begun

Start Time: 11/19/2020 07:51:59
Originator: Avio1
Spectrometer: Avio 500, S/N 081S1711281
Plasma On Time: 11/16/2020 04:42:02
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Sample Information\ 111920.SIF
Results Data Set: 111920
Results Library: C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Results\Results.mdb

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Batch ID:
Sequence No.: 1
Sample ID: CCV
Analyst: HSC
Initial Sample Wt:
Dilution:
Wash Time (before sample):
Autosampler Location: 7
Date Collected: 11/19/2020 07:52:09
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	67766.7	67766.7	106.35	%	106.35	%	07:52:52
1	Al 396.153Radial†	16354.4	15380.0	4783.5	µg/L	4783.5	ppb	07:52:54
1	Ca 317.933Radial†	31009.8	28924.3	4753.3	µg/L	4753.3	ppb	07:52:54
1	Fe 238.204 Radial†	15051.0	14100.6	4860.2	µg/L	4860.2	ppb	07:52:54
1	K 766.490 Radial†	13231.2	12660.6	5627.8	µg/L	5627.8	ppb	07:52:54
1	Mg 279.077 IEC†	3326.7	3122.9	4891.0	µg/L	4891.0	ppb	07:52:54
1	Na 589.592 Radial†	139281.6	129492.5	15226	µg/L	15226	ppb	07:52:52
1	Sr 421.552†	409610.5	385606.3	518.63	µg/L	518.63	ppb	07:52:52
1	Sc 361.383	216977.6	216977.6	101.54	%	101.54	%	07:53:06
1	Y 371.029	125954.3	125954.3	101.09	%	101.09	%	07:53:06
1	Ag 328.068†	12600.0	12562.9	483.77	µg/L	483.77	ppb	07:53:06
1	As 188.979†	194.8	192.4	484.95	µg/L	484.95	ppb	07:53:26
1	B 249.677†	4238.9	4077.9	503.10	µg/L	503.10	ppb	07:53:06
1	Ba 233.527†	9926.6	9808.9	486.31	µg/L	486.31	ppb	07:53:06
1	Be 313.107†	201758.8	198943.1	490.49	µg/L	490.49	ppb	07:53:06
1	Cd 226.502†	9720.3	9633.4	486.00	µg/L	486.00	ppb	07:53:06
1	Co 228.616†	2519.3	2497.4	473.52	µg/L	473.52	ppb	07:53:26
1	Cr 267.716†	9556.3	9355.2	484.46	µg/L	484.46	ppb	07:53:06
1	Cu 324.752†	15703.6	15170.2	488.84	µg/L	488.84	ppb	07:53:06
1	Mn 257.610†	33925.3	33432.9	488.85	µg/L	488.85	ppb	07:53:06
1	Mo 202.031†	2341.5	2278.2	465.08	µg/L	465.08	ppb	07:53:26
1	Ni 231.604†	4132.7	4123.3	483.72	µg/L	483.72	ppb	07:53:06
1	P 214.914†	435.3	383.8	2324.8	µg/L	2324.8	ppb	07:53:26
1	Pb 220.353†	748.6	727.8	475.33	µg/L	475.33	ppb	07:53:26
1	S 181.975 Axial†	157.2	152.3	973.82	µg/L	973.82	ppb	07:53:26
1	Sb 206.836†	307.4	272.3	458.74	µg/L	458.74	ppb	07:53:26
1	Se 196.026†	257.1	225.6	477.51	µg/L	477.51	ppb	07:53:26
1	SiO2†	4825.8	4587.7	5259.7	µg/L	5259.7	ppb	07:53:06
1	Si 251.611†	11900.1	11593.5	2453.6	µg/L	2453.6	ppb	07:53:06
1	Sn 189.927†	535.6	516.5	463.94	µg/L	463.94	ppb	07:53:26
1	Ti 334.940†	51057.9	50269.0	481.40	µg/L	481.40	ppb	07:53:06
1	Tl 190.801†	234.9	241.6	471.67	µg/L	471.67	ppb	07:53:26
1	U 367.007†	746.7	760.6	473.73	µg/L	473.73	ppb	07:53:06
1	V 292.402†	9116.0	8988.5	489.99	µg/L	489.99	ppb	07:53:06
1	Zn 213.857†	9065.9	8953.1	484.37	µg/L	484.37	ppb	07:53:06
2	Sc RADIAL	64677.9	64677.9	101.50	%	101.50	%	07:52:56
2	Al 396.153Radial†	16793.3	16546.8	5147.4	µg/L	5147.4	ppb	07:52:58
2	Ca 317.933Radial†	31882.6	31176.6	5123.4	µg/L	5123.4	ppb	07:52:58
2	Fe 238.204 Radial†	15643.5	15360.2	5294.0	µg/L	5294.0	ppb	07:52:58
2	K 766.490 Radial†	13540.7	13559.6	6027.5	µg/L	6027.5	ppb	07:52:58
2	Mg 279.077 IEC†	3388.6	3333.3	5220.5	µg/L	5220.5	ppb	07:52:58
2	Na 589.592 Radial†	134612.4	131147.1	15421	µg/L	15421	ppb	07:52:56
2	Sr 421.552†	392158.4	386806.6	520.20	µg/L	520.20	ppb	07:52:56
2	Sc 361.383	211832.4	211832.4	99.130	%	99.130	%	07:53:28
2	Y 371.029	122931.9	122931.9	98.667	%	98.667	%	07:53:28

2	Ag 328.068†	12178.8	12439.5	479.01 µg/L	479.01 ppb	07:53:28
2	As 188.979†	201.4	203.7	513.13 µg/L	513.13 ppb	07:53:49
2	B 249.677†	4161.3	4101.0	507.21 µg/L	507.21 ppb	07:53:28
2	Ba 233.527†	9613.4	9730.4	482.38 µg/L	482.38 ppb	07:53:28
2	Be 313.107†	195356.5	197310.9	486.47 µg/L	486.47 ppb	07:53:28
2	Cd 226.502†	9406.5	9549.4	481.71 µg/L	481.71 ppb	07:53:28
2	Co 228.616†	2516.7	2555.0	484.41 µg/L	484.41 ppb	07:53:49
2	Cr 267.716†	9291.1	9316.3	482.44 µg/L	482.44 ppb	07:53:28
2	Cu 324.752†	15285.3	15124.0	487.38 µg/L	487.38 ppb	07:53:28
2	Mn 257.610†	32853.4	33163.2	484.90 µg/L	484.90 ppb	07:53:28
2	Mo 202.031†	2344.3	2337.0	477.07 µg/L	477.07 ppb	07:53:49
2	Ni 231.604†	3972.7	4060.7	476.39 µg/L	476.39 ppb	07:53:28
2	P 214.914†	437.4	396.3	2401.2 µg/L	2401.2 ppb	07:53:49
2	Pb 220.353†	748.2	745.2	486.83 µg/L	486.83 ppb	07:53:49
2	S 181.975 Axial†	157.0	155.9	996.69 µg/L	996.69 ppb	07:53:49
2	Sb 206.836†	311.5	283.8	478.03 µg/L	478.03 ppb	07:53:49
2	Se 196.026†	251.3	225.8	478.16 µg/L	478.16 ppb	07:53:49
2	SiO2†	4719.7	4596.1	5269.0 µg/L	5269.0 ppb	07:53:28
2	Si 251.611†	11588.9	11564.1	2446.9 µg/L	2446.9 ppb	07:53:28
2	Sn 189.927†	534.5	528.2	474.28 µg/L	474.28 ppb	07:53:49
2	Ti 334.940†	49443.6	49861.9	477.54 µg/L	477.54 ppb	07:53:28
2	Tl 190.801†	234.9	247.3	482.67 µg/L	482.67 ppb	07:53:49
2	U 367.007†	723.6	755.1	468.77 µg/L	468.77 ppb	07:53:28
2	V 292.402†	8705.7	8792.7	479.34 µg/L	479.34 ppb	07:53:28
2	Zn 213.857†	8757.7	8859.0	479.22 µg/L	479.22 ppb	07:53:28
3	Sc RADIAL	63904.4	63904.4	100.29 %	100.29 %	07:53:01
3	Al 396.153Radial†	16238.3	16193.6	5037.0 µg/L	5037.0 ppb	07:53:03
3	Ca 317.933Radial†	30370.8	30049.4	4938.1 µg/L	4938.1 ppb	07:53:03
3	Fe 238.204 Radial†	14830.4	14736.0	5079.1 µg/L	5079.1 ppb	07:53:03
3	K 766.490 Radial†	13044.4	13226.2	5879.2 µg/L	5879.2 ppb	07:53:03
3	Mg 279.077 IEC†	3205.5	3191.2	4997.9 µg/L	4997.9 ppb	07:53:03
3	Na 589.592 Radial†	133494.0	131637.0	15478 µg/L	15478 ppb	07:53:01
3	Sr 421.552†	387595.1	386932.5	520.39 µg/L	520.39 ppb	07:53:01
3	Sc 361.383	211496.8	211496.8	98.973 %	98.973 %	07:53:51
3	Y 371.029	122727.1	122727.1	98.503 %	98.503 %	07:53:51
3	Ag 328.068†	12259.1	12540.1	482.87 µg/L	482.87 ppb	07:53:51
3	As 188.979†	194.7	197.3	497.12 µg/L	497.12 ppb	07:54:11
3	B 249.677†	4218.1	4165.0	514.21 µg/L	514.21 ppb	07:53:51
3	Ba 233.527†	9697.9	9831.2	487.39 µg/L	487.39 ppb	07:53:51
3	Be 313.107†	196318.5	198595.6	489.64 µg/L	489.64 ppb	07:53:51
3	Cd 226.502†	9498.0	9656.9	487.16 µg/L	487.16 ppb	07:53:51
3	Co 228.616†	2525.7	2568.2	486.92 µg/L	486.92 ppb	07:54:11
3	Cr 267.716†	9319.3	9359.6	484.69 µg/L	484.69 ppb	07:53:51
3	Cu 324.752†	15462.4	15327.3	493.93 µg/L	493.93 ppb	07:53:51
3	Mn 257.610†	32953.9	33317.3	487.16 µg/L	487.16 ppb	07:53:51
3	Mo 202.031†	2346.4	2342.9	478.28 µg/L	478.28 ppb	07:54:11
3	Ni 231.604†	4058.1	4153.3	487.25 µg/L	487.25 ppb	07:53:51
3	P 214.914†	442.8	402.4	2438.8 µg/L	2438.8 ppb	07:54:11
3	Pb 220.353†	748.0	746.3	487.43 µg/L	487.43 ppb	07:54:11
3	S 181.975 Axial†	159.1	158.2	1011.6 µg/L	1011.6 ppb	07:54:11
3	Sb 206.836†	313.6	286.3	482.29 µg/L	482.29 ppb	07:54:11
3	Se 196.026†	260.8	235.9	499.27 µg/L	499.27 ppb	07:54:11
3	SiO2†	4757.5	4641.8	5321.4 µg/L	5321.4 ppb	07:53:51
3	Si 251.611†	11618.8	11612.9	2457.3 µg/L	2457.3 ppb	07:53:51
3	Sn 189.927†	538.0	532.6	478.25 µg/L	478.25 ppb	07:54:11
3	Ti 334.940†	49811.5	50312.7	481.83 µg/L	481.83 ppb	07:53:51
3	Tl 190.801†	238.6	251.4	490.70 µg/L	490.70 ppb	07:54:11
3	U 367.007†	752.3	785.3	488.93 µg/L	488.93 ppb	07:53:51
3	V 292.402†	8816.8	8918.9	486.22 µg/L	486.22 ppb	07:53:51
3	Zn 213.857†	8864.1	8980.5	485.81 µg/L	485.81 ppb	07:53:51

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	213435.6	99.880	%	1.4376	99.880	%	1.4376	1.44%
Sc RADIAL	65449.7	102.71	%	3.207	102.71	%	3.207	3.12%
Y 371.029	123871.1	99.421	%	1.4503	99.421	%	1.4503	1.46%
Ag 328.068†	12514.2	481.88	µg/L	2.529	481.88	ppb	2.529	0.52%
QC value within limits for Ag 328.068 Recovery = 96.38%								
Al 396.153Radial†	16040.2	4989.3	µg/L	186.58	4989.3	ppb	186.58	3.74%

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   QC value within limits for Al 396.153Radial  Recovery = 99.79%
As 188.979†             197.8      498.40 µg/L        14.137      498.40 ppb         14.137   2.84%
   QC value within limits for As 188.979  Recovery = 99.68%
B 249.677†             4114.6      508.17 µg/L         5.618      508.17 ppb          5.618   1.11%
   QC value within limits for B 249.677  Recovery = 101.63%
Ba 233.527†            9790.2      485.36 µg/L         2.642      485.36 ppb          2.642   0.54%
   QC value within limits for Ba 233.527  Recovery = 97.07%
Be 313.107†          198283.2      488.87 µg/L         2.121      488.87 ppb          2.121   0.43%
   QC value within limits for Be 313.107  Recovery = 97.77%
Ca 317.933Radial†     30050.1      4938.3 µg/L        185.07      4938.3 ppb         185.07   3.75%
   QC value within limits for Ca 317.933Radial  Recovery = 98.77%
Cd 226.502†            9613.2      484.96 µg/L         2.874      484.96 ppb          2.874   0.59%
   QC value within limits for Cd 226.502  Recovery = 96.99%
Co 228.616†            2540.2      481.62 µg/L         7.124      481.62 ppb          7.124   1.48%
   QC value within limits for Co 228.616  Recovery = 96.32%
Cr 267.716†            9343.7      483.86 µg/L         1.235      483.86 ppb          1.235   0.26%
   QC value within limits for Cr 267.716  Recovery = 96.77%
Cu 324.752†           15207.2      490.05 µg/L         3.438      490.05 ppb          3.438   0.70%
   QC value within limits for Cu 324.752  Recovery = 98.01%
Fe 238.204 Radial†    14732.3      5077.7 µg/L        216.92      5077.7 ppb         216.92   4.27%
   QC value within limits for Fe 238.204 Radial  Recovery = 101.55%
K 766.490 Radial†     13148.8      5844.8 µg/L        202.05      5844.8 ppb         202.05   3.46%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = 116.90%
Mg 279.077 IEC†        3215.8      5036.5 µg/L        168.14      5036.5 ppb         168.14   3.34%
   QC value within limits for Mg 279.077 IEC  Recovery = 100.73%
Mn 257.610†           33304.5      486.97 µg/L         1.981      486.97 ppb          1.981   0.41%
   QC value within limits for Mn 257.610  Recovery = 97.39%
Mo 202.031†            2319.4      473.48 µg/L         7.299      473.48 ppb          7.299   1.54%
   QC value within limits for Mo 202.031  Recovery = 94.70%
Na 589.592 Radial†   130758.9       15375 µg/L        132.11       15375 ppb         132.11   0.86%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = 153.75%
Ni 231.604†            4112.4      482.45 µg/L         5.543      482.45 ppb          5.543   1.15%
   QC value within limits for Ni 231.604  Recovery = 96.49%
P 214.914†              394.2      2388.2 µg/L         58.10      2388.2 ppb          58.10   2.43%
   QC value within limits for P 214.914  Recovery = 95.53%
Pb 220.353†             739.8      483.20 µg/L         6.817      483.20 ppb          6.817   1.41%
   QC value within limits for Pb 220.353  Recovery = 96.64%
S 181.975 Axial†        155.5      994.05 µg/L        19.049      994.05 ppb         19.049   1.92%
   QC value within limits for S 181.975 Axial  Recovery = 99.40%
Sb 206.836†             280.8      473.02 µg/L        12.550      473.02 ppb         12.550   2.65%
   QC value within limits for Sb 206.836  Recovery = 94.60%
Se 196.026†             229.1      484.98 µg/L        12.377      484.98 ppb         12.377   2.55%
   QC value within limits for Se 196.026  Recovery = 97.00%
SiO2†                  4608.6      5283.4 µg/L         33.29      5283.4 ppb          33.29   0.63%
   QC value within limits for SiO2  Recovery = 98.80%
Si 251.611†           11590.2      2452.6 µg/L          5.28      2452.6 ppb           5.28   0.22%
   QC value within limits for Si 251.611  Recovery = 98.10%
Sn 189.927†             525.8      472.16 µg/L         7.388      472.16 ppb          7.388   1.56%
   QC value within limits for Sn 189.927  Recovery = 94.43%
Sr 421.552†          386448.5      519.74 µg/L         0.964      519.74 ppb          0.964   0.19%
   QC value within limits for Sr 421.552  Recovery = 103.95%
Ti 334.940†           50147.9      480.26 µg/L         2.364      480.26 ppb          2.364   0.49%
   QC value within limits for Ti 334.940  Recovery = 96.05%
Tl 190.801†             246.8      481.68 µg/L         9.555      481.68 ppb          9.555   1.98%
   QC value within limits for Tl 190.801  Recovery = 96.34%
U 367.007†              767.0      477.15 µg/L        10.506      477.15 ppb         10.506   2.20%
   QC value within limits for U 367.007  Recovery = 95.43%
V 292.402†             8900.0      485.18 µg/L         5.396      485.18 ppb          5.396   1.11%
   QC value within limits for V 292.402  Recovery = 97.04%
Zn 213.857†            8930.9      483.13 µg/L         3.465      483.13 ppb          3.465   0.72%
   QC value within limits for Zn 213.857  Recovery = 96.63%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 2 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/19/2020 07:54:41**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	62960.1	62960.1	98.807	%	98.807	%	07:55:18
1	Al 396.153Radial†	-17.1	-15.1	-4.7032	µg/L	-4.7032	ppb	07:55:18
1	Ca 317.933Radial†	234.0	3.0	0.4974	µg/L	0.4974	ppb	07:55:38
1	Fe 238.204 Radial†	53.9	2.9	1.0293	µg/L	1.0293	ppb	07:55:38
1	K 766.490 Radial†	1233.6	1467.9	652.36	µg/L	652.36	ppb	07:55:18
1	Mg 279.077 IEC†	-1.8	-7.0	-10.944	µg/L	-10.944	ppb	07:55:38
1	Na 589.592 Radial†	48270.8	47381.5	5571.6	µg/L	5571.6	ppb	07:55:18
1	Sr 421.552†	-568.2	-119.4	-0.1609	µg/L	-0.1609	ppb	07:55:18
1	Sc 361.383	191417.6	191417.6	89.576	%	89.576	%	07:56:26
1	Y 371.029	111660.2	111660.2	89.620	%	89.620	%	07:56:26
1	Ag 328.068†	-127.8	11.1	0.4338	µg/L	0.4338	ppb	07:56:46
1	As 188.979†	-1.3	-0.9	-2.1294	µg/L	-2.1294	ppb	07:56:46
1	B 249.677†	198.6	124.8	14.942	µg/L	14.942	ppb	07:56:46
1	Ba 233.527†	-30.4	-1.4	-0.0669	µg/L	-0.0669	ppb	07:56:46
1	Be 313.107†	-200.2	16.1	0.0403	µg/L	0.0403	ppb	07:56:26
1	Cd 226.502†	-58.6	-5.1	-0.2572	µg/L	-0.2572	ppb	07:56:46
1	Co 228.616†	-5.9	9.7	1.8278	µg/L	1.8278	ppb	07:56:46
1	Cr 267.716†	54.5	4.5	0.2354	µg/L	0.2354	ppb	07:56:46
1	Cu 324.752†	301.0	40.5	1.2968	µg/L	1.2968	ppb	07:56:46
1	Mn 257.610†	-28.2	-10.1	-0.1470	µg/L	-0.1470	ppb	07:56:46
1	Mo 202.031†	24.2	-0.8	-0.1680	µg/L	-0.1680	ppb	07:56:46
1	Ni 231.604†	-55.3	-8.7	-1.0188	µg/L	-1.0188	ppb	07:56:46
1	P 214.914†	43.9	4.0	24.799	µg/L	24.799	ppb	07:56:46
1	Pb 220.353†	1.8	-7.5	-4.8713	µg/L	-4.8713	ppb	07:56:46
1	S 181.975 Axial†	7.1	5.4	34.584	µg/L	34.584	ppb	07:56:46
1	Sb 206.836†	35.1	8.6	14.338	µg/L	14.338	ppb	07:56:46
1	Se 196.026†	30.2	6.1	12.749	µg/L	12.749	ppb	07:56:46
1	SiO2†	168.9	23.6	27.029	µg/L	27.029	ppb	07:56:46
1	Si 251.611†	129.8	18.5	3.9350	µg/L	3.9350	ppb	07:56:46
1	Sn 189.927†	15.9	6.8	6.0509	µg/L	6.0509	ppb	07:56:46
1	Ti 334.940†	36.6	25.1	0.2405	µg/L	0.2405	ppb	07:56:46
1	Tl 190.801†	-10.2	-1.0	-2.0229	µg/L	-2.0229	ppb	07:56:46
1	U 367.007†	-29.0	-7.2	-4.6159	µg/L	-4.6159	ppb	07:56:26
1	V 292.402†	-0.7	9.8	0.5298	µg/L	0.5298	ppb	07:56:46
1	Zn 213.857†	-6.2	17.5	0.9585	µg/L	0.9585	ppb	07:56:46
2	Sc RADIAL	57461.8	57461.8	90.179	%	90.179	%	07:55:41
2	Al 396.153Radial†	-20.1	-20.1	-6.3166	µg/L	-6.3166	ppb	07:55:41
2	Ca 317.933Radial†	257.0	51.2	8.4071	µg/L	8.4071	ppb	07:56:01
2	Fe 238.204 Radial†	57.2	11.8	4.0496	µg/L	4.0496	ppb	07:56:01
2	K 766.490 Radial†	1190.7	1539.9	684.34	µg/L	684.34	ppb	07:55:41
2	Mg 279.077 IEC†	12.0	8.2	12.810	µg/L	12.810	ppb	07:56:01
2	Na 589.592 Radial†	46565.6	50165.2	5898.9	µg/L	5898.9	ppb	07:55:41
2	Sr 421.552†	-429.2	-20.2	-0.0277	µg/L	-0.0277	ppb	07:55:41
2	Sc 361.383	191305.0	191305.0	89.524	%	89.524	%	07:56:49
2	Y 371.029	111702.0	111702.0	89.654	%	89.654	%	07:56:49
2	Ag 328.068†	-154.3	-18.6	-0.7024	µg/L	-0.7024	ppb	07:57:09
2	As 188.979†	-1.0	-0.6	-1.4053	µg/L	-1.4053	ppb	07:57:09
2	B 249.677†	209.5	137.2	16.427	µg/L	16.427	ppb	07:57:09
2	Ba 233.527†	-25.8	3.8	0.1893	µg/L	0.1893	ppb	07:57:09
2	Be 313.107†	-212.2	2.6	0.0072	µg/L	0.0072	ppb	07:56:49
2	Cd 226.502†	-49.2	5.4	0.2703	µg/L	0.2703	ppb	07:57:09
2	Co 228.616†	-15.3	-0.8	-0.1593	µg/L	-0.1593	ppb	07:57:09
2	Cr 267.716†	58.3	8.8	0.4557	µg/L	0.4557	ppb	07:57:09
2	Cu 324.752†	285.0	22.8	0.7191	µg/L	0.7191	ppb	07:57:09
2	Mn 257.610†	-8.5	11.9	0.1740	µg/L	0.1740	ppb	07:57:09
2	Mo 202.031†	30.2	5.9	1.1954	µg/L	1.1954	ppb	07:57:09
2	Ni 231.604†	-47.0	0.6	0.0658	µg/L	0.0658	ppb	07:57:09

2	P 214.914†	43.2	3.3	20.291 µg/L	20.291 ppb	07:57:09
2	Pb 220.353†	16.4	8.8	5.7876 µg/L	5.7876 ppb	07:57:09
2	S 181.975 Axial†	9.5	8.1	52.021 µg/L	52.021 ppb	07:57:09
2	Sb 206.836†	26.5	-0.9	-1.4439 µg/L	-1.4439 ppb	07:57:09
2	Se 196.026†	18.3	-7.2	-15.106 µg/L	-15.106 ppb	07:57:09
2	SiO2†	176.2	31.8	36.424 µg/L	36.424 ppb	07:57:09
2	Si 251.611†	142.6	32.8	6.9410 µg/L	6.9410 ppb	07:57:09
2	Sn 189.927†	23.0	14.7	13.142 µg/L	13.142 ppb	07:57:09
2	Ti 334.940†	37.2	25.9	0.2479 µg/L	0.2479 ppb	07:57:09
2	Tl 190.801†	-9.9	-0.7	-1.3978 µg/L	-1.3978 ppb	07:57:09
2	U 367.007†	-38.5	-17.8	-11.500 µg/L	-11.500 ppb	07:56:49
2	V 292.402†	-12.5	-3.4	-0.1911 µg/L	-0.1911 ppb	07:57:09
2	Zn 213.857†	0.7	25.2	1.3706 µg/L	1.3706 ppb	07:57:09
3	Sc RADIAL	58994.6	58994.6	92.584 %	92.584 %	07:56:03
3	Al 396.153Radial†	-2.3	-0.3	-0.1430 µg/L	-0.1430 ppb	07:56:03
3	Ca 317.933Radial†	223.2	7.3	1.2051 µg/L	1.2051 ppb	07:56:23
3	Fe 238.204 Radial†	52.1	4.7	1.6152 µg/L	1.6152 ppb	07:56:23
3	K 766.490 Radial†	1253.3	1573.1	699.11 µg/L	699.11 ppb	07:56:03
3	Mg 279.077 IEC†	2.8	-2.1	-3.3590 µg/L	-3.3590 ppb	07:56:23
3	Na 589.592 Radial†	48044.6	50421.1	5929.0 µg/L	5929.0 ppb	07:56:03
3	Sr 421.552†	-468.9	-50.7	-0.0685 µg/L	-0.0685 ppb	07:56:03
3	Sc 361.383	185572.3	185572.3	86.841 %	86.841 %	07:57:11
3	Y 371.029	108207.1	108207.1	86.849 %	86.849 %	07:57:11
3	Ag 328.068†	-159.1	-29.4	-1.1198 µg/L	-1.1198 ppb	07:57:31
3	As 188.979†	-3.7	-3.7	-9.2456 µg/L	-9.2456 ppb	07:57:31
3	B 249.677†	200.7	134.3	16.073 µg/L	16.073 ppb	07:57:31
3	Ba 233.527†	-24.8	4.0	0.2009 µg/L	0.2009 ppb	07:57:31
3	Be 313.107†	-276.2	-78.5	-0.1926 µg/L	-0.1926 ppb	07:57:11
3	Cd 226.502†	-50.3	2.4	0.1220 µg/L	0.1220 ppb	07:57:31
3	Co 228.616†	-13.3	0.9	0.1738 µg/L	0.1738 ppb	07:57:31
3	Cr 267.716†	49.9	1.1	0.0578 µg/L	0.0578 ppb	07:57:31
3	Cu 324.752†	298.5	48.3	1.5397 µg/L	1.5397 ppb	07:57:31
3	Mn 257.610†	-19.5	-1.0	-0.0152 µg/L	-0.0152 ppb	07:57:31
3	Mo 202.031†	28.7	5.2	1.0594 µg/L	1.0594 ppb	07:57:31
3	Ni 231.604†	-41.2	5.6	0.6608 µg/L	0.6608 ppb	07:57:31
3	P 214.914†	41.4	2.8	17.081 µg/L	17.081 ppb	07:57:31
3	Pb 220.353†	10.5	2.5	1.6666 µg/L	1.6666 ppb	07:57:31
3	S 181.975 Axial†	12.2	11.6	74.046 µg/L	74.046 ppb	07:57:31
3	Sb 206.836†	29.1	2.9	4.8989 µg/L	4.8989 ppb	07:57:31
3	Se 196.026†	22.2	-2.0	-4.2963 µg/L	-4.2963 ppb	07:57:31
3	SiO2†	164.8	24.7	28.335 µg/L	28.335 ppb	07:57:31
3	Si 251.611†	137.2	31.6	6.6906 µg/L	6.6906 ppb	07:57:31
3	Sn 189.927†	23.8	16.4	14.611 µg/L	14.611 ppb	07:57:31
3	Ti 334.940†	20.3	7.7	0.0736 µg/L	0.0736 ppb	07:57:31
3	Tl 190.801†	-10.2	-1.4	-2.8011 µg/L	-2.8011 ppb	07:57:31
3	U 367.007†	-34.7	-14.8	-9.5259 µg/L	-9.5259 ppb	07:57:11
3	V 292.402†	0.1	10.7	0.5755 µg/L	0.5755 ppb	07:57:31
3	Zn 213.857†	4.9	30.0	1.6307 µg/L	1.6307 ppb	07:57:31

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	189431.6	88.647	%	1.5643	88.647	%	1.5643	1.76%
Sc RADIAL	59805.5	93.857	%	4.4530	93.857	%	4.4530	4.74%
Y 371.029	110523.1	88.707	%	1.6099	88.707	%	1.6099	1.81%
Ag 328.068†	-12.3	-0.4628	µg/L	0.80400	-0.4628	ppb	0.80400	173.73%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-11.8	-3.7209	µg/L	3.20185	-3.7209	ppb	3.20185	86.05%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-1.7	-4.2601	µg/L	4.33269	-4.2601	ppb	4.33269	101.70%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	132.1	15.814	µg/L	0.7756	15.814	ppb	0.7756	4.90%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	2.2	0.1078	µg/L	0.15135	0.1078	ppb	0.15135	140.44%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-20.0	-0.0484	µg/L	0.12603	-0.0484	ppb	0.12603	260.66%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	20.5	3.3699	µg/L	4.37673	3.3699	ppb	4.37673	129.88%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	0.9	0.0450	µg/L	0.27200	0.0450	ppb	0.27200	604.06%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†          3.2      0.6141 µg/L       1.06422      0.6141 ppb        1.06422 173.29%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†          4.8      0.2496 µg/L       0.19930      0.2496 ppb        0.19930  79.83%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†         37.2      1.1852 µg/L       0.42152      1.1852 ppb        0.42152  35.56%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†   6.5      2.2314 µg/L       1.60162      2.2314 ppb        1.60162  71.78%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†  1527.0      678.60 µg/L        23.898      678.60 ppb         23.898   3.52%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†     -0.3     -0.4977 µg/L      12.13302     -0.4977 ppb       12.13302 >999.9%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†          0.3      0.0039 µg/L       0.16137      0.0039 ppb        0.16137 >999.9%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†          3.4      0.6956 µg/L       0.75100      0.6956 ppb        0.75100 107.97%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial† 49322.6      5799.8 µg/L        198.24      5799.8 ppb         198.24   3.42%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†         -0.8     -0.0974 µg/L       0.85159     -0.0974 ppb        0.85159 874.31%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†           3.4      20.724 µg/L        3.8772      20.724 ppb         3.8772  18.71%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†          1.3      0.8610 µg/L       5.37490      0.8610 ppb        5.37490 624.27%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†     8.4      53.550 µg/L       19.7757      53.550 ppb        19.7757  36.93%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†          3.6      5.9310 µg/L       7.94136      5.9310 ppb        7.94136 133.90%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†         -1.1     -2.2175 µg/L      14.04344     -2.2175 ppb       14.04344 633.30%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†               26.7      30.596 µg/L        5.0894      30.596 ppb         5.0894  16.63%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†         27.6      5.8555 µg/L       1.66797      5.8555 ppb        1.66797  28.49%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†         12.6      11.268 µg/L        4.5775      11.268 ppb         4.5775  40.62%
   QC value greater than the upper limit for Sn 189.927  Recovery = Not calculated
Sr 421.552†        -63.4     -0.0857 µg/L       0.06821     -0.0857 ppb        0.06821  79.59%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†         19.6      0.1873 µg/L       0.09854      0.1873 ppb        0.09854  52.60%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†         -1.1     -2.0739 µg/L       0.70306     -2.0739 ppb        0.70306  33.90%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†         -13.3     -8.5472 µg/L       3.54471     -8.5472 ppb        3.54471  41.47%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†           5.7      0.3047 µg/L       0.43003      0.3047 ppb        0.43003 141.12%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†         24.2      1.3199 µg/L       0.33897      1.3199 ppb        0.33897  25.68%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 3 **Autosampler Location: 309**
Sample ID: 527510002|2063261|20| **Date Collected: 11/19/2020 07:58:02**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: 527510002|2063261|20|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	61092.5	61092.5	95.876	%	95.876	%	07:58:46
1	Al 396.153Radial†	-61.1	-61.5	-20.473	µg/L	-20.473	ppb	07:58:46
1	Ca 317.933Radial†	6364.7	6404.7	1052.5	µg/L	1052.5	ppb	07:59:06
1	Fe 238.204 Radial†	56.1	6.9	2.3664	µg/L	2.3664	ppb	07:59:06
1	K 766.490 Radial†	290740.9	303464.8	134860	µg/L	134860	ppb	07:58:46
1	Mg 279.077 IEC†	7153.3	7455.8	11672	µg/L	11672	ppb	07:58:46
1	Na 589.592 Radial†	27436208.6	28614735.9	3364800	µg/L	3364800	ppb	07:58:44
1	Sr 421.552†	42716.7	45009.6	60.605	µg/L	60.605	ppb	07:58:46
1	Sc 361.383	183711.7	183711.7	85.970	%	85.970	%	08:00:02
1	Y 371.029	105131.2	105131.2	84.380	%	84.380	%	08:00:02
1	Ag 328.068†	-140.2	-9.3	-0.3581	µg/L	-0.3581	ppb	08:00:22
1	As 188.979†	-0.0	0.6	1.5572	µg/L	1.5572	ppb	08:00:22
1	B 249.677†	1902.2	2115.7	253.22	µg/L	253.22	ppb	08:00:02
1	Ba 233.527†	158.7	217.2	10.763	µg/L	10.763	ppb	08:00:22
1	Be 313.107†	-211.6	-6.5	-0.0163	µg/L	-0.0163	ppb	08:00:02
1	Cd 226.502†	-53.9	-2.4	-0.1204	µg/L	-0.1204	ppb	08:00:22
1	Co 228.616†	-13.9	-0.0	0.0124	µg/L	0.0124	ppb	08:00:22
1	Cr 267.716†	68.1	22.9	1.1847	µg/L	1.1847	ppb	08:00:22
1	Cu 324.752†	321.5	78.5	2.5254	µg/L	2.5254	ppb	08:00:22
1	Mn 257.610†	80.1	114.5	1.6630	µg/L	1.6630	ppb	08:00:22
1	Mo 202.031†	149.2	145.7	29.755	µg/L	29.755	ppb	08:00:22
1	Ni 231.604†	-15.6	35.0	4.1071	µg/L	4.1071	ppb	08:00:22
1	P 214.914†	133.3	110.1	675.42	µg/L	675.42	ppb	08:00:22
1	Pb 220.353†	6.8	-1.6	-1.0561	µg/L	-1.0561	ppb	08:00:22
1	S 181.975 Axial†	23863.1	27754.8	177350	µg/L	177350	ppb	08:00:02
1	Sb 206.836†	30.8	5.3	9.1599	µg/L	9.1599	ppb	08:00:22
1	Se 196.026†	25.2	1.6	3.4084	µg/L	3.4084	ppb	08:00:22
1	SiO2†	1082.2	1093.8	1254.1	µg/L	1254.1	ppb	08:00:22
1	Si 251.611†	2462.6	2738.0	581.83	µg/L	581.83	ppb	08:00:22
1	Sn 189.927†	22.8	15.5	13.922	µg/L	13.922	ppb	08:00:22
1	Ti 334.940†	6.1	-8.6	-0.1251	µg/L	-0.1251	ppb	08:00:22
1	Tl 190.801†	-10.2	-1.6	-2.9868	µg/L	-2.9868	ppb	08:00:22
1	U 367.007†	-19.6	2.4	1.5208	µg/L	1.5208	ppb	08:00:02
1	V 292.402†	-2.1	8.2	0.4674	µg/L	0.4674	ppb	08:00:22
1	Zn 213.857†	54.4	87.7	4.7588	µg/L	4.7588	ppb	08:00:22
2	Sc RADIAL	61408.7	61408.7	96.373	%	96.373	%	07:59:12
2	Al 396.153Radial†	-5.7	-3.7	-2.4805	µg/L	-2.4805	ppb	07:59:12
2	Ca 317.933Radial†	6392.3	6399.2	1051.6	µg/L	1051.6	ppb	07:59:32
2	Fe 238.204 Radial†	63.5	14.3	4.9234	µg/L	4.9234	ppb	07:59:32
2	K 766.490 Radial†	291633.0	302829.4	134580	µg/L	134580	ppb	07:59:12
2	Mg 279.077 IEC†	7239.3	7506.7	11751	µg/L	11751	ppb	07:59:12
2	Na 589.592 Radial†	27253301.8	28277629.6	3325100	µg/L	3325100	ppb	07:59:10
2	Sr 421.552†	42896.2	44966.4	60.546	µg/L	60.546	ppb	07:59:12
2	Sc 361.383	189113.6	189113.6	88.498	%	88.498	%	08:00:24
2	Y 371.029	108362.9	108362.9	86.974	%	86.974	%	08:00:24
2	Ag 328.068†	-138.5	-2.7	-0.1195	µg/L	-0.1195	ppb	08:00:44
2	As 188.979†	1.1	1.8	4.6665	µg/L	4.6665	ppb	08:00:44
2	B 249.677†	1954.3	2111.4	252.71	µg/L	252.71	ppb	08:00:24
2	Ba 233.527†	158.6	211.8	10.495	µg/L	10.495	ppb	08:00:44
2	Be 313.107†	-297.1	-96.1	-0.2358	µg/L	-0.2358	ppb	08:00:24
2	Cd 226.502†	-57.5	-4.7	-0.2396	µg/L	-0.2396	ppb	08:00:44
2	Co 228.616†	-12.9	1.6	0.3163	µg/L	0.3163	ppb	08:00:44
2	Cr 267.716†	66.5	18.8	0.9759	µg/L	0.9759	ppb	08:00:44
2	Cu 324.752†	305.9	50.2	1.6359	µg/L	1.6359	ppb	08:00:44
2	Mn 257.610†	72.1	102.9	1.4929	µg/L	1.4929	ppb	08:00:44
2	Mo 202.031†	159.5	152.4	31.106	µg/L	31.106	ppb	08:00:44
2	Ni 231.604†	-21.0	29.3	3.4402	µg/L	3.4402	ppb	08:00:44

2	P 214.914†	133.0	105.4	646.55 µg/L	646.55 ppb	08:00:44
2	Pb 220.353†	8.0	-0.5	-0.3285 µg/L	-0.3285 ppb	08:00:44
2	S 181.975 Axial†	24658.8	27861.1	178020 µg/L	178020 ppb	08:00:24
2	Sb 206.836†	33.1	6.9	11.842 µg/L	11.842 ppb	08:00:44
2	Se 196.026†	29.2	5.4	11.298 µg/L	11.298 ppb	08:00:44
2	SiO2†	1064.1	1037.4	1189.4 µg/L	1189.4 ppb	08:00:44
2	Si 251.611†	2439.1	2629.7	558.74 µg/L	558.74 ppb	08:00:44
2	Sn 189.927†	19.8	11.3	10.196 µg/L	10.196 ppb	08:00:44
2	Ti 334.940†	19.4	6.2	0.0168 µg/L	0.0168 ppb	08:00:44
2	Tl 190.801†	-8.3	0.9	1.7881 µg/L	1.7881 ppb	08:00:44
2	U 367.007†	1.4	26.8	17.258 µg/L	17.258 ppb	08:00:24
2	V 292.402†	2.9	13.9	0.7864 µg/L	0.7864 ppb	08:00:44
2	Zn 213.857†	47.4	78.0	4.2301 µg/L	4.2301 ppb	08:00:44
3	Sc RADIAL	59173.7	59173.7	92.865 %	92.865 %	07:59:39
3	Al 396.153Radial†	21.4	25.3	6.6005 µg/L	6.6005 ppb	07:59:39
3	Ca 317.933Radial†	6379.8	6636.2	1090.6 µg/L	1090.6 ppb	07:59:59
3	Fe 238.204 Radial†	54.3	6.8	2.3397 µg/L	2.3397 ppb	07:59:59
3	K 766.490 Radial†	285844.4	308025.4	136890 µg/L	136890 ppb	07:59:39
3	Mg 279.077 IEC†	7012.9	7546.5	11814 µg/L	11814 ppb	07:59:39
3	Na 589.592 Radial†	26530443.1	28567320.1	3359200 µg/L	3359200 ppb	07:59:36
3	Sr 421.552†	41962.2	45641.9	61.456 µg/L	61.456 ppb	07:59:39
3	Sc 361.383	182573.1	182573.1	85.438 %	85.438 %	08:00:47
3	Y 371.029	104280.2	104280.2	83.697 %	83.697 %	08:00:47
3	Ag 328.068†	-141.9	-12.3	-0.4509 µg/L	-0.4509 ppb	08:01:07
3	As 188.979†	0.2	0.8	2.0530 µg/L	2.0530 ppb	08:01:07
3	B 249.677†	1912.9	2142.1	256.38 µg/L	256.38 ppb	08:00:47
3	Ba 233.527†	155.0	214.0	10.603 µg/L	10.603 ppb	08:01:07
3	Be 313.107†	-210.9	-7.3	-0.0176 µg/L	-0.0176 ppb	08:00:47
3	Cd 226.502†	-48.6	3.4	0.1696 µg/L	0.1696 ppb	08:01:07
3	Co 228.616†	-14.8	-1.1	-0.2027 µg/L	-0.2027 ppb	08:01:07
3	Cr 267.716†	62.9	17.3	0.8934 µg/L	0.8934 ppb	08:01:07
3	Cu 324.752†	315.9	74.3	2.3637 µg/L	2.3637 ppb	08:01:07
3	Mn 257.610†	67.0	99.8	1.4471 µg/L	1.4471 ppb	08:01:07
3	Mo 202.031†	150.0	147.8	30.167 µg/L	30.167 ppb	08:01:07
3	Ni 231.604†	-19.8	29.9	3.5056 µg/L	3.5056 ppb	08:01:07
3	P 214.914†	128.8	105.9	649.64 µg/L	649.64 ppb	08:01:07
3	Pb 220.353†	14.1	7.0	4.5633 µg/L	4.5633 ppb	08:01:07
3	S 181.975 Axial†	23503.5	27507.0	175760 µg/L	175760 ppb	08:00:47
3	Sb 206.836†	35.1	10.5	17.868 µg/L	17.868 ppb	08:01:07
3	Se 196.026†	27.6	4.7	9.8098 µg/L	9.8098 ppb	08:01:07
3	SiO2†	1063.0	1079.2	1237.4 µg/L	1237.4 ppb	08:01:07
3	Si 251.611†	2446.9	2737.4	581.70 µg/L	581.70 ppb	08:01:07
3	Sn 189.927†	21.2	13.8	12.425 µg/L	12.425 ppb	08:01:07
3	Ti 334.940†	19.4	7.0	0.0232 µg/L	0.0232 ppb	08:01:07
3	Tl 190.801†	-13.6	-5.7	-10.941 µg/L	-10.941 ppb	08:01:07
3	U 367.007†	-46.6	-29.4	-18.924 µg/L	-18.924 ppb	08:00:47
3	V 292.402†	9.1	21.3	1.1650 µg/L	1.1650 ppb	08:01:07
3	Zn 213.857†	45.5	77.7	4.2143 µg/L	4.2143 ppb	08:01:07

Mean Data: 527510002|2063261|20|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	185132.8	86.635	%	1.6352	86.635	%	1.6352	1.89%
Sc RADIAL	60558.3	95.038	%	1.8981	95.038	%	1.8981	2.00%
Y 371.029	105924.8	85.017	%	1.7288	85.017	%	1.7288	2.03%
Ag 328.068†	-8.1	-0.3095	µg/L	0.17098	-0.3095	ppb	0.17098	55.24%
Al 396.153Radial†	-13.3	-5.4510	µg/L	13.77901	-5.4510	ppb	13.77901	252.78%
As 188.979†	1.1	2.7589	µg/L	1.67051	2.7589	ppb	1.67051	60.55%
B 249.677†	2123.1	254.10	µg/L	1.985	254.10	ppb	1.985	0.78%
Ba 233.527†	214.3	10.621	µg/L	0.1349	10.621	ppb	0.1349	1.27%
Be 313.107†	-36.6	-0.0899	µg/L	0.12636	-0.0899	ppb	0.12636	140.54%
Ca 317.933Radial†	6480.0	1064.9	µg/L	22.24	1064.9	ppb	22.24	2.09%
Cd 226.502†	-1.2	-0.0635	µg/L	0.21043	-0.0635	ppb	0.21043	331.46%
Co 228.616†	0.1	0.0420	µg/L	0.26080	0.0420	ppb	0.26080	621.06%
Cr 267.716†	19.7	1.0180	µg/L	0.15014	1.0180	ppb	0.15014	14.75%
Cu 324.752†	67.6	2.1750	µg/L	0.47380	2.1750	ppb	0.47380	21.78%
Fe 238.204 Radial†	9.3	3.2098	µg/L	1.48401	3.2098	ppb	1.48401	46.23%
K 766.490 Radial†	304773.2	135450	µg/L	1259.64	135450	ppb	1259.64	0.93%
Mg 279.077 IEC†	7503.0	11746	µg/L	71.19	11746	ppb	71.19	0.61%
Mn 257.610†	105.7	1.5343	µg/L	0.11376	1.5343	ppb	0.11376	7.41%

Mo 202.031†	148.6	30.343 µg/L	0.6926	30.343 ppb	0.6926	2.28%
Na 589.592 Radial†	28486561.8	3349700 µg/L	21458.52	3349700 ppb	21458.52	0.64%
Concentration greater than upper limit for Na 589.592 Radial.						
Ni 231.604†	31.4	3.6843 µg/L	0.36761	3.6843 ppb	0.36761	9.98%
P 214.914†	107.1	657.20 µg/L	15.851	657.20 ppb	15.851	2.41%
Pb 220.353†	1.6	1.0595 µg/L	3.05606	1.0595 ppb	3.05606	288.43%
S 181.975 Axial†	27707.6	177040 µg/L	1160.87	177040 ppb	1160.87	0.66%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	7.5	12.957 µg/L	4.4599	12.957 ppb	4.4599	34.42%
Se 196.026†	3.9	8.1719 µg/L	4.19190	8.1719 ppb	4.19190	51.30%
SiO2†	1070.1	1227.0 µg/L	33.61	1227.0 ppb	33.61	2.74%
Si 251.611†	2701.7	574.09 µg/L	13.292	574.09 ppb	13.292	2.32%
Sn 189.927†	13.6	12.181 µg/L	1.8751	12.181 ppb	1.8751	15.39%
Sr 421.552†	45206.0	60.869 µg/L	0.5093	60.869 ppb	0.5093	0.84%
Ti 334.940†	1.5	-0.0284 µg/L	0.08387	-0.0284 ppb	0.08387	295.71%
Tl 190.801†	-2.1	-4.0464 µg/L	6.43018	-4.0464 ppb	6.43018	158.91%
U 367.007†	-0.1	-0.0487 µg/L	18.14207	-0.0487 ppb	18.14207	>999.9%
V 292.402†	14.5	0.8063 µg/L	0.34921	0.8063 ppb	0.34921	43.31%
Zn 213.857†	81.1	4.4011 µg/L	0.30995	4.4011 ppb	0.30995	7.04%

Batch ID:
Sequence No.: 4 **Autosampler Location: 310**
Sample ID: 527510008|2063261|20| **Date Collected: 11/19/2020 08:02:07**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: 527510008|2063261|20|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	62141.6	62141.6	97.523	%	97.523	%	08:02:47
1	Al 396.153Radial†	39.2	42.4	11.676	µg/L	11.676	ppb	08:02:47
1	Ca 317.933Radial†	15440.0	15598.4	2563.4	µg/L	2563.4	ppb	08:02:47
1	Fe 238.204 Radial†	62.6	12.6	4.3411	µg/L	4.3411	ppb	08:03:07
1	K 766.490 Radial†	370658.7	380293.1	169010	µg/L	169010	ppb	08:02:47
1	Mg 279.077 IEC†	8675.7	8890.9	13918	µg/L	13918	ppb	08:02:47
1	Na 589.592 Radial†	28487541.0	29209669.2	3434700	µg/L	3434700	ppb	08:02:45
1	Sr 421.552†	57556.3	59474.0	80.081	µg/L	80.081	ppb	08:02:47
1	Sc 361.383	189797.6	189797.6	88.818	%	88.818	%	08:04:03
1	Y 371.029	108235.2	108235.2	86.871	%	86.871	%	08:04:03
1	Ag 328.068†	-163.1	-29.8	-1.1344	µg/L	-1.1344	ppb	08:04:23
1	As 188.979†	-3.4	-3.2	-7.7643	µg/L	-7.7643	ppb	08:04:23
1	B 249.677†	2215.6	2397.7	286.97	µg/L	286.97	ppb	08:04:03
1	Ba 233.527†	153.1	205.0	10.155	µg/L	10.155	ppb	08:04:23
1	Be 313.107†	-267.6	-61.7	-0.1517	µg/L	-0.1517	ppb	08:04:03
1	Cd 226.502†	-52.0	1.8	0.0896	µg/L	0.0896	ppb	08:04:23
1	Co 228.616†	-11.7	3.1	0.5914	µg/L	0.5914	ppb	08:04:23
1	Cr 267.716†	69.1	21.5	1.1137	µg/L	1.1137	ppb	08:04:23
1	Cu 324.752†	321.1	66.1	2.1063	µg/L	2.1063	ppb	08:04:23
1	Mn 257.610†	41.2	67.8	0.9774	µg/L	0.9774	ppb	08:04:23
1	Mo 202.031†	183.1	178.3	36.395	µg/L	36.395	ppb	08:04:23
1	Ni 231.604†	-23.0	27.2	3.1893	µg/L	3.1893	ppb	08:04:23
1	P 214.914†	151.2	125.3	769.17	µg/L	769.17	ppb	08:04:23
1	Pb 220.353†	5.2	-3.6	-2.3550	µg/L	-2.3550	ppb	08:04:23
1	S 181.975 Axial†	29742.9	33484.9	213960	µg/L	213960	ppb	08:04:03
1	Sb 206.836†	31.3	4.8	8.4082	µg/L	8.4082	ppb	08:04:23
1	Se 196.026†	26.7	2.4	5.1026	µg/L	5.1026	ppb	08:04:23
1	SiO2†	2385.5	2520.9	2891.0	µg/L	2891.0	ppb	08:04:23
1	Si 251.611†	5461.9	6023.0	1280.6	µg/L	1280.6	ppb	08:04:03
1	Sn 189.927†	18.6	9.9	9.0518	µg/L	9.0518	ppb	08:04:23
1	Ti 334.940†	9.4	-5.1	-0.1524	µg/L	-0.1524	ppb	08:04:23
1	Tl 190.801†	-11.0	-2.1	-4.0428	µg/L	-4.0428	ppb	08:04:23
1	U 367.007†	-41.4	-21.4	-13.778	µg/L	-13.778	ppb	08:04:03
1	V 292.402†	-14.7	-5.9	-0.3085	µg/L	-0.3085	ppb	08:04:23
1	Zn 213.857†	57.3	88.9	4.8307	µg/L	4.8307	ppb	08:04:23
2	Sc RADIAL	62053.5	62053.5	97.385	%	97.385	%	08:03:13
2	Al 396.153Radial†	31.2	34.2	9.1020	µg/L	9.1020	ppb	08:03:13
2	Ca 317.933Radial†	15293.0	15469.9	2542.2	µg/L	2542.2	ppb	08:03:13
2	Fe 238.204 Radial†	67.4	17.6	6.0566	µg/L	6.0566	ppb	08:03:33
2	K 766.490 Radial†	367869.6	377968.6	167970	µg/L	167970	ppb	08:03:13
2	Mg 279.077 IEC†	8676.8	8904.7	13940	µg/L	13940	ppb	08:03:13
2	Na 589.592 Radial†	29827227.1	30626796.1	3601400	µg/L	3601400	ppb	08:03:11
2	Sr 421.552†	57134.4	59124.5	79.610	µg/L	79.610	ppb	08:03:13
2	Sc 361.383	184601.3	184601.3	86.387	%	86.387	%	08:04:25
2	Y 371.029	105497.9	105497.9	84.674	%	84.674	%	08:04:25
2	Ag 328.068†	-151.6	-21.8	-0.8467	µg/L	-0.8467	ppb	08:04:45
2	As 188.979†	-4.0	-4.0	-9.8318	µg/L	-9.8318	ppb	08:04:45
2	B 249.677†	2111.4	2347.3	280.94	µg/L	280.94	ppb	08:04:25
2	Ba 233.527†	155.0	212.0	10.507	µg/L	10.507	ppb	08:04:45
2	Be 313.107†	-193.8	15.3	0.0376	µg/L	0.0376	ppb	08:04:25
2	Cd 226.502†	-60.0	-9.2	-0.4661	µg/L	-0.4661	ppb	08:04:45
2	Co 228.616†	-8.9	5.9	1.1381	µg/L	1.1381	ppb	08:04:45
2	Cr 267.716†	63.6	17.3	0.8984	µg/L	0.8984	ppb	08:04:45
2	Cu 324.752†	319.4	74.2	2.4019	µg/L	2.4019	ppb	08:04:45
2	Mn 257.610†	31.6	58.0	0.8339	µg/L	0.8339	ppb	08:04:45
2	Mo 202.031†	180.1	180.6	36.872	µg/L	36.872	ppb	08:04:45
2	Ni 231.604†	-17.2	33.2	3.8896	µg/L	3.8896	ppb	08:04:45

2	P 214.914†	151.2	130.0	798.21 µg/L	798.21 ppb	08:04:45
2	Pb 220.353†	6.3	-2.2	-1.4652 µg/L	-1.4652 ppb	08:04:45
2	S 181.975 Axial†	28928.1	33484.3	213950 µg/L	213950 ppb	08:04:25
2	Sb 206.836†	34.5	9.5	16.207 µg/L	16.207 ppb	08:04:45
2	Se 196.026†	21.9	-2.3	-4.8861 µg/L	-4.8861 ppb	08:04:45
2	SiO2†	2397.1	2609.9	2993.1 µg/L	2993.1 ppb	08:04:45
2	Si 251.611†	5296.1	6004.2	1276.6 µg/L	1276.6 ppb	08:04:25
2	Sn 189.927†	19.7	11.8	10.710 µg/L	10.710 ppb	08:04:45
2	Ti 334.940†	14.2	0.8	-0.0949 µg/L	-0.0949 ppb	08:04:45
2	Tl 190.801†	-9.8	-1.0	-1.9799 µg/L	-1.9799 ppb	08:04:45
2	U 367.007†	-5.5	18.8	12.112 µg/L	12.112 ppb	08:04:25
2	V 292.402†	1.9	12.8	0.7293 µg/L	0.7293 ppb	08:04:45
2	Zn 213.857†	46.8	78.6	4.2637 µg/L	4.2637 ppb	08:04:45
3	Sc RADIAL	60969.1	60969.1	95.683 %	95.683 %	08:03:39
3	Al 396.153Radial†	3.5	5.8	0.2136 µg/L	0.2136 ppb	08:03:39
3	Ca 317.933Radial†	14978.1	15420.2	2534.1 µg/L	2534.1 ppb	08:03:39
3	Fe 238.204 Radial†	66.5	17.9	6.1658 µg/L	6.1658 ppb	08:03:59
3	K 766.490 Radial†	363697.1	380326.7	169020 µg/L	169020 ppb	08:03:39
3	Mg 279.077 IEC†	8414.4	8788.9	13759 µg/L	13759 ppb	08:03:39
3	Na 589.592 Radial†	28843138.1	30143073.4	3544500 µg/L	3544500 ppb	08:03:37
3	Sr 421.552†	56326.4	59323.5	79.878 µg/L	79.878 ppb	08:03:39
3	Sc 361.383	187526.6	187526.6	87.756 %	87.756 %	08:04:47
3	Y 371.029	107193.1	107193.1	86.035 %	86.035 %	08:04:47
3	Ag 328.068†	-154.8	-22.6	-0.8859 µg/L	-0.8859 ppb	08:05:07
3	As 188.979†	1.4	2.2	5.5293 µg/L	5.5293 ppb	08:05:07
3	B 249.677†	2162.3	2367.2	283.32 µg/L	283.32 ppb	08:04:47
3	Ba 233.527†	154.0	208.1	10.312 µg/L	10.312 ppb	08:05:07
3	Be 313.107†	-209.5	0.8	0.0023 µg/L	0.0023 ppb	08:04:47
3	Cd 226.502†	-57.8	-5.6	-0.2811 µg/L	-0.2811 ppb	08:05:07
3	Co 228.616†	-11.2	3.5	0.6753 µg/L	0.6753 ppb	08:05:07
3	Cr 267.716†	60.1	12.1	0.6278 µg/L	0.6278 ppb	08:05:07
3	Cu 324.752†	319.0	68.0	2.2115 µg/L	2.2115 ppb	08:05:07
3	Mn 257.610†	37.2	63.7	0.9182 µg/L	0.9182 ppb	08:05:07
3	Mo 202.031†	185.2	183.2	37.399 µg/L	37.399 ppb	08:05:07
3	Ni 231.604†	-23.5	26.3	3.0854 µg/L	3.0854 ppb	08:05:07
3	P 214.914†	143.9	119.0	730.05 µg/L	730.05 ppb	08:05:07
3	Pb 220.353†	3.7	-5.3	-3.4917 µg/L	-3.4917 ppb	08:05:07
3	S 181.975 Axial†	29412.9	33514.3	214150 µg/L	214150 ppb	08:04:47
3	Sb 206.836†	34.2	8.5	14.577 µg/L	14.577 ppb	08:05:07
3	Se 196.026†	29.4	5.9	12.377 µg/L	12.377 ppb	08:05:07
3	SiO2†	2412.3	2583.9	2963.3 µg/L	2963.3 ppb	08:05:07
3	Si 251.611†	5391.2	6017.0	1279.3 µg/L	1279.3 ppb	08:04:47
3	Sn 189.927†	24.1	16.5	14.915 µg/L	14.915 ppb	08:05:07
3	Ti 334.940†	21.1	8.4	-0.0216 µg/L	-0.0216 ppb	08:05:07
3	Tl 190.801†	-10.9	-2.1	-4.0477 µg/L	-4.0477 ppb	08:05:07
3	U 367.007†	4.2	30.0	19.323 µg/L	19.323 ppb	08:04:47
3	V 292.402†	12.9	25.2	1.4090 µg/L	1.4090 ppb	08:05:07
3	Zn 213.857†	62.1	95.2	5.1726 µg/L	5.1726 ppb	08:05:07

Mean Data: 527510008|2063261|20|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	187308.5	87.654	%	1.2191	87.654	%	1.2191	1.39%
Sc RADIAL	61721.4	96.863	%	1.0248	96.863	%	1.0248	1.06%
Y 371.029	106975.4	85.860	%	1.1088	85.860	%	1.1088	1.29%
Ag 328.068†	-24.7	-0.9557	µg/L	0.15600	-0.9557	ppb	0.15600	16.32%
Al 396.153Radial†	27.5	6.9973	µg/L	6.01420	6.9973	ppb	6.01420	85.95%
As 188.979†	-1.7	-4.0222	µg/L	8.33625	-4.0222	ppb	8.33625	207.25%
B 249.677†	2370.7	283.75	µg/L	3.035	283.75	ppb	3.035	1.07%
Ba 233.527†	208.4	10.325	µg/L	0.1767	10.325	ppb	0.1767	1.71%
Be 313.107†	-15.2	-0.0373	µg/L	0.10063	-0.0373	ppb	0.10063	270.07%
Ca 317.933Radial†	15496.2	2546.6	µg/L	15.12	2546.6	ppb	15.12	0.59%
Cd 226.502†	-4.3	-0.2192	µg/L	0.28297	-0.2192	ppb	0.28297	129.07%
Co 228.616†	4.2	0.8016	µg/L	0.29441	0.8016	ppb	0.29441	36.73%
Cr 267.716†	17.0	0.8800	µg/L	0.24348	0.8800	ppb	0.24348	27.67%
Cu 324.752†	69.4	2.2399	µg/L	0.14981	2.2399	ppb	0.14981	6.69%
Fe 238.204 Radial†	16.0	5.5211	µg/L	1.02345	5.5211	ppb	1.02345	18.54%
K 766.490 Radial†	379529.4	168670	µg/L	600.79	168670	ppb	600.79	0.36%
Mg 279.077 IEC†	8861.5	13872	µg/L	98.96	13872	ppb	98.96	0.71%
Mn 257.610†	63.2	0.9099	µg/L	0.07210	0.9099	ppb	0.07210	7.92%

Mo 202.031†	180.7	36.889 µg/L	0.5023	36.889 ppb	0.5023	1.36%
Na 589.592 Radial†	29993179.6	3526900 µg/L	84706.09	3526900 ppb	84706.09	2.40%
Concentration greater than upper limit for Na 589.592 Radial.						
Ni 231.604†	28.9	3.3881 µg/L	0.43740	3.3881 ppb	0.43740	12.91%
P 214.914†	124.8	765.81 µg/L	34.202	765.81 ppb	34.202	4.47%
Pb 220.353†	-3.7	-2.4373 µg/L	1.01577	-2.4373 ppb	1.01577	41.68%
S 181.975 Axial†	33494.5	214020 µg/L	109.72	214020 ppb	109.72	0.05%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	7.6	13.064 µg/L	4.1138	13.064 ppb	4.1138	31.49%
Se 196.026†	2.0	4.1977 µg/L	8.66687	4.1977 ppb	8.66687	206.47%
SiO2†	2571.5	2949.2 µg/L	52.50	2949.2 ppb	52.50	1.78%
Si 251.611†	6014.7	1278.8 µg/L	2.05	1278.8 ppb	2.05	0.16%
Sn 189.927†	12.7	11.559 µg/L	3.0223	11.559 ppb	3.0223	26.15%
Sr 421.552†	59307.4	79.856 µg/L	0.2361	79.856 ppb	0.2361	0.30%
Ti 334.940†	1.3	-0.0896 µg/L	0.06552	-0.0896 ppb	0.06552	73.10%
Tl 190.801†	-1.8	-3.3568 µg/L	1.19240	-3.3568 ppb	1.19240	35.52%
U 367.007†	9.2	5.8857 µg/L	17.40662	5.8857 ppb	17.40662	295.74%
V 292.402†	10.7	0.6099 µg/L	0.86496	0.6099 ppb	0.86496	141.82%
Zn 213.857†	87.6	4.7557 µg/L	0.45906	4.7557 ppb	0.45906	9.65%

Batch ID:
Sequence No.: 5 **Autosampler Location: 311**
Sample ID: 527510012|2063261|20| **Date Collected: 11/19/2020 08:06:08**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: 527510012|2063261|20|

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	65543.5	65543.5	102.86	%	102.86	%	08:06:47
1	Al 396.153Radial†	-58.7	-54.9	-18.404	µg/L	-18.404	ppb	08:06:47
1	Ca 317.933Radial†	13180.3	12579.9	2067.3	µg/L	2067.3	ppb	08:06:47
1	Fe 238.204 Radial†	61.8	8.4	2.9092	µg/L	2.9092	ppb	08:07:07
1	K 766.490 Radial†	319895.5	311215.1	138310	µg/L	138310	ppb	08:06:47
1	Mg 279.077 IEC†	7635.2	7417.7	11612	µg/L	11612	ppb	08:06:47
1	Na 589.592 Radial†	25278013.2	24573277.8	2889600	µg/L	2889600	ppb	08:06:45
1	Sr 421.552†	49575.7	48652.1	65.509	µg/L	65.509	ppb	08:06:47
1	Sc 361.383	182453.5	182453.5	85.382	%	85.382	%	08:08:04
1	Y 371.029	104443.3	104443.3	83.828	%	83.828	%	08:08:04
1	Ag 328.068†	-144.9	-15.9	-0.6262	µg/L	-0.6262	ppb	08:08:24
1	As 188.979†	0.5	1.2	3.1817	µg/L	3.1817	ppb	08:08:24
1	B 249.677†	1728.1	1927.1	230.65	µg/L	230.65	ppb	08:08:04
1	Ba 233.527†	129.2	183.9	9.1130	µg/L	9.1130	ppb	08:08:24
1	Be 313.107†	-152.2	61.3	0.1509	µg/L	0.1509	ppb	08:08:04
1	Cd 226.502†	-52.5	-1.2	-0.0629	µg/L	-0.0629	ppb	08:08:24
1	Co 228.616†	-8.3	6.5	1.2441	µg/L	1.2441	ppb	08:08:24
1	Cr 267.716†	64.6	19.3	0.9990	µg/L	0.9990	ppb	08:08:24
1	Cu 324.752†	320.9	80.3	2.6041	µg/L	2.6041	ppb	08:08:24
1	Mn 257.610†	23.8	49.3	0.7095	µg/L	0.7095	ppb	08:08:24
1	Mo 202.031†	147.6	145.0	29.608	µg/L	29.608	ppb	08:08:24
1	Ni 231.604†	-25.3	23.5	2.7567	µg/L	2.7567	ppb	08:08:24
1	P 214.914†	130.1	107.4	658.92	µg/L	658.92	ppb	08:08:24
1	Pb 220.353†	4.9	-3.8	-2.4995	µg/L	-2.4995	ppb	08:08:24
1	S 181.975 Axial†	22756.5	26650.1	170290	µg/L	170290	ppb	08:08:04
1	Sb 206.836†	29.6	4.2	7.3184	µg/L	7.3184	ppb	08:08:24
1	Se 196.026†	33.7	11.9	24.973	µg/L	24.973	ppb	08:08:24
1	SiO2†	1975.7	2149.0	2464.6	µg/L	2464.6	ppb	08:08:24
1	Si 251.611†	4215.9	4811.2	1023.0	µg/L	1023.0	ppb	08:08:04
1	Sn 189.927†	15.2	6.8	6.2101	µg/L	6.2101	ppb	08:08:24
1	Ti 334.940†	20.9	8.8	0.0008	µg/L	0.0008	ppb	08:08:24
1	Tl 190.801†	-13.0	-4.9	-9.5538	µg/L	-9.5538	ppb	08:08:24
1	U 367.007†	-0.9	24.1	15.527	µg/L	15.527	ppb	08:08:04
1	V 292.402†	-5.5	4.2	0.2564	µg/L	0.2564	ppb	08:08:24
1	Zn 213.857†	38.1	69.1	3.7494	µg/L	3.7494	ppb	08:08:24
2	Sc RADIAL	61108.2	61108.2	95.901	%	95.901	%	08:07:13
2	Al 396.153Radial†	35.9	39.7	11.087	µg/L	11.087	ppb	08:07:13
2	Ca 317.933Radial†	12167.6	12453.8	2046.6	µg/L	2046.6	ppb	08:07:13
2	Fe 238.204 Radial†	58.4	9.2	3.1818	µg/L	3.1818	ppb	08:07:33
2	K 766.490 Radial†	299437.8	312455.6	138860	µg/L	138860	ppb	08:07:13
2	Mg 279.077 IEC†	7105.9	7404.4	11591	µg/L	11591	ppb	08:07:13
2	Na 589.592 Radial†	25002455.1	26069618.1	3065500	µg/L	3065500	ppb	08:07:11
2	Sr 421.552†	46450.8	48891.8	65.832	µg/L	65.832	ppb	08:07:13
2	Sc 361.383	184452.5	184452.5	86.317	%	86.317	%	08:08:26
2	Y 371.029	105597.3	105597.3	84.754	%	84.754	%	08:08:26
2	Ag 328.068†	-144.6	-13.8	-0.5306	µg/L	-0.5306	ppb	08:08:46
2	As 188.979†	-2.7	-2.5	-6.0794	µg/L	-6.0794	ppb	08:08:46
2	B 249.677†	1740.6	1919.7	229.76	µg/L	229.76	ppb	08:08:26
2	Ba 233.527†	119.3	170.8	8.4627	µg/L	8.4627	ppb	08:08:46
2	Be 313.107†	-184.8	25.5	0.0625	µg/L	0.0625	ppb	08:08:26
2	Cd 226.502†	-47.5	5.3	0.2657	µg/L	0.2657	ppb	08:08:46
2	Co 228.616†	-12.5	1.7	0.3384	µg/L	0.3384	ppb	08:08:46
2	Cr 267.716†	63.6	17.4	0.9012	µg/L	0.9012	ppb	08:08:46
2	Cu 324.752†	308.6	62.0	1.9932	µg/L	1.9932	ppb	08:08:46
2	Mn 257.610†	27.2	52.9	0.7617	µg/L	0.7617	ppb	08:08:46
2	Mo 202.031†	153.1	149.5	30.526	µg/L	30.526	ppb	08:08:46
2	Ni 231.604†	-19.3	30.7	3.6005	µg/L	3.6005	ppb	08:08:46

2	P 214.914†	130.8	106.6	654.34 µg/L	654.34 ppb	08:08:46
2	Pb 220.353†	12.7	5.2	3.3941 µg/L	3.3941 ppb	08:08:46
2	S 181.975 Axial†	23273.7	26960.5	172270 µg/L	172270 ppb	08:08:26
2	Sb 206.836†	33.9	8.7	14.895 µg/L	14.895 ppb	08:08:46
2	Se 196.026†	21.5	-2.7	-5.7472 µg/L	-5.7472 ppb	08:08:46
2	SiO2†	2001.0	2153.2	2469.4 µg/L	2469.4 ppb	08:08:46
2	Si 251.611†	4327.0	4886.5	1038.9 µg/L	1038.9 ppb	08:08:26
2	Sn 189.927†	10.5	1.2	1.2260 µg/L	1.2260 ppb	08:08:46
2	Ti 334.940†	7.1	-7.5	-0.1542 µg/L	-0.1542 ppb	08:08:46
2	Tl 190.801†	-12.5	-4.2	-8.0420 µg/L	-8.0420 ppb	08:08:46
2	U 367.007†	-23.5	-2.1	-1.3479 µg/L	-1.3479 ppb	08:08:26
2	V 292.402†	-21.4	-14.2	-0.7538 µg/L	-0.7538 ppb	08:08:46
2	Zn 213.857†	41.7	72.8	3.9451 µg/L	3.9451 ppb	08:08:46
3	Sc RADIAL	61998.6	61998.6	97.298 %	97.298 %	08:07:40
3	Al 396.153Radial†	49.1	52.6	15.072 µg/L	15.072 ppb	08:07:40
3	Ca 317.933Radial†	12281.2	12388.4	2035.8 µg/L	2035.8 ppb	08:07:40
3	Fe 238.204 Radial†	59.0	9.0	3.0803 µg/L	3.0803 ppb	08:08:00
3	K 766.490 Radial†	303353.4	311995.9	138660 µg/L	138660 ppb	08:07:40
3	Mg 279.077 IEC†	7191.0	7385.5	11562 µg/L	11562 ppb	08:07:40
3	Na 589.592 Radial†	24690505.0	25374594.8	2983800 µg/L	2983800 ppb	08:07:38
3	Sr 421.552†	46945.5	48704.7	65.580 µg/L	65.580 ppb	08:07:40
3	Sc 361.383	177223.3	177223.3	82.934 %	82.934 %	08:08:48
3	Y 371.029	101379.8	101379.8	81.369 %	81.369 %	08:08:48
3	Ag 328.068†	-154.9	-33.1	-1.2641 µg/L	-1.2641 ppb	08:09:08
3	As 188.979†	2.9	4.1	10.276 µg/L	10.276 ppb	08:09:08
3	B 249.677†	1732.4	1992.0	238.42 µg/L	238.42 ppb	08:08:48
3	Ba 233.527†	115.5	171.9	8.5198 µg/L	8.5198 ppb	08:09:08
3	Be 313.107†	-239.9	-49.7	-0.1215 µg/L	-0.1215 ppb	08:08:48
3	Cd 226.502†	-60.8	-13.1	-0.6610 µg/L	-0.6610 ppb	08:09:08
3	Co 228.616†	-17.0	-4.3	-0.8064 µg/L	-0.8064 ppb	08:09:08
3	Cr 267.716†	42.4	-5.2	-0.2717 µg/L	-0.2717 ppb	08:09:08
3	Cu 324.752†	314.9	84.2	2.7031 µg/L	2.7031 ppb	08:09:08
3	Mn 257.610†	15.3	39.9	0.5718 µg/L	0.5718 ppb	08:09:08
3	Mo 202.031†	152.8	156.4	31.924 µg/L	31.924 ppb	08:09:08
3	Ni 231.604†	-28.4	18.8	2.2068 µg/L	2.2068 ppb	08:09:08
3	P 214.914†	126.7	107.9	661.81 µg/L	661.81 ppb	08:09:08
3	Pb 220.353†	7.3	-0.6	-0.4142 µg/L	-0.4142 ppb	08:09:08
3	S 181.975 Axial†	21982.5	26503.5	169350 µg/L	169350 ppb	08:08:48
3	Sb 206.836†	30.1	5.8	10.023 µg/L	10.023 ppb	08:09:08
3	Se 196.026†	23.7	0.9	1.9168 µg/L	1.9168 ppb	08:09:08
3	SiO2†	1938.0	2171.8	2490.7 µg/L	2490.7 ppb	08:09:08
3	Si 251.611†	4089.9	4805.0	1021.6 µg/L	1021.6 ppb	08:08:48
3	Sn 189.927†	20.8	14.0	12.683 µg/L	12.683 ppb	08:09:08
3	Ti 334.940†	25.1	14.6	0.0580 µg/L	0.0580 ppb	08:09:08
3	Tl 190.801†	-11.7	-3.8	-7.4130 µg/L	-7.4130 ppb	08:09:08
3	U 367.007†	-26.3	-6.5	-4.2126 µg/L	-4.2126 ppb	08:08:48
3	V 292.402†	4.6	16.1	0.8922 µg/L	0.8922 ppb	08:09:08
3	Zn 213.857†	46.6	80.6	4.3810 µg/L	4.3810 ppb	08:09:08

Mean Data: 527510012|2063261|20|

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	181376.4	84.878	%	1.7469	84.878	%	1.7469	2.06%
Sc RADIAL	62883.4	98.687	%	3.6823	98.687	%	3.6823	3.73%
Y 371.029	103806.8	83.317	%	1.7494	83.317	%	1.7494	2.10%
Ag 328.068†	-20.9	-0.8070	µg/L	0.39880	-0.8070	ppb	0.39880	49.42%
Al 396.153Radial†	12.5	2.5853	µg/L	18.28595	2.5853	ppb	18.28595	707.31%
As 188.979†	0.9	2.4593	µg/L	8.20144	2.4593	ppb	8.20144	333.48%
B 249.677†	1946.3	232.94	µg/L	4.763	232.94	ppb	4.763	2.04%
Ba 233.527†	175.6	8.6985	µg/L	0.36012	8.6985	ppb	0.36012	4.14%
Be 313.107†	12.4	0.0306	µg/L	0.13898	0.0306	ppb	0.13898	453.68%
Ca 317.933Radial†	12474.0	2049.9	µg/L	15.99	2049.9	ppb	15.99	0.78%
Cd 226.502†	-3.0	-0.1527	µg/L	0.46981	-0.1527	ppb	0.46981	307.57%
Co 228.616†	1.3	0.2587	µg/L	1.02760	0.2587	ppb	1.02760	397.18%
Cr 267.716†	10.5	0.5428	µg/L	0.70709	0.5428	ppb	0.70709	130.27%
Cu 324.752†	75.5	2.4335	µg/L	0.38448	2.4335	ppb	0.38448	15.80%
Fe 238.204 Radial†	8.9	3.0571	µg/L	0.13779	3.0571	ppb	0.13779	4.51%
K 766.490 Radial†	311888.8	138610	µg/L	278.72	138610	ppb	278.72	0.20%
Mg 279.077 IEC†	7402.5	11588	µg/L	25.30	11588	ppb	25.30	0.22%
Mn 257.610†	47.4	0.6810	µg/L	0.09811	0.6810	ppb	0.09811	14.41%

Mo 202.031†	150.3	30.686 µg/L	1.1666	30.686 ppb	1.1666	3.80%
Na 589.592 Radial†	25339163.6	2979600 µg/L	88050.64	2979600 ppb	88050.64	2.96%
Concentration greater than upper limit for Na 589.592 Radial.						
Ni 231.604†	24.3	2.8547 µg/L	0.70199	2.8547 ppb	0.70199	24.59%
P 214.914†	107.3	658.36 µg/L	3.770	658.36 ppb	3.770	0.57%
Pb 220.353†	0.3	0.1602 µg/L	2.98849	0.1602 ppb	2.98849	>999.9%
S 181.975 Axial†	26704.7	170640 µg/L	1491.03	170640 ppb	1491.03	0.87%
Concentration greater than upper limit for S 181.975 Axial.						
Sb 206.836†	6.2	10.745 µg/L	3.8395	10.745 ppb	3.8395	35.73%
Se 196.026†	3.3	7.0474 µg/L	15.98958	7.0474 ppb	15.98958	226.89%
SiO2†	2158.0	2474.9 µg/L	13.89	2474.9 ppb	13.89	0.56%
Si 251.611†	4834.3	1027.8 µg/L	9.66	1027.8 ppb	9.66	0.94%
Sn 189.927†	7.3	6.7064 µg/L	5.74476	6.7064 ppb	5.74476	85.66%
Sr 421.552†	48749.5	65.641 µg/L	0.1696	65.641 ppb	0.1696	0.26%
Ti 334.940†	5.3	-0.0318 µg/L	0.10979	-0.0318 ppb	0.10979	344.81%
Tl 190.801†	-4.3	-8.3363 µg/L	1.10031	-8.3363 ppb	1.10031	13.20%
U 367.007†	5.2	3.3220 µg/L	10.66610	3.3220 ppb	10.66610	321.07%
V 292.402†	2.0	0.1316 µg/L	0.83007	0.1316 ppb	0.83007	630.58%
Zn 213.857†	74.1	4.0252 µg/L	0.32333	4.0252 ppb	0.32333	8.03%

Batch ID:
Sequence No.: 6 **Autosampler Location: 103**
Sample ID: ICSA **Date Collected: 11/19/2020 08:10:08**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	66940.1	66940.1	105.05	%	105.05	%	08:10:49
1	Al 396.153Radial†	1710205.0	1627939.6	508430	µg/L	508430	ppb	08:10:47
1	Ca 317.933Radial†	3006827.5	2861953.5	470320	µg/L	470320	ppb	08:10:47
1	Fe 238.204 Radial†	596319.2	567582.2	195430	µg/L	195430	ppb	08:10:49
1	K 766.490 Radial†	2537.3	2634.7	1222.4	µg/L	1222.4	ppb	08:10:49
1	Mg 279.077 IEC†	332112.7	316131.6	494980	µg/L	494980	ppb	08:10:49
1	Na 589.592 Radial†	107592.0	100944.6	11835	µg/L	11835	ppb	08:10:49
1	Sr 421.552†	15450.9	15163.4	-3.0647	µg/L	-3.0647	ppb	08:10:49
1	Sc 361.383	205496.4	205496.4	96.165	%	96.165	%	08:11:02
1	Y 371.029	118712.5	118712.5	95.280	%	95.280	%	08:11:02
1	Ag 328.068†	-194.0	-48.0	1.5527	µg/L	1.5527	ppb	08:11:22
1	As 188.979†	-4.5	-4.1	-2.9424	µg/L	-2.9424	ppb	08:11:22
1	B 249.677†	-4301.7	-4570.1	58.985	µg/L	58.985	ppb	08:11:02
1	Ba 233.527†	251.1	293.7	-0.9391	µg/L	-0.9391	ppb	08:11:22
1	Be 313.107†	-301.6	-74.1	-0.1968	µg/L	-0.1968	ppb	08:11:22
1	Cd 226.502†	414.2	491.0	1.7375	µg/L	1.7375	ppb	08:11:22
1	Co 228.616†	5.7	22.1	0.7279	µg/L	0.7279	ppb	08:11:22
1	Cr 267.716†	50.8	-3.5	-0.3166	µg/L	-0.3166	ppb	08:11:22
1	Cu 324.752†	-261.9	-567.9	-2.9604	µg/L	-2.9604	ppb	08:11:22
1	Mn 257.610†	2.6	24.1	-2.0082	µg/L	-2.0082	ppb	08:11:02
1	Mo 202.031†	-10.0	-38.2	-10.217	µg/L	-10.217	ppb	08:11:22
1	Ni 231.604†	-48.6	2.6	1.8359	µg/L	1.8359	ppb	08:11:22
1	P 214.914†	-9.8	-55.1	-113.36	µg/L	-113.36	ppb	08:11:22
1	Pb 220.353†	-46.5	-57.9	-3.5544	µg/L	-3.5544	ppb	08:11:22
1	S 181.975 Axial†	16.2	14.4	120.62	µg/L	120.62	ppb	08:11:22
1	Sb 206.836†	25.6	-3.9	7.4184	µg/L	7.4184	ppb	08:11:22
1	Se 196.026†	-1.2	-28.8	29.640	µg/L	29.640	ppb	08:11:22
1	SiO2†	168.3	10.0	11.692	µg/L	11.692	ppb	08:11:22
1	Si 251.611†	202.8	84.4	-46.865	µg/L	-46.865	ppb	08:11:22
1	Sn 189.927†	34.7	25.0	-2.5005	µg/L	-2.5005	ppb	08:11:22
1	Ti 334.940†	-403.6	-435.4	0.2887	µg/L	0.2887	ppb	08:11:02
1	Tl 190.801†	-11.3	-1.5	4.4091	µg/L	4.4091	ppb	08:11:22
1	U 367.007†	790.6	847.3	-108.23	µg/L	-108.23	ppb	08:11:02
1	V 292.402†	-108.8	-102.5	-3.8017	µg/L	-3.8017	ppb	08:11:22
1	Zn 213.857†	511.8	556.6	2.8346	µg/L	2.8346	ppb	08:11:22
2	Sc RADIAL	65310.7	65310.7	102.50	%	102.50	%	08:10:54
2	Al 396.153Radial†	1667656.6	1627042.4	508150	µg/L	508150	ppb	08:10:52
2	Ca 317.933Radial†	2916966.6	2845689.0	467640	µg/L	467640	ppb	08:10:52
2	Fe 238.204 Radial†	581513.6	567298.9	195330	µg/L	195330	ppb	08:10:54
2	K 766.490 Radial†	2432.9	2593.1	1203.9	µg/L	1203.9	ppb	08:10:54
2	Mg 279.077 IEC†	323826.1	315934.0	494670	µg/L	494670	ppb	08:10:54
2	Na 589.592 Radial†	104741.4	100718.5	11808	µg/L	11808	ppb	08:10:54
2	Sr 421.552†	14925.0	15017.2	-3.2497	µg/L	-3.2497	ppb	08:10:54
2	Sc 361.383	199929.3	199929.3	93.560	%	93.560	%	08:11:25
2	Y 371.029	115685.3	115685.3	92.851	%	92.851	%	08:11:25
2	Ag 328.068†	-186.3	-45.4	1.6228	µg/L	1.6228	ppb	08:11:45
2	As 188.979†	0.7	1.4	10.661	µg/L	10.661	ppb	08:11:45
2	B 249.677†	-4167.0	-4550.8	61.000	µg/L	61.000	ppb	08:11:25
2	Ba 233.527†	236.3	285.2	-1.3532	µg/L	-1.3532	ppb	08:11:45
2	Be 313.107†	-307.4	-88.9	-0.2348	µg/L	-0.2348	ppb	08:11:45
2	Cd 226.502†	413.4	502.1	2.3115	µg/L	2.3115	ppb	08:11:45
2	Co 228.616†	13.3	30.4	2.2992	µg/L	2.2992	ppb	08:11:45
2	Cr 267.716†	34.8	-19.1	-1.1260	µg/L	-1.1260	ppb	08:11:45
2	Cu 324.752†	-262.7	-576.3	-3.2055	µg/L	-3.2055	ppb	08:11:45
2	Mn 257.610†	-64.1	-47.1	-3.0480	µg/L	-3.0480	ppb	08:11:25
2	Mo 202.031†	0.7	-27.1	-7.9383	µg/L	-7.9383	ppb	08:11:45
2	Ni 231.604†	-65.8	-17.3	-0.4946	µg/L	-0.4946	ppb	08:11:45

2	P 214.914†	8.0	-36.4	0.8361 µg/L	0.8361 ppb	08:11:45
2	Pb 220.353†	-31.3	-43.0	6.1306 µg/L	6.1306 ppb	08:11:45
2	S 181.975 Axial†	18.7	17.5	140.73 µg/L	140.73 ppb	08:11:45
2	Sb 206.836†	24.8	-4.0	7.3220 µg/L	7.3220 ppb	08:11:45
2	Se 196.026†	-5.0	-32.9	20.976 µg/L	20.976 ppb	08:11:45
2	SiO2†	155.2	0.9	1.1160 µg/L	1.1160 ppb	08:11:45
2	Si 251.611†	182.2	68.3	-50.311 µg/L	-50.311 ppb	08:11:45
2	Sn 189.927†	41.2	33.0	4.4718 µg/L	4.4718 ppb	08:11:45
2	Ti 334.940†	-433.5	-479.1	-0.0325 µg/L	-0.0325 ppb	08:11:25
2	Tl 190.801†	-13.4	-4.0	-0.4808 µg/L	-0.4808 ppb	08:11:45
2	U 367.007†	804.6	885.2	-83.499 µg/L	-83.499 ppb	08:11:25
2	V 292.402†	-131.3	-129.7	-5.2626 µg/L	-5.2626 ppb	08:11:45
2	Zn 213.857†	487.5	545.5	2.2570 µg/L	2.2570 ppb	08:11:45
3	Sc RADIAL	65863.4	65863.4	103.36 %	103.36 %	08:10:58
3	Al 396.153Radial†	1657711.4	1603768.3	500880 µg/L	500880 ppb	08:10:56
3	Ca 317.933Radial†	2893127.4	2798745.5	459930 µg/L	459930 ppb	08:10:56
3	Fe 238.204 Radial†	587830.1	568649.2	195800 µg/L	195800 ppb	08:10:58
3	K 766.490 Radial†	2444.7	2584.6	1200.2 µg/L	1200.2 ppb	08:10:58
3	Mg 279.077 IEC†	326622.5	315988.4	494750 µg/L	494750 ppb	08:10:58
3	Na 589.592 Radial†	103820.6	98970.2	11603 µg/L	11603 ppb	08:10:58
3	Sr 421.552†	15114.4	15078.3	-3.2234 µg/L	-3.2234 ppb	08:10:58
3	Sc 361.383	200929.1	200929.1	94.028 %	94.028 %	08:11:47
3	Y 371.029	116286.3	116286.3	93.333 %	93.333 %	08:11:47
3	Ag 328.068†	-185.8	-43.8	1.6921 µg/L	1.6921 ppb	08:12:07
3	As 188.979†	4.3	5.2	20.210 µg/L	20.210 ppb	08:12:07
3	B 249.677†	-4235.5	-4601.4	56.376 µg/L	56.376 ppb	08:11:47
3	Ba 233.527†	252.8	301.4	-0.5842 µg/L	-0.5842 ppb	08:12:07
3	Be 313.107†	-306.4	-86.3	-0.2278 µg/L	-0.2278 ppb	08:12:07
3	Cd 226.502†	412.5	499.0	2.1004 µg/L	2.1004 ppb	08:12:07
3	Co 228.616†	7.1	23.8	1.0364 µg/L	1.0364 ppb	08:12:07
3	Cr 267.716†	38.3	-15.6	-0.9450 µg/L	-0.9450 ppb	08:12:07
3	Cu 324.752†	-254.3	-566.0	-2.8345 µg/L	-2.8345 ppb	08:12:07
3	Mn 257.610†	-60.7	-43.2	-2.9958 µg/L	-2.9958 ppb	08:11:47
3	Mo 202.031†	-7.4	-35.7	-9.7130 µg/L	-9.7130 ppb	08:12:07
3	Ni 231.604†	-58.1	-8.7	0.5164 µg/L	0.5164 ppb	08:12:07
3	P 214.914†	12.4	-31.7	21.427 µg/L	21.427 ppb	08:12:07
3	Pb 220.353†	-23.1	-34.1	12.002 µg/L	12.002 ppb	08:12:07
3	S 181.975 Axial†	15.9	14.5	121.13 µg/L	121.13 ppb	08:12:07
3	Sb 206.836†	24.4	-4.6	6.3244 µg/L	6.3244 ppb	08:12:07
3	Se 196.026†	-17.6	-46.4	-7.1555 µg/L	-7.1555 ppb	08:12:07
3	SiO2†	164.8	10.3	11.956 µg/L	11.956 ppb	08:12:07
3	Si 251.611†	199.3	85.5	-46.756 µg/L	-46.756 ppb	08:12:07
3	Sn 189.927†	39.9	31.4	2.3552 µg/L	2.3552 ppb	08:12:07
3	Ti 334.940†	-420.9	-463.4	0.4853 µg/L	0.4853 ppb	08:11:47
3	Tl 190.801†	-13.4	-3.9	-0.3741 µg/L	-0.3741 ppb	08:12:07
3	U 367.007†	815.3	892.2	-80.507 µg/L	-80.507 ppb	08:11:47
3	V 292.402†	-109.9	-106.3	-3.9820 µg/L	-3.9820 ppb	08:12:07
3	Zn 213.857†	485.8	541.1	1.9446 µg/L	1.9446 ppb	08:12:07

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	202118.3	94.584	%	1.3889	94.584	%	1.3889	1.47%
Sc RADIAL	66038.1	103.64	%	1.300	103.64	%	1.300	1.25%
Y 371.029	116894.7	93.821	%	1.2863	93.821	%	1.2863	1.37%
Ag 328.068†	-45.7	1.6225	µg/L	0.06971	1.6225	ppb	0.06971	4.30%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	1619583.4	505820	µg/L	4279.81	505820	ppb	4279.81	0.85%
QC value within limits for Al 396.153Radial Recovery = 101.16%								
As 188.979†	0.8	9.3098	µg/L	11.63531	9.3098	ppb	11.63531	124.98%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-4574.1	58.787	µg/L	2.3185	58.787	ppb	2.3185	3.94%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	293.5	-0.9588	µg/L	0.38489	-0.9588	ppb	0.38489	40.14%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-83.1	-0.2198	µg/L	0.02023	-0.2198	ppb	0.02023	9.20%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	2835462.7	465960	µg/L	5393.70	465960	ppb	5393.70	1.16%
QC value within limits for Ca 317.933Radial Recovery = 93.19%								
Cd 226.502†	497.4	2.0498	µg/L	0.29033	2.0498	ppb	0.29033	14.16%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              25.4      1.3545 µg/L       0.83251      1.3545 ppb        0.83251  61.46%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†             -12.7     -0.7959 µg/L       0.42480     -0.7959 ppb        0.42480  53.37%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             -570.0     -3.0001 µg/L       0.18865     -3.0001 ppb        0.18865   6.29%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†    567843.5      195520 µg/L        245.17      195520 ppb         245.17   0.13%
   QC value within limits for Fe 238.204 Radial  Recovery = 97.76%
K 766.490 Radial†       2604.1      1208.8 µg/L         11.89      1208.8 ppb          11.89   0.98%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†       316018.0      494800 µg/L        159.78      494800 ppb         159.78   0.03%
   QC value within limits for Mg 279.077 IEC  Recovery = 98.96%
Mn 257.610†             -22.1     -2.6840 µg/L       0.58580     -2.6840 ppb        0.58580  21.83%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†             -33.7     -9.2895 µg/L       1.19697     -9.2895 ppb        1.19697  12.89%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†    100211.1       11749 µg/L        127.11       11749 ppb         127.11   1.08%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              -7.8      0.6193 µg/L       1.16864      0.6193 ppb        1.16864 188.71%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†              -41.1     -30.366 µg/L       72.6099     -30.366 ppb        72.6099 239.11%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†             -45.0      4.8592 µg/L       7.85552      4.8592 ppb        7.85552 161.66%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         15.5      127.49 µg/L        11.468      127.49 ppb         11.468   8.99%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†              -4.2      7.0216 µg/L       0.60570      7.0216 ppb        0.60570   8.63%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†             -36.1      14.487 µg/L       19.2367      14.487 ppb        19.2367 132.79%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    7.1      8.2548 µg/L       6.18379      8.2548 ppb        6.18379  74.91%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              79.4     -47.977 µg/L        2.0221     -47.977 ppb         2.0221   4.21%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              29.8      1.4422 µg/L       3.57470      1.4422 ppb        3.57470 247.87%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†           15086.3     -3.1793 µg/L       0.10010     -3.1793 ppb        0.10010   3.15%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†             -459.3      0.2472 µg/L       0.26140      0.2472 ppb        0.26140 105.76%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -3.1      1.1847 µg/L       2.79290      1.1847 ppb        2.79290 235.75%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†              874.9     -90.744 µg/L       15.2139     -90.744 ppb        15.2139  16.77%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†              -112.8     -4.3488 µg/L       0.79649     -4.3488 ppb        0.79649  18.32%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†              547.7      2.3454 µg/L       0.45150      2.3454 ppb        0.45150  19.25%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 7 **Autosampler Location: 104**
Sample ID: ICSAB **Date Collected: 11/19/2020 08:13:08**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	65487.3	65487.3	102.77	%	102.77	%	08:13:46
1	Al 396.153Radial†	1647386.2	1602930.6	500600	µg/L	500600	ppb	08:13:44
1	Ca 317.933Radial†	2886948.1	2808804.7	461580	µg/L	461580	ppb	08:13:44
1	Fe 238.204 Radial†	588925.8	572980.9	197290	µg/L	197290	ppb	08:13:46
1	K 766.490 Radial†	13536.9	13391.0	6003.1	µg/L	6003.1	ppb	08:13:46
1	Mg 279.077 IEC†	327456.2	318614.1	498860	µg/L	498860	ppb	08:13:46
1	Na 589.592 Radial†	124630.3	119795.0	14051	µg/L	14051	ppb	08:13:46
1	Sr 421.552†	390037.3	379967.2	487.92	µg/L	487.92	ppb	08:13:44
1	Sc 361.383	204404.1	204404.1	95.654	%	95.654	%	08:13:58
1	Y 371.029	118631.6	118631.6	95.215	%	95.215	%	08:13:58
1	Ag 328.068†	6801.7	7264.6	283.46	µg/L	283.46	ppb	08:14:18
1	As 188.979†	176.3	184.9	473.68	µg/L	473.68	ppb	08:14:18
1	B 249.677†	-490.4	-609.6	538.75	µg/L	538.75	ppb	08:13:58
1	Ba 233.527†	9796.6	10274.3	494.17	µg/L	494.17	ppb	08:14:18
1	Be 313.107†	84831.4	88925.6	220.16	µg/L	220.16	ppb	08:13:58
1	Cd 226.502†	9140.7	9616.3	462.43	µg/L	462.43	ppb	08:14:18
1	Co 228.616†	1968.0	2073.6	389.87	µg/L	389.87	ppb	08:14:18
1	Cr 267.716†	9502.2	9877.6	511.38	µg/L	511.38	ppb	08:14:18
1	Cu 324.752†	14242.8	14594.4	485.47	µg/L	485.47	ppb	08:13:58
1	Mn 257.610†	29536.2	30899.7	449.47	µg/L	449.47	ppb	08:13:58
1	Mo 202.031†	2030.6	2095.0	425.28	µg/L	425.28	ppb	08:14:18
1	Ni 231.604†	3467.2	3677.8	432.97	µg/L	432.97	ppb	08:14:18
1	P 214.914†	364.1	335.7	2247.5	µg/L	2247.5	ppb	08:14:18
1	Pb 220.353†	570.9	587.4	417.32	µg/L	417.32	ppb	08:14:18
1	S 181.975 Axial†	375.6	390.2	2522.0	µg/L	2522.0	ppb	08:14:18
1	Sb 206.836†	299.4	282.4	488.92	µg/L	488.92	ppb	08:14:18
1	Se 196.026†	1023.6	1042.5	2287.4	µg/L	2287.4	ppb	08:14:18
1	SiO2†	9687.0	9962.1	11426	µg/L	11426	ppb	08:14:18
1	Si 251.611†	22505.8	23402.0	4903.0	µg/L	4903.0	ppb	08:13:58
1	Sn 189.927†	507.7	519.8	441.93	µg/L	441.93	ppb	08:14:18
1	Ti 334.940†	47155.2	49282.1	476.59	µg/L	476.59	ppb	08:13:58
1	Tl 190.801†	176.6	195.0	388.12	µg/L	388.12	ppb	08:14:18
1	U 367.007†	1583.7	1680.8	422.54	µg/L	422.54	ppb	08:14:18
1	V 292.402†	9155.8	9582.5	524.10	µg/L	524.10	ppb	08:14:18
1	Zn 213.857†	9006.8	9440.5	484.16	µg/L	484.16	ppb	08:14:18
2	Sc RADIAL	64687.2	64687.2	101.52	%	101.52	%	08:13:50
2	Al 396.153Radial†	1636988.6	1612516.5	503590	µg/L	503590	ppb	08:13:48
2	Ca 317.933Radial†	2865767.5	2822688.2	463860	µg/L	463860	ppb	08:13:48
2	Fe 238.204 Radial†	582341.8	573583.7	197500	µg/L	197500	ppb	08:13:50
2	K 766.490 Radial†	13514.1	13531.5	6065.7	µg/L	6065.7	ppb	08:13:50
2	Mg 279.077 IEC†	323588.7	318745.7	499070	µg/L	499070	ppb	08:13:50
2	Na 589.592 Radial†	120497.4	117224.0	13749	µg/L	13749	ppb	08:13:50
2	Sr 421.552†	387934.5	382590.3	491.42	µg/L	491.42	ppb	08:13:48
2	Sc 361.383	206150.0	206150.0	96.471	%	96.471	%	08:14:21
2	Y 371.029	119627.6	119627.6	96.015	%	96.015	%	08:14:21
2	Ag 328.068†	6587.3	6982.1	272.59	µg/L	272.59	ppb	08:14:41
2	As 188.979†	174.4	181.4	464.63	µg/L	464.63	ppb	08:14:41
2	B 249.677†	-482.4	-596.9	540.92	µg/L	540.92	ppb	08:14:21
2	Ba 233.527†	9531.8	9913.1	476.23	µg/L	476.23	ppb	08:14:41
2	Be 313.107†	86732.0	90144.6	223.18	µg/L	223.18	ppb	08:14:21
2	Cd 226.502†	8863.6	9248.1	443.81	µg/L	443.81	ppb	08:14:41
2	Co 228.616†	1922.9	2009.5	377.69	µg/L	377.69	ppb	08:14:41
2	Cr 267.716†	9259.7	9542.1	494.00	µg/L	494.00	ppb	08:14:41
2	Cu 324.752†	14455.1	14688.5	488.47	µg/L	488.47	ppb	08:14:21
2	Mn 257.610†	30062.1	31183.3	453.62	µg/L	453.62	ppb	08:14:21
2	Mo 202.031†	1974.3	2018.6	409.69	µg/L	409.69	ppb	08:14:41
2	Ni 231.604†	3359.8	3535.8	416.33	µg/L	416.33	ppb	08:14:41

2	P 214.914†	355.0	323.0	2172.5 µg/L	2172.5 ppb	08:14:41
2	Pb 220.353†	544.7	555.1	396.33 µg/L	396.33 ppb	08:14:41
2	S 181.975 Axial†	369.6	380.6	2460.9 µg/L	2460.9 ppb	08:14:41
2	Sb 206.836†	286.6	266.5	462.31 µg/L	462.31 ppb	08:14:41
2	Se 196.026†	975.8	983.8	2163.9 µg/L	2163.9 ppb	08:14:41
2	SiO2†	9402.9	9581.9	10990 µg/L	10990 ppb	08:14:41
2	Si 251.611†	22954.9	23668.2	4960.0 µg/L	4960.0 ppb	08:14:21
2	Sn 189.927†	500.1	507.4	431.01 µg/L	431.01 ppb	08:14:41
2	Ti 334.940†	48133.0	49878.2	482.23 µg/L	482.23 ppb	08:14:21
2	Tl 190.801†	169.8	186.3	371.31 µg/L	371.31 ppb	08:14:41
2	U 367.007†	1554.0	1636.0	392.98 µg/L	392.98 ppb	08:14:41
2	V 292.402†	8918.3	9255.2	506.24 µg/L	506.24 ppb	08:14:41
2	Zn 213.857†	8742.0	9086.2	464.90 µg/L	464.90 ppb	08:14:41
3	Sc RADIAL	64860.1	64860.1	101.79 %	101.79 %	08:13:55
3	Al 396.153Radial†	1667071.4	1637772.5	511480 µg/L	511480 ppb	08:13:53
3	Ca 317.933Radial†	2931422.2	2879664.6	473230 µg/L	473230 ppb	08:13:53
3	Fe 238.204 Radial†	582247.8	571962.3	196940 µg/L	196940 ppb	08:13:55
3	K 766.490 Radial†	13427.2	13410.6	6011.8 µg/L	6011.8 ppb	08:13:55
3	Mg 279.077 IEC†	323260.2	317573.3	497240 µg/L	497240 ppb	08:13:55
3	Na 589.592 Radial†	121064.2	117464.4	13777 µg/L	13777 ppb	08:13:55
3	Sr 421.552†	395343.6	388850.6	499.92 µg/L	499.92 ppb	08:13:53
3	Sc 361.383	193995.7	193995.7	90.783 %	90.783 %	08:14:43
3	Y 371.029	112424.5	112424.5	90.234 %	90.234 %	08:14:43
3	Ag 328.068†	6603.9	7428.2	289.73 µg/L	289.73 ppb	08:15:03
3	As 188.979†	177.4	196.0	501.22 µg/L	501.22 ppb	08:15:03
3	B 249.677†	-447.8	-590.1	539.99 µg/L	539.99 ppb	08:14:43
3	Ba 233.527†	9461.6	10454.8	503.16 µg/L	503.16 ppb	08:15:03
3	Be 313.107†	81272.6	89763.7	222.24 µg/L	222.24 ppb	08:14:43
3	Cd 226.502†	8801.2	9755.0	469.48 µg/L	469.48 ppb	08:15:03
3	Co 228.616†	1901.5	2110.7	396.92 µg/L	396.92 ppb	08:15:03
3	Cr 267.716†	9214.8	10094.0	522.58 µg/L	522.58 ppb	08:15:03
3	Cu 324.752†	13722.6	14820.3	492.75 µg/L	492.75 ppb	08:14:43
3	Mn 257.610†	28164.4	31045.3	451.61 µg/L	451.61 ppb	08:14:43
3	Mo 202.031†	1960.6	2131.7	432.80 µg/L	432.80 ppb	08:15:03
3	Ni 231.604†	3349.5	3742.6	440.58 µg/L	440.58 ppb	08:15:03
3	P 214.914†	350.5	341.1	2291.5 µg/L	2291.5 ppb	08:15:03
3	Pb 220.353†	556.9	604.0	428.06 µg/L	428.06 ppb	08:15:03
3	S 181.975 Axial†	358.2	392.1	2534.2 µg/L	2534.2 ppb	08:15:03
3	Sb 206.836†	291.4	290.5	502.32 µg/L	502.32 ppb	08:15:03
3	Se 196.026†	978.9	1050.7	2304.4 µg/L	2304.4 ppb	08:15:03
3	SiO2†	9325.8	10107.6	11593 µg/L	11593 ppb	08:15:03
3	Si 251.611†	21504.2	23561.1	4936.8 µg/L	4936.8 ppb	08:14:43
3	Sn 189.927†	489.8	528.6	450.71 µg/L	450.71 ppb	08:15:03
3	Ti 334.940†	45391.4	49984.2	482.79 µg/L	482.79 ppb	08:14:43
3	Tl 190.801†	180.8	209.4	416.19 µg/L	416.19 ppb	08:15:03
3	U 367.007†	1554.5	1737.5	460.22 µg/L	460.22 ppb	08:15:03
3	V 292.402†	8852.6	9762.0	533.91 µg/L	533.91 ppb	08:15:03
3	Zn 213.857†	8674.8	9579.9	491.77 µg/L	491.77 ppb	08:15:03

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	201516.6	94.302	%	3.0752	94.302	%	3.0752	3.26%
Sc RADIAL	65011.5	102.03	%	0.661	102.03	%	0.661	0.65%
Y 371.029	116894.6	93.821	%	3.1327	93.821	%	3.1327	3.34%
Ag 328.068†	7224.9	281.92	µg/L	8.673	281.92	ppb	8.673	3.08%
QC value within limits for Ag 328.068 Recovery = 112.77%								
Al 396.153Radial†	1617739.9	505220	µg/L	5620.95	505220	ppb	5620.95	1.11%
QC value within limits for Al 396.153Radial Recovery = 101.04%								
As 188.979†	187.4	479.84	µg/L	19.056	479.84	ppb	19.056	3.97%
QC value within limits for As 188.979 Recovery = 95.97%								
B 249.677†	-598.9	539.89	µg/L	1.087	539.89	ppb	1.087	0.20%
QC value within limits for B 249.677 Recovery = 107.98%								
Ba 233.527†	10214.1	491.19	µg/L	13.708	491.19	ppb	13.708	2.79%
QC value within limits for Ba 233.527 Recovery = 98.24%								
Be 313.107†	89611.3	221.86	µg/L	1.544	221.86	ppb	1.544	0.70%
QC value within limits for Be 313.107 Recovery = 88.74%								
Ca 317.933Radial†	2837052.5	466230	µg/L	6170.82	466230	ppb	6170.82	1.32%
QC value within limits for Ca 317.933Radial Recovery = 93.25%								
Cd 226.502†	9539.8	458.58	µg/L	13.263	458.58	ppb	13.263	2.89%

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   QC value within limits for Cd 226.502  Recovery = 91.72%
Co 228.616†            2064.6      388.16 µg/L         9.726      388.16 ppb          9.726   2.51%
   QC value less than the lower limit for Co 228.616  Recovery = 77.63%
Cr 267.716†            9837.9      509.32 µg/L        14.401      509.32 ppb         14.401   2.83%
   QC value within limits for Cr 267.716  Recovery = 101.86%
Cu 324.752†           14701.1      488.89 µg/L         3.661      488.89 ppb          3.661   0.75%
   QC value within limits for Cu 324.752  Recovery = 97.78%
Fe 238.204 Radial†   572842.3      197240 µg/L        282.08      197240 ppb         282.08   0.14%
   QC value within limits for Fe 238.204 Radial  Recovery = 98.62%
K 766.490 Radial†     13444.4      6026.9 µg/L         33.87      6026.9 ppb          33.87   0.56%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = 120.54%
Mg 279.077 IEC†      318311.0      498390 µg/L       1005.56      498390 ppb        1005.56   0.20%
   QC value within limits for Mg 279.077 IEC  Recovery = 99.68%
Mn 257.610†           31042.7      451.57 µg/L         2.073      451.57 ppb          2.073   0.46%
   QC value within limits for Mn 257.610  Recovery = 90.31%
Mo 202.031†            2081.8      422.59 µg/L        11.785      422.59 ppb         11.785   2.79%
   QC value within limits for Mo 202.031  Recovery = 84.52%
Na 589.592 Radial†   118161.1       13859 µg/L        166.99       13859 ppb         166.99   1.20%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = 277.18%
Ni 231.604†            3652.1      429.96 µg/L        12.405      429.96 ppb         12.405   2.89%
   QC value within limits for Ni 231.604  Recovery = 85.99%
P 214.914†              333.3      2237.2 µg/L         60.18      2237.2 ppb          60.18   2.69%
   QC value within limits for P 214.914  Recovery = 89.49%
Pb 220.353†             582.1      413.90 µg/L        16.138      413.90 ppb         16.138   3.90%
   QC value within limits for Pb 220.353  Recovery = 82.78%
S 181.975 Axial†        387.6      2505.7 µg/L         39.26      2505.7 ppb          39.26   1.57%
   QC value within limits for S 181.975 Axial  Recovery = 100.23%
Sb 206.836†             279.8      484.52 µg/L        20.369      484.52 ppb         20.369   4.20%
   QC value within limits for Sb 206.836  Recovery = 96.90%
Se 196.026†            1025.7      2251.9 µg/L         76.70      2251.9 ppb          76.70   3.41%
   QC value within limits for Se 196.026  Recovery = 90.08%
SiO2†                  9883.9       11336 µg/L        311.34       11336 ppb         311.34   2.75%
   QC value within limits for SiO2  Recovery = 106.00%
Si 251.611†           23543.8      4933.2 µg/L         28.65      4933.2 ppb          28.65   0.58%
   QC value within limits for Si 251.611  Recovery = 98.66%
Sn 189.927†             518.6      441.22 µg/L         9.866      441.22 ppb          9.866   2.24%
   QC value within limits for Sn 189.927  Recovery = 88.24%
Sr 421.552†          383802.7      493.09 µg/L         6.172      493.09 ppb          6.172   1.25%
   QC value within limits for Sr 421.552  Recovery = 98.62%
Ti 334.940†            49714.9      480.53 µg/L         3.431      480.53 ppb          3.431   0.71%
   QC value within limits for Ti 334.940  Recovery = 96.11%
Tl 190.801†             196.9      391.87 µg/L        22.675      391.87 ppb         22.675   5.79%
   QC value less than the lower limit for Tl 190.801  Recovery = 78.37%
U 367.007†             1684.8      425.25 µg/L        33.698      425.25 ppb         33.698   7.92%
   QC value within limits for U 367.007  Recovery = 85.05%
V 292.402†             9533.2      521.42 µg/L        14.029      521.42 ppb         14.029   2.69%
   QC value within limits for V 292.402  Recovery = 104.28%
Zn 213.857†            9368.9      480.28 µg/L        13.848      480.28 ppb         13.848   2.88%
   QC value within limits for Zn 213.857  Recovery = 96.06%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 8 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/19/2020 08:16:04**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 49

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	67827.1	67827.1	106.45	%	106.45	%	08:16:44
1	Al 396.153Radial†	16097.1	15124.6	4703.4	µg/L	4703.4	ppb	08:16:44
1	Ca 317.933Radial†	30290.8	28222.8	4638.0	µg/L	4638.0	ppb	08:16:44
1	Fe 238.204 Radial†	14802.9	13854.9	4775.6	µg/L	4775.6	ppb	08:16:44
1	K 766.490 Radial†	12899.5	12337.9	5484.4	µg/L	5484.4	ppb	08:16:44
1	Mg 279.077 IEC†	3227.4	3026.9	4740.6	µg/L	4740.6	ppb	08:16:44
1	Na 589.592 Radial†	135577.3	125896.0	14803	µg/L	14803	ppb	08:16:42
1	Sr 421.552†	389369.2	366247.8	492.58	µg/L	492.58	ppb	08:16:42
1	Sc 361.383	207033.1	207033.1	96.884	%	96.884	%	08:16:56
1	Y 371.029	120249.8	120249.8	96.514	%	96.514	%	08:16:56
1	Ag 328.068†	12054.9	12596.4	485.05	µg/L	485.05	ppb	08:16:56
1	As 188.979†	188.1	194.8	490.81	µg/L	490.81	ppb	08:17:16
1	B 249.677†	3990.2	4021.6	496.11	µg/L	496.11	ppb	08:16:56
1	Ba 233.527†	9451.1	9787.7	485.26	µg/L	485.26	ppb	08:16:56
1	Be 313.107†	190925.9	197306.1	486.47	µg/L	486.47	ppb	08:16:56
1	Cd 226.502†	9160.9	9515.8	480.08	µg/L	480.08	ppb	08:16:56
1	Co 228.616†	2423.0	2517.1	477.26	µg/L	477.26	ppb	08:17:16
1	Cr 267.716†	9141.5	9379.2	485.70	µg/L	485.70	ppb	08:16:56
1	Cu 324.752†	15050.2	15238.8	491.03	µg/L	491.03	ppb	08:16:56
1	Mn 257.610†	32179.2	33235.5	485.96	µg/L	485.96	ppb	08:16:56
1	Mo 202.031†	2263.9	2308.9	471.34	µg/L	471.34	ppb	08:17:16
1	Ni 231.604†	3921.1	4100.4	481.04	µg/L	481.04	ppb	08:16:56
1	P 214.914†	423.4	392.1	2375.8	µg/L	2375.8	ppb	08:17:16
1	Pb 220.353†	719.6	733.2	478.87	µg/L	478.87	ppb	08:17:16
1	S 181.975 Axial†	150.8	153.1	979.26	µg/L	979.26	ppb	08:17:16
1	Sb 206.836†	301.2	280.3	472.25	µg/L	472.25	ppb	08:17:16
1	Se 196.026†	249.5	229.8	486.38	µg/L	486.38	ppb	08:17:16
1	SiO2†	4586.3	4568.8	5237.8	µg/L	5237.8	ppb	08:16:56
1	Si 251.611†	11357.0	11595.8	2453.9	µg/L	2453.9	ppb	08:16:56
1	Sn 189.927†	526.6	532.5	478.25	µg/L	478.25	ppb	08:17:16
1	Ti 334.940†	48677.9	50227.8	481.00	µg/L	481.00	ppb	08:16:56
1	Tl 190.801†	231.1	248.9	485.74	µg/L	485.74	ppb	08:17:16
1	U 367.007†	699.7	747.4	465.53	µg/L	465.53	ppb	08:16:56
1	V 292.402†	8627.7	8915.8	486.03	µg/L	486.03	ppb	08:16:56
1	Zn 213.857†	8600.1	8901.1	481.56	µg/L	481.56	ppb	08:16:56
2	Sc RADIAL	69016.1	69016.1	108.31	%	108.31	%	08:16:48
2	Al 396.153Radial†	16359.4	15106.2	4698.0	µg/L	4698.0	ppb	08:16:48
2	Ca 317.933Radial†	30975.4	28364.7	4661.3	µg/L	4661.3	ppb	08:16:48
2	Fe 238.204 Radial†	15052.8	13846.1	4772.5	µg/L	4772.5	ppb	08:16:48
2	K 766.490 Radial†	13110.6	12324.0	5478.2	µg/L	5478.2	ppb	08:16:48
2	Mg 279.077 IEC†	3271.6	3015.4	4722.7	µg/L	4722.7	ppb	08:16:48
2	Na 589.592 Radial†	133006.7	121328.3	14266	µg/L	14266	ppb	08:16:46
2	Sr 421.552†	380674.7	351918.7	473.28	µg/L	473.28	ppb	08:16:46
2	Sc 361.383	208233.3	208233.3	97.446	%	97.446	%	08:17:18
2	Y 371.029	121074.4	121074.4	97.176	%	97.176	%	08:17:18
2	Ag 328.068†	12034.2	12503.4	481.46	µg/L	481.46	ppb	08:17:18
2	As 188.979†	182.9	188.3	474.70	µg/L	474.70	ppb	08:17:38
2	B 249.677†	4119.9	4131.0	509.19	µg/L	509.19	ppb	08:17:18
2	Ba 233.527†	9398.5	9677.4	479.80	µg/L	479.80	ppb	08:17:18
2	Be 313.107†	191724.2	196989.5	485.69	µg/L	485.69	ppb	08:17:18
2	Cd 226.502†	9268.8	9572.1	482.92	µg/L	482.92	ppb	08:17:18
2	Co 228.616†	2408.9	2488.3	471.79	µg/L	471.79	ppb	08:17:38
2	Cr 267.716†	9136.9	9320.1	482.64	µg/L	482.64	ppb	08:17:18
2	Cu 324.752†	15110.4	15211.0	490.16	µg/L	490.16	ppb	08:17:18
2	Mn 257.610†	32289.9	33157.7	484.83	µg/L	484.83	ppb	08:17:18
2	Mo 202.031†	2248.4	2279.5	465.33	µg/L	465.33	ppb	08:17:38
2	Ni 231.604†	3910.7	4066.3	477.05	µg/L	477.05	ppb	08:17:18

2	P 214.914†	415.9	381.9	2313.6 µg/L	2313.6 ppb	08:17:38
2	Pb 220.353†	713.1	722.2	471.71 µg/L	471.71 ppb	08:17:38
2	S 181.975 Axial†	153.4	154.9	990.72 µg/L	990.72 ppb	08:17:38
2	Sb 206.836†	308.0	285.5	480.74 µg/L	480.74 ppb	08:17:38
2	Se 196.026†	242.5	221.2	468.24 µg/L	468.24 ppb	08:17:38
2	SiO2†	4638.4	4595.0	5268.0 µg/L	5268.0 ppb	08:17:18
2	Si 251.611†	11323.8	11494.2	2432.5 µg/L	2432.5 ppb	08:17:18
2	Sn 189.927†	512.4	514.8	462.47 µg/L	462.47 ppb	08:17:38
2	Ti 334.940†	48931.5	50198.5	480.72 µg/L	480.72 ppb	08:17:18
2	Tl 190.801†	229.4	245.8	479.68 µg/L	479.68 ppb	08:17:38
2	U 367.007†	727.1	771.3	480.95 µg/L	480.95 ppb	08:17:18
2	V 292.402†	8641.8	8878.9	484.03 µg/L	484.03 ppb	08:17:18
2	Zn 213.857†	8621.7	8872.1	480.00 µg/L	480.00 ppb	08:17:18
3	Sc RADIAL	69092.9	69092.9	108.43 %	108.43 %	08:16:52
3	Al 396.153Radial†	16464.7	15186.6	4723.0 µg/L	4723.0 ppb	08:16:52
3	Ca 317.933Radial†	30853.6	28220.6	4637.6 µg/L	4637.6 ppb	08:16:52
3	Fe 238.204 Radial†	15027.7	13807.5	4759.2 µg/L	4759.2 ppb	08:16:52
3	K 766.490 Radial†	13108.4	12308.5	5471.3 µg/L	5471.3 ppb	08:16:52
3	Mg 279.077 IEC†	3252.8	2994.8	4690.3 µg/L	4690.3 ppb	08:16:52
3	Na 589.592 Radial†	132400.2	120632.5	14184 µg/L	14184 ppb	08:16:50
3	Sr 421.552†	379926.0	350837.7	471.83 µg/L	471.83 ppb	08:16:50
3	Sc 361.383	206629.8	206629.8	96.695 %	96.695 %	08:17:40
3	Y 371.029	120159.3	120159.3	96.442 %	96.442 %	08:17:40
3	Ag 328.068†	11988.7	12552.2	483.35 µg/L	483.35 ppb	08:17:40
3	As 188.979†	182.7	189.5	477.64 µg/L	477.64 ppb	08:18:01
3	B 249.677†	4134.8	4179.2	514.91 µg/L	514.91 ppb	08:17:40
3	Ba 233.527†	9383.7	9737.0	482.75 µg/L	482.75 ppb	08:17:40
3	Be 313.107†	190267.7	197010.2	485.74 µg/L	485.74 ppb	08:17:40
3	Cd 226.502†	9171.7	9545.4	481.57 µg/L	481.57 ppb	08:17:40
3	Co 228.616†	2401.8	2500.1	474.02 µg/L	474.02 ppb	08:18:01
3	Cr 267.716†	9028.2	9280.5	480.59 µg/L	480.59 ppb	08:17:40
3	Cu 324.752†	15019.9	15237.7	490.99 µg/L	490.99 ppb	08:17:40
3	Mn 257.610†	31933.1	33045.8	483.19 µg/L	483.19 ppb	08:17:40
3	Mo 202.031†	2243.6	2292.4	467.98 µg/L	467.98 ppb	08:18:01
3	Ni 231.604†	3909.4	4096.1	480.54 µg/L	480.54 ppb	08:17:40
3	P 214.914†	412.6	381.8	2312.6 µg/L	2312.6 ppb	08:18:01
3	Pb 220.353†	708.9	723.6	472.64 µg/L	472.64 ppb	08:18:01
3	S 181.975 Axial†	154.6	157.4	1006.3 µg/L	1006.3 ppb	08:18:01
3	Sb 206.836†	300.0	279.8	471.27 µg/L	471.27 ppb	08:18:01
3	Se 196.026†	247.3	228.1	482.78 µg/L	482.78 ppb	08:18:01
3	SiO2†	4606.8	4599.3	5272.8 µg/L	5272.8 ppb	08:17:40
3	Si 251.611†	11322.6	11583.1	2451.3 µg/L	2451.3 ppb	08:17:40
3	Sn 189.927†	522.4	529.3	475.36 µg/L	475.36 ppb	08:18:01
3	Ti 334.940†	48405.6	50044.3	479.24 µg/L	479.24 ppb	08:17:40
3	Tl 190.801†	224.0	242.0	472.38 µg/L	472.38 ppb	08:18:01
3	U 367.007†	693.2	742.0	462.14 µg/L	462.14 ppb	08:17:40
3	V 292.402†	8600.4	8905.0	485.43 µg/L	485.43 ppb	08:17:40
3	Zn 213.857†	8604.7	8923.2	482.77 µg/L	482.77 ppb	08:17:40

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	207298.7	97.008	%	0.3903	97.008	%	0.3903	0.40%
Sc RADIAL	68645.4	107.73	%	1.114	107.73	%	1.114	1.03%
Y 371.029	120494.5	96.711	%	0.4047	96.711	%	0.4047	0.42%
Ag 328.068†	12550.7	483.29	µg/L	1.798	483.29	ppb	1.798	0.37%
QC value within limits for Ag 328.068 Recovery = 96.66%								
Al 396.153Radial†	15139.1	4708.1	µg/L	13.14	4708.1	ppb	13.14	0.28%
QC value within limits for Al 396.153Radial Recovery = 94.16%								
As 188.979†	190.9	481.05	µg/L	8.575	481.05	ppb	8.575	1.78%
QC value within limits for As 188.979 Recovery = 96.21%								
B 249.677†	4110.6	506.74	µg/L	9.640	506.74	ppb	9.640	1.90%
QC value within limits for B 249.677 Recovery = 101.35%								
Ba 233.527†	9734.0	482.60	µg/L	2.735	482.60	ppb	2.735	0.57%
QC value within limits for Ba 233.527 Recovery = 96.52%								
Be 313.107†	197101.9	485.97	µg/L	0.437	485.97	ppb	0.437	0.09%
QC value within limits for Be 313.107 Recovery = 97.19%								
Ca 317.933Radial†	28269.4	4645.6	µg/L	13.57	4645.6	ppb	13.57	0.29%
QC value within limits for Ca 317.933Radial Recovery = 92.91%								
Cd 226.502†	9544.5	481.52	µg/L	1.422	481.52	ppb	1.422	0.30%

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   QC value within limits for Cd 226.502  Recovery = 96.30%
Co 228.616†          2501.8      474.36 µg/L         2.752      474.36 ppb          2.752   0.58%
   QC value within limits for Co 228.616  Recovery = 94.87%
Cr 267.716†          9326.6      482.97 µg/L         2.573      482.97 ppb          2.573   0.53%
   QC value within limits for Cr 267.716  Recovery = 96.59%
Cu 324.752†         15229.2      490.73 µg/L         0.493      490.73 ppb          0.493   0.10%
   QC value within limits for Cu 324.752  Recovery = 98.15%
Fe 238.204 Radial†  13836.1      4769.1 µg/L          8.69      4769.1 ppb           8.69   0.18%
   QC value within limits for Fe 238.204 Radial  Recovery = 95.38%
K 766.490 Radial†   12323.5      5478.0 µg/L          6.54      5478.0 ppb           6.54   0.12%
   QC value within limits for K 766.490 Radial  Recovery = 109.56%
Mg 279.077 IEC†      3012.4      4717.9 µg/L         25.48      4717.9 ppb          25.48   0.54%
   QC value within limits for Mg 279.077 IEC  Recovery = 94.36%
Mn 257.610†         33146.4      484.66 µg/L         1.394      484.66 ppb          1.394   0.29%
   QC value within limits for Mn 257.610  Recovery = 96.93%
Mo 202.031†          2293.6      468.21 µg/L         3.011      468.21 ppb          3.011   0.64%
   QC value within limits for Mo 202.031  Recovery = 93.64%
Na 589.592 Radial†  122618.9       14418 µg/L        336.21       14418 ppb         336.21   2.33%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = 144.18%
Ni 231.604†          4087.6      479.54 µg/L         2.176      479.54 ppb          2.176   0.45%
   QC value within limits for Ni 231.604  Recovery = 95.91%
P 214.914†            385.3      2334.0 µg/L         36.18      2334.0 ppb          36.18   1.55%
   QC value within limits for P 214.914  Recovery = 93.36%
Pb 220.353†           726.4      474.41 µg/L         3.894      474.41 ppb          3.894   0.82%
   QC value within limits for Pb 220.353  Recovery = 94.88%
S 181.975 Axial†      155.2      992.10 µg/L        13.590      992.10 ppb         13.590   1.37%
   QC value within limits for S 181.975 Axial  Recovery = 99.21%
Sb 206.836†           281.9      474.75 µg/L         5.208      474.75 ppb          5.208   1.10%
   QC value within limits for Sb 206.836  Recovery = 94.95%
Se 196.026†           226.4      479.13 µg/L         9.603      479.13 ppb          9.603   2.00%
   QC value within limits for Se 196.026  Recovery = 95.83%
SiO2†                4587.7      5259.5 µg/L         18.97      5259.5 ppb          18.97   0.36%
   QC value within limits for SiO2  Recovery = 98.35%
Si 251.611†         11557.7      2445.9 µg/L         11.71      2445.9 ppb          11.71   0.48%
   QC value within limits for Si 251.611  Recovery = 97.84%
Sn 189.927†           525.5      472.03 µg/L         8.398      472.03 ppb          8.398   1.78%
   QC value within limits for Sn 189.927  Recovery = 94.41%
Sr 421.552†         356334.7      479.23 µg/L        11.582      479.23 ppb         11.582   2.42%
   QC value within limits for Sr 421.552  Recovery = 95.85%
Ti 334.940†          50156.9      480.32 µg/L         0.944      480.32 ppb          0.944   0.20%
   QC value within limits for Ti 334.940  Recovery = 96.06%
Tl 190.801†           245.5      479.27 µg/L         6.687      479.27 ppb          6.687   1.40%
   QC value within limits for Tl 190.801  Recovery = 95.85%
U 367.007†            753.6      469.54 µg/L        10.026      469.54 ppb         10.026   2.14%
   QC value within limits for U 367.007  Recovery = 93.91%
V 292.402†           8899.9      485.16 µg/L         1.029      485.16 ppb          1.029   0.21%
   QC value within limits for V 292.402  Recovery = 97.03%
Zn 213.857†          8898.8      481.44 µg/L         1.388      481.44 ppb          1.388   0.29%
   QC value within limits for Zn 213.857  Recovery = 96.29%
QC Failed.  Continue with analysis.
```

Batch ID:
Sequence No.: 9 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/19/2020 08:18:31**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**
Wash Time (before sample): 19

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	64460.8	64460.8	101.16	%	101.16	%	08:19:16
1	Al 396.153Radial†	248.4	247.8	77.280	µg/L	77.280	ppb	08:19:16
1	Ca 317.933Radial†	411.2	172.7	28.377	µg/L	28.377	ppb	08:19:36
1	Fe 238.204 Radial†	92.1	39.4	13.564	µg/L	13.564	ppb	08:19:36
1	K 766.490 Radial†	1192.3	1398.0	621.31	µg/L	621.31	ppb	08:19:16
1	Mg 279.077 IEC†	13.6	8.3	12.994	µg/L	12.994	ppb	08:19:36
1	Na 589.592 Radial†	55593.9	53483.2	6289.0	µg/L	6289.0	ppb	08:19:16
1	Sr 421.552†	-281.8	177.1	0.2369	µg/L	0.2369	ppb	08:19:16
1	Sc 361.383	190112.8	190112.8	88.966	%	88.966	%	08:20:24
1	Y 371.029	111010.2	111010.2	89.098	%	89.098	%	08:20:24
1	Ag 328.068†	-161.4	-27.7	-1.0551	µg/L	-1.0551	ppb	08:20:44
1	As 188.979†	-3.1	-2.9	-7.2586	µg/L	-7.2586	ppb	08:20:44
1	B 249.677†	227.7	159.0	19.073	µg/L	19.073	ppb	08:20:44
1	Ba 233.527†	-18.2	12.1	0.5993	µg/L	0.5993	ppb	08:20:44
1	Be 313.107†	-228.7	-17.5	-0.0418	µg/L	-0.0418	ppb	08:20:24
1	Cd 226.502†	-59.0	-6.0	-0.3046	µg/L	-0.3046	ppb	08:20:44
1	Co 228.616†	-10.4	4.5	0.8502	µg/L	0.8502	ppb	08:20:44
1	Cr 267.716†	53.1	3.4	0.1755	µg/L	0.1755	ppb	08:20:44
1	Cu 324.752†	307.4	50.0	1.5989	µg/L	1.5989	ppb	08:20:44
1	Mn 257.610†	-16.2	3.1	0.0459	µg/L	0.0459	ppb	08:20:44
1	Mo 202.031†	35.1	11.5	2.3570	µg/L	2.3570	ppb	08:20:44
1	Ni 231.604†	-44.9	2.7	0.3144	µg/L	0.3144	ppb	08:20:44
1	P 214.914†	42.8	3.1	19.422	µg/L	19.422	ppb	08:20:44
1	Pb 220.353†	2.9	-6.3	-4.0710	µg/L	-4.0710	ppb	08:20:44
1	S 181.975 Axial†	16.9	16.5	105.44	µg/L	105.44	ppb	08:20:44
1	Sb 206.836†	25.7	-1.7	-2.7576	µg/L	-2.7576	ppb	08:20:44
1	Se 196.026†	28.2	4.0	8.4882	µg/L	8.4882	ppb	08:20:44
1	SiO2†	187.9	46.2	52.980	µg/L	52.980	ppb	08:20:44
1	Si 251.611†	146.7	38.4	8.1137	µg/L	8.1137	ppb	08:20:44
1	Sn 189.927†	17.1	8.2	7.3438	µg/L	7.3438	ppb	08:20:44
1	Ti 334.940†	44.9	34.8	0.3331	µg/L	0.3331	ppb	08:20:44
1	Tl 190.801†	-7.4	2.0	3.8270	µg/L	3.8270	ppb	08:20:44
1	U 367.007†	-34.0	-13.0	-8.4159	µg/L	-8.4159	ppb	08:20:24
1	V 292.402†	-11.3	-2.1	-0.1196	µg/L	-0.1196	ppb	08:20:44
1	Zn 213.857†	3.8	28.6	1.5569	µg/L	1.5569	ppb	08:20:44
2	Sc RADIAL	61953.6	61953.6	97.228	%	97.228	%	08:19:38
2	Al 396.153Radial†	76.7	81.1	25.337	µg/L	25.337	ppb	08:19:38
2	Ca 317.933Radial†	471.0	250.6	41.189	µg/L	41.189	ppb	08:19:58
2	Fe 238.204 Radial†	98.3	49.4	17.016	µg/L	17.016	ppb	08:19:58
2	K 766.490 Radial†	1214.4	1468.5	652.61	µg/L	652.61	ppb	08:19:38
2	Mg 279.077 IEC†	32.0	27.8	43.543	µg/L	43.543	ppb	08:19:58
2	Na 589.592 Radial†	50370.4	50334.7	5918.8	µg/L	5918.8	ppb	08:19:38
2	Sr 421.552†	-523.4	-82.6	-0.1133	µg/L	-0.1133	ppb	08:19:38
2	Sc 361.383	187357.5	187357.5	87.677	%	87.677	%	08:20:46
2	Y 371.029	109472.6	109472.6	87.864	%	87.864	%	08:20:46
2	Ag 328.068†	-158.9	-27.4	-1.0715	µg/L	-1.0715	ppb	08:21:06
2	As 188.979†	-1.5	-1.2	-2.9070	µg/L	-2.9070	ppb	08:21:06
2	B 249.677†	221.4	155.7	18.684	µg/L	18.684	ppb	08:21:06
2	Ba 233.527†	-22.2	7.3	0.3596	µg/L	0.3596	ppb	08:21:06
2	Be 313.107†	-217.8	-8.8	-0.0209	µg/L	-0.0209	ppb	08:20:46
2	Cd 226.502†	-53.0	-0.2	-0.0122	µg/L	-0.0122	ppb	08:21:06
2	Co 228.616†	-14.1	0.1	0.0172	µg/L	0.0172	ppb	08:21:06
2	Cr 267.716†	56.6	8.2	0.4256	µg/L	0.4256	ppb	08:21:06
2	Cu 324.752†	313.2	61.7	2.0115	µg/L	2.0115	ppb	08:21:06
2	Mn 257.610†	-16.2	2.9	0.0429	µg/L	0.0429	ppb	08:21:06
2	Mo 202.031†	23.2	-1.4	-0.2855	µg/L	-0.2855	ppb	08:21:06
2	Ni 231.604†	-39.9	7.6	0.8868	µg/L	0.8868	ppb	08:21:06

2	P 214.914†	38.2	-1.4	-8.3328 µg/L	-8.3328 ppb	08:21:06
2	Pb 220.353†	4.7	-4.1	-2.7093 µg/L	-2.7093 ppb	08:21:06
2	S 181.975 Axial†	9.8	8.7	55.577 µg/L	55.577 ppb	08:21:06
2	Sb 206.836†	35.1	9.5	15.702 µg/L	15.702 ppb	08:21:06
2	Se 196.026†	31.1	7.9	16.553 µg/L	16.553 ppb	08:21:06
2	SiO2†	181.5	42.0	48.162 µg/L	48.162 ppb	08:21:06
2	Si 251.611†	131.5	23.5	4.9964 µg/L	4.9964 ppb	08:21:06
2	Sn 189.927†	22.3	14.5	12.906 µg/L	12.906 ppb	08:21:06
2	Ti 334.940†	34.7	23.9	0.2286 µg/L	0.2286 ppb	08:21:06
2	Tl 190.801†	-11.0	-2.2	-4.3079 µg/L	-4.3079 ppb	08:21:06
2	U 367.007†	3.3	29.0	18.594 µg/L	18.594 ppb	08:20:46
2	V 292.402†	-9.1	0.2	0.0240 µg/L	0.0240 ppb	08:21:06
2	Zn 213.857†	3.7	28.6	1.5506 µg/L	1.5506 ppb	08:21:06
3	Sc RADIAL	59141.5	59141.5	92.815 %	92.815 %	08:20:00
3	Al 396.153Radial†	239.1	259.8	81.084 µg/L	81.084 ppb	08:20:00
3	Ca 317.933Radial†	402.6	200.0	32.869 µg/L	32.869 ppb	08:20:20
3	Fe 238.204 Radial†	85.7	40.7	14.010 µg/L	14.010 ppb	08:20:20
3	K 766.490 Radial†	1275.0	1593.2	708.03 µg/L	708.03 ppb	08:20:00
3	Mg 279.077 IEC†	23.7	20.4	31.997 µg/L	31.997 ppb	08:20:20
3	Na 589.592 Radial†	60034.8	63210.7	7432.9 µg/L	7432.9 ppb	08:20:00
3	Sr 421.552†	-277.3	156.9	0.2096 µg/L	0.2096 ppb	08:20:00
3	Sc 361.383	187940.2	187940.2	87.949 %	87.949 %	08:21:08
3	Y 371.029	109701.9	109701.9	88.048 %	88.048 %	08:21:08
3	Ag 328.068†	-145.8	-12.0	-0.4711 µg/L	-0.4711 ppb	08:21:28
3	As 188.979†	-1.1	-0.7	-1.6936 µg/L	-1.6936 ppb	08:21:28
3	B 249.677†	213.9	146.4	17.559 µg/L	17.559 ppb	08:21:28
3	Ba 233.527†	-26.6	2.4	0.1196 µg/L	0.1196 ppb	08:21:28
3	Be 313.107†	-224.7	-15.9	-0.0376 µg/L	-0.0376 ppb	08:21:08
3	Cd 226.502†	-51.2	2.1	0.1049 µg/L	0.1049 ppb	08:21:28
3	Co 228.616†	-8.5	6.5	1.2275 µg/L	1.2275 ppb	08:21:28
3	Cr 267.716†	71.1	24.5	1.2674 µg/L	1.2674 ppb	08:21:28
3	Cu 324.752†	317.2	65.1	2.1088 µg/L	2.1088 ppb	08:21:28
3	Mn 257.610†	-12.7	6.9	0.1009 µg/L	0.1009 ppb	08:21:28
3	Mo 202.031†	29.4	5.5	1.1302 µg/L	1.1302 ppb	08:21:28
3	Ni 231.604†	-52.8	-6.9	-0.8110 µg/L	-0.8110 ppb	08:21:28
3	P 214.914†	41.8	2.6	16.302 µg/L	16.302 ppb	08:21:28
3	Pb 220.353†	-2.4	-12.2	-7.9795 µg/L	-7.9795 ppb	08:21:28
3	S 181.975 Axial†	10.0	8.9	56.748 µg/L	56.748 ppb	08:21:28
3	Sb 206.836†	38.2	12.9	21.365 µg/L	21.365 ppb	08:21:28
3	Se 196.026†	22.5	-2.1	-4.3209 µg/L	-4.3209 ppb	08:21:28
3	SiO2†	179.0	38.5	44.208 µg/L	44.208 ppb	08:21:28
3	Si 251.611†	141.8	34.8	7.3637 µg/L	7.3637 ppb	08:21:28
3	Sn 189.927†	18.4	10.0	8.8901 µg/L	8.8901 ppb	08:21:28
3	Ti 334.940†	49.0	40.0	0.3825 µg/L	0.3825 ppb	08:21:28
3	Tl 190.801†	-6.6	2.8	5.4395 µg/L	5.4395 ppb	08:21:28
3	U 367.007†	-7.8	16.4	10.498 µg/L	10.498 ppb	08:21:08
3	V 292.402†	3.2	14.3	0.7859 µg/L	0.7859 ppb	08:21:28
3	Zn 213.857†	16.1	42.7	2.3286 µg/L	2.3286 ppb	08:21:28

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	188470.2	88.197	%	0.6795	88.197	%	0.6795	0.77%
Sc RADIAL	61851.9	97.068	%	4.1763	97.068	%	4.1763	4.30%
Y 371.029	110061.6	88.337	%	0.6658	88.337	%	0.6658	0.75%
Ag 328.068†	-22.4	-0.8659	µg/L	0.34203	-0.8659	ppb	0.34203	39.50%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	196.2	61.234	µg/L	31.1458	61.234	ppb	31.1458	50.86%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-1.6	-3.9531	µg/L	2.92626	-3.9531	ppb	2.92626	74.03%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	153.7	18.439	µg/L	0.7864	18.439	ppb	0.7864	4.26%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	7.3	0.3595	µg/L	0.23987	0.3595	ppb	0.23987	66.72%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-14.1	-0.0335	µg/L	0.01107	-0.0335	ppb	0.01107	33.07%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	207.8	34.145	µg/L	6.5006	34.145	ppb	6.5006	19.04%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	-1.4	-0.0707	µg/L	0.21091	-0.0707	ppb	0.21091	298.45%

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   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              3.7      0.6983 µg/L       0.61927      0.6983 ppb        0.61927  88.69%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†             12.0      0.6228 µg/L       0.57202      0.6228 ppb        0.57202  91.84%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             59.0      1.9064 µg/L       0.27068      1.9064 ppb        0.27068  14.20%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†      43.1      14.864 µg/L        1.8775      14.864 ppb         1.8775  12.63%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†     1486.6      660.65 µg/L        43.916      660.65 ppb         43.916   6.65%
   QC value greater than the upper limit for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†         18.8      29.511 µg/L       15.4252      29.511 ppb        15.4252  52.27%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†              4.3      0.0632 µg/L       0.03268      0.0632 ppb        0.03268  51.67%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              5.2      1.0672 µg/L       1.32239      1.0672 ppb        1.32239 123.91%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†    55676.2      6546.9 µg/L        789.29      6546.9 ppb         789.29  12.06%
   QC value greater than the upper limit for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              1.1      0.1300 µg/L       0.86377      0.1300 ppb        0.86377 664.22%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†               1.5      9.1304 µg/L      15.20376      9.1304 ppb       15.20376 166.52%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†             -7.5     -4.9199 µg/L       2.73575     -4.9199 ppb        2.73575  55.61%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†        11.4      72.587 µg/L       28.4547      72.587 ppb        28.4547  39.20%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†              6.9      11.436 µg/L       12.6141      11.436 ppb        12.6141 110.30%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              3.3      6.9069 µg/L      10.52658      6.9069 ppb       10.52658 152.41%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                   42.2      48.450 µg/L        4.3930      48.450 ppb         4.3930   9.07%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†             32.2      6.8246 µg/L       1.62703      6.8246 ppb        1.62703  23.84%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†             10.9      9.7132 µg/L       2.87081      9.7132 ppb        2.87081  29.56%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†             83.8      0.1110 µg/L       0.19477      0.1110 ppb        0.19477 175.42%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†             32.9      0.3147 µg/L       0.07859      0.3147 ppb        0.07859  24.97%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              0.8      1.6528 µg/L       5.22476      1.6528 ppb        5.22476 316.11%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 367.007†              10.8      6.8918 µg/L      13.86115      6.8918 ppb       13.86115 201.13%
   QC value within limits for U 367.007  Recovery = Not calculated
V 292.402†               4.1      0.2301 µg/L       0.48667      0.2301 ppb        0.48667 211.53%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             33.3      1.8120 µg/L       0.44733      1.8120 ppb        0.44733  24.69%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

ICPMS #14 Daily Performance

Sample ID: Sample
Sample Date/Time: Friday, November 20, 2020 09:31:24
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\Daily 2.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\200501\Sample.579
Mass Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default1.tun
Dual Detector Mode: Pulse
Acquisition Date/Time&Time Zone: Friday, November 20, 2020 09:31:24 Eastern Standard Time
Number of Replicates: 5

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	35296.2	35296.154	400.358	1.1
	Mg	24.0	192704.8	192704.787	1541.694	0.8
	Co	58.9	172848.4	172848.378	1144.520	0.7
	Rh	102.9	269236.8	269236.771	2007.854	0.7
	In	114.9	427303.0	427302.959	5473.850	1.3
	Pb	208.0	247091.1	247091.112	1848.106	0.7
⌈>	Ba	137.9	274254.0	274254.013	1103.079	0.4
⌊	Ba++	69.0	7711.3	0.028	0.000	1.2
⌈>	Ce	139.9	317236.4	317236.361	2912.755	0.9
⌊	CeO	155.9	5812.0	0.018	0.000	1.0
	Bkgd	220.0	0.1	0.050	0.112	223.6

Current Conditions

C Val	Description
1.03	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-11.00	Deflector Voltage
1600.00	ICP RF Power
-1637.00	Analog Stage Voltage
1050.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-14.00	Cell Rod Offset STD [CRO]
11.00	Discriminator Threshold
-4.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
1.03	DRC Mode NEB
-8.50	DRC Mode QRO
-3.00	DRC Mode CRO
-13.00	DRC Mode Cell Entrance/Exit Voltage
0.10	Cell Gas A
375.00	Axial Field Voltage
-15.00	KED Mode CRO
-12.00	KED Mode QRO
-7.00	KED Mode Cell Entrance Voltage
-23.00	KED Mode Cell Exit Voltage
3.00	KED Cell Gas A
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9.012	41	-17.0	2732.3
Mg	23.985	41	-16.5	26530.6
In	114.904	41	-12.0	24048.2
Ce	139.905	41	-10.5	20542.8
Pb	207.977	41	-8.5	16635.7
U	238.050	41	-8.0	28785.0

ICPMS #14 Instrument Tuning Report

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res DAC	Meas. Pk. Width
Be	9.0	9.0	1622	2068	0.723
Mg	24.0	24.0	4603	2068	0.746
Mg	25.0	25.0	4805	2068	0.764
Mg	26.0	26.0	5004	2068	0.746
Co	58.9	59.0	11577	2068	0.785
Rh	102.9	102.9	20349	2070	0.823
In	114.9	114.9	22748	2080	0.754
Ce	139.9	139.9	27748	2080	0.790
Pb	206.0	206.0	40945	2085	0.842
Pb	207.0	207.0	41130	2080	0.831
Pb	208.0	208.0	41350	2085	0.830
U	238.1	238.1	47352	2090	0.784

ICPMS #14 - Summary Report

Sample ID: Cal Blank
Sample Date/Time: Friday, November 20, 2020 15:46:07
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Cal Blank.155
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Li	7		ug/L		10.667	
|	Be	9		ug/L		0.333	
|	B	11		ug/L		34.667	
|	Al	27		ug/L		178.668	
|	>Sc	45		ug/L		671465.792	
|	V	51		ug/L		4940.855	
|	Cr	52		ug/L		496.675	
|	Cr	53		ug/L		1954.800	
|	Mn	55		ug/L		95.334	
|	Fe	57		ug/L		139.334	
|	Co	59		ug/L		34.667	
|	Ni	60		ug/L		444.674	
|	Cu	63		ug/L		150.668	
⌊	Cu	65		ug/L		82.000	
⌈	Zn	66		ug/L		576.678	
|	Zn	67		ug/L		110.000	
|	Zn	68		ug/L		386.005	
|	>Ge	74		ug/L		486017.980	
|	As	75		ug/L		467.563	
|	Se	77		ug/L		182.001	
|	Se	78		ug/L		206.510	
|	Se	82		ug/L		22.000	
⌊	Kr	83		ug/L		10.667	
⌈	Mo	98		ug/L		66.000	
|	Ag	107		ug/L		5.333	
|	Cd	111		ug/L		6.667	
|	Cd	114		ug/L		18.667	
|	>In	115		ug/L		363033.148	
|	Sb	121		ug/L		44.667	
⌊	Sb	123		ug/L		34.667	
⌈	Ba	135		ug/L		5.333	
|	Ba	137		ug/L		8.667	
|	>Lu	175		ug/L		915286.835	
|	Tl	205		ug/L		110.667	
|	Pb	208		ug/L		153.334	
⌊	U	238		ug/L		74.000	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	
Be	9	Linear Thru Zero	
B	11	Linear Thru Zero	
Al	27	Linear Thru Zero	
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	
Cr	52	Linear Thru Zero	

Cr	53	Linear Thru Zero
Mn	55	Linear Thru Zero
Fe	57	Linear Thru Zero
Co	59	Linear Thru Zero
Ni	60	Linear Thru Zero
Cu	63	Linear Thru Zero
Cu	65	Linear Thru Zero
Zn	66	Linear Thru Zero
Zn	67	Linear Thru Zero
Zn	68	Linear Thru Zero
Ge	74	Linear Thru Zero
As	75	Linear Thru Zero
Se	77	Linear Thru Zero
Se	78	Linear Thru Zero
Se	82	Linear Thru Zero
Kr	83	Linear Thru Zero
Mo	98	Linear Thru Zero
Ag	107	Linear Thru Zero
Cd	111	Linear Thru Zero
Cd	114	Linear Thru Zero
In	115	Linear Thru Zero
Sb	121	Linear Thru Zero
Sb	123	Linear Thru Zero
Ba	135	Linear Thru Zero
Ba	137	Linear Thru Zero
Lu	175	Linear Thru Zero
Tl	205	Linear Thru Zero
Pb	208	Linear Thru Zero
U	238	Linear Thru Zero

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sb	121					

⌊	Sb	123
⌈	Ba	135
|	Ba	137
|>	Lu	175
|	Tl	205
|	Pb	208
⌊	U	238

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Friday, November 20, 2020 15:49:02
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Standard 1.156
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Li	7	**10.000**	**ug/L**	0.822	7545.993	0.011
|	Be	9	**10.000**	**ug/L**	2.771	2287.850	0.003
|	B	11	**20.000**	**ug/L**	4.348	2103.488	0.003
|	Al	27	**1000.000**	**ug/L**	2.041	285860.461	0.420
|	>Sc	45		**ug/L**		679446.895	679446.895
|	V	51	**10.000**	**ug/L**	0.835	38100.746	0.049
|	Cr	52	**10.000**	**ug/L**	1.421	39907.001	0.058
|	Cr	53		**ug/L**		6748.261	0.007
|	Mn	55	**10.000**	**ug/L**	1.965	27910.578	0.041
|	Fe	57	**1000.000**	**ug/L**	3.474	91574.033	0.135
|	Co	59	**10.000**	**ug/L**	0.354	69384.766	0.102
|	Ni	60	**10.000**	**ug/L**	0.301	18776.332	0.027
|	Cu	63		**ug/L**		51999.817	0.076
⌊	Cu	65	**10.000**	**ug/L**	2.794	25858.053	0.038
⌈	Zn	66	**10.000**	**ug/L**	2.611	8451.166	0.016
|	Zn	67		**ug/L**		1412.070	0.003
|	Zn	68		**ug/L**		6680.895	0.013
|	>Ge	74		**ug/L**		487554.204	487554.204
|	As	75	**10.000**	**ug/L**	1.133	4323.099	0.008
|	Se	77		**ug/L**		346.004	0.000
|	Se	78	**10.000**	**ug/L**	1.577	692.369	0.001
|	Se	82		**ug/L**		280.669	0.001
⌊	Kr	83		**ug/L**		10.333	-0.000
⌈	Mo	98	**10.000**	**ug/L**	1.883	29475.714	0.081
|	Ag	107	**10.000**	**ug/L**	1.052	73362.583	0.201
|	Cd	111	**10.000**	**ug/L**	1.122	9272.342	0.025
|	Cd	114		**ug/L**		22530.420	0.062
|	>In	115		**ug/L**		364756.898	364756.898
|	Sb	121	**10.000**	**ug/L**	1.048	19320.390	0.053
⌊	Sb	123		**ug/L**		15308.865	0.042
⌈	Ba	135		**ug/L**		6360.083	0.007
|	Ba	137	**10.000**	**ug/L**	2.639	11269.778	0.012
|	>Lu	175		**ug/L**		930487.297	930487.297
|	Tl	205	**10.000**	**ug/L**	2.641	162378.538	0.174
|	Pb	208	**10.000**	**ug/L**	1.897	217289.608	0.233
⌊	U	238	**10.000**	**ug/L**	1.648	232829.421	0.250

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sb	121					

⌊	Sb	123
⌈	Ba	135
|	Ba	137
>	Lu	175
|	Tl	205
|	Pb	208
⌊	U	238

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Friday, November 20, 2020 15:51:56
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Standard 2.157
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**99.938**	**ug/L**	2.655	68258.115	0.104
Be	9	**99.872**	**ug/L**	2.622	19491.958	0.030
B	11	**199.942**	**ug/L**	3.549	19381.815	0.030
Al	27	**9994.201**	**ug/L**	1.647	2598184.981	3.972
>Sc	45		**ug/L**		654095.630	654095.630
V	51	**99.934**	**ug/L**	1.074	303567.495	0.457
Cr	52	**99.944**	**ug/L**	2.471	359552.311	0.549
Cr	53		**ug/L**		44564.088	0.065
Mn	55	**99.954**	**ug/L**	1.485	255934.291	0.391
Fe	57	**9995.107**	**ug/L**	0.422	839044.280	1.283
Co	59	**99.948**	**ug/L**	0.411	634134.866	0.969
Ni	60	**99.941**	**ug/L**	0.339	166883.106	0.254
Cu	63		**ug/L**		467712.533	0.715
Cu	65	**99.929**	**ug/L**	0.534	231608.577	0.354
Zn	66	**99.894**	**ug/L**	1.919	66088.541	0.146
Zn	67		**ug/L**		11001.568	0.024
Zn	68		**ug/L**		51615.093	0.114
>Ge	74		**ug/L**		449243.739	449243.739
As	75	**99.999**	**ug/L**	0.501	35919.992	0.079
Se	77		**ug/L**		1557.418	0.003
Se	78	**100.014**	**ug/L**	1.617	4725.684	0.010
Se	82		**ug/L**		2288.183	0.005
Kr	83		**ug/L**		8.667	-0.000
Mo	98	**100.007**	**ug/L**	0.338	279989.954	0.812
Ag	107	**99.944**	**ug/L**	0.277	656562.855	1.904
Cd	111	**99.966**	**ug/L**	2.263	84684.302	0.246
Cd	114		**ug/L**		206452.542	0.599
>In	115		**ug/L**		344801.614	344801.614
Sb	121	**100.003**	**ug/L**	0.359	182781.240	0.530
Sb	123		**ug/L**		143853.997	0.417
Ba	135		**ug/L**		58678.304	0.066
Ba	137	**100.007**	**ug/L**	0.794	108664.412	0.122
>Lu	175		**ug/L**		891894.941	891894.941
Tl	205	**99.995**	**ug/L**	0.193	1548370.975	1.736
Pb	208	**99.971**	**ug/L**	2.416	2022731.774	2.268
U	238	**99.973**	**ug/L**	2.165	2172203.888	2.436

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sb	121					

⌊	Sb	123
⌈	Ba	135
|	Ba	137
|>	Lu	175
|	Tl	205
|	Pb	208
⌊	U	238

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Friday, November 20, 2020 15:54:49
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 1.158
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**53.233**	**ug/L**	1.494	35941.840	0.056
Be	9	**54.865**	**ug/L**	0.027	10587.590	0.016
B	11	**107.138**	**ug/L**	1.009	10283.035	0.016
Al	27	**5387.392**	**ug/L**	1.607	1384414.446	2.141
>Sc	45		**ug/L**		646631.307	646631.307
V	51	**52.207**	**ug/L**	1.328	159033.895	0.239
Cr	52	**52.476**	**ug/L**	0.745	186850.496	0.288
Cr	53		**ug/L**		23487.303	0.033
Mn	55	**52.092**	**ug/L**	1.014	131900.995	0.204
Fe	57	**5165.213**	**ug/L**	2.229	428570.982	0.663
Co	59	**52.838**	**ug/L**	2.081	331303.181	0.512
Ni	60	**52.835**	**ug/L**	2.551	87394.585	0.135
Cu	63		**ug/L**		245540.402	0.380
Cu	65	**51.911**	**ug/L**	1.557	118952.617	0.184
Zn	66	**50.679**	**ug/L**	1.467	34713.459	0.074
Zn	67		**ug/L**		5872.540	0.012
Zn	68		**ug/L**		27175.173	0.058
>Ge	74		**ug/L**		461523.583	461523.583
As	75	**49.343**	**ug/L**	0.700	18433.441	0.039
Se	77		**ug/L**		825.357	0.001
Se	78	**51.988**	**ug/L**	0.759	2617.627	0.005
Se	82		**ug/L**		1226.053	0.003
Kr	83		**ug/L**		9.167	-0.000
Mo	98	**49.235**	**ug/L**	1.010	140212.071	0.400
Ag	107	**51.074**	**ug/L**	2.998	341142.657	0.973
Cd	111	**52.951**	**ug/L**	0.351	45628.096	0.130
Cd	114		**ug/L**		108771.209	0.310
>In	115		**ug/L**		350665.385	350665.385
Sb	121	**48.658**	**ug/L**	0.790	90465.547	0.258
Sb	123		**ug/L**		72541.770	0.207
Ba	135		**ug/L**		29873.871	0.033
Ba	137	**49.549**	**ug/L**	1.638	54665.750	0.060
>Lu	175		**ug/L**		905445.866	905445.866
Tl	205	**47.944**	**ug/L**	0.582	753745.298	0.832
Pb	208	**50.771**	**ug/L**	1.529	1043256.818	1.152
U	238	**50.944**	**ug/L**	1.147	1123977.179	1.241

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	106.465				
	Be	9	109.731				
	B	11	107.138				
	Al	27	106.681				
>	Sc	45		96.30			
	V	51	104.413				
	Cr	52	104.953				
	Cr	53					
	Mn	55	104.184				
	Fe	57	103.304				
	Co	59	105.675				
	Ni	60	105.670				
	Cu	63					
	Cu	65	103.822				
	Zn	66	101.357				
	Zn	67					
	Zn	68					
>	Ge	74		94.96			
	As	75	98.686				
	Se	77					
	Se	78	103.975				
	Se	82					
	Kr	83					
	Mo	98	98.471				
	Ag	107	102.148				
	Cd	111	105.902				
	Cd	114					
>	In	115		96.59			
	Sb	121	97.315				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	99.098	
>	Lu	175		98.92
|	Tl	205	95.888	
|	Pb	208	101.543	
⌊	U	238	101.888	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Friday, November 20, 2020 15:57:43
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 2.159
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.008**	**ug/L**	123.774	16.000	0.000
Be	9	**0.005**	**ug/L**	229.847	1.333	0.000
B	11	**3.770**	**ug/L**	15.927	403.339	0.001
Al	27	**-0.069**	**ug/L**	87.576	158.001	-0.000
>Sc	45		**ug/L**		662589.955	662589.955
V	51	**0.132**	**ug/L**	38.963	5276.309	0.001
Cr	52	**0.017**	**ug/L**	65.591	550.011	0.000
Cr	53		**ug/L**		1998.806	0.000
Mn	55	**-0.006**	**ug/L**	32.829	78.667	-0.000
Fe	57	**3.387**	**ug/L**	10.982	425.340	0.000
Co	59	**0.001**	**ug/L**	240.973	38.000	0.000
Ni	60	**-0.021**	**ug/L**	57.182	402.672	-0.000
Cu	63		**ug/L**		152.667	0.000
Cu	65	**-0.001**	**ug/L**	996.677	78.667	-0.000
Zn	66	**-0.061**	**ug/L**	106.497	524.676	-0.000
Zn	67		**ug/L**		72.000	-0.000
Zn	68		**ug/L**		385.339	0.000
>Ge	74		**ug/L**		478320.704	478320.704
As	75	**-0.013**	**ug/L**	391.639	455.341	-0.000
Se	77		**ug/L**		170.668	-0.000
Se	78	**0.140**	**ug/L**	321.541	210.081	0.000
Se	82		**ug/L**		24.667	0.000
Kr	83		**ug/L**		8.333	-0.000
Mo	98	**0.097**	**ug/L**	12.498	343.337	0.001
Ag	107	**0.002**	**ug/L**	12.368	16.667	0.000
Cd	111	**-0.001**	**ug/L**	457.970	6.000	-0.000
Cd	114		**ug/L**		28.000	0.000
>In	115		**ug/L**		353246.324	353246.324
Sb	121	**0.009**	**ug/L**	123.930	61.333	0.000
Sb	123		**ug/L**		51.333	0.000
Ba	135		**ug/L**		8.000	0.000
Ba	137	**0.004**	**ug/L**	197.213	12.667	0.000
>Lu	175		**ug/L**		903305.243	903305.243
Tl	205	**0.112**	**ug/L**	17.102	1861.456	0.002
Pb	208	**0.010**	**ug/L**	20.972	360.669	0.000
U	238	**0.030**	**ug/L**	4.373	728.019	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		98.68			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		98.42			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.30			
	Sb	121					

Sb	123		
Ba	135		
Ba	137		
> Lu	175		98.69
Tl	205		
Pb	208		
U	238		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Friday, November 20, 2020 16:00:38
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 3.160
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**10.192**	**ug/L**	2.055	7271.185	0.011
Be	9	**0.567**	**ug/L**	4.167	115.667	0.000
B	11	**17.504**	**ug/L**	4.938	1800.780	0.003
Al	27	**52.259**	**ug/L**	2.725	14346.534	0.021
>Sc	45		**ug/L**		682327.971	682327.971
V	51	**20.295**	**ug/L**	2.503	68300.954	0.093
Cr	52	**10.258**	**ug/L**	0.277	38947.038	0.056
Cr	53		**ug/L**		6586.852	0.007
Mn	55	**5.125**	**ug/L**	2.821	13775.972	0.020
Fe	57	**101.593**	**ug/L**	2.230	9033.522	0.013
Co	59	**1.037**	**ug/L**	3.081	6892.997	0.010
Ni	60	**2.136**	**ug/L**	2.869	4162.607	0.005
Cu	63		**ug/L**		10557.901	0.015
Cu	65	**2.080**	**ug/L**	2.719	5112.249	0.007
Zn	66	**20.988**	**ug/L**	1.876	15296.855	0.031
Zn	67		**ug/L**		2380.198	0.005
Zn	68		**ug/L**		11327.156	0.023
>Ge	74		**ug/L**		480322.477	480322.477
As	75	**4.758**	**ug/L**	3.609	2267.513	0.004
Se	77		**ug/L**		252.669	0.000
Se	78	**4.915**	**ug/L**	6.852	442.450	0.000
Se	82		**ug/L**		152.667	0.000
Kr	83		**ug/L**		7.333	-0.000
Mo	98	**1.047**	**ug/L**	2.624	3122.341	0.008
Ag	107	**1.054**	**ug/L**	0.892	7230.496	0.020
Cd	111	**1.083**	**ug/L**	6.499	964.033	0.003
Cd	114		**ug/L**		2464.880	0.007
>In	115		**ug/L**		359804.947	359804.947
Sb	121	**2.937**	**ug/L**	3.612	5643.782	0.016
Sb	123		**ug/L**		4402.012	0.012
Ba	135		**ug/L**		2446.876	0.003
Ba	137	**4.034**	**ug/L**	3.898	4456.696	0.005
>Lu	175		**ug/L**		905120.982	905120.982
Tl	205	**1.937**	**ug/L**	0.990	30544.632	0.034
Pb	208	**2.075**	**ug/L**	1.242	42770.531	0.047
U	238	**0.246**	**ug/L**	2.415	5495.057	0.006

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	101.921				
	Be	9	113.339				
	B	11	116.692				
	Al	27	104.519				
>	Sc	45		101.62			
	V	51	101.474				
	Cr	52	102.577				
	Cr	53					
	Mn	55	102.505				
	Fe	57	101.593				
	Co	59	103.659				
	Ni	60	106.822				
	Cu	63					
	Cu	65	104.017				
	Zn	66	104.938				
	Zn	67					
	Zn	68					
>	Ge	74		98.83			
	As	75	95.163				
	Se	77					
	Se	78	98.296				
	Se	82					
	Kr	83					
	Mo	98	104.673				
	Ag	107	105.405				
	Cd	111	108.344				
	Cd	114					
>	In	115		99.11			
	Sb	121	97.902				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	100.862	
>	Lu	175		98.89
|	Tl	205	96.837	
|	Pb	208	103.772	
⌊	U	238	122.936	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, November 20, 2020 16:03:32
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 4.161
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.035**	**ug/L**	53.284	29.333	0.000
Be	9	**0.004**	**ug/L**	137.718	1.000	0.000
B	11	**2.518**	**ug/L**	5.082	235.335	0.000
Al	27	**96978.076**	**ug/L**	2.571	21370951.508	38.542
>Sc	45		**ug/L**		554632.655	554632.655
V	51	**-0.569**	**ug/L**	5.372	2638.244	-0.003
Cr	52	**0.750**	**ug/L**	2.623	2694.921	0.004
Cr	53		**ug/L**		1608.757	-0.000
Mn	55	**3.997**	**ug/L**	1.156	8752.681	0.016
Fe	57	**90886.212**	**ug/L**	2.160	6466869.943	11.662
Co	59	**0.471**	**ug/L**	4.792	2560.230	0.005
Ni	60	**0.352**	**ug/L**	6.858	864.693	0.001
Cu	63		**ug/L**		701.351	0.001
Cu	65	**0.183**	**ug/L**	10.130	428.006	0.001
Zn	66	**1.444**	**ug/L**	0.769	1130.045	0.002
Zn	67		**ug/L**		189.335	0.000
Zn	68		**ug/L**		886.694	0.002
>Ge	74		**ug/L**		342800.204	342800.204
As	75	**0.261**	**ug/L**	17.076	400.450	0.000
Se	77		**ug/L**		147.334	0.000
Se	78	**0.328**	**ug/L**	2.581	157.014	0.000
Se	82		**ug/L**		24.000	0.000
Kr	83		**ug/L**		10.500	0.000
Mo	98	**2058.078**	**ug/L**	0.933	4570765.708	16.707
Ag	107	**0.127**	**ug/L**	3.364	664.682	0.002
Cd	111	**0.514**	**ug/L**	10.530	350.671	0.001
Cd	114		**ug/L**		652.015	0.002
>In	115		**ug/L**		273582.200	273582.200
Sb	121	**0.048**	**ug/L**	14.293	102.667	0.000
Sb	123		**ug/L**		81.334	0.000
Ba	135		**ug/L**		1310.727	0.002
Ba	137	**2.682**	**ug/L**	2.228	2408.203	0.003
>Lu	175		**ug/L**		734904.143	734904.143
Tl	205	**0.049**	**ug/L**	27.381	711.352	0.001
Pb	208	**0.212**	**ug/L**	2.009	3662.850	0.005
U	238	**0.028**	**ug/L**	11.881	570.011	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27	96.978				
>	Sc	45		82.60			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55	69.836				
	Fe	57	90.886				
	Co	59	72.328				
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		70.53			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98	102.904				
	Ag	107					
	Cd	111	71.447				
	Cd	114					
>	In	115		75.36			
	Sb	121					

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	114.186	
|>	Lu	175		80.29
|	Tl	205		
|	Pb	208		
⌊	U	238		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, November 20, 2020 16:06:26
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 5.162
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**22.497**	**ug/L**	1.237	12692.970	0.023
Be	9	**19.338**	**ug/L**	2.694	3116.673	0.006
B	11	**21.876**	**ug/L**	3.295	1776.111	0.003
Al	27	**100155.268**	**ug/L**	2.051	21496064.659	39.805
>Sc	45		**ug/L**		540072.982	540072.982
V	51	**20.157**	**ug/L**	2.077	53728.863	0.092
Cr	52	**20.650**	**ug/L**	1.951	61655.461	0.113
Cr	53		**ug/L**		8549.225	0.013
Mn	55	**23.101**	**ug/L**	1.773	48900.230	0.090
Fe	57	**91686.990**	**ug/L**	1.240	6353836.286	11.765
Co	59	**19.284**	**ug/L**	2.071	101031.378	0.187
Ni	60	**18.110**	**ug/L**	0.771	25262.987	0.046
Cu	63		**ug/L**		67450.202	0.125
Cu	65	**17.657**	**ug/L**	0.476	33844.043	0.063
Zn	66	**21.696**	**ug/L**	0.122	10991.560	0.032
Zn	67		**ug/L**		1782.778	0.005
Zn	68		**ug/L**		8291.072	0.024
>Ge	74		**ug/L**		334284.743	334284.743
As	75	**20.149**	**ug/L**	0.876	5642.225	0.016
Se	77		**ug/L**		318.004	0.001
Se	78	**19.791**	**ug/L**	1.162	809.718	0.002
Se	82		**ug/L**		338.671	0.001
Kr	83		**ug/L**		10.000	0.000
Mo	98	**2084.412**	**ug/L**	1.317	4507750.667	16.921
Ag	107	**18.652**	**ug/L**	1.778	94661.261	0.355
Cd	111	**19.778**	**ug/L**	1.754	12948.532	0.049
Cd	114		**ug/L**		30879.338	0.116
>In	115		**ug/L**		266410.828	266410.828
Sb	121	**18.629**	**ug/L**	2.080	26330.244	0.099
Sb	123		**ug/L**		20807.819	0.078
Ba	135		**ug/L**		11229.746	0.015
Ba	137	**22.730**	**ug/L**	1.320	20359.165	0.028
>Lu	175		**ug/L**		734965.352	734965.352
Tl	205	**19.043**	**ug/L**	1.021	243063.861	0.331
Pb	208	**19.432**	**ug/L**	1.685	324180.894	0.441
U	238	**21.757**	**ug/L**	1.216	389702.942	0.530

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	112.487				
	Be	9	96.692				
	B	11	109.382				
	Al	27	100.155				
>	Sc	45		80.43			
	V	51	100.786				
	Cr	52	103.250				
	Cr	53					
	Mn	55	89.806				
	Fe	57	91.687				
	Co	59	93.379				
	Ni	60	90.550				
	Cu	63					
	Cu	65	88.286				
	Zn	66	108.479				
	Zn	67					
	Zn	68					
>	Ge	74		68.78			
	As	75	100.743				
	Se	77					
	Se	78	98.956				
	Se	82					
	Kr	83					
	Mo	98	104.221				
	Ag	107	93.262				
	Cd	111	95.454				
	Cd	114					
>	In	115		73.38			
	Sb	121	93.144				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	101.705	
|>	Lu	175		80.30
|	Tl	205	95.215	
|	Pb	208	97.159	
⌊	U	238	108.787	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 16:09:20
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.163
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**57.353**	**ug/L**	0.919	36547.365	0.060
Be	9	**57.261**	**ug/L**	1.165	10426.804	0.017
B	11	**106.842**	**ug/L**	6.434	9682.626	0.016
Al	27	**5395.939**	**ug/L**	1.119	1308719.357	2.145
>Sc	45		**ug/L**		610223.589	610223.589
V	51	**51.659**	**ug/L**	1.043	148589.056	0.236
Cr	52	**52.812**	**ug/L**	0.833	177462.947	0.290
Cr	53		**ug/L**		22321.429	0.034
Mn	55	**52.251**	**ug/L**	2.174	124845.206	0.204
Fe	57	**5199.017**	**ug/L**	1.284	407181.500	0.667
Co	59	**53.187**	**ug/L**	1.075	314810.612	0.516
Ni	60	**52.777**	**ug/L**	0.536	82407.696	0.134
Cu	63		**ug/L**		233905.409	0.383
Cu	65	**52.923**	**ug/L**	1.133	114479.051	0.187
Zn	66	**50.946**	**ug/L**	2.782	32917.224	0.074
Zn	67		**ug/L**		5560.416	0.013
Zn	68		**ug/L**		25461.345	0.058
>Ge	74		**ug/L**		435410.823	435410.823
As	75	**49.852**	**ug/L**	1.218	17565.906	0.039
Se	77		**ug/L**		785.355	0.001
Se	78	**50.752**	**ug/L**	2.760	2415.071	0.005
Se	82		**ug/L**		1118.710	0.003
Kr	83		**ug/L**		9.833	0.000
Mo	98	**50.505**	**ug/L**	1.233	137485.235	0.410
Ag	107	**51.153**	**ug/L**	1.205	326684.930	0.975
Cd	111	**52.095**	**ug/L**	0.641	42904.332	0.128
Cd	114		**ug/L**		103802.527	0.310
>In	115		**ug/L**		335174.664	335174.664
Sb	121	**49.848**	**ug/L**	1.497	88592.603	0.264
Sb	123		**ug/L**		70296.539	0.210
Ba	135		**ug/L**		29301.354	0.033
Ba	137	**49.054**	**ug/L**	1.540	52951.292	0.060
>Lu	175		**ug/L**		885960.909	885960.909
Tl	205	**49.055**	**ug/L**	0.988	754615.340	0.852
Pb	208	**50.820**	**ug/L**	1.047	1021743.762	1.153
U	238	**51.361**	**ug/L**	3.233	1108786.835	1.252

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	114.706				
	Be	9	114.522				
	B	11	106.842				
	Al	27	106.850				
>	Sc	45		90.88			
	V	51	103.318				
	Cr	52	105.625				
	Cr	53					
	Mn	55	104.501				
	Fe	57	103.980				
	Co	59	106.374				
	Ni	60	105.554				
	Cu	63					
	Cu	65	105.846				
	Zn	66	101.892				
	Zn	67					
	Zn	68					
>	Ge	74		89.59			
	As	75	99.705				
	Se	77					
	Se	78	101.503				
	Se	82					
	Kr	83					
	Mo	98	101.009				
	Ag	107	102.307				
	Cd	111	104.189				
	Cd	114					
>	In	115		92.33			
	Sb	121	99.697				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	98.107	
|>	Lu	175		96.80
|	Tl	205	98.110	
|	Pb	208	101.641	
⌊	U	238	102.723	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	CCV is out of limits (+/- 10%)
QC Std 6	Be	9	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 16:12:15
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.164
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**-0.001**	**ug/L**	841.957	9.333	-0.000
Be	9	**0.004**	**ug/L**	144.703	1.000	0.000
B	11	**3.876**	**ug/L**	15.903	393.339	0.001
Al	27	**0.541**	**ug/L**	15.994	303.337	0.000
>Sc	45		**ug/L**		630881.604	630881.604
V	51	**0.038**	**ug/L**	192.930	4746.789	0.000
Cr	52	**0.011**	**ug/L**	214.256	506.009	0.000
Cr	53		**ug/L**		1876.123	0.000
Mn	55	**-0.003**	**ug/L**	65.049	82.667	-0.000
Fe	57	**10.880**	**ug/L**	15.147	1009.369	0.001
Co	59	**0.002**	**ug/L**	95.575	44.000	0.000
Ni	60	**-0.024**	**ug/L**	66.803	378.672	-0.000
Cu	63		**ug/L**		171.334	0.000
Cu	65	**0.004**	**ug/L**	224.242	86.000	0.000
Zn	66	**-0.039**	**ug/L**	32.644	510.676	-0.000
Zn	67		**ug/L**		78.000	-0.000
Zn	68		**ug/L**		408.673	0.000
>Ge	74		**ug/L**		451843.264	451843.264
As	75	**-0.024**	**ug/L**	103.230	426.006	-0.000
Se	77		**ug/L**		168.668	-0.000
Se	78	**0.075**	**ug/L**	213.823	195.424	0.000
Se	82		**ug/L**		16.667	-0.000
Kr	83		**ug/L**		8.000	-0.000
Mo	98	**0.387**	**ug/L**	9.429	1132.045	0.003
Ag	107	**0.000**	**ug/L**	69.855	8.000	0.000
Cd	111	**-0.002**	**ug/L**	143.817	4.667	-0.000
Cd	114		**ug/L**		21.333	0.000
>In	115		**ug/L**		341069.259	341069.259
Sb	121	**0.009**	**ug/L**	18.402	58.667	0.000
Sb	123		**ug/L**		45.333	0.000
Ba	135		**ug/L**		12.667	0.000
Ba	137	**-0.002**	**ug/L**	138.729	6.667	-0.000
>Lu	175		**ug/L**		871690.849	871690.849
Tl	205	**0.105**	**ug/L**	23.431	1688.102	0.002
Pb	208	**0.009**	**ug/L**	7.875	327.335	0.000
U	238	**0.021**	**ug/L**	3.920	514.676	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		93.96			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		92.97			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		93.95			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	95.24
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 10
Sample Date/Time: Friday, November 20, 2020 16:15:09
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 10.165
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1075.129**	**ug/L**	1.748	629121.671	1.122
Be	9	**1034.017**	**ug/L**	0.511	172943.603	0.309
B	11	**1.896**	**ug/L**	22.369	186.001	0.000
Al	27	**50924.352**	**ug/L**	0.697	11342910.777	20.239
>Sc	45		**ug/L**		560457.752	560457.752
V	51	**1015.978**	**ug/L**	0.865	2606663.998	4.644
Cr	52	**1012.960**	**ug/L**	0.783	3118637.571	5.564
Cr	53		**ug/L**		366034.497	0.650
Mn	55	**962.128**	**ug/L**	1.179	2110285.583	3.765
Fe	57	**48050.183**	**ug/L**	1.528	3455802.150	6.166
Co	59	**970.665**	**ug/L**	1.529	5276503.217	9.415
Ni	60	**932.333**	**ug/L**	0.819	1330844.648	2.374
Cu	63		**ug/L**		3665017.053	6.539
Cu	65	**919.084**	**ug/L**	0.342	1824644.514	3.256
Zn	66	**2427.248**	**ug/L**	1.460	1270721.970	3.546
Zn	67		**ug/L**		202910.897	0.566
Zn	68		**ug/L**		946404.523	2.641
>Ge	74		**ug/L**		358307.247	358307.247
As	75	**1021.016**	**ug/L**	1.814	289280.449	0.807
Se	77		**ug/L**		5786.505	0.016
Se	78	**507.216**	**ug/L**	1.131	18492.506	0.051
Se	82		**ug/L**		9355.063	0.026
Kr	83		**ug/L**		9.500	0.000
Mo	98	**983.867**	**ug/L**	0.415	2398498.744	7.987
Ag	107	**225.396**	**ug/L**	0.764	1289512.993	4.294
Cd	111	**934.056**	**ug/L**	0.848	689154.010	2.295
Cd	114		**ug/L**		1696474.966	5.649
>In	115		**ug/L**		300296.823	300296.823
Sb	121	**228.770**	**ug/L**	0.116	364121.478	1.212
Sb	123		**ug/L**		293305.298	0.977
Ba	135		**ug/L**		512237.331	0.653
Ba	137	**982.675**	**ug/L**	1.612	939414.731	1.197
>Lu	175		**ug/L**		784733.240	784733.240
Tl	205	**465.814**	**ug/L**	0.771	6345601.170	8.087
Pb	208	**4706.100**	**ug/L**	0.773	83791611.234	106.783
U	238	**5216.003**	**ug/L**	1.658	99724690.079	127.097

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	107.513				
	Be	9	103.402				
	B	11					
	Al	27	101.849				
>	Sc	45		83.47			
	V	51	101.598				
	Cr	52	101.296				
	Cr	53					
	Mn	55	96.213				
	Fe	57	96.100				
	Co	59	97.067				
	Ni	60	93.233				
	Cu	63					
	Cu	65	91.908				
	Zn	66	97.090				
	Zn	67					
	Zn	68					
>	Ge	74		73.72			
	As	75	102.102				
	Se	77					
	Se	78	101.443				
	Se	82					
	Kr	83					
	Mo	98	98.387				
	Ag	107	90.158				
	Cd	111	93.406				
	Cd	114					
>	In	115		82.72			
	Sb	121	91.508				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	98.267	
|>	Lu	175		85.74
|	Tl	205	93.163	
|	Pb	208	94.122	
⌊	U	238	104.320	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 11
Sample Date/Time: Friday, November 20, 2020 16:18:03
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 11.166
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Li	7	**54.919**	**ug/L**	1.927	35830.909	0.057
|	Be	9	**56.762**	**ug/L**	2.472	10579.583	0.017
|	B	11	**104.705**	**ug/L**	0.907	9708.631	0.015
|	Al	27	**5441.776**	**ug/L**	3.113	1350874.210	2.163
|	>Sc	45		**ug/L**		624666.068	624666.068
|	V	51	**52.042**	**ug/L**	0.439	153188.420	0.238
|	Cr	52	**51.961**	**ug/L**	1.941	178717.665	0.285
|	Cr	53		**ug/L**		22498.371	0.033
|	Mn	55	**51.627**	**ug/L**	0.760	126293.170	0.202
|	Fe	57	**5108.571**	**ug/L**	1.081	409593.950	0.656
|	Co	59	**51.679**	**ug/L**	1.844	313091.821	0.501
|	Ni	60	**52.204**	**ug/L**	1.239	83455.817	0.133
|	Cu	63		**ug/L**		238631.095	0.382
⌊	Cu	65	**53.435**	**ug/L**	3.188	118298.076	0.189
⌈	Zn	66	**51.071**	**ug/L**	2.568	33399.010	0.075
|	Zn	67		**ug/L**		5502.394	0.012
|	Zn	68		**ug/L**		25878.755	0.058
|	>Ge	74		**ug/L**		440696.729	440696.729
|	As	75	**49.383**	**ug/L**	0.954	17614.408	0.039
|	Se	77		**ug/L**		847.359	0.002
|	Se	78	**50.862**	**ug/L**	2.570	2449.471	0.005
|	Se	82		**ug/L**		1157.380	0.003
⌊	Kr	83		**ug/L**		7.833	-0.000
⌈	Mo	98	**51.061**	**ug/L**	3.172	139019.845	0.415
|	Ag	107	**51.275**	**ug/L**	2.565	327532.372	0.977
|	Cd	111	**52.033**	**ug/L**	2.069	42870.900	0.128
|	Cd	114		**ug/L**		105273.808	0.314
|	>In	115		**ug/L**		335402.434	335402.434
|	Sb	121	**49.552**	**ug/L**	1.453	88106.909	0.263
⌊	Sb	123		**ug/L**		70036.597	0.209
⌈	Ba	135		**ug/L**		28887.851	0.033
|	Ba	137	**48.795**	**ug/L**	3.411	52500.328	0.059
|	>Lu	175		**ug/L**		883332.296	883332.296
|	Tl	205	**48.748**	**ug/L**	1.471	747543.258	0.846
|	Pb	208	**50.394**	**ug/L**	2.298	1009867.375	1.143
⌊	U	238	**51.360**	**ug/L**	3.017	1105124.096	1.251

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

	Cr	53	Linear Thru Zero	
	Mn	55	Linear Thru Zero	1.0000
	Fe	57	Linear Thru Zero	1.0000
	Co	59	Linear Thru Zero	1.0000
	Ni	60	Linear Thru Zero	1.0000
	Cu	63	Linear Thru Zero	
	Cu	65	Linear Thru Zero	1.0000
	Zn	66	Linear Thru Zero	0.9999
	Zn	67	Linear Thru Zero	
	Zn	68	Linear Thru Zero	
	Ge	74	Linear Thru Zero	
	As	75	Linear Thru Zero	1.0000
	Se	77	Linear Thru Zero	
	Se	78	Linear Thru Zero	1.0000
	Se	82	Linear Thru Zero	
	Kr	83	Linear Thru Zero	
	Mo	98	Linear Thru Zero	1.0000
	Ag	107	Linear Thru Zero	1.0000
	Cd	111	Linear Thru Zero	1.0000
	Cd	114	Linear Thru Zero	
	In	115	Linear Thru Zero	
	Sb	121	Linear Thru Zero	1.0000
	Sb	123	Linear Thru Zero	
	Ba	135	Linear Thru Zero	
	Ba	137	Linear Thru Zero	1.0000
	Lu	175	Linear Thru Zero	
	Tl	205	Linear Thru Zero	1.0000
	Pb	208	Linear Thru Zero	1.0000
	U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	109.838				
	Be	9	113.524				
	B	11	104.705				
	Al	27	107.758				
>	Sc	45		93.03			
	V	51	104.084				
	Cr	52	103.922				
	Cr	53					
	Mn	55	103.253				
	Fe	57	102.171				
	Co	59	103.357				
	Ni	60	104.409				
	Cu	63					
	Cu	65	106.869				
	Zn	66	102.141				
	Zn	67					
	Zn	68					
>	Ge	74		90.67			
	As	75	98.766				
	Se	77					
	Se	78	101.725				
	Se	82					
	Kr	83					
	Mo	98	102.123				
	Ag	107	102.550				
	Cd	111	104.066				
	Cd	114					
>	In	115		92.39			
	Sb	121	99.105				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	97.590	
|>	Lu	175		96.51
|	Tl	205	97.496	
|	Pb	208	100.788	
⌊	U	238	102.720	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 11	Be		9CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 12
Sample Date/Time: Friday, November 20, 2020 16:20:57
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 12.167
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.032**	**ug/L**	25.611	32.000	0.000
Be	9	**0.007**	**ug/L**	44.101	1.667	0.000
B	11	**2.889**	**ug/L**	20.222	308.670	0.000
Al	27	**0.220**	**ug/L**	15.090	228.002	0.000
>Sc	45		**ug/L**		645363.469	645363.469
V	51	**-0.114**	**ug/L**	42.451	4412.015	-0.001
Cr	52	**0.009**	**ug/L**	120.500	508.009	0.000
Cr	53		**ug/L**		1698.768	-0.000
Mn	55	**-0.005**	**ug/L**	106.398	78.000	-0.000
Fe	57	**6.452**	**ug/L**	15.238	668.016	0.001
Co	59	**0.006**	**ug/L**	9.117	68.000	0.000
Ni	60	**-0.008**	**ug/L**	367.781	413.339	-0.000
Cu	63		**ug/L**		194.001	0.000
Cu	65	**0.008**	**ug/L**	32.748	96.667	0.000
Zn	66	**-0.065**	**ug/L**	98.033	496.675	-0.000
Zn	67		**ug/L**		86.000	-0.000
Zn	68		**ug/L**		389.339	0.000
>Ge	74		**ug/L**		455006.033	455006.033
As	75	**-0.014**	**ug/L**	384.118	432.451	-0.000
Se	77		**ug/L**		180.001	0.000
Se	78	**-0.261**	**ug/L**	161.608	181.162	-0.000
Se	82		**ug/L**		28.667	0.000
Kr	83		**ug/L**		5.667	-0.000
Mo	98	**0.316**	**ug/L**	7.076	940.698	0.003
Ag	107	**0.002**	**ug/L**	18.871	17.333	0.000
Cd	111	**0.004**	**ug/L**	151.732	9.333	0.000
Cd	114		**ug/L**		48.667	0.000
>In	115		**ug/L**		342451.661	342451.661
Sb	121	**0.029**	**ug/L**	31.144	94.667	0.000
Sb	123		**ug/L**		70.667	0.000
Ba	135		**ug/L**		12.000	0.000
Ba	137	**0.009**	**ug/L**	93.814	18.000	0.000
>Lu	175		**ug/L**		879060.733	879060.733
Tl	205	**0.127**	**ug/L**	16.460	2040.148	0.002
Pb	208	**0.036**	**ug/L**	2.941	860.677	0.001
U	238	**0.153**	**ug/L**	1.876	3347.726	0.004

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		96.11			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		93.62			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		94.33			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	96.04
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695451
Sample Date/Time: Friday, November 20, 2020 16:23:52
Sample Type: Sample
Sample Description: ARSL 200.8 MB
Number of Replicates: 3
Batch ID: 2063263|1|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695451.168
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.040**	**ug/L**	42.480	37.333	0.000
Be	9	**0.000**	**ug/L**	5703.295	0.333	0.000
B	11	**1.640**	**ug/L**	3.625	192.668	0.000
Al	27	**61.100**	**ug/L**	3.140	16073.707	0.024
>Sc	45		**ug/L**		654907.069	654907.069
V	51	**-0.073**	**ug/L**	107.257	4599.408	-0.000
Cr	52	**0.080**	**ug/L**	19.940	770.688	0.000
Cr	53		**ug/L**		1804.114	-0.000
Mn	55	**0.037**	**ug/L**	13.817	187.335	0.000
Fe	57	**4.633**	**ug/L**	2.999	525.343	0.001
Co	59	**0.004**	**ug/L**	45.685	62.000	0.000
Ni	60	**-0.013**	**ug/L**	66.433	412.673	-0.000
Cu	63		**ug/L**		454.007	0.000
Cu	65	**0.068**	**ug/L**	6.030	238.002	0.000
Zn	66	**4.314**	**ug/L**	6.365	3448.417	0.006
Zn	67		**ug/L**		533.343	0.001
Zn	68		**ug/L**		2605.572	0.005
>Ge	74		**ug/L**		460743.710	460743.710
As	75	**-0.098**	**ug/L**	8.689	407.784	-0.000
Se	77		**ug/L**		144.001	-0.000
Se	78	**-0.069**	**ug/L**	31.835	192.555	-0.000
Se	82		**ug/L**		25.333	0.000
Kr	83		**ug/L**		9.167	-0.000
Mo	98	**0.157**	**ug/L**	12.594	508.676	0.001
Ag	107	**0.000**	**ug/L**	231.272	7.333	0.000
Cd	111	**0.003**	**ug/L**	286.014	8.667	0.000
Cd	114		**ug/L**		37.333	0.000
>In	115		**ug/L**		349976.161	349976.161
Sb	121	**-0.003**	**ug/L**	170.268	38.000	-0.000
Sb	123		**ug/L**		50.000	0.000
Ba	135		**ug/L**		31.333	0.000
Ba	137	**0.044**	**ug/L**	16.747	56.000	0.000
>Lu	175		**ug/L**		884970.454	884970.454
Tl	205	**0.042**	**ug/L**	6.225	752.020	0.001
Pb	208	**0.023**	**ug/L**	4.173	616.005	0.001
U	238	**0.070**	**ug/L**	5.748	1582.755	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		97.53			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		94.80			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		96.40			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	96.69
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695452
Sample Date/Time: Friday, November 20, 2020 16:26:46
Sample Type: Sample
Sample Description: ARSL 200.8 LCS
Number of Replicates: 3
Batch ID: 2063263|1|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695452.169
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**54.381**	**ug/L**	3.085	37138.895	0.057
Be	9	**56.024**	**ug/L**	2.223	10934.851	0.017
B	11	**106.100**	**ug/L**	1.813	10301.046	0.016
Al	27	**2182.191**	**ug/L**	0.432	567477.835	0.867
>Sc	45		**ug/L**		654116.873	654116.873
V	51	**51.315**	**ug/L**	2.555	158201.231	0.235
Cr	52	**52.737**	**ug/L**	2.583	189927.794	0.290
Cr	53		**ug/L**		24249.903	0.034
Mn	55	**51.598**	**ug/L**	3.178	132167.627	0.202
Fe	57	**2053.532**	**ug/L**	2.586	172464.268	0.264
Co	59	**52.080**	**ug/L**	1.863	330400.577	0.505
Ni	60	**53.271**	**ug/L**	1.608	89148.640	0.136
Cu	63		**ug/L**		246936.701	0.377
Cu	65	**52.452**	**ug/L**	0.695	121612.874	0.186
Zn	66	**56.872**	**ug/L**	1.602	38631.502	0.083
Zn	67		**ug/L**		6390.096	0.014
Zn	68		**ug/L**		29919.305	0.064
>Ge	74		**ug/L**		458447.294	458447.294
As	75	**48.970**	**ug/L**	1.512	18174.888	0.039
Se	77		**ug/L**		873.360	0.002
Se	78	**51.049**	**ug/L**	0.652	2556.803	0.005
Se	82		**ug/L**		1185.383	0.003
Kr	83		**ug/L**		8.500	-0.000
Mo	98	**50.205**	**ug/L**	2.094	142604.898	0.408
Ag	107	**51.933**	**ug/L**	3.664	345983.747	0.989
Cd	111	**51.840**	**ug/L**	2.789	44548.021	0.127
Cd	114		**ug/L**		108475.052	0.310
>In	115		**ug/L**		349836.770	349836.770
Sb	121	**49.038**	**ug/L**	2.470	90933.174	0.260
Sb	123		**ug/L**		71940.038	0.206
Ba	135		**ug/L**		29277.305	0.033
Ba	137	**49.465**	**ug/L**	1.943	54286.326	0.060
>Lu	175		**ug/L**		900650.958	900650.958
Tl	205	**48.815**	**ug/L**	0.268	763352.260	0.847
Pb	208	**51.057**	**ug/L**	0.998	1043474.459	1.158
U	238	**51.248**	**ug/L**	1.136	1124677.119	1.249

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		97.42			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		94.33			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		96.36			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	98.40
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695453
Sample Date/Time: Friday, November 20, 2020 16:32:33
Sample Type: Sample
Sample Description: ARSL 200.8 DUP
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695453.171
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**3602.844**	**ug/L**	1.020	1754314.366	3.761
Be	9	**0.006**	**ug/L**	130.525	1.000	0.000
B	11	**104.648**	**ug/L**	1.452	7245.170	0.015
Al	27	**4.789**	**ug/L**	0.572	1012.036	0.002
>Sc	45		**ug/L**		466451.987	466451.987
V	51	**0.690**	**ug/L**	8.536	4902.174	0.003
Cr	52	**0.060**	**ug/L**	5.937	498.675	0.000
Cr	53		**ug/L**		694.684	-0.001
Mn	55	**0.062**	**ug/L**	21.985	180.001	0.000
Fe	57	**2.807**	**ug/L**	14.625	264.669	0.000
Co	59	**0.058**	**ug/L**	10.461	286.670	0.001
Ni	60	**0.788**	**ug/L**	10.158	1244.721	0.002
Cu	63		**ug/L**		2133.493	0.004
Cu	65	**0.376**	**ug/L**	3.552	677.349	0.001
Zn	66	**0.131**	**ug/L**	10.407	390.672	0.000
Zn	67		**ug/L**		112.000	0.000
Zn	68		**ug/L**		391.339	0.001
>Ge	74		**ug/L**		283649.013	283649.013
As	75	**1.315**	**ug/L**	1.357	567.567	0.001
Se	77		**ug/L**		100.000	-0.000
Se	78	**1.204**	**ug/L**	36.689	155.037	0.000
Se	82		**ug/L**		123.334	0.000
Kr	83		**ug/L**		26.167	0.000
Mo	98	**11.392**	**ug/L**	0.478	20840.525	0.092
Ag	107	**0.001**	**ug/L**	114.293	8.667	0.000
Cd	111	**0.002**	**ug/L**	94.376	5.333	0.000
Cd	114		**ug/L**		23.333	0.000
>In	115		**ug/L**		224897.128	224897.128
Sb	121	**0.401**	**ug/L**	12.793	505.342	0.002
Sb	123		**ug/L**		388.672	0.002
Ba	135		**ug/L**		2468.880	0.004
Ba	137	**5.243**	**ug/L**	3.172	4296.646	0.006
>Lu	175		**ug/L**		671916.811	671916.811
Tl	205	**0.026**	**ug/L**	8.015	388.672	0.000
Pb	208	**0.022**	**ug/L**	10.374	442.669	0.000
U	238	**0.059**	**ug/L**	8.420	1020.703	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		69.47			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		58.36			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		61.95			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	73.41
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)
Ge 74 Int Std for sa	Ge	74	

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 1204695454
Sample Date/Time: Friday, November 20, 2020 16:35:26
Sample Type: Sample
Sample Description: ARSL 200.8 MS
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695454.172
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**3488.762**	**ug/L**	2.162	1744423.130	3.642
Be	9	**1.859**	**ug/L**	12.790	265.669	0.001
B	11	**107.199**	**ug/L**	2.843	7621.367	0.016
Al	27	**76.608**	**ug/L**	1.458	14710.904	0.030
>Sc	45		**ug/L**		479040.998	479040.998
V	51	**2.703**	**ug/L**	4.457	9441.787	0.012
Cr	52	**1.863**	**ug/L**	1.990	5254.299	0.010
Cr	53		**ug/L**		1394.735	0.000
Mn	55	**1.725**	**ug/L**	3.102	3301.715	0.007
Fe	57	**68.766**	**ug/L**	4.146	4324.655	0.009
Co	59	**1.763**	**ug/L**	2.683	8215.695	0.017
Ni	60	**2.368**	**ug/L**	1.484	3205.693	0.006
Cu	63		**ug/L**		7306.535	0.015
Cu	65	**1.857**	**ug/L**	0.958	3209.027	0.007
Zn	66	**1.896**	**ug/L**	11.246	1161.381	0.003
Zn	67		**ug/L**		224.002	0.001
Zn	68		**ug/L**		996.035	0.003
>Ge	74		**ug/L**		293585.565	293585.565
As	75	**3.102**	**ug/L**	2.462	1002.035	0.002
Se	77		**ug/L**		152.001	0.000
Se	78	**2.521**	**ug/L**	2.727	199.457	0.000
Se	82		**ug/L**		175.334	0.001
Kr	83		**ug/L**		23.333	0.000
Mo	98	**13.048**	**ug/L**	1.779	24563.105	0.106
Ag	107	**1.663**	**ug/L**	1.365	7339.885	0.032
Cd	111	**1.621**	**ug/L**	7.543	926.030	0.004
Cd	114		**ug/L**		2286.850	0.010
>In	115		**ug/L**		231483.062	231483.062
Sb	121	**2.126**	**ug/L**	2.997	2636.910	0.011
Sb	123		**ug/L**		2154.829	0.009
Ba	135		**ug/L**		3253.704	0.005
Ba	137	**7.170**	**ug/L**	1.069	6009.931	0.009
>Lu	175		**ug/L**		687320.205	687320.205
Tl	205	**1.567**	**ug/L**	1.606	18783.008	0.027
Pb	208	**1.612**	**ug/L**	0.324	25255.380	0.037
U	238	**1.950**	**ug/L**	1.253	32716.087	0.048

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		71.34			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		60.41			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		63.76			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	75.09
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 1204695455
Sample Date/Time: Friday, November 20, 2020 16:38:19
Sample Type: Sample
Sample Description: ARSL 200.8 SDILT
Number of Replicates: 3
Batch ID: 2063263|125|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695455.173
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**731.397**	**ug/L**	1.597	472108.070	0.764
Be	9	**0.004**	**ug/L**	144.206	1.000	0.000
B	11	**26.079**	**ug/L**	0.468	2417.538	0.004
Al	27	**1.012**	**ug/L**	3.767	413.339	0.000
>Sc	45		**ug/L**		618284.540	618284.540
V	51	**0.098**	**ug/L**	38.945	4826.816	0.000
Cr	52	**0.012**	**ug/L**	58.413	498.675	0.000
Cr	53		**ug/L**		1511.414	-0.000
Mn	55	**0.020**	**ug/L**	18.555	135.334	0.000
Fe	57	**1.467**	**ug/L**	10.717	244.669	0.000
Co	59	**0.016**	**ug/L**	3.947	128.667	0.000
Ni	60	**0.163**	**ug/L**	5.586	666.016	0.000
Cu	63		**ug/L**		709.351	0.001
Cu	65	**0.105**	**ug/L**	2.823	305.337	0.000
Zn	66	**2.132**	**ug/L**	3.162	1754.108	0.003
Zn	67		**ug/L**		291.336	0.000
Zn	68		**ug/L**		1339.396	0.002
>Ge	74		**ug/L**		407835.114	407835.114
As	75	**0.344**	**ug/L**	4.176	503.120	0.000
Se	77		**ug/L**		166.668	0.000
Se	78	**0.182**	**ug/L**	116.757	180.691	0.000
Se	82		**ug/L**		70.667	0.000
Kr	83		**ug/L**		10.167	0.000
Mo	98	**2.290**	**ug/L**	1.537	5727.148	0.019
Ag	107	**0.003**	**ug/L**	23.131	19.333	0.000
Cd	111	**0.003**	**ug/L**	145.911	8.000	0.000
Cd	114		**ug/L**		24.667	0.000
>In	115		**ug/L**		305184.250	305184.250
Sb	121	**0.088**	**ug/L**	10.270	180.001	0.000
Sb	123		**ug/L**		141.334	0.000
Ba	135		**ug/L**		620.014	0.001
Ba	137	**1.128**	**ug/L**	1.996	1184.049	0.001
>Lu	175		**ug/L**		856038.991	856038.991
Tl	205	**0.009**	**ug/L**	10.443	236.002	0.000
Pb	208	**0.013**	**ug/L**	8.810	394.002	0.000
U	238	**0.024**	**ug/L**	6.237	567.345	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		92.08			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		83.91			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		84.07			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	93.53
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 16:41:15
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.174
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**51.196**	**ug/L**	0.781	35093.053	0.053
Be	9	**53.387**	**ug/L**	1.146	10457.159	0.016
B	11	**103.471**	**ug/L**	2.717	10082.892	0.015
Al	27	**5219.689**	**ug/L**	0.674	1361815.889	2.074
>Sc	45		**ug/L**		656403.911	656403.911
V	51	**50.671**	**ug/L**	0.658	156853.147	0.232
Cr	52	**51.204**	**ug/L**	0.855	185085.947	0.281
Cr	53		**ug/L**		23524.688	0.033
Mn	55	**51.084**	**ug/L**	1.983	131300.661	0.200
Fe	57	**5108.563**	**ug/L**	2.670	430353.359	0.656
Co	59	**50.446**	**ug/L**	1.093	321175.600	0.489
Ni	60	**50.949**	**ug/L**	1.844	85578.910	0.130
Cu	63		**ug/L**		240641.920	0.366
Cu	65	**51.913**	**ug/L**	1.940	120768.395	0.184
Zn	66	**51.405**	**ug/L**	2.327	34206.910	0.075
Zn	67		**ug/L**		5692.468	0.012
Zn	68		**ug/L**		26343.610	0.058
>Ge	74		**ug/L**		448494.459	448494.459
As	75	**50.177**	**ug/L**	2.198	18206.039	0.040
Se	77		**ug/L**		880.027	0.002
Se	78	**50.710**	**ug/L**	2.425	2486.003	0.005
Se	82		**ug/L**		1245.388	0.003
Kr	83		**ug/L**		7.000	-0.000
Mo	98	**50.203**	**ug/L**	0.560	139452.028	0.408
Ag	107	**51.552**	**ug/L**	0.816	335921.704	0.982
Cd	111	**52.625**	**ug/L**	1.553	44227.699	0.129
Cd	114		**ug/L**		107014.668	0.313
>In	115		**ug/L**		342021.165	342021.165
Sb	121	**50.112**	**ug/L**	1.096	90878.177	0.266
Sb	123		**ug/L**		72307.893	0.211
Ba	135		**ug/L**		29327.417	0.032
Ba	137	**49.285**	**ug/L**	1.830	54187.250	0.060
>Lu	175		**ug/L**		902437.374	902437.374
Tl	205	**49.013**	**ug/L**	0.245	767967.980	0.851
Pb	208	**50.483**	**ug/L**	1.642	1033728.274	1.145
U	238	**50.755**	**ug/L**	0.839	1116069.917	1.237

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	102.392				
	Be	9	106.774				
	B	11	103.471				
	Al	27	103.360				
>	Sc	45		97.76			
	V	51	101.342				
	Cr	52	102.408				
	Cr	53					
	Mn	55	102.169				
	Fe	57	102.171				
	Co	59	100.892				
	Ni	60	101.898				
	Cu	63					
	Cu	65	103.825				
	Zn	66	102.810				
	Zn	67					
	Zn	68					
>	Ge	74		92.28			
	As	75	100.354				
	Se	77					
	Se	78	101.420				
	Se	82					
	Kr	83					
	Mo	98	100.405				
	Ag	107	103.103				
	Cd	111	105.251				
	Cd	114					
>	In	115		94.21			
	Sb	121	100.224				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	98.570	
>	Lu	175		98.60
|	Tl	205	98.026	
|	Pb	208	100.965	
⌊	U	238	101.509	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 16:44:09
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.175
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Li	7	**0.254**	**ug/L**	4.909	178.668	0.000
|	Be	9	**0.004**	**ug/L**	146.165	1.000	0.000
|	B	11	**3.874**	**ug/L**	18.890	397.339	0.001
|	Al	27	**0.126**	**ug/L**	8.892	201.335	0.000
|	> Sc	45		**ug/L**		636666.734	636666.734
|	V	51	**-0.111**	**ug/L**	5.246	4361.999	-0.001
|	Cr	52	**-0.018**	**ug/L**	70.362	407.339	-0.000
|	Cr	53		**ug/L**		1646.762	-0.000
|	Mn	55	**-0.010**	**ug/L**	34.255	66.000	-0.000
|	Fe	57	**3.479**	**ug/L**	16.309	416.006	0.000
|	Co	59	**0.002**	**ug/L**	68.318	46.000	0.000
|	Ni	60	**-0.027**	**ug/L**	65.579	378.005	-0.000
|	Cu	63		**ug/L**		192.001	0.000
⌊	Cu	65	**0.009**	**ug/L**	96.202	98.000	0.000
⌈	Zn	66	**-0.006**	**ug/L**	733.658	533.343	-0.000
|	Zn	67		**ug/L**		92.000	-0.000
|	Zn	68		**ug/L**		386.672	0.000
|	> Ge	74		**ug/L**		452886.347	452886.347
|	As	75	**0.019**	**ug/L**	149.545	442.674	0.000
|	Se	77		**ug/L**		166.001	-0.000
|	Se	78	**0.085**	**ug/L**	592.860	196.132	0.000
|	Se	82		**ug/L**		24.000	0.000
⌊	Kr	83		**ug/L**		6.667	-0.000
⌈	Mo	98	**0.096**	**ug/L**	4.706	328.004	0.001
|	Ag	107	**0.001**	**ug/L**	139.100	10.000	0.000
|	Cd	111	**0.004**	**ug/L**	76.020	9.333	0.000
|	Cd	114		**ug/L**		24.000	0.000
|	> In	115		**ug/L**		341611.572	341611.572
|	Sb	121	**0.012**	**ug/L**	92.815	63.333	0.000
⌊	Sb	123		**ug/L**		39.333	0.000
⌈	Ba	135		**ug/L**		6.000	0.000
|	Ba	137	**0.004**	**ug/L**	142.335	12.667	0.000
|	> Lu	175		**ug/L**		880235.763	880235.763
|	Tl	205	**0.101**	**ug/L**	20.086	1652.097	0.002
|	Pb	208	**0.010**	**ug/L**	24.880	344.002	0.000
⌊	U	238	**0.029**	**ug/L**	10.805	687.350	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		94.82			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		93.18			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		94.10			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	96.17
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527510014
Sample Date/Time: Friday, November 20, 2020 17:01:31
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527510014.181
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1509.514**	**ug/L**	2.466	894385.522	1.576
Be	9	**0.002**	**ug/L**	299.703	0.667	0.000
B	11	**51.127**	**ug/L**	1.542	4321.987	0.008
Al	27	**3.256**	**ug/L**	4.656	885.361	0.001
>Sc	45		**ug/L**		567489.852	567489.852
V	51	**0.632**	**ug/L**	13.534	5814.517	0.003
Cr	52	**0.129**	**ug/L**	11.190	822.024	0.001
Cr	53		**ug/L**		1904.127	0.000
Mn	55	**0.105**	**ug/L**	13.034	312.670	0.000
Fe	57	**1.522**	**ug/L**	30.641	228.669	0.000
Co	59	**0.017**	**ug/L**	14.375	122.667	0.000
Ni	60	**0.723**	**ug/L**	7.791	1420.737	0.002
Cu	63		**ug/L**		476.008	0.001
Cu	65	**0.037**	**ug/L**	19.521	144.667	0.000
Zn	66	**1.933**	**ug/L**	2.017	1496.078	0.003
Zn	67		**ug/L**		266.002	0.000
Zn	68		**ug/L**		1220.719	0.002
>Ge	74		**ug/L**		372992.384	372992.384
As	75	**1.127**	**ug/L**	11.724	690.461	0.001
Se	77		**ug/L**		191.335	0.000
Se	78	**1.091**	**ug/L**	19.479	199.459	0.000
Se	82		**ug/L**		130.667	0.000
Kr	83		**ug/L**		12.333	0.000
Mo	98	**8.549**	**ug/L**	1.264	19923.218	0.069
Ag	107	**0.002**	**ug/L**	48.642	12.667	0.000
Cd	111	**0.006**	**ug/L**	103.100	9.333	0.000
Cd	114		**ug/L**		22.000	0.000
>In	115		**ug/L**		286312.024	286312.024
Sb	121	**0.247**	**ug/L**	7.979	410.006	0.001
Sb	123		**ug/L**		324.004	0.001
Ba	135		**ug/L**		2372.197	0.003
Ba	137	**4.706**	**ug/L**	0.978	4371.335	0.006
>Lu	175		**ug/L**		761181.307	761181.307
Tl	205	**0.000**	**ug/L**	1012.724	93.334	0.000
Pb	208	**0.009**	**ug/L**	16.297	288.001	0.000
U	238	**0.024**	**ug/L**	8.702	500.675	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		84.52			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		76.74			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		78.87			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	83.16
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 17:04:27
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.182
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**37.524**	**ug/L**	2.789	26226.066	0.039
Be	9	**40.695**	**ug/L**	0.708	8126.978	0.012
B	11	**87.254**	**ug/L**	0.865	8673.299	0.013
Al	27	**5088.373**	**ug/L**	1.447	1353458.004	2.022
>Sc	45		**ug/L**		669163.819	669163.819
V	51	**52.218**	**ug/L**	2.832	164639.131	0.239
Cr	52	**50.868**	**ug/L**	0.774	187457.912	0.279
Cr	53		**ug/L**		24299.988	0.033
Mn	55	**52.122**	**ug/L**	1.640	136586.586	0.204
Fe	57	**5225.327**	**ug/L**	0.943	448829.027	0.671
Co	59	**52.201**	**ug/L**	0.454	338840.204	0.506
Ni	60	**52.130**	**ug/L**	0.438	89267.379	0.133
Cu	63		**ug/L**		247800.029	0.370
Cu	65	**52.693**	**ug/L**	0.968	124978.347	0.187
Zn	66	**47.966**	**ug/L**	1.325	35469.312	0.070
Zn	67		**ug/L**		6236.696	0.012
Zn	68		**ug/L**		28557.182	0.057
>Ge	74		**ug/L**		497831.797	497831.797
As	75	**49.432**	**ug/L**	0.874	19918.546	0.039
Se	77		**ug/L**		994.701	0.002
Se	78	**52.039**	**ug/L**	2.966	2825.419	0.005
Se	82		**ug/L**		1297.392	0.003
Kr	83		**ug/L**		11.833	0.000
Mo	98	**49.295**	**ug/L**	1.272	149678.795	0.400
Ag	107	**50.118**	**ug/L**	0.779	356990.913	0.955
Cd	111	**50.440**	**ug/L**	2.296	46341.746	0.124
Cd	114		**ug/L**		113334.535	0.303
>In	115		**ug/L**		373865.685	373865.685
Sb	121	**48.726**	**ug/L**	0.814	96589.446	0.258
Sb	123		**ug/L**		76334.747	0.204
Ba	135		**ug/L**		31906.263	0.035
Ba	137	**52.451**	**ug/L**	1.128	58573.842	0.064
>Lu	175		**ug/L**		916537.006	916537.006
Tl	205	**48.544**	**ug/L**	1.537	772457.415	0.843
Pb	208	**50.103**	**ug/L**	1.295	1042055.810	1.137
U	238	**50.502**	**ug/L**	0.551	1127912.989	1.231

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	75.047				
	Be	9	81.390				
	B	11	87.254				
	Al	27	100.760				
>	Sc	45		99.66			
	V	51	104.436				
	Cr	52	101.736				
	Cr	53					
	Mn	55	104.245				
	Fe	57	104.507				
	Co	59	104.402				
	Ni	60	104.260				
	Cu	63					
	Cu	65	105.386				
	Zn	66	95.931				
	Zn	67					
	Zn	68					
>	Ge	74		102.43			
	As	75	98.865				
	Se	77					
	Se	78	104.078				
	Se	82					
	Kr	83					
	Mo	98	98.590				
	Ag	107	100.237				
	Cd	111	100.879				
	Cd	114					
>	In	115		102.98			
	Sb	121	97.451				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	104.902	
>	Lu	175		100.14
|	Tl	205	97.087	
|	Pb	208	100.206	
⌊	U	238	101.004	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	CCV is out of limits (+/- 10%)
QC Std 6	Be	9	CCV is out of limits (+/- 10%)
QC Std 6	B	11	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 17:07:21
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.183
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1.041**	**ug/L**	8.011	744.686	0.001
Be	9	**0.003**	**ug/L**	149.315	1.000	0.000
B	11	**3.462**	**ug/L**	19.170	380.005	0.001
Al	27	**0.063**	**ug/L**	218.099	197.335	0.000
>Sc	45		**ug/L**		676039.103	676039.103
V	51	**0.448**	**ug/L**	4.979	6358.082	0.002
Cr	52	**0.010**	**ug/L**	129.566	536.010	0.000
Cr	53		**ug/L**		2457.545	0.001
Mn	55	**-0.005**	**ug/L**	18.110	82.000	-0.000
Fe	57	**3.040**	**ug/L**	30.121	402.672	0.000
Co	59	**0.000**	**ug/L**	210.613	37.333	0.000
Ni	60	**-0.028**	**ug/L**	3.581	399.339	-0.000
Cu	63		**ug/L**		220.668	0.000
Cu	65	**0.002**	**ug/L**	195.802	88.667	0.000
Zn	66	**-0.029**	**ug/L**	109.396	558.678	-0.000
Zn	67		**ug/L**		108.667	-0.000
Zn	68		**ug/L**		467.341	0.000
>Ge	74		**ug/L**		488163.414	488163.414
As	75	**0.175**	**ug/L**	33.961	536.677	0.000
Se	77		**ug/L**		209.335	0.000
Se	78	**0.340**	**ug/L**	92.141	224.187	0.000
Se	82		**ug/L**		38.667	0.000
Kr	83		**ug/L**		10.333	-0.000
Mo	98	**0.112**	**ug/L**	23.736	404.673	0.001
Ag	107	**0.001**	**ug/L**	28.683	13.333	0.000
Cd	111	**0.003**	**ug/L**	230.571	9.333	0.000
Cd	114		**ug/L**		20.667	0.000
>In	115		**ug/L**		371802.866	371802.866
Sb	121	**0.002**	**ug/L**	244.711	50.667	0.000
Sb	123		**ug/L**		42.667	0.000
Ba	135		**ug/L**		7.333	0.000
Ba	137	**0.011**	**ug/L**	90.802	20.667	0.000
>Lu	175		**ug/L**		889707.713	889707.713
Tl	205	**0.100**	**ug/L**	23.408	1648.098	0.002
Pb	208	**0.008**	**ug/L**	42.764	320.001	0.000
U	238	**0.025**	**ug/L**	8.037	606.013	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		100.68			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		100.44			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		102.42			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	97.21
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695453
Sample Date/Time: Friday, November 20, 2020 17:31:10
Sample Type: Sample
Sample Description: ARSL 200.8 DUP
Number of Replicates: 3
Batch ID: 2063263|50|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695453.185
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1292.904**	**ug/L**	1.407	815086.233	1.350
Be	9	**0.002**	**ug/L**	316.414	0.667	0.000
B	11	**46.250**	**ug/L**	2.391	4165.275	0.007
Al	27	**2.274**	**ug/L**	11.483	705.351	0.001
>Sc	45		**ug/L**		603882.385	603882.385
V	51	**0.861**	**ug/L**	1.691	6819.628	0.004
Cr	52	**0.044**	**ug/L**	38.367	593.346	0.000
Cr	53		**ug/L**		1909.461	0.000
Mn	55	**0.033**	**ug/L**	9.758	162.668	0.000
Fe	57	**0.519**	**ug/L**	23.592	165.334	0.000
Co	59	**0.029**	**ug/L**	10.979	198.668	0.000
Ni	60	**0.383**	**ug/L**	11.015	988.034	0.001
Cu	63		**ug/L**		1214.718	0.002
Cu	65	**0.203**	**ug/L**	7.706	508.009	0.001
Zn	66	**0.648**	**ug/L**	15.506	830.024	0.001
Zn	67		**ug/L**		168.668	0.000
Zn	68		**ug/L**		693.350	0.001
>Ge	74		**ug/L**		389547.953	389547.953
As	75	**0.925**	**ug/L**	10.479	660.015	0.001
Se	77		**ug/L**		174.001	0.000
Se	78	**0.860**	**ug/L**	31.650	199.313	0.000
Se	82		**ug/L**		128.667	0.000
Kr	83		**ug/L**		11.667	0.000
Mo	98	**5.400**	**ug/L**	1.908	13162.730	0.044
Ag	107	**0.000**	**ug/L**	182.175	6.667	0.000
Cd	111	**0.004**	**ug/L**	35.382	8.667	0.000
Cd	114		**ug/L**		16.667	0.000
>In	115		**ug/L**		299039.197	299039.197
Sb	121	**0.180**	**ug/L**	7.980	322.670	0.001
Sb	123		**ug/L**		256.669	0.001
Ba	135		**ug/L**		1502.079	0.002
Ba	137	**2.814**	**ug/L**	3.842	2765.601	0.003
>Lu	175		**ug/L**		804839.933	804839.933
Tl	205	**0.000**	**ug/L**	121.705	104.000	0.000
Pb	208	**0.005**	**ug/L**	19.081	232.001	0.000
U	238	**0.015**	**ug/L**	15.717	362.671	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		89.93			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		80.15			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		82.37			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	87.93
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 1204695454
Sample Date/Time: Friday, November 20, 2020 17:34:03
Sample Type: Sample
Sample Description: ARSL 200.8 MS
Number of Replicates: 3
Batch ID: 2063263|50|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695454.186
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1277.616**	**ug/L**	0.289	822648.289	1.334
Be	9	**0.662**	**ug/L**	4.142	122.001	0.000
B	11	**47.145**	**ug/L**	1.565	4334.658	0.007
Al	27	**35.683**	**ug/L**	2.879	8913.450	0.014
>Sc	45		**ug/L**		616742.452	616742.452
V	51	**1.878**	**ug/L**	2.347	9834.720	0.009
Cr	52	**0.911**	**ug/L**	3.078	3541.106	0.005
Cr	53		**ug/L**		2432.207	0.001
Mn	55	**0.869**	**ug/L**	1.751	2184.167	0.003
Fe	57	**33.827**	**ug/L**	2.468	2804.275	0.004
Co	59	**0.898**	**ug/L**	3.141	5405.690	0.009
Ni	60	**1.200**	**ug/L**	3.912	2292.851	0.003
Cu	63		**ug/L**		4811.477	0.008
Cu	65	**0.997**	**ug/L**	3.477	2253.511	0.004
Zn	66	**1.581**	**ug/L**	3.497	1389.401	0.002
Zn	67		**ug/L**		246.002	0.000
Zn	68		**ug/L**		1157.380	0.002
>Ge	74		**ug/L**		397265.140	397265.140
As	75	**1.863**	**ug/L**	4.775	966.922	0.001
Se	77		**ug/L**		218.002	0.000
Se	78	**1.684**	**ug/L**	6.122	236.278	0.000
Se	82		**ug/L**		143.334	0.000
Kr	83		**ug/L**		12.833	0.000
Mo	98	**6.304**	**ug/L**	1.508	15842.780	0.051
Ag	107	**0.829**	**ug/L**	1.819	4880.167	0.016
Cd	111	**0.860**	**ug/L**	1.417	657.348	0.002
Cd	114		**ug/L**		1546.084	0.005
>In	115		**ug/L**		308501.063	308501.063
Sb	121	**1.034**	**ug/L**	5.444	1729.438	0.005
Sb	123		**ug/L**		1401.402	0.004
Ba	135		**ug/L**		2055.481	0.003
Ba	137	**3.712**	**ug/L**	0.805	3717.817	0.005
>Lu	175		**ug/L**		820542.011	820542.011
Tl	205	**0.764**	**ug/L**	1.969	10982.888	0.013
Pb	208	**0.807**	**ug/L**	0.856	15163.188	0.018
U	238	**0.943**	**ug/L**	3.214	18915.185	0.023

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		91.85			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		81.74			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		84.98			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	89.65
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 1204695455
Sample Date/Time: Friday, November 20, 2020 17:36:56
Sample Type: Sample
Sample Description: ARSL 200.8 SDILT
Number of Replicates: 3
Batch ID: 2063263|250|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695455.187
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**236.560**	**ug/L**	1.415	161614.719	0.247
Be	9	**0.002**	**ug/L**	338.001	0.667	0.000
B	11	**10.021**	**ug/L**	5.837	1003.369	0.001
Al	27	**0.335**	**ug/L**	34.730	261.336	0.000
>Sc	45		**ug/L**		654307.604	654307.604
V	51	**0.832**	**ug/L**	2.724	7302.533	0.004
Cr	52	**0.002**	**ug/L**	708.954	490.008	0.000
Cr	53		**ug/L**		2670.917	0.001
Mn	55	**0.002**	**ug/L**	455.885	97.334	0.000
Fe	57	**-0.267**	**ug/L**	14.711	113.334	-0.000
Co	59	**0.006**	**ug/L**	7.313	72.667	0.000
Ni	60	**0.061**	**ug/L**	35.506	534.677	0.000
Cu	63		**ug/L**		492.675	0.001
Cu	65	**0.063**	**ug/L**	6.436	225.335	0.000
Zn	66	**2.453**	**ug/L**	7.236	2212.172	0.004
Zn	67		**ug/L**		334.004	0.000
Zn	68		**ug/L**		1595.422	0.003
>Ge	74		**ug/L**		463666.780	463666.780
As	75	**0.330**	**ug/L**	15.228	567.122	0.000
Se	77		**ug/L**		209.335	0.000
Se	78	**0.407**	**ug/L**	29.789	216.005	0.000
Se	82		**ug/L**		44.667	0.000
Kr	83		**ug/L**		10.833	0.000
Mo	98	**0.936**	**ug/L**	1.595	2710.257	0.008
Ag	107	**0.001**	**ug/L**	115.652	8.667	0.000
Cd	111	**0.003**	**ug/L**	208.680	9.333	0.000
Cd	114		**ug/L**		14.667	-0.000
>In	115		**ug/L**		348453.919	348453.919
Sb	121	**0.022**	**ug/L**	43.549	84.000	0.000
Sb	123		**ug/L**		70.000	0.000
Ba	135		**ug/L**		294.670	0.000
Ba	137	**0.485**	**ug/L**	13.113	524.010	0.001
>Lu	175		**ug/L**		871744.608	871744.608
Tl	205	**-0.001**	**ug/L**	208.275	94.000	-0.000
Pb	208	**0.002**	**ug/L**	30.982	182.000	0.000
U	238	**0.005**	**ug/L**	16.173	173.334	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		97.44			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		95.40			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		95.98			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	95.24
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527510002
Sample Date/Time: Friday, November 20, 2020 17:42:44
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|125|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527510002.189
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1692.074**	**ug/L**	1.902	1037937.597	1.767
Be	9	**0.010**	**ug/L**	101.566	2.000	0.000
B	11	**31.877**	**ug/L**	1.458	2801.608	0.005
Al	27	**0.575**	**ug/L**	2.522	290.670	0.000
>Sc	45		**ug/L**		587696.908	587696.908
V	51	**0.218**	**ug/L**	19.354	4907.509	0.001
Cr	52	**0.007**	**ug/L**	209.186	457.341	0.000
Cr	53		**ug/L**		1754.108	0.000
Mn	55	**0.228**	**ug/L**	7.935	606.680	0.001
Fe	57	**0.022**	**ug/L**	1356.844	123.334	0.000
Co	59	**0.026**	**ug/L**	15.689	177.334	0.000
Ni	60	**0.548**	**ug/L**	4.339	1209.385	0.001
Cu	63		**ug/L**		543.344	0.001
Cu	65	**0.038**	**ug/L**	13.527	150.667	0.000
Zn	66	**1.316**	**ug/L**	8.482	1177.382	0.002
Zn	67		**ug/L**		226.668	0.000
Zn	68		**ug/L**		952.032	0.002
>Ge	74		**ug/L**		378742.808	378742.808
As	75	**0.899**	**ug/L**	7.713	633.125	0.001
Se	77		**ug/L**		194.668	0.000
Se	78	**0.907**	**ug/L**	21.366	195.580	0.000
Se	82		**ug/L**		134.001	0.000
Kr	83		**ug/L**		13.833	0.000
Mo	98	**5.871**	**ug/L**	2.822	13938.797	0.048
Ag	107	**0.003**	**ug/L**	35.028	20.000	0.000
Cd	111	**0.001**	**ug/L**	311.224	6.000	0.000
Cd	114		**ug/L**		25.333	0.000
>In	115		**ug/L**		291472.143	291472.143
Sb	121	**0.138**	**ug/L**	6.795	250.002	0.001
Sb	123		**ug/L**		198.001	0.001
Ba	135		**ug/L**		933.364	0.001
Ba	137	**1.766**	**ug/L**	4.277	1712.103	0.002
>Lu	175		**ug/L**		791921.977	791921.977
Tl	205	**-0.001**	**ug/L**	82.779	81.334	-0.000
Pb	208	**0.010**	**ug/L**	10.916	318.668	0.000
U	238	**0.012**	**ug/L**	8.363	301.337	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		87.52			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		77.93			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		80.29			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	86.52
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 527510008
Sample Date/Time: Friday, November 20, 2020 17:45:37
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|125|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527510008.190
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1590.739**	**ug/L**	1.830	958963.578	1.661
Be	9	**0.000**	**ug/L**	1221.870	0.333	0.000
B	11	**32.067**	**ug/L**	0.992	2769.602	0.005
Al	27	**0.577**	**ug/L**	6.595	286.003	0.000
>Sc	45		**ug/L**		577453.918	577453.918
V	51	**0.242**	**ug/L**	15.604	4887.503	0.001
Cr	52	**0.012**	**ug/L**	88.472	464.674	0.000
Cr	53		**ug/L**		1840.119	0.000
Mn	55	**0.125**	**ug/L**	4.724	363.338	0.000
Fe	57	**0.604**	**ug/L**	61.974	164.668	0.000
Co	59	**0.020**	**ug/L**	33.790	144.001	0.000
Ni	60	**0.536**	**ug/L**	4.925	1170.048	0.001
Cu	63		**ug/L**		693.350	0.001
Cu	65	**0.081**	**ug/L**	7.114	236.002	0.000
Zn	66	**1.577**	**ug/L**	7.391	1294.725	0.002
Zn	67		**ug/L**		218.002	0.000
Zn	68		**ug/L**		1004.702	0.002
>Ge	74		**ug/L**		371176.059	371176.059
As	75	**0.961**	**ug/L**	4.946	638.903	0.001
Se	77		**ug/L**		198.668	0.000
Se	78	**1.270**	**ug/L**	28.166	205.186	0.000
Se	82		**ug/L**		130.667	0.000
Kr	83		**ug/L**		15.833	0.000
Mo	98	**6.567**	**ug/L**	1.172	15342.902	0.053
Ag	107	**0.000**	**ug/L**	274.068	5.333	0.000
Cd	111	**0.004**	**ug/L**	195.572	8.000	0.000
Cd	114		**ug/L**		18.000	0.000
>In	115		**ug/L**		286857.089	286857.089
Sb	121	**0.130**	**ug/L**	3.733	232.669	0.001
Sb	123		**ug/L**		179.334	0.001
Ba	135		**ug/L**		821.357	0.001
Ba	137	**1.528**	**ug/L**	3.404	1436.072	0.002
>Lu	175		**ug/L**		767781.218	767781.218
Tl	205	**-0.003**	**ug/L**	26.927	51.333	-0.000
Pb	208	**0.005**	**ug/L**	14.066	209.334	0.000
U	238	**0.009**	**ug/L**	9.885	232.002	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		86.00			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		76.37			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		79.02			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	83.88
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: 527510012
Sample Date/Time: Friday, November 20, 2020 17:48:30
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|125|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527510012.191
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**1613.112**	**ug/L**	0.970	970092.950	1.684
Be	9	**-0.002**	**ug/L**	0.000	0.000	-0.000
B	11	**32.217**	**ug/L**	2.513	2774.269	0.005
Al	27	**0.590**	**ug/L**	20.790	288.670	0.000
>Sc	45		**ug/L**		575967.961	575967.961
V	51	**0.227**	**ug/L**	8.491	4835.485	0.001
Cr	52	**0.013**	**ug/L**	70.815	466.008	0.000
Cr	53		**ug/L**		1727.438	0.000
Mn	55	**0.106**	**ug/L**	8.307	320.004	0.000
Fe	57	**0.475**	**ug/L**	13.797	154.668	0.000
Co	59	**0.018**	**ug/L**	7.423	132.667	0.000
Ni	60	**0.516**	**ug/L**	5.191	1138.045	0.001
Cu	63		**ug/L**		572.011	0.001
Cu	65	**0.043**	**ug/L**	8.630	158.001	0.000
Zn	66	**0.979**	**ug/L**	2.696	974.700	0.001
Zn	67		**ug/L**		188.001	0.000
Zn	68		**ug/L**		764.687	0.001
>Ge	74		**ug/L**		372452.978	372452.978
As	75	**0.945**	**ug/L**	6.343	636.459	0.001
Se	77		**ug/L**		178.668	0.000
Se	78	**1.208**	**ug/L**	14.628	203.585	0.000
Se	82		**ug/L**		138.667	0.000
Kr	83		**ug/L**		13.667	0.000
Mo	98	**6.596**	**ug/L**	2.055	15357.591	0.054
Ag	107	**0.001**	**ug/L**	96.364	10.667	0.000
Cd	111	**0.005**	**ug/L**	124.058	8.667	0.000
Cd	114		**ug/L**		13.333	-0.000
>In	115		**ug/L**		285779.641	285779.641
Sb	121	**0.137**	**ug/L**	24.101	242.669	0.001
Sb	123		**ug/L**		182.668	0.001
Ba	135		**ug/L**		814.690	0.001
Ba	137	**1.574**	**ug/L**	7.635	1480.744	0.002
>Lu	175		**ug/L**		767825.886	767825.886
Tl	205	**-0.003**	**ug/L**	24.139	54.667	-0.000
Pb	208	**0.004**	**ug/L**	16.401	193.334	0.000
U	238	**0.009**	**ug/L**	6.243	234.669	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		85.78			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		76.63			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		78.72			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	83.89
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 7 Upper, S, EEE	Li	7	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 17:54:38
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.193
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**35.105**	**ug/L**	0.792	22500.372	0.037
Be	9	**37.986**	**ug/L**	1.160	6956.694	0.011
B	11	**78.055**	**ug/L**	3.414	7118.441	0.012
Al	27	**4756.498**	**ug/L**	1.004	1160230.747	1.890
>Sc	45		**ug/L**		613689.601	613689.601
V	51	**50.806**	**ug/L**	0.849	147023.354	0.232
Cr	52	**49.795**	**ug/L**	0.701	168303.666	0.274
Cr	53		**ug/L**		22509.722	0.034
Mn	55	**51.416**	**ug/L**	2.305	123562.178	0.201
Fe	57	**5039.541**	**ug/L**	0.685	396984.638	0.647
Co	59	**50.837**	**ug/L**	1.703	302639.676	0.493
Ni	60	**51.450**	**ug/L**	0.746	80802.547	0.131
Cu	63		**ug/L**		226314.789	0.369
Cu	65	**51.529**	**ug/L**	0.439	112086.003	0.183
Zn	66	**49.654**	**ug/L**	1.633	33264.692	0.073
Zn	67		**ug/L**		5754.493	0.013
Zn	68		**ug/L**		26288.168	0.057
>Ge	74		**ug/L**		451202.009	451202.009
As	75	**50.997**	**ug/L**	0.563	18611.004	0.040
Se	77		**ug/L**		905.362	0.002
Se	78	**53.945**	**ug/L**	1.685	2648.254	0.005
Se	82		**ug/L**		1274.724	0.003
Kr	83		**ug/L**		10.667	0.000
Mo	98	**49.419**	**ug/L**	0.793	136801.998	0.401
Ag	107	**50.521**	**ug/L**	1.004	328051.309	0.963
Cd	111	**51.677**	**ug/L**	1.703	43276.119	0.127
Cd	114		**ug/L**		102969.799	0.302
>In	115		**ug/L**		340834.187	340834.187
Sb	121	**49.075**	**ug/L**	0.637	88684.425	0.260
Sb	123		**ug/L**		70145.142	0.206
Ba	135		**ug/L**		28621.985	0.034
Ba	137	**52.507**	**ug/L**	2.021	53292.574	0.064
>Lu	175		**ug/L**		833026.556	833026.556
Tl	205	**48.282**	**ug/L**	0.693	698355.259	0.838
Pb	208	**50.668**	**ug/L**	0.476	957828.047	1.150
U	238	**50.906**	**ug/L**	0.911	1033367.677	1.240

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7	70.210				
	Be	9	75.971				
	B	11	78.055				
	Al	27	94.188				
>	Sc	45		91.40			
	V	51	101.613				
	Cr	52	99.590				
	Cr	53					
	Mn	55	102.832				
	Fe	57	100.791				
	Co	59	101.674				
	Ni	60	102.899				
	Cu	63					
	Cu	65	103.058				
	Zn	66	99.308				
	Zn	67					
	Zn	68					
>	Ge	74		92.84			
	As	75	101.995				
	Se	77					
	Se	78	107.889				
	Se	82					
	Kr	83					
	Mo	98	98.838				
	Ag	107	101.042				
	Cd	111	103.354				
	Cd	114					
>	In	115		93.89			
	Sb	121	98.150				

⌊	Sb	123		
⌈	Ba	135		
|	Ba	137	105.013	
|>	Lu	175		91.01
|	Tl	205	96.563	
|	Pb	208	101.335	
⌊	U	238	101.813	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	CCV is out of limits (+/- 10%)
QC Std 6	Be	9	CCV is out of limits (+/- 10%)
QC Std 6	B	11	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 17:57:31
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 1120.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.194
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	**0.526**	**ug/L**	11.208	338.004	0.001
Be	9	**0.002**	**ug/L**	156.747	0.667	0.000
B	11	**2.825**	**ug/L**	9.631	280.669	0.000
Al	27	**0.001**	**ug/L**	2874.328	159.334	0.000
>Sc	45		**ug/L**		597840.412	597840.412
V	51	**0.753**	**ug/L**	2.831	6457.459	0.003
Cr	52	**0.004**	**ug/L**	299.002	456.674	0.000
Cr	53		**ug/L**		2458.878	0.001
Mn	55	**-0.006**	**ug/L**	40.172	72.000	-0.000
Fe	57	**2.200**	**ug/L**	31.495	292.670	0.000
Co	59	**0.002**	**ug/L**	69.675	40.667	0.000
Ni	60	**-0.030**	**ug/L**	56.529	350.671	-0.000
Cu	63		**ug/L**		201.335	0.000
Cu	65	**-0.002**	**ug/L**	156.650	68.000	-0.000
Zn	66	**-0.058**	**ug/L**	110.415	497.342	-0.000
Zn	67		**ug/L**		89.334	-0.000
Zn	68		**ug/L**		369.338	0.000
>Ge	74		**ug/L**		451789.350	451789.350
As	75	**0.148**	**ug/L**	34.171	487.564	0.000
Se	77		**ug/L**		221.335	0.000
Se	78	**0.996**	**ug/L**	26.965	237.521	0.000
Se	82		**ug/L**		21.333	0.000
Kr	83		**ug/L**		10.333	0.000
Mo	98	**0.082**	**ug/L**	11.541	288.003	0.001
Ag	107	**0.001**	**ug/L**	94.717	11.333	0.000
Cd	111	**0.003**	**ug/L**	120.418	8.667	0.000
Cd	114		**ug/L**		24.667	0.000
>In	115		**ug/L**		341652.294	341652.294
Sb	121	**0.002**	**ug/L**	72.610	46.000	0.000
Sb	123		**ug/L**		37.333	0.000
Ba	135		**ug/L**		11.333	0.000
Ba	137	**0.002**	**ug/L**	277.948	9.333	0.000
>Lu	175		**ug/L**		809357.831	809357.831
Tl	205	**0.098**	**ug/L**	17.814	1472.744	0.002
Pb	208	**0.008**	**ug/L**	5.257	279.334	0.000
U	238	**0.023**	**ug/L**	14.425	522.676	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	0.9999
B	11	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000

Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	0.9999
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	78	Linear Thru Zero	1.0000
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Al	27					
>	Sc	45		89.04			
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		92.96			
	As	75					
	Se	77					
	Se	78					
	Se	82					
	Kr	83					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		94.11			
	Sb	121					

⌊	Sb	123	
⌈	Ba	135	
|	Ba	137	
|>	Lu	175	88.43
|	Tl	205	
|	Pb	208	
⌊	U	238	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Cal Blank
Sample Date/Time: Friday, November 20, 2020 19:00:00
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Cal Blank.215
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9		ug/L		0.333	
Al	27		ug/L		192.668	
Sc	45		ug/L		710775.180	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	
Al	27	Linear Thru Zero	
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
	Sc	45					

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Friday, November 20, 2020 19:01:46
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Standard 1.216
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**10.000**	**ug/L**	0.698	1845.119	0.003
Al	27	**1000.000**	**ug/L**	2.227	293536.338	0.415
Sc	45		**ug/L**		706486.880	706486.880

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
	Sc	45					

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Friday, November 20, 2020 19:03:31
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\Standard 2.217
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**99.900**	**ug/L**	2.248	17268.444	0.024
Al	27	**9991.569**	**ug/L**	1.760	2784600.640	3.825
Sc	45		**ug/L**		727984.811	727984.811

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
	Sc	45					

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Friday, November 20, 2020 19:05:16
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 1.218
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**51.344**	**ug/L**	0.736	9157.269	0.012
Al	27	**5014.336**	**ug/L**	1.768	1442492.822	1.919
Sc	45		**ug/L**		751266.555	751266.555

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9	102.688				
	Al	27	99.294				
>	Sc	45		105.70			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Friday, November 20, 2020 19:07:02
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 2.219
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.000**	**ug/L**	6463.131	0.333	0.000
Al	27	**-0.131**	**ug/L**	13.290	158.001	-0.000
Sc	45		**ug/L**		716178.604	716178.604

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		100.76			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Friday, November 20, 2020 19:08:47
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 3.220
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.537**	**ug/L**	10.782	92.667	0.000
|	Al	27	**51.236**	**ug/L**	3.604	14417.283	0.020
⌊>	Sc	45		**ug/L**		724839.189	724839.189

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	107.431				
|	Al	27	102.473				
⌊>	Sc	45		101.98			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, November 20, 2020 19:10:33
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 4.221
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.004**	**ug/L**	145.894	1.000	0.000
Al	27	**93576.805**	**ug/L**	2.685	24791680.906	35.821
Sc	45		**ug/L**		691871.575	691871.575

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27	93.577				
>	Sc	45		97.34			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, November 20, 2020 19:12:18
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 5.222
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**19.296**	**ug/L**	3.129	3136.678	0.005
Al	27	**94613.577**	**ug/L**	1.448	24816957.954	36.218
Sc	45		**ug/L**		685297.171	685297.171

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9	96.479				
	Al	27	94.614				
>	Sc	45		96.42			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 19:14:04
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.223
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**54.278**	**ug/L**	1.180	9154.267	0.013
|	Al	27	**5179.897**	**ug/L**	2.254	1409122.343	1.983
⌊>	Sc	45		**ug/L**		710416.628	710416.628

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	108.556				
|	Al	27	102.572				
⌊>	Sc	45		99.95			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 19:15:49
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.224
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.004**	**ug/L**	257.159	1.000	0.000
|	Al	27	**0.068**	**ug/L**	154.175	204.001	0.000
⌊>	Sc	45		**ug/L**		687720.051	687720.051

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		96.76			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695451
Sample Date/Time: Friday, November 20, 2020 19:17:36
Sample Type: Sample
Sample Description: ARSL 200.8 MB
Number of Replicates: 3
Batch ID: 2063263|1|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695451.225
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.004**	**ug/L**	150.459	1.000	0.000
Al	27	**59.874**	**ug/L**	3.255	16341.356	0.023
> Sc	45		**ug/L**		704386.932	704386.932

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		99.10			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695452
Sample Date/Time: Friday, November 20, 2020 19:19:20
Sample Type: Sample
Sample Description: ARSL 200.8 LCS
Number of Replicates: 3
Batch ID: 2063263|1|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695452.226
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**54.314**	**ug/L**	2.098	9264.670	0.013
Al	27	**2098.539**	**ug/L**	0.244	577646.597	0.803
Sc	45		**ug/L**		718858.608	718858.608

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		101.14			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695453
Sample Date/Time: Friday, November 20, 2020 19:22:51
Sample Type: Sample
Sample Description: ARSL 200.8 DUP
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695453.228
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.005**	**ug/L**	243.096	1.000	0.000
Al	27	**4.780**	**ug/L**	5.439	1259.389	0.002
Sc	45		**ug/L**		599661.143	599661.143

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		84.37			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695454
Sample Date/Time: Friday, November 20, 2020 19:24:36
Sample Type: Sample
Sample Description: ARSL 200.8 MS
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695454.229
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**1.690**	**ug/L**	4.670	256.669	0.000
Al	27	**72.651**	**ug/L**	2.542	17945.948	0.028
Sc	45		**ug/L**		638824.746	638824.746

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		89.88			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 1204695455
Sample Date/Time: Friday, November 20, 2020 19:26:21
Sample Type: Sample
Sample Description: ARSL 200.8 SDILT
Number of Replicates: 3
Batch ID: 2063263|125|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\1204695455.230
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**-0.002**	**ug/L**	0.000	0.000	-0.000
Al	27	**1.122**	**ug/L**	13.449	466.674	0.000
Sc	45		**ug/L**		665108.876	665108.876

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		93.58			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 19:28:07
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.231
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**51.708**	**ug/L**	0.139	8574.907	0.012
|	Al	27	**5104.496**	**ug/L**	0.169	1365257.067	1.954
⌊>	Sc	45		**ug/L**		698601.022	698601.022

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	103.416				
|	Al	27	101.079				
⌊>	Sc	45		98.29			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 19:29:53
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.232
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.006**	**ug/L**	148.642	1.333	0.000
|	Al	27	**-0.118**	**ug/L**	81.288	156.001	-0.000
⌊>	Sc	45		**ug/L**		687935.597	687935.597

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		96.79			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527510002
Sample Date/Time: Friday, November 20, 2020 19:35:10
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|125|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527510002.235
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.007**	**ug/L**	110.916	1.333	0.000
|	Al	27	**0.670**	**ug/L**	3.767	329.337	0.000
⌊>	Sc	45		**ug/L**		624397.864	624397.864

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		87.85			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527510008
Sample Date/Time: Friday, November 20, 2020 19:36:56
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|125|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527510008.236
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**-0.002**	**ug/L**	0.000	0.000	-0.000
|	Al	27	**0.688**	**ug/L**	18.069	326.004	0.000
⌊>	Sc	45		**ug/L**		611005.325	611005.325

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		85.96			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527510012
Sample Date/Time: Friday, November 20, 2020 19:38:40
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|125|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527510012.237
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**-0.002**	**ug/L**	0.000	0.000	-0.000
Al	27	**0.736**	**ug/L**	22.660	350.004	0.000
Sc	45		**ug/L**		633725.063	633725.063

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		89.16			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: 527510014
Sample Date/Time: Friday, November 20, 2020 19:40:27
Sample Type: Sample
Sample Description: ARSL 200.8
Number of Replicates: 3
Batch ID: 2063263|25|baj
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\527510014.238
Analyst: BAJ

Concentration Results

Summary

Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	**0.000**	**ug/L**	1949.939	0.333	0.000
Al	27	**2.964**	**ug/L**	7.912	894.028	0.001
Sc	45		**ug/L**		635966.519	635966.519

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
	Be	9					
	Al	27					
>	Sc	45		89.48			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 20, 2020 19:42:14
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 6.239
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**49.615**	**ug/L**	2.975	8545.891	0.012
|	Al	27	**4907.185**	**ug/L**	2.297	1363376.945	1.878
⌊>	Sc	45		**ug/L**		725664.662	725664.662

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9	99.229				
|	Al	27	97.172				
⌊>	Sc	45		102.09			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

ICPMS #14 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 20, 2020 19:43:59
Sample Type: Sample
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8 be al.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\201120\QC Std 7.240
Analyst: BAJ

Concentration Results

Summary

	Analyte	Mass	**Conc. Mean**	**Report Unit**	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.002**	**ug/L**	170.526	0.667	0.000
|	Al	27	**-0.171**	**ug/L**	81.049	144.667	-0.000
⌊>	Sc	45		**ug/L**		703462.827	703462.827

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	0.9999
Al	27	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	

QC Calculated Values

Inte	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Reco	Dilution % D	Duplicate Rel. % Difference
⌈	Be	9					
|	Al	27					
⌊>	Sc	45		98.97			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC action taken

==========

Analysis Begun

Logged In Analyst: Hg4 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-100, S/N B050-9550 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 100720.sifx
Batch ID:
Results Data Set: 112020W2
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: WATER **Method Last Saved: 10/13/2020 06:54:50**
Method Description: SW-846 7470A, EPA 245.1 ANALYST MTM - Hg4

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: Calib Blank **Date Collected: 11/20/2020 07:05:23**
Analyst: MTM1 **Data Type: Original**

Replicate Data: Calib Blank **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0006	0.0033	0.0006	07:06:14	Yes
2		[0.00]	0.0007	0.0037	0.0007	07:06:45	Yes
Mean:		[0.00]	0.0007				
SD:		0.0000	0.0000				
%RSD:		0.00%	7.08%				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S0.2 **Date Collected: 11/20/2020 07:07:06**
Analyst: MTM1 **Data Type: Original**

Replicate Data: S0.2 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.2]	0.0024	0.0149	0.0030	07:07:57	Yes
2		[0.2]	0.0024	0.0153	0.0031	07:08:28	Yes
Mean:		[0.2]	0.0024				
SD:		0.000	0.0000				
%RSD:		0.00%	1.18%				

Standard number 1 applied. [0.2]
Correlation Coef.: 1.000000 Slope: 0.01191 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S0.5 **Date Collected: 11/20/2020 07:08:49**
Analyst: MTM1 **Data Type: Original**

Replicate Data: S0.5 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.5]	0.0060	0.0332	0.0066	07:09:41	Yes
2		[0.5]	0.0059	0.0324	0.0066	07:10:12	Yes
Mean:		[0.5]	0.0059				
SD:		0.000	0.0001				
%RSD:		0.00%	0.97%				

Standard number 2 applied. [0.5]
Correlation Coef.: 0.999999 Slope: 0.01187 Intercept: 0.00000

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S2.0 **Date Collected: 11/20/2020 07:10:34**

Analyst: MTM1 **Data Type: Original**

Replicate Data: S2.0 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.0]	0.0240	0.1245	0.0247	07:11:26	Yes
2		[2.0]	0.0239	0.1238	0.0246	07:11:58	Yes
Mean:		[2.0]	0.0240				
SD:		0.000	0.0001				
%RSD:		0.00%	0.28%				

Standard number 3 applied. [2.0]
Correlation Coef.: 0.999997 Slope: 0.01199 Intercept: -0.00002

==========

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: S5.0 **Date Collected: 11/20/2020 07:12:20**
Analyst: MTM1 **Data Type: Original**

Replicate Data: S5.0 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.0]	0.0600	0.3063	0.0606	07:13:12	Yes
2		[5.0]	0.0596	0.3035	0.0602	07:13:44	Yes
Mean:		[5.0]	0.0598				
SD:		0.000	0.0003				
%RSD:		0.00%	0.46%				

Standard number 4 applied. [5.0]
Correlation Coef.: 0.999999 Slope: 0.01196 Intercept: -0.00000

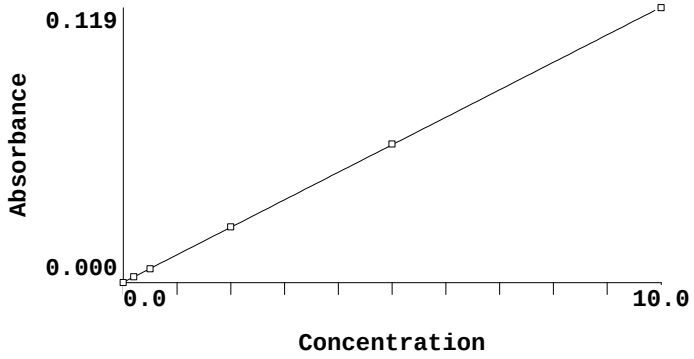
==========

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: S10.0 **Date Collected: 11/20/2020 07:14:07**
Analyst: MTM1 **Data Type: Original**

Replicate Data: S10.0 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.0]	0.1191	0.6088	0.1198	07:14:57	Yes
2		[10.0]	0.1184	0.6044	0.1191	07:15:28	Yes
Mean:		[10.0]	0.1187				
SD:		0.000	0.0005				
%RSD:		0.00%	0.41%				

Standard number 5 applied. [10.0]
Correlation Coef.: 0.999994 Slope: 0.01188 Intercept: 0.00008



Calibration data for Hg 253.7 **Equation: Linear, Calculated Intercept**

ID	Mean Signal (Abs)	Entered Conc. µg/L	Calculated Conc. µg/L	Standard Deviation	%RSD
Calib Blank	0.0000	0	-0.007	0.00	7.08
S0.2	0.0024	0.2	0.193	0.00	1.18
S0.5	0.0059	0.5	0.493	0.00	0.97

S2.0	0.0240	2.0	2.011	0.00	0.28
S5.0	0.0598	5.0	5.024	0.00	0.46
S10.0	0.1187	10.0	9.987	0.00	0.41

Correlation Coef.: 0.999994 Slope: 0.01188 Intercept: 0.00008

==========

Sequence No.: 7 **Autosampler Location: 9**
Sample ID: ICV **Date Collected: 11/20/2020 07:15:50**
Analyst: MTM1 **Data Type: Original**

Replicate Data: ICV **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	4.927	4.927	0.0586	0.2997	0.0593	07:16:41	Yes
2	4.864	4.864	0.0579	0.2930	0.0585	07:17:12	Yes
Mean:	4.896	4.896	0.0582				
SD:	0.0443	0.0443	0.0005				
%RSD:	0.90%	0.90%	0.90%				

QC value within limits for Hg 253.7 Recovery = 97.91%
All analyte(s) passed QC.

==========

Sequence No.: 8 **Autosampler Location: 10**
Sample ID: ICB **Date Collected: 11/20/2020 07:17:35**
Analyst: MTM1 **Data Type: Original**

Replicate Data: ICB **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.007	-0.007	0.0000	0.0033	0.0007	07:18:26	Yes
2	-0.018	-0.018	-0.0001	0.0019	0.0005	07:18:57	Yes
Mean:	-0.012	-0.012	-0.0001				
SD:	0.0075	0.0075	0.0001				
%RSD:	61.12%	61.12%	141.85%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 9 **Autosampler Location: 11**
Sample ID: CRDL **Date Collected: 11/20/2020 07:19:20**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CRDL **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.182	0.182	0.0022	0.0140	0.0029	07:20:12	Yes
2	0.176	0.176	0.0022	0.0128	0.0028	07:20:43	Yes
Mean:	0.179	0.179	0.0022				
SD:	0.0043	0.0043	0.0001				
%RSD:	2.40%	2.40%	2.31%				

QC value within limits for Hg 253.7 Recovery = 89.63%
All analyte(s) passed QC.

==========

Sequence No.: 10 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/20/2020 07:21:06**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CCV **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.106	5.106	0.0607	0.3090	0.0614	07:21:57	Yes
2	5.106	5.106	0.0608	0.3040	0.0614	07:22:28	Yes
Mean:	5.106	5.106	0.0608				
SD:	0.0001	0.0001	0.0000				
%RSD:	0.00%	0.00%	0.00%				

QC value within limits for Hg 253.7 Recovery = 102.12%

All analyte(s) passed QC.

==========

Sequence No.: 11 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/20/2020 07:22:50**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CCB **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.008	-0.008	-0.0000	0.0024	0.0007	07:23:41	Yes
2	-0.004	-0.004	0.0000	0.0020	0.0007	07:24:12	Yes
Mean:	-0.006	-0.006	0.0000				
SD:	0.0025	0.0025	0.0000				
%RSD:	40.04%	40.04%	294.88%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.
User canceled analysis.

==========

Analysis Begun

Logged In Analyst: Hg4 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-100, S/N B050-9550 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 112020.SIFX
Batch ID:
Results Data Set: 112020W2
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: WATER* **Method Last Saved: 10/13/2020 06:54:50**
Method Description: SW-846 7470A, EPA 245.1 ANALYST MTM - Hg4

==========

Sequence No.: 1 **Autosampler Location: 12**
Sample ID: 1204697398|2064143|1 **Date Collected: 11/20/2020 07:26:38**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 1204697398|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.003	-0.003	0.0000	0.0032	0.0007	07:27:29	Yes
2	-0.001	-0.001	0.0001	0.0028	0.0007	07:28:01	Yes
Mean:	-0.002	-0.002	0.0001				
SD:	0.0013	0.0013	0.0000				
%RSD:	65.40%	65.40%	25.83%				

==========

Sequence No.: 2 **Autosampler Location: 13**
Sample ID: 1204697399|2064143|1 **Date Collected: 11/20/2020 07:28:24**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 1204697399|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.231	2.231	0.0266	0.1347	0.0273	07:29:16	Yes
2	2.236	2.236	0.0267	0.1347	0.0273	07:29:47	Yes
Mean:	2.233	2.233	0.0266				
SD:	0.0039	0.0039	0.0000				
%RSD:	0.17%	0.17%	0.17%				

==========

Sequence No.: 3 **Autosampler Location: 20**
Sample ID: 527510007|2064143|1 **Date Collected: 11/20/2020 07:30:11**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 527510007|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.111	0.111	0.0014	0.0135	0.0021	07:31:02	Yes
2	0.105	0.105	0.0013	0.0123	0.0020	07:31:34	Yes
Mean:	0.108	0.108	0.0014				
SD:	0.0045	0.0045	0.0001				
%RSD:	4.19%	4.19%	3.94%				

==========

Sequence No.: 4 **Autosampler Location: 21**
Sample ID: 527510008|2064143|1 **Date Collected: 11/20/2020 07:31:55**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 527510008|2064143|1 **Analyte: Hg 253.7**

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak

#	µg/L	µg/L	Signal	Area	Height		Stored
1	0.095	0.095	0.0012	0.0118	0.0019	07:32:47	Yes
2	0.090	0.090	0.0011	0.0107	0.0018	07:33:19	Yes
Mean:	0.092	0.092	0.0012				
SD:	0.0035	0.0035	0.0000				
%RSD:	3.80%	3.80%	3.53%				

Sequence No.: 5 **Autosampler Location: 22**
Sample ID: 527510012|2064143|1 **Date Collected: 11/20/2020 07:33:41**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 527510012|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.038	0.038	0.0005	0.0074	0.0012	07:34:32	Yes
2	0.039	0.039	0.0005	0.0071	0.0012	07:35:03	Yes
Mean:	0.038	0.038	0.0005				
SD:	0.0005	0.0005	0.0000				
%RSD:	1.39%	1.39%	1.18%				

Sequence No.: 6 **Autosampler Location: 23**
Sample ID: 527510013|2064143|1 **Date Collected: 11/20/2020 07:35:26**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 527510013|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.342	0.342	0.0042	0.0267	0.0048	07:36:17	Yes
2	0.341	0.341	0.0041	0.0266	0.0048	07:36:48	Yes
Mean:	0.342	0.342	0.0041				
SD:	0.0008	0.0008	0.0000				
%RSD:	0.24%	0.24%	0.24%				

Sequence No.: 7 **Autosampler Location: 24**
Sample ID: 527510014|2064143|1 **Date Collected: 11/20/2020 07:37:11**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 527510014|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.074	0.074	0.0010	0.0089	0.0016	07:38:02	Yes
2	0.070	0.070	0.0009	0.0081	0.0016	07:38:34	Yes
Mean:	0.072	0.072	0.0009				
SD:	0.0028	0.0028	0.0000				
%RSD:	3.89%	3.89%	3.55%				

Sequence No.: 8 **Autosampler Location: 25**
Sample ID: 1204699040|2064877|1 **Date Collected: 11/20/2020 07:38:57**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 1204699040|2064877|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.001	0.001	0.0001	0.0035	0.0008	07:39:49	Yes
2	-0.000	-0.000	0.0001	0.0033	0.0008	07:40:21	Yes
Mean:	0.000	0.000	0.0001				
SD:	0.0010	0.0010	0.0000				
%RSD:	208.29%	208.29%	13.18%				

Sequence No.: 9 **Autosampler Location: 26**
Sample ID: 1204699041|2064877|1 **Date Collected: 11/20/2020 07:40:44**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 1204699041|2064877|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.049	2.049	0.0244	0.1255	0.0251	07:41:35	Yes
2	0.087	0.087	0.0011	0.0050	0.0018	07:42:06	Yes
Mean:	1.068	1.068	0.0128				
SD:	1.3874	1.3874	0.0165				
%RSD:	129.93%	129.93%	129.08%				

==========

Sequence No.: 10 **Autosampler Location: 27**
Sample ID: 526068002|2064877|1 **Date Collected: 11/20/2020 07:42:28**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 526068002|2064877|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.080	0.080	0.0010	0.0083	0.0017	07:43:19	Yes
2	0.074	0.074	0.0010	0.0073	0.0016	07:43:50	Yes
Mean:	0.077	0.077	0.0010				
SD:	0.0036	0.0036	0.0000				
%RSD:	4.66%	4.66%	4.27%				

==========

Sequence No.: 11 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/20/2020 07:44:12**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CCV **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.073	5.073	0.0604	0.3069	0.0610	07:45:02	Yes
2	5.042	5.042	0.0600	0.3042	0.0607	07:45:34	Yes
Mean:	5.057	5.057	0.0602				
SD:	0.0218	0.0218	0.0003				
%RSD:	0.43%	0.43%	0.43%				

QC value within limits for Hg 253.7 Recovery = 101.15%
All analyte(s) passed QC.

==========

Sequence No.: 12 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/20/2020 07:45:55**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CCB **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.000	-0.000	0.0001	0.0036	0.0008	07:46:46	Yes
2	-0.006	-0.006	0.0000	0.0022	0.0007	07:47:18	Yes
Mean:	-0.003	-0.003	0.0000				
SD:	0.0044	0.0044	0.0001				
%RSD:	131.07%	131.07%	118.60%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13 **Autosampler Location: 28**
Sample ID: 1204699042|2064877|1 **Date Collected: 11/20/2020 07:47:40**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 1204699042|2064877|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.078	0.078	0.0010	0.0086	0.0017	07:48:31	Yes
2	0.071	0.071	0.0009	0.0071	0.0016	07:49:02	Yes

==========

Analysis Begun

Logged In Analyst: Hg4 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-100, S/N B050-9550 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 112020.SIFX
Batch ID:
Results Data Set: 112020W2
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/20/2020 12:17:15**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CCV **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	4.628	4.628	0.0551	0.2948	0.0557	12:18:06	Yes
2	4.799	4.799	0.0571	0.3044	0.0578	12:18:37	Yes
Mean:	4.713	4.713	0.0561				
SD:	0.1214	0.1214	0.0014				
%RSD:	2.58%	2.58%	2.57%				

QC value within limits for Hg 253.7 Recovery = 94.27%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/20/2020 12:18:58**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CCB **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.005	0.005	0.0001	0.0045	0.0008	12:19:49	Yes
2	0.007	0.007	0.0002	0.0042	0.0008	12:20:20	Yes
Mean:	0.006	0.006	0.0002				
SD:	0.0011	0.0011	0.0000				
%RSD:	19.77%	19.77%	8.89%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 26**
Sample ID: 1204699041|2064877|1 **Date Collected: 11/20/2020 12:20:42**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 1204699041|2064877|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.920	1.920	0.0229	0.1248	0.0236	12:21:33	Yes
2	1.917	1.917	0.0229	0.1225	0.0235	12:22:04	Yes
Mean:	1.919	1.919	0.0229				
SD:	0.0022	0.0022	0.0000				
%RSD:	0.11%	0.11%	0.11%				

==========

Sequence No.: 4 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/20/2020 12:22:26**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CCV **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored

1	4.790	4.790	0.0570	0.3049	0.0577	12:23:17	Yes
2	4.812	4.812	0.0573	0.3039	0.0579	12:23:48	Yes
Mean:	4.801	4.801	0.0571				
SD:	0.0159	0.0159	0.0002				
%RSD:	0.33%	0.33%	0.33%				

QC value within limits for Hg 253.7 Recovery = 96.02%
All analyte(s) passed QC.

==========

Sequence No.: 5 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/20/2020 12:24:10**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CCB **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.003	0.003	0.0001	0.0040	0.0008	12:25:01	Yes
2	-0.009	-0.009	-0.0000	0.0013	0.0006	12:25:32	Yes
Mean:	-0.003	-0.003	0.0000				
SD:	0.0086	0.0086	0.0001				
%RSD:	281.44%	281.44%	219.18%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Analysis Begun

Logged In Analyst: Hg4 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-100, S/N B050-9550 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 112020.SIFX
Batch ID:
Results Data Set: 112020W2
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 14**
Sample ID: 527510001|2064143|1 **Date Collected: 11/20/2020 12:28:56**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 527510001|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.012	0.012	0.0002	0.0049	0.0009	12:29:47	Yes
2	-0.004	-0.004	0.0000	0.0021	0.0007	12:30:18	Yes
Mean:	0.004	0.004	0.0001				
SD:	0.0115	0.0115	0.0001				
%RSD:	269.08%	269.08%	102.03%				

==========

Sequence No.: 2 **Autosampler Location: 15**
Sample ID: 1204697400|2064143|1 **Date Collected: 11/20/2020 12:30:40**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 1204697400|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.010	0.010	0.0002	0.0047	0.0009	12:31:31	Yes
2	-0.005	-0.005	0.0000	0.0022	0.0007	12:32:02	Yes
Mean:	0.003	0.003	0.0001				
SD:	0.0107	0.0107	0.0001				
%RSD:	361.56%	361.56%	107.25%				

==========

Sequence No.: 3 **Autosampler Location: 16**
Sample ID: 1204697401|2064143|1 **Date Collected: 11/20/2020 12:32:24**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 1204697401|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.391	1.391	0.0166	0.0969	0.0173	12:33:14	Yes
2	1.387	1.387	0.0166	0.0953	0.0172	12:33:45	Yes
Mean:	1.389	1.389	0.0166				
SD:	0.0028	0.0028	0.0000				
%RSD:	0.20%	0.20%	0.20%				

==========

Sequence No.: 4 **Autosampler Location: 17**
Sample ID: 1204697402|2064143|5 **Date Collected: 11/20/2020 12:34:07**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 1204697402|2064143|5 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.014	0.014	0.0002	0.0047	0.0009	12:34:57	Yes
2	0.001	0.001	0.0001	0.0032	0.0008	12:35:28	Yes
Mean:	0.007	0.007	0.0002				
SD:	0.0090	0.0090	0.0001				

%RSD: 119.66% 119.66% 61.87%

==========

Sequence No.: 5 **Autosampler Location: 18**
Sample ID: 1204697403|2064143|1 **Date Collected: 11/20/2020 12:35:50**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 1204697403|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.306	1.306	0.0156	0.0914	0.0163	12:36:41	Yes
2	1.317	1.317	0.0157	0.0905	0.0164	12:37:12	Yes
Mean:	1.312	1.312	0.0157				
SD:	0.0072	0.0072	0.0001				
%RSD:	0.55%	0.55%	0.55%				

==========

Sequence No.: 6 **Autosampler Location: 19**
Sample ID: 527510002|2064143|1 **Date Collected: 11/20/2020 12:37:34**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 527510002|2064143|1 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.021	-0.021	-0.0002	0.0025	0.0005	12:38:25	Yes
2	-0.031	-0.031	-0.0003	0.0009	0.0004	12:38:56	Yes
Mean:	-0.026	-0.026	-0.0002				
SD:	0.0070	0.0070	0.0001				
%RSD:	26.82%	26.82%	36.72%				

User canceled analysis.

==========

Analysis Begun

Logged In Analyst: Hg4 **Technique: AA FIMS-MHS**
Spectrometer: FIMS-100, S/N B050-9550 **Autosampler: S10**

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\ 112020.SIFX
Batch ID:
Results Data Set: 112020W2
Results Library: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Results\Results.mdb

==========

Method Loaded
Method Name: WATER* **Method Last Saved: 11/20/2020 12:30:21**
Method Description: SW-846 7470A, EPA 245.1 ANALYST MTM - Hg4

==========

Sequence No.: 1 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/20/2020 12:39:59**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CCV **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	4.735	4.735	0.0563	0.3013	0.0570	12:40:50	Yes
2	4.729	4.729	0.0563	0.2990	0.0569	12:41:21	Yes
Mean:	4.732	4.732	0.0563				
SD:	0.0041	0.0041	0.0000				
%RSD:	0.09%	0.09%	0.09%				

QC value within limits for Hg 253.7 Recovery = 94.65%
All analyte(s) passed QC.

==========

Sequence No.: 2 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/20/2020 12:41:42**
Analyst: MTM1 **Data Type: Original**

Replicate Data: CCB **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.002	0.002	0.0001	0.0037	0.0008	12:42:33	Yes
2	0.005	0.005	0.0001	0.0041	0.0008	12:43:04	Yes
Mean:	0.004	0.004	0.0001				
SD:	0.0022	0.0022	0.0000				
%RSD:	59.67%	59.67%	20.29%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 3 **Autosampler Location: 112**
Sample ID: 525766002|2064897|100 **Date Collected: 11/20/2020 12:43:26**
Analyst: MTM1 **Data Type: Original**

Replicate Data: 525766002|2064897|100 **Analyte: Hg 253.7**

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.170	0.170	0.0021	0.0148	0.0028	12:44:18	Yes
2	0.175	0.175	0.0022	0.0151	0.0028	12:44:49	Yes
Mean:	0.173	0.173	0.0021				
SD:	0.0036	0.0036	0.0000				
%RSD:	2.08%	2.08%	2.00%				

==========

Sequence No.: 4 **Autosampler Location: 113**
Sample ID: 525766003|2064897|100 **Date Collected: 11/20/2020 12:45:12**
Analyst: MTM1 **Data Type: Original**

Miscellaneous

Prep Logbook

Sample Preparation for Total Recoverable Elements by EPA Method 200.2

Batch ID: **2063260**
Analyst: Ridge Gleaton
Method: EPA 200.2
Lab SOP: GL-MA-E-016 REV# 18
Instrument: Metals Manual Instrument

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695447	Metals Spike Mix I	UI200911-01	.25	mL
LCS	1204695447	Metals Spike Mix II	UI200911-02	.25	mL
MS	1204695449	Metals Spike Mix I	UI200911-01	.25	mL
MS	1204695449	Metals Spike Mix II	UI200911-02	.25	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Hot Block Stop Date (date)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204695446 MB	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695447 LCS	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509002	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695450 SDILT (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695448 DUP (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695449 MS (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509007	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509011	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510002	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510008	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510012	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510014	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2

Reagent/Solvent Lot ID	Description	Amount
3129814	Concentrated Nitric Acid	1 mL
3129829	HYDROCHLORIC ACID	.5 mL

Comments:
Block Temperature (90-95C): 93 C
Temperature within limits (Y/N)?: y
Thermometer ID: 11202072
Hot Block ID: 11
Digestion tube lot #: 2001329

Prep Logbook

Sample Preparation for Total Recoverable Elements by EPA Method 200.2

Batch ID: **2063262**
Analyst: Ridge Gleaton
Method: EPA 200.2
Lab SOP: GL-MA-E-016 REV# 18
Instrument: Metals Manual Instrument

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695452	ICP-MS spiking soluiton A	UI200911-A	.25	mL
LCS	1204695452	ICP-MS spiking solution B	UI200911-B	.25	mL
MS	1204695454	ICP-MS spiking soluiton A	UI200911-A	.25	mL
MS	1204695454	ICP-MS spiking solution B	UI200911-B	.25	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Hot Block Stop Date (date)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204695451 MB	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695452 LCS	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509002	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695455 SDILT (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695453 DUP (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
1204695454 MS (527509002)	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509007	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527509011	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510002	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510008	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510012	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2
527510014	18-NOV-2020 16:20:27	Water	50	11/18/20 20:20	50	1	<2

Reagent/Solvent Lot ID	Description	Amount
3129814	Concentrated Nitric Acid	1 mL
3129829	HYDROCHLORIC ACID	.5 mL

Comments:
Block Temperature (90-95C): 93 C
Temperature within limits (Y/N)?: y
Thermometer ID: 11202072
Hot Block ID: 11
Digestion tube lot #: 2001329

Prep Logbook

Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

Batch ID: **2064140**
Analyst: Alan Stanley
Method: EPA 245.1/245.2 Prep
Lab SOP: GL-MA-E-010 REV# 38
Instrument: Metals Manual Instrument

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204697399	MHGLIQLCSMSSPIKE	WHG201119-13	.2	mL
MS	1204697401	MHGLIQLCSMSSPIKE	WHG201119-13	.2	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204697398 MB	19-NOV-2020 14:24:42	Water	20	20	1	<2
1204697399 LCS	19-NOV-2020 14:24:42	Water	20	20	1	<2
527510001	19-NOV-2020 14:24:42	Water	2	20	10	>2
1204697402 SDILT (527510001)	19-NOV-2020 14:24:42	Water	2	20	10	>2
1204697400 DUP (527510001)	19-NOV-2020 14:24:42	Water	2	20	10	>2
1204697401 MS (527510001)	19-NOV-2020 14:24:42	Water	2	20	10	>2
527510002	19-NOV-2020 14:24:42	Water	2	20	10	<2
527510007	19-NOV-2020 14:24:42	Water	20	20	1	>2
527510008	19-NOV-2020 14:24:42	Water	20	20	1	<2
527510012	19-NOV-2020 14:24:42	Water	20	20	1	<2
527510013	19-NOV-2020 14:24:42	Water	20	20	1	<2
527510014	19-NOV-2020 14:24:42	Water	20	20	1	<2

Reagent/Solvent Lot ID	Description	Amount
3066893	Sulfuric Acid, Concentrated	1 mL
3129011-C	5% Potassium Persulfate	1.5 mL
3138221-1	NITRIC ACID	.5 mL
3139892-C	5% KMnO4 solution	3 mL
3145052-C	Hg reducing agent	1 mL
IHG201119-01	Mercury Intermediate 1st Source 200 ug/L	250 mL
IHG201119-02	Mercury Intermediate 2nd Source 200 ug/L	250 mL
UHG3070569-01	Mercury Source Standard #1 1,000 mg/L	50 uL
UHG3070572-02	Mercury Source Standard #2 1,000 mg/L	50 uL
WHG201119-01A	Mercury Working 1st Source CAL 0.2/CRA	20 uL
WHG201119-02	Mercury Working 1st Source CAL 0.5	50 mL
WHG201119-03	Mercury Working 1st Source CAL 2.0	200 uL
WHG201119-04	Mercury Working 1st Source CAL 5.0/CCV	500 uL
WHG201119-05	Mercury Working 1st Source CAL 10.0	1 mL
WHG201119-06	Mercury Working 2nd Source 5.0/ICV	500 uL

Comments:
Digestion Start Date: 19-NOV-2020 14:25
Digestion End Date: 19-NOV-2020 16:25
Block Temperature (90-95C): 94 C
Temperature within limits (Y/N)?: Y
Thermometer ID: 119015
Hot Block ID: 12

Serial ID: UHG3070569-01 **Open/Reference Date:** 23-APR-20 **Amount :** 100 mL
Name: MHGSTOCK1 **Received:** 23-APR-20 **Catalog Number :** G34-060080-02-01
Type: Source Material **Expires:** 23-APR-21 **Lot Number :** 1009904-95
Employee: Alan Stanley **Solvent :** 10% HNO3
Supplier: O2SI
Description: Mercury Source Standard #1 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

Serial ID: UHG3070572-02 **Open/Reference Date:** 23-APR-20 **Amount :** 100 mL
Name: MHGSTOCK2 **Received:** 23-APR-20 **Catalog Number :** 02SI-060080-02-01
Type: Source Material **Expires:** 23-APR-21 **Lot Number :** 1009904-47
Employee: Alan Stanley **Solvent :** 2% HNO3
Supplier: 02Si
Description: Mercury Source Standard #2 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

Serial ID: UI191203-40 **Open/Reference Date:** 20-DEC-19 **Catalog Number :** HP7029-500
Name: Trace ICP ICSAB Source A **Received:** 02-DEC-19 **Lot Number :** 1933131
Type: Source Material **Expires:** 20-DEC-20
Employee: Helen Camello
Supplier: High Purity Standards
Description: Trace ICP ICSAB Source A
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	10 mg/L	Cadmium	20 mg/L
Chromium	20 mg/L	Cobalt	20 mg/L
Copper	20 mg/L	Lead	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Phosphorous	100 mg/L	Potassium	200 mg/L
Selenium	100 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Uranium	20 mg/L
Vanadium	20 mg/L	Zinc	20 mg/L

Serial ID: UI191203-41 **Open/Reference Date:** 20-DEC-19 **Catalog Number :** HP7029-500
Name: Trace ICP ICSAB Source B **Received:** 03-DEC-19 **Lot Number :** 1933132
Type: Source Material **Expires:** 20-DEC-20
Employee: Helen Camello
Supplier: High Purity Standards

Description: Trace ICP ICSAB Source B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Boron	20 ug/mL
Molybdenum	20 mg/L	Silica	42.78 mg/L
Silicon	20 mg/L	Silver	10 mg/L
Sulfur	100 mg/L	Tin	20 mg/L
Titanium	20 ug/mL		

Serial ID: UI200108-40 **Open/Reference Date:** 03-JUL-20 **Amount :** 500 mL
Name: SILICON 1000mg/L **Received:** 06-JAN-20 **Catalog Number :** HP100050-4F
Type: Source Material **Expires:** 03-JUL-21 **Lot Number :** 1913711
Employee: Helen Camello **Solvent :** in H2O(NH4)2SiF6
Supplier: o2si
Description: Silicon 1000mg/L in H2O(NH4)2SiF6
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI200225-40 **Open/Reference Date:** 29-JUN-20 **Amount :** 500 mL
Name: TRACE ICP ICSA SOLN A **Received:** 24-FEB-20 **Catalog Number :** 160005-01-03
Type: Source Material **Expires:** 29-JUN-21 **Lot Number :** 1058826-2
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: o2si
Description: TRACE ICP ICSA SOLN A mg/L+/-0.5%IN5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

Serial ID: UI200304-40 **Open/Reference Date:** 26-MAR-20 **Amount :** 500 mL
Name: TRACE ICP Stock PQL Sta **Received:** 02-MAR-20 **Catalog Number :** O2SI-090061-MC-03
Type: Source Material **Expires:** 26-MAR-21 **Lot Number :** 10093451-2
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3+TrHF
Supplier: 02si
Description: TRACE ICP Stock PQL Standard
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	10 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L

Analyte	Concentration	Analyte	Concentration
Chromium	5 mg/L	Cobalt	2.5 mg/L
Copper	10 mg/L	Iron	50 mg/L
Lead	10 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silica	106.95 mg/L	Silicon	50 mg/L
Silver	2.5 mg/L	Sodium	150 mg/L
Strontium	2.5 mg/L	Sulfur	50 mg/L
Thallium	10 mg/L	Tin	5 mg/L
Titanium	2.5 mg/L	Uranium	25 mg/L
Vanadium	2.5 mg/L	Zinc	10 mg/L

Serial ID: UI200311-40 **Open/Reference Date:** 21-APR-20 **Amount :** 500 mL
Name: TRACE CALSTD#1A SOUR **Received:** 10-MAR-20 **Catalog Number :** HP2270-1-500
Type: Source Material **Expires:** 21-APR-21 **Lot Number :** 2006435-500
Employee: Helen Camello **Solvent :** HNO3
Supplier: Environmental Express
Description: Trace Calibration Std #1A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2000 mg/L	Arsenic	200 mg/L
Barium	200 mg/L	Beryllium	200 mg/L
Boron	200 mg/L	Cadmium	200 mg/L
Calcium	2000 mg/L	Chromium	200 mg/L
Cobalt	200 mg/L	Copper	200 mg/L
Iron	2000 mg/L	Lead	200 mg/L
Magnesium	2000 mg/L	Manganese	200 mg/L
Nickel	200 mg/L	Phosphorous	1000 mg/L
Potassium	2000 mg/L	Selenium	200 mg/L
Sodium	2000 mg/L	Strontium	200 mg/L
Thallium	200 mg/L	Uranium	200 mg/L
Uranium-235	1.44 mg/L	Uranium-238	198.56 mg/L
Vanadium	200 mg/L	Zinc	200 mg/L

Serial ID: UI200311-41 **Open/Reference Date:** 21-APR-20 **Amount :** 500 mL
Name: TRACE CALSTD#1B SOUR **Received:** 10-MAR-20 **Catalog Number :** HP2270-2-500
Type: Source Material **Expires:** 21-APR-21 **Lot Number :** 2006439-500
Employee: Helen Camello **Solvent :** HNO3
Supplier: Environmental Express
Description: Trace Calibration Standard #1B
Comments: None

Analyte	Concentration	Analyte	Concentration

Analyte	Concentration	Analyte	Concentration
Antimony	200 mg/L	Molybdenum	200 mg/L
Silver	200 mg/L	Sulfur	400 mg/L
Tin	200 mg/L	Titanium	200 mg/L

Serial ID: UI200312-41 **Open/Reference Date:** 27-AUG-20 **Amount :** 500 mL
Name: SILICON 1000mg/L **Received:** 11-MAR-20 **Catalog Number :** 060014-02-03
Type: Source Material **Expires:** 27-AUG-21 **Lot Number :** 1047570-6
Employee: Helen Camello **Solvent :** in H2O(NH4)2SiF6
Supplier: o2si
Description: Silicon 1000mg/L in H2O(NH4)2SiF6
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI200416-09 **Open/Reference Date:** 16-APR-20 **Amount :** 250 mL
Name: ICP-MS CRDL Master #1 **Received:** 16-APR-20 **Catalog Number :** 090014-MC-02
Type: Source Material **Expires:** 16-APR-21 **Lot Number :** 10091735-3
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 02SI
Description: ICPMS CRDL Master Soln #1
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	50 mg/L	Arsenic	5 mg/L
Barium	4 mg/L	Beryllium	.5 mg/L
Boron	15 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	10 mg/L
Cobalt	1 mg/L	Copper	2 mg/L
Iron	100 mg/L	Lead	2 mg/L
Lithium	10 mg/L	Magnesium	30 mg/L
Manganese	5 mg/L	Nickel	2 mg/L
Phosphorous	50 mg/L	Potassium	300 mg/L
Selenium	5 mg/L	Sodium	250 mg/L
Strontium	10 mg/L	Thallium	2 mg/L
Thorium	2 mg/L	Uranium	.2 mg/L
Vanadium	20 mg/L	Zinc	20 mg/L

Serial ID: UI200416-10 **Open/Reference Date:** 16-APR-20 **Amount :** 250 mL
Name: ICP-MS CRDL Master #2 **Received:** 16-APR-20 **Catalog Number :** 160044-11-02
Type: Source Material **Expires:** 16-APR-21 **Lot Number :** 10091735-4
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 02SI
Description: ICPMS CRDL Soln #2

Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	3 mg/L	Molybdenum	1 mg/L
Silver	1 mg/L	Tin	5 mg/L
Titanium	10 mg/L	Tungsten	5 mg/L
Zirconium	2 mg/L		

Serial ID: UI200504-40 **Open/Reference Date:** 09-SEP-20 **Amount :** 250 mL
Name: TRACE ICP Na-1000SOUR **Received:** 30-APR-20 **Catalog Number :** HP100052-1-250
Type: Source Material **Expires:** 09-SEP-21 **Lot Number :** 1910018-250
Employee: Helen Camello **Solvent :** 1%HNO3
Supplier: ENVIRONMENTAL EXPRESS
Description: Sodium 1000 +/- 3 ug/mL in 1% HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

Serial ID: UI200605-40 **Open/Reference Date:** 17-JUL-20 **Amount :** 500 mL
Name: TRACE ICP Na-1000SOUR **Received:** 04-JUN-20 **Catalog Number :** 060011-02-03
Type: Source Material **Expires:** 17-JUL-21 **Lot Number :** 1038021-50
Employee: Helen Camello **Solvent :** 1%HNO3
Supplier: 02SI
Description: Sodium 1000 +/- 3 ug/mL in 1% HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

Serial ID: UI200728-40 **Open/Reference Date:** 31-JUL-20 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 27-JUL-20 **Catalog Number :** G34-160358-01-0
Type: Source Material **Expires:** 31-JUL-21 **Lot Number :** 10091173-3
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: 02si
Description: SECOND SOURCE STD #1A 5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L

Analyte	Concentration	Analyte	Concentration
Sodium	500 mg/L	Strontium	100 mg/L

Serial ID: UI200728-41 **Open/Reference Date:** 31-JUL-20 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 27-JUL-20 **Catalog Number :** G34-160358-01-0
Type: Source Material **Expires:** 31-JUL-21 **Lot Number :** 10091173-4
Employee: Helen Camello **Solvent :** 5%HNO3,TR.HF
Supplier: 02si
Description: SECOND SOURCE STD #1B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L
Vanadium	100 mg/L	Zinc	100 mg/L

Serial ID: UI200812-40 **Open/Reference Date:** 11-SEP-20 **Amount :** 250 mL
Name: ICP HIGH RANGE STD-A **Received:** 10-AUG-20 **Catalog Number :** GEL-27A
Type: Source Material **Expires:** 11-SEP-21 **Lot Number :** P2-MEB678496
Employee: Helen Camello **Solvent :** 5% HNO3
Supplier: Inorganic Ventures
Description: ICP HIGH RANGE STD SOLUTION A
Comments: None

Analyte	Concentration	Analyte	Concentration
Molybdenum	100 mg/L	Silica	1070 mg/L
Silicon	500 mg/L	Titanium	100 mg/L

Serial ID: UI200812-41 **Open/Reference Date:** 16-NOV-20 **Amount :** 250 mL
Name: ICP HIGH RANGE STD-B **Received:** 10-AUG-20 **Catalog Number :** GEL-27B
Type: Source Material **Expires:** 16-NOV-21 **Lot Number :** P2-MEB678497
Employee: Helen Camello **Solvent :** 5% HNO3
Supplier: Inorganic Ventures
Description: ICP HIGH RANGE STD SOLUTION B
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	150 mg/L	Boron	500 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	250 mg/L	Cobalt	100 mg/L

Analyte	Concentration	Analyte	Concentration
Copper	200 mg/L	Iron	5000 mg/L
Lead	250 mg/L	Magnesium	5000 mg/L
Manganese	100 mg/L	Nickel	100 mg/L
Potassium	2000 mg/L	Sodium	5000 mg/L
Strontium	100 mg/L	Sulfur	500 mg/L
Uranium	150 mg/L	Vanadium	100 mg/L
Zinc	150 mg/L		

Serial ID: UI200908-12 **Open/Reference Date:** 08-SEP-20 **Amount :** 250 mL
Name: ICP-MS ICSAB Master B **Received:** 08-SEP-20 **Catalog Number :** 160033-02-02
Type: Source Material **Expires:** 08-SEP-21 **Lot Number :** 10069799-9
Employee: Paul Boyd **Solvent :** +/- 2.0% in 2% HNO3
Supplier: 02SI
Description: ICPMS ICSAB Master B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

Serial ID: UI200908-13 **Open/Reference Date:** 08-SEP-20 **Amount :** 250 mL
Name: ICP-MS ICSAB Master C **Received:** 08-SEP-20 **Catalog Number :** 160033-03-02
Type: Source Material **Expires:** 08-SEP-21 **Lot Number :** 10069799-10
Employee: Paul Boyd **Solvent :** +/- 2.0% in 2% HNO3 + tr HF
Supplier: 02SI
Description: ICPMS ICSAB Master C
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		

Serial ID: UI200911-01 **Open/Reference Date:** 11-SEP-20 **Catalog Number :** GEL-25
Name: METALSPIKE-1 **Received:** 11-SEP-20 **Lot Number :** R2-MEB696473
Type: Source Material **Expires:** 11-SEP-21
Employee: Edmund Frampton
Supplier: Inorganic Ventures
Description: Metals Spike Mix I
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Lithium	10 ug/mL	Magnesium	1000 ug/mL
Phosphorous	100 ug/mL	Potassium	1000 ug/mL
Silver	20 ug/mL	Sodium	1000 ug/mL
Strontium	100 ug/mL		

Serial ID: UI200911-02 **Open/Reference Date:** 11-SEP-20 **Catalog Number :** GEL-26
Name: METALSPIKE-2 **Received:** 11-SEP-20 **Lot Number :** R2-MEB696472
Type: Source Material **Expires:** 11-SEP-21
Employee: Edmund Frampton
Supplier: Inorganic Ventures
Description: Metals Spike Mix II
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2139 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Uranium-235	.72 ug/mL	Uranium-238	99.28 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

Serial ID: UI200911-A **Open/Reference Date:** 11-SEP-20 **Catalog Number :** GEL-12A
Name: ICP-MS SPIKE A **Received:** 11-SEP-20 **Lot Number :** R2-MEB688370
Type: Source Material **Expires:** 11-SEP-21
Employee: Edmund Frampton
Supplier: Inorganic Ventures
Description: ICP-MS spiking soluiton A
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Hafnium	10 mg/L
Molybdenum	10 mg/L	Tantalum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Tungsten	10 mg/L	Zirconium	10 mg/L

Serial ID: UI200911-B **Open/Reference Date:** 11-SEP-20 **Catalog Number :** GEL-12B
Name: ICP-MS SPIKE B **Received:** 11-SEP-20 **Lot Number :** R2-MEB688371
Type: Source Material **Expires:** 11-SEP-21
Employee: Edmund Frampton
Supplier: Inorganic Ventures
Description: ICP-MS spiking solution B
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	400 mg/L	Arsenic	10 mg/L
Barium	10 mg/L	Beryllium	10 mg/L
Bismuth	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Calcium	400 mg/L
Cesium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Iron	400 mg/L	Lead	10 mg/L
Lithium	10 mg/L	Magnesium	400 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Phosphorous	400 mg/L	Potassium	400 mg/L
Rhenium	10 mg/L	Rhodium	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Sodium	400 mg/L	Strontium	10 mg/L
Thallium	10 mg/L	Thorium	10 mg/L
Uranium	10 mg/L	Uranium-235	.072 mg/L
Uranium-238	9.928 mg/L	Vanadium	10 mg/L
Zinc	10 mg/L		

Serial ID: UI201020-40 **Open/Reference Date:** 26-OCT-20 **Amount :** 500 mL
Name: TRACE ICP ICSA SOLN. A **Received:** 20-OCT-20 **Catalog Number :** 160005-08-03
Type: Source Material **Expires:** 26-OCT-21 **Lot Number :** 10069142-6
Employee: Helen Camello **Solvent :** 5% HNO3 mg/l
Supplier: O2SI
Description: Trace ICP Interference Check Standard Solution A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	20000 mg/L	Calcium	20000 mg/L
Iron	8000 mg/L	Magnesium	20000 mg/L

Serial ID: UI201024-03 **Open/Reference Date:** 24-OCT-20 **Catalog Number :** 060074-05-01
Name: ICPMS Tungsten - 10mg/L S **Received:** 24-OCT-20 **Lot Number :** 10070573-12
Type: Source Material **Expires:** 24-OCT-21 **Solvent :** 2% HNO3 + Tr HF
Employee: Paul Boyd
Supplier: O2SI
Description: ICPMS Tungsten standard SPIKE - 10mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

Serial ID: UI201031-60 **Open/Reference Date:** 31-OCT-20 **Amount :** 100 mL
Name: ICPMS High Range Standar **Received:** 31-OCT-20 **Catalog Number :** 160212-02-01-A
Type: Source Material **Expires:** 31-OCT-21 **Lot Number :** 10066129-21
Employee: Paul Boyd **Solvent :** 2%HNO3
Supplier: O2SI
Description: Linear Range Standard A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

Serial ID: UI201031-61 **Open/Reference Date:** 31-OCT-20 **Amount :** 100 mL
Name: ICPMS High Range Standar **Received:** 31-OCT-20 **Catalog Number :** 160212-02-01-B
Type: Source Material **Expires:** 31-OCT-21 **Lot Number :** 10066129-22
Employee: Paul Boyd **Solvent :** 2% in 2%HNO3 + Tr HF
Supplier: O2SI
Description: Linear Range Standard B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

Serial ID: UI201102-11 **Open/Reference Date:** 02-NOV-20 **Amount :** 1000 mL
Name: ICP-MS ICSA Master A Nex **Received:** 02-NOV-20 **Catalog Number :** 60013-01-01LNexion
Type: Source Material **Expires:** 02-NOV-21 **Lot Number :** 10065549-18
Employee: Paul Boyd **Solvent :** 5% HNO3 + Tr HF
Supplier: 02SI
Description: ICP-MS ICSA Master A NEXION
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

Serial ID: UI201109-07 **Open/Reference Date:** 09-NOV-20 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master B **Received:** 09-NOV-20 **Catalog Number :** 160054-02-03
Type: Source Material **Expires:** 09-NOV-21 **Lot Number :** 10066767-16
Employee: Paul Boyd **Solvent :** 2% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV Soln B - 20ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

Serial ID: UI201109-08 **Open/Reference Date:** 09-NOV-20 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master C **Received:** 09-NOV-20 **Catalog Number :** ZGEL-107-500
Type: Source Material **Expires:** 30-SEP-21 **Lot Number :** 2-180MF
Employee: Paul Boyd **Solvent :** 2% HNO3/Tr. Tart Acid/ Tr. HF 100
Supplier: Spex
Description: ICPMS ICV/CCV Soln C - 20ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L

Analyte	Concentration	Analyte	Concentration
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L
Zirconium	20 mg/L		

Serial ID: UI201109-09 **Open/Reference Date:** 09-NOV-20 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master A **Received:** 09-NOV-20 **Catalog Number :** 160055-01-03
Type: Source Material **Expires:** 09-NOV-21 **Lot Number :** 10066767-15
Employee: Paul Boyd **Solvent :** 2% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV SOLN A - 2000ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2020 mg/L	Calcium	2000 mg/L
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

Serial ID: UMS201105-01 **Open/Reference Date:** 05-NOV-20 **Amount :** 250 mL
Name: ICPMSCalSPIKEB **Received:** 05-NOV-20 **Catalog Number :** ZGEL-100-250
Type: Source Material **Expires:** 05-NOV-21 **Lot Number :** 14-002AB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UMS201105-02 **Open/Reference Date:** 05-NOV-20 **Catalog Number :** ZGEL-102-250
Name: ICPMSCalSPIKEA **Received:** 05-NOV-20 **Lot Number :** 12-241AB
Type: Source Material **Expires:** 05-NOV-21
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution A

Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

Serial ID: UMS201105-03 **Open/Reference Date:** 05-NOV-20 **Amount :** 250 ml
Name: ICPMSCalSPIKEC **Received:** 05-NOV-20 **Catalog Number :** ZGEL-101-250
Type: Source Material **Expires:** 05-NOV-21 **Lot Number :** 14-001AB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution C
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

Serial ID: IHG201119-01 **Open/Reference Date:** 19-NOV-20 **Instrument Id :** Mercury
Name: MHGINTER1 **Received:** 19-NOV-20 **Pipet Id :** Minou1
Type: Intermediate **Expires:** 21-NOV-20 **Solvent :** 1mL HNO3 + TypeI H2O
Employee: Alan Stanley
Supplier: GEL
Description: Mercury Intermediate 1st Source 200 ug/L
Comments: Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG3070569-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: IHG201119-02 **Open/Reference Date:** 19-NOV-20 **Pipet Id :** Minou1
Name: MHGINTER2 **Received:** 19-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Intermediate **Expires:** 21-NOV-20
Employee: Alan Stanley
Supplier: GEL
Description: Mercury Intermediate 2nd Source 200 ug/L
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG3070572-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

Standard Logbook

Serial ID: WHG201119-01A **Open/Reference Date:** 19-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORKCAL0.2CRA **Received:** 19-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 21-NOV-20
Employee: Alan Stanley
Supplier: GEL
Description: Mercury Working 1st Source CAL 0.2/CRA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201119-01	Mercury	200 ug/L	20 uL	20 mL	.2 ug/L

Serial ID: WHG201119-02 **Open/Reference Date:** 19-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORKCAL0.5 **Received:** 19-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 21-NOV-20
Employee: Alan Stanley
Supplier: GEL
Description: Mercury Working 1st Source CAL 0.5
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201119-01	Mercury	200 ug/L	50 uL	20 mL	.5 ug/L

Serial ID: WHG201119-03 **Open/Reference Date:** 19-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORKCAL2.0 **Received:** 19-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 21-NOV-20
Employee: Alan Stanley
Supplier: GEL
Description: Mercury Working 1st Source CAL 2.0
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201119-01	Mercury	200 ug/L	200 uL	20 mL	2 ug/L

Serial ID: WHG201119-04 **Open/Reference Date:** 19-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORKCAL5.0CCV **Received:** 19-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 21-NOV-20
Employee: Alan Stanley
Supplier: GEL
Description: Mercury Working 1st Source CAL 5.0/CCV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201119-01	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

Serial ID: WHG201119-05 **Open/Reference Date:** 19-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORKCAL10.0 **Received:** 19-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 21-NOV-20
Employee: Alan Stanley
Supplier: GEL
Description: Mercury Working 1st Source CAL 10.0
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201119-01	Mercury	200 ug/L	1000 uL	20 mL	10 ug/L

Serial ID: WHG201119-06 **Open/Reference Date:** 19-NOV-20 **Pipet Id :** Hg1289245
Name: MHGWORK5.0ICV **Received:** 19-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 21-NOV-20
Employee: Alan Stanley
Supplier: GEL
Description: Mercury Working 2nd Source 5.0/ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG201119-02	Mercury	200 ug/L	500 uL	20 mL	5 ug/L

Serial ID: WHG201119-13 **Open/Reference Date:** 19-NOV-20 **Pipet Id :** Hg1289245
Name: MHGLIQLCSMSSPIKE **Received:** 19-NOV-20 **Solvent :** 2% HNO3-1734294
Type: Working **Expires:** 21-NOV-20
Employee: Alan Stanley
Supplier: GEL
Description: Mercury working intermediate standard for LCS/MS
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG3070569-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WI201111-48 **Open/Reference Date:** 11-NOV-20 **Amount :** 25 mL
Name: Trace ICP ICSA **Received:** 20-OCT-20 **Catalog Number :** 160005-08-03
Type: Working **Expires:** 11-DEC-20 **Lot Number :** 1109048
Employee: Helen Camello **Solvent :** 3% HCl + 1% HNO3
Supplier: o2si
Description: Trace ICP Interferent Check Standard A
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201020-40	Aluminum	20000 mg/L	25 mL	1000 mL	500000 UG/L
UI201020-40	Calcium	20000 mg/L	25 mL	1000 mL	500000 UG/L
UI201020-40	Iron	8000 mg/L	25 mL	1000 mL	200000 UG/L
UI201020-40	Magnesium	20000 mg/L	25 mL	1000 mL	500000 UG/L

Standard Logbook

Serial ID: WI201111-49 **Open/Reference Date:** 11-NOV-20 **Balance Id :** 216
Name: Trace ICP ICSAB **Received:** 20-OCT-20 **Pipet Id :** K13302G
Type: Working **Expires:** 11-DEC-20 **Solvent :** 3%HCL AND 1%HNO3%
Employee: Helen Camello
Supplier: Environmental Express
Description: Trace ICP Interferent Check Standard AB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI191203-40	Arsenic	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Barium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Beryllium	10 mg/L	12.5 mL	500 mL	250 ug/L
UI191203-40	Cadmium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Chromium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Cobalt	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Copper	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Lead	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Manganese	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Nickel	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Phosphorous	100 mg/L	12.5 mL	500 mL	2500 ug/L
UI191203-40	Potassium	200 mg/L	12.5 mL	500 mL	5000 ug/L
UI191203-40	Selenium	100 mg/L	12.5 mL	500 mL	2500 ug/L
UI191203-40	Strontium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Thallium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Uranium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Vanadium	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-40	Zinc	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-41	Antimony	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-41	Boron	20 ug/mL	12.5 mL	500 mL	500 ug/L
UI191203-41	Molybdenum	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-41	Silica	42.78 mg/L	12.5 mL	500 mL	10700 ug/L
UI191203-41	Silicon	20 mg/L	12.5 mL	500 mL	5000 ug/L
UI191203-41	Silver	10 mg/L	12.5 mL	500 mL	250 ug/L
UI191203-41	Sulfur	100 mg/L	12.5 mL	500 mL	2500 ug/L
UI191203-41	Tin	20 mg/L	12.5 mL	500 mL	500 ug/L
UI191203-41	Titanium	20 ug/mL	12.5 mL	500 mL	500 ug/L
UI200504-40	Sodium	1000 ug/mL	2.5 mL	500 mL	5000 ug/L
UI201020-40	Aluminum	20000 mg/L	12.5 mL	500 mL	500000 ug/L
UI201020-40	Calcium	20000 mg/L	12.5 mL	500 mL	500000 ug/L
UI201020-40	Iron	8000 mg/L	12.5 mL	500 mL	200000 ug/L
UI201020-40	Magnesium	20000 mg/L	12.5 mL	500 mL	500000 ug/L

Standard Logbook

Serial ID: WI201116-40 **Open/Reference Date:** 16-NOV-20 **Balance Id :** 216
Name: ICP HIGH RANGE STANDA **Received:** 12-AUG-20 **Lot Number :** 10065978-1
Type: Working **Expires:** 16-DEC-20 **Pipet Id :** K13302G
Employee: Helen Camello **Solvent :** 3%HCL and1%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STANDARD A
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200812-40	Molybdenum	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-40	Silica	1070 mg/L	50 mL	500 mL	107000 ug/L
UI200812-40	Silicon	500 mg/L	50 mL	500 mL	50000 ug/L
UI200812-40	Titanium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Arsenic	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Barium	150 mg/L	50 mL	500 mL	15000 ug/L
UI200812-41	Boron	500 mg/L	50 mL	500 mL	5000 ug/L
UI200812-41	Cadmium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Chromium	250 mg/L	50 mL	500 mL	25000 ug/L
UI200812-41	Cobalt	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Copper	200 mg/L	50 mL	500 mL	20000 ug/L
UI200812-41	Lead	250 mg/L	50 mL	500 mL	25000 ug/L
UI200812-41	Manganese	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Nickel	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Strontium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Vanadium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Zinc	150 mg/L	50 mL	500 mL	15000 ug/L

Serial ID: WI201116-41 **Open/Reference Date:** 16-NOV-20 **Balance Id :** 216
Name: ICP HIGH RANGE STD B **Received:** 12-AUG-20 **Lot Number :** N2-MEB674242/N2-ME674241
Type: Working **Expires:** 16-DEC-20 **Pipet Id :** K13302G
Employee: Helen Camello **Solvent :** 3%HCLand 1%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION A and SOLUTION B
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200812-40	Molybdenum	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-40	Silica	1070 mg/L	50 mL	500 mL	107000 ug/L
UI200812-40	Silicon	500 mg/L	50 mL	500 mL	50000 ug/L
UI200812-40	Titanium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Aluminum	5000 mg/L	50 mL	500 mL	500000 ug/L
UI200812-41	Arsenic	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Barium	150 mg/L	50 mL	500 mL	15000 ug/L
UI200812-41	Boron	500 mg/L	50 mL	500 mL	5000 ug/L
UI200812-41	Cadmium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Calcium	5000 mg/L	50 mL	500 mL	500000 ug/L
UI200812-41	Chromium	250 mg/L	50 mL	500 mL	25000 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200812-41	Cobalt	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Copper	200 mg/L	50 mL	500 mL	20000 ug/L
UI200812-41	Iron	5000 mg/L	50 mL	500 mL	500000 ug/L
UI200812-41	Lead	250 mg/L	50 mL	500 mL	25000 ug/L
UI200812-41	Magnesium	5000 mg/L	50 mL	500 mL	500000 ug/L
UI200812-41	Manganese	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Nickel	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Potassium	2000 mg/L	50 mL	500 mL	300000 ug/L
UI200812-41	Sodium	5000 mg/L	50 mL	500 mL	500000 ug/L
UI200812-41	Strontium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Sulfur	500 mg/L	50 mL	500 mL	50000 ug/L
UI200812-41	Uranium	150 mg/L	50 mL	500 mL	15000 ug/L
UI200812-41	Vanadium	100 mg/L	50 mL	500 mL	10000 ug/L
UI200812-41	Zinc	150 mg/L	50 mL	500 mL	15000 ug/L

Serial ID: WI201119-42 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216
Name: TRACE ICP 0.1 PPM STD. **Received:** 11-MAR-20 **Pipet Id :** K13302G
Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL and 1%HNO3-3146480
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP 0.1 PPM CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI201119-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI201119-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI201119-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI201119-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI201119-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI201119-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI201119-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

Serial ID: WI201119-43 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216

Name: TRACE ICP 0.5/CCV STD. **Received:** 11-MAR-20 **Pipet Id :** K13302G

Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL and 1%HNO3-3146480

Employee: Helen Camello

Supplier: GEL

Description: TRACE ICP O.5/CCV CALIBRATION STD.

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200108-40	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI200108-40	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI200311-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Phosphorous	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI200311-40	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Selenium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI200311-40	Strontium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Thallium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Uranium	200 mg/L	2.5 mL	1000 mL	500 UG/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200311-40	Vanadium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-40	Zinc	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-41	Antimony	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-41	Molybdenum	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-41	Silver	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-41	Sulfur	400 mg/L	2.5 mL	1000 mL	1000 UG/L
UI200311-41	Tin	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200311-41	Titanium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI200605-40	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L

Serial ID: WI201119-44 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216

Name: TRACE ICP SCAL 1.0 **Received:** 11-MAR-20 **Pipet Id :** 3581809

Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL and 1 %HNO3-3146480

Employee: Helen Camello

Supplier: o2si

Description: Trace ICP Calibration Standard 1.0ppm

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200311-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200311-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Sodium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI200311-40	Strontium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Thallium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Uranium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Vanadium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-40	Zinc	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-41	Antimony	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-41	Molybdenum	200 mg/L	2.5 mL	500 mL	1000 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200311-41	Silver	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-41	Sulfur	400 mg/L	2.5 mL	500 mL	2000 ug/L
UI200311-41	Tin	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200311-41	Titanium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI200312-41	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI200312-41	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

Serial ID: WI201119-45 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216
Name: TRACE ICP S-10 STD **Received:** 25-FEB-20 **Pipet Id :** K13002G
Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL and 1%HNO3-3146480
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP S-10 CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200225-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI200225-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI200225-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI200225-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI200605-40	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

Serial ID: WI201119-46 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216
Name: ICP TRACE ICV **Received:** 28-JUL-20 **Pipet Id :** K13302G
Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL and 1%HNO3-3146480
Employee: Helen Camello
Supplier: GEL
Description: Initial Calibration Verification ICP Trace Metals
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200108-40	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI200108-40	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200728-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200728-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200728-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200728-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200728-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI200728-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI200728-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI200728-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI200728-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI200728-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L
UI200728-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI200728-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI200728-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L

Serial ID: WI201119-47 **Open/Reference Date:** 19-NOV-20 **Balance Id :** 216

Name: PQL Working Standard **Received:** 04-MAR-20 **Pipet Id :** K13302G

Type: Working **Expires:** 20-NOV-20 **Solvent :** 3%HCL&1%HNO3-3146480

Employee: Helen Camello

Supplier: 02si

Description: PQL Working Standard

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200304-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI200304-40	Antimony	10 mg/L	2 mL	1000 mL	20 ug/L
UI200304-40	Arsenic	15 mg/L	2 mL	1000 mL	30 ug/L
UI200304-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI200304-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Calcium	100 mg/L	2 mL	1000 mL	200 ug/L
UI200304-40	Chromium	5 mg/L	2 mL	1000 mL	10 ug/L
UI200304-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Copper	10 mg/L	2 mL	1000 mL	20 ug/L
UI200304-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI200304-40	Lead	10 mg/L	2 mL	1000 mL	20 ug/L
UI200304-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI200304-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI200304-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI200304-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200304-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI200304-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI200304-40	Selenium	15 mg/L	2 mL	1000 mL	30 ug/L
UI200304-40	Silica	106.95 mg/L	2 mL	1000 mL	213 ug/L
UI200304-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI200304-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Sodium	150 mg/L	2 mL	1000 mL	300 ug/L
UI200304-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI200304-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
UI200304-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI200304-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI200304-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI200304-40	Zinc	10 mg/L	2 mL	1000 mL	20 ug/L

Serial ID: WMS201120-04 **Open/Reference Date:** 20-NOV-20 **Amount :** 50 mL

Name: ICPMS Cal Standard 100 **Received:** 20-NOV-20 **Balance Id :** 4025216

Type: Working **Expires:** 21-NOV-20 **Pipet Id :** 3541598

Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl -3143783

Supplier: GEL

Description: ICPMS Calibration Standard (100 ppb)

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201024-03	Tungsten	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Arsenic	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Barium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Beryllium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Boron	20 mg/L	5 mL	500 mL	200 ug/l
UMS201105-01	Cadmium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Chromium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Cobalt	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Copper	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Lead	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Lithium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Manganese	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Nickel	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Selenium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Silver	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Strontium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Thallium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Thorium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Uranium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-01	Vanadium	10 mg/L	5 mL	500 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS201105-01	Zinc	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-02	Aluminum	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Calcium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Iron	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Magnesium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Phosphorous	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Potassium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-02	Sodium	1000 mg/L	5 mL	500 mL	10000 ug/l
UMS201105-03	Antimony	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Molybdenum	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Tin	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Titanium	10 mg/L	5 mL	500 mL	100 ug/l
UMS201105-03	Zirconium	10 mg/L	5 mL	500 mL	100 ug/l

Serial ID: WMS201120-04A **Open/Reference Date:** 20-NOV-20 **Balance Id :** 4025216

Name: ICPMS Cal Standard 10 **Received:** 20-NOV-20 **Pipet Id :** 3541598

Type: Working **Expires:** 21-NOV-20 **Solvent :** 2%HNO3/1%HCl -3143783

Employee: Paul Boyd

Supplier: GEL

Description: ICPMS Calibration Standard (10 ppb)

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS201120-04	Aluminum	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Antimony	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Arsenic	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Barium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Beryllium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Boron	200 ug/l	50 mL	500 mL	20 ug/l
WMS201120-04	Cadmium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Calcium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Chromium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Cobalt	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Copper	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Iron	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Lead	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Lithium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Magnesium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Manganese	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Molybdenum	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Nickel	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Phosphorous	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Potassium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Selenium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Silver	100 ug/l	50 mL	500 mL	10 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS201120-04	Sodium	10000 ug/l	50 mL	500 mL	1000 ug/l
WMS201120-04	Strontium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Thallium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Thorium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Tin	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Titanium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Tungsten	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Uranium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Vanadium	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Zinc	100 ug/l	50 mL	500 mL	10 ug/l
WMS201120-04	Zirconium	100 ug/l	50 mL	500 mL	10 ug/l

Serial ID: WMS201120-05 **Open/Reference Date:** 20-NOV-20 **Balance Id :** BAL216

Name: ICPMS ICV **Received:** 20-NOV-20 **Pipet Id :** 3541598

Type: Working **Expires:** 21-NOV-20 **Solvent :** 2%HNO3/1%HCl -3143783

Employee: Paul Boyd

Supplier: GEL

Description: ICPMS ICV

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201109-07	Arsenic	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Barium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Beryllium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Boron	40 mg/L	2.5 mL	1000 mL	100 ug/L
UI201109-07	Cadmium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Chromium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Cobalt	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Copper	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Lead	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Lithium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Manganese	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Nickel	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Selenium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Strontium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Thallium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Thorium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Uranium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Vanadium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-07	Zinc	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Antimony	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Molybdenum	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Silver	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Tin	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Titanium	20 mg/L	2.5 mL	1000 mL	50 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201109-08	Tungsten	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-08	Zirconium	20 mg/L	2.5 mL	1000 mL	50 ug/L
UI201109-09	Aluminum	2020 mg/L	2.5 mL	1000 mL	5050 ug/L
UI201109-09	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Iron	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Phosphorous	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L
UI201109-09	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 ug/L

Serial ID: WMS201120-06 **Open/Reference Date:** 20-NOV-20 **Balance Id :** BAL216
Name: ICPMS CRDL **Received:** 20-NOV-20 **Pipet Id :** 3820544
Type: Working **Expires:** 21-NOV-20 **Solvent :** 2%HNO3/1%HCl - 3143783
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS CRDL
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200416-09	Aluminum	50 mg/L	.5 mL	500 mL	50 ug/L
UI200416-09	Arsenic	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-09	Barium	4 mg/L	.5 mL	500 mL	4 ug/L
UI200416-09	Beryllium	.5 mg/L	.5 mL	500 mL	.5 ug/L
UI200416-09	Boron	15 mg/L	.5 mL	500 mL	15 ug/L
UI200416-09	Cadmium	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-09	Calcium	200 mg/L	.5 mL	500 mL	200 ug/L
UI200416-09	Chromium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-09	Cobalt	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-09	Copper	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Iron	100 mg/L	.5 mL	500 mL	100 ug/L
UI200416-09	Lead	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Lithium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-09	Magnesium	30 mg/L	.5 mL	500 mL	30 ug/L
UI200416-09	Manganese	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-09	Nickel	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Phosphorous	50 mg/L	.5 mL	500 mL	50 ug/L
UI200416-09	Potassium	300 mg/L	.5 mL	500 mL	300 ug/L
UI200416-09	Selenium	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-09	Sodium	250 mg/L	.5 mL	500 mL	250 ug/L
UI200416-09	Strontium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-09	Thallium	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Thorium	2 mg/L	.5 mL	500 mL	2 ug/L
UI200416-09	Uranium	.2 mg/L	.5 mL	500 mL	.2 ug/L
UI200416-09	Vanadium	20 mg/L	.5 mL	500 mL	20 ug/L
UI200416-09	Zinc	20 mg/L	.5 mL	500 mL	20 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200416-10	Antimony	3 mg/L	.5 mL	500 mL	3 ug/L
UI200416-10	Molybdenum	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-10	Silver	1 mg/L	.5 mL	500 mL	1 ug/L
UI200416-10	Tin	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-10	Titanium	10 mg/L	.5 mL	500 mL	10 ug/L
UI200416-10	Tungsten	5 mg/L	.5 mL	500 mL	5 ug/L
UI200416-10	Zirconium	2 mg/L	.5 mL	500 mL	10 ug/L

Serial ID: WMS201120-20 **Open/Reference Date:** 20-NOV-20 **Balance Id :** BAL216
Name: ICPMS ICSA **Received:** 20-NOV-20 **Lot Number :** 1064482
Type: Working **Expires:** 21-NOV-20 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl -3143783
Supplier: GEL
Description: ICPMS ICSA NexION
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201102-11	Aluminum	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Calcium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Carbon	2000 mg/L	25 mL	250 mL	200000 ug/L
UI201102-11	Chloride	10000 mg/L	25 mL	250 mL	1000000 ug/L
UI201102-11	Iron	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Magnesium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Molybdenum	20 mg/L	25 mL	250 mL	2000 ug/L
UI201102-11	Phosphorous	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Potassium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sodium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sulfur	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Titanium	20 mg/L	25 mL	250 mL	2000 ug/L

Serial ID: WMS201120-21 **Open/Reference Date:** 20-NOV-20 **Balance Id :** BAL216
Name: ICPMS ICSAB **Received:** 20-NOV-20 **Pipet Id :** 1758088
Type: Working **Expires:** 21-NOV-20 **Solvent :** 2%HNO3/1%HCl -3143783
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB NexION
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200908-12	Arsenic	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Barium	2 mg/L	2.5 mL	250 mL	22.349 ug/L
UI200908-12	Beryllium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Boron	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Cadmium	2 mg/L	2.5 mL	250 mL	20.72 ug/L
UI200908-12	Chromium	2 mg/L	2.5 mL	250 mL	20 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI200908-12	Cobalt	2 mg/L	2.5 mL	250 mL	20.651 ug/L
UI200908-12	Copper	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Lead	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Lithium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Manganese	2 mg/L	2.5 mL	250 mL	25.723 ug/L
UI200908-12	Nickel	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Selenium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Strontium	2 mg/L	2.5 mL	250 mL	24.96 ug/L
UI200908-12	Thallium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Thorium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Uranium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Vanadium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-12	Zinc	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Antimony	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Silver	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Tin	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Tungsten	2 mg/L	2.5 mL	250 mL	20 ug/L
UI200908-13	Zirconium	2 mg/L	2.5 mL	250 mL	20 ug/L
UI201102-11	Aluminum	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Calcium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Carbon	2000 mg/L	25 mL	250 mL	200000 ug/L
UI201102-11	Chloride	10000 mg/L	25 mL	250 mL	1000000 ug/L
UI201102-11	Iron	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Magnesium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Molybdenum	20 mg/L	25 mL	250 mL	2000 ug/L
UI201102-11	Phosphorous	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Potassium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sodium	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Sulfur	1000 mg/L	25 mL	250 mL	100000 ug/L
UI201102-11	Titanium	20 mg/L	25 mL	250 mL	2000 ug/L

Serial ID: WMS201120-70 **Open/Reference Date:** 20-NOV-20 **Balance Id :** BAL216
Name: ICPMS LINEAR RANGE ST **Received:** 20-NOV-20 **Pipet Id :** 2878988
Type: Working **Expires:** 21-NOV-20 **Solvent :** 2%HNO3/1%HCl -3143783
Employee: Paul Boyd
Supplier: 02SI
Description: ICPMS LINEAR RANGE STANDARD
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201031-60	Aluminum	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Arsenic	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Barium	250 mg/L	2.5 mL	250 mL	2500 ug/L
UI201031-60	Beryllium	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Cadmium	100 mg/L	2.5 mL	250 mL	1000 ug/L

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI201031-60	Calcium	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Chromium	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Cobalt	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Copper	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Iron	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Lead	500 mg/L	2.5 mL	250 mL	5000 ug/L
UI201031-60	Lithium	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Magnesium	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Manganese	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Nickel	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Phosphorous	2500 mg/L	2.5 mL	250 mL	25000 ug/L
UI201031-60	Potassium	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Selenium	50 mg/L	2.5 mL	250 mL	500 ug/L
UI201031-60	Sodium	5000 mg/L	2.5 mL	250 mL	50000 ug/L
UI201031-60	Strontium	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Thallium	50 mg/L	2.5 mL	250 mL	500 ug/L
UI201031-60	Thorium	250 mg/L	2.5 mL	250 mL	2500 ug/L
UI201031-60	Uranium	500 mg/L	2.5 mL	250 mL	5000 ug/L
UI201031-60	Vanadium	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-60	Zinc	250 mg/L	2.5 mL	250 mL	2500 ug/L
UI201031-61	Antimony	25 mg/L	2.5 mL	250 mL	250 ug/L
UI201031-61	Molybdenum	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-61	Silver	25 mg/L	2.5 mL	250 mL	250 ug/L
UI201031-61	Tin	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-61	Tungsten	100 mg/L	2.5 mL	250 mL	1000 ug/L
UI201031-61	Zirconium	50 mg/L	2.5 mL	250 mL	500 ug/L

Serial ID: 201030 **Open/Reference Date:** 30-OCT-20 **Lot Number :** 2020081345
Name: I-HCL **Received:** 30-OCT-20
Type: Reagent/Solvent **Expires:** 30-OCT-22
Employee: Edmund Frampton
Supplier: VWR
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 2919766-A **Open/Reference Date:** 19-APR-19 **Lot Number :** 173169
Name: B-NaCl-MER **Received:** 19-APR-19
Type: Reagent/Solvent **Expires:** 19-APR-21
Employee: Monifa Basdeo
Supplier: Fisher Scientific
Description: Sodium Chloride
Comments: None

Serial ID: 3066893 **Open/Reference Date:** 10-APR-20 **Lot Number :** 2020012868
Name: B-H2SO4-MER **Received:** 10-APR-20
Type: Reagent/Solvent **Expires:** 10-APR-22
Employee: Alan Stanley
Supplier: BDH
Description: Sulfuric Acid, Concentrated
Comments: None

Serial ID: 3078150 **Open/Reference Date:** 14-MAY-20 **Amount :** 5 kg
Name: B-K2S2O8S-MER **Received:** 14-MAY-20 **Lot Number :** A0410243
Type: Reagent/Solvent **Expires:** 14-MAY-22
Employee: Alan Stanley
Supplier: ACROS ORGANICS
Description: Potassium Persulfate Concentrate.
Comments: None

Serial ID: 3116141-A **Open/Reference Date:** 28-AUG-20 **Lot Number :** 1912756455
Name: B-NH2OH.HCl-MER **Received:** 28-AUG-20
Type: Reagent/Solvent **Expires:** 28-AUG-21
Employee: Monifa Basdeo
Supplier: VWR
Description: Hydroxlyamine Hydrochloride
Comments: None

Serial ID: 3129011-C **Open/Reference Date:** 02-OCT-20 **Balance Id :** BAL-002
Name: B-K2S2O8-MER **Received:** 02-OCT-20
Type: Reagent/Solvent **Expires:** 14-MAY-22
Employee: Alan Stanley
Supplier: GEL
Description: 5% Potassium Persulfate
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
3078150	B-K2S2O8S-MER	N/A	175 g	3500 mL	5%

Serial ID: 3129814 **Open/Reference Date:** 05-OCT-20 **Lot Number :** 2020033099
Name: I-HNO3 **Received:** 05-OCT-20
Type: Reagent/Solvent **Expires:** 05-OCT-22
Employee: Edmund Frampton
Supplier: VWR - BDH Chemicals
Description: Concentrated Nitric Acid
Comments: None

Serial ID: 3129829 **Open/Reference Date:** 05-OCT-20 **Lot Number :** 2020081345
Name: I-HCL **Received:** 05-OCT-20
Type: Reagent/Solvent **Expires:** 05-OCT-22
Employee: Edmund Frampton
Supplier: VWR
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 3137704-A **Open/Reference Date:** 26-OCT-20 **Lot Number :** U04D025
Name: B-KMnO4(VWR)-MER **Received:** 26-OCT-20
Type: Reagent/Solvent **Expires:** 26-OCT-22
Employee: Alan Stanley
Supplier: ACROS
Description: Potassium Permanganate
Comments: None

Serial ID: 3138221-1 **Open/Reference Date:** 27-OCT-20 **Instrument Id :** MERCURY
Name: B-HNO3-MER **Received:** 27-OCT-20 **Lot Number :** 2020033099
Type: Reagent/Solvent **Expires:** 27-OCT-22
Employee: Alan Stanley
Supplier: MACRON
Description: NITRIC ACID
Comments: None

Serial ID: 3139892-C **Open/Reference Date:** 30-OCT-20 **Balance Id :** BAL-423
Name: B-KMnO4-MER **Received:** 30-OCT-20
Type: Reagent/Solvent **Expires:** 26-OCT-22
Employee: Alan Stanley
Supplier: GEL
Description: 5% KMnO4 solution
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
3137704-A	B-KMnO4(VWR)-MER	Crystals	175 g	3500 mL	5%

Serial ID: 3140093 **Open/Reference Date:** 30-OCT-20 **Lot Number :** 2020052020
Name: I-HNO3 **Received:** 30-OCT-20
Type: Reagent/Solvent **Expires:** 30-OCT-22
Employee: Edmund Frampton
Supplier: VWR - BDH Chemicals
Description: Concentrated Nitric Acid
Comments: None

Serial ID: 3143783 **Open/Reference Date:** 09-NOV-20 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 09-NOV-20
Type: Reagent/Solvent **Expires:** 23-NOV-20
Employee: Paul Boyd
Supplier: GEL
Description: 2%HNO3/1%HCl Solution (Type I Water)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
3129814	I-HNO3	68.0-70.0%	160 mL	8 l	N/A
3129829	I-HCL	36.5-38.0	80 mL	8 l	N/A

Serial ID: 3145052-C **Open/Reference Date:** 10-NOV-20 **Balance Id :** BAL-423
Name: B-NaCl.NH2OH.HCl-MER **Received:** 10-NOV-20
Type: Reagent/Solvent **Expires:** 19-APR-21
Employee: Monifa Basdeo
Supplier: GEL
Description: Hg reducing agent
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
2919766-A	B-NaCl-MER	NA	120 g	1000 mL	12%
3116141-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	12%

Serial ID: 3146480 **Open/Reference Date:** 16-NOV-20 **Solvent :** 3%HCL+1%HNO3
Name: B-ICP-RINSE SOLN **Received:** 30-OCT-20
Type: Reagent/Solvent **Expires:** 22-NOV-20
Employee: Helen Camello
Supplier: GEL
Description: 3%HCL+1%HNO3 RINSE SOLN.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
201030	I-HCL	36.5-38.0	240 mL	10000 mL	N/A
3140093	I-HNO3	68.0-70.0%	80 mL	10000 mL	N/A

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
ARS International, LLC
SDG #: 2021-130
Work Order #: 527510

Product: **Cyanide, Total**
Analytical Method: EPA 335.4 1993
Analytical Procedure: GL-GC-E-095 REV# 22
Analytical Batch: 2063122

Preparation Method: EPA 335.4 1993
Preparation Procedure: GL-GC-E-067 REV# 23
Preparation Batch: 2063121

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527510001	SMEB03-20-209977
527510007	SMEB04-20-209980
527510013	SMEB05-20-209983
1204695057	Method Blank (MB)
1204695058	Laboratory Control Sample (LCS)
1204695059	527509001(SMEB01-20-209970) Sample Duplicate (DUP)
1204695061	527509001(SMEB01-20-209970) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Ion Chromatography**
Analytical Method: EPA:300.0
Analytical Procedure: GL-GC-E-086 REV# 28
Analytical Batch: 2062981

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527510002	SMEB03-20-209978
527510008	SMEB04-20-209981
527510014	SMEB05-20-209984
1204694597	Method Blank (MB)
1204694598	Laboratory Control Sample (LCS)
1204694599	527509002(SMEB01-20-209971) Sample Duplicate (DUP)
1204694600	527509002(SMEB01-20-209971) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

Continuing Calibration Blanks
One or more of the calibration verification blanks was above the required limits. The results for the following samples bracketed by the failing CCB are less than the PQL or are QC samples associated with these samples. Therefore, the data is deemed acceptable. 1204694597 (MB), 1204694598 (LCS), 1204694599 (SMEB01-20-209971DUP) and 1204694600 (SMEB01-20-209971PS).

Technical Information

Sample Dilutions
The following samples 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS), 527510002 (SMEB03-20-209978), 527510008 (SMEB04-20-209981) and 527510014 (SMEB05-20-209984) were diluted because target analyte concentrations exceeded the calibration range. Samples 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS), 527510002 (SMEB03-20-209978), 527510008 (SMEB04-20-209981) and 527510014 (SMEB05-20-209984) were diluted to minimize matrix effects on instrument performance. Samples 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS), 527510002 (SMEB03-20-209978), 527510008 (SMEB04-20-209981) and 527510014 (SMEB05-20-209984) were diluted based on historical data. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	527510		
	002	008	014
Fluoride	100X	100X	100X
Sulfate	1000X	1000X	100X

Sample Re-analysis
Samples1204694599 (SMEB01-20-209971DUP) and 1204694600 (SMEB01-20-209971PS) were re-analyzed to verify the results.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-130 GEL Work Order: 527510

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
J Value is estimated
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Aubrey Kingsbury**

Date: 20 NOV 2020 **Title: Data Validator**

Sample Data Summary

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-130

Client Sample ID: SMEB03-20-209977
Sample ID: 527510001
Matrix: W
Collect Date: 12-NOV-20 10:27
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis												
DP-CN(TOTAL) "As Received"												
Cyanide, Total	J	3.59	1.67	5.00	ug/L	1.00	1	AXH3	11/17/20	0839	2063122	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 335.4 1993	EPA 335.4 Total Cyanide	AXH3	11/17/20	0649	2063121

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 335.4 1993	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-130

Client Sample ID: SMEB03-20-209978
Sample ID: 527510002
Matrix: W
Collect Date: 12-NOV-20 10:27
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
DP-F+SO4 "As Received"												
Fluoride	U	ND	3.30	10.0	mg/L		100	LXA2	11/14/20	1728	2062981	1
Sulfate		14400	133	400	mg/L		1000	LXA2	11/16/20	1142	2062981	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:300.0	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-130

Client Sample ID: SMEB04-20-209980
Sample ID: 527510007
Matrix: W
Collect Date: 12-NOV-20 10:27
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis												
DP-CN(TOTAL) "As Received"												
Cyanide, Total	U	ND	1.67	5.00	ug/L	1.00	1	AXH3	11/17/20	0839	2063122	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 335.4 1993	EPA 335.4 Total Cyanide	AXH3	11/17/20	0649	2063121

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 335.4 1993	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-130

Client Sample ID: SMEB04-20-209981
Sample ID: 527510008
Matrix: W
Collect Date: 12-NOV-20 10:27
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
DP-F+SO4 "As Received"												
Fluoride	J	3.36	3.30	10.0	mg/L		100	LXA2	11/14/20	1759	2062981	1
Sulfate		13100	133	400	mg/L		1000	LXA2	11/16/20	1213	2062981	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:300.0	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-130

Client Sample ID: SMEB05-20-209983
Sample ID: 527510013
Matrix: W
Collect Date: 12-NOV-20 14:40
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis												
DP-CN(TOTAL) "As Received"												
Cyanide, Total	U	ND	1.67	5.00	ug/L	1.00	1	AXH3	11/17/20	0840	2063122	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 335.4 1993	EPA 335.4 Total Cyanide	AXH3	11/17/20	0649	2063121

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 335.4 1993	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: November 20, 2020

Company :	Los Alamos National Laboratory
Address :	TA-00, SM1237, Rm104C
	Los Alamos, New Mexico 87545
Contact:	Mr. Stanislaw Marczak
Project:	LANL- Discharge Permits

Client SDG: 2021-130

Client Sample ID:	SMEB05-20-209984	Project:	ESHL00118
Sample ID:	527510014	Client ID:	ARSL004
Matrix:	W		
Collect Date:	12-NOV-20 14:40		
Receive Date:	14-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
DP-F+SO4 "As Received"												
Fluoride	J	3.93	3.30	10.0	mg/L		100	LXA2	11/14/20	1830	2062981	1
Sulfate		1930	13.3	40.0	mg/L		100					

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

Quality Control Summary

QC Summary

Report Date: November 20, 2020

Los Alamos National Laboratory
TA-00, SM1237, Rm104C
Los Alamos, New Mexico

Contact: **Mr. Stanislaw Marczak**

Workorder: **527510**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Flow Injection Analysis										
Batch 2063122										
QC1204695059 527509001 DUP										
Cyanide, Total		7.14		7.01	ug/L	1.84 ^		(+/-5.00)	AXH3	11/17/20 08:34
QC1204695058 LCS										
Cyanide, Total	50.0			48.3	ug/L		96.6	(90%-110%)		11/17/20 08:13
QC1204695057 MB										
Cyanide, Total			U	ND	ug/L					11/17/20 08:12
QC1204695061 527509001 MS										
Cyanide, Total	100	7.14		101	ug/L		93.9	(90%-110%)		11/17/20 08:35
Ion Chromatography										
Batch 2062981										
QC1204694599 527509002 DUP										
Fluoride	J	3.36	J	3.50	mg/L	4.08 ^		(+/-10.0)	LXA2	11/14/20 22:07
Sulfate		3410		3400	mg/L	0.0493		(0%-20%)		11/17/20 11:16
QC1204694598 LCS										
Fluoride	2.50			2.48	mg/L		99.1	(80%-120%)		11/14/20 23:39
Sulfate	10.0			9.84	mg/L		98.4	(80%-120%)		
QC1204694597 MB										
Fluoride			U	ND	mg/L					11/14/20 23:08
Sulfate			U	ND	mg/L					
QC1204694600 527509002 PS										
Fluoride	2.50 J	0.0336		2.36	mg/L		93	(75%-125%)		11/14/20 22:37

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QC Summary

Workorder: **527510**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Ion Chromatography											
Batch 2062981											
Sulfate	10.0	17.0		27.3	mg/L		102	(75%-125%)	LXA2	11/17/20	11:47

Notes:

<	Result is less than value reported
>	Result is greater than value reported
B	The target analyte was detected in the associated blank.
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Instrument QC Data Summary

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 06:00

GEL Laboratories LLC
Contract: ESHL00118
SDG #: 2021-130

Flow Injection Analysis
Method: EPA 335.4
Instrument: Lachat QuickChem FIA+ 8000 Series (LACHAT)

Parmname: Cyanide, Total Concentration Units:ug/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**17-NOV-2020 08:03:34**	**OM_11-17-2020_07-53-56**	**150**	**150**	**100**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 08:18:16	OM_11-17-2020_07-53-56	103	100	103	(90%-110%)	Yes
CCV	17-NOV-2020 08:30:45	OM_11-17-2020_07-53-56	103	100	103	(90%-110%)	Yes
CCV	17-NOV-2020 08:43:21	OM_11-17-2020_07-53-56	103	100	103	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**17-NOV-2020 08:05:30**	**OM_11-17-2020_07-53-56**	**-0.86**	**5**	**Yes**
CCB	17-NOV-2020 08:20:12	OM_11-17-2020_07-53-56	-0.9	5	Yes
CCB	17-NOV-2020 08:32:41	OM_11-17-2020_07-53-56	-0.948	5	Yes
CCB	17-NOV-2020 08:45:18	OM_11-17-2020_07-53-56	-0.717	5	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 06:00

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-130

Ion Chromatography

Method: EPA 300.0

Instrument: DIONEX Aquion Ion Chromatograph (IC12)

Parmname: Fluoride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 14:54:00**	**201114**	**2.4867**	**2.5**	**99.5**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 21:05:00	201114	3.7206	3.75	99.2	(90%-110%)	Yes
CCV	15-NOV-2020 00:41:00	201114	2.4459	2.5	97.8	(90%-110%)	Yes
ICV	**16-NOV-2020 08:46:00**	**201116**	**2.4431**	**2.5**	**97.7**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 15:49:00	201116	3.5865	3.75	95.6	(90%-110%)	Yes
CCV	16-NOV-2020 18:54:00	201116	2.4178	2.5	96.7	(90%-110%)	Yes
ICV	**17-NOV-2020 08:24:00**	**201117**	**2.5028**	**2.5**	**100**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 12:17:00	201117	3.6105	3.75	96.3	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 15:25:00**	**201114**	**0**	**0.1**	**Yes**
CCB	14-NOV-2020 21:36:00	201114	0	0.1	Yes
CCB	15-NOV-2020 01:12:00	201114	0	0.1	Yes
ICB	**16-NOV-2020 09:17:00**	**201116**	**0**	**0.1**	**Yes**
CCB	16-NOV-2020 16:20:00	201116	0	0.1	Yes
CCB	16-NOV-2020 19:25:00	201116	0	0.1	Yes
ICB	**17-NOV-2020 08:55:00**	**201117**	**0**	**0.1**	**Yes**
CCB	17-NOV-2020 12:48:00	201117	0	0.1	Yes

Parmname: Sulfate Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 14:54:00**	**201114**	**10.0534**	**10**	**101**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 21:05:00	201114	14.8608	15	99.1	(90%-110%)	Yes
CCV	15-NOV-2020 00:41:00	201114	9.7305	10	97.3	(90%-110%)	Yes
ICV	**16-NOV-2020 08:46:00**	**201116**	**9.9257**	**10**	**99.3**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 15:49:00	201116	14.3892	15	95.9	(90%-110%)	Yes
CCV	16-NOV-2020 18:54:00	201116	9.5738	10	95.7	(90%-110%)	Yes
ICV	**17-NOV-2020 08:24:00**	**201117**	**9.9067**	**10**	**99.1**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 12:17:00	201117	14.4278	15	96.2	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 15:25:00**	**201114**	**0**	**0.4**	**Yes**
CCB	14-NOV-2020 21:36:00	201114	0	0.4	Yes
CCB	15-NOV-2020 01:12:00	201114	0	0.4	Yes
ICB	**16-NOV-2020 09:17:00**	**201116**	**0**	**0.4**	**Yes**
CCB	16-NOV-2020 16:20:00	201116	0	0.4	Yes
CCB	16-NOV-2020 19:25:00	201116	0	0.4	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 06:00

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-130

Ion Chromatography

Method: EPA 300.0

Instrument: DIONEX Aquion Ion Chromatograph (IC12)

Parmname: Sulfate Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**17-NOV-2020 08:55:00**	**201117**	**0**	**0.4**	**Yes**
CCB	17-NOV-2020 12:48:00	201117	0	0.4	Yes

Cyanide, Total Raw Data

Prep Logbook

Cyanide Sample Distillation

Batch ID: **2063121**
Analyst: Aubrey Kingsbury
Method: SM 4500-Cn C SW846 9010C Distillation EPA 335.4
Lab SOP: GL-GC-E-067 REV# 23
Instrument: No instrument-manual method

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695058	RFASPIKE-2	URF3122200-02	.0125	mL
MS	1204695061	RFASPIKE-2	URF3122200-02	.025	mL
MS	1204695062	RFASPIKE-2	URF3122200-02	.025	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204695057 MB	17-NOV-2020 06:49:40	Water	25	25	1	>12
1204695058 LCS	17-NOV-2020 06:49:40	Water	25	25	1	>12
527235001	17-NOV-2020 06:49:40	Water	25	25	1	>12
1204695060 DUP (527235001)	17-NOV-2020 06:49:40	Water	25	25	1	>12
1204695062 MS (527235001)	17-NOV-2020 06:49:40	Water	25	25	1	>12
527235002	17-NOV-2020 06:49:40	Water	25	25	1	>12
527342001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527344001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527346001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527349001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527351001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527353001	17-NOV-2020 06:49:40	Ground Water	25	25	1	>12
527385001	17-NOV-2020 06:49:40	Waste Water	25	25	1	>12
527471002	17-NOV-2020 06:49:40	Water	25	25	1	>12
527471003	17-NOV-2020 06:49:40	Water	25	25	1	>12
527509001	17-NOV-2020 06:49:40	Water	25	25	1	>12
1204695059 DUP (527509001)	17-NOV-2020 06:49:40	Water	25	25	1	>12
1204695061 MS (527509001)	17-NOV-2020 06:49:40	Water	25	25	1	>12
527509005	17-NOV-2020 06:49:40	Water	25	25	1	>12
527509010	17-NOV-2020 06:49:40	Water	25	25	1	>12
527510001	17-NOV-2020 06:49:40	Water	25	25	1	>12
527510007	17-NOV-2020 06:49:40	Water	25	25	1	>12
527510013	17-NOV-2020 06:49:40	Water	25	25	1	>12
527526001	17-NOV-2020 06:49:40	Water	25	25	1	>12
527531002	17-NOV-2020 06:49:40	Water	25	25	1	>12
527533001	17-NOV-2020 06:49:40	Water	25	25	1	>12

Reagent/Solvent Lot ID	Description	Amount
3099880-C	0.8N H3NO3S	1.25 mL
3120200-C	0.25N Sodium Hydroxide Solution	25 mL
3137120-C	51% MgCl2 Soln	1 mL
3137122-C	Bismuth Nitrate Solution	1.25 mL
3137124-C	50% H2SO4 CN Prep	2.5 mL
WCN201117-07	150 ppb CN Distilled ICV Standard	.0375 mL

Comments:
Start Time: 17-NOV-20 06:19:40
End Time: 17-NOV-20 06:49:40
Lot Number: 195652-0070-NS

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axh3	11/17/2020 7:56:21	OM_11-17-2020_07-53-56
150 ppb		1	axh3	11/17/2020 7:57:13	OM_11-17-2020_07-53-56
100 ppb		1	axh3	11/17/2020 7:58:05	OM_11-17-2020_07-53-56
50 ppb		1	axh3	11/17/2020 7:58:57	OM_11-17-2020_07-53-56
10 ppb		1	axh3	11/17/2020 7:59:50	OM_11-17-2020_07-53-56
5.0 ppb		1	axh3	11/17/2020 8:00:43	OM_11-17-2020_07-53-56
ICAL-00		1	axh3	11/17/2020 8:01:37	OM_11-17-2020_07-53-56
ICV		1	axh3	11/17/2020 8:03:34	OM_11-17-2020_07-53-56
ICB		1	axh3	11/17/2020 8:05:30	OM_11-17-2020_07-53-56
CRDL		1	axh3	11/17/2020 8:07:26	OM_11-17-2020_07-53-56
1204695054	2063120	1	axh3	11/17/2020 8:09:23	OM_11-17-2020_07-53-56
1204695055	2063120	500	axh3	11/17/2020 8:10:17	OM_11-17-2020_07-53-56
527519001	2063120	1	axh3	11/17/2020 8:11:10	OM_11-17-2020_07-53-56
1204695056	2063120	1	axh3	11/17/2020 8:12:04	OM_11-17-2020_07-53-56
1204695057	2063122	1	axh3	11/17/2020 8:12:57	OM_11-17-2020_07-53-56
1204695058	2063122	1	axh3	11/17/2020 8:13:51	OM_11-17-2020_07-53-56
527235001	2063122	1	axh3	11/17/2020 8:14:43	OM_11-17-2020_07-53-56
1204695060	2063122	1	axh3	11/17/2020 8:15:36	OM_11-17-2020_07-53-56
1204695062	2063122	1	axh3	11/17/2020 8:16:29	OM_11-17-2020_07-53-56
527235002	2063122	1	axh3	11/17/2020 8:17:21	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 8:18:16	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 8:20:12	OM_11-17-2020_07-53-56
527342001	2063122	1	axh3	11/17/2020 8:22:07	OM_11-17-2020_07-53-56
527344001	2063122	1	axh3	11/17/2020 8:22:59	OM_11-17-2020_07-53-56
527346001*	2063122	1	axh3	11/17/2020 8:23:51	OM_11-17-2020_07-53-56
527349001	2063122	1	axh3	11/17/2020 8:24:43	OM_11-17-2020_07-53-56
527351001	2063122	1	axh3	11/17/2020 8:25:34	OM_11-17-2020_07-53-56
527353001	2063122	1	axh3	11/17/2020 8:26:26	OM_11-17-2020_07-53-56
527385001	2063122	1	axh3	11/17/2020 8:27:17	OM_11-17-2020_07-53-56
527471002	2063122	1	axh3	11/17/2020 8:28:09	OM_11-17-2020_07-53-56
527471003	2063122	1	axh3	11/17/2020 8:29:00	OM_11-17-2020_07-53-56
527509001	2063122	1	axh3	11/17/2020 8:29:53	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 8:30:45	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 8:32:41	OM_11-17-2020_07-53-56
1204695059	2063122	1	axh3	11/17/2020 8:34:37	OM_11-17-2020_07-53-56
1204695061	2063122	1	axh3	11/17/2020 8:35:30	OM_11-17-2020_07-53-56
527346001	2063122	1	axh3	11/17/2020 8:36:22	OM_11-17-2020_07-53-56
527509005	2063122	1	axh3	11/17/2020 8:37:15	OM_11-17-2020_07-53-56
527509010	2063122	1	axh3	11/17/2020 8:38:08	OM_11-17-2020_07-53-56
527510001	2063122	1	axh3	11/17/2020 8:39:00	OM_11-17-2020_07-53-56
527510007	2063122	1	axh3	11/17/2020 8:39:53	OM_11-17-2020_07-53-56
527510013	2063122	1	axh3	11/17/2020 8:40:45	OM_11-17-2020_07-53-56
527526001	2063122	1	axh3	11/17/2020 8:41:37	OM_11-17-2020_07-53-56
527531002	2063122	1	axh3	11/17/2020 8:42:29	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 8:43:21	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 8:45:18	OM_11-17-2020_07-53-56
527533001	2063122	1	axh3	11/17/2020 8:47:12	OM_11-17-2020_07-53-56
1204695073	2063126	1	axh3	11/17/2020 8:48:04	OM_11-17-2020_07-53-56
1204695074	2063126	1	axh3	11/17/2020 8:48:56	OM_11-17-2020_07-53-56
527305004	2063126	1	axh3	11/17/2020 8:49:47	OM_11-17-2020_07-53-56
1204695076	2063126	1	axh3	11/17/2020 8:50:38	OM_11-17-2020_07-53-56
1204695078	2063126	1	axh3	11/17/2020 8:51:33	OM_11-17-2020_07-53-56
527312004	2063126	1	axh3	11/17/2020 8:52:26	OM_11-17-2020_07-53-56
527312009	2063126	1	axh3	11/17/2020 8:53:19	OM_11-17-2020_07-53-56
527354001	2063126	1	axh3	11/17/2020 8:54:12	OM_11-17-2020_07-53-56
527380001	2063126	1	axh3	11/17/2020 8:55:04	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 8:55:57	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 8:57:53	OM_11-17-2020_07-53-56

527384001	2063126	1	axh3	11/17/2020 8:59:48	OM_11-17-2020_07-53-56
527389001	2063126	1	axh3	11/17/2020 9:00:41	OM_11-17-2020_07-53-56
527394001	2063126	1	axh3	11/17/2020 9:01:33	OM_11-17-2020_07-53-56
527398001	2063126	1	axh3	11/17/2020 9:02:26	OM_11-17-2020_07-53-56
527407001	2063126	1	axh3	11/17/2020 9:03:18	OM_11-17-2020_07-53-56
527441001	2063126	1	axh3	11/17/2020 9:04:10	OM_11-17-2020_07-53-56
527442001	2063126	1	axh3	11/17/2020 9:05:01	OM_11-17-2020_07-53-56
527443001	2063126	1	axh3	11/17/2020 9:05:53	OM_11-17-2020_07-53-56
1204695075	2063126	1	axh3	11/17/2020 9:06:45	OM_11-17-2020_07-53-56
1204695077	2063126	1	axh3	11/17/2020 9:07:37	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 9:08:28	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 9:10:25	OM_11-17-2020_07-53-56
527444001	2063126	1	axh3	11/17/2020 9:12:21	OM_11-17-2020_07-53-56
527445001	2063126	1	axh3	11/17/2020 9:13:14	OM_11-17-2020_07-53-56
527447001	2063126	1	axh3	11/17/2020 9:14:08	OM_11-17-2020_07-53-56
527448001	2063126	1	axh3	11/17/2020 9:15:01	OM_11-17-2020_07-53-56
527449001	2063126	1	axh3	11/17/2020 9:15:54	OM_11-17-2020_07-53-56
527450001	2063126	1	axh3	11/17/2020 9:16:47	OM_11-17-2020_07-53-56
1204695079	2063128	1	axh3	11/17/2020 9:17:40	OM_11-17-2020_07-53-56
1204695080	2063128	1	axh3	11/17/2020 9:18:32	OM_11-17-2020_07-53-56
1204695081	2063128	1	axh3	11/17/2020 9:19:24	OM_11-17-2020_07-53-56
527290004	2063128	1	axh3	11/17/2020 9:20:17	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 9:21:09	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 9:23:05	OM_11-17-2020_07-53-56
1204695083	2063128	1	axh3	11/17/2020 9:25:00	OM_11-17-2020_07-53-56
1204695085	2063128	1	axh3	11/17/2020 9:25:52	OM_11-17-2020_07-53-56
527340001	2063128	1	axh3	11/17/2020 9:26:44	OM_11-17-2020_07-53-56
527489002	2063128	1	axh3	11/17/2020 9:27:36	OM_11-17-2020_07-53-56
1204695082	2063128	1	axh3	11/17/2020 9:28:27	OM_11-17-2020_07-53-56
1204695084	2063128	1	axh3	11/17/2020 9:29:21	OM_11-17-2020_07-53-56
527489005	2063128	1	axh3	11/17/2020 9:30:15	OM_11-17-2020_07-53-56
527489008	2063128	1	axh3	11/17/2020 9:31:08	OM_11-17-2020_07-53-56
527501002	2063128	1	axh3	11/17/2020 9:32:02	OM_11-17-2020_07-53-56
527501005	2063128	1	axh3	11/17/2020 9:32:55	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 9:33:47	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 9:35:43	OM_11-17-2020_07-53-56
527501006	2063128	1	axh3	11/17/2020 9:37:39	OM_11-17-2020_07-53-56
1204696232	2063596	1	axh3	11/17/2020 9:38:32	OM_11-17-2020_07-53-56
1204696233	2063596	10	axh3	11/17/2020 9:39:24	OM_11-17-2020_07-53-56
527503002	2063596	1	axh3	11/17/2020 9:40:17	OM_11-17-2020_07-53-56
1204696234	2063596	1	axh3	11/17/2020 9:41:10	OM_11-17-2020_07-53-56
1204696235	2063596	1	axh3	11/17/2020 9:42:02	OM_11-17-2020_07-53-56
527503003	2063596	1	axh3	11/17/2020 9:42:54	OM_11-17-2020_07-53-56
527503004	2063596	1	axh3	11/17/2020 9:43:46	OM_11-17-2020_07-53-56
527503005	2063596	1	axh3	11/17/2020 9:44:39	OM_11-17-2020_07-53-56
527503006	2063596	1	axh3	11/17/2020 9:45:30	OM_11-17-2020_07-53-56
CCV		1	axh3	11/17/2020 9:46:22	OM_11-17-2020_07-53-56
CCB		1	axh3	11/17/2020 9:48:18	OM_11-17-2020_07-53-56

Author: axh3 Date : 11/17/2020

Original Run Filename: OM_11-17-2020_07-53-56.OMN created 11/17/2020 07:53:56
Original Run Author's Signature: [axh3]
Current Run Filename: OM_11-17-2020_07-53-56.OMN last modified 11/17/2020 09:49:23
Current Run Author's Signature: [axh3]
Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M
Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE Conc. (ug/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WCN201117-01	1	S1	200	9.30	11/17/2020@07:56:21			200 ppb
WCN201117-02	1	S2	150	7.14	11/17/2020@07:57:13			150 ppb
WCN201117-03	1	S3	100	4.62	11/17/2020@07:58:05			100 ppb
WCN201117-04	1	S4	50.0	2.33	11/17/2020@07:58:57			50 ppb
WCN201117-05	1	S5	10.0	0.533	11/17/2020@07:59:50			10 ppb
WCN201117-06	1	S6	5.00	0.276	11/17/2020@08:00:43			5.0 ppb
WCN201117-08	1	S7	0.00	0.0239	11/17/2020@08:01:37			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99985 > 0.99500					
Message			Pass					
Action			Continue					
WCN201117-07	1	S8	150	7.02	11/17/2020@08:03:34			ICV
Known Conc:			150					
DQM Test: > + Concentration Limit								
Result:			150 < 165					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			150 > 135					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN201117-08	1	S7	-0.860	-0.00674	11/17/2020@08:05:30			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.860 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.860 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN201117-06	1	S6	5.10	0.271	11/17/2020@08:07:26			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			5.10 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			5.10 > 2.50					
Message			Pass					
Action			None					
1204695054|2063120|MB	1	76	-0.782	-0.00311	11/17/2020@08:09:23			
1204695055||LCS	1	77	125	5.85	11/17/2020@08:10:17		500.00	
527519001	1	78	0.150	0.0403	11/17/2020@08:11:10			
1204695056||DUP	1	79	-0.878	-0.00758	11/17/2020@08:12:04			
1204695057|2063122|MB	1	1	-0.722	-2.99e-4	11/17/2020@08:12:57			
1204695058||LCS	1	2	48.3	2.28	11/17/2020@08:13:51			
527235001	1	3	44.8	2.12	11/17/2020@08:14:43			
1204695060||DUP	1	4	46.4	2.19	11/17/2020@08:15:36			
1204695062||MS	1	5	139	6.49	11/17/2020@08:16:29			
527235002	1	6	3.38	0.191	11/17/2020@08:17:21			
WCN201117-03	1	S3	103	4.83	11/17/2020@08:18:16			CCV
Known Conc:			100					
DQM Test: > + Concentration Limit								
Result:			103 < 110					

		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	103 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	-0.900	-0.00858	11/17/2020@08:20:12			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.900 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.900 > -5.00					
		Message	CCB Passed					
		Action	Continue					
527342001	1	7	-0.0847	0.0294	11/17/2020@08:22:07			
527344001	1	8	-0.712	1.75e-4	11/17/2020@08:22:59			
527346001	1	9	1.65	0.110	11/17/2020@08:23:51			
527349001	1	10	-0.827	-0.00520	11/17/2020@08:24:43			
527351001	1	11	-0.719	-1.73e-4	11/17/2020@08:25:34			
527353001	1	12	-0.679	0.00171	11/17/2020@08:26:26			
527385001	1	13	-0.0388	0.0315	11/17/2020@08:27:17			
527471002	1	14	0.293	0.0470	11/17/2020@08:28:09			
527471003	1	15	-0.413	0.0141	11/17/2020@08:29:00			
527509001	1	16	7.14	0.366	11/17/2020@08:29:53			
WCN201117-03	1	S3	103	4.82	11/17/2020@08:30:45			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	103 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	103 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	-0.948	-0.0108	11/17/2020@08:32:41			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.948 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.948 > -5.00					
		Message	CCB Passed					
		Action	Continue					
1204695059||DUP	1	17	7.01	0.360	11/17/2020@08:34:37			
1204695061||MS	1	18	101	4.73	11/17/2020@08:35:30			
527346001	1	9	0.0739	0.0368	11/17/2020@08:36:22			
527509005	1	19	-0.814	-0.00460	11/17/2020@08:37:15			
527509010	1	20	1.36	0.0969	11/17/2020@08:38:08			
527510001	1	21	3.59	0.200	11/17/2020@08:39:00			
527510007	1	22	1.62	0.109	11/17/2020@08:39:53			
527510013	1	23	0.921	0.0762	11/17/2020@08:40:45			
527526001	1	24	-0.718	-9.31e-5	11/17/2020@08:41:37			
527531002	1	25	-0.717	-7.18e-5	11/17/2020@08:42:29			
WCN201117-03	1	S3	103	4.82	11/17/2020@08:43:21			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	103 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	103 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	-0.717	-7.53e-5	11/17/2020@08:45:18			CCB
		Known Conc:	0.00					

DQM Test: > + Concentration Limit								
		Result:	-0.717 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.717 > -5.00					
		Message	CCB Passed					
		Action	Continue					
527533001	1	26	0.571	0.0599	11/17/2020@08:47:12			
1204695073|2063126|MB	1	27	-0.902	-0.00866	11/17/2020@08:48:04			
1204695074||LCS	1	28	48.9	2.31	11/17/2020@08:48:56			
527305004	1	29	-0.483	0.0108	11/17/2020@08:49:47			
1204695076||DUP	1	30	-0.803	-0.00409	11/17/2020@08:50:38			
1204695078||MS	1	31	99.6	4.67	11/17/2020@08:51:33			
527312004	1	32	0.0576	0.0360	11/17/2020@08:52:26			
527312009	1	33	-0.717	-7.42e-5	11/17/2020@08:53:19			
527354001	1	34	-0.941	-0.0105	11/17/2020@08:54:12			
527380001	1	35	-0.714	7.76e-5	11/17/2020@08:55:04			
WCN201117-03	1	S3	103	4.83	11/17/2020@08:55:57			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	103 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	103 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	-0.720	-1.84e-4	11/17/2020@08:57:53			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.720 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.720 > -5.00					
		Message	CCB Passed					
		Action	Continue					
527384001	1	36	-0.788	-0.00339	11/17/2020@08:59:48			
527389001	1	37	-0.906	-0.00884	11/17/2020@09:00:41			
527394001	1	38	-0.728	-5.72e-4	11/17/2020@09:01:33			
527398001	1	39	-1.05	-0.0154	11/17/2020@09:02:26			
527407001	1	40	-0.719	-1.45e-4	11/17/2020@09:03:18			
527441001	1	41	-0.124	0.0275	11/17/2020@09:04:10			
527442001	1	42	-0.717	-7.07e-5	11/17/2020@09:05:01			
527443001	1	43	-0.718	-1.29e-4	11/17/2020@09:05:53			
1204695075||DUP	1	44	-0.712	1.81e-4	11/17/2020@09:06:45			
1204695077||MS	1	45	98.9	4.64	11/17/2020@09:07:37			
WCN201117-03	1	S3	104	4.87	11/17/2020@09:08:28			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	104 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	104 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	-0.723	-3.22e-4	11/17/2020@09:10:25			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.723 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.723 > -5.00					
		Message	CCB Passed					
		Action	Continue					

527444001	1	46	-0.383	0.0155	11/17/2020@09:12:21			
527445001	1	47	-0.717	-8.24e-5	11/17/2020@09:13:14			
527447001	1	48	-0.895	-0.00833	11/17/2020@09:14:08			
527448001	1	49	-0.727	-5.34e-4	11/17/2020@09:15:01			
527449001	1	50	-0.241	0.0221	11/17/2020@09:15:54			
527450001	1	51	-0.889	-0.00807	11/17/2020@09:16:47			
1204695079|2063128|MB	1	52	-0.607	0.00508	11/17/2020@09:17:40			
1204695080||LCS	1	53	49.0	2.32	11/17/2020@09:18:32			
1204695081||LCSD	1	54	49.1	2.32	11/17/2020@09:19:24			
527290004	1	55	-0.295	0.0196	11/17/2020@09:20:17			
WCN201117-03	1	S3	103	4.85	11/17/2020@09:21:09			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	103 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	103 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	0.00582	0.0336	11/17/2020@09:23:05			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	0.00582 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.00582 > -5.00					
		Message	CCB Passed					
		Action	Continue					
1204695083||DUP	1	56	-0.834	-0.00549	11/17/2020@09:25:00			
1204695085||MS	1	57	99.5	4.67	11/17/2020@09:25:52			
527340001	1	58	-0.0195	0.0324	11/17/2020@09:26:44			
527489002	1	59	-0.719	-1.75e-4	11/17/2020@09:27:36			
1204695082||DUP	1	60	-0.787	-0.00332	11/17/2020@09:28:27			
1204695084||MS	1	61	95.7	4.49	11/17/2020@09:29:21			
527489005	1	62	-0.725	-4.30e-4	11/17/2020@09:30:15			
527489008	1	63	-0.678	0.00174	11/17/2020@09:31:08			
527501002	1	64	-0.853	-0.00639	11/17/2020@09:32:02			
527501005	1	65	-0.849	-0.00620	11/17/2020@09:32:55			
WCN201117-03	1	S3	104	4.87	11/17/2020@09:33:47			CCV
		Known Conc:	100					
DQM Test: > + Concentration Limit								
		Result:	104 < 110					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	104 > 90.0					
		Message	CCV Passed					
		Action	Continue					
WCN201117-08	1	S7	0.102	0.0381	11/17/2020@09:35:43			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	0.102 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.102 > -5.00					
		Message	CCB Passed					
		Action	Continue					
527501006	1	66	-0.849	-0.00621	11/17/2020@09:37:39			
1204696232|2063596|MB	1	67	-0.827	-0.00520	11/17/2020@09:38:32			
1204696233||LCS	1	68	124	5.79	11/17/2020@09:39:24		10.00	
527503002	1	69	0.464	0.0549	11/17/2020@09:40:17			
1204696234||DUP	1	70	0.929	0.0766	11/17/2020@09:41:10			
1204696235||MS	1	71	96.5	4.53	11/17/2020@09:42:02			
527503003	1	72	0.760	0.0687	11/17/2020@09:42:54			
527503004	1	73	0.678	0.0649	11/17/2020@09:43:46			

527503005	1	74	0.785	0.0699	11/17/2020@09:44:39			
527503006	1	75	0.238	0.0444	11/17/2020@09:45:30			
WCN201117-03	1	S3	104	4.86	11/17/2020@09:46:22			CCV
Known Conc:			100					
DQM Test: > + Concentration Limit								
Result:			104 < 110					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			104 > 90.0					
Message			CCV Passed					
Action			Continue					
WCN201117-08	1	S7	-0.871	-0.00724	11/17/2020@09:48:18			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.871 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.871 > -5.00					
Message			CCB Passed					
Action			Continue					

Analyte Properties Table for OM_11-17-2020_07-53-56.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Callibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	14
Peak Base Width	53

Channel 1: Current View

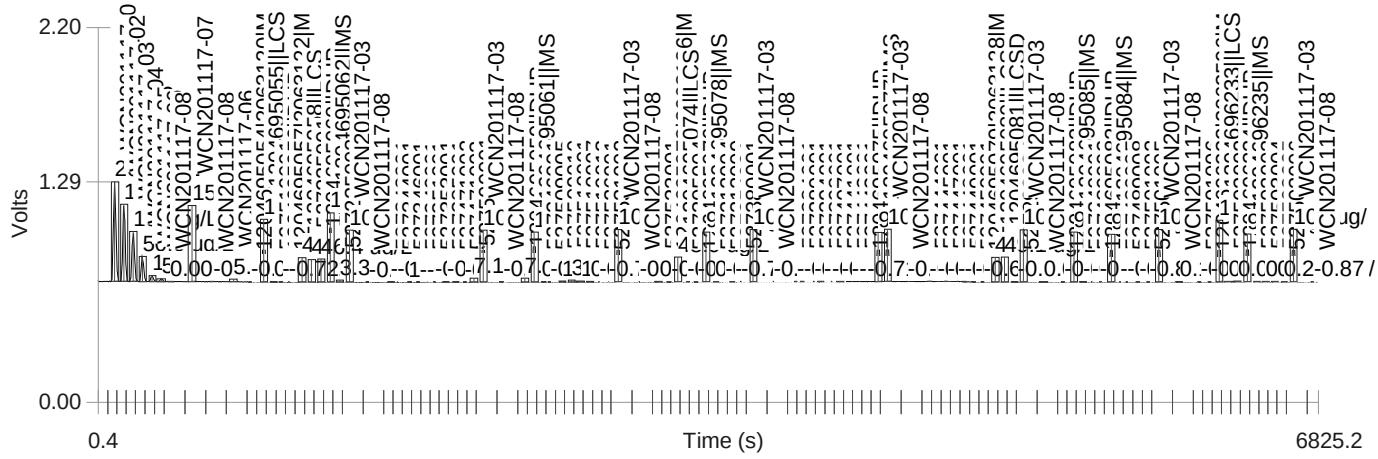
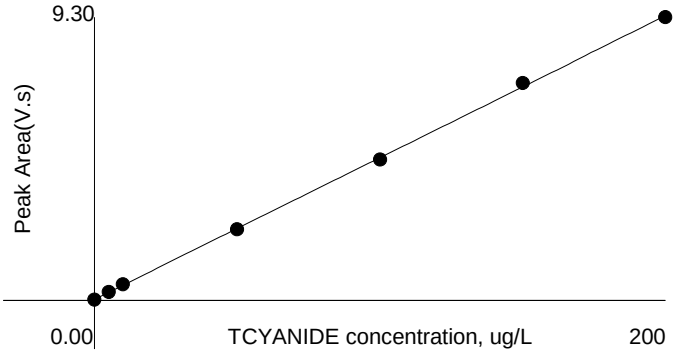


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	9.30	0.583	0.5	11/17/2020	07:57:25
2	150	1	7.14	0.453	-1.7	11/17/2020	07:58:17
3	100	1	4.62	0.293	1.5	11/17/2020	07:59:09
4	50.0	1	2.33	0.147	1.4	11/17/2020	08:00:01
5	10.0	1	0.533	0.0341	-6.6	11/17/2020	08:00:54
6	5.00	1	0.276	0.0158	-3.3	11/17/2020	08:01:47
7	0.00	1	0.0239	0.00104		11/17/2020	08:02:41

Figure 1: TCYANIDE



Area = 0.0466 * Conc + 0.0343
Conc = 21.5 * Area - 0.716
Correlation Coefficient (r) = 0.99985

No Weighting

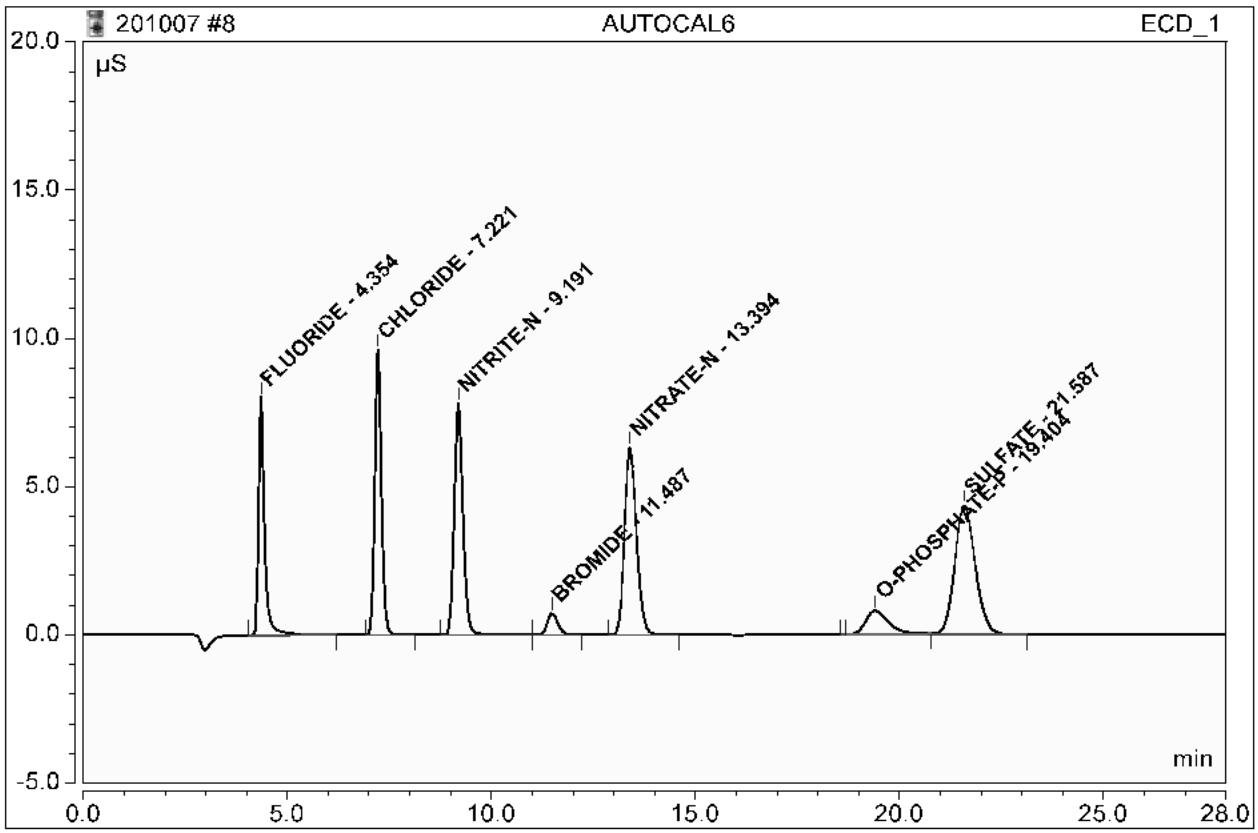
Ion Chromatography Raw Data

This is runlog for Sequence 201118.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
ICAL-06	10/07/20 13:10		1	201118	LXA2
ICAL-05	10/07/20 13:40		1	201118	LXA2
ICAL-04	10/07/20 14:11		1	201118	LXA2
ICAL-03	10/07/20 14:42		1	201118	LXA2
ICAL-02	10/07/20 15:13		1	201118	LXA2
ICAL-01	10/07/20 15:44		1	201118	LXA2
ICAL-06	10/07/20 13:10		1	201118	LXA2
ICAL-05	10/07/20 13:40		1	201118	LXA2
ICAL-04	10/07/20 14:11		1	201118	LXA2
ICAL-03	10/07/20 14:42		1	201118	LXA2
ICAL-02	10/07/20 15:13		1	201118	LXA2
ICAL-01	10/07/20 15:44		1	201118	LXA2

8 AUTOCAL6

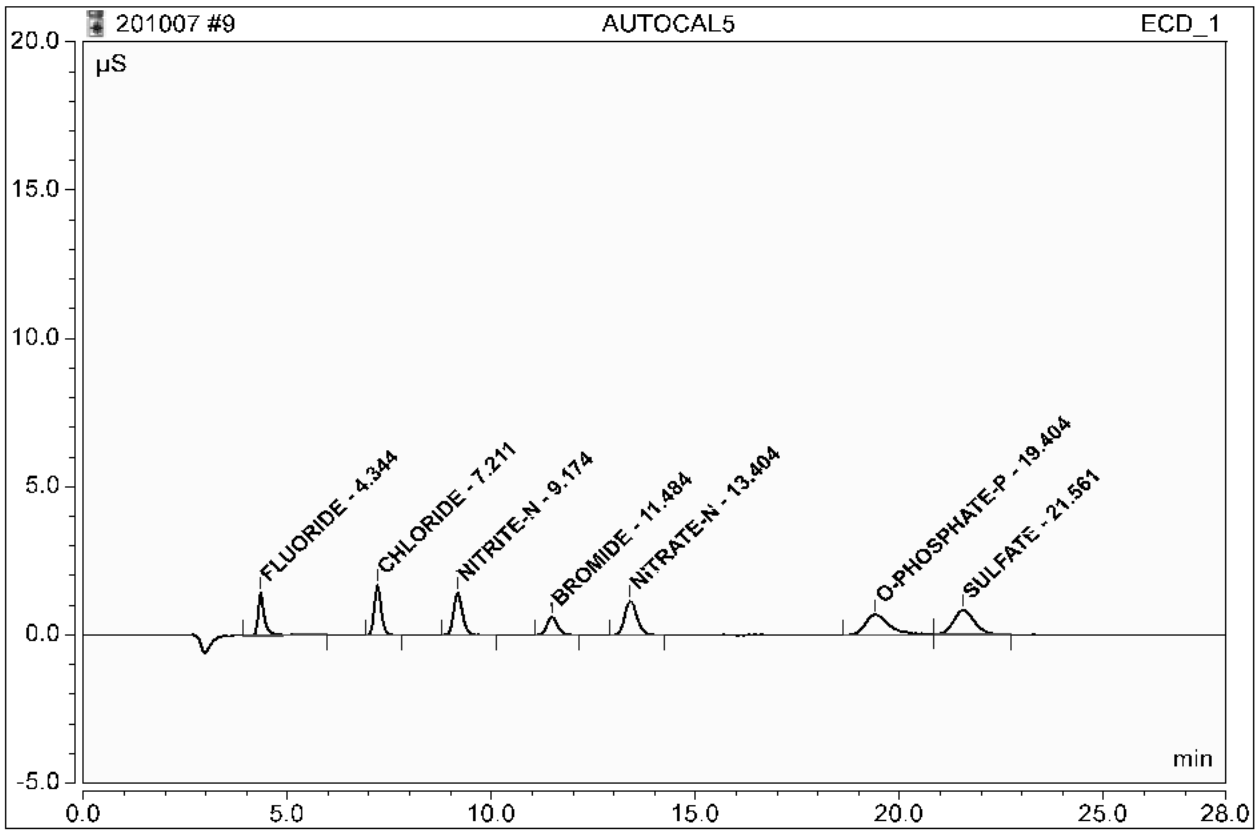
Sample Name:	**AUTOCAL6**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 13:10**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	5.0000	5.0072		1.35834	12.91
2	7.22	CHLORIDE	10.0000	10.0241		1.78569	16.97
3	9.19	NITRITE-N	5.0000	5.0101		1.92861	18.33
4	11.49	BROMIDE	3.0000	3.0164		0.21441	2.04
5	13.39	NITRATE-N	5.0000	5.0100		2.13420	20.28
6	19.40	O-PHOSPHATE-P	3.0000	2.8523		0.51574	4.90
7	21.59	SULFATE	20.0000	20.0308		2.58693	24.58
Total:				50.9510	0.000	10.524	100.00

9 AUTOCAL5

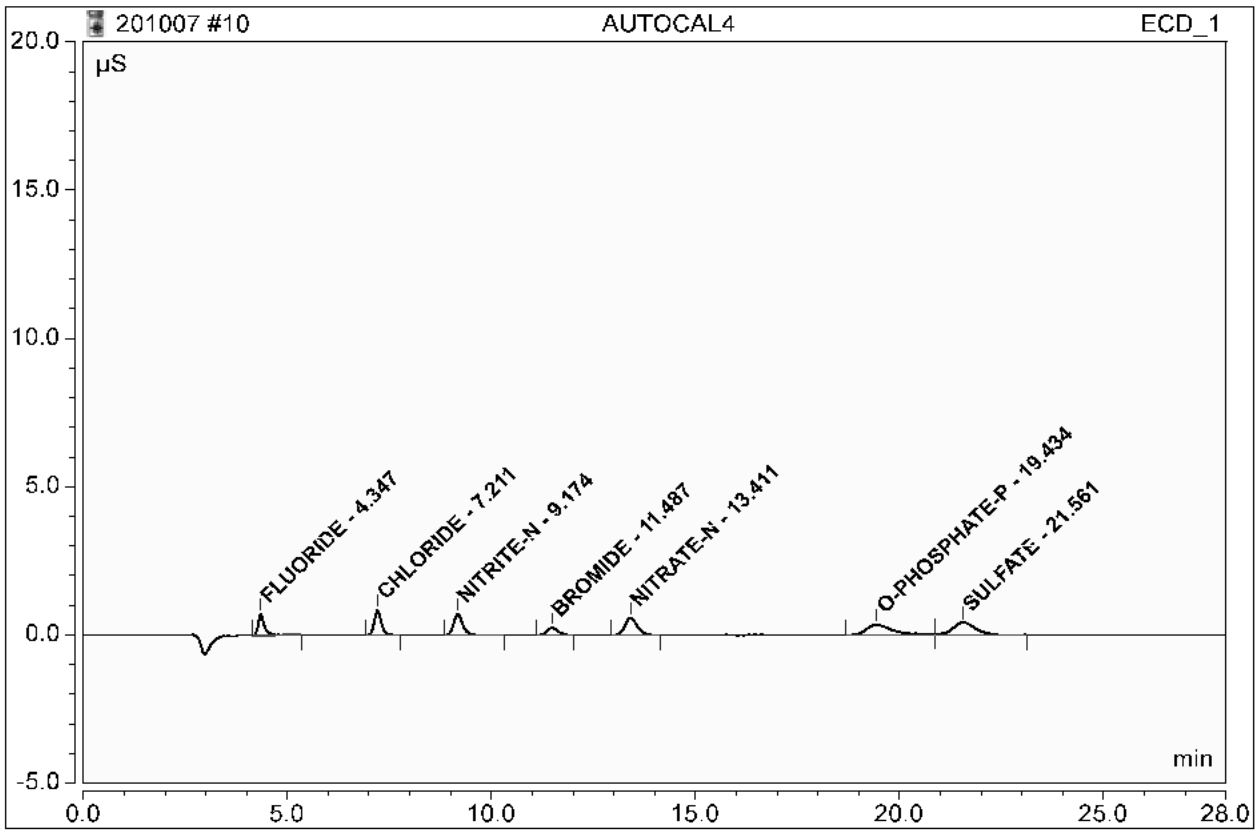
Sample Name:	**AUTOCAL5**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 13:40**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.34	FLUORIDE	1.0000	0.9629		0.25834	10.45
2	7.21	CHLORIDE	2.0000	1.8682		0.32306	13.07
3	9.17	NITRITE-N	1.0000	0.9444		0.35506	14.37
4	11.48	BROMIDE	2.5000	2.4821		0.17638	7.14
5	13.40	NITRATE-N	1.0000	0.9450		0.39390	15.94
6	19.40	O-PHOSPHATE-P	2.5000	2.5558		0.46834	18.95
7	21.56	SULFATE	4.0000	3.8208		0.49644	20.09
Total:				13.5792	0.000	2.472	100.00

10 AUTOCAL4

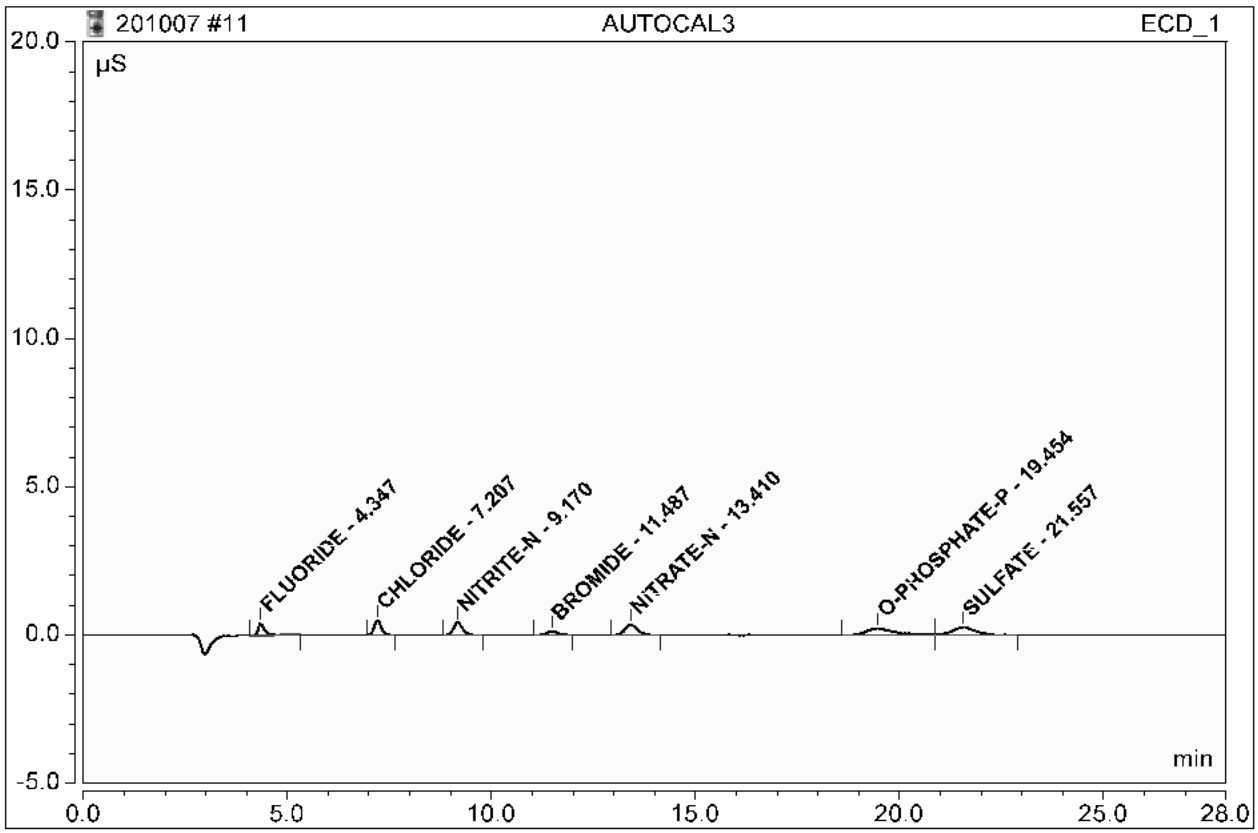
Sample Name:	**AUTOCAL4**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 14:11**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.5000	0.5090		0.12649	10.20
2	7.21	CHLORIDE	1.0000	1.0500		0.16094	12.97
3	9.17	NITRITE-N	0.5000	0.5210		0.17712	14.28
4	11.49	BROMIDE	1.0000	1.0043		0.07034	5.67
5	13.41	NITRATE-N	0.5000	0.5201		0.19620	15.82
6	19.43	O-PHOSPHATE-P	1.0000	0.9790		0.25293	20.39
7	21.56	SULFATE	2.0000	2.0722		0.25652	20.68
Total:				6.6558	0.000	1.241	100.00

11 AUTOCAL3

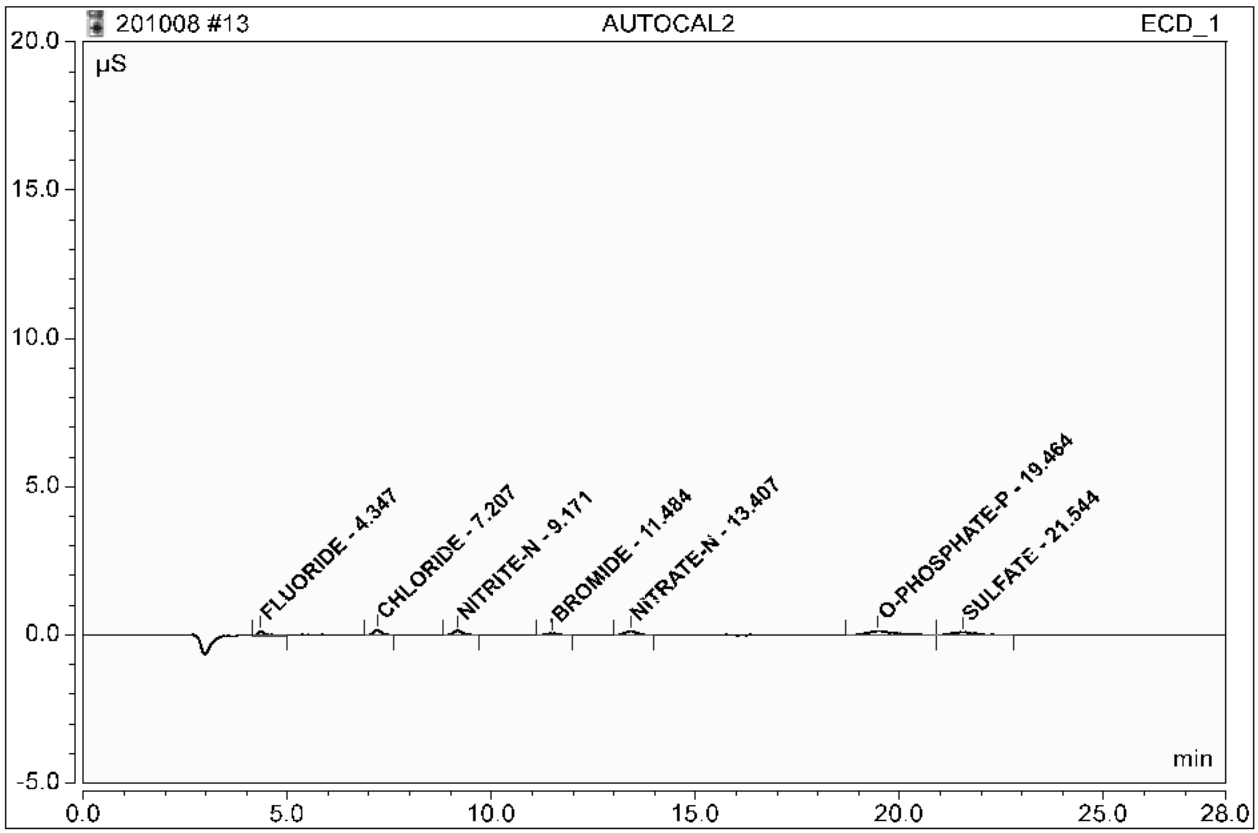
Sample Name:	**AUTOCAL3**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 14:42**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.2500	0.2960		0.07694	10.25
2	7.21	CHLORIDE	0.5000	0.5973		0.09515	12.67
3	9.17	NITRITE-N	0.2500	0.2952		0.10382	13.83
4	11.49	BROMIDE	0.5000	0.5040		0.03557	4.74
5	13.41	NITRATE-N	0.2500	0.2971		0.11653	15.52
6	19.45	O-PHOSPHATE-P	0.5000	0.6770		0.16788	22.36
7	21.56	SULFATE	1.0000	1.1732		0.15500	20.64
Total:				3.8398	0.000	0.751	100.00

13 AUTOCAL2

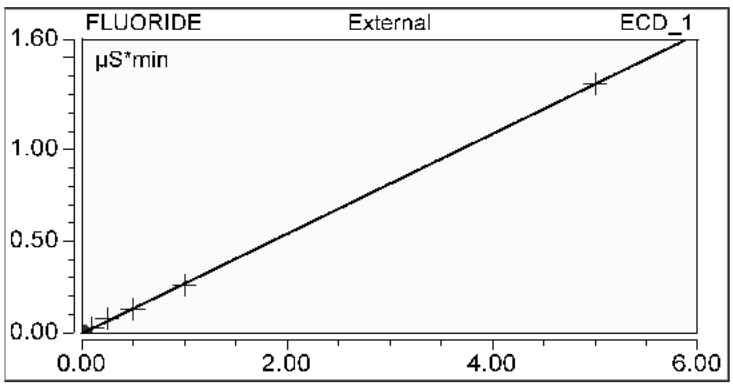
Sample Name:	**AUTOCAL2**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:13**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**

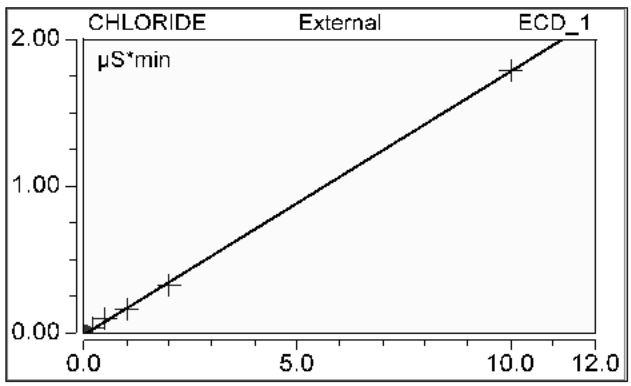


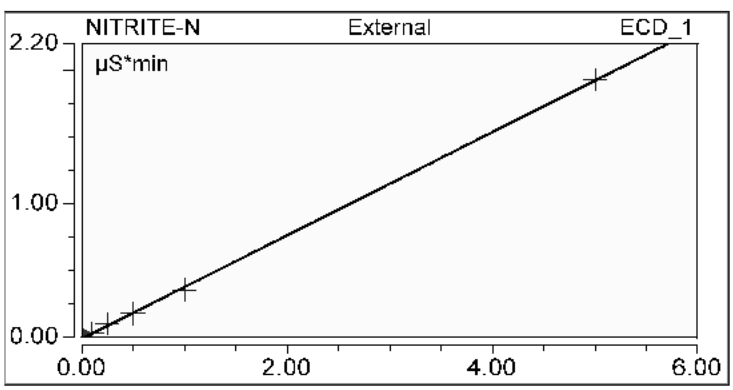
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.1000	0.1058		0.02521	8.45
2	7.21	CHLORIDE	0.2000	0.2461		0.03215	10.78
3	9.17	NITRITE-N	0.1000	0.1158		0.03437	11.52
4	11.48	BROMIDE	0.2000	0.2050		0.01428	4.79
5	13.41	NITRATE-N	0.1000	0.1148		0.03848	12.90
6	19.46	O-PHOSPHATE-P	0.2000	0.2317		0.09666	32.40
7	21.54	SULFATE	0.4000	0.4148		0.05719	19.17
Total:				1.4338	0.000	0.298	100.00

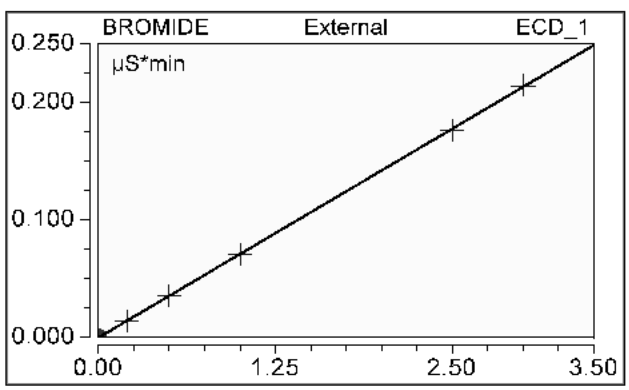
13 AUTOCAL1

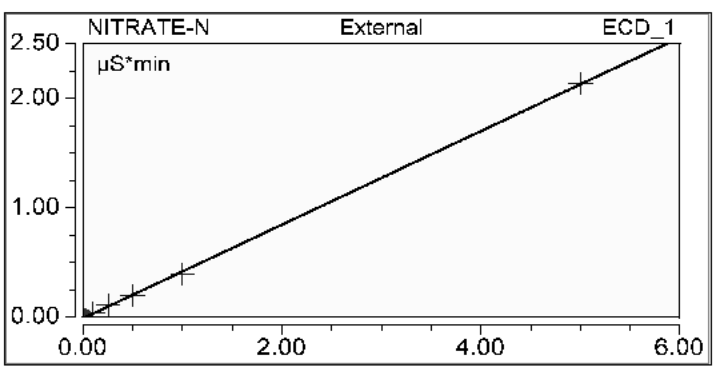
Sample Name:	**AUTOCAL1**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:44**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**n.a.**

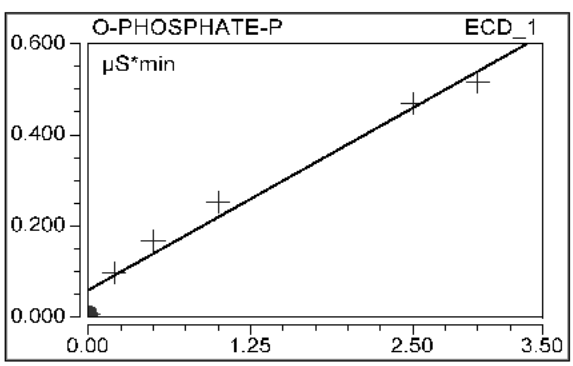


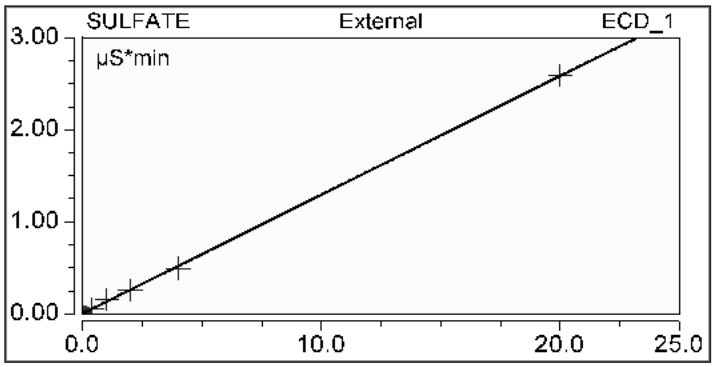








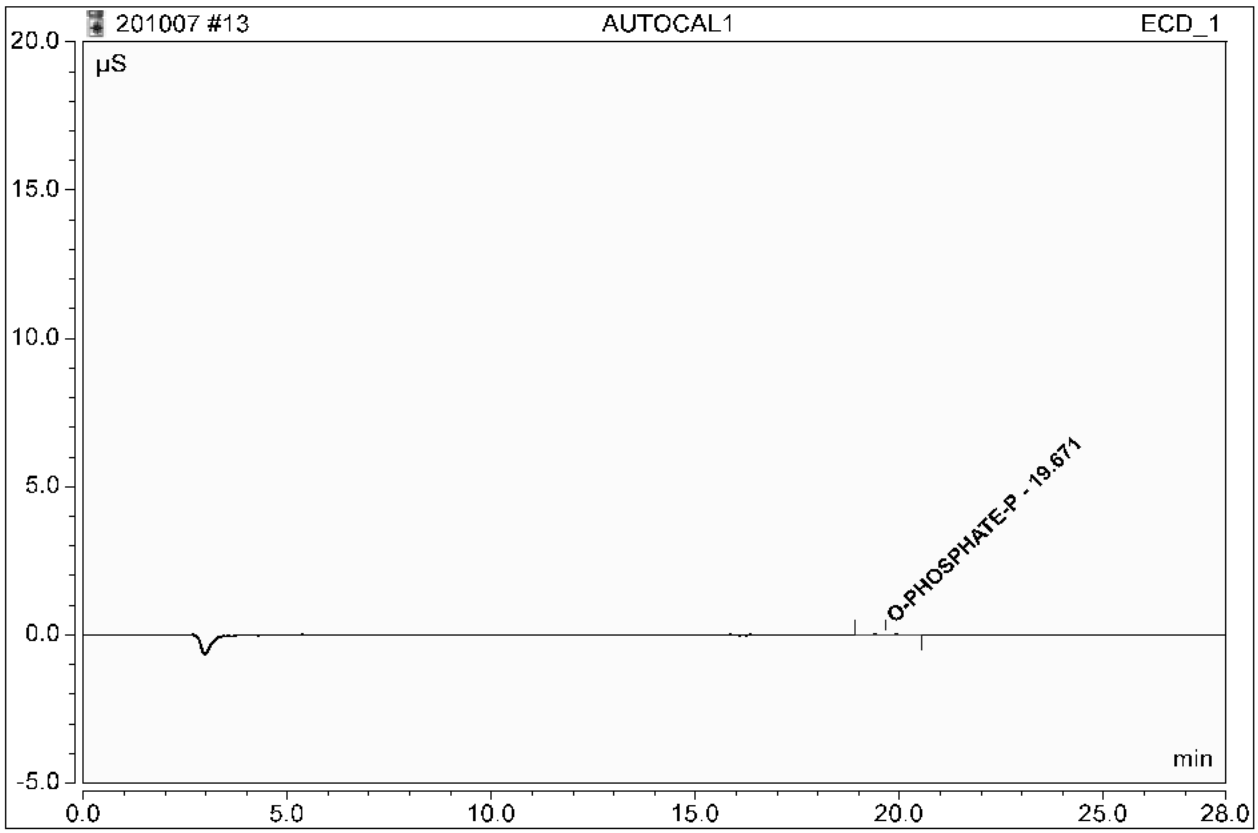




No.	Ret.Time min	Peak Name	Cal.Type	Coeff.Det. %	Offset	Slope	Curve
n.a.	n.a.	FLUORIDE	n, WithOffs	99.9761	-0.0036	0.2720	0.0000
n.a.	n.a.	CHLORIDE	n, WithOffs	99.9545	-0.0120	0.1793	0.0000
n.a.	n.a.	NITRITE-N	n, WithOffs	99.9662	-0.0104	0.3870	0.0000
n.a.	n.a.	BROMIDE	n, WithOffs	99.9888	-0.0003	0.0712	0.0000
n.a.	n.a.	NITRATE-N	n, WithOffs	99.9655	-0.0106	0.4281	0.0000
n.a.	n.a.	O-PHOSPHATE-P	n, WithOffs	97.4479	0.0596	0.1599	0.0000
n.a.	n.a.	SULFATE	n, WithOffs	99.9761	0.0037	0.1290	0.0000
Average:				99.6107	0.0038	0.2324	0.0000

13 AUTOCAL1

Sample Name:	**AUTOCAL1**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:44**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



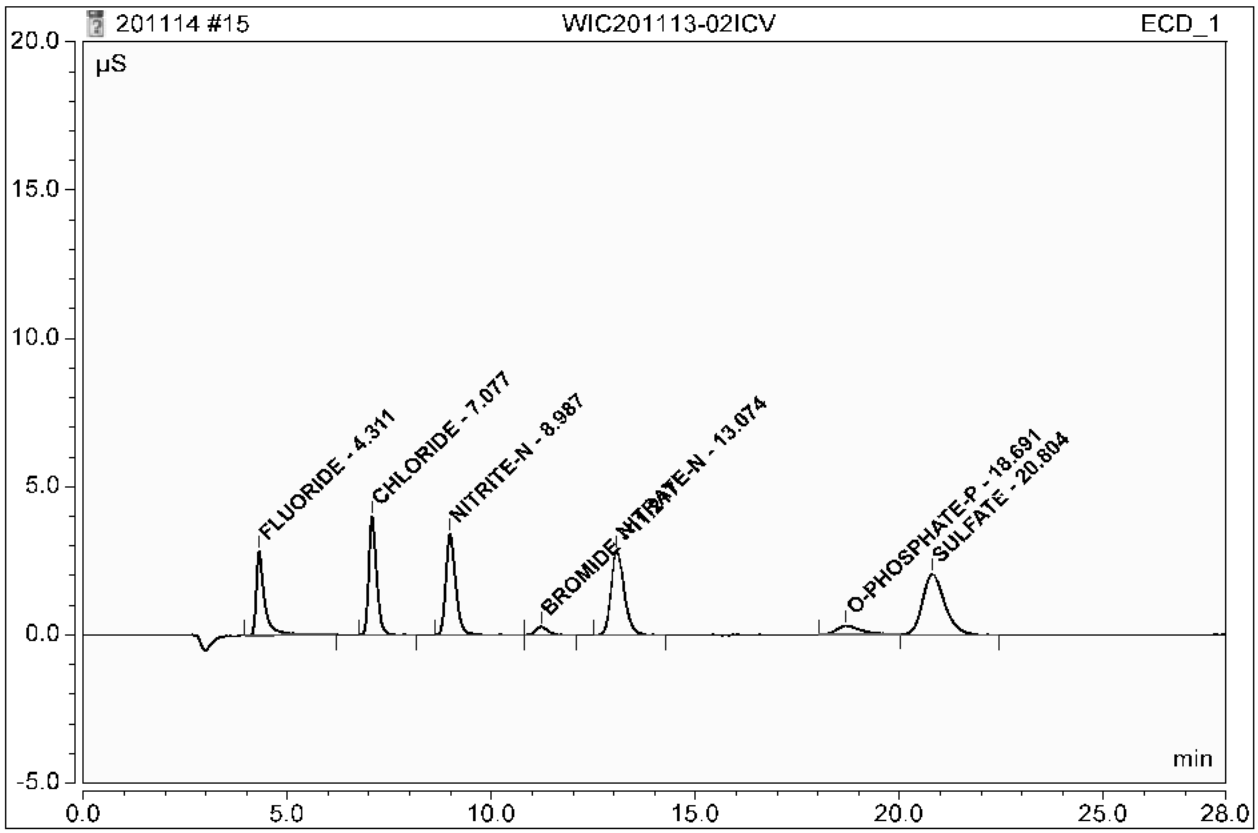
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	0.0000	n.a.	n.a.	n.a.	n.a.
1	19.67	O-PHOSPHATE-P	0.0000	n.a.		0.00755	100.00
n.a.	n.a.	SULFATE	0.0000	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.008	100.00

This is runlog for Sequence 201114.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/14/20 14:24		1	201114	LXA2
ICV	11/14/20 14:54		1	201114	LXA2
ICB	11/14/20 15:25		1	201114	LXA2
527509002	11/14/20 15:56	2062981	100	201114	LXA2
527509007	11/14/20 16:27	2062981	100	201114	LXA2
527509011	11/14/20 16:58	2062981	100	201114	LXA2
527510002	11/14/20 17:28	2062981	100	201114	LXA2
527510008	11/14/20 17:59	2062981	100	201114	LXA2
527510014	11/14/20 18:30	2062981	100	201114	LXA2
527512005	11/14/20 19:01	2062981	100	201114	LXA2
527513002	11/14/20 19:32	2062981	100	201114	LXA2
527513004	11/14/20 20:03	2062981	100	201114	LXA2
527513006	11/14/20 20:34	2062981	100	201114	LXA2
CVH	11/14/20 21:05		1	201114	LXA2
CCB	11/14/20 21:36		1	201114	LXA2
1204694599	11/14/20 22:07	2062981	100	201114	LXA2
1204694600	11/14/20 22:37	2062981	100	201114	LXA2
1204694597	11/14/20 23:08	2062981	1	201114	LXA2
1204694598	11/14/20 23:39	2062981	1	201114	LXA2

15 WIC201113-02ICV

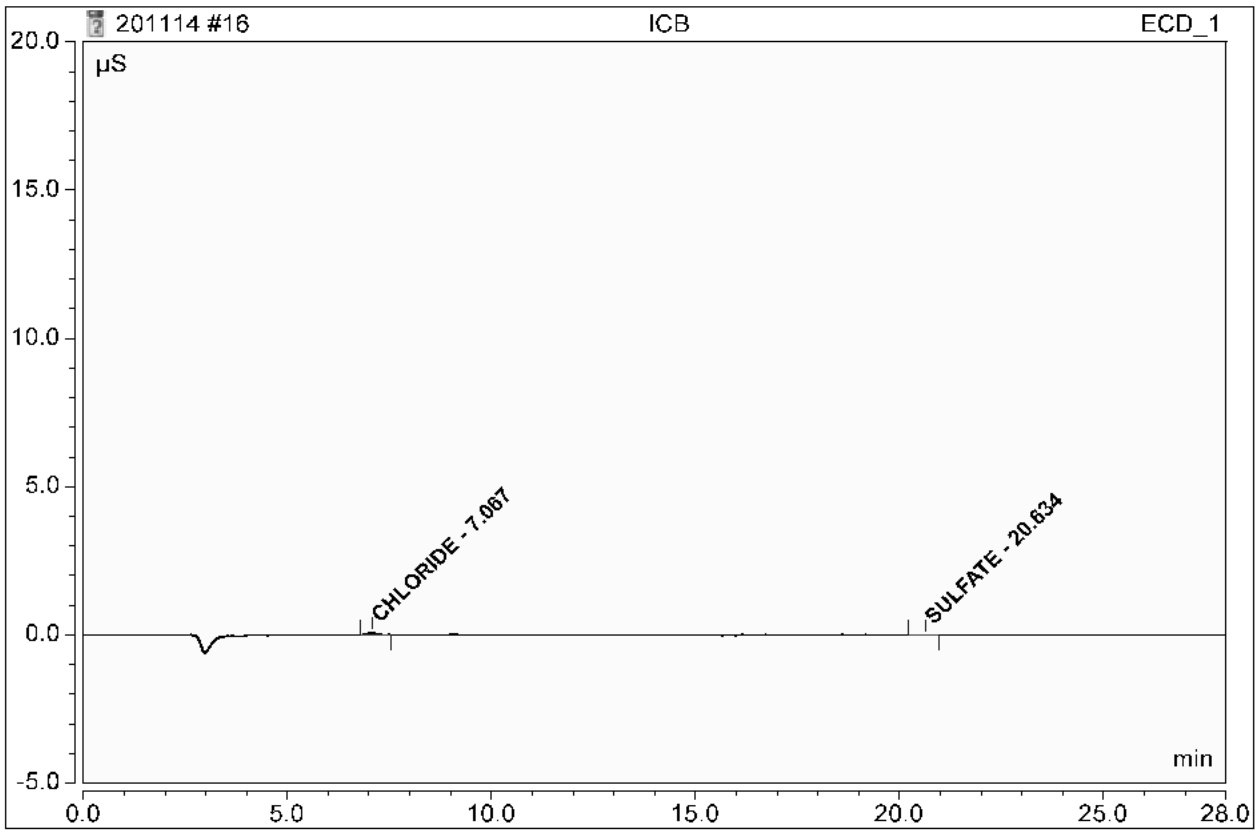
Sample Name:	**WIC201113-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 14:54**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	2.4867		0.67279	13.11
2	7.08	CHLORIDE	n.a.	4.9208		0.87049	16.96
3	8.99	NITRITE-N	n.a.	2.4699		0.94549	18.43
4	11.22	BROMIDE	n.a.	1.2449		0.08831	1.72
5	13.07	NITRATE-N	n.a.	2.4790		1.05063	20.47
6	18.69	O-PHOSPHATE-P	n.a.	0.8998		0.20351	3.97
7	20.80	SULFATE	n.a.	10.0534		1.30022	25.34
Total:				24.5545	0.000	5.131	100.00

16 ICB

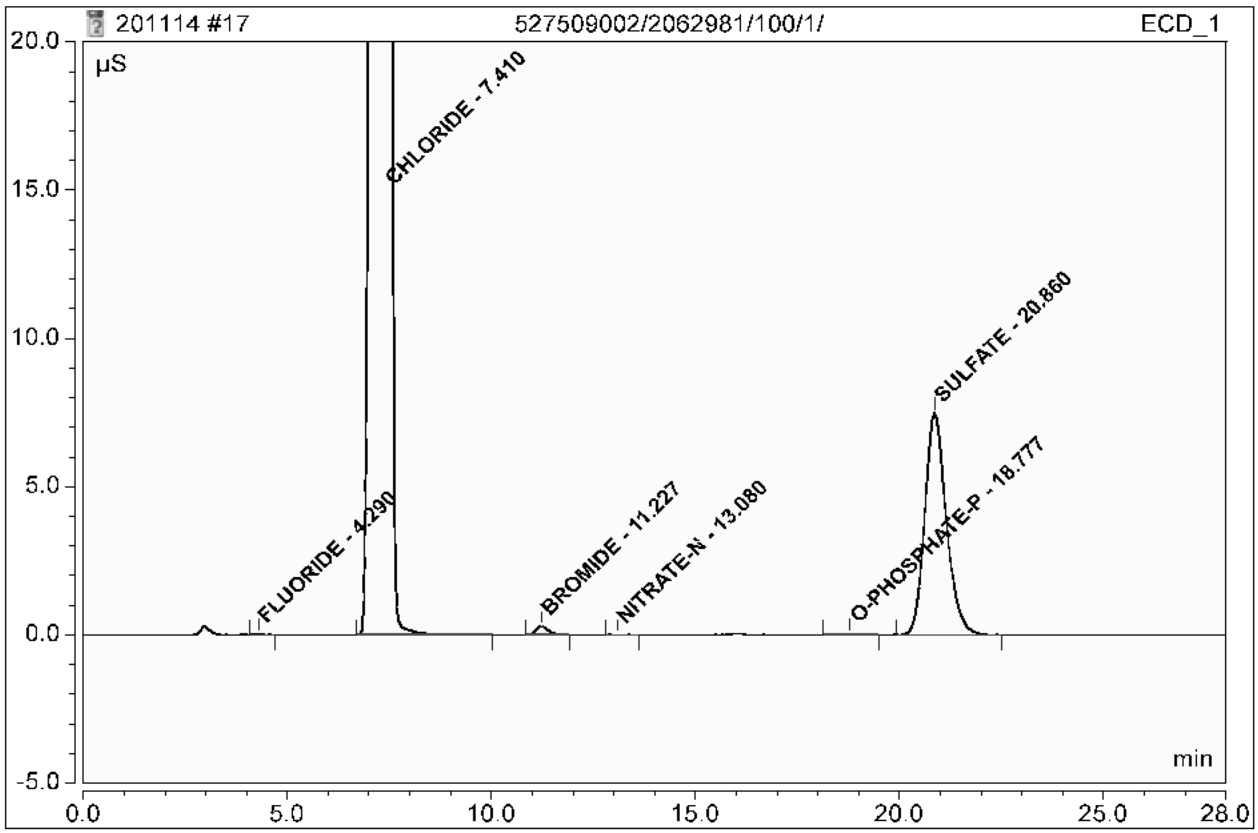
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:25**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.07	CHLORIDE	n.a.	0.1623		0.01713	92.13
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	20.63	SULFATE	n.a.	n.a.		0.00146	7.87
Total:				0.1623	0.000	0.019	100.00

17 527509002/2062981/100/1/

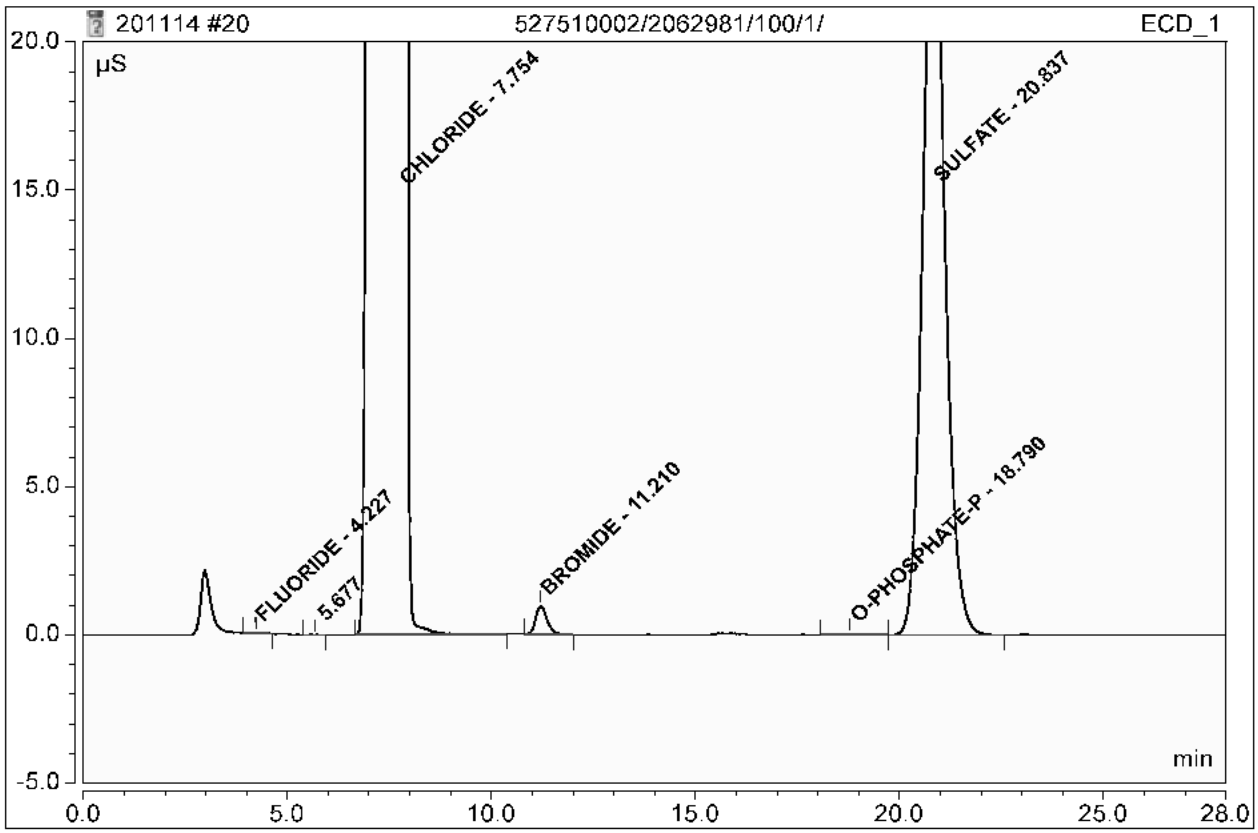
Sample Name:	**527509002/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:56**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	0.0336		0.00558	0.01
2	7.41	CHLORIDE	n.a.	566.7045		101.61736	95.61
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.23	BROMIDE	n.a.	1.2824		0.09098	0.09
4	13.08	NITRATE-N	n.a.	0.0312		0.00272	0.00
5	18.78	O-PHOSPHATE-P	n.a.	n.a.		0.00829	0.01
6	20.86	SULFATE	n.a.	35.2848		4.55412	4.29
Total:				603.3366	0.000	106.279	100.00

20 527510002/2062981/100/1/

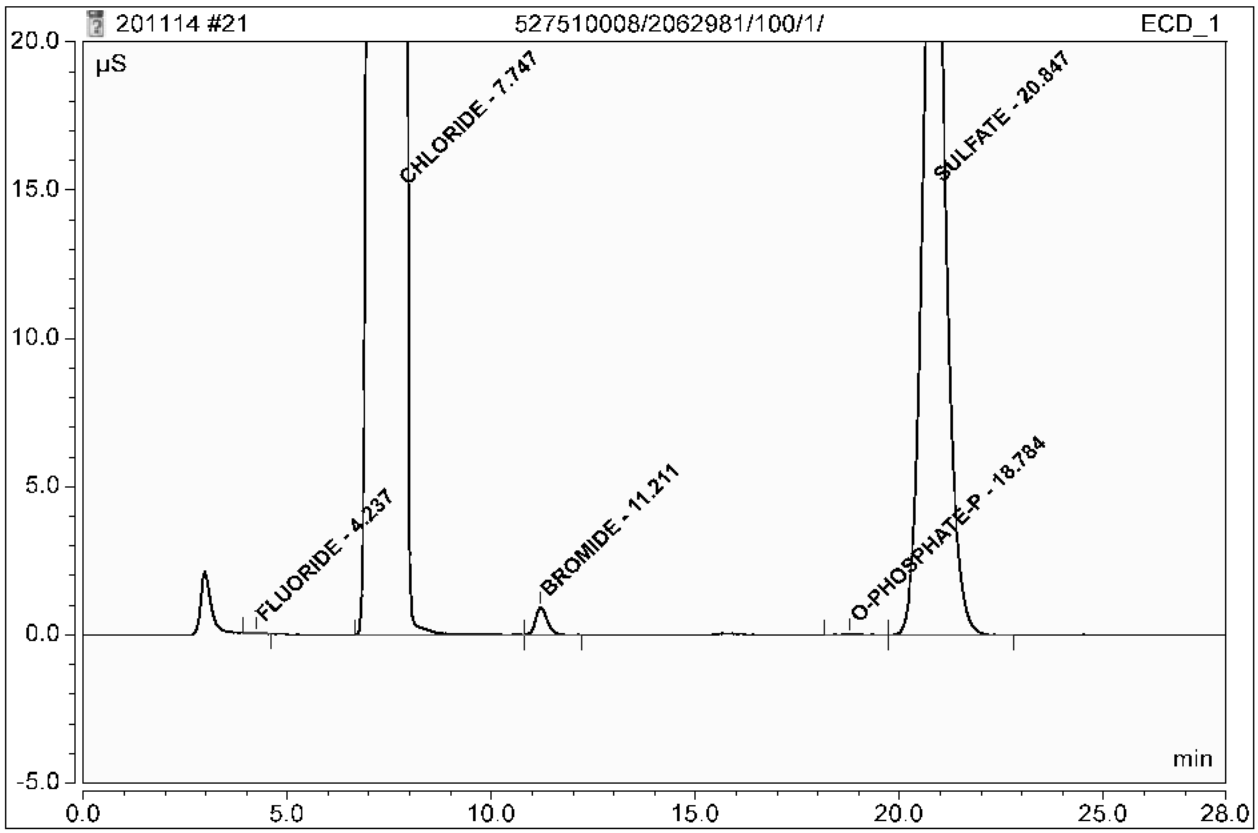
Sample Name:	**527510002/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 17:28**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.23	FLUORIDE	n.a.	0.0309		0.00484	0.00
3	7.75	CHLORIDE	n.a.	1867.5037		334.89476	95.25
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
4	11.21	BROMIDE	n.a.	4.2845		0.30468	0.09
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
5	18.79	O-PHOSPHATE-P	n.a.	n.a.		0.01850	0.01
6	20.84	SULFATE	n.a.	127.0414		16.38729	4.66
Total:				1998.8605	0.000	351.610	100.00

21 527510008/2062981/100/1/

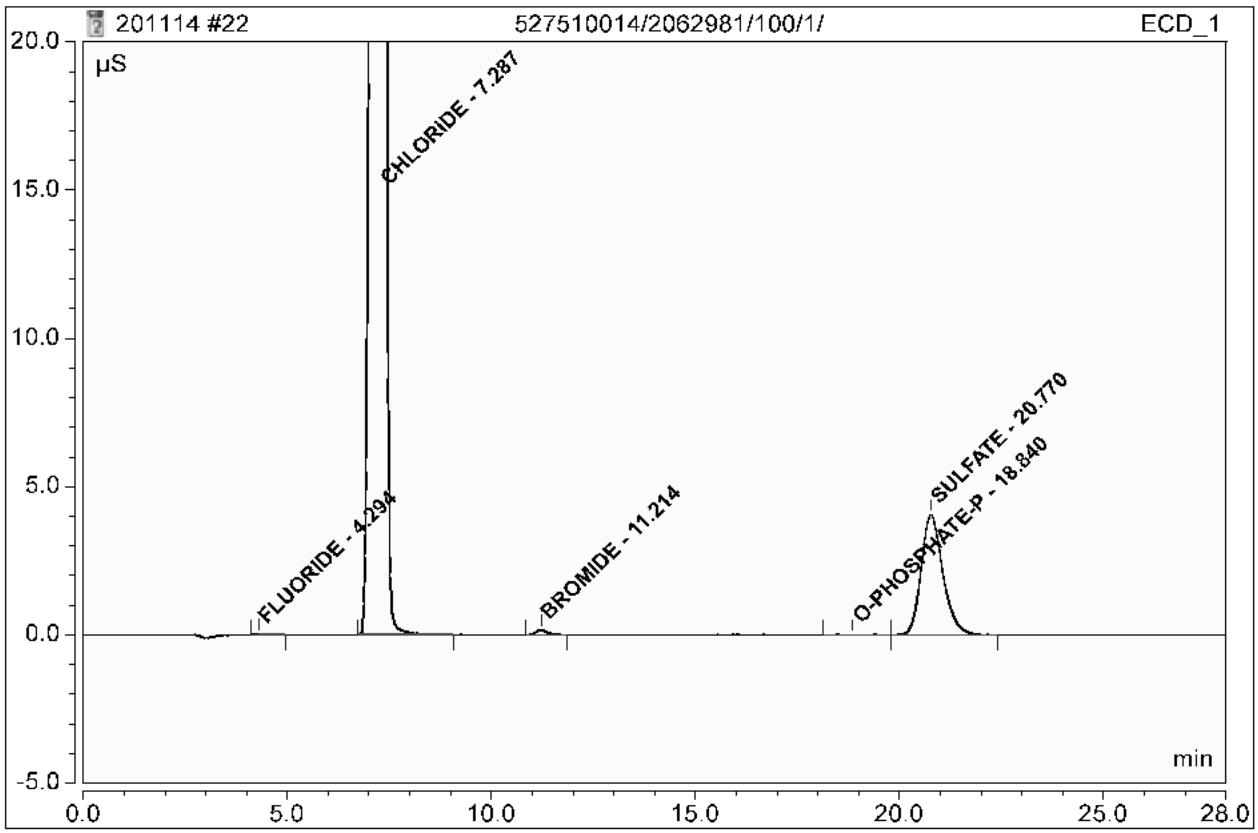
Sample Name:	**527510008/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 17:59**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.24	FLUORIDE	n.a.	0.0336		0.00558	0.00
2	7.75	CHLORIDE	n.a.	1825.0863		327.28789	94.64
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	4.2717		0.30377	0.09
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
4	18.78	O-PHOSPHATE-P	n.a.	n.a.		0.01919	0.01
5	20.85	SULFATE	n.a.	141.2424		18.21868	5.27
Total:				1970.6340	0.000	345.835	100.00

22 527510014/2062981/100/1/

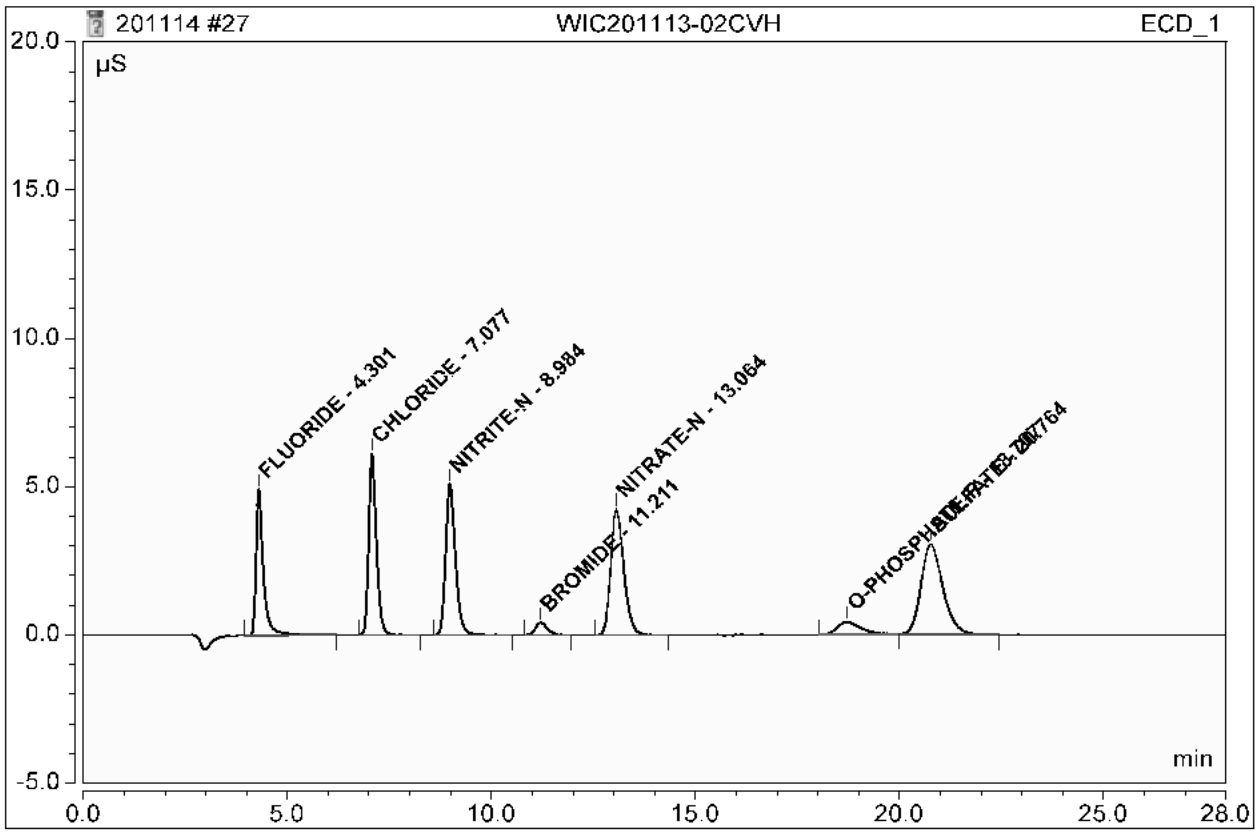
Sample Name:	**527510014/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 18:30**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	0.0393		0.00714	0.01
2	7.29	CHLORIDE	n.a.	298.7273		53.55996	95.45
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.6776		0.04792	0.09
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
4	18.84	O-PHOSPHATE-P	n.a.	n.a.		0.00772	0.01
5	20.77	SULFATE	n.a.	19.2757		2.48954	4.44
Total:				318.7199	0.000	56.112	100.00

27 WIC201113-02CVH

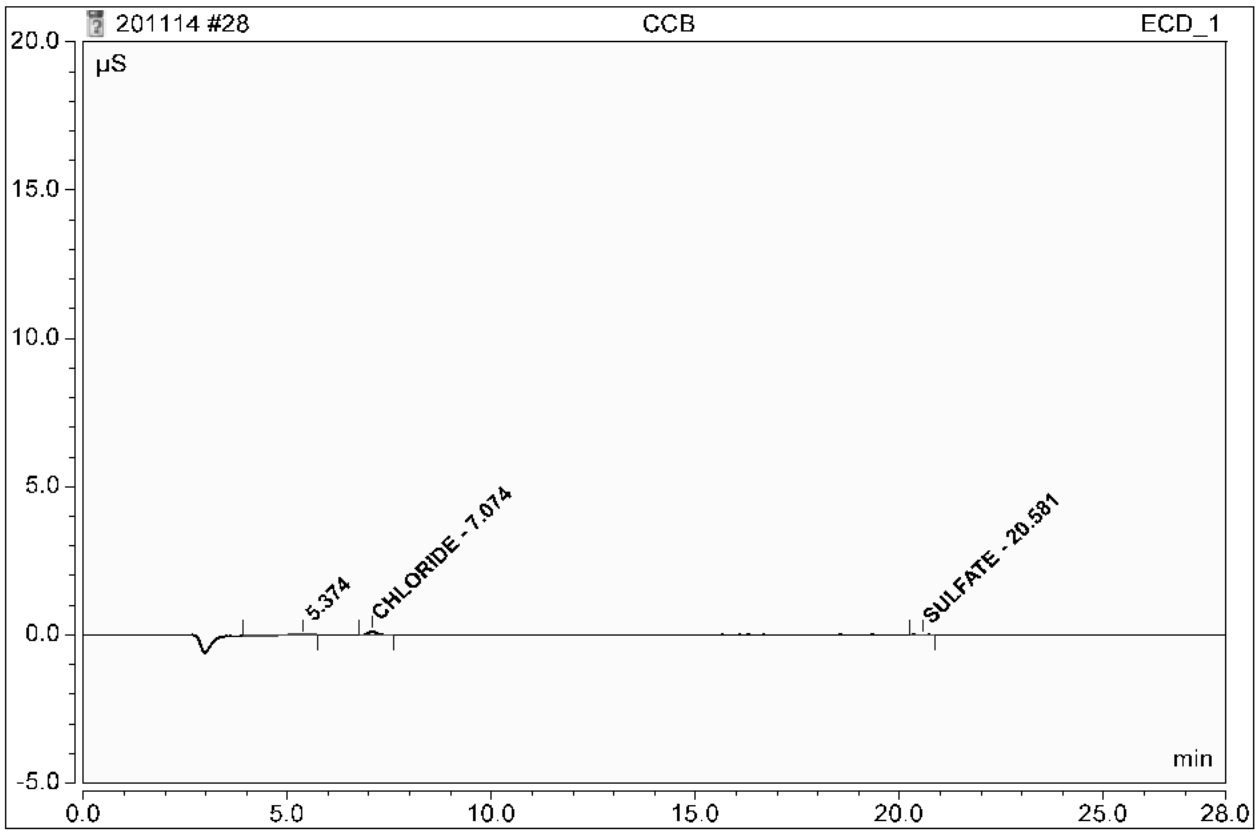
Sample Name:	**WIC201113-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 21:05**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.7206		1.00841	13.20
2	7.08	CHLORIDE	n.a.	7.4222		1.31907	17.27
3	8.98	NITRITE-N	n.a.	3.6575		1.40512	18.40
4	11.21	BROMIDE	n.a.	1.8795		0.13348	1.75
5	13.06	NITRATE-N	n.a.	3.6948		1.57114	20.57
6	18.71	O-PHOSPHATE-P	n.a.	1.3844		0.28100	3.68
7	20.76	SULFATE	n.a.	14.8608		1.92019	25.14
Total:				36.6197	0.000	7.638	100.00

28 CCB

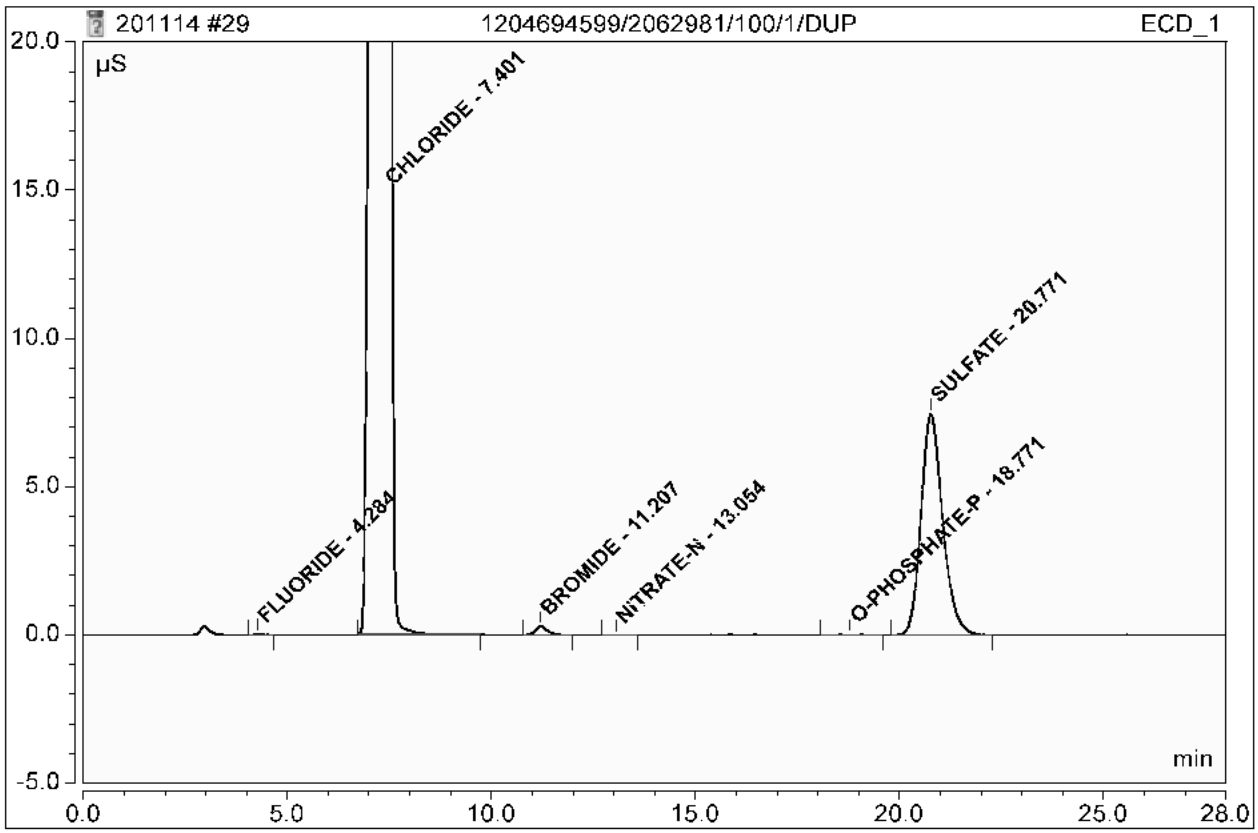
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 21:36**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
2	7.07	CHLORIDE	n.a.	0.2163		0.02681	76.12
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.58	SULFATE	n.a.	n.a.		0.00124	3.51
Total:				0.2163	0.000	0.028	79.63

29 1204694599/2062981/100/1/DUP

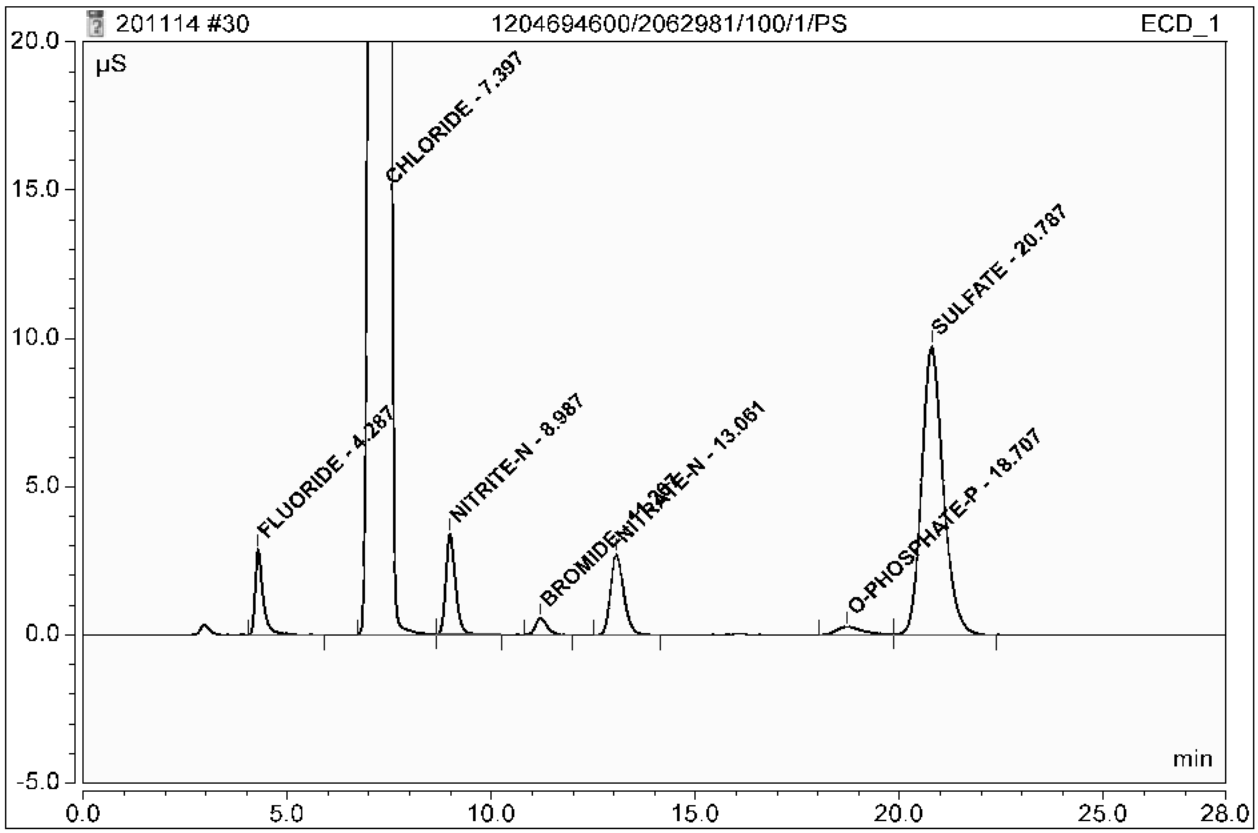
Sample Name:	**1204694599/2062981/100/1/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 22:07**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.28	FLUORIDE	n.a.	0.0350		0.00596	0.01
2	7.40	CHLORIDE	n.a.	567.0551		101.68024	95.62
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	1.2905		0.09156	0.09
4	13.05	NITRATE-N	n.a.	0.0312		0.00272	0.00
5	18.77	O-PHOSPHATE-P	n.a.	n.a.		0.00896	0.01
6	20.77	SULFATE	n.a.	35.2634		4.55136	4.28
Total:				603.6753	0.000	106.341	100.00

30 1204694600/2062981/100/1/PS

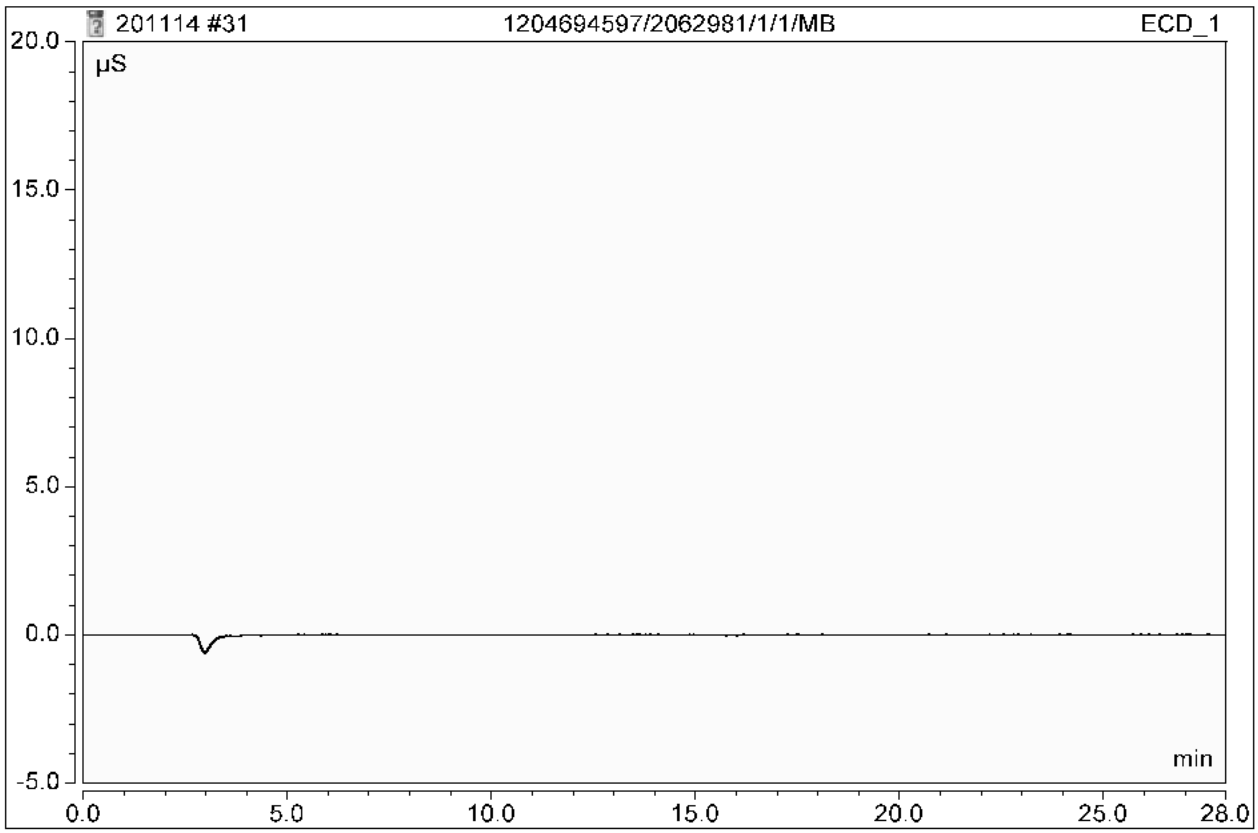
Sample Name:	**1204694600/2062981/100/1/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 22:37**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	2.3590		0.63807	0.58
2	7.40	CHLORIDE	n.a.	569.0249		102.03348	91.99
3	8.99	NITRITE-N	n.a.	2.4192		0.92588	0.83
4	11.21	BROMIDE	n.a.	2.5153		0.17874	0.16
5	13.06	NITRATE-N	n.a.	2.3916		1.01321	0.91
6	18.71	O-PHOSPHATE-P	n.a.	0.8826		0.20076	0.18
7	20.79	SULFATE	n.a.	45.9401		5.92826	5.34
Total:				625.5327	0.000	110.918	100.00

31 1204694597/2062981/1/1/MB

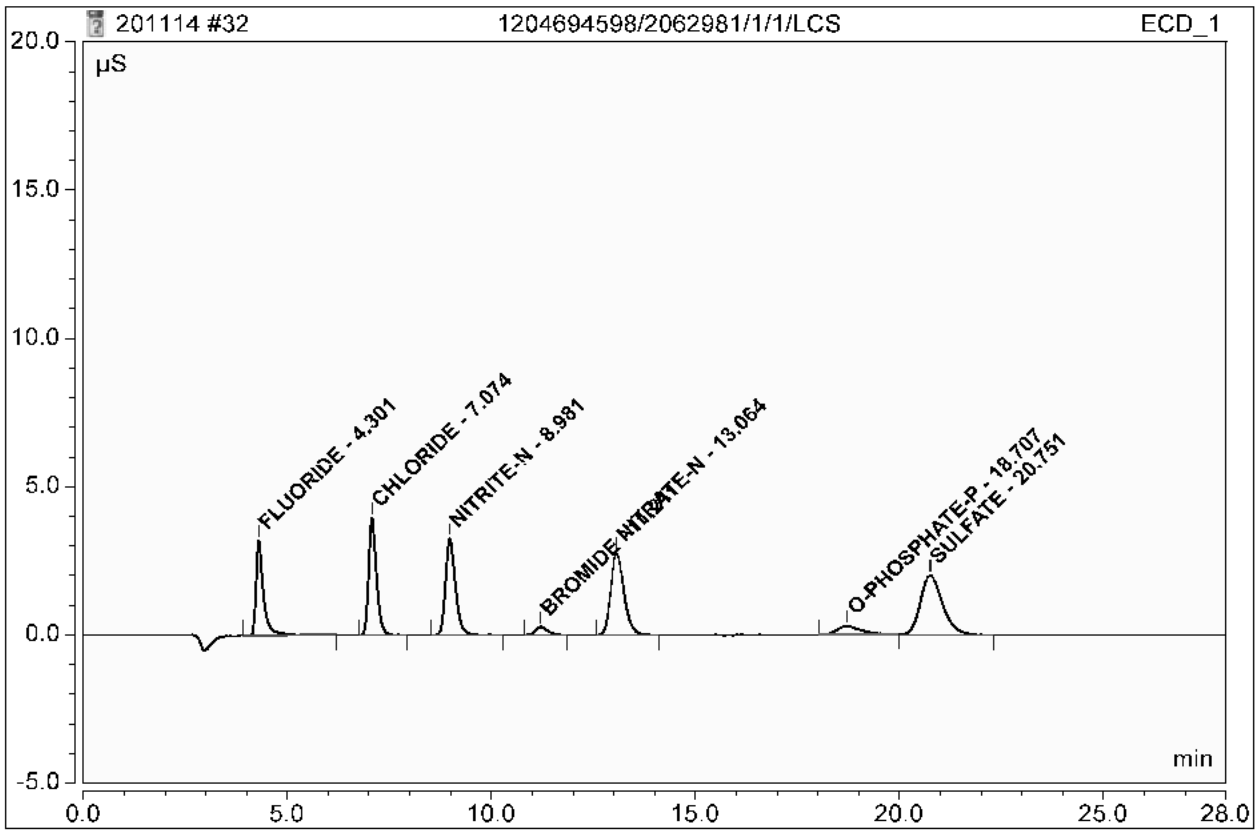
Sample Name:	**1204694597/2062981/1/1/MB**	*Injection Volume:*	**5000.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 23:08**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

32 1204694598/2062981/1/1/LCS

Sample Name:	**1204694598/2062981/1/1/LCS**	*Injection Volume:*	**5000.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 23:39**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



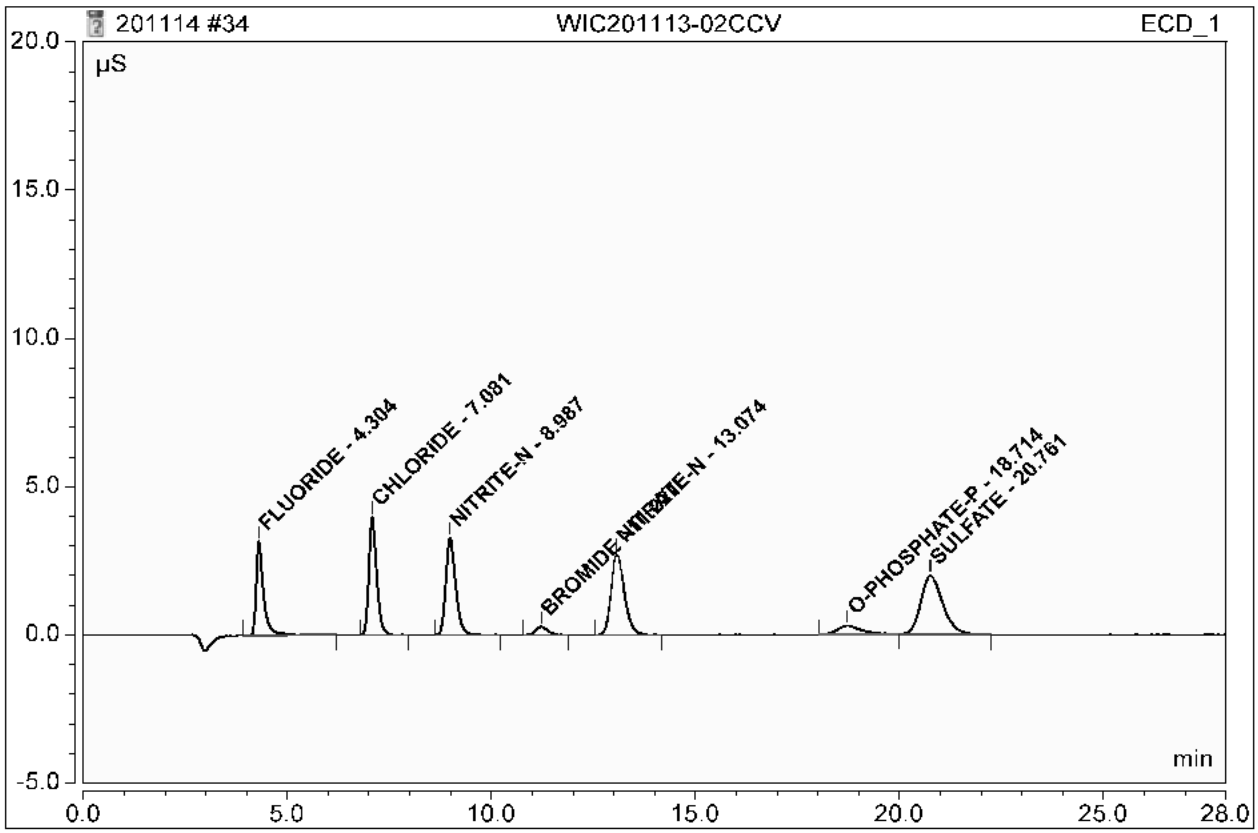
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4773		0.67025	13.36
2	7.07	CHLORIDE	n.a.	4.8838		0.86386	17.22
3	8.98	NITRITE-N	n.a.	2.3576		0.90201	17.98
4	11.21	BROMIDE	n.a.	1.2249		0.08688	1.73
5	13.06	NITRATE-N	n.a.	2.4233		1.02679	20.47
6	18.71	O-PHOSPHATE-P	n.a.	0.8331		0.19285	3.84
7	20.75	SULFATE	n.a.	9.8434		1.27313	25.38
Total:				24.0434	0.000	5.016	100.00

This is runlog for Sequence 201114.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
1204694179	11/15/20 00:10	2062706	1	201114	LXA2
CCV	11/15/20 00:41		1	201114	LXA2
CCB	11/15/20 01:12		1	201114	LXA2

34 WIC201113-02CCV

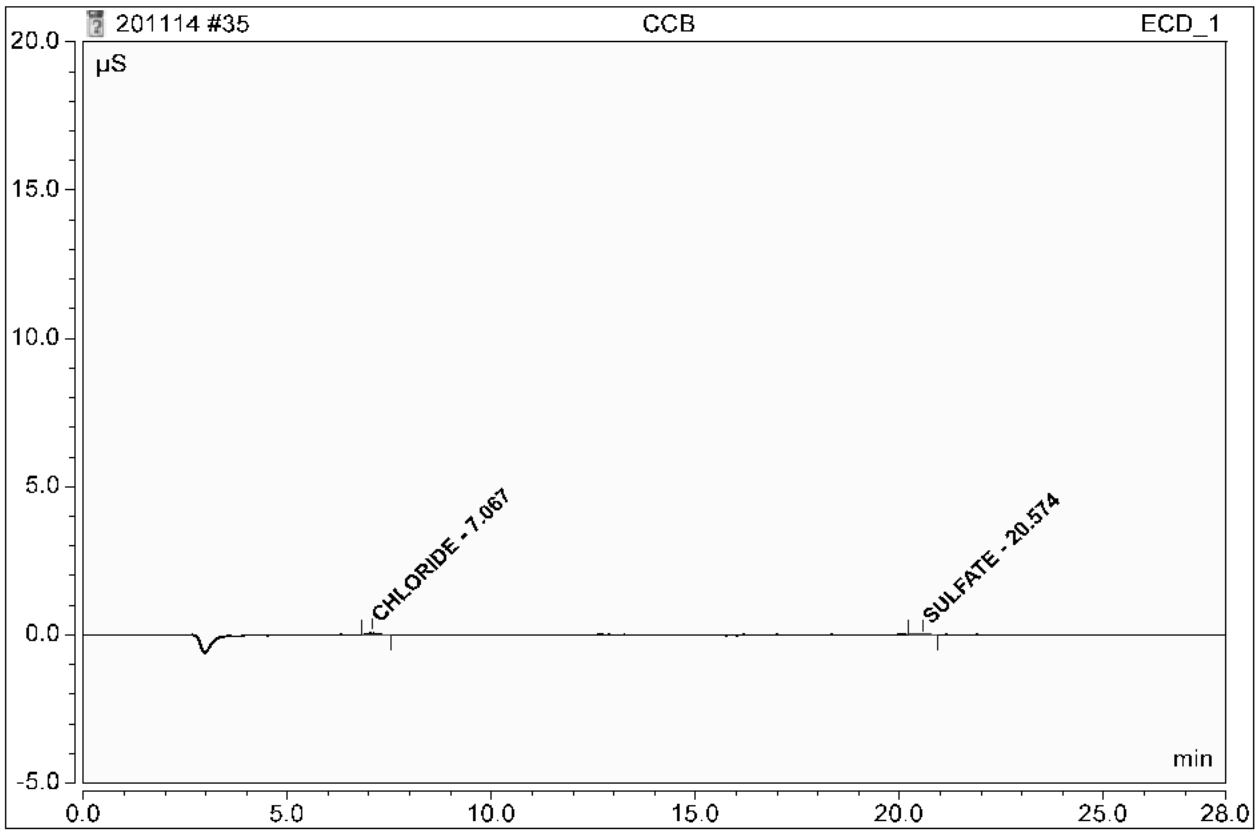
Sample Name:	**WIC201113-02CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 0:41**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4459		0.66171	13.26
2	7.08	CHLORIDE	n.a.	4.9095		0.86846	17.40
3	8.99	NITRITE-N	n.a.	2.3673		0.90577	18.15
4	11.22	BROMIDE	n.a.	1.2141		0.08612	1.73
5	13.07	NITRATE-N	n.a.	2.3980		1.01597	20.36
6	18.71	O-PHOSPHATE-P	n.a.	0.8394		0.19386	3.88
7	20.76	SULFATE	n.a.	9.7305		1.25857	25.22
Total:				23.9048	0.000	4.990	100.00

35 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 1:12**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



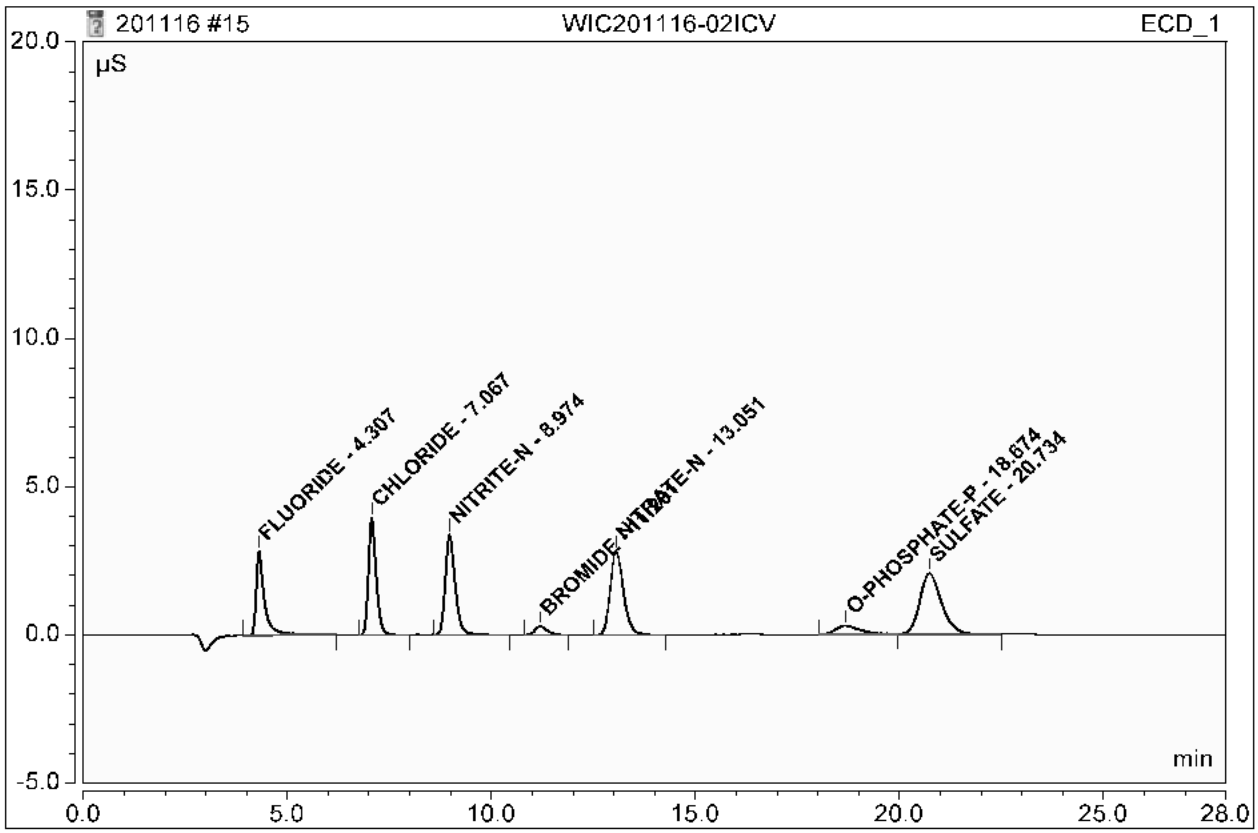
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.07	CHLORIDE	n.a.	0.1405		0.01323	90.33
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	20.57	SULFATE	n.a.	n.a.		0.00142	9.67
Total:				0.1405	0.000	0.015	100.00

This is runlog for Sequence 201116.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/16/20 08:16		1	201116	LXA2
ICV	11/16/20 08:46		1	201116	LXA2
ICB	11/16/20 09:17		1	201116	LXA2
527509007	11/16/20 10:40	2062981	1	201116	LXA2
527509011	11/16/20 11:11	2062981	500	201116	LXA2
527510002	11/16/20 11:42	2062981	1000	201116	LXA2
527510008	11/16/20 12:13	2062981	1000	201116	LXA2
527512005	11/16/20 12:43	2062981	500	201116	LXA2
527513002	11/16/20 13:14	2062981	1000	201116	LXA2
527513004	11/16/20 13:45	2062981	1000	201116	LXA2
527509002	11/16/20 14:16	2062981	10000	201116	LXA2
1204694599	11/16/20 14:47	2062981	10000	201116	LXA2
1204694600	11/16/20 15:18	2062981	10000	201116	LXA2
CVH	11/16/20 15:49		1	201116	LXA2
CCB	11/16/20 16:20		1	201116	LXA2
527509002	11/16/20 16:51	2062981	200	201116	LXA2
1204694599	11/16/20 17:21	2062981	200	201116	LXA2
1204694600	11/16/20 17:52	2062981	200	201116	LXA2
527509007	11/16/20 18:23	2062981	1	201116	LXA2
CCV	11/16/20 18:54		1	201116	LXA2
CCB	11/16/20 19:25		1	201116	LXA2

15 WIC201116-02ICV

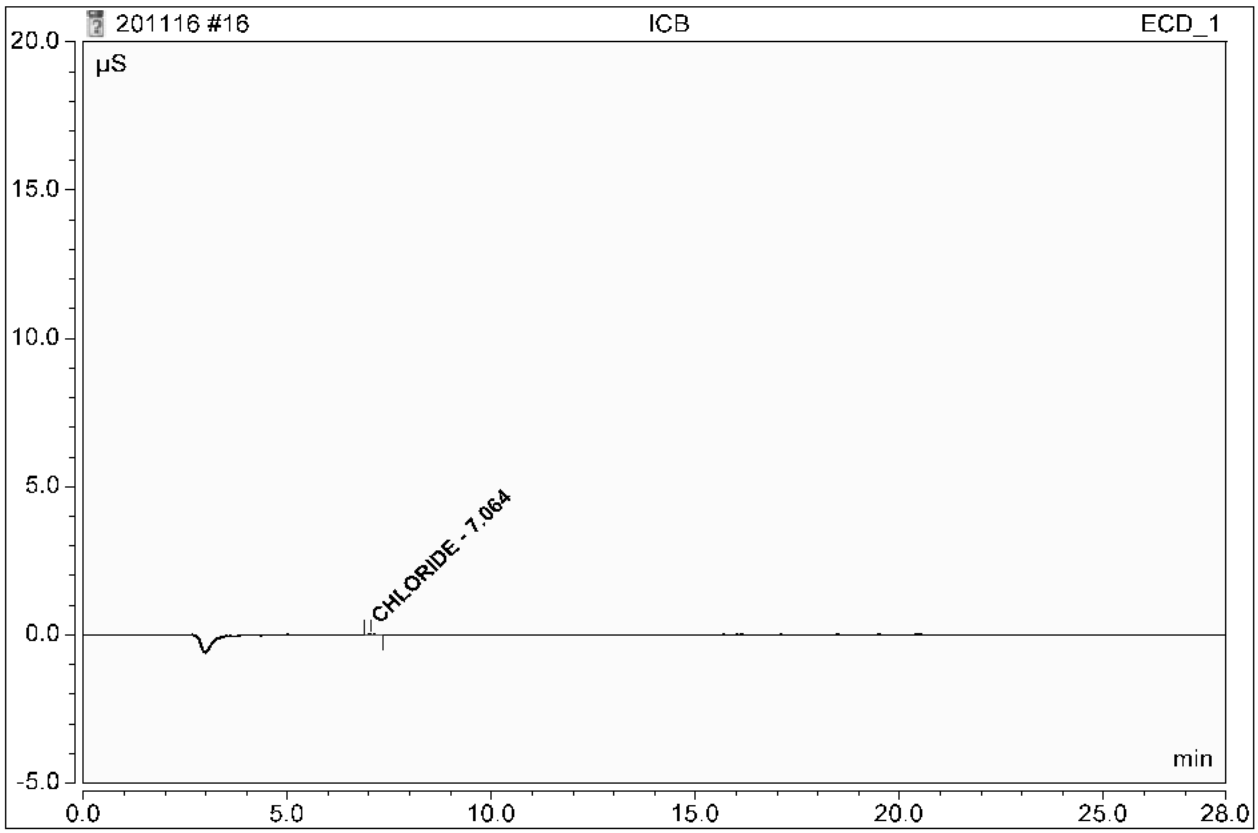
Sample Name:	**WIC201116-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 8:46**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	2.4431		0.66094	13.08
2	7.07	CHLORIDE	n.a.	4.8190		0.85223	16.87
3	8.97	NITRITE-N	n.a.	2.4316		0.93067	18.42
4	11.20	BROMIDE	n.a.	1.2403		0.08798	1.74
5	13.05	NITRATE-N	n.a.	2.4562		1.04086	20.60
6	18.67	O-PHOSPHATE-P	n.a.	0.8513		0.19576	3.87
7	20.73	SULFATE	n.a.	9.9257		1.28375	25.41
Total:				24.1673	0.000	5.052	100.00

16 ICB

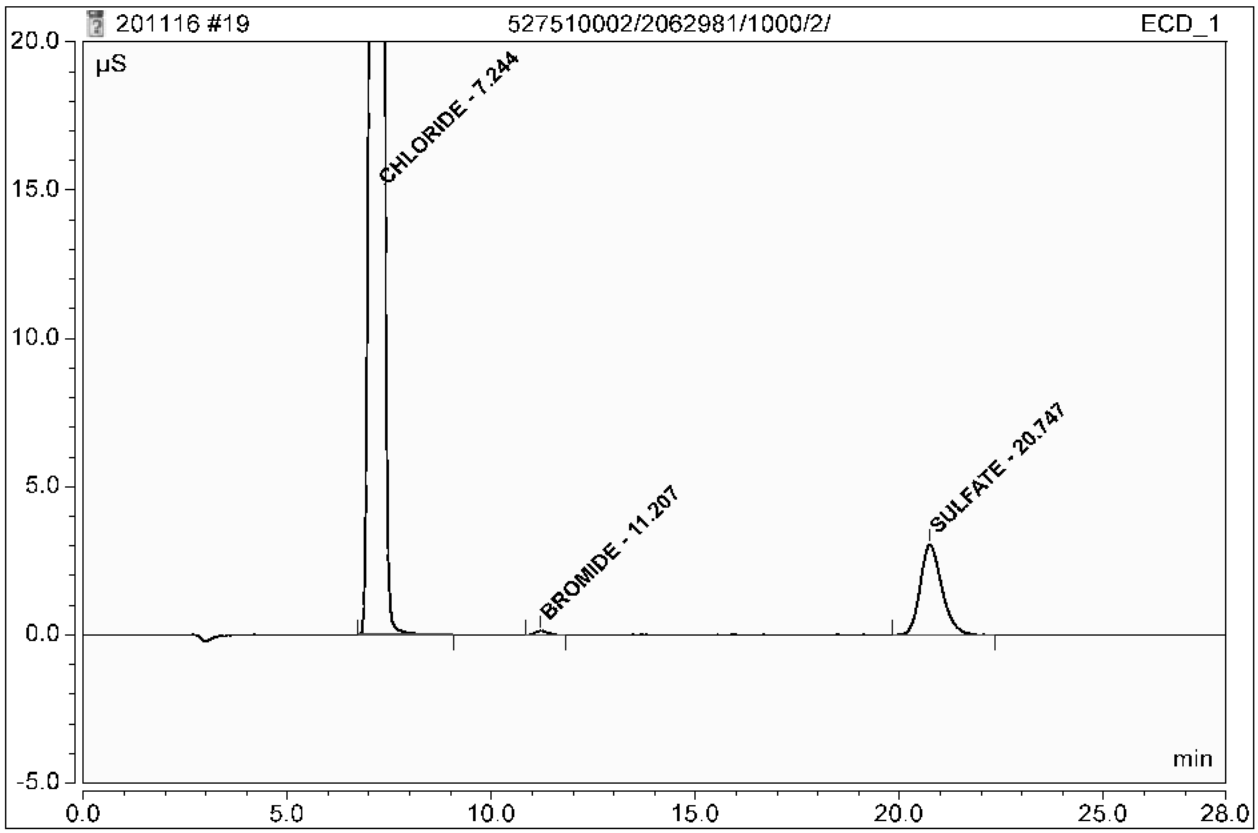
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 9:17**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.06	CHLORIDE	n.a.	0.0736		0.00122	100.00
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0736	0.000	0.001	100.00

19 527510002/2062981/1000/2/

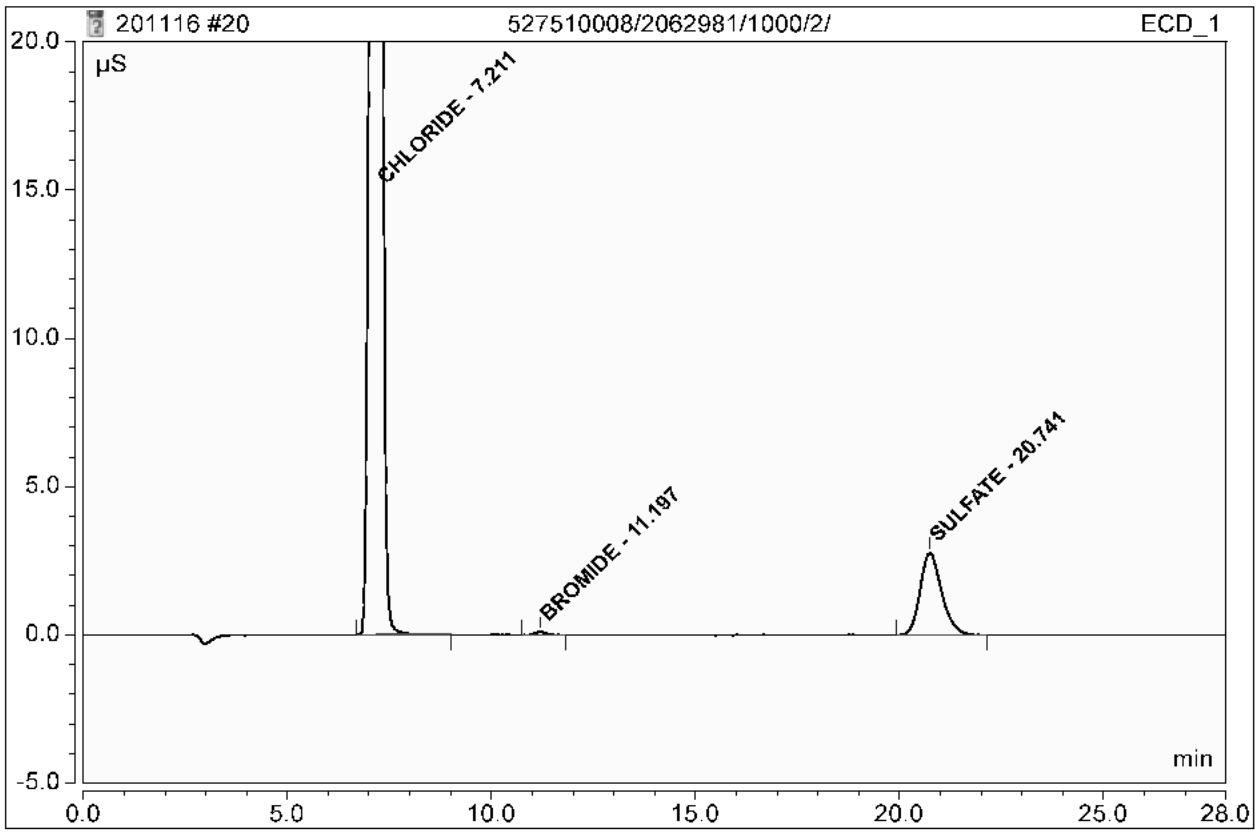
Sample Name:	**527510002/2062981/1000/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 11:42**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.24	CHLORIDE	n.a.	229.3784		41.12335	95.59
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.21	BROMIDE	n.a.	0.5689		0.04018	0.09
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.75	SULFATE	n.a.	14.3682		1.85666	4.32
Total:				244.3154	0.000	43.020	100.00

20 527510008/2062981/1000/2/

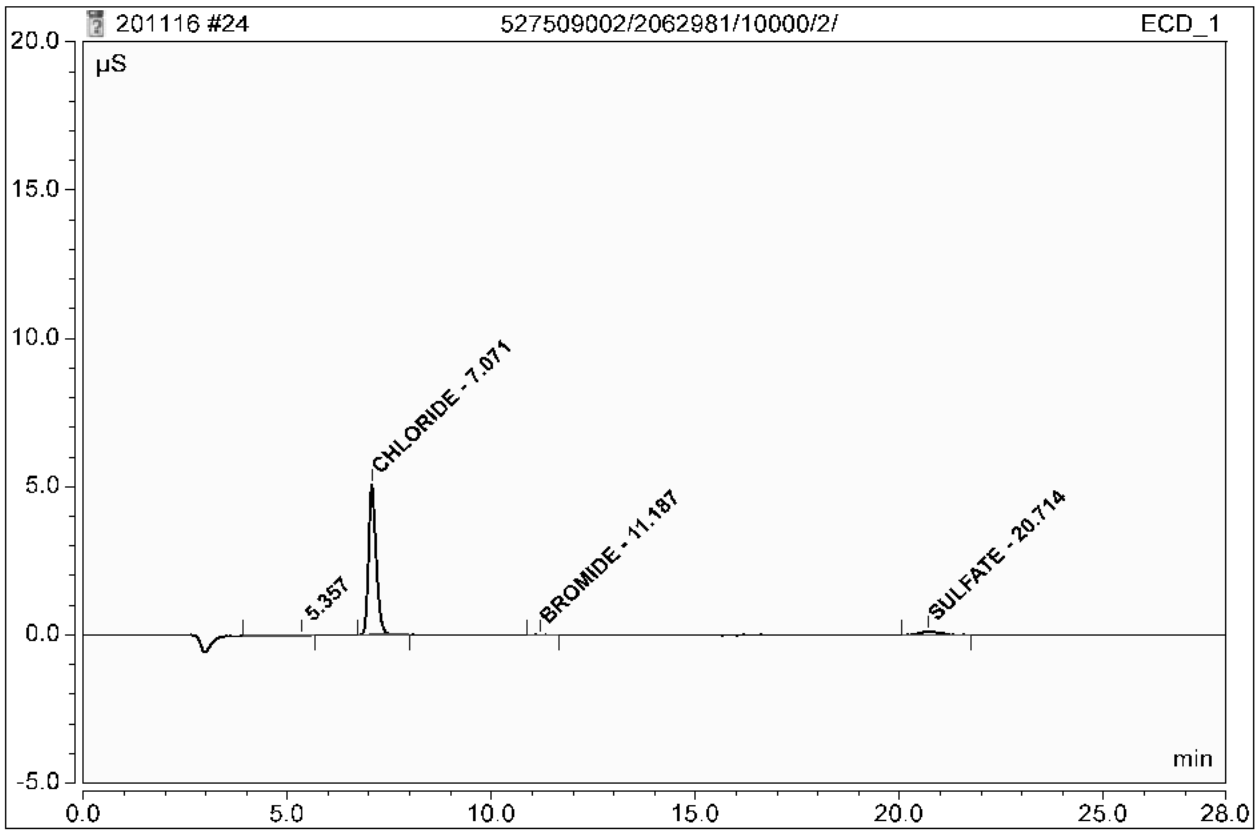
Sample Name:	**527510008/2062981/1000/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 12:13**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.21	CHLORIDE	n.a.	180.8905		32.42783	94.95
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.20	BROMIDE	n.a.	0.4610		0.03251	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.74	SULFATE	n.a.	13.0816		1.69074	4.95
Total:				194.4332	0.000	34.151	100.00

24 527509002/2062981/10000/2/

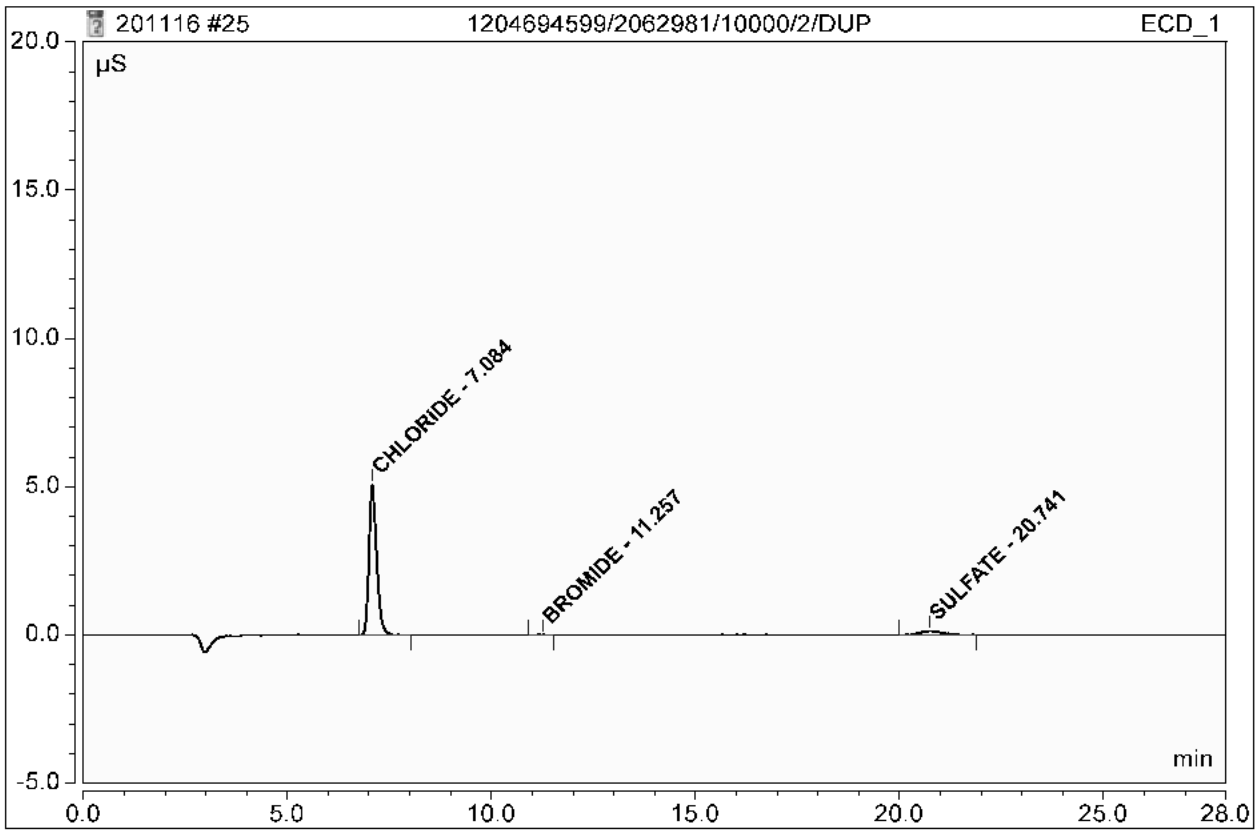
Sample Name:	**527509002/2062981/10000/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 14:16**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
2	7.07	CHLORIDE	n.a.	6.1539		1.09162	93.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.19	BROMIDE	n.a.	0.0300		0.00183	0.16
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.71	SULFATE	n.a.	0.5154		0.07017	6.00
Total:				6.6993	0.000	1.164	99.52

25 1204694599/2062981/10000/2/DUP

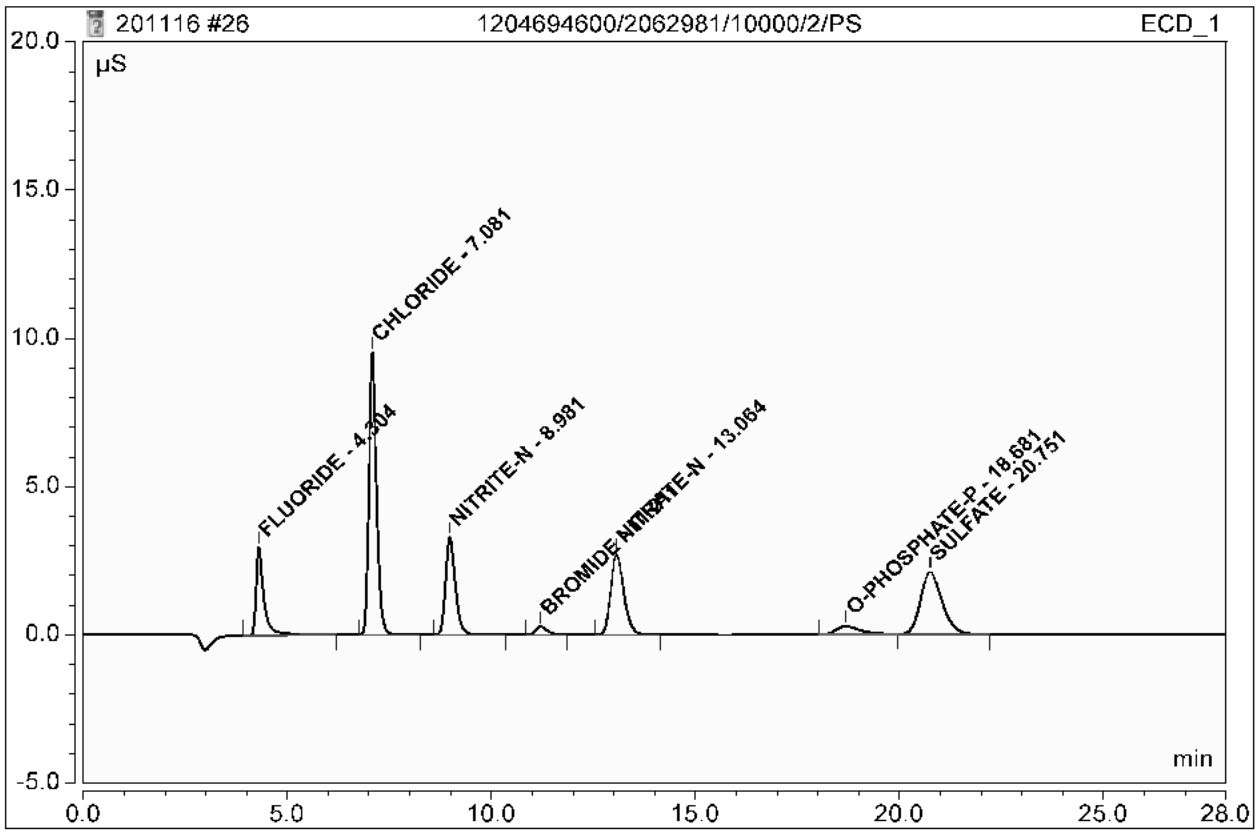
Sample Name:	**1204694599/2062981/10000/2/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 14:47**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.08	CHLORIDE	n.a.	6.1455		1.09013	93.73
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.26	BROMIDE	n.a.	0.0243		0.00142	0.12
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.74	SULFATE	n.a.	0.5255		0.07147	6.15
Total:				6.6953	0.000	1.163	100.00

26 1204694600/2062981/10000/2/PS

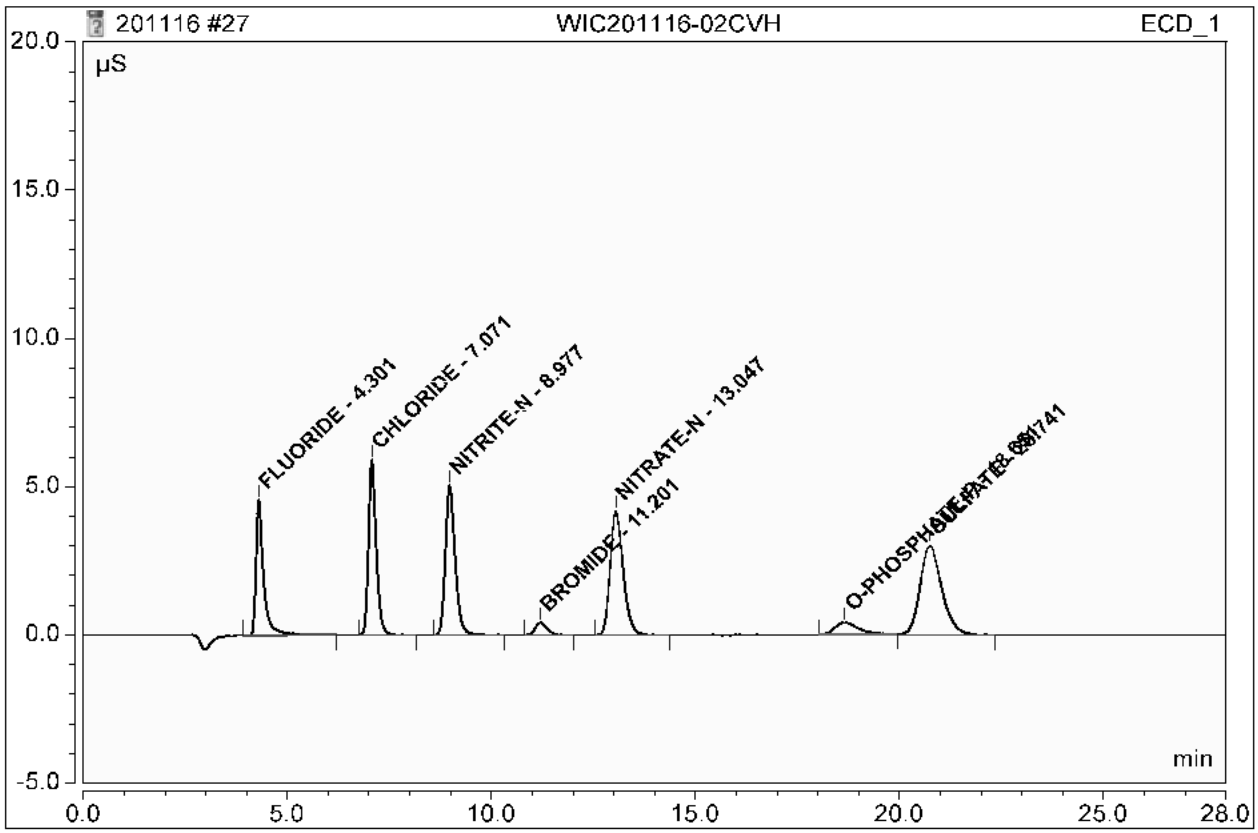
Sample Name:	**1204694600/2062981/10000/2/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 15:18**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4065		0.65099	10.56
2	7.08	CHLORIDE	n.a.	11.2848		2.01177	32.64
3	8.98	NITRITE-N	n.a.	2.3756		0.90898	14.75
4	11.21	BROMIDE	n.a.	1.2428		0.08816	1.43
5	13.06	NITRATE-N	n.a.	2.3733		1.00539	16.31
6	18.68	O-PHOSPHATE-P	n.a.	0.8010		0.18770	3.05
7	20.75	SULFATE	n.a.	10.1364		1.31092	21.27
Total:				30.6204	0.000	6.164	100.00

27 WIC201116-02CVH

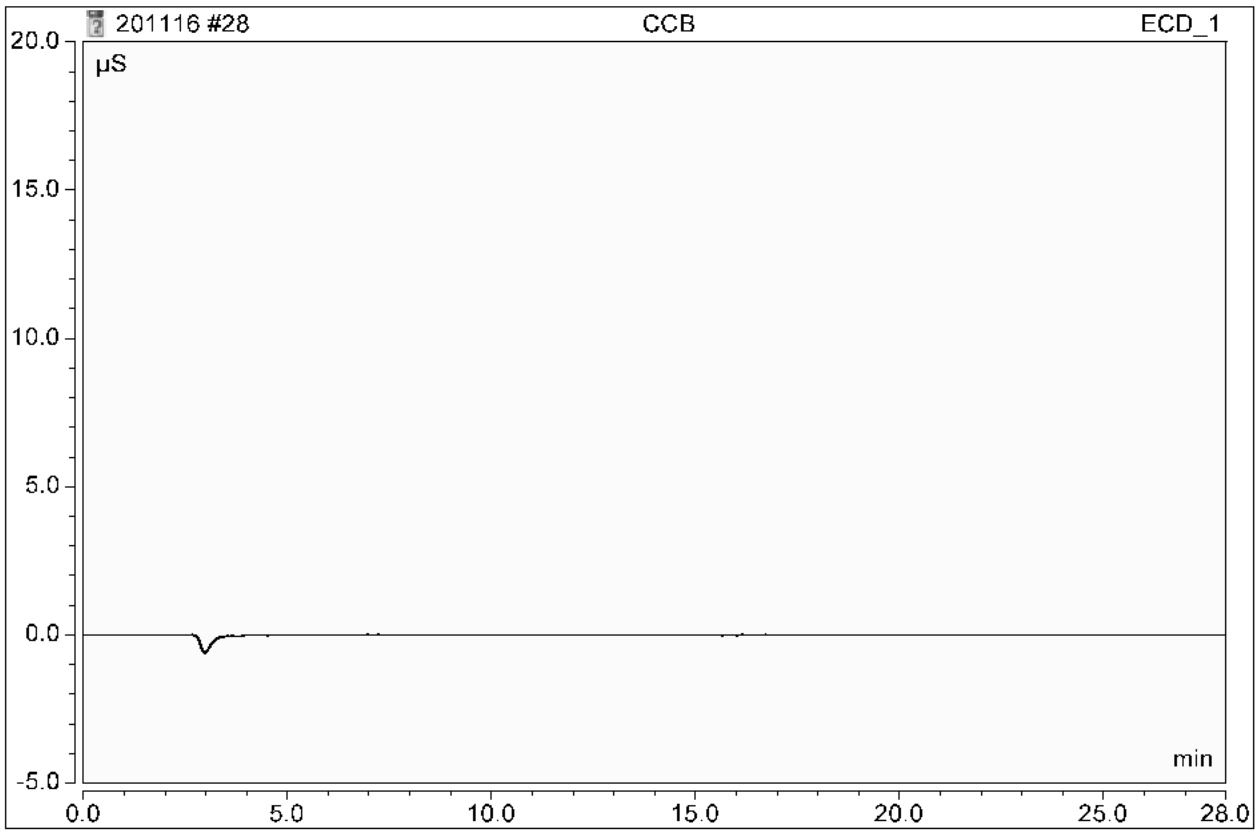
Sample Name:	**WIC201116-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 15:49**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.5865		0.97193	13.12
2	7.07	CHLORIDE	n.a.	7.1247		1.26573	17.09
3	8.98	NITRITE-N	n.a.	3.5939		1.38052	18.64
4	11.20	BROMIDE	n.a.	1.8309		0.13002	1.76
5	13.05	NITRATE-N	n.a.	3.5989		1.53007	20.66
6	18.65	O-PHOSPHATE-P	n.a.	1.3096		0.26904	3.63
7	20.74	SULFATE	n.a.	14.3892		1.85937	25.10
Total:				35.4337	0.000	7.407	100.00

28 CCB

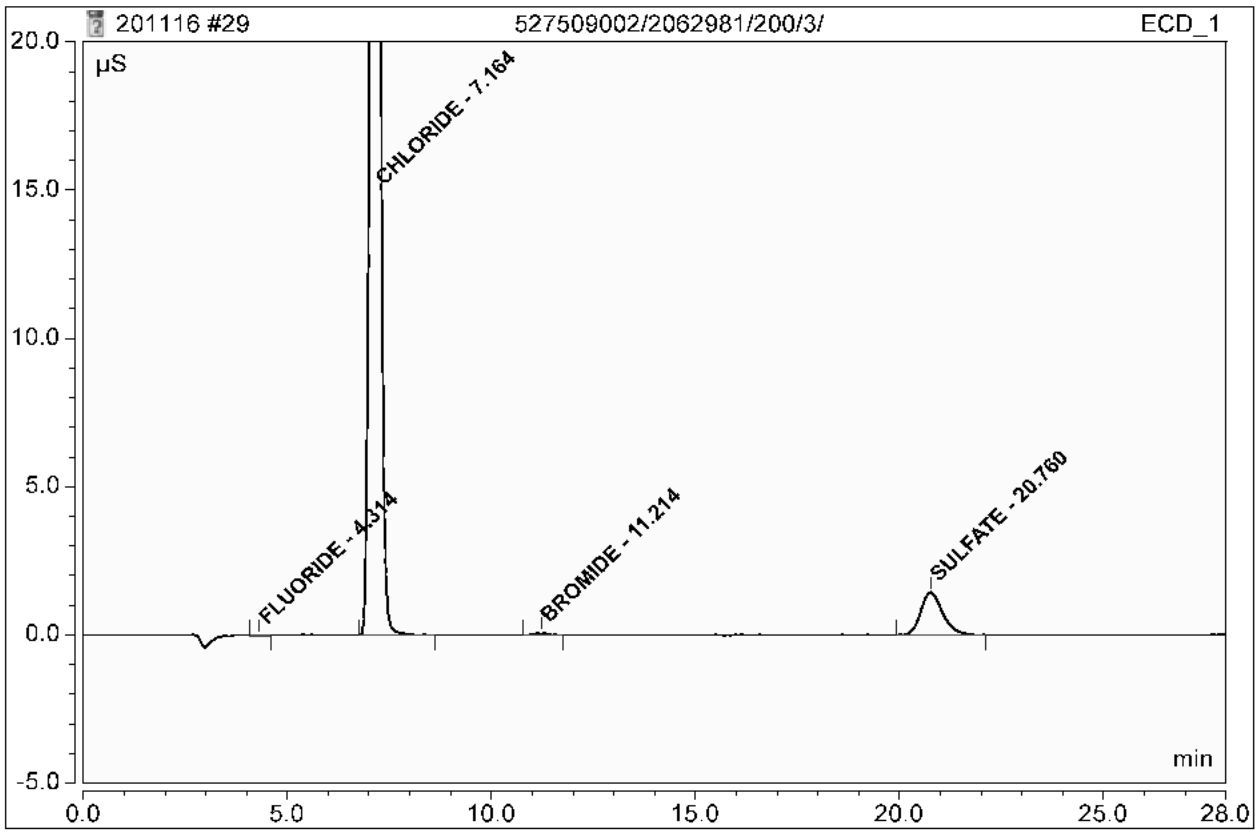
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 16:20**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

29 527509002/2062981/200/3/

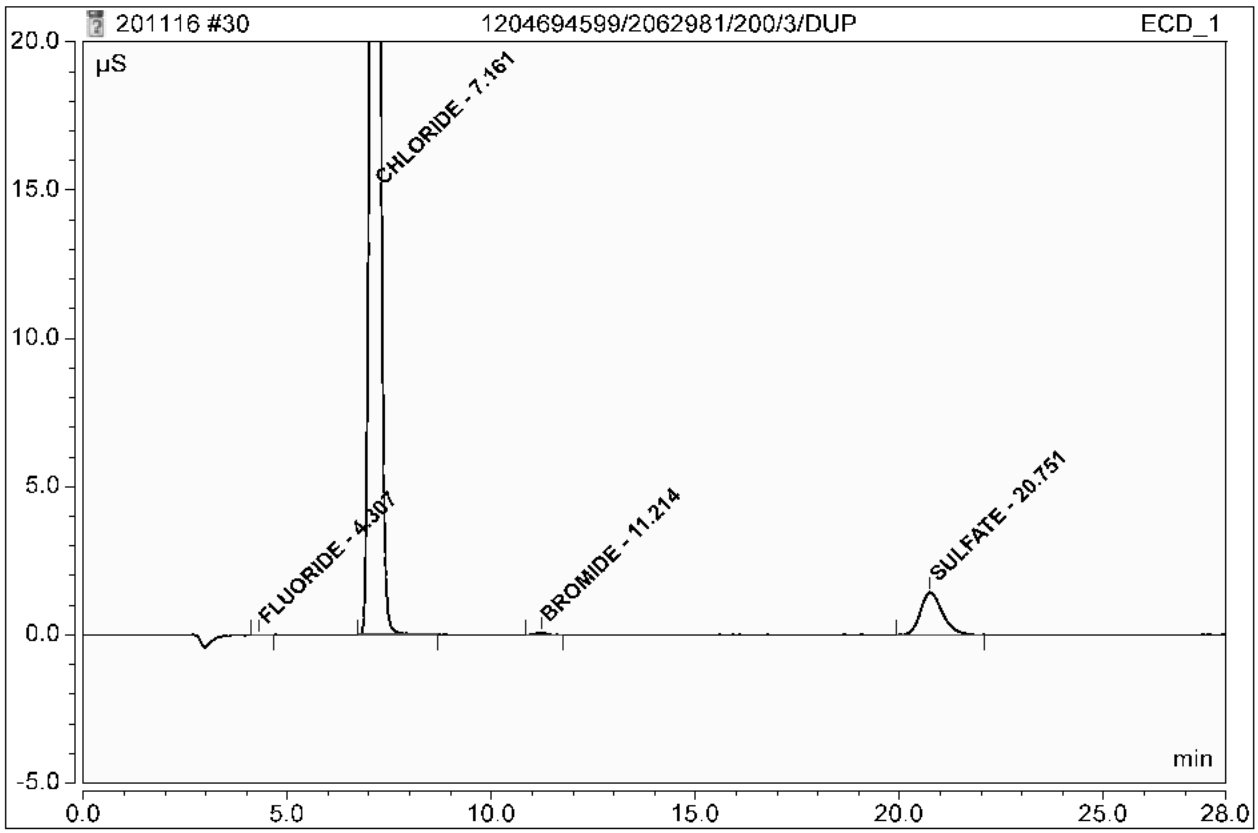
Sample Name:	**527509002/2062981/200/3/**	*Injection Volume:*	**5000.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 16:51**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	0.0176		0.00123	0.01
2	7.16	CHLORIDE	n.a.	102.8329		18.42944	95.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.2644		0.01851	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.76	SULFATE	n.a.	6.7658		0.87624	4.53
Total:				109.8807	0.000	19.325	100.00

30 1204694599/2062981/200/3/DUP

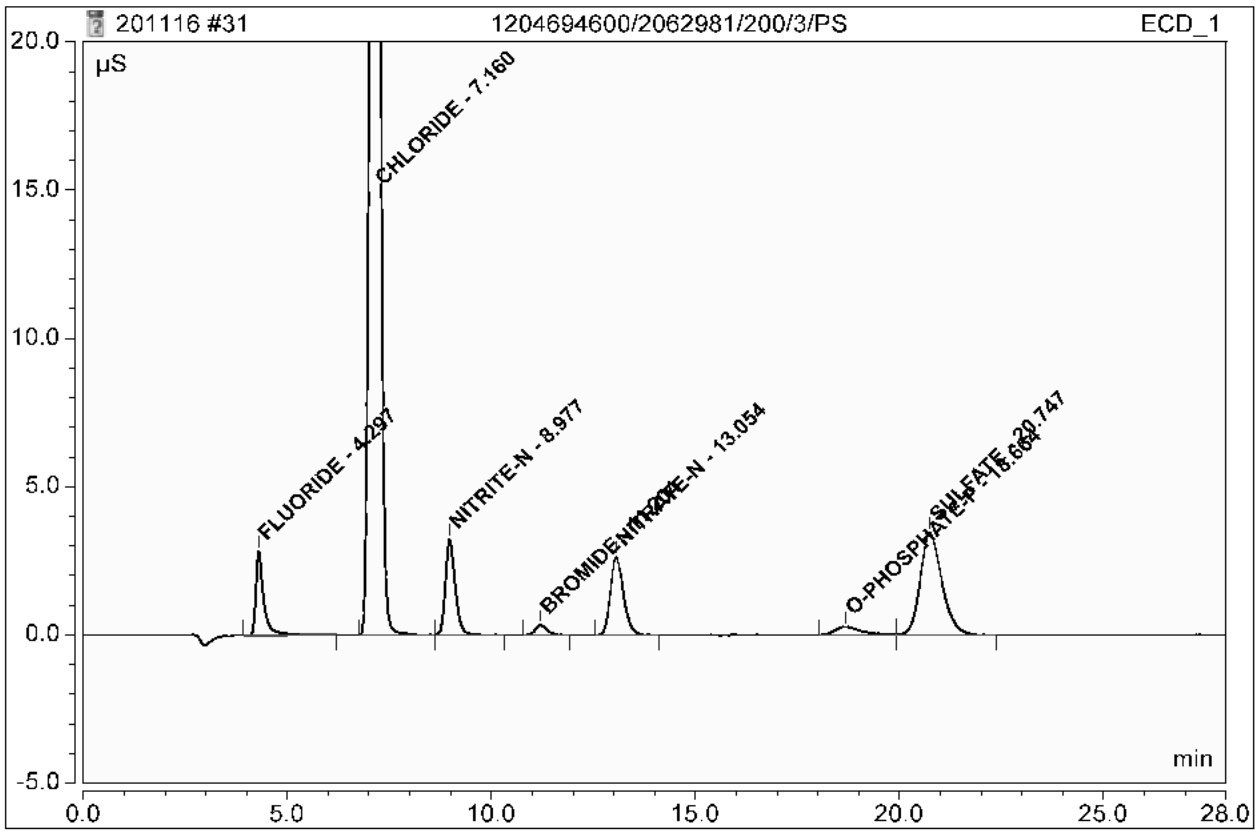
Sample Name:	**1204694599/2062981/200/3/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 17:21**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	0.0174		0.00118	0.01
2	7.16	CHLORIDE	n.a.	102.8487		18.43228	95.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.2673		0.01872	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.75	SULFATE	n.a.	6.7751		0.87744	4.54
Total:				109.9085	0.000	19.330	100.00

31 1204694600/2062981/200/3/PS

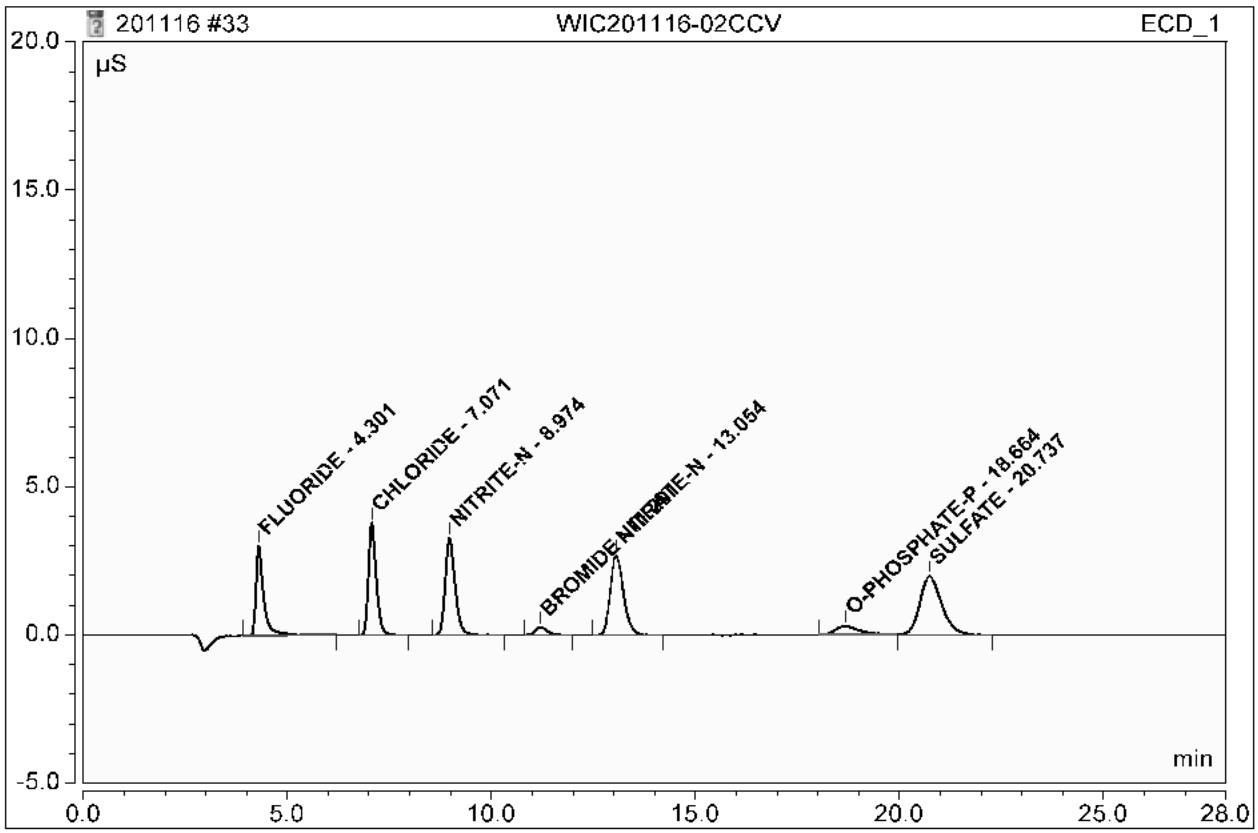
Sample Name:	**1204694600/2062981/200/3/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 17:52**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.3097		0.62465	2.56
2	7.16	CHLORIDE	n.a.	108.7050		19.48252	79.96
3	8.98	NITRITE-N	n.a.	2.3009		0.88009	3.61
4	11.20	BROMIDE	n.a.	1.4500		0.10291	0.42
5	13.05	NITRATE-N	n.a.	2.2920		0.97058	3.98
6	18.66	O-PHOSPHATE-P	n.a.	0.8756		0.19964	0.82
7	20.75	SULFATE	n.a.	16.3047		2.10640	8.64
Total:				134.2380	0.000	24.367	100.00

33 WIC201116-02CCV

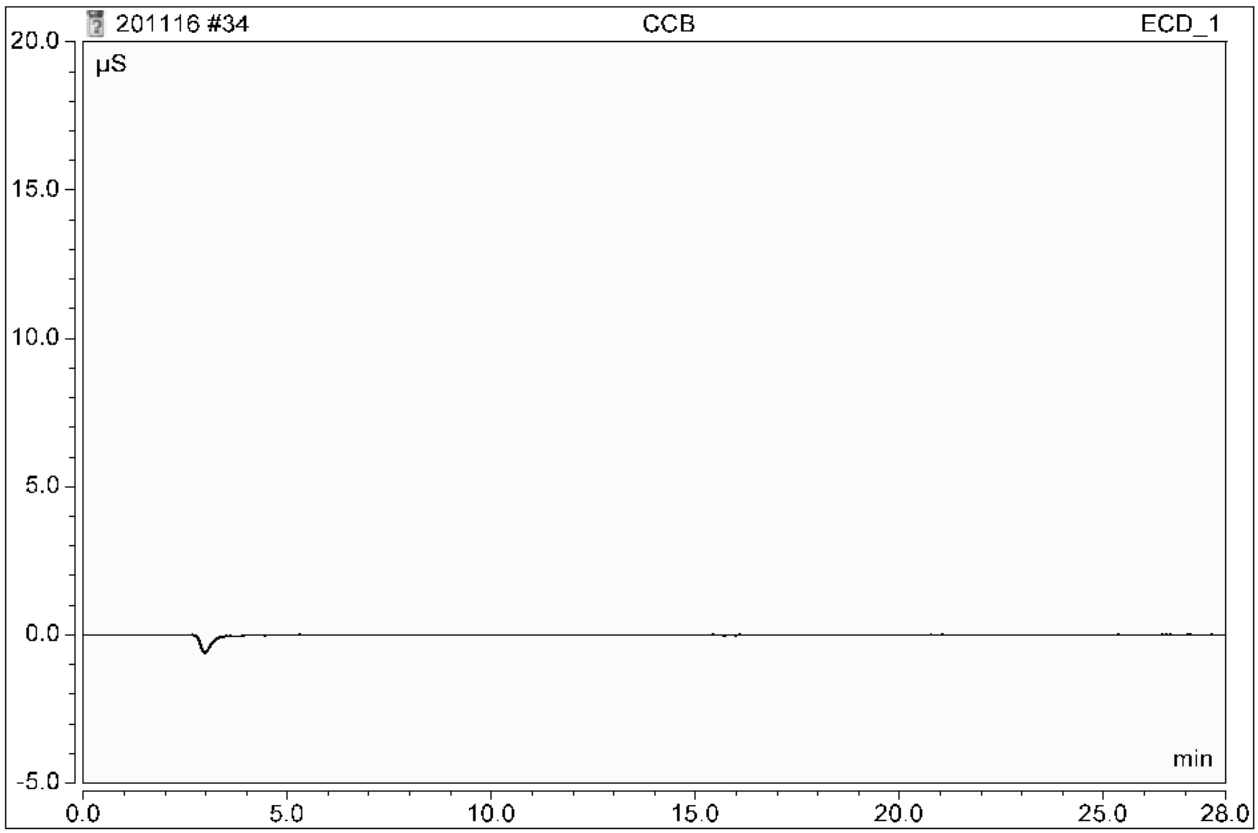
Sample Name:	**WIC201116-02CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 18:54**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4178		0.65406	13.35
2	7.07	CHLORIDE	n.a.	4.6619		0.82406	16.82
3	8.97	NITRITE-N	n.a.	2.3657		0.90515	18.47
4	11.20	BROMIDE	n.a.	1.2163		0.08627	1.76
5	13.05	NITRATE-N	n.a.	2.3622		1.00061	20.42
6	18.66	O-PHOSPHATE-P	n.a.	0.8239		0.19136	3.91
7	20.74	SULFATE	n.a.	9.5738		1.23837	25.27
Total:				23.4215	0.000	4.900	100.00

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 19:25**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



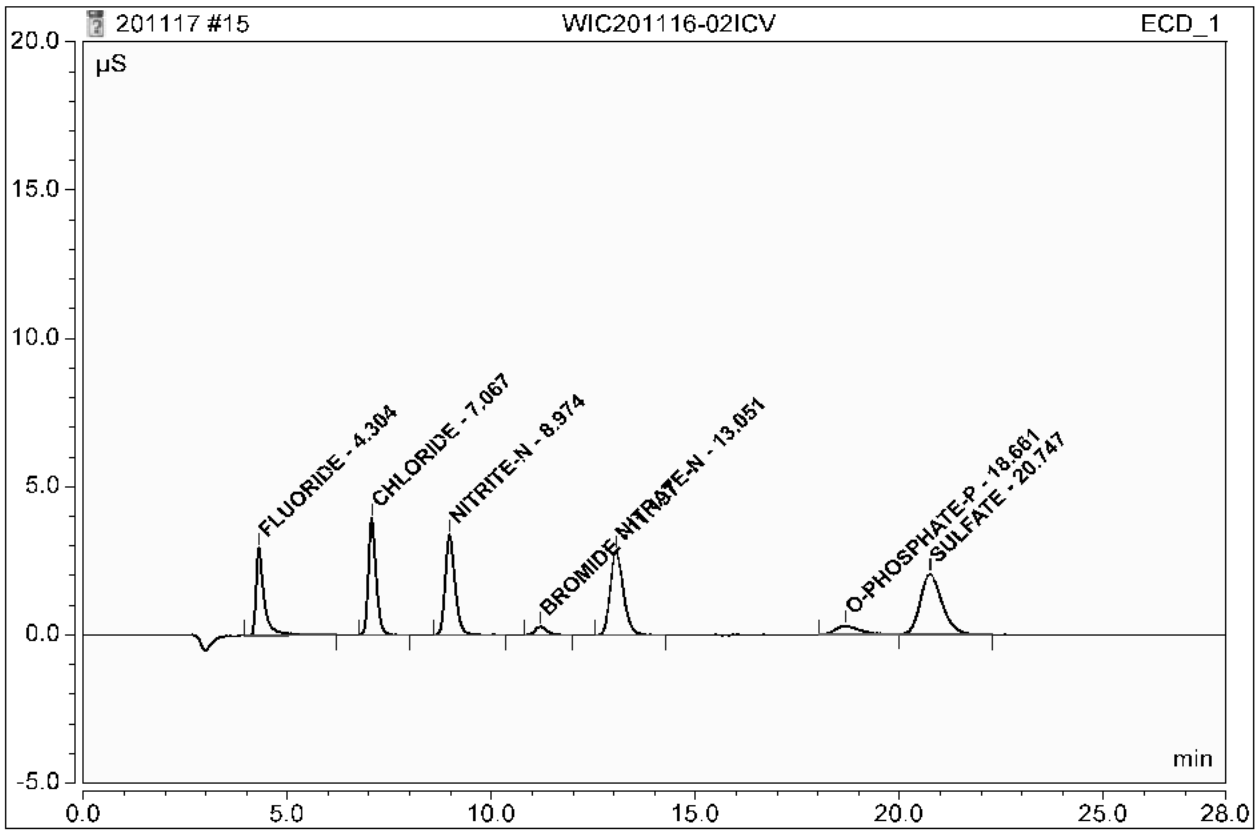
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 201117.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/17/20 07:54		1	201117	LXA2
ICV	11/17/20 08:24		1	201117	LXA2
ICB	11/17/20 08:55		1	201117	LXA2
527509002	11/17/20 10:45	2062981	200	201117	LXA2
1204694599	11/17/20 11:16	2062981	200	201117	LXA2
1204694600	11/17/20 11:47	2062981	200	201117	LXA2
CVH	11/17/20 12:17		1	201117	LXA2
CCB	11/17/20 12:48		1	201117	LXA2
527512005	11/17/20 14:35	10000	3	201117	LXA2
527513002	11/17/20 15:05	20000	3	201117	LXA2
527513004	11/17/20 15:36	20000	3	201117	LXA2
527513006	11/17/20 16:07	5000	2	201117	LXA2
CCV	11/17/20 16:38		1	201117	LXA2
CCB	11/17/20 17:08		1	201117	LXA2
527593020	11/17/20 17:44	2063976	1	201117	LXA2
527593021	11/17/20 18:15	2063976	1	201117	LXA2
527655001	11/17/20 18:46	2063976	1	201117	LXA2
527655002	11/17/20 19:17	2063976	200	201117	LXA2
527655003	11/17/20 19:47	2063976	200	201117	LXA2
527508001	11/17/20 20:18	2063976	1	201117	LXA2
1204697019	11/17/20 20:49	2063976	1	201117	LXA2
1204697020	11/17/20 21:20	2063976	1	201117	LXA2
1204697017	11/17/20 21:51	2063976	1	201117	LXA2
1204697018	11/17/20 22:22	2063976	1	201117	LXA2
CVH	11/17/20 22:53		1	201117	LXA2
CCB	11/17/20 23:24		1	201117	LXA2
527512005	11/17/20 23:55	2062981	10000	201117	LXA2

15 WIC201116-02ICV

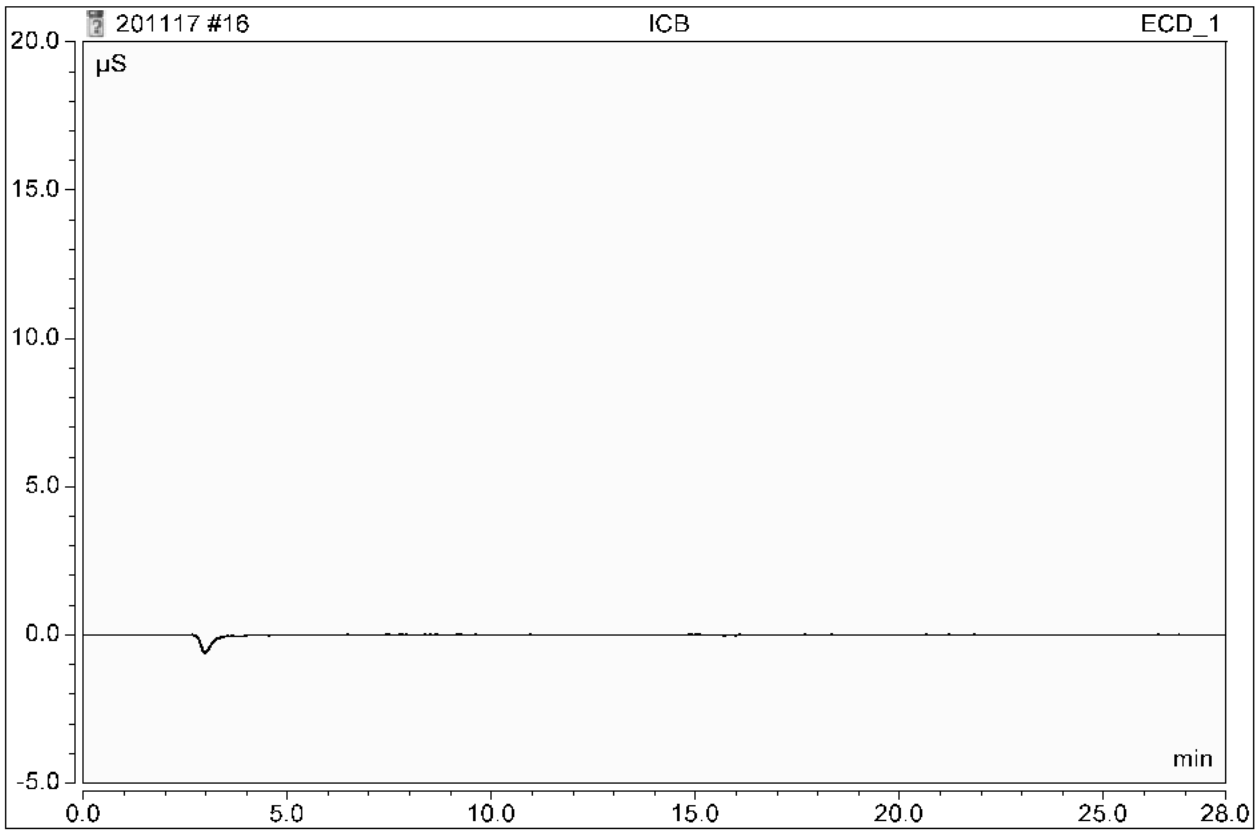
Sample Name:	**WIC201116-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 8:24**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.5028		0.67718	13.36
2	7.07	CHLORIDE	n.a.	4.8108		0.85076	16.78
3	8.97	NITRITE-N	n.a.	2.4351		0.93200	18.38
4	11.20	BROMIDE	n.a.	1.2430		0.08817	1.74
5	13.05	NITRATE-N	n.a.	2.4585		1.04186	20.55
6	18.66	O-PHOSPHATE-P	n.a.	0.8665		0.19819	3.91
7	20.75	SULFATE	n.a.	9.9067		1.28130	25.27
Total:				24.2234	0.000	5.069	100.00

16 ICB

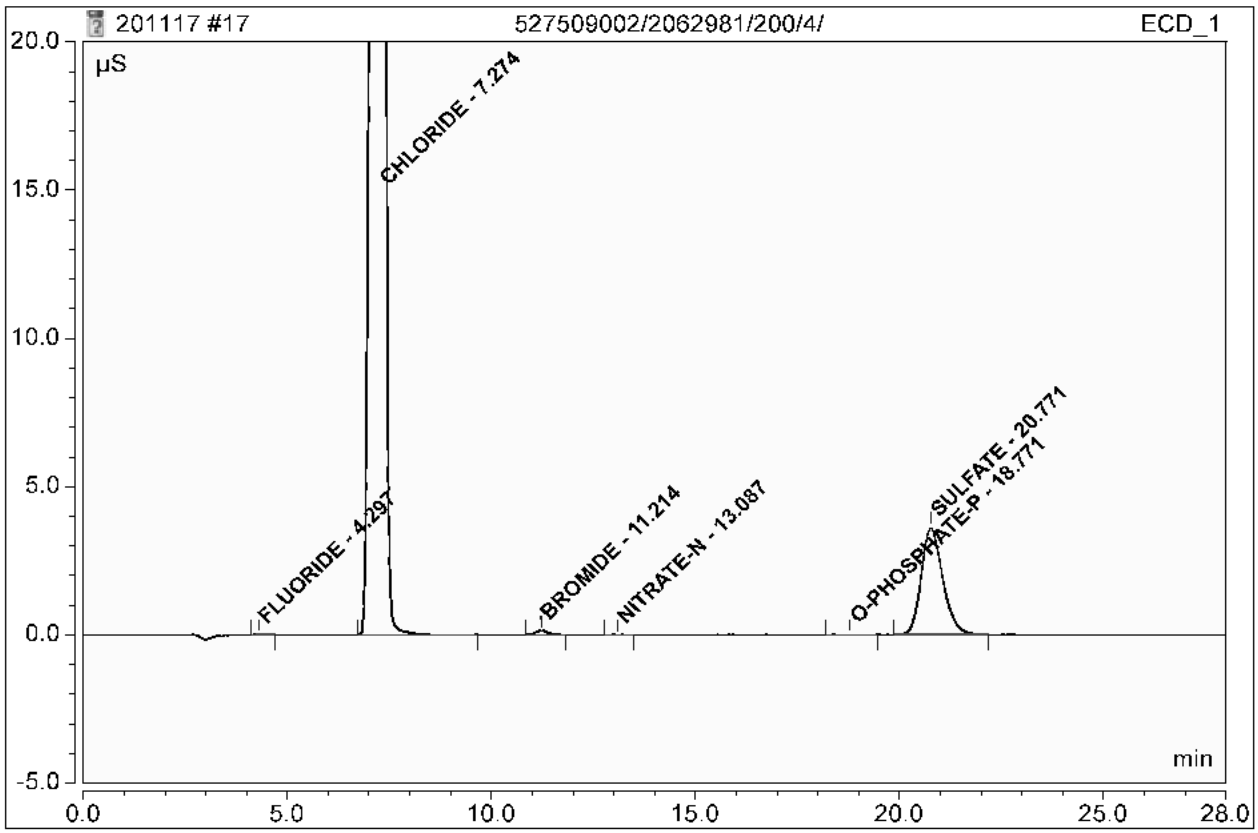
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 8:55**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

17 527509002/2062981/200/4/

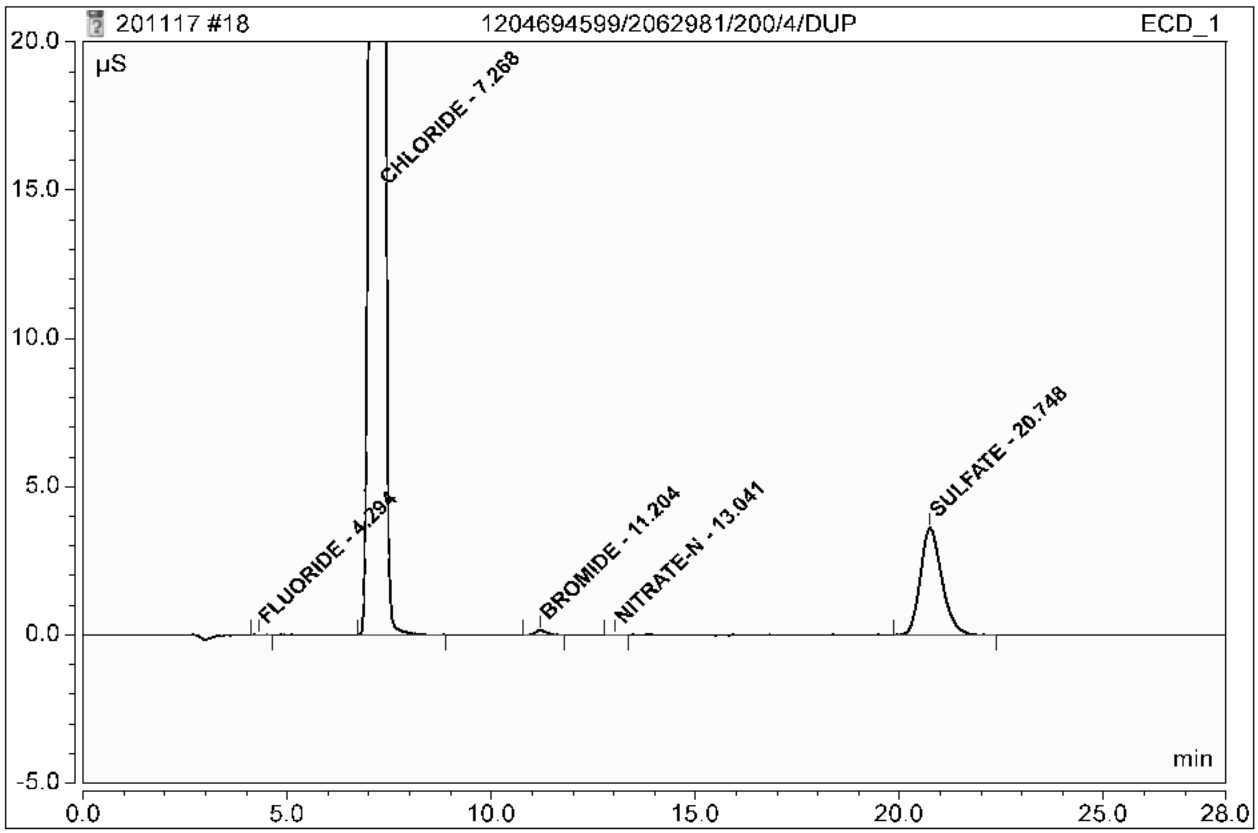
Sample Name:	**527509002/2062981/200/4/**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 10:45**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	0.0245		0.00310	0.01
2	7.27	CHLORIDE	n.a.	274.9938		49.30374	95.63
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.6441		0.04554	0.09
4	13.09	NITRATE-N	n.a.	0.0280		0.00133	0.00
5	18.77	O-PHOSPHATE-P	n.a.	n.a.		0.00458	0.01
6	20.77	SULFATE	n.a.	17.0294		2.19986	4.27
Total:				292.7198	0.000	51.558	100.00

18 1204694599/2062981/200/4/DUP

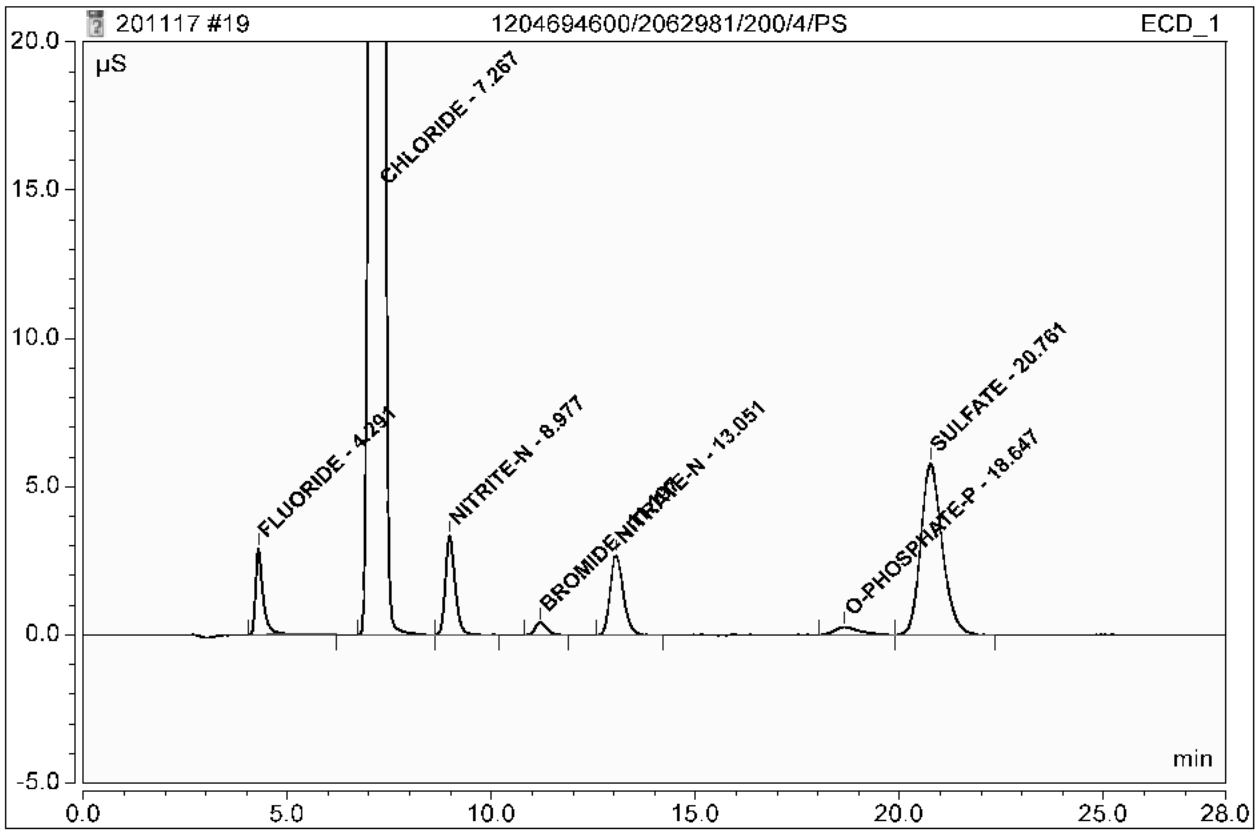
Sample Name:	**1204694599/2062981/200/4/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 11:16**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	0.0233		0.00278	0.01
2	7.27	CHLORIDE	n.a.	274.4562		49.20733	95.63
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.20	BROMIDE	n.a.	0.6487		0.04587	0.09
4	13.04	NITRATE-N	n.a.	0.0276		0.00116	0.00
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
5	20.75	SULFATE	n.a.	17.0210		2.19877	4.27
Total:				292.1768	0.000	51.456	100.00

19 1204694600/2062981/200/4/PS

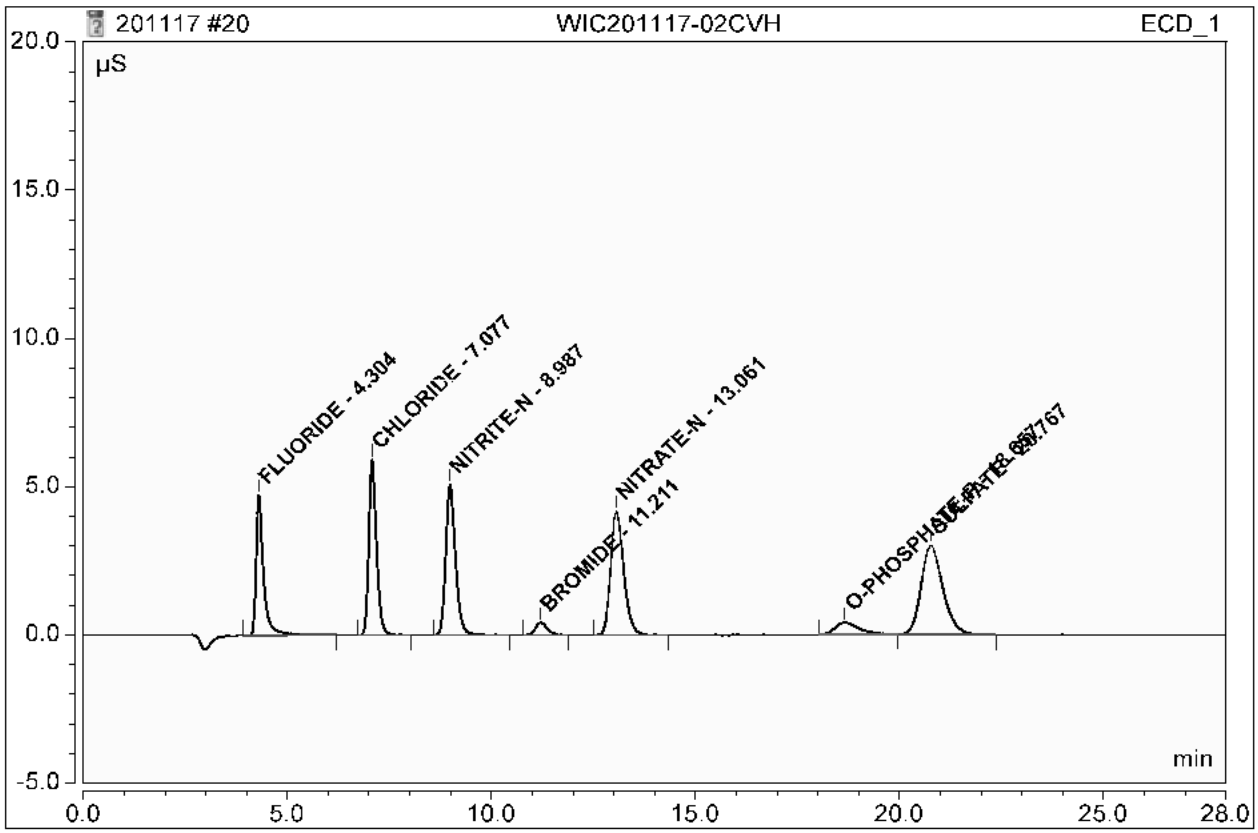
Sample Name:	**1204694600/2062981/200/4/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 11:47**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	2.3365		0.63193	1.12
2	7.27	CHLORIDE	n.a.	279.0131		50.02453	88.69
3	8.98	NITRITE-N	n.a.	2.3743		0.90849	1.61
4	11.20	BROMIDE	n.a.	1.8600		0.13209	0.23
5	13.05	NITRATE-N	n.a.	2.3665		1.00247	1.78
6	18.65	O-PHOSPHATE-P	n.a.	0.7884		0.18569	0.33
7	20.76	SULFATE	n.a.	27.2563		3.51875	6.24
Total:				315.9950	0.000	56.404	100.00

20 WIC201117-02CVH

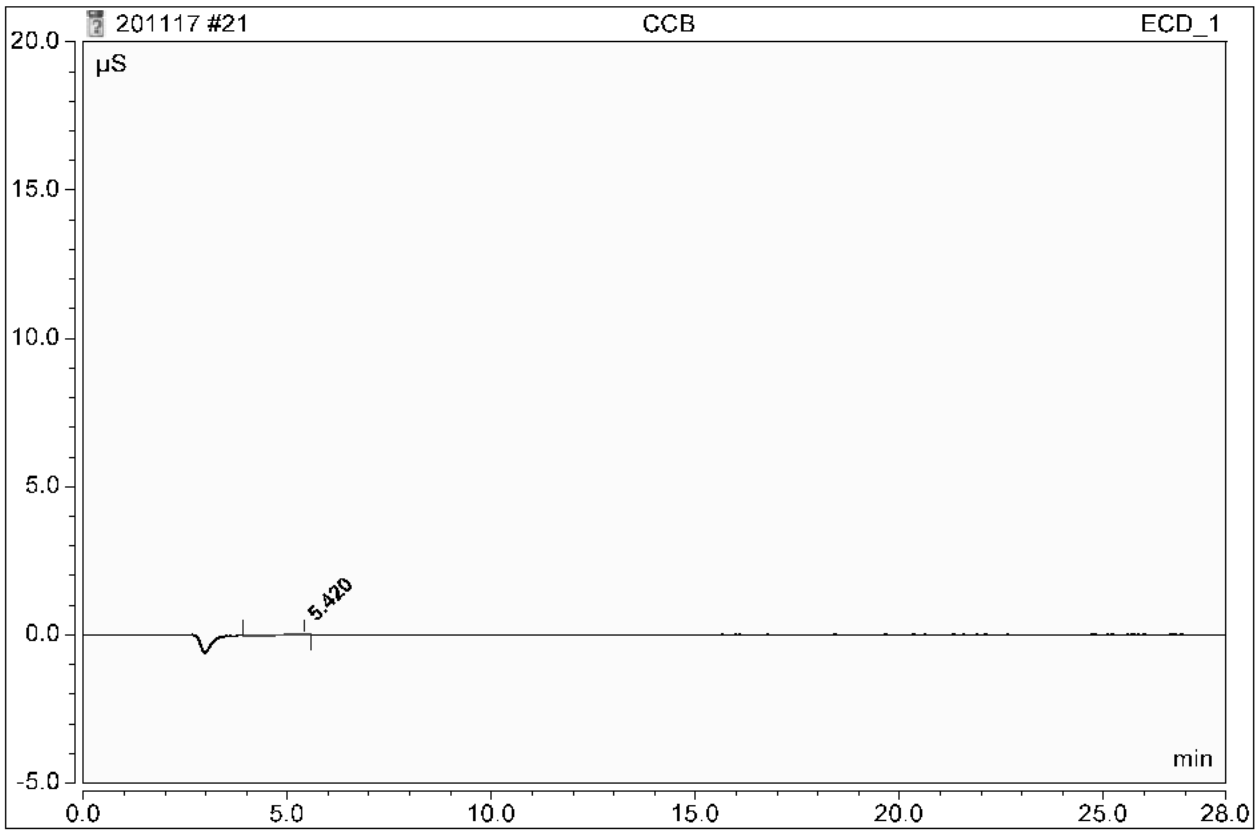
Sample Name:	**WIC201117-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 12:17**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.6105		0.97846	13.16
2	7.08	CHLORIDE	n.a.	7.1470		1.26973	17.08
3	8.99	NITRITE-N	n.a.	3.6097		1.38661	18.65
4	11.21	BROMIDE	n.a.	1.8465		0.13113	1.76
5	13.06	NITRATE-N	n.a.	3.6140		1.53655	20.67
6	18.66	O-PHOSPHATE-P	n.a.	1.3043		0.26819	3.61
7	20.77	SULFATE	n.a.	14.4278		1.86434	25.08
Total:				35.5597	0.000	7.435	100.00

21 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 12:48**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

Radiological Analysis

Case Narrative

Radiochemistry
Technical Case Narrative
ARS International, LLC
SDG #: 2021-130
Work Order #: 527510

Product: **Ra228**
Analytical Method: EPA:904
Analytical Procedure: GL-RAD-A-009 REV# 17
Analytical Batch: 2063164

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527510001	SMEB03-20-209977
527510007	SMEB04-20-209980
527510013	SMEB05-20-209983
1204695162	Method Blank (MB)
1204695163	527510013(SMEB05-20-209983) Sample Duplicate (DUP)
1204695164	527510013(SMEB05-20-209983) Matrix Spike (MS)
1204695165	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Preparation Information

Aliquot Reduced
aliquot volumes were reduced due to the sample matrix. They were hazy and contained sediment. Sample 527510013 (SMEB05-20-209983) also contained a couple small insects.

Homogenous Matrix
Samples were non-homogenous matrix. They were hazy and contained sediment. Sample 527510013 (SMEB05-20-209983) also contained a couple small insects.

Quality Control (QC) Information

Blank Information
Aliquots for samples 1204695162 (MB) and 1204695165 (LCS) were changed to 1.0 per client request.

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative error ratio requirement; however, both sample and duplicate results are less than the minimum detectable concentration.

Sample	Analyte	Value
1204695163 (SMEB05-20-209983DUP)	Radium-228	RPD 0 N/A RER 1.27* (0-1)

Technical Information

Negative > 3 sigma TPU
Sample result was more negative than the three sigma TPU. The background control chart was examined and the detector was determined to be fully functional.

Sample	Analyte	Value
1204695163 (SMEB05-20-209983DUP)	Radium-228	Negative Result > 3 sigma value

Recounts
Samples 1204695163 (SMEB05-20-209983DUP), 527510001 (SMEB03-20-209977), 527510007 (SMEB04-20-209980) and 527510013 (SMEB05-20-209983) were recounted due to high MDCs. The recounts are reported.

Miscellaneous Information

Additional Comments
The matrix spike, 1204695164 (SMEB05-20-209983MS), aliquot was reduced to conserve sample volume. Samples did not meet client tracer yield requirement; however, GEL standard yield requirement was met.

Sample	Analyte	Value
1204695162 (MB)	Barium-133 Tracer	106* (50%-105%)
1204695164 (SMEB05-20-209983MS)	Barium-133 Tracer	110* (50%-105%)

Product: **Ra226**
Analytical Method: EPA:903.1
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2063137

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527510001	SMEB03-20-209977
527510007	SMEB04-20-209980
527510013	SMEB05-20-209983
1204695106	Method Blank (MB)
1204695107	527509001(SMEB01-20-209970) Sample Duplicate (DUP)
1204695108	527509001(SMEB01-20-209970) Matrix Spike (MS)
1204695109	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where

applicable, with the following exceptions.

Quality Control (QC) Information

Blank Information
Aliquots for samples 1204695106 (MB) and 1204695109 (LCS) were changed to 1.0 per client request.

Blank Decision Level
The blank (See Below) result is greater than the decision level but less than the MDC.

Sample	Analyte	Value
1204695106 (MB)	Radium-226	Blank result > DL

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with the value listed below.

Sample	Analyte	Value
1204695107 (SMEB01-20-209970DUP)	Radium-226	RPD 134* (0.0%-100.0%) RER 0.822 (0-1)

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-130 GEL Work Order: 527510

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a Tracer compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Theresa Austin**

Date: 20 NOV 2020 **Title: Group Leader**

Sample Data Summary

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C
Los Alamos, New Mexico 87545
Report Date: November 20, 2020
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client Sample ID: SMEB03-20-209977
Sample ID: 527510001
Matrix: W
Collect Date: 12-NOV-20
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting															
Ra228 "As Received"															
Radium-228		1.15	+/-0.320	0.993	0.470	+/-0.353	1.00	pCi/L			LXB3	11/19/20	1035	2063164	1
Rad Radium-226															
Ra226 "As Received"															
Radium-226	U	0.479	+/-0.226	0.704	0.287	+/-0.233	1.00	pCi/L			MXH8	11/19/20	0925	2063137	2

The following Analytical Methods were performed

Method	Description
1	EPA:904
2	EPA:903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	Ra228 "As Received"	2063164	87.9	(50%-105%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 68% confidence level (1-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C
Los Alamos, New Mexico 87545
Report Date: November 20, 2020
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client Sample ID: SMEB04-20-209980
Sample ID: 527510007
Matrix: W
Collect Date: 12-NOV-20
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting															
Ra228 "As Received"															
Radium-228	U	-0.281	+/-0.276	0.991	0.469	+/-0.276	1.00	pCi/L			LXB3	11/19/20	1036	2063164	1
Rad Radium-226															
Ra226 "As Received"															
Radium-226	U	0.221	+/-0.247	0.891	0.363	+/-0.247	1.00	pCi/L			MXH8	11/19/20	0925	2063137	2

The following Analytical Methods were performed

Method	Description
1	EPA:904
2	EPA:903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	Ra228 "As Received"	2063164	72.5	(50%-105%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 68% confidence level (1-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545 Report Date: November 20, 2020

Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client Sample ID: SMEB05-20-209983 Project: ESHL00118
Sample ID: 527510013 Client ID: ARSL004
Matrix: W
Collect Date: 12-NOV-20
Receive Date: 14-NOV-20
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting															
Ra228 "As Received"															
Radium-228	U	-0.0443	+/-0.281	0.989	0.465	+/-0.281	1.00	pCi/L			LXB3	11/19/20	1036	2063164	1
Rad Radium-226															
Ra226 "As Received"															
Radium-226	U	0.307	+/-0.133	0.367	0.126	+/-0.136	1.00	pCi/L			MXH8	11/19/20	0957	2063137	2

The following Analytical Methods were performed

Method	Description
1	EPA:904
2	EPA:903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	Ra228 "As Received"	2063164	67.7	(50%-105%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 68% confidence level (1-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

Quality Control Summary

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Client : **Los Alamos National Laboratory**
TA-00, SM1237, Rm104C
Los Alamos, New Mexico
Contact: **Mr. Stanislaw Marczak**
Workorder: **527510**

Report Date: November 20, 2020

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2063164										
QC1204695163 527510013 DUP										
Radium-228	U	-0.0443	U	-1.38	pCi/L	1.27		(0-1)	LXB3	11/19/2010:35
	Uncert:	+/-0.281		+/-0.243						
	TPU:	+/-0.281		+/-0.243						
**Barium-133 Tracer	219	148		149	CPM		68.2	(50%-105%)		
QC1204695165 LCS										
Radium-228	17.0			15.7	pCi/L		92.6	(80%-120%)	LXB3	11/19/2008:29
	Uncert:			+/-0.510						
	TPU:			+/-2.10						
**Barium-133 Tracer	219			215	CPM		98.3	(50%-105%)		
QC1204695162 MB										
Radium-228			U	-0.276	pCi/L				LXB3	11/19/2008:29
	Uncert:			+/-0.0910						
	TPU:			+/-0.0911						
**Barium-133 Tracer	219			233	CPM		106 *	(50%-105%)		
QC1204695164 527510013 MS										
Radium-228	340 U	-0.0443		269	pCi/L		79.3	(75%-125%)	LXB3	11/19/2008:29
	Uncert:	+/-0.281		+/-9.62						
	TPU:	+/-0.281		+/-36.3						
**Barium-133 Tracer	219	148		241	CPM		110 *	(50%-105%)		
Rad Ra-226										
Batch 2063137										
QC1204695107 527509001 DUP										
Radium-226	U	0.188		0.950	pCi/L	0.822		(0-1)	MXH8	11/19/2009:58
	Uncert:	+/-0.172		+/-0.266						
	TPU:	+/-0.173		+/-0.291						
QC1204695109 LCS										
Radium-226	13.5			12.3	pCi/L		90.9	(80%-120%)	MXH8	11/19/2009:58
	Uncert:			+/-0.494						
	TPU:			+/-1.06						
QC1204695106 MB										
Radium-226			U	0.151	pCi/L				MXH8	11/19/2009:58
	Uncert:			+/-0.103						
	TPU:			+/-0.104						
QC1204695108 527509001 MS										
Radium-226	27.0 U	0.188		28.6	pCi/L		106	(75%-125%)	MXH8	11/19/2009:58
	Uncert:	+/-0.172		+/-1.24						
	TPU:	+/-0.173		+/-2.75						

Notes:

TPU and Counting Uncertainty are calculated at the 68% confidence level (1-sigma).

QC Summary

Workorder: **527510**

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Gas Flow Raw Data

Blank Correction Report

Batch ID 2063164

GEL ID	Sample Type	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1204695163	DUP	Barium-133 Tracer	450 mL	149			517.777778	CPM	YES
		Radium-228	450 mL	-1.38	0.243	0.996	-.61333333	pCi/L	NO
1204695165	LCS	Barium-133 Tracer	1000 mL	215			233	CPM	YES
		Radium-228	1000 mL	15.7	2.10	0.389	-.276	pCi/L	NO
1204695162	MB	Barium-133 Tracer	1000 mL	233			233	CPM	YES
		Radium-228	1000 mL	-0.276	0.0911	0.413	-.276	pCi/L	NO
1204695164	MS	Barium-133 Tracer	50.0 mL	241			4660	CPM	YES
		Radium-228	50.0 mL	269	36.3	9.34	-5.52	pCi/L	NO
527510001	SAMPLE	Barium-133 Tracer	450 mL	193			517.777778	CPM	YES
		Radium-228	450 mL	1.15	0.353	0.993	-.61333333	pCi/L	NO
527510007	SAMPLE	Barium-133 Tracer	450 mL	159			517.777778	CPM	YES
		Radium-228	450 mL	-0.281	0.276	0.991	-.61333333	pCi/L	NO
527510013	SAMPLE	Barium-133 Tracer	450 mL	148			517.777778	CPM	YES
		Radium-228	450 mL	-0.0443	0.281	0.989	-.61333333	pCi/L	NO

Batch 2063164 Check-list

This check-list was completed on 20-NOV-20 by Kenshalla Oston

This batch was reviewed by Angela Johnson on 20-NOV-20 and Kenshalla Oston on 20-NOV-20.

Batch ID:	**Product:**	**Description:** Gas Flow Radium 228
2063164	GFC28RAL	GL-RAD-A-009

#	Criteria	Yes	No	Comments
Preparation Information				
1	Were all of the samples homogenous? Include sample description if not homogenous		No	
2	Was the preservation correct for this analysis?	Yes		
Internal Checklist Information				
3	Are instrument source checks within limits?	Yes		
4	Has an Aliquot Correction been completed for this batch?		No	
5	Have sample historical results been reviewed for this batch?	Yes		
Technical Information				
6	Were all the samples prepared/analyzed within the required holding time period?	Yes		
7	Are any sample results more negative than 3xTPU?	Yes		
Quality Control (QC) Information				
8	Was the method blank (MB) within the acceptance criteria?	Yes		
9	Is the blank result less than 1.65 times the CSU?	Yes		
10	Is the blank result less than the decision level? Use the results greater than CL report to check.	Yes		
11	Were the laboratory control sample (LCS/LCSD) recoveries within the acceptance limits?	Yes		
12	Were the matrix spike (MS/MSD) recoveries within the acceptance limits?	Yes		
13	Were the relative percent differences and/or error (RPD/RER) between the sample and its duplicate within acceptable limits?		No	
14	Has the method required detection limit been met?	Yes		
Miscellaneous Information				
15	Are sample-specific MDA/MDC calculated and reported?	Yes		

Prep Logbook

Radium−228 in Liquid

Batch ID: **2063164**
Analyst: Lois Buist (LXB3)
Method: EPA 904.0/SW846 9320 Modified
Lab SOP: GL−RAD−A−009 REV# 17
Instrument: GFC−8949708441

Due Dates for Lab: 19−NOV−2020 **Package: 20−NOV−2020** **SDG: 21−NOV−2020**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695165	Radium−228 SPIKE	1965−B	.1	mL
MS	1204695164	Radium−228 SPIKE	1965−B	.1	mL

#	Sample ID	Prep Date	Min RDL (pCi/L)	Aliquot (mL)	Ac−228 Ingrow (date)	Ac−228 Separation (date)
1	527509001	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
2	527509010	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
3	527510001	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
4	527510007	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
5	527510013	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
6	1204695162 MB	16−NOV−2020	1	1000	11/17/20 13:56	11/19/20 06:26
7	1204695163 DUP (527510013)	16−NOV−2020	1	450	11/17/20 13:56	11/19/20 06:26
8	1204695164 MS (527510013)	16−NOV−2020	1	50	11/17/20 13:56	11/19/20 06:26
9	1204695165 LCS	16−NOV−2020	1	1000	11/17/20 13:56	11/19/20 06:26

Reagent/Solvent Lot ID	Description	Amount
WORK 0487−G	Barium−133 TRACER	.1 mL
REGNT 3086994	500 mg/mL Neodymium Carrier	.2 mL
REGNT 3099514	RGF−Neodymium Subtrate	5 mL
REGNT 3132221	Lot #DGA0017	2 g
REGNT 3136164.4	RGF−Hydrofluoric Acid	4 mL
REGNT 3136531	2M HCL	20 mL
REGNT 3138849	RGF−50% Potassium Carbonate	2 mL
REGNT 3141231.2	Glacial Acetic Acid	10 mL
REGNT 3141951	RGF−1M Citric Acid	5 mL
REGNT 3141958	RGF−1.5M Ammonium Sulfate	10 mL
REGNT 3142065	RGF−7M Nitric Acid	25 mL
REGNT 3144358.7	Concentrated HNO3 (16M)	5 mL
REGNT 3145436	Barium Carrier Ra228 REG	1 mL

Comments:

Pipet Id: RAD−GFC−1795419
Data Entry Date2: 16−NOV−2020 00:00

Radium-228 Liquid

Filename : RA228.XLS
File type : Excel
Version # : 1.4.2

Tracer S/N : 0487-G
Tracer Exp Date : 2/27/2021
Tracer Volume Added: 0.10

Batch : 2063164
Analyst : LOI02092
Prep Date : 11/16/2020
Ra-228 Method Uncertainty : 0.1268

Geometry: 25mm Filter

Procedure Code : GFC28RAL
Parmname : Radium-228
Required MDC : 1 pCi/L
Ra-228 Abundance : 1.00
Halflife of Ra-228 : 5.75 years
Halflife of Ac-228 : 6.15 hours

Sample Characteristics					Tracer Calculations					
Pos.	Sample ID	Sample Aliquot L	Sample Aliquot StDev. L	Sample Date/Time	Tracer Ref. Activity (CPM)	Tracer Ref. Count Uncertainty (%)	Tracer Samp. Activity (CPM)	Tracer Samp. Count Uncertainty (%)	Tracer Aliquot (mL)	Tracer Aliquot StDev. (mL)
1	527509001.1	0.4500	2.0013E-05	11/10/2020 15:15	219.1	3.90%	137.7	4.92%	0.1	0.000200
2	527509010.1	0.4500	2.0013E-05	11/10/2020 13:25	219.1	3.90%	181.3	4.29%	0.1	0.000200
3	527510001.1	0.4500	2.0013E-05	11/12/2020 10:27	219.1	3.90%	192.6	4.16%	0.1	0.000200
4	527510007.1	0.4500	2.0013E-05	11/12/2020 10:27	219.1	3.90%	158.8	4.58%	0.1	0.000200
5	527510013.1	0.4500	2.0013E-05	11/12/2020 14:40	219.1	3.90%	148.3	4.74%	0.1	0.000200
6	1204695162.1	1.0000	2.0399E-05	11/16/2020 0:00	219.1	3.90%	233.0	3.78%	0.1	0.000200
7	1204695163.1	0.4500	2.0013E-05	11/12/2020 14:40	219.1	3.90%	149.5	4.72%	0.1	0.000200
8	1204695164.1	0.0500	7.8337E-06	11/12/2020 14:40	219.1	3.90%	241.3	3.72%	0.1	0.000200
9	1204695165.1	1.0000	2.0399E-05	11/16/2020 0:00	219.1	3.90%	215.3	3.93%	0.1	0.000200

Pipet, 0.1 ml Stdev : +/-	0.000200	ml
Pipet, 0.5 ml Stdev : +/-	0.001000	ml
Pipet, 1 ml Stdev : +/-	0.002000	ml

Analytical SOP: GL-RAD-A-009
Instrument SOP: GL-RAD-I-016

Count raw Data

Pos.	Detector ID	Counting Time (min.)	Gross Counts Alpha	Gross Counts Beta	Beta cpm	Count Start Date/Time	Ac-228 Ingrowth Date/Time	Ac-228 Decay Date/Time	Ra-228 Decay	Ac-228 Decay	Ac-228 Ingrowth	Ac-228 Count Correction	Calculated Sample Recovery %	Sample Recovery Error %
1	11D	220	16	153	0.695	11/19/2020 10:35	11/17/2020 13:56	11/19/2020 6:26	0.997	0.626	0.990	1.221	62.8%	3.15%
2	11C	150	3	131	0.873	11/19/2020 10:35	11/17/2020 13:56	11/19/2020 6:26	0.997	0.626	0.990	1.147	82.7%	2.91%
3	14B	190	39	276	1.453	11/19/2020 10:35	11/17/2020 13:56	11/19/2020 6:26	0.998	0.625	0.990	1.189	87.9%	2.87%
4	13D	240	18	186	0.775	11/19/2020 10:36	11/17/2020 13:56	11/19/2020 6:26	0.998	0.625	0.990	1.242	72.5%	3.02%
5	12C	240	52	136	0.567	11/19/2020 10:36	11/17/2020 13:56	11/19/2020 6:26	0.998	0.625	0.990	1.242	67.7%	3.08%
6	4B	60	9	30	0.500	11/19/2020 8:29	11/17/2020 13:56	11/19/2020 6:26	0.999	0.793	0.990	1.057	106%	2.73%
7	13A	280	30	142	0.507	11/19/2020 10:35	11/17/2020 13:56	11/19/2020 6:26	0.998	0.626	0.990	1.286	68.2%	3.07%
8	4D	60	50	900	15.000	11/19/2020 8:29	11/17/2020 13:56	11/19/2020 6:26	0.998	0.793	0.990	1.057	110%	2.71%
9	5B	60	11	1025	17.083	11/19/2020 8:29	11/17/2020 13:56	11/19/2020 6:26	0.999	0.793	0.990	1.057	98.3%	2.78%

Calibration Data								
Pos.	Counted on	Calibration Date	Calibration Due Date	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Bkg cpm	Weekly Bkg Count Start Date/Time	Bkg Count Time (min.)
1	PIC	6/1/2020	5/31/2021	0.6701	0.01068	0.548	11/13/2020 17:31	500
2	PIC	6/1/2020	5/31/2021	0.6536	0.01278	0.754	11/13/2020 17:31	500
3	PIC	6/1/2020	5/31/2021	0.6422	0.01028	1.116	11/13/2020 17:31	1000
4	PIC	6/1/2020	5/31/2021	0.6429	0.01144	0.840	11/13/2020 17:31	1000
5	PIC	6/1/2020	5/31/2021	0.6277	0.01666	0.576	11/13/2020 17:31	500
6	PIC	6/1/2020	5/31/2021	0.6255	0.01519	0.802	11/13/2020 17:33	500
7	PIC	6/1/2020	5/31/2021	0.6413	0.00714	0.796	11/13/2020 17:31	1000
8	PIC	6/1/2020	5/31/2021	0.5764	0.00773	0.946	11/13/2020 17:33	500
9	PIC	6/1/2020	5/31/2021	0.6479	0.00426	0.634	11/13/2020 17:33	500

Notes:
1 - Results are decay corrected to Sample Date/Time
2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date
3 - Spike Nominals are decay corrected to Sample Date/Time

* - RPD changed to 0% due to sample & dup activity below MDC

Spike S/N : 1965-B
Spike Exp Date : 9/24/2021
Spike Activity (dpm/ml): 376.47
Spike Volume Added: 0.10

LCS S/N : 1965-B
LCS Exp Date : 9/24/2021
LCS Activity (dpm/ml): 376.47
LCS Volume Added: 0.10

Results

Pos.	Decision Level pCi/L	Critical Level pCi/L	Required MDC pCi/L	MDC pCi/L	Sample Act. Conc. pCi/L	Sample Act. Error %	Net Count Rate CPM	Net Count Rate Error CPM	1 SIGMA Counting Uncertainty pCi/L	1 SIGMA Total Prop. Uncertainty pCi/L	Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
1	0.6564	0.4634	1	0.9909	**0.6936**	44.37%	0.1475	0.0652	0.3069	0.3201		SAMPLE				
2	0.6482	0.4577	1	0.9841	**0.4107**	71.82%	0.1193	0.0856	0.2947	0.2995		SAMPLE				
3	0.6653	0.4697	1	0.9933	**1.1496**	27.97%	0.3366	0.0936	0.3197	0.3531		SAMPLE				
4	0.6639	0.4687	1	0.9914	**-0.2811**	98.19%	-0.0650	0.0638	0.2759	0.2759		SAMPLE				
5	0.6587	0.4651	1	0.9895	**-0.0443**	635.06%	-0.0093	0.0593	0.2812	0.2812		SAMPLE				
6	0.2604	0.1838	1	0.4133	**-0.2758**	33.16%	-0.3020	0.0997	0.0910	0.0911		MB				
7	0.6696	0.4727	1	0.9965	**-1.3760**	17.96%	-0.2889	0.0511	0.2432	0.2433	527510013.1	DUP	* 0.0%	1.2697		
8	5.9334	4.1890	1	9.3362	**269.3203**	4.55%	14.0540	0.5019	9.6178	36.2808	527510013.1	MS			339.5387	79.3%
9	0.2419	0.1708	1	0.3892	**15.6966**	4.30%	16.4493	0.5348	0.5103	2.1017		LCS			16.9580	92.6%

SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine	Batch ID
527509001	11D	220	16	153	11/19/2020 10:35	11/19/2020 14:15	PIC	2063164
527509010	11C	150	3	131	11/19/2020 10:35	11/19/2020 13:05	PIC	2063164
527510001	14B	190	39	276	11/19/2020 10:35	11/19/2020 13:45	PIC	2063164
527510007	13D	240	18	186	11/19/2020 10:36	11/19/2020 14:36	PIC	2063164
527510013	12C	240	52	136	11/19/2020 10:36	11/19/2020 14:36	PIC	2063164
1204695162	4B	60	9	30	11/19/2020 8:29	11/19/2020 9:29	PIC	2063164
1204695163	13A	280	30	142	11/19/2020 10:35	11/19/2020 15:15	PIC	2063164
1204695164	4D	60	50	900	11/19/2020 8:29	11/19/2020 9:29	PIC	2063164
1204695165	5B	60	11	1025	11/19/2020 8:29	11/19/2020 9:29	PIC	2063164

ASSAY 19-Nov-20 7:36:33

Protocol	id	9	Ba-133_1
Time	limit		
Count	limit		
Isotope	Ba-133_1		
Protocol	date	11/19/2020	
Run	id.	2334	

Samp_ID	POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
REF	1	92	1	180	657.5	219.13	3.9		07:36:33
527509001	2	92	2	180	413	137.65	4.92	62.82	07:39:48
527509010	3	92	3	180	544	181.29	4.29	82.73	07:43:01
527510001	4	92	4	180	578	192.62	4.16	87.90	07:46:15
527510007	5	92	5	180	476.5	158.8	4.58	72.47	07:49:29
527510013	1	98	1	180	445	148.3	4.74	67.68	07:53:05
1204695162	2	98	2	180	699	232.95	3.78	106.31	07:56:19
1204695163	3	98	3	180	448.5	149.47	4.72	68.21	07:59:33
1204695164	4	98	4	180	724	241.28	3.72	110.11	08:02:47
1204695165	5	98	5	180	646	215.3	3.93	98.25	08:06:01

END OF ASSAY

Continuing Calibration Data

Gas Flow Proportional Counter Checks for 19-Nov-2020

Detectors LB4100 A1 through I4 and PIC 1A through 14D and G5400W 1W through 1Z

Short Name	Status	Parmname	Run Time	Count Time	CPM or dec	Low Limit	High Limit	Stdev
LB4100C1	Above	Alpha XTalk	19-Nov 06:20	5	0.205	0.169	0.204	+3.17
LB4100C3	Below	Alpha eff	19-Nov 06:33	5	7268	7302	8637	-3.15
LB4100C3	Above	Alpha XTalk	19-Nov 06:33	5	0.339	0.284	0.336	+3.30
LB4100C3	Below	Beta eff	19-Nov 06:13	5	16009	16080	17090	-3.42
LB4100E1	need 2nd	Alpha bkg	19-Nov 04:58	60	0.183	-5.45E-2	0.290	+1.15
LB4100E2	need 2nd	Beta eff	19-Nov 06:00	5	15430	15220	16690	-2.14
LB4100E3	Above	Alpha bkg	19-Nov 04:58	60	3.033	-4.47E-2	0.174	+81.34
LB4100E3	Above	Beta bkg	19-Nov 04:58	60	2.433	-1.31E+0	6.766	-0.22
LB4100E3	Above	Beta XTalk	19-Nov 06:00	5	5.11E-4	8.54E-5	4.65E-4	+3.72
LB4100F3	need 2nd	Alpha bkg	19-Nov 04:58	60	0.283	-7.68E-2	0.332	+2.28
LB4100F3	Below	Alpha eff	19-Nov 06:07	5	13356	13590	17080	-3.40
LB4100F3	Above	Alpha XTalk	19-Nov 06:07	5	0.389	0.296	0.376	+4.00
LB4100G2	need 2nd	Alpha bkg	19-Nov 04:58	60	0.100	-3.13E-2	0.219	+0.15
LB4100G2	Below	Alpha eff	19-Nov 06:01	5	9208	9464	12690	-3.48
LB4100G2	Above	Alpha XTalk	19-Nov 06:01	5	0.345	0.224	0.342	+3.19
LB4100G3	Above	Beta bkg	19-Nov 04:58	60	1.867	0.810	1.674	+4.34
LB4100H4	Below	Alpha eff	19-Nov 06:28	5	8659	9849	14990	-4.39
LB4100H4	Above	Alpha XTalk	19-Nov 06:28	5	0.480	0.277	0.414	+5.87
LB4100I1	Above	Alpha XTalk	19-Nov 06:26	5	0.251	0.155	0.201	+9.39
LB4100I2	Below	Alpha eff	19-Nov 06:26	5	11481	12260	13540	-6.65
LB4100I2	Above	Alpha XTalk	19-Nov 06:26	5	0.283	0.206	0.251	+7.34
LB4100I3	Below	Alpha eff	19-Nov 06:26	5	8779	8847	10310	-3.28
LB4100I3	Above	Alpha XTalk	19-Nov 06:26	5	0.268	0.174	0.229	+7.27
LB4100I4	need 2nd	Alpha eff	19-Nov 06:26	5	9740	9674	12150	-2.84
LB4100I4	Above	Alpha XTalk	19-Nov 06:26	5	0.267	0.179	0.224	+8.70
PIC1A	Below	Alpha eff	19-Nov 08:27	5	9685	9717	10950	-3.16
PIC4A	Above	Alpha bkg	19-Nov 05:09	60	0.750	-5.00E-3	0.347	+9.88
PIC4A	Above	Beta bkg	19-Nov 05:09	60	4.000	0.750	2.058	+11.91
PIC5A	Above	Alpha bkg	19-Nov 06:27	60	0.317	0.062	0.371	+1.94

PIC6A	Above	Alpha bkg	19-Nov 05:23	60	0.533	0.009	0.389	+5.28
PIC6A	Above	Alpha eff	19-Nov 05:09	5	10193	9110	9744	+7.25
PIC6A	Above	Beta eff	19-Nov 05:16	5	51367	42850	48790	+5.60
PIC6B	need 2nd	Alpha bkg	19-Nov 05:23	60	0.050	0.030	0.341	-2.61
PIC6B	Above	Alpha eff	19-Nov 05:09	5	8914	8118	8796	+4.04
PIC8A	Above	Alpha bkg	19-Nov 06:30	60	0.333	-4.33E-2	0.357	+2.65
PIC8A	Above	Beta bkg	19-Nov 06:30	60	1.683	0.173	1.614	+3.29
PIC11B	Below	Alpha eff	19-Nov 05:34	5	12375	12460	13570	-3.46
PIC12D	Below	Alpha XTalk	19-Nov 09:54	5	0.286	0.289	0.318	-3.51
PIC13B	Above	Alpha bkg	19-Nov 06:47	60	0.417	-6.50E-2	0.289	+5.16
PIC14A	Below	Beta XTalk	19-Nov 09:55	5	3.38E-4	4.14E-4	0.001	-3.52

INSTRUMENTS NOT LISTED HAVE PASSED ALL QUALITY ASSURANCE PARAMETERS

The following detectors may not have properly transferred to the LIMS system

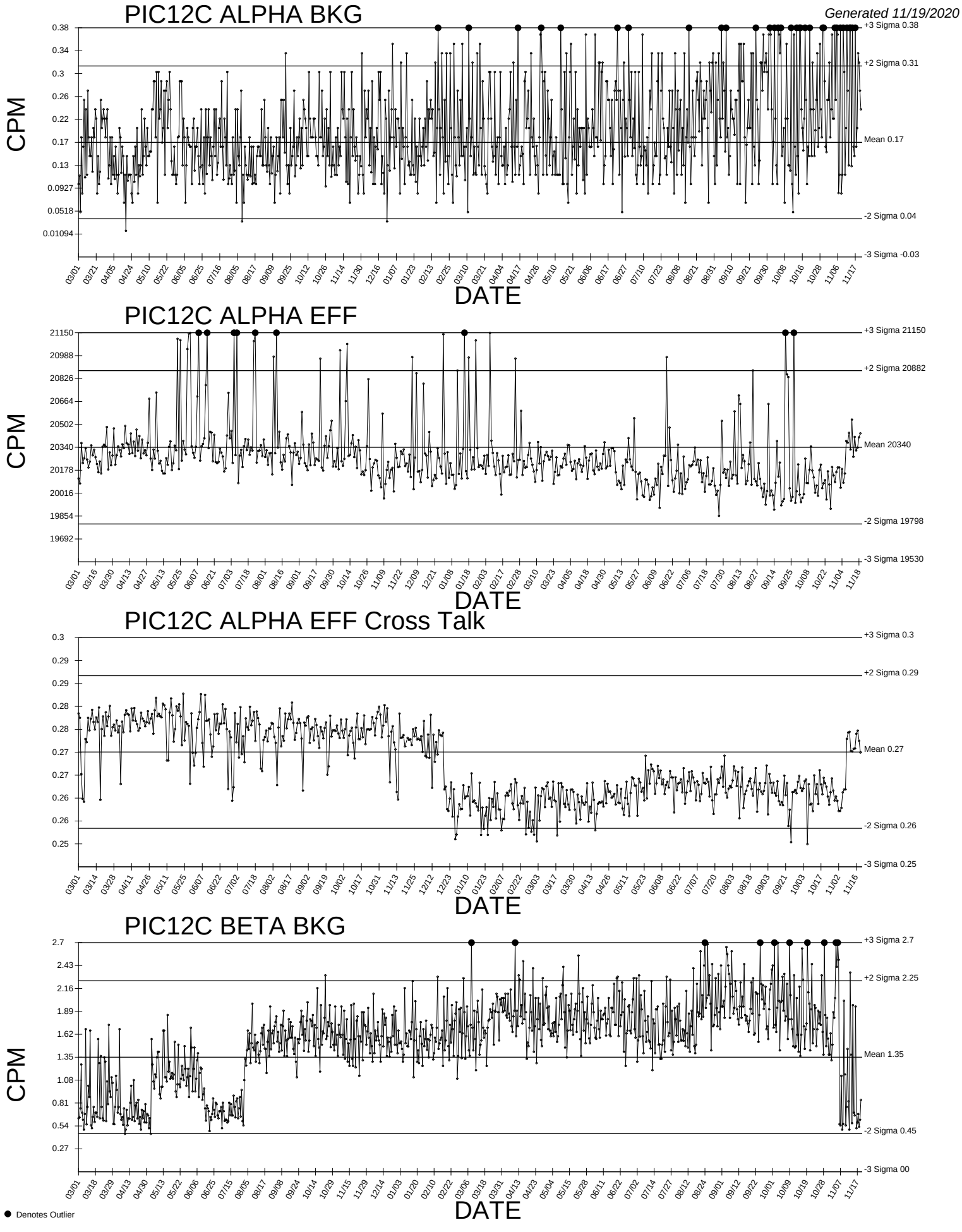
PIC3A	Alpha bkg, Alpha eff, Alpha XTalk, Beta bkg, Beta eff, Beta XTalk
PIC6D	Alpha bkg, Alpha eff, Alpha XTalk, Beta bkg, Beta eff, Beta XTalk
PIC13C	Alpha bkg, Alpha eff, Alpha XTalk, Beta bkg, Beta eff, Beta XTalk

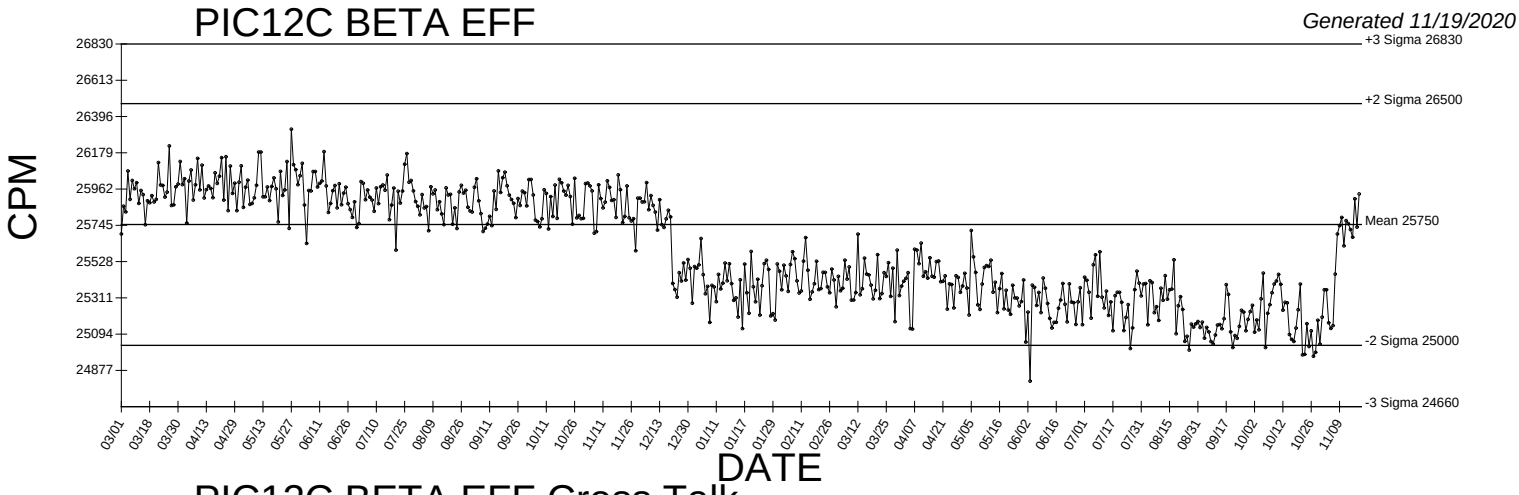
Reviewed by R. Beard-Hausman

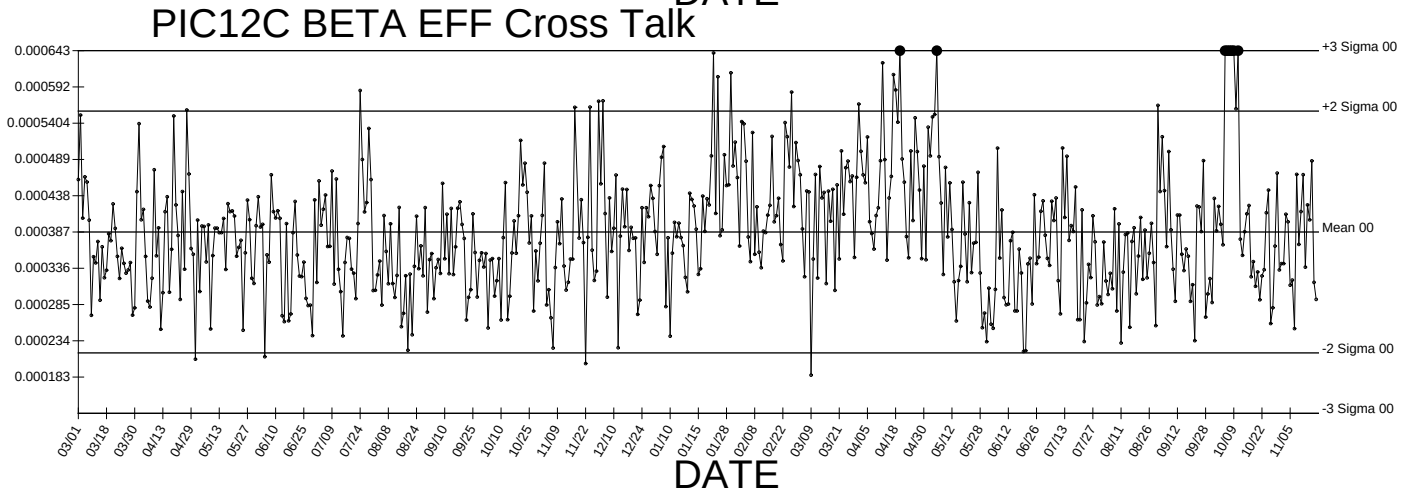
Date 11-19-2020

GEL Laboratories LLC

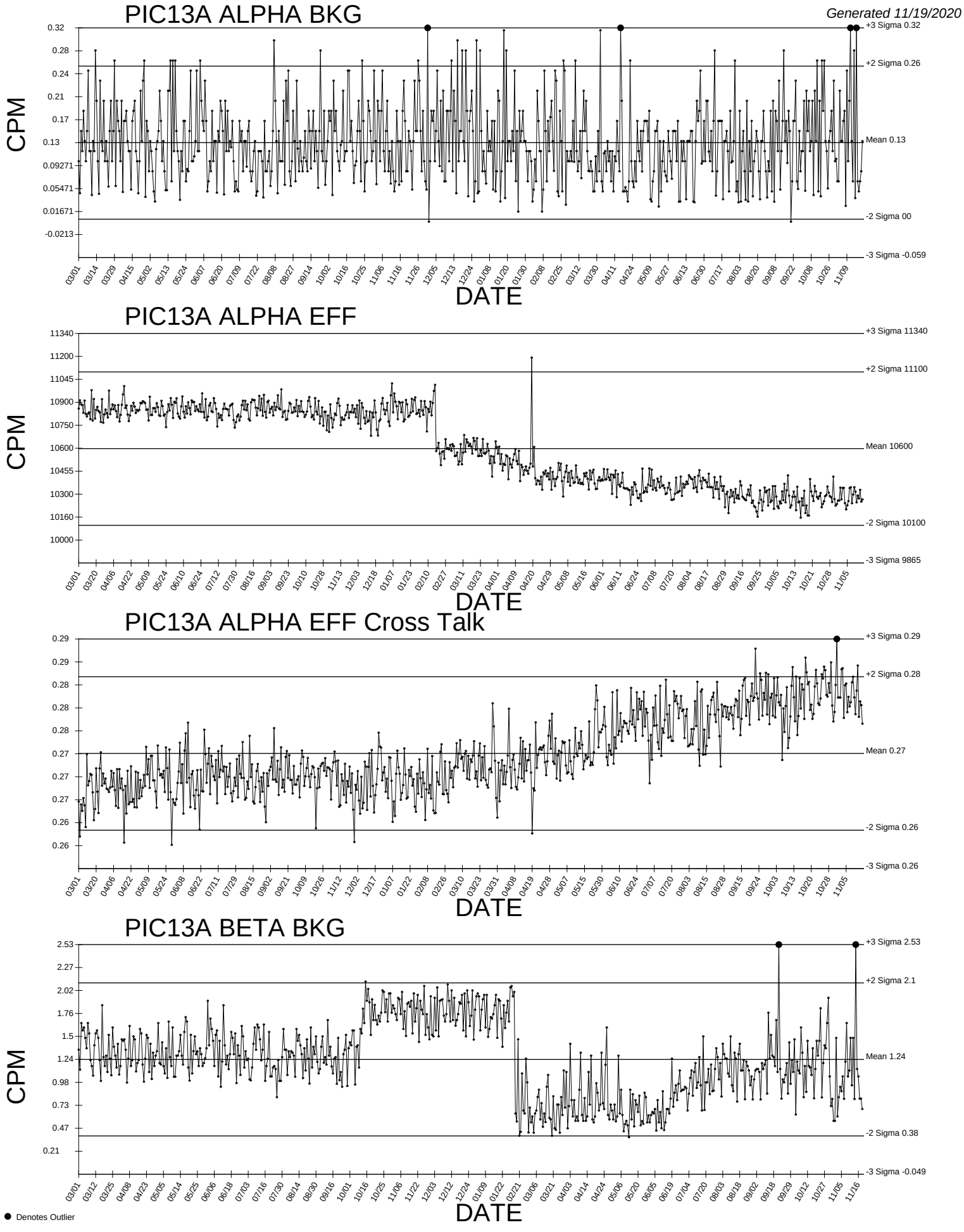
Background and Efficiency Data


PIC12C ALPHA BKG
Generated 11/19/2020
CPM
0.38
0.34
0.3
0.26
0.22
0.17
0.13
0.0927
0.0518
0.01094
+3 Sigma 0.38
+2 Sigma 0.31
Mean 0.17
-2 Sigma 0.04
-3 Sigma -0.03
03/01 03/21 04/05 04/24 05/10 05/22 06/05 06/25 07/16 08/05 08/17 09/09 09/25 10/12 10/26 11/14 11/30 12/16 01/07 01/23 02/13 02/25 03/10 03/21 04/04 04/17 04/26 05/10 05/21 06/06 06/17 06/27 07/10 07/23 08/08 08/21 08/31 09/10 09/21 09/30 10/08 10/16 10/28 11/06 11/17
DATE
PIC12C ALPHA EFF
CPM
21150
20988
20826
20664
20502
20340
20178
20016
19854
19692
+3 Sigma 21150
+2 Sigma 20882
Mean 20340
-2 Sigma 19798
-3 Sigma 19530
03/01 03/16 03/30 04/13 04/27 05/13 05/25 06/07 06/21 07/03 07/18 08/01 08/16 09/01 09/17 09/30 10/14 10/26 11/09 11/22 12/09 12/21 01/08 01/18 02/03 02/17 02/28 03/10 03/23 04/05 04/18 04/30 05/13 05/27 06/09 06/22 07/06 07/18 07/30 08/13 08/27 09/14 09/25 10/08 10/22 11/04 11/18
DATE
PIC12C ALPHA EFF Cross Talk
0.3
0.29
0.29
0.28
0.28
0.27
0.27
0.26
0.26
0.25
+3 Sigma 0.3
+2 Sigma 0.29
Mean 0.27
-2 Sigma 0.26
-3 Sigma 0.25
03/01 03/14 03/28 04/11 04/26 05/11 05/25 06/07 06/22 07/02 07/18 08/02 08/17 09/02 09/19 10/02 10/17 10/31 11/13 11/25 12/12 12/23 01/10 01/23 02/07 02/22 03/03 03/17 03/30 04/13 04/26 05/11 05/23 06/08 06/22 07/07 07/20 08/03 08/18 09/03 09/21 10/03 10/17 11/02 11/16
DATE
PIC12C BETA BKG
CPM
2.7
2.43
2.16
1.89
1.62
1.35
1.08
0.81
0.54
0.27
+3 Sigma 2.7
+2 Sigma 2.25
Mean 1.35
-2 Sigma 0.45
-3 Sigma 00
03/01 03/18 03/29 04/13 04/30 05/13 05/22 06/06 06/25 07/15 08/05 08/17 09/08 09/24 10/14 10/29 11/15 11/29 12/14 01/03 01/20 02/10 02/22 03/06 03/18 03/31 04/13 04/23 05/04 05/15 05/28 06/11 06/22 07/02 07/14 07/27 08/12 08/24 09/01 09/12 09/22 10/01 10/09 10/19 10/28 11/07 11/17
DATE
● Denotes Outlier





● Denotes Outlier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Generated 11/19/2020
CPM
DATE
+3 Sigma 0.32
+2 Sigma 0.26
Mean 0.13
-2 Sigma 00
-3 Sigma -0.059
PIC13A ALPHA EFF
+3 Sigma 11340
+2 Sigma 11100
Mean 10600
-2 Sigma 10100
-3 Sigma 9865
PIC13A ALPHA EFF Cross Talk
+3 Sigma 0.29
+2 Sigma 0.28
Mean 0.27
-2 Sigma 0.26
-3 Sigma 0.26
PIC13A BETA BKG
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+2 Sigma 2.1
Mean 1.24
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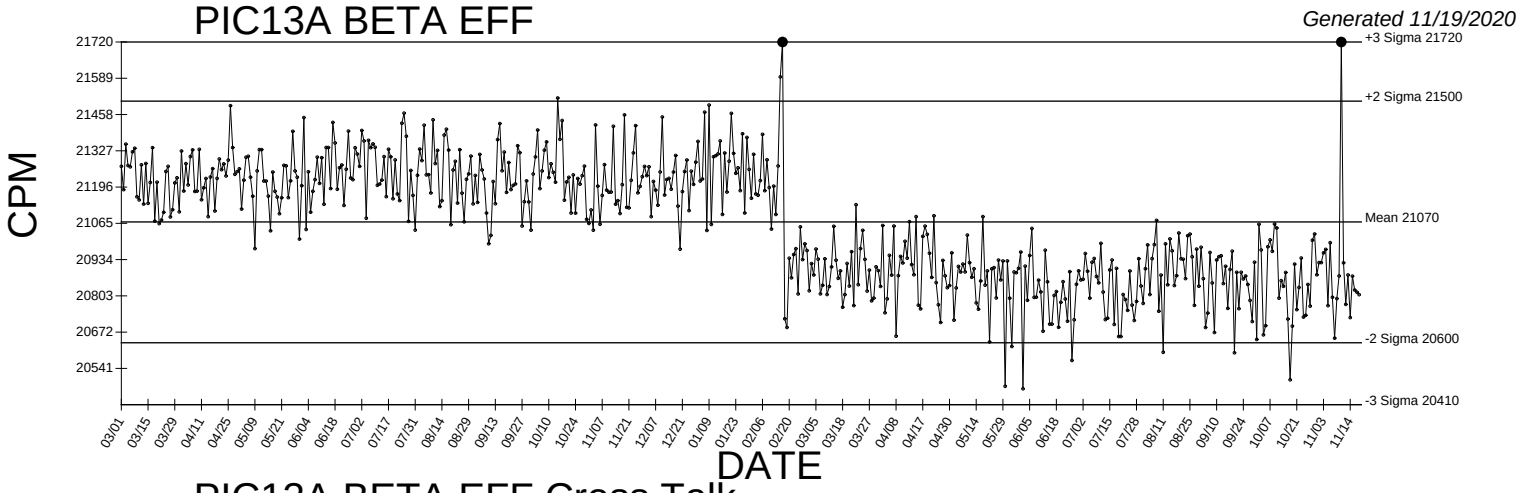
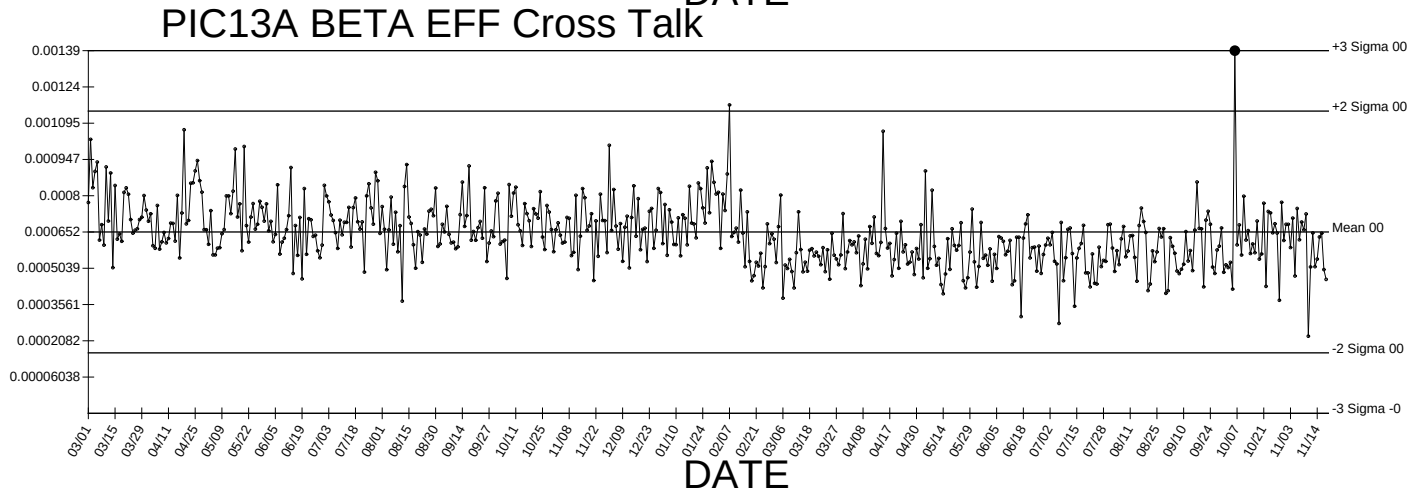
-3 Sigma -0.049
Denotes Outlier





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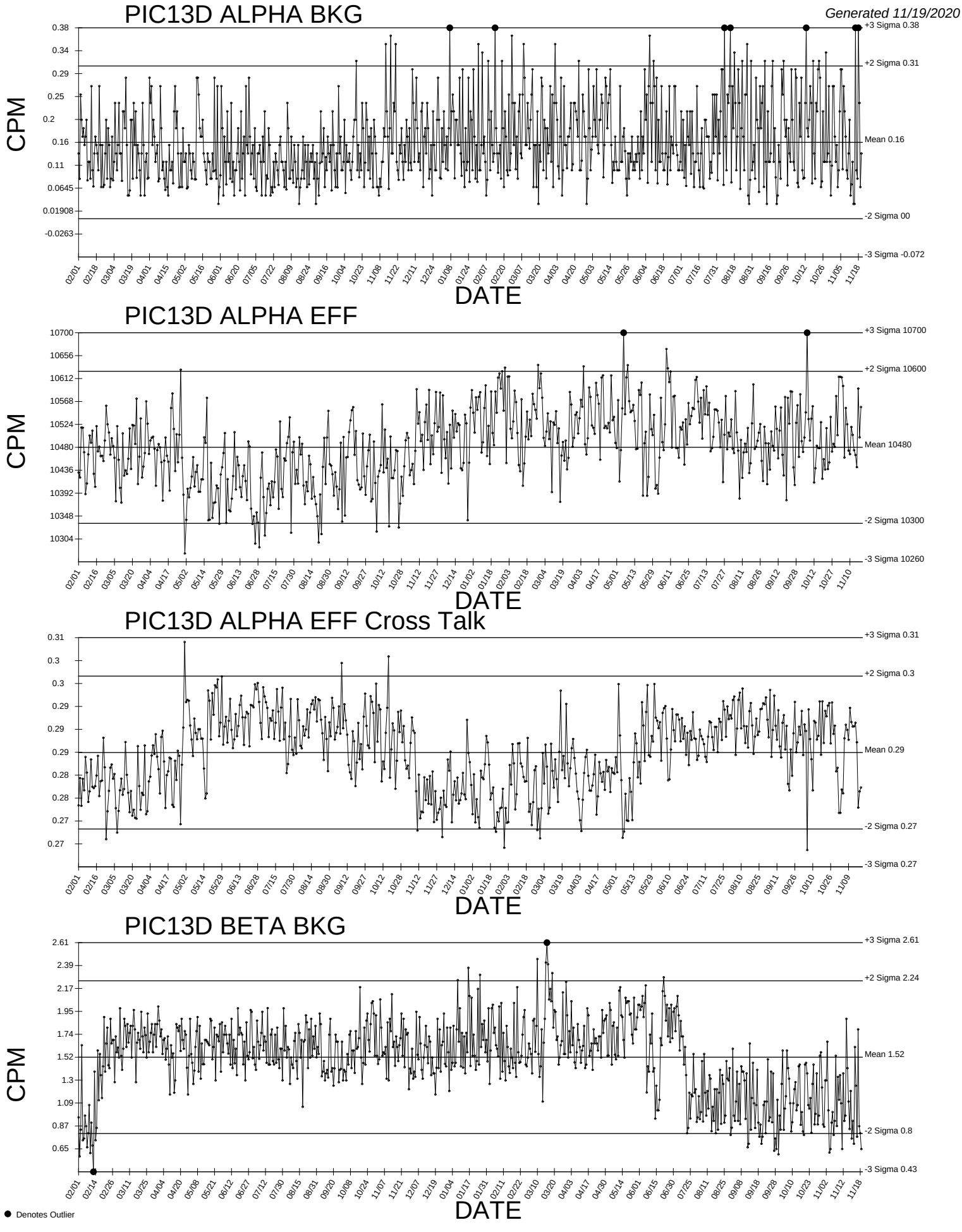
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CPM
DATE
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Mean 0.16
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-3 Sigma -0.072
PIC13D ALPHA EFF
+3 Sigma 10700
+2 Sigma 10600
Mean 10480
-2 Sigma 10300
-3 Sigma 10260
PIC13D ALPHA EFF Cross Talk
+3 Sigma 0.31
+2 Sigma 0.3
Mean 0.29
-2 Sigma 0.27
-3 Sigma 0.27
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Mean 1.52
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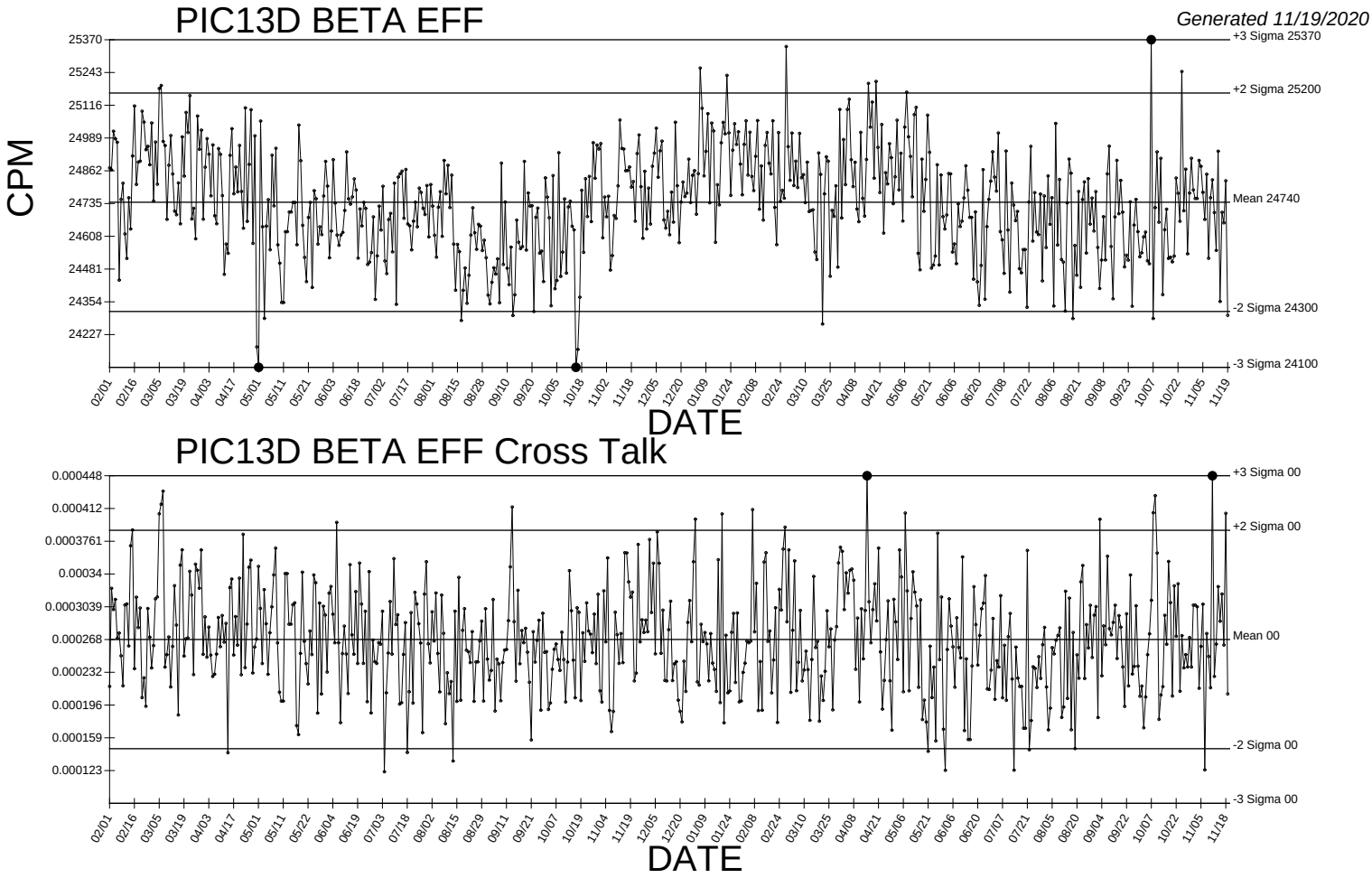

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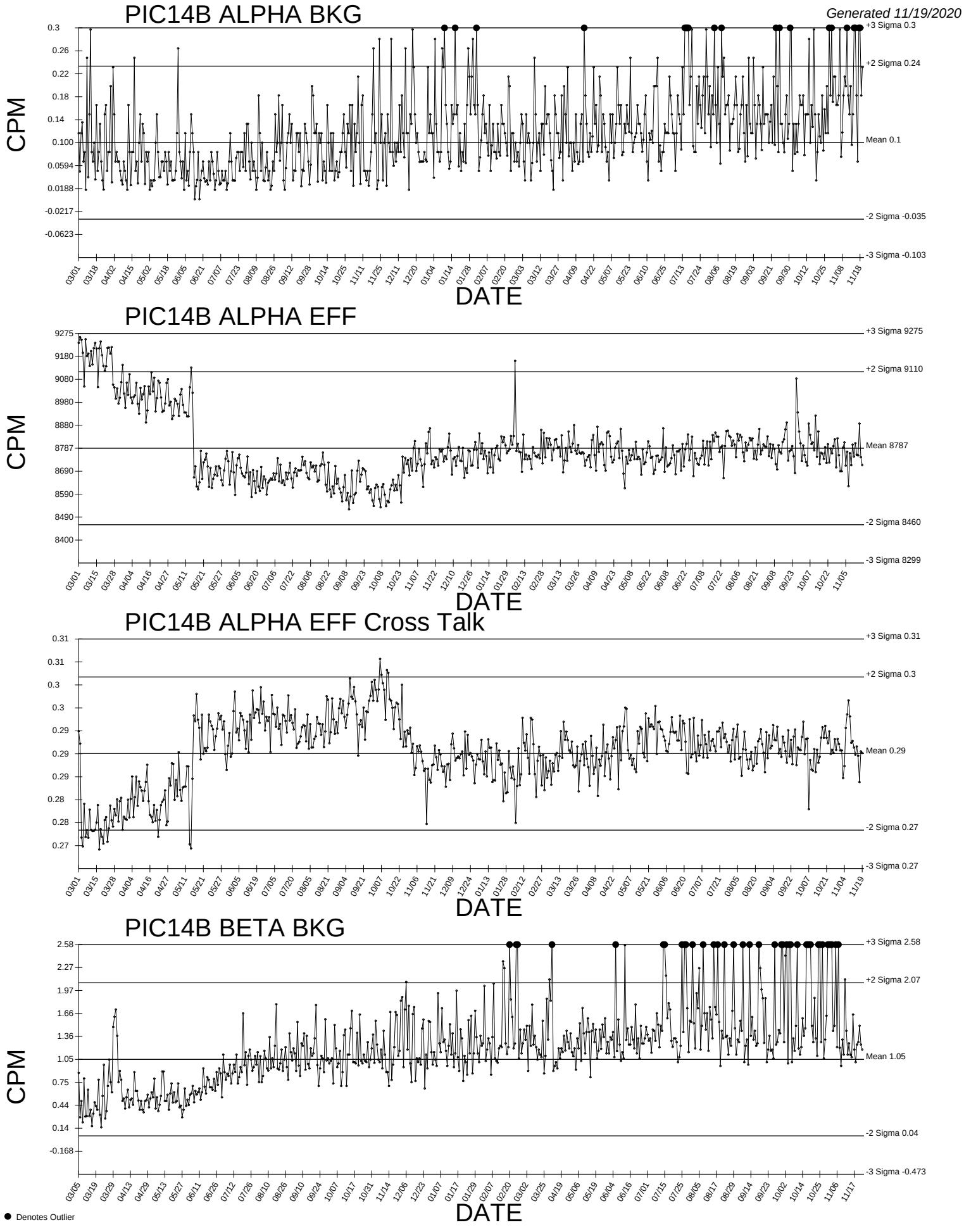
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CPM
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Mean 0.1
-2 Sigma -0.035
-3 Sigma -0.103
DATE
PIC14B ALPHA EFF
+3 Sigma 9275
+2 Sigma 9110
Mean 8787
-2 Sigma 8460
-3 Sigma 8299
PIC14B ALPHA EFF Cross Talk
+3 Sigma 0.31
+2 Sigma 0.3
Mean 0.29
-2 Sigma 0.27
-3 Sigma 0.27
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Mean 1.05
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-3 Sigma -0.473
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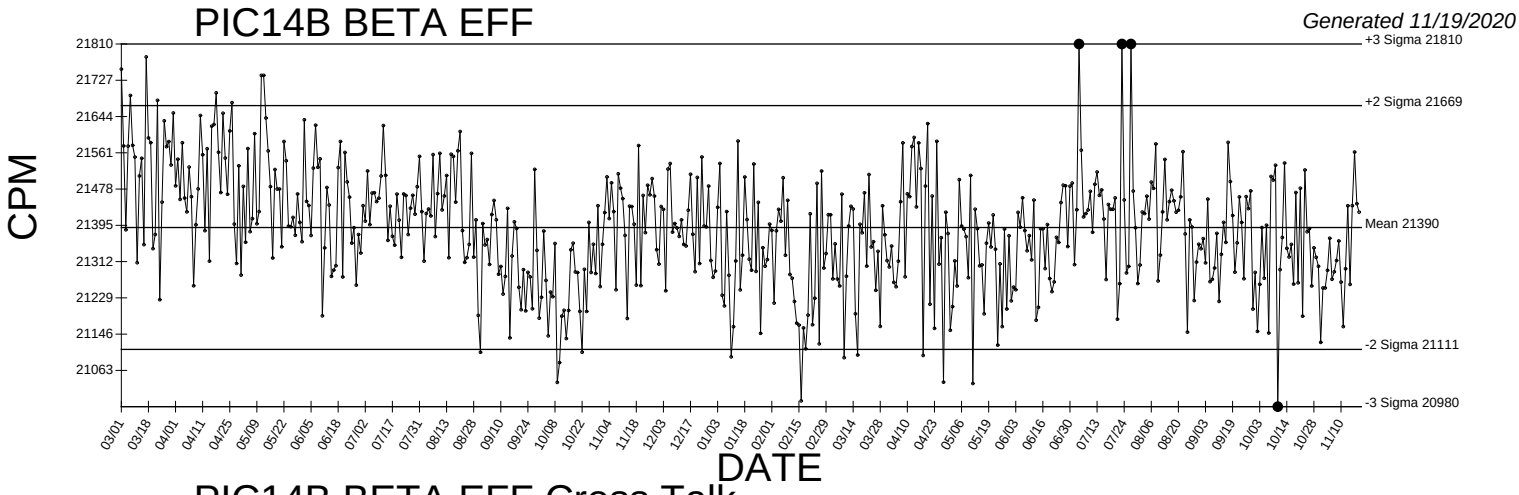

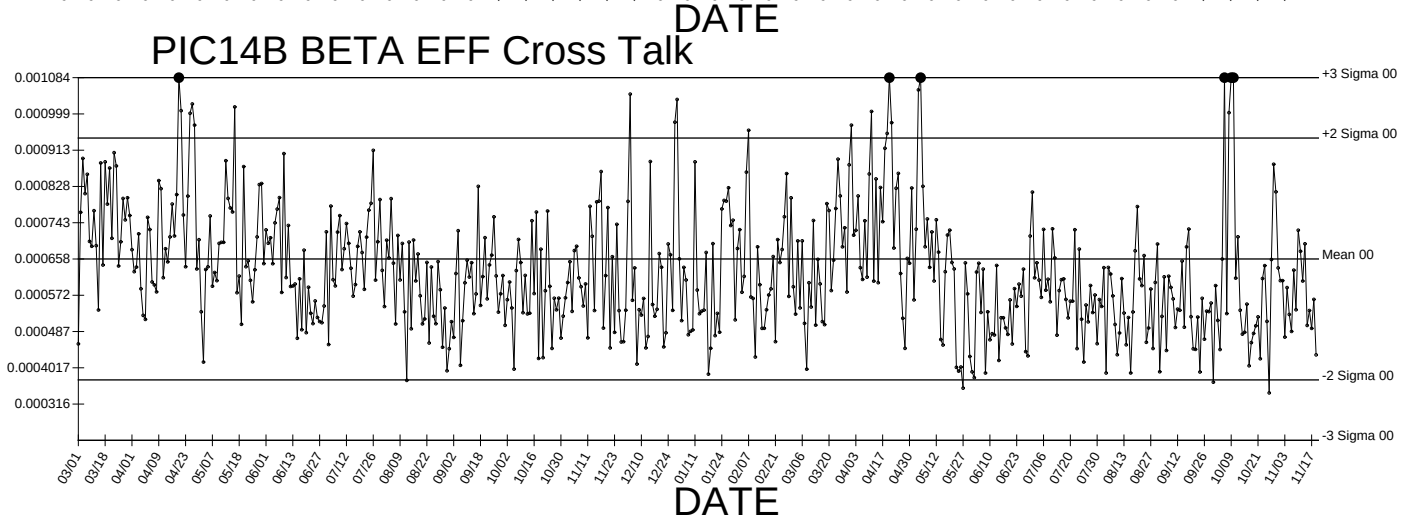

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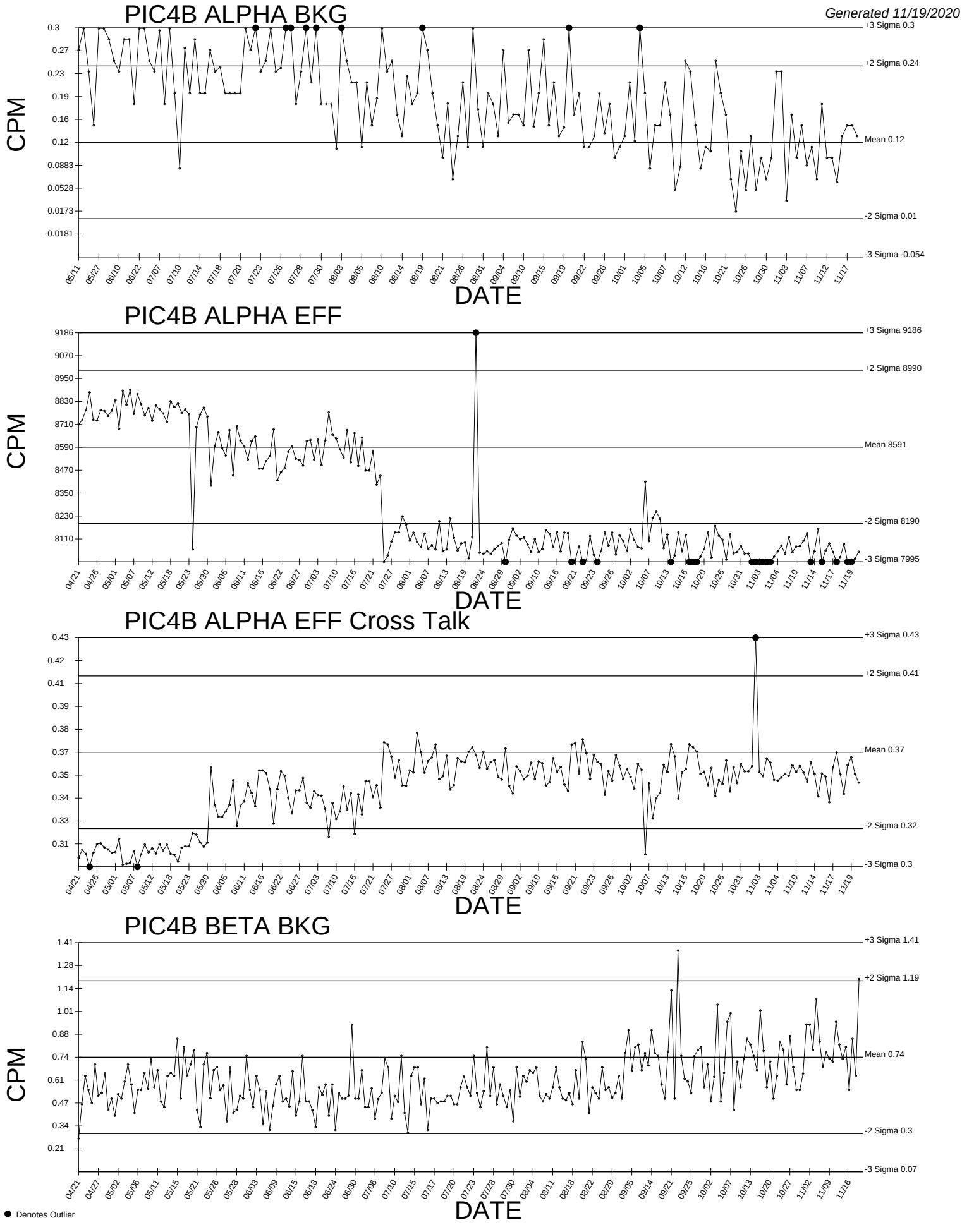
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Generated 11/19/2020
CPM
DATE
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+2 Sigma 0.24
Mean 0.12
-2 Sigma 0.01
-3 Sigma -0.054
PIC4B ALPHA EFF
+3 Sigma 9186
+2 Sigma 8990
Mean 8591
-2 Sigma 8190
-3 Sigma 7995
PIC4B ALPHA EFF Cross Talk
+3 Sigma 0.43
+2 Sigma 0.41
Mean 0.37
-2 Sigma 0.32
-3 Sigma 0.3
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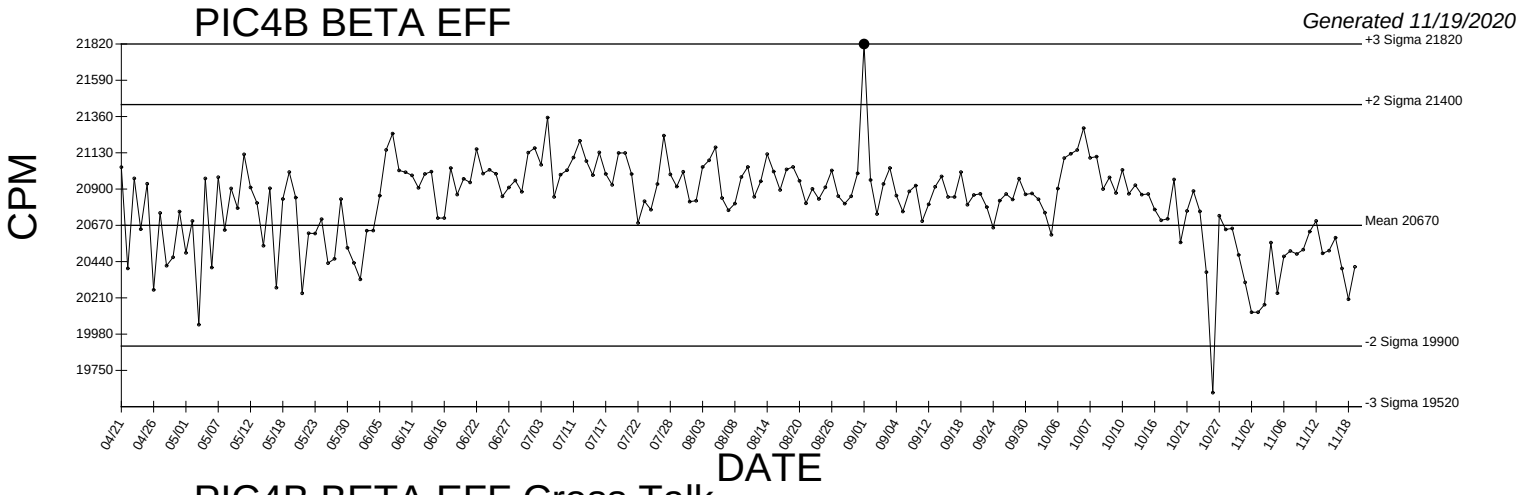
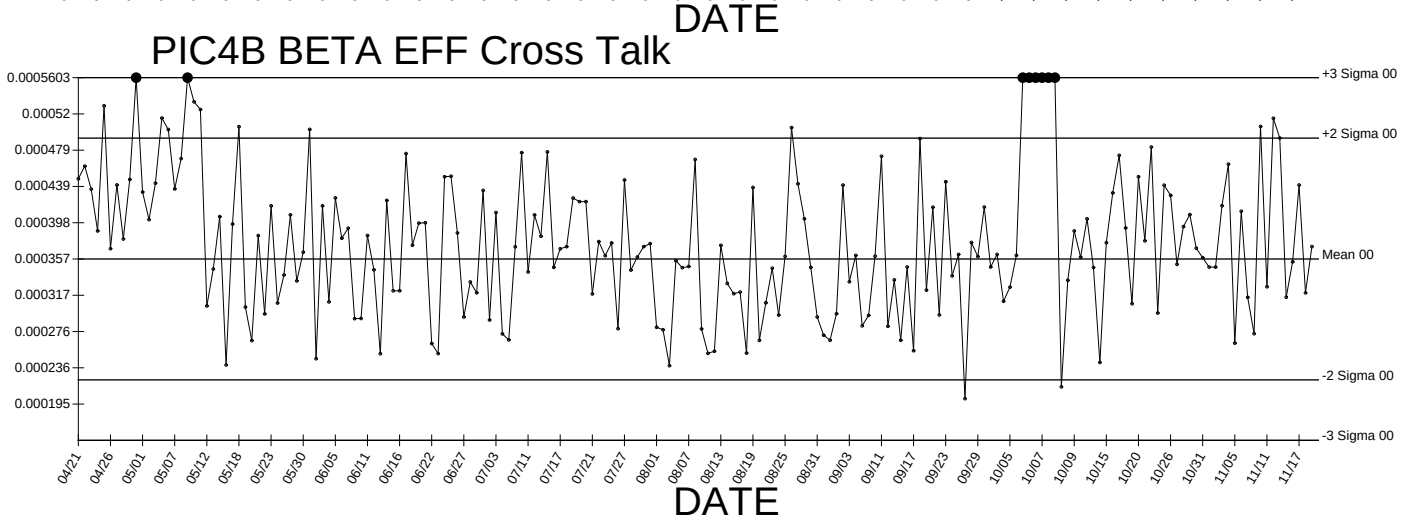
+2 Sigma 1.19
Mean 0.74
-2 Sigma 0.3
-3 Sigma 0.07
Denotes Outlier





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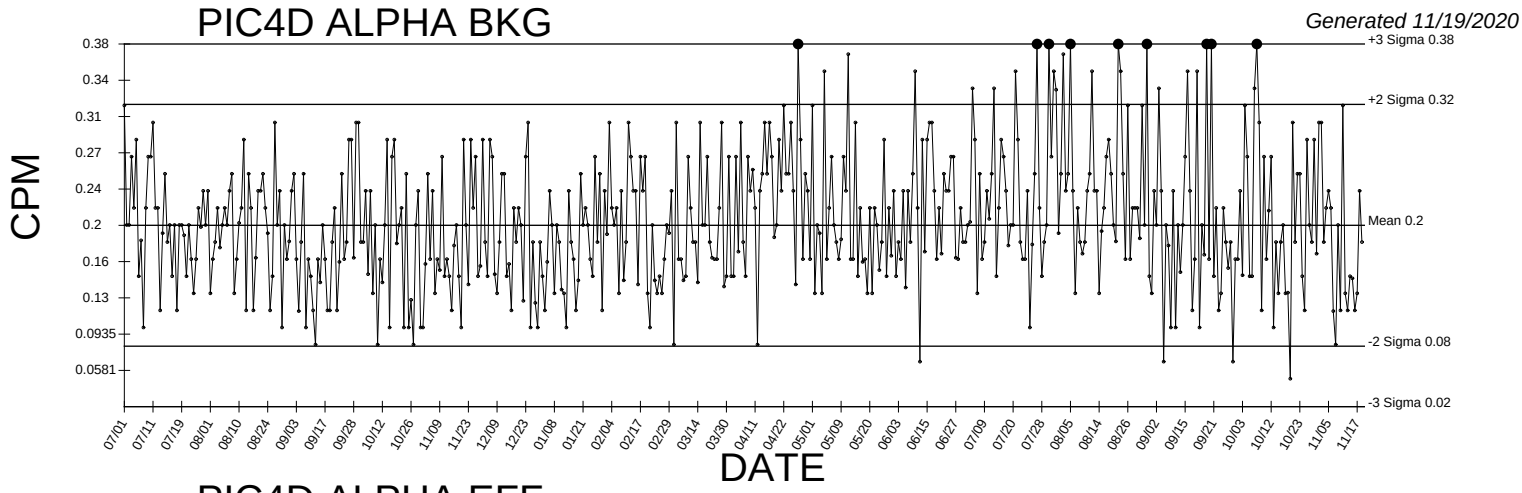

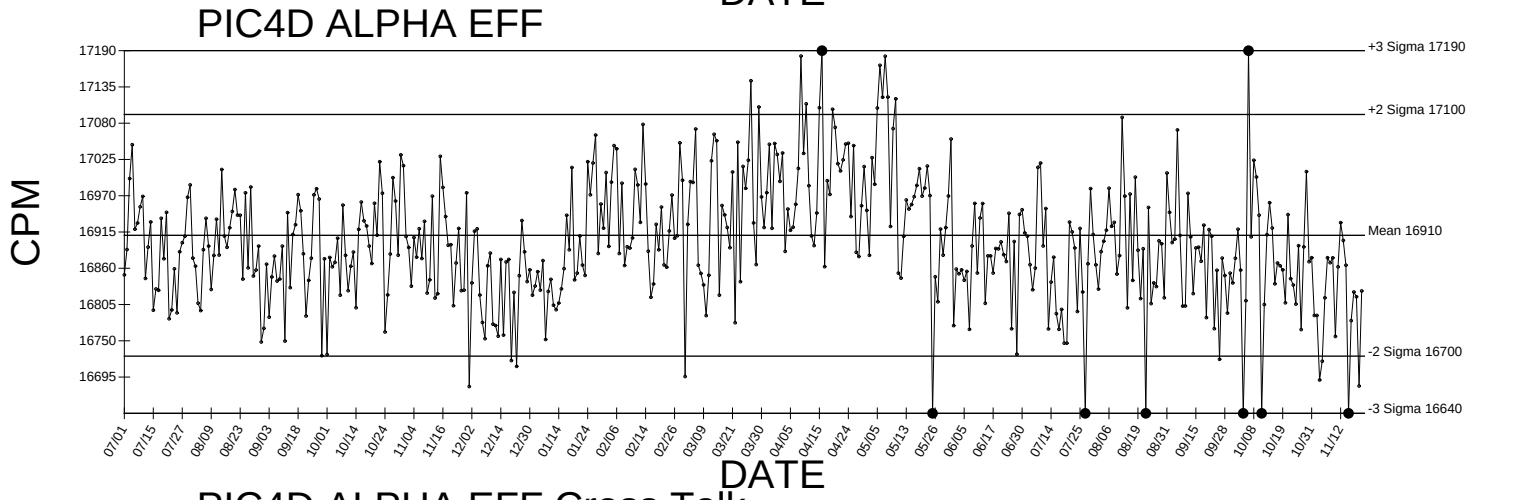

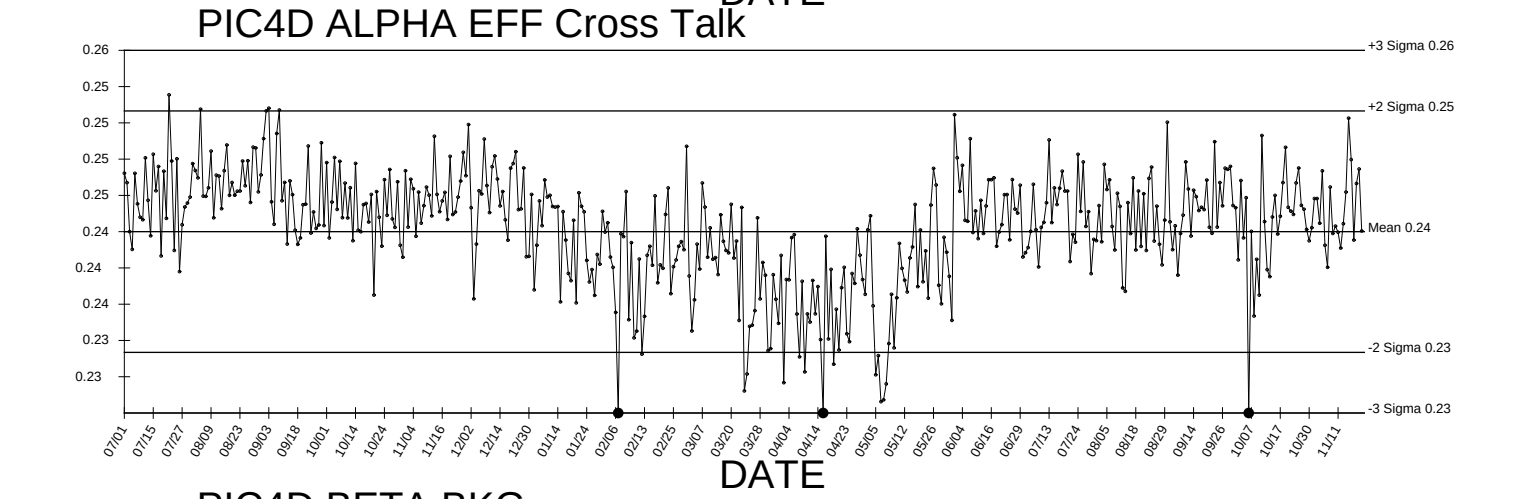

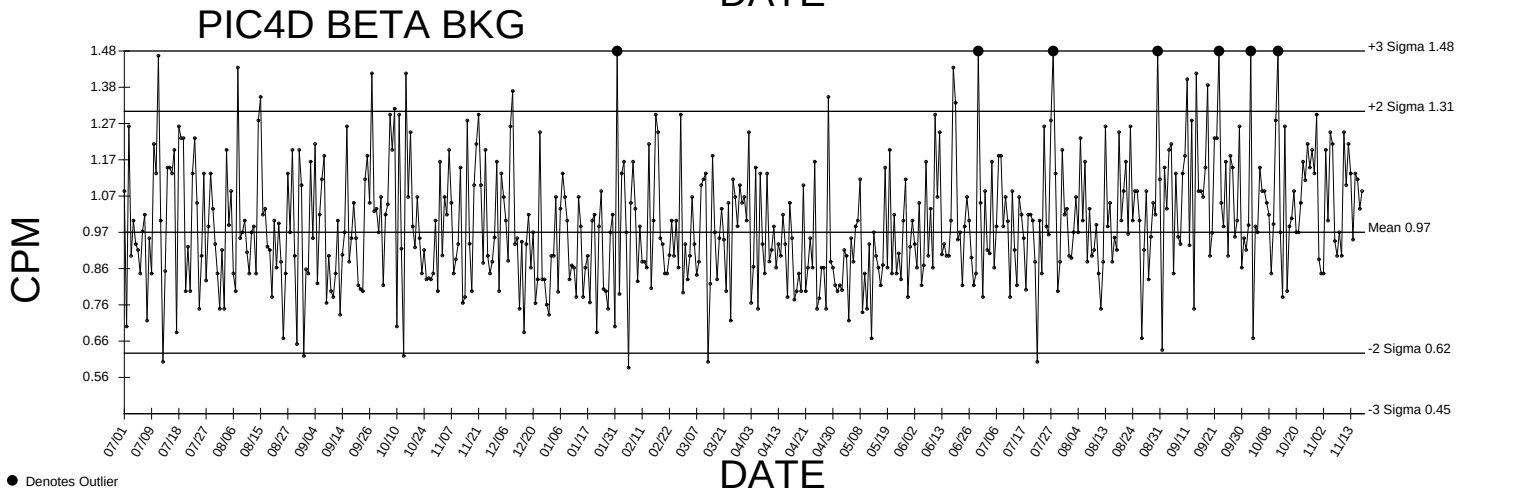

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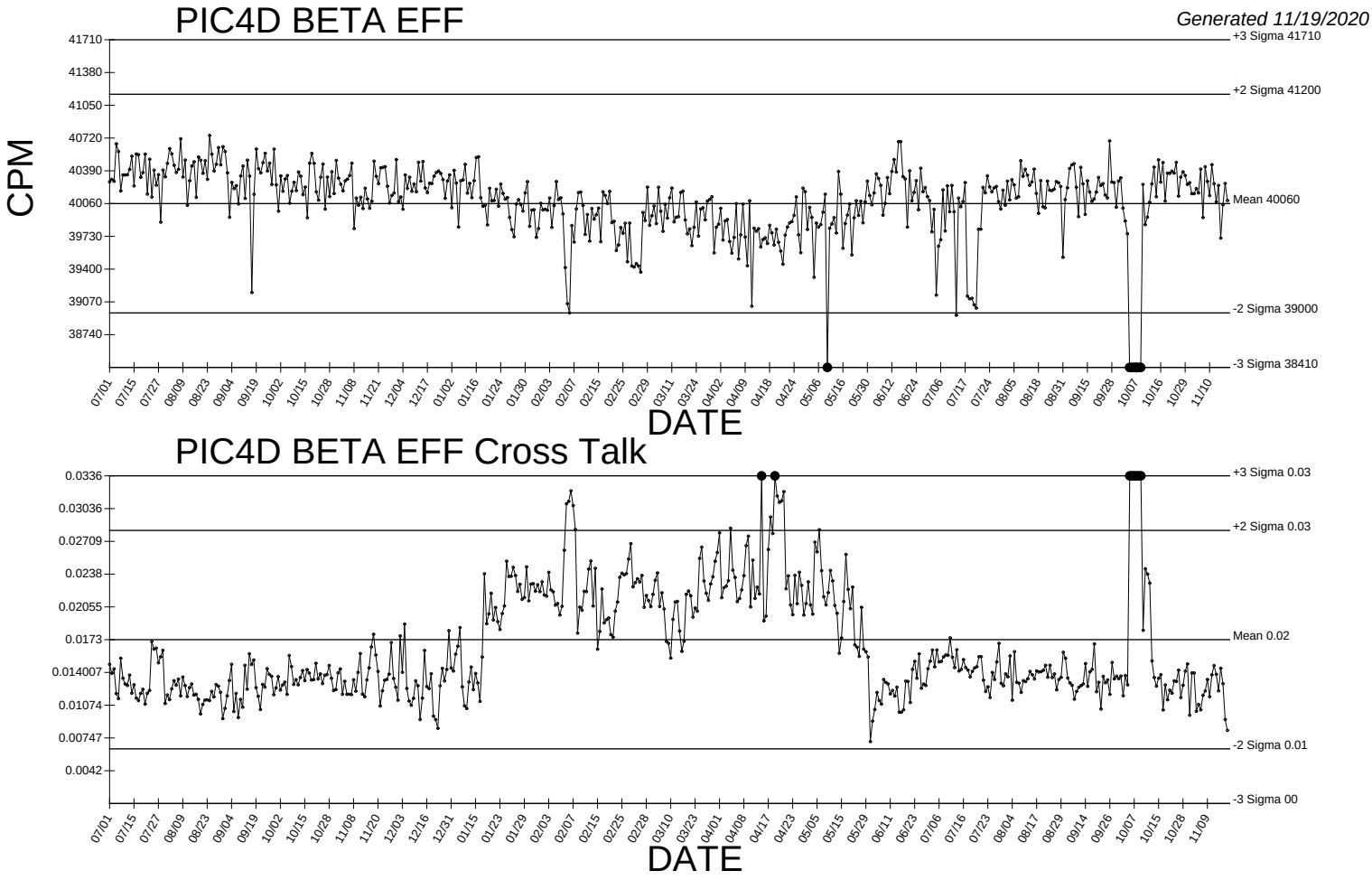

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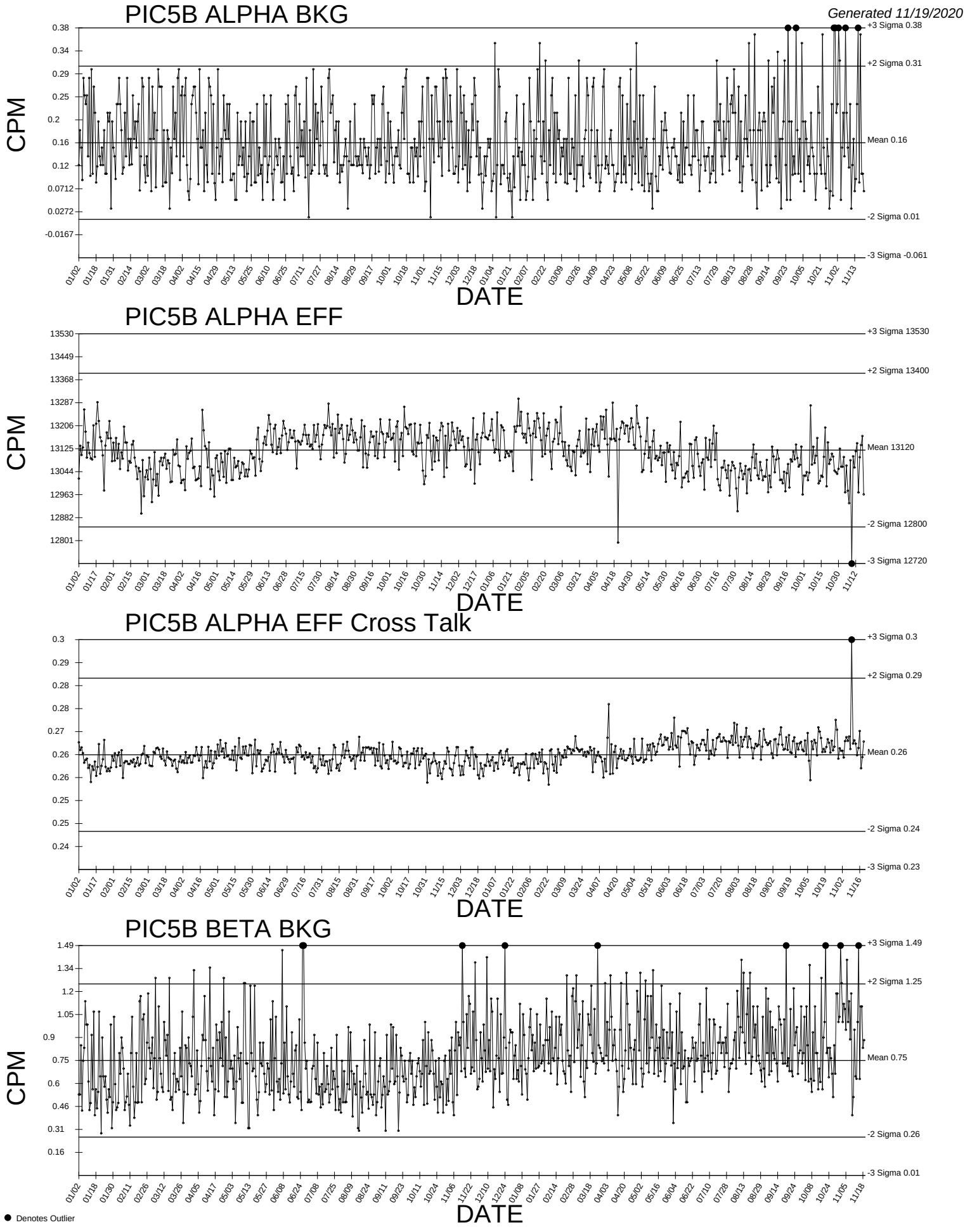
PIC5B ALPHA BKG
Generated 11/19/2020
CPM
DATE
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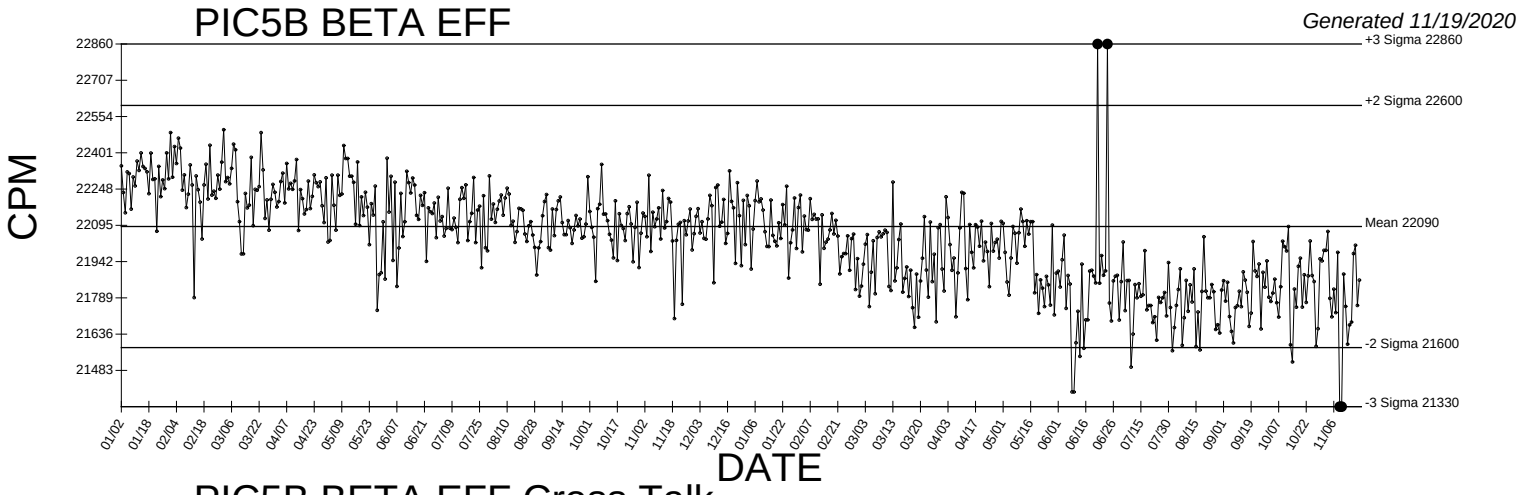
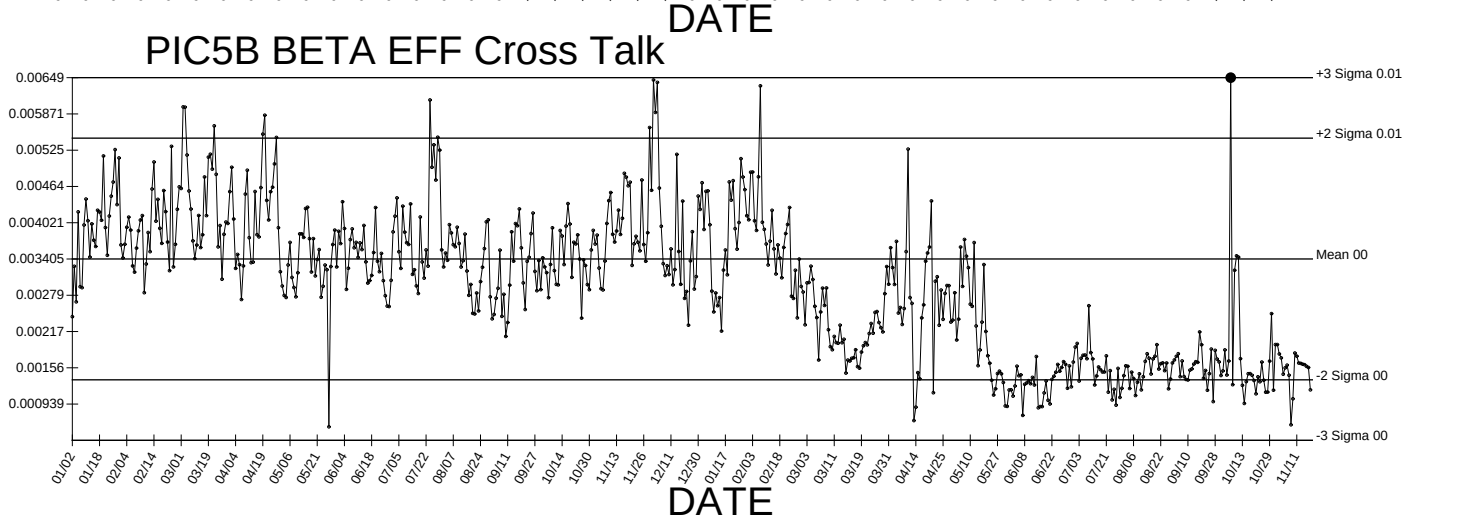
+2 Sigma 0.31
Mean 0.16
-2 Sigma 0.01
-3 Sigma -0.061
PIC5B ALPHA EFF
+3 Sigma 13530
+2 Sigma 13400
Mean 13120
-2 Sigma 12800
-3 Sigma 12720
PIC5B ALPHA EFF Cross Talk
+3 Sigma 0.3
+2 Sigma 0.29
Mean 0.26
-2 Sigma 0.24
-3 Sigma 0.23
PIC5B BETA BKG
+3 Sigma 1.49
+2 Sigma 1.25
Mean 0.75
-2 Sigma 0.26
-3 Sigma 0.01
● Denotes Outlier





● Denotes Outlier

RAD Standards Traceability

0487

National Institute of Standards & Technology

0487

Certificate

Standard Reference Material 4251C
Barium-133 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive barium-133 chloride, non-radioactive barium chloride, and hydrochloric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of ionization chambers and solid-state gamma-ray spectrometry systems.

Radiological Hazard

The SRM ampoule contains barium-133 with a total activity of approximately 2.5 MBq. Barium-133 decays by electron capture and during the decay process X-rays and gamma rays with energies from 4 to 400 keV are emitted. Most of these photons escape from the SRM ampoule and can represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. Appropriate shielding and/or distance should be used to minimize personnel exposure. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard

The SRM ampoule contains hydrochloric acid (HCl) with a concentration of 1 mole per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling

The SRM should be stored and used at a temperature between 5 and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least June 2004.

The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

Preparation

This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, J.M.R. Hutchinson, Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group and D.B. Golas, Nuclear Energy Institute Research Associate.

The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program by N.M. Trahey.

Gaithersburg, Maryland 20899
October 1994

Thomas E. Gills, Chief
Standard Reference Materials Program

*Notes and references are on pages 5 and 6.

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Recommended Procedure for Opening the SRM Ampoule

1) If the SRM solution is to be diluted, it is recommended that the diluting solution have an acid concentration and a carrier concentration comparable to that of the SRM solution.

2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.

3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.

4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.

5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.

6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.

7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.

8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. NEVER PIPETTE BY MOUTH.

9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.

See also reference [4]*.

*Notes and references are on pages 5 and 6.

RC-S-035-002b

PROPERTIES OF SRM 4251C
(Certified values are shown in bold type)

Source identification number	NIST SRM 4251C		
Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter Wall Thickness Barium content Lead-oxide content Other heavy elements	(16.5 ± 0.5) mm (0.60 ± 0.04) mm Less than 2.5% Less than 0.02% Trace quantities	
Solution density	**(1.015 ± 0.002) g•mL^{-1} at 22.1 °C** [b]*		
Solution mass	**(5.054 ± 0.001) g** [b]		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol•L^{-1})	Mass Fraction (g•g^{-1})
	H_2O HCl $BaCl_2$ $^{133}BaCl_2$	54 1.0 6×10^{-4} 4×10^{-7}	0.96 0.04 1.2×10^{-4} 8×10^{-8}
Radiological Properties:			
Radionuclide	**Barium-133**		
Reference time	**1200 EST, 1 September 1993**		
Massic activity of the solution [c] (Activity per unit mass of solution)	**4.876×10^5 Bq•g^{-1}**		
Relative expanded uncertainty (k=2)	**0.52%** [d]		
Photon-emitting impurities	None detected [e]		
Half lives used	Barium-133: (10.52 ± 0.13) a [f] Radium-226: (1600 ± 7) a [f]		
Measuring instrument	Pressurized "4π"γ ionization chamber A calibrated using a barium-133 solution whose activity was determined by 4π(e+X)-γ-anticoincidence counting		

*Notes and references are on pages 5 and 6.

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EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d]*

Input Quantity x_i, the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [g]	Relative Sensitivity Factor, $\lvert\partial y/\partial x_i\rvert \cdot (x_i/y)$ [h]	Relative Uncertainty Of Output Quantity, $u_i(y)/y$, (%) [i]
PIC A net response per gram of SRM 4251C, measured relative to RRS20 [j]	Standard deviation of the mean for 1000 repeated measurements (A)	0.008	1.0	0.01
PIC A background response, measured relative to RRS20	Standard deviation of the mean for >150 repeated measurements (A)	0.25	0.001 [k]	0.00
PIC A net response for RRS200, measured relative to RRS20	Standard deviation of the mean for >100 repeated measurements (A)	0.06	1.0	0.06
PIC A net response per Bq of barium-133 in solution, measured relative to RRS200.	Standard deviation of the mean for 240 repeated measurements (A)	0.02	1.0	0.02
Gravimetric measurements	Estimated (B)	0.01	1.0	0.01
Half life of barium-133 Half life of radium-226	Standard uncertainty of the half life (A)	1.24 [m] 0.44 [m]	0.004 [n] 0.004 [n]	0.00 0.00
Activity used to calibrate PIC A net response per Bq of barium-133 in solution	Standard uncertainty of the activity determined by $4\pi(e+X)$-γ-anticoincidence counting. (B)	0.22	1.0	0.22
Live-time [p]	Estimated (B)	0.10	1.0	0.10
PIC A charge collection	Estimated (B)	0.05	1.0	0.05
Source Positioning	Estimated (B)	0.05	1.0	0.05
Photon-emitting impurities	Limit of detection for Cs-134 (B) [q]	100.	0.00002	0.00
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.26
Coverage Factor, k				x 2
Relative Expanded Uncertainty of the Output Quantity, U/y, (%)				0.52

*Notes and references are on pages 5 and 6.

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NOTES

[a] The Sievert is the SI unit for dose equivalent. See reference [1]. One μSv is equal to 0.1 mrem.

Distance from Ampoule (cm):	1	30	100
Approximate Dose Rate (μSv/h):	100	1.5	0.2

[b] The stated uncertainty is two times the standard uncertainty.

[c] **Massic activity** is the preferred name for the quantity activity divided by the total mass of the sample. See reference [1].

[d] The reported value, y, of massic activity (activity per unit mass) at the reference time was not measured directly but was derived from measurements and calculations of other quantities. This can be expressed as $y = f(x_1, x_2, x_3, \ldots x_n)$, where f is a mathematical function derived from the assumed model of the measurement process.

The value, x_i, used for each input quantity i has a **standard uncertainty**, $u(x_i)$, that generates a corresponding uncertainty in y, $u_i(y) \equiv |\partial y/\partial x_i| \cdot u(x_i)$, called a **component of combined standard uncertainty** of y.

The **combined standard uncertainty** of y, $u_c(y)$, is the positive square root of the sum of the squares of the components of combined standard uncertainty.

The combined standard uncertainty is multiplied by a **coverage factor** of $k = 2$ to obtain U, the **expanded uncertainty** of y.

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation $u_c(y)$, the unknown value of the massic activity is believed to lie in the interval $y \pm U$ with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

[e] Estimated limits of detection for photon-emitting impurities are:
600 $\gamma \cdot s^{-1} \cdot g^{-1}$ for energies between 12 and 75 keV,
150 $\gamma \cdot s^{-1} \cdot g^{-1}$ for energies between 84 and 379 keV, and
3 $\gamma \cdot s^{-1} \cdot g^{-1}$ for energies between 387 and 2700 keV, provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of barium-133.

[f] The stated uncertainty is the standard uncertainty. See reference [5].

[g] Relative standard uncertainty of the input quantity x_i.

[h] The relative change in the output quantity y divided by the relative change in the input quantity x_i. If $|\partial y/\partial x_i| \cdot (x_i/y) = 1.0$, then a 1% change in x_i results in a 1% change in y. If $|\partial y/\partial x_i| \cdot (x_i/y) = 0.05$, then a 1% change in x_i results in a 0.05% change in y.

[i] Relative component of combined standard uncertainty of output quantity y, rounded to two decimal places. The relative component of combined standard uncertainty of y is given by $u_i(y)/y \equiv |\partial y/\partial x_i| \cdot u(x_i)/y = |\partial y/\partial x_i| \cdot (x_i/y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y/\partial x_i| \cdot (x_i/y)$, and $u_i(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

RC-S-035-002e

[j] The response of pressurized ionization chamber A (PIC A) is determined from measurement of the time required to collect a given amount of charge on a stable fixed capacitor. All of the response measurements in the NIST pressurized ionization chambers are made relative to the response of one or more artifact standards. These artifact standards consist of microgram quantities of aged radium-226 in small welded stainless-steel capsules. These capsules are encapsulated in plastic rods whose dimensions are similar to those of the standard NIST ampoule. The artifact standards are called **Radium Reference Sources** and are designated as RRSx, where x is the nominal mass (in micrograms) of radium-226 in the capsule.

[k] $|\partial y/\partial x_i| \cdot (x_i/y)$ = (average background response)/(average net sample response)

[m] The relative standard uncertainty of $\lambda \cdot t$ is determined by the relative standard uncertainty of λ (i.e., of the half life). The relative standard uncertainty of t is negligible.

[n] $|\partial y/\partial x_i| \cdot (x_i/y) = |\lambda \cdot t|$

[p] The live time is determined by counting the pulses from a gated oscillator.

[q] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e. $u(x_i)/x_i$ = 100%. $|\partial y/\partial x_i| \cdot (x_i/y)$ = {(response per Bq of impurity)/(response per Bq of Ba-133)}·{(Bq of impurity)/(Bq of Ba-133)}. Thus $u_i(y)/y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.

REFERENCES

[1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036, U.S.A. 1-212-642-4900.

[2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993. Available from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036, U.S.A. 1-212-642-4900. (Listed under ISO miscellaneous publications as "ISO Guide to the Expression 1993".)

[3] B. N. Taylor and C. E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.

[4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.

[5] Evaluated Nuclear Structure Data File (ENSDF), April 1994.

RC-S-035-002f

Standard Logbook

Serial ID:	0487	**Open/Reference Date:**	01-SEP-93	**Aliquot :**	5.054 g
Name:	Barium-133	**Received:**	01-AUG-02	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	01-SEP-30	**Logbook Num :**	RC S 035 002
Employee:	Angela Johnson			**Solvent :**	0.1 M HCL
Supplier:	NIST			**Uncertainty :**	.26 percent

Description: 4251C

Comments: None

Analyte	Concentration	Analyte	Concentration
Barium-133	487600 bq/g		

[IMAGE] # Standard Traceability Log Rad

Source Material Info	
Parent Code:	0487
Prepared By:	Angela Johnson
Carrier Conc:	0.1 M HCL
Reference Date:	09/01/1993
Ampoule Mass (g):	5.054 g
Uncertainty:	+/- .26 %
LogBook No:	RC S 035 002
Supplier:	NIST

A Solution Material Info			
Isotope:	Barium-133		
Prepared By:	Angela Johnson		
Prep Date:	10/31/2002		
Verification Date:	02/27/2020		
Expiration Date:	02/27/2021		
Primary Code:	0487-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	4.7696 g		
Density(g/mL):	0.9984	Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (bq/g)) * (conversion dpm to bq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (bq/g)) * (conversion dpm to bq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(4.7696 g) * (487600 bq/g) * (60 dpm/bq) / (100 mL) = 1395394.1760 dpm/mL
(4.7696 g) * (487600 bq/g) * (60 dpm/bq) / (0.9984 g/mL) / (100 mL) = 1397609.3930 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/18/2015	Gregory Ramsay	15.0062	1000	0487-B	20972.806 dpm/mL	11/18/2016	11/18/2017
01/17/2017	Bethany Fiem	15.1795	1000	0487-C	21215.0117 dpm/mL	01/17/2017	01/17/2018
11/08/2017	Bethany Fiem	15.5573	1000	0487-D	21708.5658 dpm/mL	10/10/2018	10/10/2019
01/14/2019	Bethany Fiem	15.0723	1000	0487-E	21065.188 dpm/mL	01/14/2019	01/14/2020
09/10/2019	Bethany Fiem	15.5683	1000	0487-F	21758.4023 dpm/mL	09/10/2019	09/10/2020
02/27/2020	Bethany Fiem	11.507	750	0487-G	21443.055 dpm/mL	02/27/2020	02/27/2021

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Ba-133 Standard 0487-G

v1.0.2

Instrument	GOLD
Analyst	BXF1
Verification Prep Date	2/27/2020

Standard Information	
Isotope	Ba-133
Serial Number	0487-G
Isotope Halflife	3.8410E+03 D
Reference Date	9/1/1993
Ref. Act. (DPM/mL)	21443.05505
Amount of Std. (mL)	1.0
Standard Prep Date	2/27/2020

Std #	Count Date	Quench Number	Gross cpm	Bkg cpm
1	2/28/2020	84.50	3150.31	46.20
2	2/28/2020	84.60	3150.31	46.20
3	2/28/2020	85.00	3188.25	46.20

Std #	Net cpm	Calculated Avg. Eff.	Standard dpm/mL	Measured dpm
1	3104.11	0.835744	3714.19	3714.19
2	3104.11	0.835744	3714.19	3714.19
3	3142.05	0.835744	3759.59	3759.59

	dpm/mL
Mean Value =	3729.32
Stdev =	26.20978982
Certificate Value* =	**3740.7**
Two sigma =	52.420
10 % of Mean =	372.932
Rule A (Pass/Fail)	**Pass**
% Recovery	99.70%
Rule B (Pass/Fail)	**Pass**
Expiration Date	**2/27/2021**

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Count Date.**

The analyst prepared three standard verification sources for Ba-133 source 0487-G by transferring 1 mL portions of the standard into glass liquid scintillation vials. 10 mL of Ecoscint Ultra liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 10 mL of Ecoscint Ultra liquid scintillation cocktail. The standard verification vials and background source were dark adapted for at least two hours and counted on LSCGOLD for Ba-133 source standard verification. The Ba-133 efficiency calibration which was used for verification calculations was performed on 2/27/2020 using Ba-133 source 1601-A.

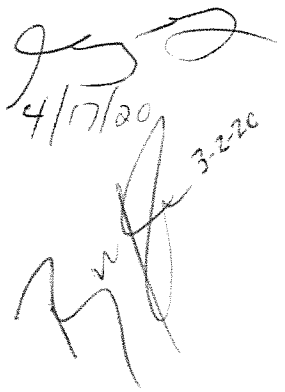
Standard results for each verification source was calculated as follows:

Source dpm/mL = (A - B)/(C)(D)

where:

A = Ver. source cpm,
B = BKG cpm,
C = System efficiency (cpm/dpm), and
D = volume used for standard verification.

RAD-M-001



1965

Eckert & Ziegler Analytics, Inc.
1380 Seaboard Industrial Blvd.
Atlanta, GA 30318, USA
Tel 1-404-352-8677
Fax 1-404-352-2837

Eckert & Ziegler
Analytics

Received 9-22-20

akkreditiert durch die / *accredited by the*

Deutsche Akkreditierungsstelle GmbH

ilac-MRA DAkkS Deutsche Akkreditierungsstelle D-K-19023-01-00

als Kalibrierlaboratorium im / *as calibration laboratory in the*

Deutschen Kalibrierdienst DKD

001443	
D-K-19023-01-00	
2020-09	

Kalibrierschein
Calibration certificate

Kalibrierzeichen
Calibration mark

Gegenstand *Object*	**5 mL Liquid in 5 mL Flame Sealed Ampoule**
Hersteller *Manufacturer*	**Eckert & Ziegler Analytics, Inc.**
Typ *Type*	**8328-5FSA-3700BQ-D**
Fabrikat/Serien-Nr. *Serial number*	**114437**
Auftraggeber *Customer*	**GEL Laboratories LLC**
Auftragsnummer *Order No.*	**CO-047265**
Anzahl der Seiten des Kalibrierscheines *Number of pages of the certificate*	**2**
Datum der Kalibrierung *Date of calibration*	**18-Sep-2020 1200 EST (1700 UTC)**

Dieser Kalibrierschein dokumentiert die Rückführung auf nationale Normale zur Darstellung der Einheiten in Übereinstimmung mit dem Internationalen Einheitensystem (SI).
Die DAkkS ist Unterzeichner der multilateralen Übereinkommen der European co-operation for Accreditation (EA) und der International Laboratory Accreditation Cooperation (ILAC) zur gegenseitigen Anerkennung der Kalibrierscheine.
Für die Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich.
This calibration certificate documents the traceability to national standards, which realize the units of measurement according to the International System of Units (SI).
The DAkkS is signatory to the multilateral agreements of the European co-operation for Accreditation (EA) and of the International Laboratory Accreditation Cooperation (ILAC) for the mutual recognition of calibration certificates.
The user is obliged to have the object recalibrated at appropriate intervals.

Dieser Kalibrierschein darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung sowohl der Deutschen Akkreditierungsstelle GmbH als auch des ausstellenden Kalibrierlaboratoriums. Kalibrierscheine ohne Unterschrift haben keine Gültigkeit.
This calibration certificate may not be reproduced other than in full except with the permission of both the Deutsche Akkreditierungsstelle GmbH and the issuing laboratory. Calibratian certificates without signature are not valid.

Datum *Date*	Leiter des Kalibrierlaboratoriums *Head of the calibration laboratory*	Bearbeiter *Person in charge*
14-Sep-20	Levan Tkavadze	Karlee Eardley

GL-CED-297-258

001443
D-K-19023-01-00
2020-09

- **Customer Purchase Order No.**:
  GEL2026750, Item 1

- **Calibration Results**:

Nuclide	Half-Life *, d	Activity, Bq	Uncertainty, %	Calibration Method
Ra-228	2.100E+03	3.172E+03	4.9	HPGe

- **Calibration Method(s)**:
  This standard radionuclide source was prepared gravimetrically from a master solution calibrated by Eckert & Ziegler Analytics using a germanium gamma-ray spectrometer system (HPGe).

- **Uncertainty**:
  The uncertainty stated is the expanded uncertainty obtained by multiplying the standard uncertainty by the coverage factor $k = 2$. It has been determined in accordance with EA-4/02 M. The value of the measurand lies within the assigned range of values with a probability of approximately 95%. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

- **Traceability**:
  Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST."

- **Impurities**:
  γ-impurities (other than decay products) < 0.1 %

- **Expiration Date**:
  No expiration date has been given for this source.

- **Wipe Test ***:
  This source was wipe tested in its inactive areas with leak test results < 185 Bq (5 nCi) of removable activity per ISO 9978:1992.

- **Additional Information**:
  - 5.00785 g of 0.1 M HCl solution with approximately 30 µg/g Ba carrier.
  - Separation date: 01-March-2018
  - *Values not calibrated by EZA (i.e. published nuclear data, uncertified values, etc.)
  - Date of Calibration corresponds to Reference Date for this source.
  - Expiration Date refers to useful life of this source.

End of Certificate

TBC. 9-22-20

GL-CED-297-258b

Standard Logbook

Serial ID:	1965	**Open/Reference Date:**	18-SEP-20	**Aliquot :**	5.00785 g
Name:	Radium-228	**Received:**	22-SEP-20	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	22-SEP-35	**Logbook Num :**	GL-CED-297-258
Employee:	Tim Chandler			**Lot Number :**	114437
Supplier:	Eckert & Zeigler Analytics			**Solvent :**	0.1M HCl
				Uncertainty :	2.45 percent

Description: Ampoule

Comments: None

Analyte	Concentration	Analyte	Concentration
Radium-228	3172 Bq		

[IMAGE] # Standard Traceability Log Rad

Source Material Info	
Parent Code:	1965
Prepared By:	Tim Chandler
Carrier Conc:	0.1M HCl
Reference Date:	09/18/2020
Ampoule Mass (g):	5.00785 g
Uncertainty:	+/- 2.45 %
LogBook No:	GL-CED-297-258
Supplier:	Eckert & Zeigler Analytics

A Solution Material Info			
Isotope:	Radium-228		
Prepared By:	Bethany Fiem		
Prep Date:	09/23/2020		
Verification Date:	09/23/2020		
Expiration Date:	09/23/2021		
Primary Code:	1965-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	4.9411 g		
Density(g/mL):	0.9999	Balance ID:	B733529066

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(4.9411 g) * (3172 Bq) * (60 dpm/Bq) / (5.00785 g * 100 mL) = 1877.8321 dpm/mL
(4.9411 g) * (3172 Bq) * (60 dpm/Bq) / (0.9999 g/mL)/ (5.00785 g * 100 mL) = 1877.9260 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
09/23/2020	Bethany Fiem	40.8755	200	1965-B	383.805821 dpm/mL	09/24/2020	09/24/2021
09/24/2020	Bethany Fiem	20.1605	100	1965-C	378.599271 dpm/mL	09/24/2020	09/24/2021

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Ra-228 Standard 1965-B

v1.0.2

Instrument	Yellow
Analyst	BXF1
Verification Prep Date	9/24/2020

Standard Information	
Isotope	Ra-228
Serial Number	1965-B
Isotope Halflife	5.7500 Y
Reference Date	9/18/2020
Ref. Act. (DPM/mL)	378.5992712
Amount of Std. (mL)	0.5
Standard Prep Date	9/23/2020

Std #	Count Date	Quench Number	Gross cpm	Bkg cpm
1	9/24/2020	751.52	499.80	24.30
2	9/24/2020	749.39	502.70	24.30
3	9/24/2020	750.17	497.80	24.30

Std #	Net cpm	Calculated Avg. Eff.	Standard dpm/mL	Measured dpm
1	475.50	2.524463	376.71	188.36
2	478.40	2.524463	379.01	189.51
3	473.50	2.524463	375.13	187.56

	dpm/mL
Mean Value =	376.95
Stdev =	1.951889637
Certificate Value* =	**377.9**
Two sigma =	3.904
10 % of Mean =	37.695
Rule A (Pass/Fail)	**Pass**
% Recovery	99.76%
Rule B (Pass/Fail)	**Pass**
Expiration Date	**9/24/2021**

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Count Date.**

The analyst prepared three standard verification sources for Ra-228 source 1965-B by transferring 0.5 mL portions of the standard into glass liquid scintillation vials. 10 mL of Ecoscint Ultra liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 10 mL of Ecoscint Ultra liquid scintillation cocktail. The standard verification vials and background source were dark adapted for at least two hours and counted on LSCYellow for Ra-228 source standard verification. The Ra-228 efficiency calibration which was used for verification calculations was performed on 9/24/2020 using Ra-228 source 1952-A.

Standard results for each verification source was calculated as follows:

Source dpm/mL = (A - B)/(C)(D)

where:

A = Ver. source cpm,
B = BKG cpm,
C = System efficiency (cpm/dpm), and
D = volume used for standard verification.

RAD-M-001

9-25-20

9/25/2020

Runlogs

Instrument Run Log

Instrument Type: GFPC **Batch ID: 2063164**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1204695162	MB	LXB3	PIC4B	NOV-19-20 08:29:10	DONE	25mm Filter	01-JUN-20 00:00
1204695164	MS	LXB3	PIC4D	NOV-19-20 08:29:17	DONE	25mm Filter	01-JUN-20 00:00
1204695165	LCS	LXB3	PIC5B	NOV-19-20 08:29:20	DONE	25mm Filter	01-JUN-20 00:00
1204695163	DUP	LXB3	PIC13A	NOV-19-20 10:35:37	DONE	25mm Filter	01-JUN-20 00:00
527509001	SAMPLE	LXB3	PIC11D	NOV-19-20 10:35:43	DONE	25mm Filter	01-JUN-20 00:00
527509010	SAMPLE	LXB3	PIC11C	NOV-19-20 10:35:45	DONE	25mm Filter	01-JUN-20 00:00
527510001	SAMPLE	LXB3	PIC14B	NOV-19-20 10:35:55	DONE	25mm Filter	01-JUN-20 00:00
527510007	SAMPLE	LXB3	PIC13D	NOV-19-20 10:36:06	DONE	25mm Filter	01-JUN-20 00:00
527510013	SAMPLE	LXB3	PIC12C	NOV-19-20 10:36:15	DONE	25mm Filter	01-JUN-20 00:00

Lucas Cell Raw Data

Blank Correction Report

Batch ID 2063137

GEL ID	Sample Type	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1204695107	DUP	Radium-226	500 mL	0.950	0.291	0.698	.302	pCi/L	YES
1204695109	LCS	Radium-226	1000 mL	12.3	1.06	0.297	.151	pCi/L	NO
1204695106	MB	Radium-226	1000 mL	0.151	0.104	0.349	.151	pCi/L	YES
1204695108	MS	Radium-226	500 mL	28.6	2.75	0.408	.302	pCi/L	NO
527509001	SAMPLE	Radium-226	500 mL	0.188	0.173	0.607	.302	pCi/L	YES
527510001	SAMPLE	Radium-226	500 mL	0.479	0.233	0.704	.302	pCi/L	YES
527510007	SAMPLE	Radium-226	500 mL	0.221	0.247	0.891	.302	pCi/L	YES
527510013	SAMPLE	Radium-226	500 mL	0.307	0.136	0.367	.302	pCi/L	YES

Batch 2063137 Check-list

This check-list was completed on 19-NOV-20 by Elizabeth Krouse

This batch was reviewed by Elizabeth Krouse on 19-NOV-20 and Lyndsey Pace on 19-NOV-20.

Batch ID: 2063137 **Product:** LUC26RAL **Description:** Lucas Cell Radium 226 GL-RAD-A-008

#	Criteria	Yes	No	Comments
Preparation Information				
1	Were all of the samples homogenous? Include sample description if not homogenous	Yes		
2	Was the preservation correct for this analysis?	Yes		
Internal Checklist Information				
3	Are instrument source checks within limits?	Yes		
4	Has an Aliquot Correction been completed for this batch?		No	
5	Have sample historical results been reviewed for this batch?	Yes		
Technical Information				
6	Were all the samples prepared/analyzed within the required holding time period?	Yes		
7	Are any sample results more negative than 3xTPU?		No	
Quality Control (QC) Information				
8	Was the method blank (MB) within the acceptance criteria?	Yes		
9	Is the blank result less than 1.65 times the CSU?	Yes		
10	Is the blank result less than the decision level? Use the results greater than CL report to check.		No	
11	Were the laboratory control sample (LCS/LCSD) recoveries within the acceptance limits?	Yes		
12	Were the matrix spike (MS/MSD) recoveries within the acceptance limits?	Yes		
13	Were the relative percent differences and/or error (RPD/RER) between the sample and its duplicate within acceptable limits?		No	
14	Has the method required detection limit been met?	Yes		
Miscellaneous Information				
15	Are sample-specific MDA/MDC calculated and reported?	Yes		

Prep Logbook

Radium−226 in Liquid

Batch ID: **2063137**
Analyst: Michael Hance (MXH8)
Method: EPA 903.1 Modified
Lab SOP: GL−RAD−A−008 REV# 15
Instrument: GFC−18150253

Due Dates for Lab: 18−NOV−2020 **Package: 20−NOV−2020** **SDG: 21−NOV−2020**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204695109	Radium−226 SPIKE	1715−E	.1	mL
MS	1204695108	Radium−226 SPIKE	1715−E	.1	mL

#	Sample ID	Prep Date	Min RDL (pCi/L)	Aliquot (mL)	End Degas (date)	CELL #	End Transfer (date)	Start Count Time (date)	Background Counts	Total Counts
1	527509001	16−NOV−2020	1	500	11/16/20 12:01	506	11/19/20 06:30	11/19/20 09:25	8	13
2	527509010	16−NOV−2020	1	500	11/16/20 12:01	602	11/19/20 06:30	11/19/20 09:25	4	10
3	527510001	16−NOV−2020	1	500	11/16/20 12:01	705	11/19/20 06:30	11/19/20 09:25	8	19
4	527510007	16−NOV−2020	1	500	11/16/20 12:01	808	11/19/20 06:30	11/19/20 09:25	8	12
5	527510013	16−NOV−2020	1	500	11/16/20 12:01	108	11/19/20 07:00	11/19/20 09:57	2	10
6	1204695106 MB	16−NOV−2020	1	1000	11/16/20 12:01	208	11/19/20 07:00	11/19/20 09:58	8	15
7	1204695107 DUP (527509001)	16−NOV−2020	1	500	11/16/20 12:01	308	11/19/20 07:00	11/19/20 09:58	8	30
8	1204695108 MS (527509001)	16−NOV−2020	1	500	11/16/20 12:01	405	11/19/20 07:00	11/19/20 09:58	1	538
9	1204695109 LCS	16−NOV−2020	1	1000	11/16/20 12:01	501	11/19/20 07:00	11/19/20 09:58	7	641

Reagent/Solvent Lot ID	Description	Amount

Comments:
Spike Pipet ID: RAD−RA226−2766953
Bkg Count Time: 30 Minutes
Sample Count Time: 30 Minutes
Data Entry Date2: 16−NOV−2020 00:00

Radium-226 Liquid

Filename : RA226.XLS
File type : Excel
Version # : 1.3.2

Batch : 2063137
Analyst : MIC02086
Prep Date : 11/16/2020
Ra-226 Method Uncertainty : 0.073648

Procedure Code : LUC26RAL
Parmname : Radium-226
Required MDC : 1 pCi/L
Halflife of Ra-226 : 1600 years
Ra-226 Abundance : 1.00
Halflife of Rn-222: 3.8235 days

Batch counted on : LUCAS CELL DETECTOR
BKG Count time : 30 min

Sample Characteristics					**Count Raw Data**							
Pos.	Sample ID	Sample Aliquot L	Sample Aliquot StDev. L	Sample Date/Time	Cell Number	Counting Time (min.)	Gross Counts	Gross CPM	Background Counts	Background CPM	Background Count Time (min.)	Cell Efficiency (cpm/dpm)
1	527509001.1	0.5000	2.0256E-05	11/10/2020 15:15	506	30	13	0.433	8	0.267	30	2.0750
2	527509010.1	0.5000	2.0256E-05	11/10/2020 13:25	602	30	10	0.333	4	0.133	30	1.8180
3	527510001.1	0.5000	2.0256E-05	11/12/2020 10:27	705	30	19	0.633	8	0.267	30	1.7890
4	527510007.1	0.5000	2.0256E-05	11/12/2020 10:27	808	30	12	0.400	8	0.267	30	1.4130
5	527510013.1	0.5000	2.0256E-05	11/12/2020 14:40	108	30	10	0.333	2	0.067	30	2.0199
6	1204695106.1	1.0000	2.0399E-05	11/16/2020 0:00	208	30	15	0.500	8	0.267	30	1.7960
7	1204695107.1	0.5000	2.0256E-05	11/10/2020 15:15	308	30	30	1.000	8	0.267	30	1.7949
8	1204695108.1	0.5000	2.0256E-05	11/10/2020 15:15	405	30	538	17.933	1	0.033	30	1.4550
9	1204695109.1	1.0000	2.0399E-05	11/16/2020 0:00	501	30	641	21.367	7	0.233	30	1.9970

Pipet, 0.1 ml Stdev : +/-	0.000200	ml
Pipet, 0.5 ml Stdev : +/-	0.001000	ml
Pipet, 1 ml Stdev : +/-	0.002000	ml

Analytical SOP: GL-RAD-A-008
Instrument SOP: GL-RAD-I-007

Cell Efficiency Error (%)	Cell Calibration Date	Cell Calibration Due Date	De-Gas Date/Time	Rn-222 Ingrow End Date/Time	Count Start Date/Time	Rn-222 Corrections			
						De-Gas to Ingrowth	Ingrowth to Count	During Count	Ra-226 Decay
6.100%	6/2/2020	5/31/2021	11/16/2020 12:01	11/19/2020 6:30	11/19/2020 9:25	0.395	0.978	1.002	1.000
2.600%	7/2/2020	6/30/2021	11/16/2020 12:01	11/19/2020 6:30	11/19/2020 9:25	0.395	0.978	1.002	1.000
8.600%	11/1/2020	10/31/2021	11/16/2020 12:01	11/19/2020 6:30	11/19/2020 9:25	0.395	0.978	1.002	1.000
2.200%	3/31/2020	3/31/2021	11/16/2020 12:01	11/19/2020 6:30	11/19/2020 9:25	0.395	0.978	1.002	1.000
6.875%	5/1/2020	4/30/2021	11/16/2020 12:01	11/19/2020 7:00	11/19/2020 9:57	0.397	0.978	1.002	1.000
6.200%	8/1/2020	7/31/2021	11/16/2020 12:01	11/19/2020 7:00	11/19/2020 9:58	0.397	0.978	1.002	1.000
9.806%	1/20/2020	12/31/2020	11/16/2020 12:01	11/19/2020 7:00	11/19/2020 9:58	0.397	0.978	1.002	1.000
4.400%	3/1/2020	1/31/2021	11/16/2020 12:01	11/19/2020 7:00	11/19/2020 9:58	0.397	0.978	1.002	1.000
2.000%	6/2/2020	5/31/2021	11/16/2020 12:01	11/19/2020 7:00	11/19/2020 9:58	0.397	0.978	1.002	1.000

Notes:
1. Results are decay corrected to Sample Date/Time
2. Reference date for Spike Activity (dpm/ml) is the batch Prep Date
3. Spike Nominals are decay corrected to Sample Date/Time

Spike S/N : 1715-E
Spike Exp Date : 5/21/2021
Spike Activity (dpm/ml): 300.24
Spike Volume Added: 0.10

LCS S/N : 1715-E
LCS Exp Date : 5/21/2021
LCS Activity (dpm/ml): 300.24
LCS Volume Added: 0.10

Results

Pos.	Decision Level pCi/L	Critical Level pCi/L	Required MDC pCi/L	MDC pCi/L	Sample Act. Conc. pCi/L	Sample Act. Error %	Net Count Rate CPM	Net Count Rate Error CPM	**1 SIGMA** Counting Uncertainty pCi/L	**1 SIGMA** Total Prop. Uncertainty pCi/L	Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
1	0.3499	0.2470	1	0.6067	**0.1877**	91.85%	0.1667	0.1528	0.1721	0.1730		SAMPLE				
2	0.2824	0.1994	1	0.5273	**0.2571**	62.42%	0.2000	0.1247	0.1603	0.1616		SAMPLE				
3	0.4059	0.2865	1	0.7037	**0.4790**	48.01%	0.3667	0.1732	0.2263	0.2327		SAMPLE				
4	0.5139	0.3628	1	0.8910	**0.2205**	111.83%	0.1333	0.1491	0.2466	0.2472		SAMPLE				
5	0.1787	0.1262	1	0.3675	**0.3069**	43.84%	0.2667	0.1155	0.1329	0.1364		SAMPLE				
6	0.2011	0.1419	1	0.3486	**0.1510**	68.79%	0.2333	0.1599	0.1035	0.1045		MB				
7	0.4024	0.2841	1	0.6977	**0.9498**	29.69%	0.7333	0.2055	0.2661	0.2905	527509001.1	DUP	134.0%	0.8221		
8	0.1755	0.1239	1	0.4076	**28.5988**	6.17%	17.9000	0.7739	1.2364	2.7474	527509001.1	MS			27.0487	105.7%
9	0.1691	0.1194	1	0.2970	**12.3003**	4.49%	21.1333	0.8485	0.4939	1.0607		LCS			13.5243	90.9%

Continuing Calibration Data

[IMAGE]

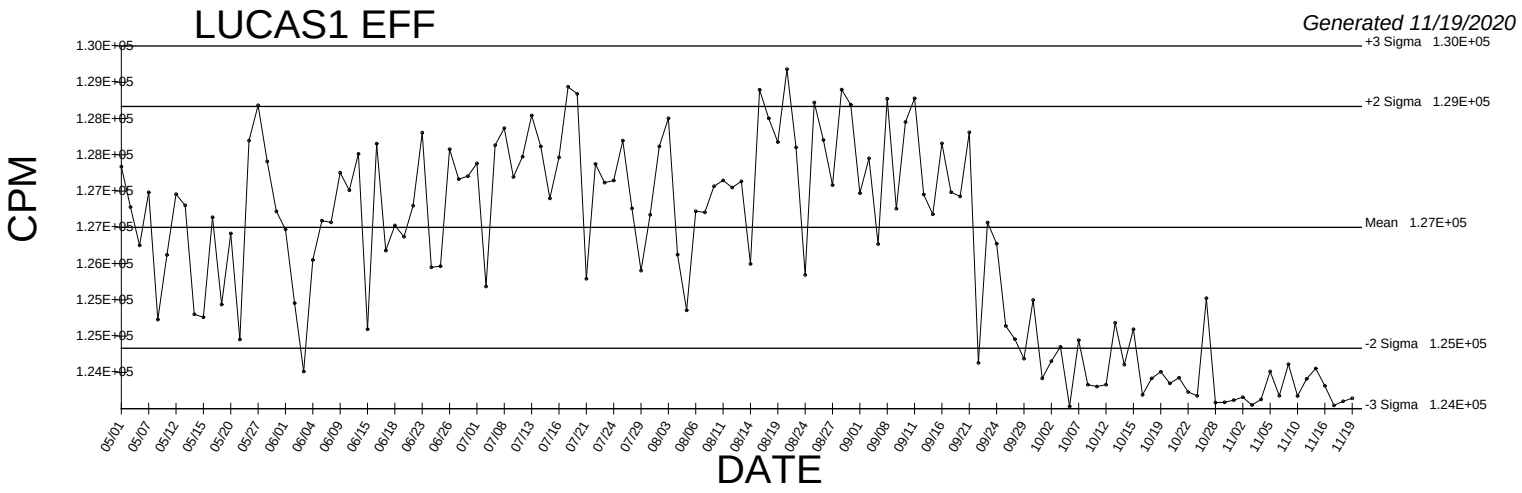
Ludlum Alpha Scintillation Counter Checks for 19-NOV-2020

Short Name	Parmname	Run Time	Count Time	Counts	CPM	Stdev	Status	Comments
LUCAS1	EFF	07:20	1	1.24E+05	123677	-2.83		
LUCAS2	EFF	07:19	1	1.32E+05	131663	-0.71		
LUCAS3	EFF	07:17	1	1.34E+05	133837	-0.56		
LUCAS4	EFF	07:16	1	1.28E+05	127625	-2.26		
LUCAS5	EFF	07:12	1	1.29E+05	129467	-1.54		
LUCAS6	EFF	07:09	1	1.33E+05	132698	-2.04		
LUCAS7	EFF	07:01	1	1.31E+05	131190	-0.65		
LUCAS8	EFF	06:58	1	1.27E+05	127158	-0.16		

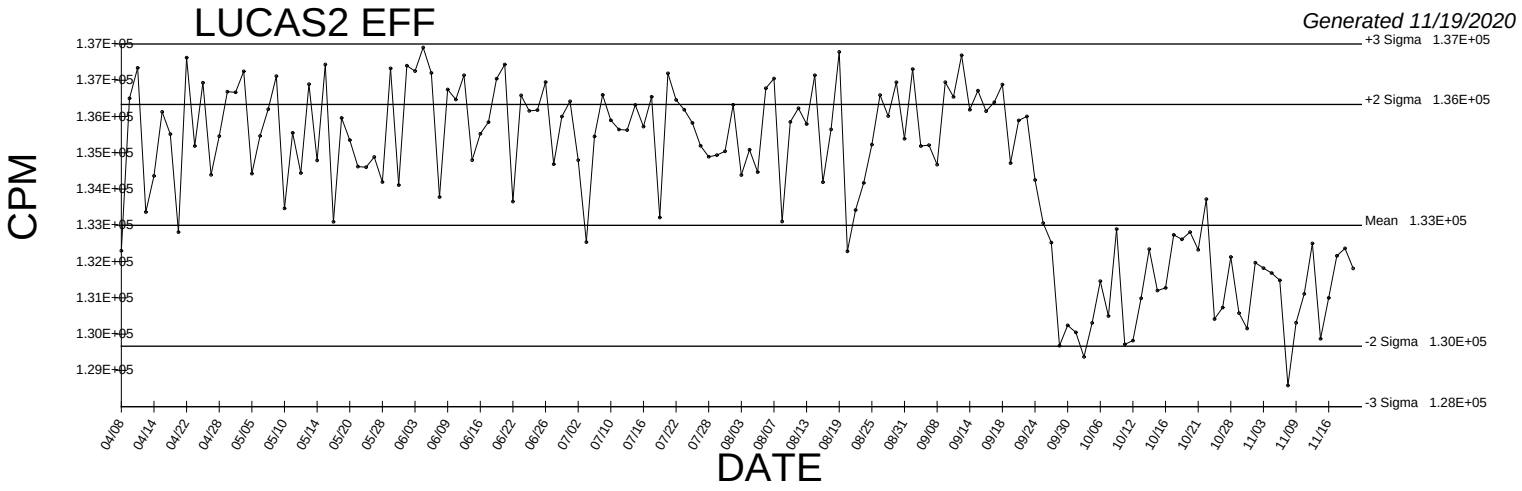
Reviewed by: Lyndsey Pace **Date:** 19-NOV-20

GEL Laboratories LLC

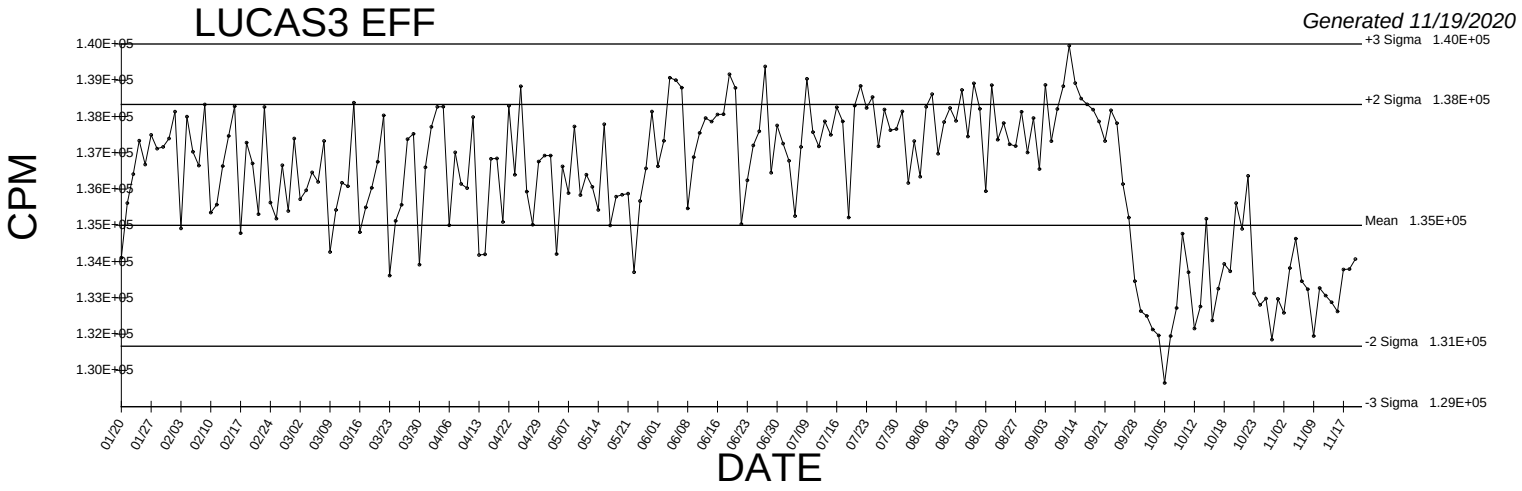
Efficiency Data



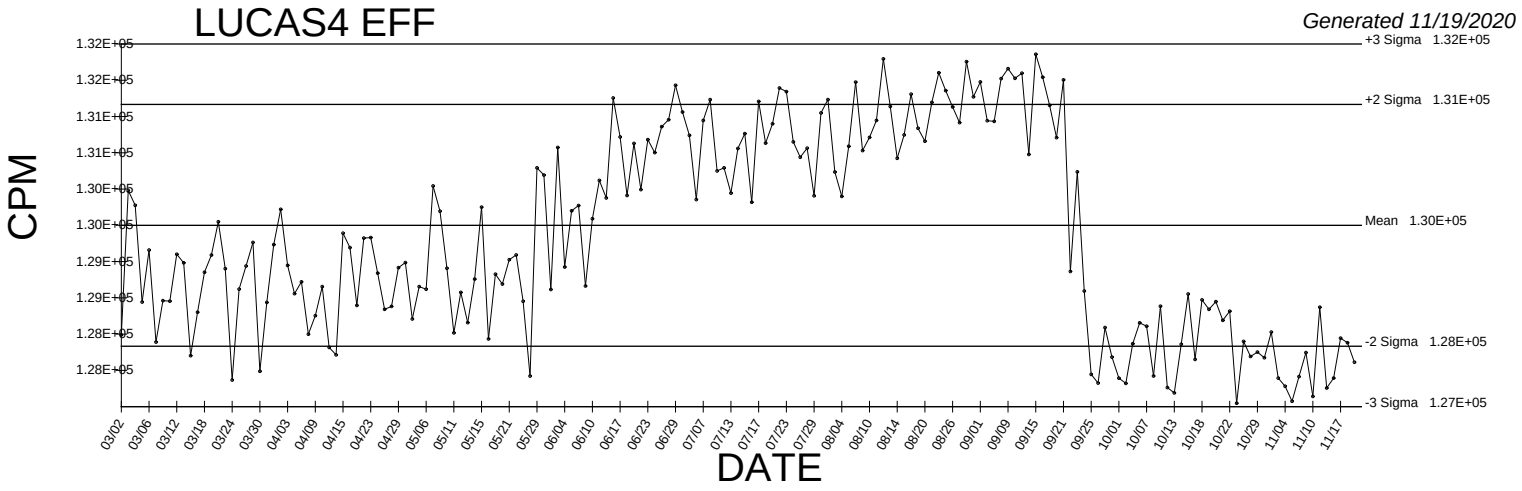
● Denotes Outlier



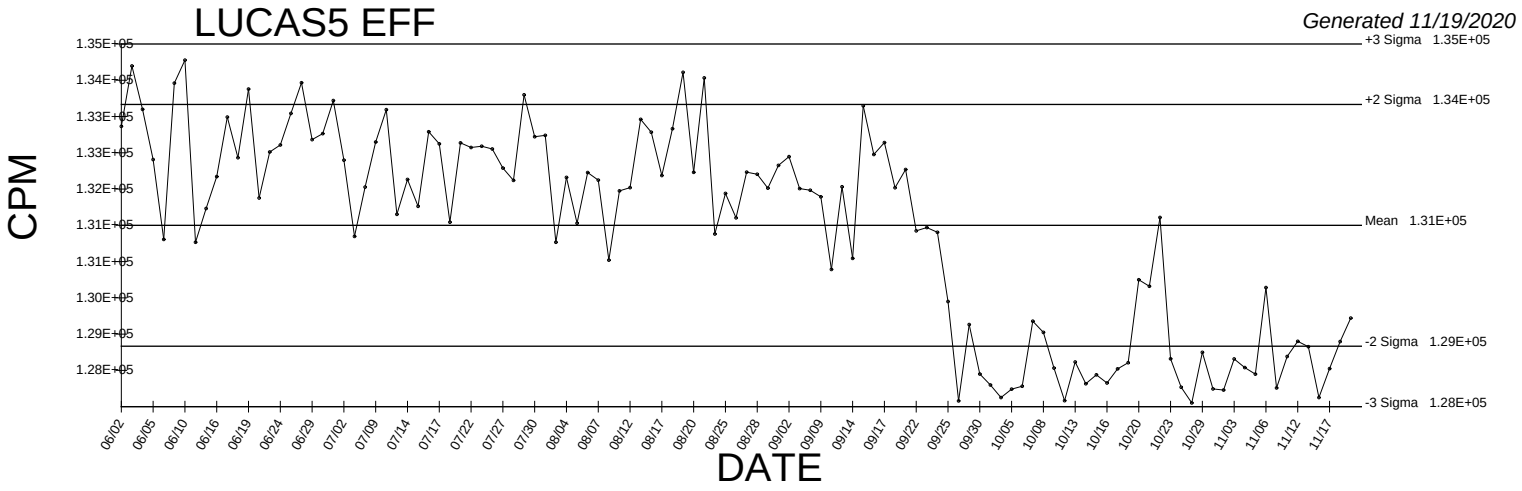
● Denotes Outlier



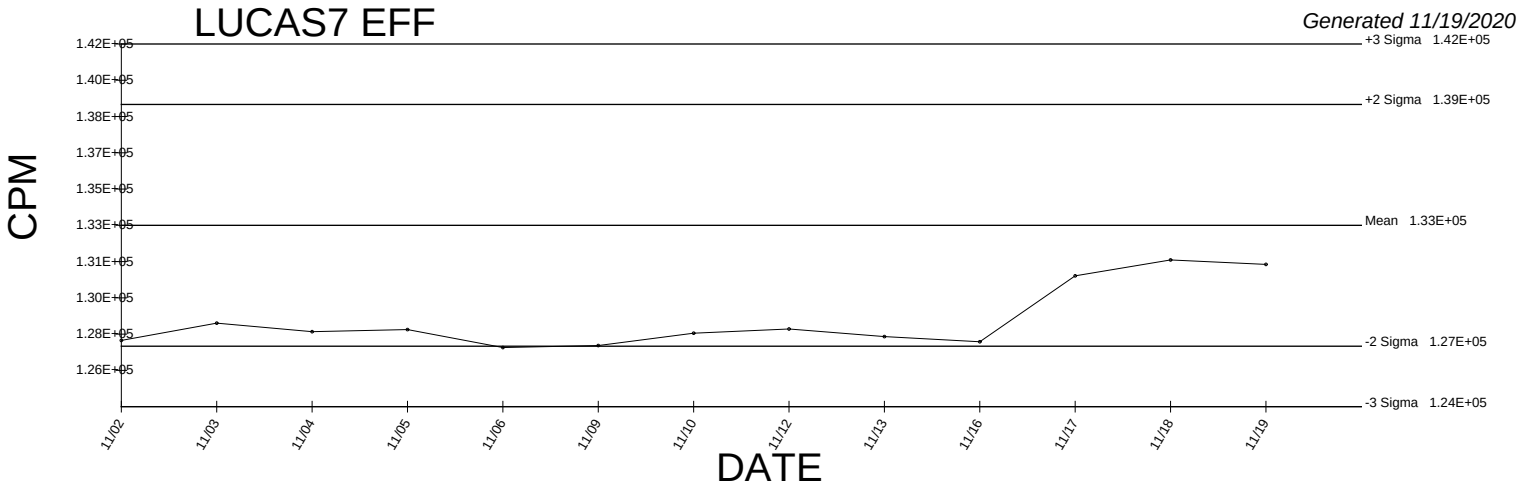
● Denotes Outlier



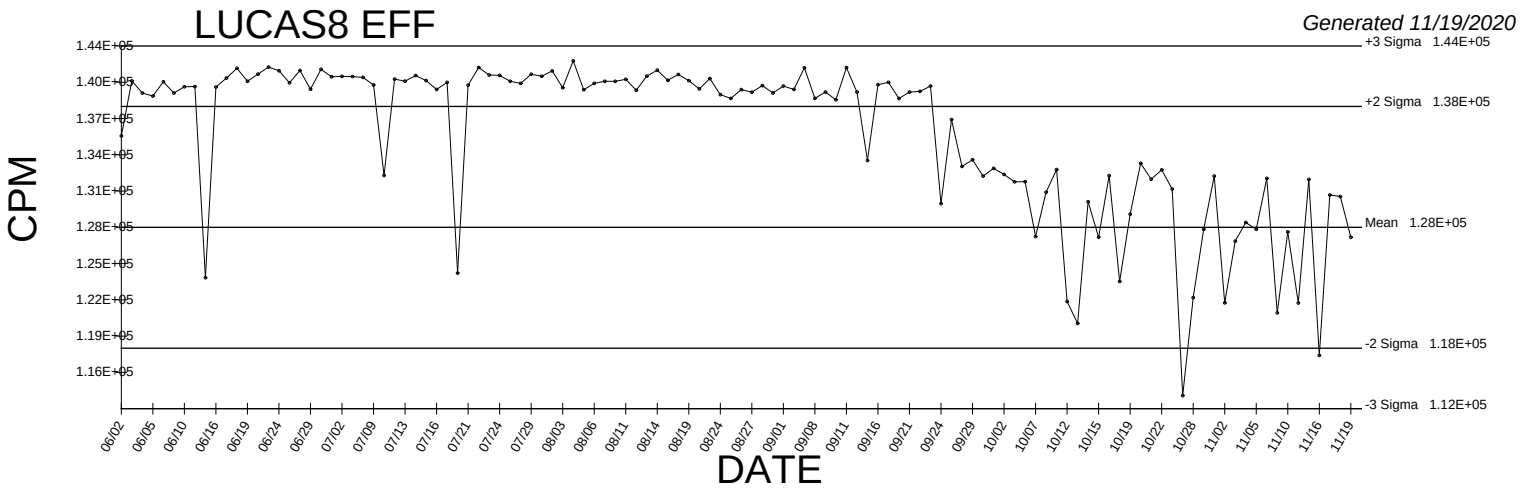
● Denotes Outlier



● Denotes Outlier



● Denotes Outlier



● Denotes Outlier

RAD Standards Traceability

Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404·352·8677
Fax 404·352·2837
www.analyticsinc.com

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

1715

98367

Ra-226 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC
P.O. No.: GEL 1408580, Item 7 Product Code: 8226

This standard radionuclide source was prepared gravimetrically from a master solution calibrated by Eckert & Ziegler Analytics, using a germanium gamma spectrometer system. Radionuclide purity and calibration were checked by germanium gamma-ray spectrometry, liquid scintillation counting, and/or alpha spectrometry, as applicable. The nuclear decay rate and reference date for this source are given below. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

Isotope	Half-Life, Days	Activity (Bq)	Uncertainty* , % Type u_A	u_B	U	Reference Date (12:00 PM EST)
Ra-226	5.844E+05	3.676E+04	1.0	2.1	4.7	09/09/2014

***Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

Comments:
Impurities: γ-impurities (other than decay products)<0.1%.
5.02193 g 0.1M HCl solution with approximately 30 µg/g Ba carrier.

Source Prepared by: R. Ormsby
R. Ormsby, Radiochemist

QC Approved: L. Tk
L. Tkavadze, Nuclear Metrologist

Date: 9 Sep 14

RECEIVED 9/10/14

ACCREDITED SOURCE CALIBRATION LABORATORY HEALTH PHYSICS SOCIETY FOUNDED 1956

GL-CED-297-008

Corporate Office
24937 Avenue Tibbitts Valencia, California 91355

Laboratory
1380 Seaboard Industrial Blvd. Atlanta, Georgia, 30318

Standard Logbook

Serial ID:	1715	**Open/Reference Date:**	09-SEP-14	**Aliquot :**	5.02193 g
Name:	Radium-226	**Received:**	10-SEP-14	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	11-SEP-15	**Logbook Num :**	GL-CED-297-008
Employee:	Gregory Ramsay			**Lot Number :**	98367
Supplier:	Eckert & Ziegler			**Solvent :**	0.1M HCl
				Uncertainty :	2.35 PERCENT

Description: ampule

Comments: None

Analyte	Concentration	Analyte	Concentration
Radium-226	36760 Bq		

[IMAGE] # Standard Traceability Log Rad

Source Material Info	
Parent Code:	1715
Prepared By:	Gregory Ramsay
Carrier Conc:	0.1M HCl
Reference Date:	09/09/2014
Ampoule Mass (g):	5.02193 g
Uncertainty:	+/- 2.35 %
LogBook No:	GL-CED-297-008
Supplier:	Eckert & Ziegler

A Solution Material Info			
Isotope:	Radium-226		
Prepared By:	Gregory Ramsay		
Prep Date:	07/06/2016		
Verification Date:	01/03/2020		
Expiration Date:	01/03/2021		
Primary Code:	1715-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	4.9865 g		
Density(g/mL):	0.9967	Balance ID:	C31514

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(4.9865 g) * (36760 Bq) * (60 dpm/Bq) / (5.02193 g * 100 mL) = 21900.3937 dpm/mL
(4.9865 g) * (36760 Bq) * (60 dpm/Bq) / (0.9967 g/mL)/ (5.02193 g * 100 mL) = 21972.4854 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
07/06/2016	Gregory Ramsay	2.6261	200	1715-B	288.51 dpm/ml	01/25/2017	11/10/2018
02/08/2017	Gregory Ramsay	21.96	250	1715-C	1930.063 dpm/ml	02/08/2017	02/08/2018
12/19/2017	Gregory Ramsay	2.63	200	1715-D	288.938 dpm/ml	01/03/2020	01/03/2021
06/17/2019	Gregory Ramsay	2.7402	200	1715-E	301.045 dpm/ml	05/21/2020	05/21/2021
01/03/2020	Bethany Fiem	.9865	100	1715-F	216.758568 dpm/mL	01/03/2020	01/03/2021

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Ra-226 Standard 1715-E

G. Ramsay	**Isotope**	Value (pCi/L)	
5/21/2020	1715-E	26.074	
	1715-E	26.160	
	1715-E	26.429	
Mean Value (Counting) =	26.221	**97.02**	**Pass**
Stdev =	0.185571127		**Rule B (Pass/Fail)**
Target =	27.03		
Two sigma =	0.371142255		
10 % of Mean =	2.622086667		
Rule A (Pass/Fail)	**Pass**		

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for Ra-226 source 1715-E by transferring portions of the degassed standard into Lucas Cells. The cells were allowed to sit for 3 hours after transfer. The sources were then counted on the Lucas Cell detectors 5, 6, and 7 which were calibrated using Ra-226 standard 0299-H

6/22/20

Runlogs

Instrument Run Log

Instrument Type: LUCAS CELL DETECTOR **Batch ID: 2063137**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
527509001	SAMPLE	MXH8	LUCAS5	NOV-19-20 09:25:00	DONE	Lucas Cell	02-JUN-20 00:00
527509010	SAMPLE	MXH8	LUCAS6	NOV-19-20 09:25:00	DONE	Lucas Cell	02-JUL-20 00:00
527510001	SAMPLE	MXH8	LUCAS7	NOV-19-20 09:25:00	DONE	Lucas Cell	01-NOV-20 00:00
527510007	SAMPLE	MXH8	LUCAS8	NOV-19-20 09:25:00	DONE	Lucas Cell	31-MAR-20 00:00
527510013	SAMPLE	MXH8	LUCAS1	NOV-19-20 09:57:00	DONE	Lucas Cell	01-MAY-20 00:00
1204695106	MB	MXH8	LUCAS2	NOV-19-20 09:58:00	DONE	Lucas Cell	01-AUG-20 00:00
1204695107	DUP	MXH8	LUCAS3	NOV-19-20 09:58:00	DONE	Lucas Cell	20-JAN-20 00:00
1204695108	MS	MXH8	LUCAS4	NOV-19-20 09:58:00	DONE	Lucas Cell	01-MAR-20 00:00
1204695109	LCS	MXH8	LUCAS5	NOV-19-20 09:58:00	DONE	Lucas Cell	02-JUN-20 00:00

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

November 17, 2020

Mr. Stanislaw Marczak
Los Alamos National Laboratory
TA-00, SM1237, Rm104C
Los Alamos, New Mexico 87545

Re: LANL- Discharge Permits
Work Order: 527513
SDG: 2021-131

Dear Mr. Marczak:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on November 14, 2020, and analyzed for General Chemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4485.

Sincerely,

Nina Gampe for
Valerie Davis
Project Manager

Chain of Custody: 2021-131
Enclosures

ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 527513
SDG # : 2021-131

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Case Narrative

Case Narrative for
ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 527513
SDG # : 2021-131

November 17, 2020

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on November 14, 2020 for analysis. The samples were delivered with proper chain of custody documentation and signatures. The samples were screened according to GEL Standard Operating Procedure. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. Shipping container temperatures were checked, documented, and within specifications. Shipping container temperature was within specification (0 - 6C). There are no additional comments concerning sample receipt.

Sample Identification The laboratory received the following samples:

Laboratory ID	Client ID
527513001	SMEB03-20-205961
527513002	SMEB03-20-205962
527513003	SMEB04-20-205963
527513004	SMEB04-20-205964
527513005	SMEB05-20-205965
527513006	SMEB05-20-205966

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: General Chemistry.

I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.



Nina Gampe for
Valerie Davis
Project Manager

GEL Laboratories LLC PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178 www.gel.com

List of current GEL Certifications as of 17 November 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122021−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−33
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Chain of Custody and Supporting Documentation

General Engineering
Charleston SC

527513

Chain of Custody/Analysis Request

COC/Lab Request #: 2021-131
Page 1 of 1

Client Contact:

Lab Agreement

Project Number: LANL

Site Name: Los Alamos National Laboratory

Analysis Turnaround
24 Hour - ☐ Other - ☐
7 Days - ☒
14 Days - ☐
21 Days - ☐
28 Days - ☐

Rad Screening Info: Similar locations identify no DOT hazard classification

Lab Reporting Limit Method Detection Limit

Field Sample ID	Sample Date	Sample Time	Sample Matrix	DP-NO3NO2	DP-TDS+Cl	DP-TKN
SMEB03-20-205961	11/12/2020	10:27	W			1
SMEB03-20-205962	11/12/2020	10:27	W	1	1	
SMEB04-20-205963	11/12/2020	10:27	W			1
SMEB04-20-205964	11/12/2020	10:27	W	1	1	
SMEB05-20-205965	11/12/2020	14:40	W			1
SMEB05-20-205966	11/12/2020	14:40	W	1	1	

SDG: 2021131

Special Instructions:

Relinquished by: Lisa Sherwood	Print Name: Lisa Sherwood	Date/Time: 11/13/2020 15:30	Received by: A. Almers	Print Name: A. Almers	Date/Time: 11/14/20 9:20
Relinquished by:	Print Name:	Date/Time:	Received by:	Print Name:	Date/Time:
Relinquished by:	Print Name:	Date/Time:	Received by:	Print Name:	Date/Time:

GEL Laboratories LLC

VD **SAMPLE RECEIPT & REVIEW FORM**

Client: ESHL	**SDG/AR/COC/Work Order:** 527513
Received By: AJA	**Date Received:** 11/14/20
Carrier and Tracking Number	Circle Applicable: (FedEx Express) FedEx Ground UPS Field Services Courier Other See FedEx Tags

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: (Wet Ice) (Ice Packs) Dry ice None Other: *all temperatures are recorded in Celsius TEMP: on tags
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR4-16 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?	✓			If Yes, are Encores or Soil Kits present for solids? Yes___ No✓ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes✓ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes✓ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?			✓	
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials NRG Date 11/17/20 Page 1 of 1

GL-CHL-SR-001 Rev 7

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 52.00 LB MAN
CAD: 0745193/CAFE3407

TO VALERIE DAVIS
GENERAL ENGINEERING L
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWESW11520000

RT 707 5
ST F1 12:00 B
3654
11.14

FedEx Express

J201019110601uv

2 of 2
MPS# 0263 9072 4837 3654
Mstr# 9072 4837 3643

SATURDAY 12:00P
PRIORITY OVERNIGHT

0201

XO RBWA

29407
SC-US CHS

Part # 156149-434 RIT EXP 07/19

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 56.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWE6L11570000

3

Fedl
Exp

2 of 2
MPS# 0263 9072 4837 3595
Mstr# 9072 4837 3584

SATURDAY 12:
PRIORITY OVERNIC

0201

XO RBWA

294
SC-US C

Part # 156148-434 RIT EXP 07/19

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 56.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

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CHARLESTON SC 29407
(843) 556-8171
REF: 8A030AWE6L11570000

2

FedEx Express

E

J201019110601uv

2 of 2
MPS# 0263 9072 4837 3610
Mstr# 9072 4837 3600

SATURDAY 12:00P
PRIORITY OVERNIGHT

0201

X0 RBWA

29407
SC-US CHS

SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 57.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 556-8171
REF: 8A030AWE6L11570000

FedEx Express

E

J201019110601uv

1 of 2
TRK# 0201 9072 4837 3584
MASTER

SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 RBWA

29407
SC-US CHS

Part # 156148-434 RIT EXP 07/19

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 60.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 556-8171
REF: 8A030AWESW11520000

FedEx Express

E

J201019110601uv

1 of 2
TRK# 0201 9072 4837 3643
MASTER

SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 RBWA

29407
SC-US CHS

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 43.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWE6L11550000

FedEx Express

J201019110601uv

TRK# 9072 4837 3665

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO RBWA

29407
SC-US CHS

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 64.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWE6L11570000

FedEx Express

2 of 2
MPS# 9072 4837 3632
Mstr# 9072 4837 3621

SATURDAY 12:00
PRIORITY OVERNIGHT

XO RBWA

2940
SC-US CH

ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 13NOV20
ACTWGT: 56.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC 29407
(843) 566-8171
REF: 8A030AWE6L11570000

FedEx Express

1 of 2
TRK# 9072 4837 3621
MASTER

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO RBWA

29407
SC-US CHS

Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

P Organics-The concentrations between the primary and confirmation columns/detectors is >40% difference. For HPLC, the difference is >70%.

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
ARS International, LLC
SDG #: 2021-131
Work Order #: 527513

Product: **Ion Chromatography**
Analytical Method: EPA:300.0
Analytical Procedure: GL-GC-E-086 REV# 28
Analytical Batch: 2062981

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527513002	SMEB03-20-205962
527513004	SMEB04-20-205964
527513006	SMEB05-20-205966
1204694597	Method Blank (MB)
1204694598	Laboratory Control Sample (LCS)
1204694599	527509002(SMEB01-20-209971) Sample Duplicate (DUP)
1204694600	527509002(SMEB01-20-209971) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Calibration Information

Continuing Calibration Blanks
One or more of the calibration verification blanks was above the required limits. The results for the following samples bracketed by the failing CCB are less than the PQL or are QC samples associated with these samples. Therefore, the data is deemed acceptable. 1204694597 (MB), 1204694598 (LCS), 1204694599 (SMEB01-20-209971DUP) and 1204694600 (SMEB01-20-209971PS).

Technical Information

Sample Dilutions
The following samples 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS), 527513002 (SMEB03-20-205962), 527513004 (SMEB04-20-205964) and 527513006 (SMEB05-20-205966) were diluted because target analyte concentrations exceeded the calibration range. Samples 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS), 527513002 (SMEB03-20-205962), 527513004 (SMEB04-20-205964) and 527513006 (SMEB05-20-205966) were diluted to minimize matrix effects on instrument performance. Samples 1204694599 (SMEB01-20-209971DUP), 1204694600 (SMEB01-20-209971PS), 527513002 (SMEB03-20-205962) and 527513004 (SMEB04-20-205964) were diluted based on historical data. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	527513		
	002	004	006
Chloride	20000X	20000X	5000X
Fluoride	100X	100X	100X

Sample Re-analysis
Samples1204694599 (SMEB01-20-209971DUP) and 1204694600 (SMEB01-20-209971PS) were re-analyzed to verify the results.

Product: **Total Kjeldahl Nitrogen**
Analytical Method: EPA:351.2
Analytical Procedure: GL-GC-E-104 REV# 15
Analytical Batch: 2063654

Preparation Method: EPA 351.2 Prep
Preparation Procedure: GL-GC-E-071 REV# 17
Preparation Batch: 2063653

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527513001	SMEB03-20-205961
527513003	SMEB04-20-205963
527513005	SMEB05-20-205965
1204696393	Method Blank (MB)
1204696394	Laboratory Control Sample (LCS)
1204696395	527509005(SMEB01-20-209986) Sample Duplicate (DUP)
1204696396	527509005(SMEB01-20-209986) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
The following samples 527513001 (SMEB03-20-205961) and 527513005 (SMEB05-20-205965) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	527513	
	001	005
Nitrogen, Total Kjeldahl	5X	10X

Sample Re-analysis
Sample1204696394 (LCS) was re-analyzed due to instrument failure. The results from the reanalysis are reported.

Product: **Nitrate Nitrite by Cadmium Reduction**
Analytical Method: EPA:353.2
Analytical Procedure: GL-GC-E-128 REV# 10
Analytical Batch: 2063130

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527513002	SMEB03-20-205962
527513004	SMEB04-20-205964
527513006	SMEB05-20-205966
1204695092	Method Blank (MB)
1204695093	Laboratory Control Sample (LCS)
1204695094	527511005(NonSDG) Sample Duplicate (DUP)
1204695097	527511005(NonSDG) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
The following samples 1204695094 (Non SDG 527511005DUP), 1204695097 (Non SDG 527511005PS), 527513002 (SMEB03-20-205962) and 527513004 (SMEB04-20-205964) in this sample group were diluted due to matrix interference. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	527513	
	002	004
Nitrogen, Nitrate/Nitrite	5X	5X

Product: **Solids, Total Dissolved**
Analytical Method: EPA:160.1
Analytical Procedure: GL-GC-E-001 REV# 16
Analytical Batch: 2063665

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
527513002	SMEB03-20-205962
527513004	SMEB04-20-205964
527513006	SMEB05-20-205966
1204696423	Method Blank (MB)
1204696424	Laboratory Control Sample (LCS)
1204696426	527509007(SMEB01-20-209987) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-131 GEL Work Order: 527513

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
J Value is estimated
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Kristen Mizzell **Name: Kristen Mizzell**

Date: 20 NOV 2020 **Title: Team Leader**

Sample Data Summary

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company :	Los Alamos National Laboratory
Address :	TA-00, SM1237, Rm104C Los Alamos, New Mexico 87545
Contact:	Mr. Stanislaw Marczak
Project:	LANL- Discharge Permits

Client SDG: 2021-131

Client Sample ID:	SMEB03-20-205961	Project:	ESHL00118
Sample ID:	527513001	Client ID:	ARSL004
Matrix:	W		
Collect Date:	12-NOV-20 10:27		
Receive Date:	14-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Nutrient Analysis												
DP-TKN "As Received"												
Nitrogen, Total Kjeldahl		8.30	0.165	0.500	mg/L	1.00	5	KLP1	11/20/20	1207	2063654	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	11/19/20	1600	2063653

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:351.2	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-131

Client Sample ID: SMEB03-20-205962
Sample ID: 527513002
Matrix: W
Collect Date: 12-NOV-20 10:27
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
Chloride "As Received"												
Fluoride	U	ND	3.30	10.0	mg/L		100	LXA2	11/14/20	1932	2062981	1
Chloride		124000	1340	4000	mg/L		20000	LXA2	11/18/20	0026	2062981	2
Nutrient Analysis												
DP-NO3NO2 "As Received"												
Nitrogen, Nitrate/Nitrite	U	ND	0.0850	0.250	mg/L		5	AXH3	11/16/20	1009	2063130	3
Solids Analysis												
TDS "As Received"												
Total Dissolved Solids		227000	3.40	14.3	mg/L			KLP1	11/17/20	1437	2063665	4

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:300.0	
3	EPA:353.2	
4	EPA:160.1	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-131

Client Sample ID: SMEB04-20-205963
Sample ID: 527513003
Matrix: W
Collect Date: 12-NOV-20 10:27
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Nutrient Analysis												
DP-TKN "As Received"												
Nitrogen, Total Kjeldahl		3.94	0.0330	0.100	mg/L	1.00	1	KLP1	11/20/20	1141	2063654	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	11/19/20	1600	2063653

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:351.2	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-131

Client Sample ID: SMEB04-20-205964
Sample ID: 527513004
Matrix: W
Collect Date: 12-NOV-20 10:27
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
Chloride "As Received"												
Fluoride	J	3.64	3.30	10.0	mg/L		100	LXA2	11/14/20	2003	2062981	1
Chloride		118000	1340	4000	mg/L		20000	LXA2	11/18/20	0056	2062981	2
Nutrient Analysis												
DP-NO3NO2 "As Received"												
Nitrogen, Nitrate/Nitrite	U	ND	0.0850	0.250	mg/L		5	AXH3	11/16/20	1011	2063130	3
Solids Analysis												
TDS "As Received"												
Total Dissolved Solids		225000	3.40	14.3	mg/L			KLP1	11/17/20	1437	2063665	4

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:300.0	
3	EPA:353.2	
4	EPA:160.1	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company :	Los Alamos National Laboratory
Address :	TA-00, SM1237, Rm104C
	Los Alamos, New Mexico 87545
Contact:	Mr. Stanislaw Marczak
Project:	LANL- Discharge Permits

Client SDG: 2021-131

Client Sample ID:	SMEB05-20-205965	Project:	ESHL00118
Sample ID:	527513005	Client ID:	ARSL004
Matrix:	W		
Collect Date:	12-NOV-20 14:40		
Receive Date:	14-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Nutrient Analysis												
DP-TKN "As Received"												
Nitrogen, Total Kjeldahl		18.5	0.330	1.00	mg/L	1.00	10	KLP1	11/20/20	1208	2063654	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	11/19/20	1600	2063653

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:351.2	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 20, 2020

Company : Los Alamos National Laboratory
Address : TA-00, SM1237, Rm104C

Los Alamos, New Mexico 87545
Contact: Mr. Stanislaw Marczak
Project: LANL- Discharge Permits

Client SDG: 2021-131

Client Sample ID: SMEB05-20-205966
Sample ID: 527513006
Matrix: W
Collect Date: 12-NOV-20 14:40
Receive Date: 14-NOV-20
Collector: Client

Project: ESHL00118
Client ID: ARSL004

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
Chloride "As Received"												
Fluoride	J	3.81	3.30	10.0	mg/L		100	LXA2	11/14/20	2034	2062981	1
Chloride		20500	335	1000	mg/L		5000	LXA2	11/18/20	0127	2062981	2
Nutrient Analysis												
DP-NO3NO2 "As Received"												
Nitrogen, Nitrate/Nitrite	U	ND	0.0170	0.0500	mg/L		1	AXH3	11/16/20	1012	2063130	3
Solids Analysis												
TDS "As Received"												
Total Dissolved Solids		38100	3.40	14.3	mg/L			KLP1	11/17/20	1437	2063665	4

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA:300.0	
2	EPA:300.0	
3	EPA:353.2	
4	EPA:160.1	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

Quality Control Summary

QC Summary

Report Date: November 20, 2020

Los Alamos National Laboratory
TA-00, SM1237, Rm104C
Los Alamos, New Mexico

Contact: **Mr. Stanislaw Marczak**

Workorder: **527513**

Parmname	NOM		Sample	Qual	QC	Units	RPD%		REC%	Range	Anlst	Date Time
Ion Chromatography												
Batch 2062981												
QC1204694599 527509002 DUP												
Chloride			61500		61500	mg/L	0.137			(0%-20%)	LXA2	11/16/20 14:47
Fluoride		J	3.36	J	3.50	mg/L	4.08	^		(+/-10.0)		11/14/20 22:07
QC1204694598 LCS												
Chloride	5.00				4.88	mg/L			97.7	(80%-120%)		11/14/20 23:39
Fluoride	2.50				2.48	mg/L			99.1	(80%-120%)		
QC1204694597 MB												
Chloride				U	ND	mg/L						11/14/20 23:08
Fluoride				U	ND	mg/L						
QC1204694600 527509002 PS												
Chloride	5.00		6.15		11.3	mg/L			103	(75%-125%)		11/16/20 15:18
Fluoride	2.50	J	0.0336		2.36	mg/L			93	(75%-125%)		11/14/20 22:37
Nutrient Analysis												
Batch 2063130												
QC1204695094 527511005 DUP												
Nitrogen, Nitrate/Nitrite			0.635		0.635	mg/L	0	^		(+/-0.250)	AXH3	11/16/20 09:56
QC1204695093 LCS												
Nitrogen, Nitrate/Nitrite	1.00				0.969	mg/L			96.9	(90%-110%)		11/16/20 09:33
QC1204695092 MB												
Nitrogen, Nitrate/Nitrite				U	ND	mg/L						11/16/20 09:27

QC Summary

Workorder: **527513**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Nutrient Analysis												
Batch 2063130												
QC1204695097 527511005 PS												
Nitrogen, Nitrate/Nitrite	1.00		0.127		1.10	mg/L		97.3	(90%-110%)	AXH3	11/16/20	09:58
Batch 2063654												
QC1204696395 527509005 DUP												
Nitrogen, Total Kjeldahl		U	ND	U	ND	mg/L	N/A			KLP1	11/20/20	11:36
QC1204696394 LCS												
Nitrogen, Total Kjeldahl	1.00				1.08	mg/L		108	(90%-110%)		11/20/20	11:47
QC1204696393 MB												
Nitrogen, Total Kjeldahl				U	ND	mg/L					11/20/20	11:34
QC1204696396 527509005 MS												
Nitrogen, Total Kjeldahl	1.00	U	ND		1.05	mg/L		105	(90%-110%)		11/20/20	11:37
Solids Analysis												
Batch 2063665												
QC1204696426 527509007 DUP												
Total Dissolved Solids		U	ND	U	ND	mg/L	N/A			KLP1	11/17/20	14:37
QC1204696424 LCS												
Total Dissolved Solids	300				289	mg/L		96.2	(95%-105%)		11/17/20	14:37
QC1204696423 MB												
Total Dissolved Solids				U	ND	mg/L					11/17/20	14:37

Notes:

- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- H Analytical holding time was exceeded
- J See case narrative for an explanation

QC Summary

Workorder: **527513**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

J	Value is estimated
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Instrument QC Data Summary

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:18

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-131

Ion Chromatography

Method: EPA 300.0

Instrument: DIONEX Aquion Ion Chromatograph (IC12)

Parmname: Chloride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 14:54:00**	**201114**	**4.9208**	**5**	**98.4**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 21:05:00	201114	7.4222	7.5	99	(90%-110%)	Yes
CCV	15-NOV-2020 00:41:00	201114	4.9095	5	98.2	(90%-110%)	Yes
ICV	**16-NOV-2020 08:46:00**	**201116**	**4.819**	**5**	**96.4**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 15:49:00	201116	7.1247	7.5	95	(90%-110%)	Yes
CCV	16-NOV-2020 18:54:00	201116	4.6619	5	93.2	(90%-110%)	Yes
ICV	**17-NOV-2020 08:24:00**	**201117**	**4.8108**	**5**	**96.2**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 12:17:00	201117	7.147	7.5	95.3	(90%-110%)	Yes
CCV	17-NOV-2020 22:53:00	201117	7.2361	7.5	96.5	(90%-110%)	Yes
CCV	18-NOV-2020 01:58:00	201117	4.5905	5	91.8	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 15:25:00**	**201114**	**0.1623**	**0.2**	**Yes**
CCB	14-NOV-2020 21:36:00	201114	0.2163	0.2	No
CCB	15-NOV-2020 01:12:00	201114	0.1405	0.2	Yes
ICB	**16-NOV-2020 09:17:00**	**201116**	**0.0736**	**0.2**	**Yes**
CCB	16-NOV-2020 16:20:00	201116	0	0.2	Yes
CCB	16-NOV-2020 19:25:00	201116	0	0.2	Yes
ICB	**17-NOV-2020 08:55:00**	**201117**	**0**	**0.2**	**Yes**
CCB	17-NOV-2020 12:48:00	201117	0	0.2	Yes
CCB	17-NOV-2020 23:24:00	201117	0	0.2	Yes
CCB	18-NOV-2020 02:29:00	201117	0	0.2	Yes

Parmname: Fluoride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**14-NOV-2020 14:54:00**	**201114**	**2.4867**	**2.5**	**99.5**	**(90%-110%)**	**Yes**
CCV	14-NOV-2020 21:05:00	201114	3.7206	3.75	99.2	(90%-110%)	Yes
CCV	15-NOV-2020 00:41:00	201114	2.4459	2.5	97.8	(90%-110%)	Yes
ICV	**16-NOV-2020 08:46:00**	**201116**	**2.4431**	**2.5**	**97.7**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 15:49:00	201116	3.5865	3.75	95.6	(90%-110%)	Yes
CCV	16-NOV-2020 18:54:00	201116	2.4178	2.5	96.7	(90%-110%)	Yes
ICV	**17-NOV-2020 08:24:00**	**201117**	**2.5028**	**2.5**	**100**	**(90%-110%)**	**Yes**
CCV	17-NOV-2020 12:17:00	201117	3.6105	3.75	96.3	(90%-110%)	Yes
CCV	17-NOV-2020 22:53:00	201117	3.6446	3.75	97.2	(90%-110%)	Yes
CCV	18-NOV-2020 01:58:00	201117	2.3679	2.5	94.7	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:18

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-131

Ion Chromatography

Method: EPA 300.0

Instrument: DIONEX Aquion Ion Chromatograph (IC12)

Parmname: Fluoride Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**14-NOV-2020 15:25:00**	**201114**	**0**	**0.1**	**Yes**
CCB	14-NOV-2020 21:36:00	201114	0	0.1	Yes
CCB	15-NOV-2020 01:12:00	201114	0	0.1	Yes
ICB	**16-NOV-2020 09:17:00**	**201116**	**0**	**0.1**	**Yes**
CCB	16-NOV-2020 16:20:00	201116	0	0.1	Yes
CCB	16-NOV-2020 19:25:00	201116	0	0.1	Yes
ICB	**17-NOV-2020 08:55:00**	**201117**	**0**	**0.1**	**Yes**
CCB	17-NOV-2020 12:48:00	201117	0	0.1	Yes
CCB	17-NOV-2020 23:24:00	201117	0	0.1	Yes
CCB	18-NOV-2020 02:29:00	201117	0	0.1	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:18

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-131

Nutrient Analysis

Method: EPA 351.2

Instrument: Lachat Quickchem FIA+ 8500 Series (LACHAT3)

Parmname: Nitrogen, Total Kjeldahl Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**20-NOV-2020 10:24:44**	**OM_11-20-2020_10-17-23**	**0.987**	**1**	**98.7**	**(90%-110%)**	**Yes**
CCV	20-NOV-2020 11:29:59	OM_11-20-2020_11-29-09	1.04	1	104	(90%-110%)	Yes
CCV	20-NOV-2020 11:43:02	OM_11-20-2020_11-29-09	1.09	1	109	(90%-110%)	Yes
CCV	20-NOV-2020 11:56:01	OM_11-20-2020_11-29-09	1.06	1	106	(90%-110%)	Yes
CCV	20-NOV-2020 12:10:18	OM_11-20-2020_11-29-09	1.08	1	108	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**20-NOV-2020 10:26:55**	**OM_11-20-2020_10-17-23**	**0.0116**	**0.1**	**Yes**
CCB	20-NOV-2020 11:32:10	OM_11-20-2020_11-29-09	0.00341	0.1	Yes
CCB	20-NOV-2020 11:45:13	OM_11-20-2020_11-29-09	0.0148	0.1	Yes
CCB	20-NOV-2020 11:58:11	OM_11-20-2020_11-29-09	-0.00912	0.1	Yes
CCB	20-NOV-2020 12:12:30	OM_11-20-2020_11-29-09	0.00723	0.1	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 20-NOV-2020 13:18

GEL Laboratories LLC

Contract: ESHL00118

SDG #: 2021-131

Nutrient Analysis

Method: EPA 353.2

Instrument: Lachat Quickchem FIA+ 8500 Series (LACHAT3)

Parmname: Nitrogen, Nitrate/Nitrite Concentration Units:mg/L

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**16-NOV-2020 08:17:34**	**OM_11-16-2020_08-06-59**	**1.01**	**1**	**101**	**(90%-110%)**	**Yes**
CCV	16-NOV-2020 09:11:56	OM_11-16-2020_08-06-59	0.98	1	98	(90%-110%)	Yes
CCV	16-NOV-2020 09:28:33	OM_11-16-2020_08-06-59	0.981	1	98.1	(90%-110%)	Yes
CCV	16-NOV-2020 09:45:07	OM_11-16-2020_08-06-59	0.979	1	97.9	(90%-110%)	Yes
CCV	16-NOV-2020 10:01:40	OM_11-16-2020_08-06-59	0.979	1	97.9	(90%-110%)	Yes
CCV	16-NOV-2020 10:18:17	OM_11-16-2020_08-06-59	0.959	1	95.9	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**16-NOV-2020 08:19:55**	**OM_11-16-2020_08-06-59**	**-0.00457**	**0.05**	**Yes**
CCB	16-NOV-2020 09:14:17	OM_11-16-2020_08-06-59	-0.0044	0.05	Yes
CCB	16-NOV-2020 09:30:54	OM_11-16-2020_08-06-59	-0.00449	0.05	Yes
CCB	16-NOV-2020 09:47:28	OM_11-16-2020_08-06-59	-0.00439	0.05	Yes
CCB	16-NOV-2020 10:04:01	OM_11-16-2020_08-06-59	-0.00335	0.05	Yes
CCB	16-NOV-2020 10:20:38	OM_11-16-2020_08-06-59	-0.00426	0.05	Yes

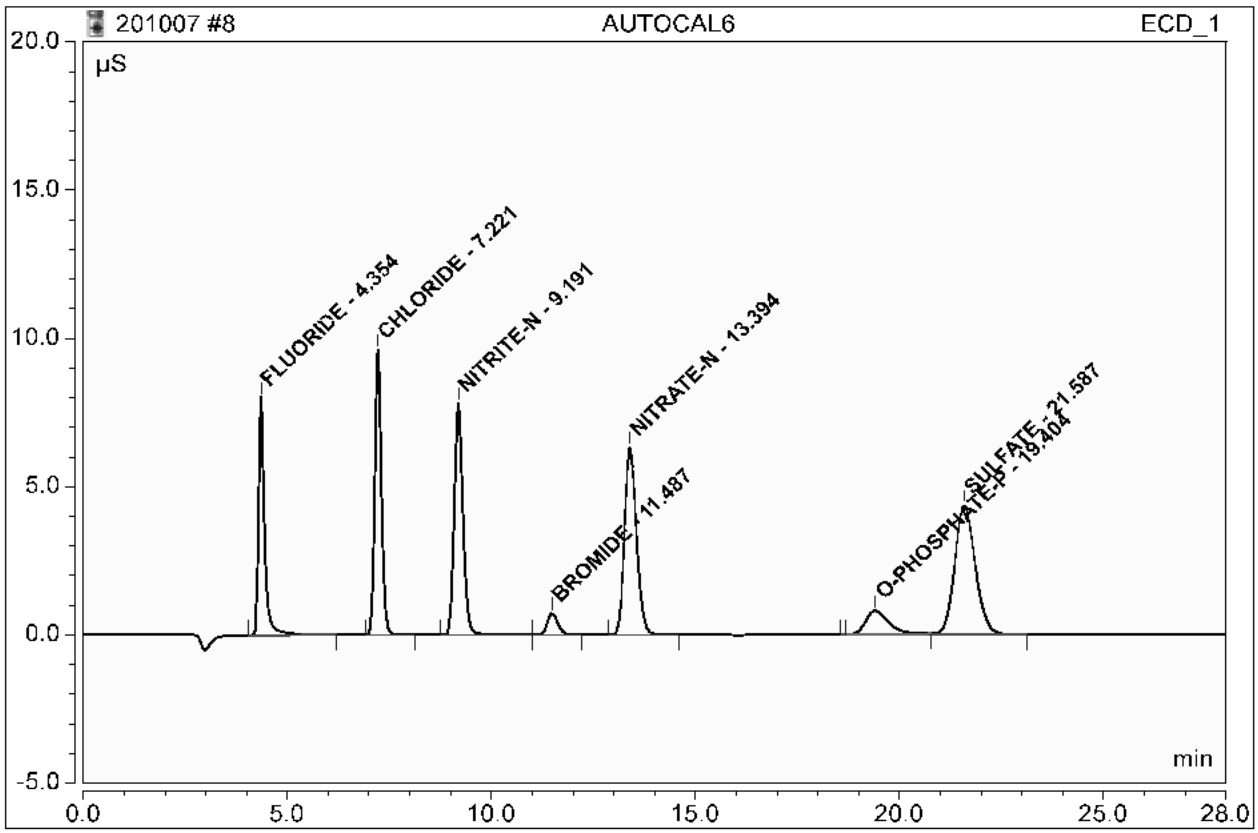
Ion Chromatography Raw Data

This is runlog for Sequence 201118.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
ICAL-06	10/07/20 13:10		1	201118	LXA2
ICAL-05	10/07/20 13:40		1	201118	LXA2
ICAL-04	10/07/20 14:11		1	201118	LXA2
ICAL-03	10/07/20 14:42		1	201118	LXA2
ICAL-02	10/07/20 15:13		1	201118	LXA2
ICAL-01	10/07/20 15:44		1	201118	LXA2
ICAL-06	10/07/20 13:10		1	201118	LXA2
ICAL-05	10/07/20 13:40		1	201118	LXA2
ICAL-04	10/07/20 14:11		1	201118	LXA2
ICAL-03	10/07/20 14:42		1	201118	LXA2
ICAL-02	10/07/20 15:13		1	201118	LXA2
ICAL-01	10/07/20 15:44		1	201118	LXA2

8 AUTOCAL6

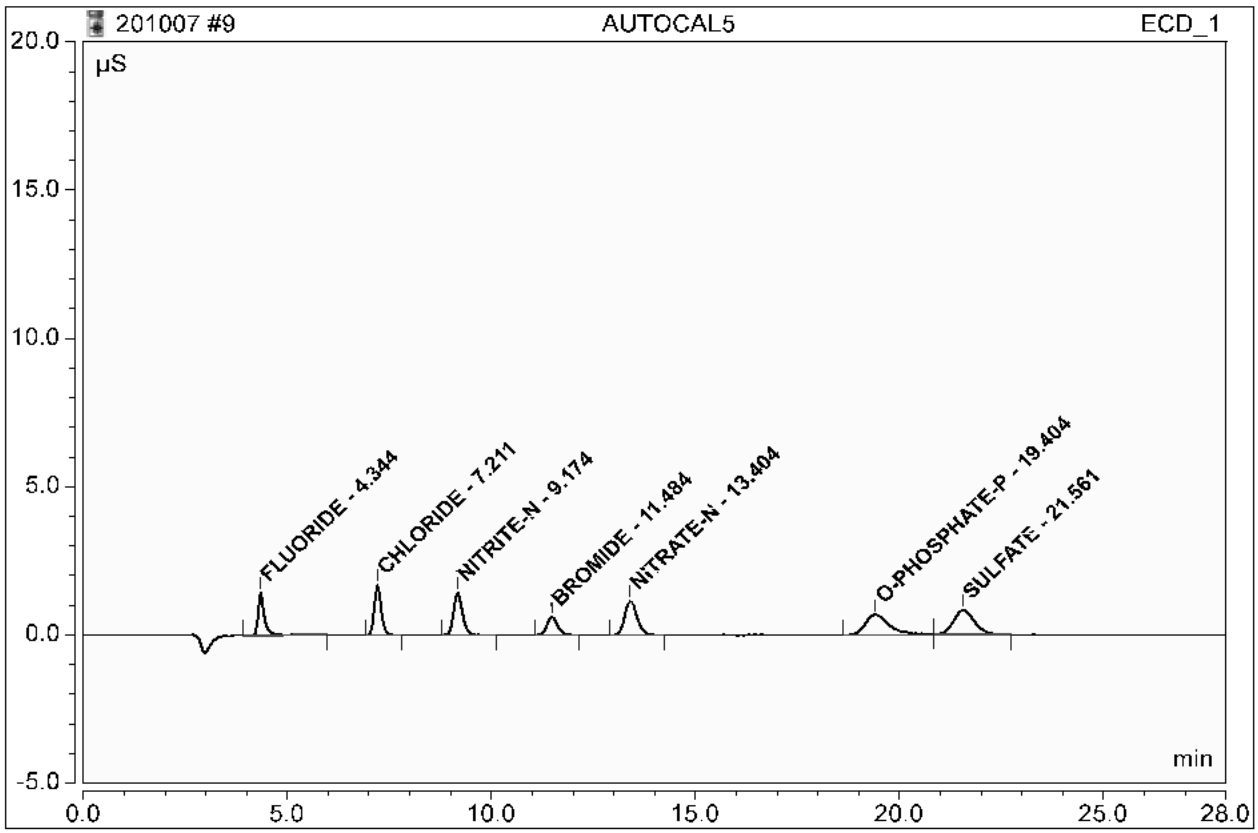
Sample Name:	**AUTOCAL6**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 13:10**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	5.0000	5.0072		1.35834	12.91
2	7.22	CHLORIDE	10.0000	10.0241		1.78569	16.97
3	9.19	NITRITE-N	5.0000	5.0101		1.92861	18.33
4	11.49	BROMIDE	3.0000	3.0164		0.21441	2.04
5	13.39	NITRATE-N	5.0000	5.0100		2.13420	20.28
6	19.40	O-PHOSPHATE-P	3.0000	2.8523		0.51574	4.90
7	21.59	SULFATE	20.0000	20.0308		2.58693	24.58
Total:				50.9510	0.000	10.524	100.00

9 AUTOCAL5

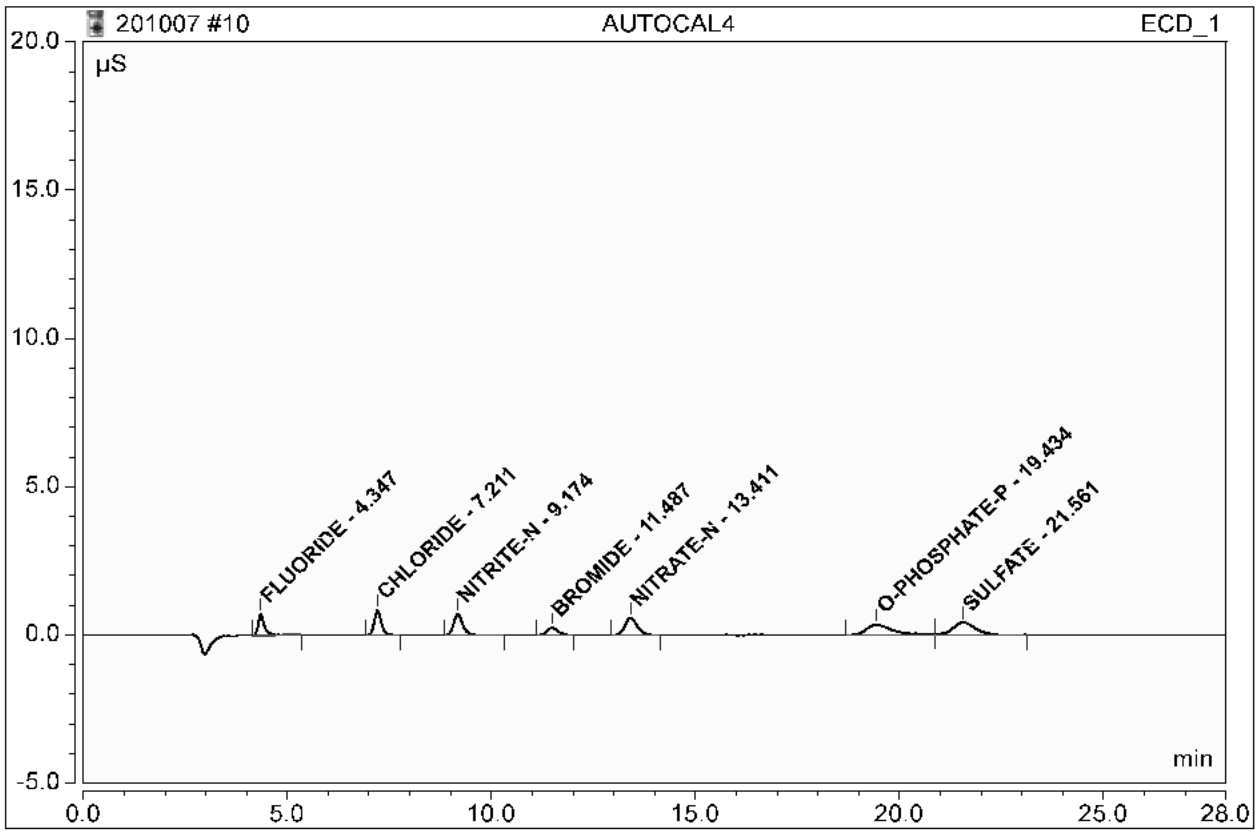
Sample Name:	**AUTOCAL5**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 13:40**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.34	FLUORIDE	1.0000	0.9629		0.25834	10.45
2	7.21	CHLORIDE	2.0000	1.8682		0.32306	13.07
3	9.17	NITRITE-N	1.0000	0.9444		0.35506	14.37
4	11.48	BROMIDE	2.5000	2.4821		0.17638	7.14
5	13.40	NITRATE-N	1.0000	0.9450		0.39390	15.94
6	19.40	O-PHOSPHATE-P	2.5000	2.5558		0.46834	18.95
7	21.56	SULFATE	4.0000	3.8208		0.49644	20.09
Total:				13.5792	0.000	2.472	100.00

10 AUTOCAL4

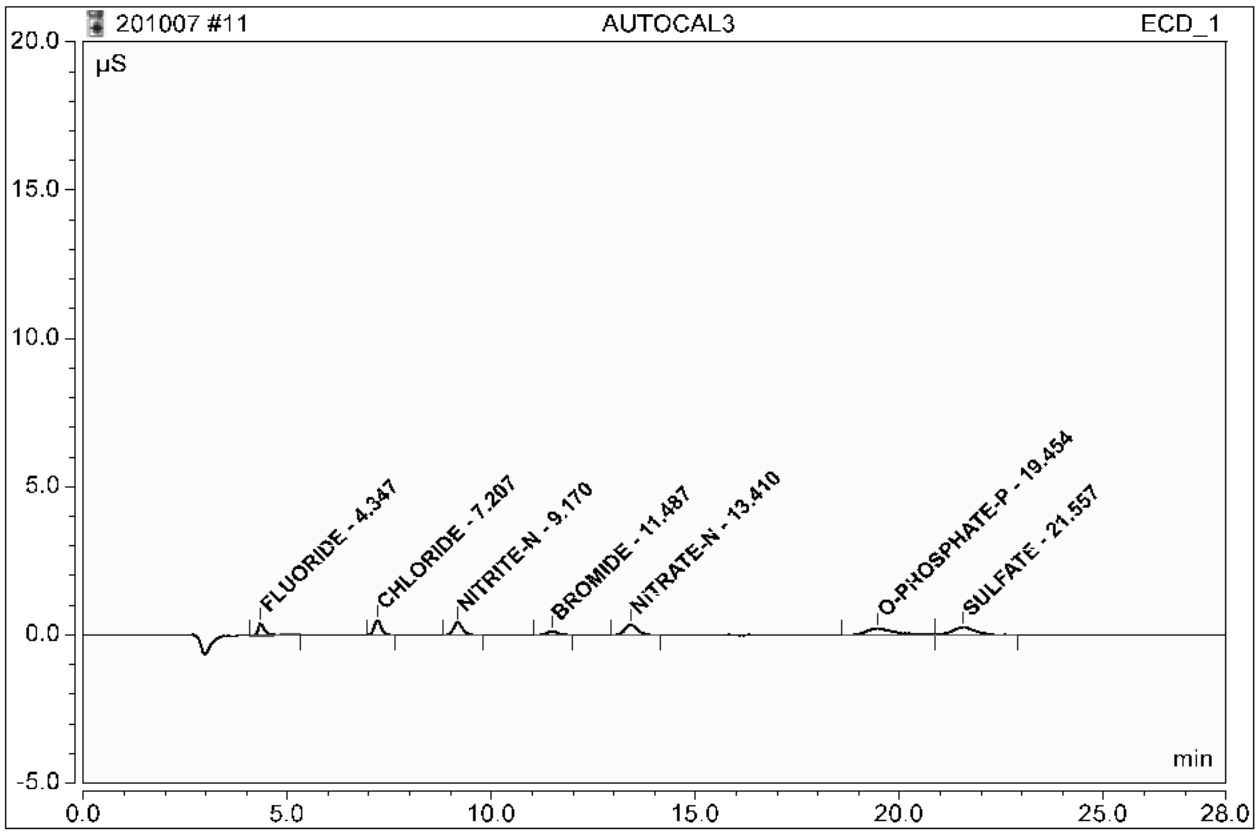
Sample Name:	**AUTOCAL4**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 14:11**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.5000	0.5090		0.12649	10.20
2	7.21	CHLORIDE	1.0000	1.0500		0.16094	12.97
3	9.17	NITRITE-N	0.5000	0.5210		0.17712	14.28
4	11.49	BROMIDE	1.0000	1.0043		0.07034	5.67
5	13.41	NITRATE-N	0.5000	0.5201		0.19620	15.82
6	19.43	O-PHOSPHATE-P	1.0000	0.9790		0.25293	20.39
7	21.56	SULFATE	2.0000	2.0722		0.25652	20.68
Total:				6.6558	0.000	1.241	100.00

11 AUTOCAL3

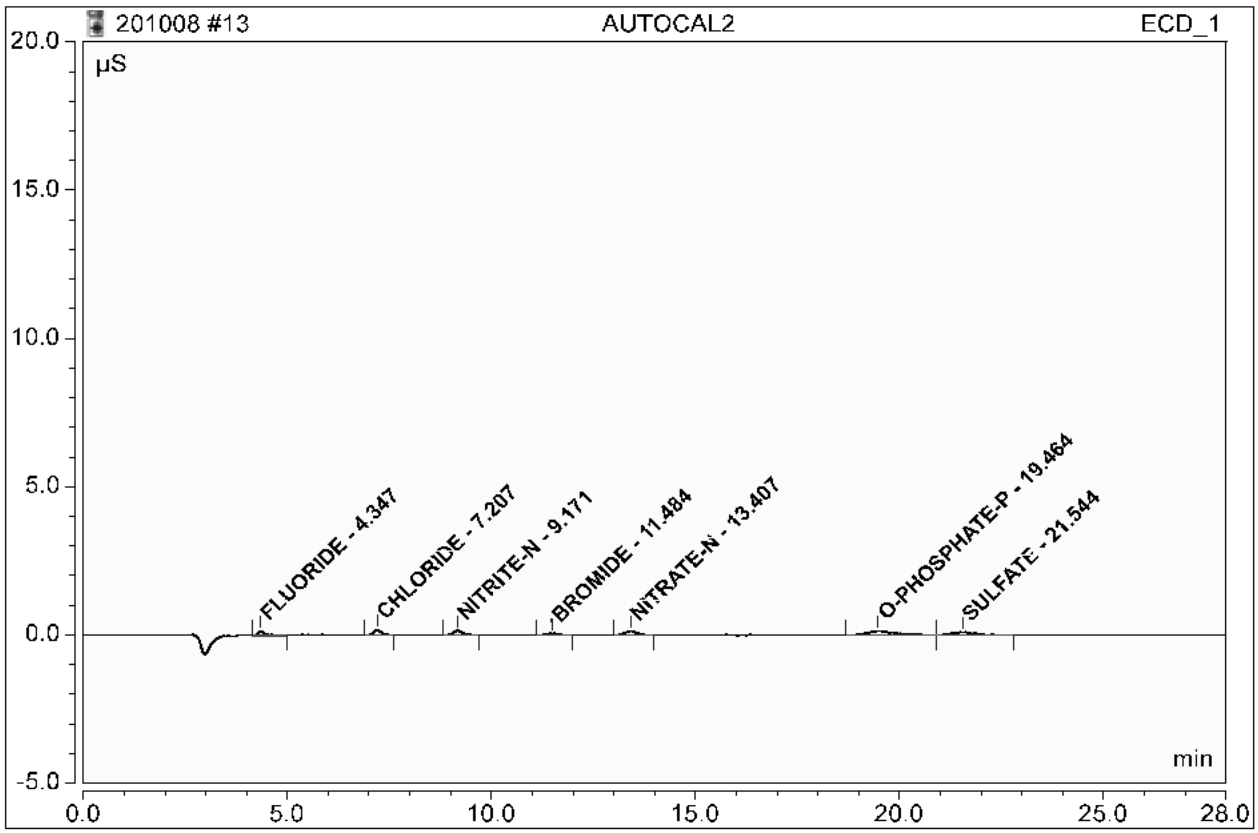
Sample Name:	**AUTOCAL3**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 14:42**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.2500	0.2960		0.07694	10.25
2	7.21	CHLORIDE	0.5000	0.5973		0.09515	12.67
3	9.17	NITRITE-N	0.2500	0.2952		0.10382	13.83
4	11.49	BROMIDE	0.5000	0.5040		0.03557	4.74
5	13.41	NITRATE-N	0.2500	0.2971		0.11653	15.52
6	19.45	O-PHOSPHATE-P	0.5000	0.6770		0.16788	22.36
7	21.56	SULFATE	1.0000	1.1732		0.15500	20.64
Total:				3.8398	0.000	0.751	100.00

13 AUTOCAL2

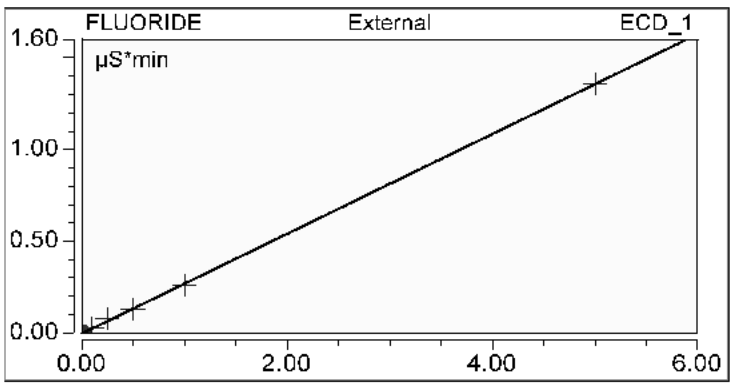
Sample Name:	**AUTOCAL2**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:13**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**

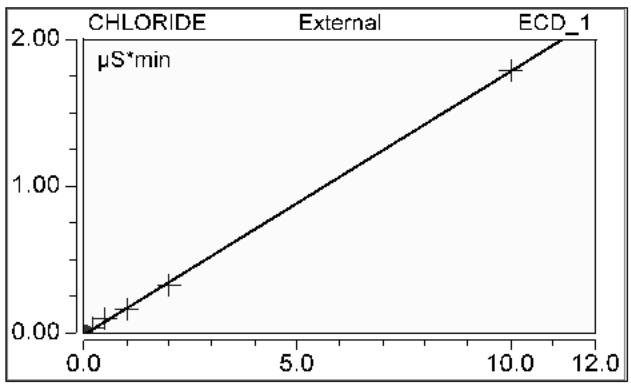


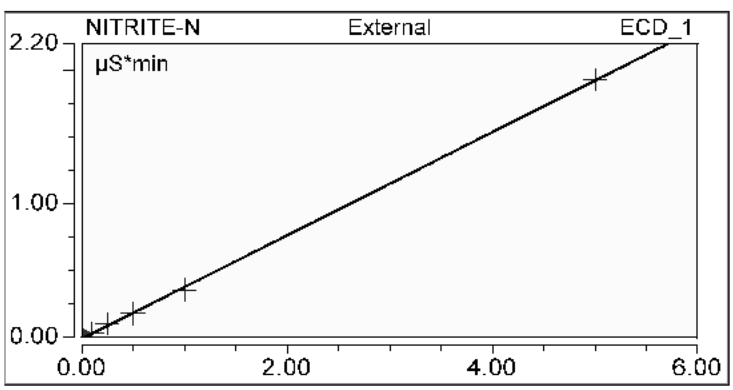
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.35	FLUORIDE	0.1000	0.1058		0.02521	8.45
2	7.21	CHLORIDE	0.2000	0.2461		0.03215	10.78
3	9.17	NITRITE-N	0.1000	0.1158		0.03437	11.52
4	11.48	BROMIDE	0.2000	0.2050		0.01428	4.79
5	13.41	NITRATE-N	0.1000	0.1148		0.03848	12.90
6	19.46	O-PHOSPHATE-P	0.2000	0.2317		0.09666	32.40
7	21.54	SULFATE	0.4000	0.4148		0.05719	19.17
Total:				1.4338	0.000	0.298	100.00

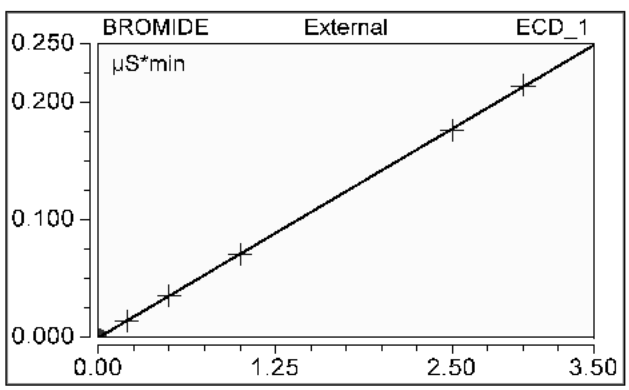
13 AUTOCAL1

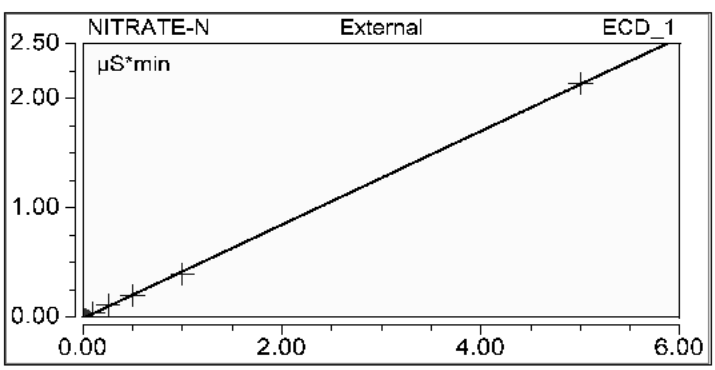
Sample Name:	**AUTOCAL1**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:44**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**n.a.**

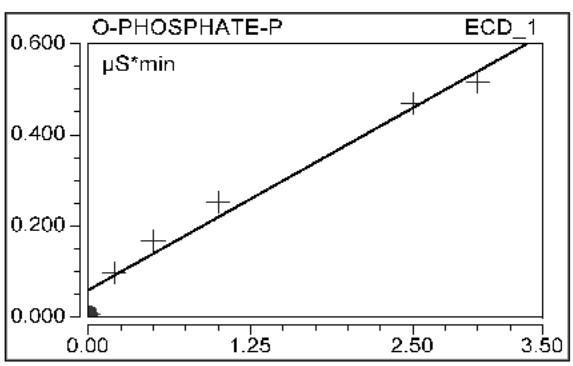


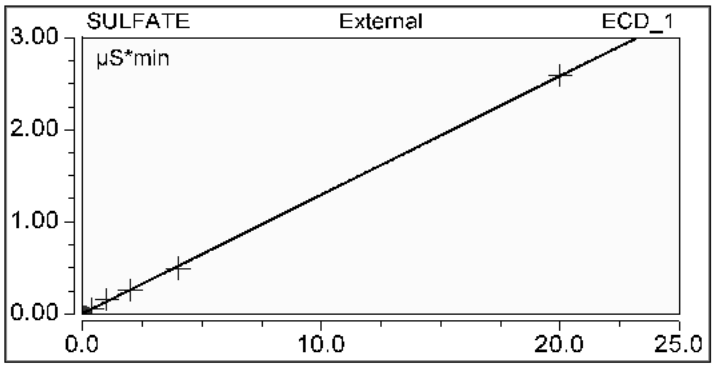








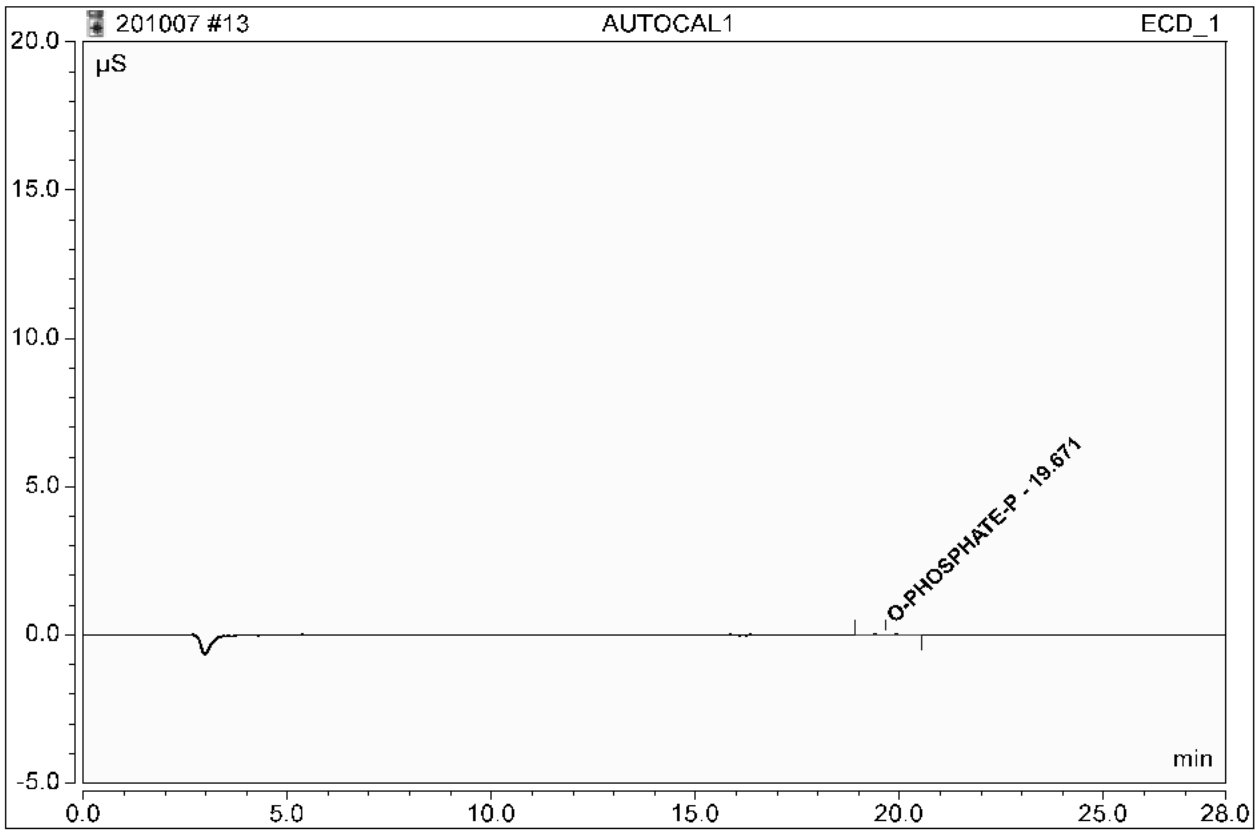




No.	Ret.Time min	Peak Name	Cal.Type	Coeff.Det. %	Offset	Slope	Curve
n.a.	n.a.	FLUORIDE	n, WithOffs	99.9761	-0.0036	0.2720	0.0000
n.a.	n.a.	CHLORIDE	n, WithOffs	99.9545	-0.0120	0.1793	0.0000
n.a.	n.a.	NITRITE-N	n, WithOffs	99.9662	-0.0104	0.3870	0.0000
n.a.	n.a.	BROMIDE	n, WithOffs	99.9888	-0.0003	0.0712	0.0000
n.a.	n.a.	NITRATE-N	n, WithOffs	99.9655	-0.0106	0.4281	0.0000
n.a.	n.a.	O-PHOSPHATE-P	n, WithOffs	97.4479	0.0596	0.1599	0.0000
n.a.	n.a.	SULFATE	n, WithOffs	99.9761	0.0037	0.1290	0.0000
Average:				99.6107	0.0038	0.2324	0.0000

13 AUTOCAL1

Sample Name:	**AUTOCAL1**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**10/7/2020 15:44**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



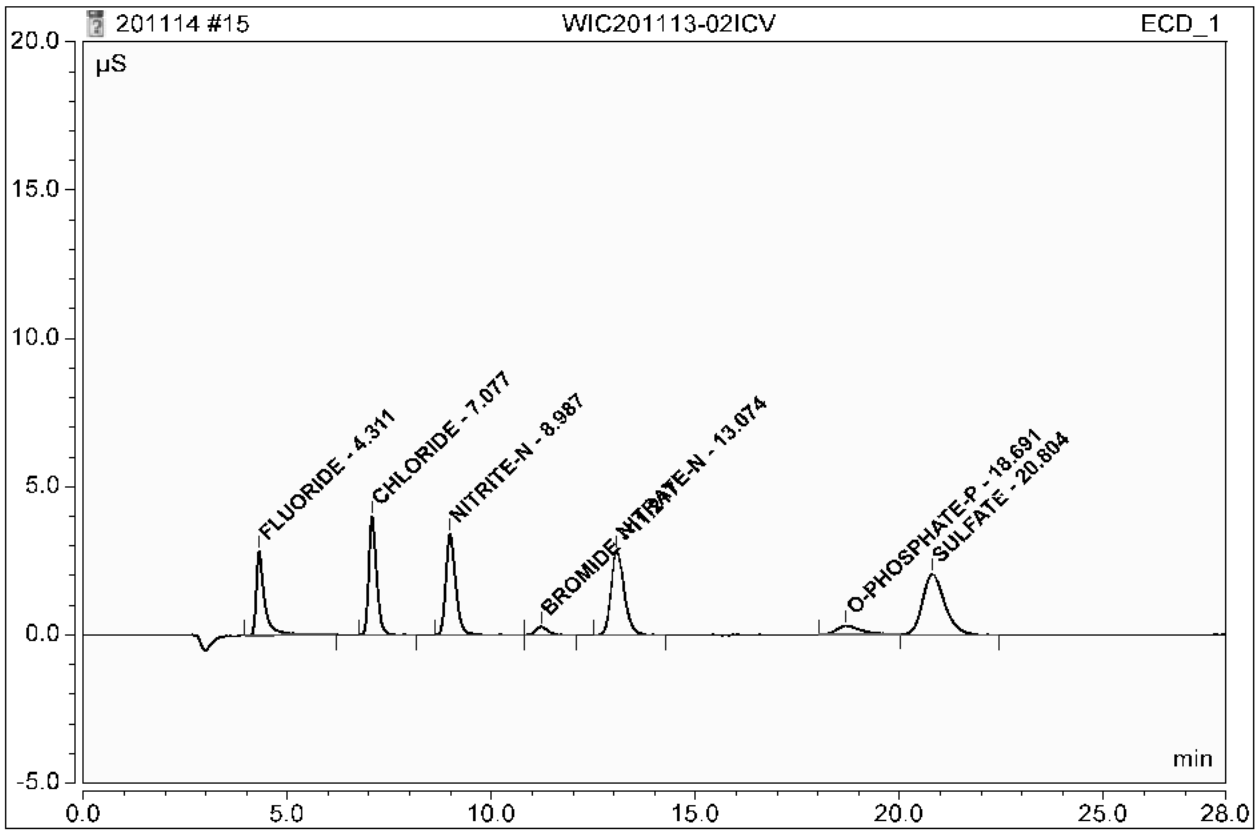
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	0.0000	n.a.	n.a.	n.a.	n.a.
1	19.67	O-PHOSPHATE-P	0.0000	n.a.		0.00755	100.00
n.a.	n.a.	SULFATE	0.0000	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.008	100.00

This is runlog for Sequence 201114.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/14/20 14:24		1	201114	LXA2
ICV	11/14/20 14:54		1	201114	LXA2
ICB	11/14/20 15:25		1	201114	LXA2
527509002	11/14/20 15:56	2062981	100	201114	LXA2
527509007	11/14/20 16:27	2062981	100	201114	LXA2
527509011	11/14/20 16:58	2062981	100	201114	LXA2
527510002	11/14/20 17:28	2062981	100	201114	LXA2
527510008	11/14/20 17:59	2062981	100	201114	LXA2
527510014	11/14/20 18:30	2062981	100	201114	LXA2
527512005	11/14/20 19:01	2062981	100	201114	LXA2
527513002	11/14/20 19:32	2062981	100	201114	LXA2
527513004	11/14/20 20:03	2062981	100	201114	LXA2
527513006	11/14/20 20:34	2062981	100	201114	LXA2
CVH	11/14/20 21:05		1	201114	LXA2
CCB	11/14/20 21:36		1	201114	LXA2
1204694599	11/14/20 22:07	2062981	100	201114	LXA2
1204694600	11/14/20 22:37	2062981	100	201114	LXA2
1204694597	11/14/20 23:08	2062981	1	201114	LXA2
1204694598	11/14/20 23:39	2062981	1	201114	LXA2

15 WIC201113-02ICV

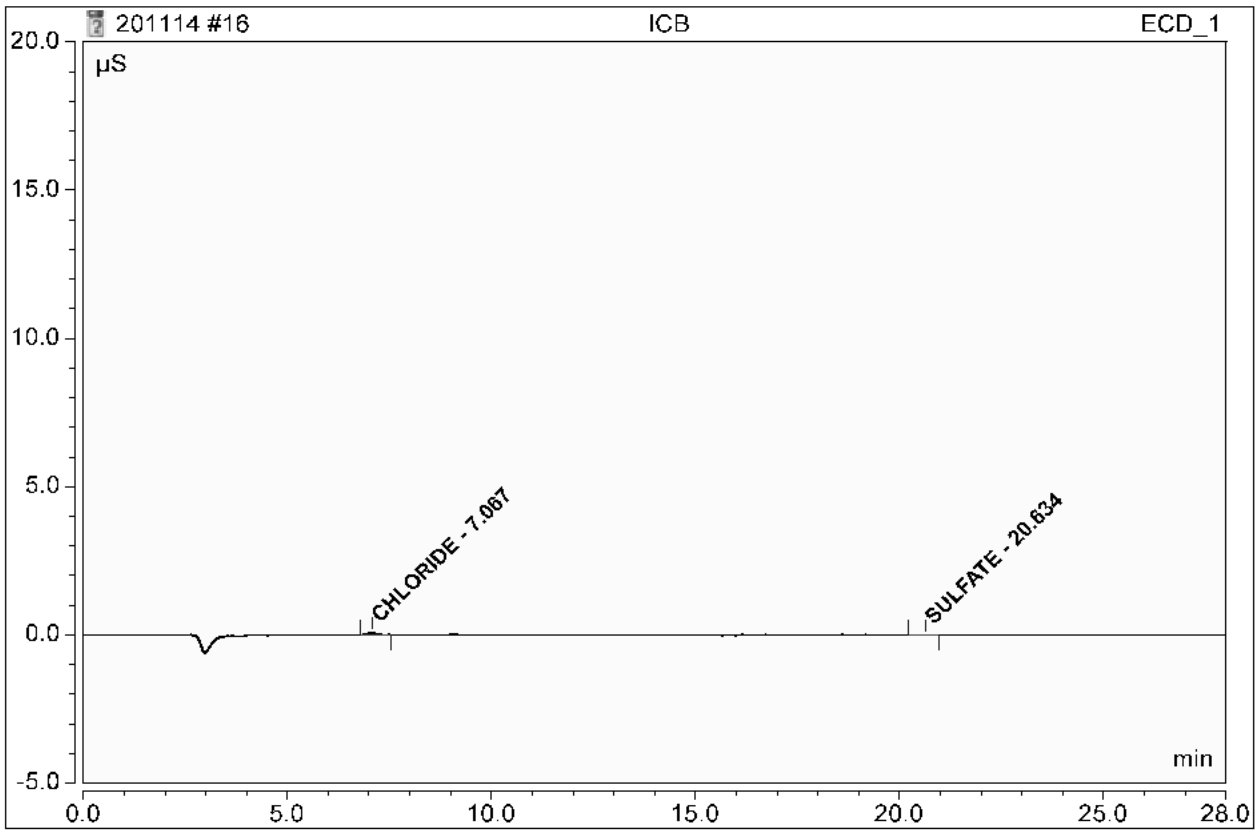
Sample Name:	**WIC201113-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 14:54**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	2.4867		0.67279	13.11
2	7.08	CHLORIDE	n.a.	4.9208		0.87049	16.96
3	8.99	NITRITE-N	n.a.	2.4699		0.94549	18.43
4	11.22	BROMIDE	n.a.	1.2449		0.08831	1.72
5	13.07	NITRATE-N	n.a.	2.4790		1.05063	20.47
6	18.69	O-PHOSPHATE-P	n.a.	0.8998		0.20351	3.97
7	20.80	SULFATE	n.a.	10.0534		1.30022	25.34
Total:				24.5545	0.000	5.131	100.00

16 ICB

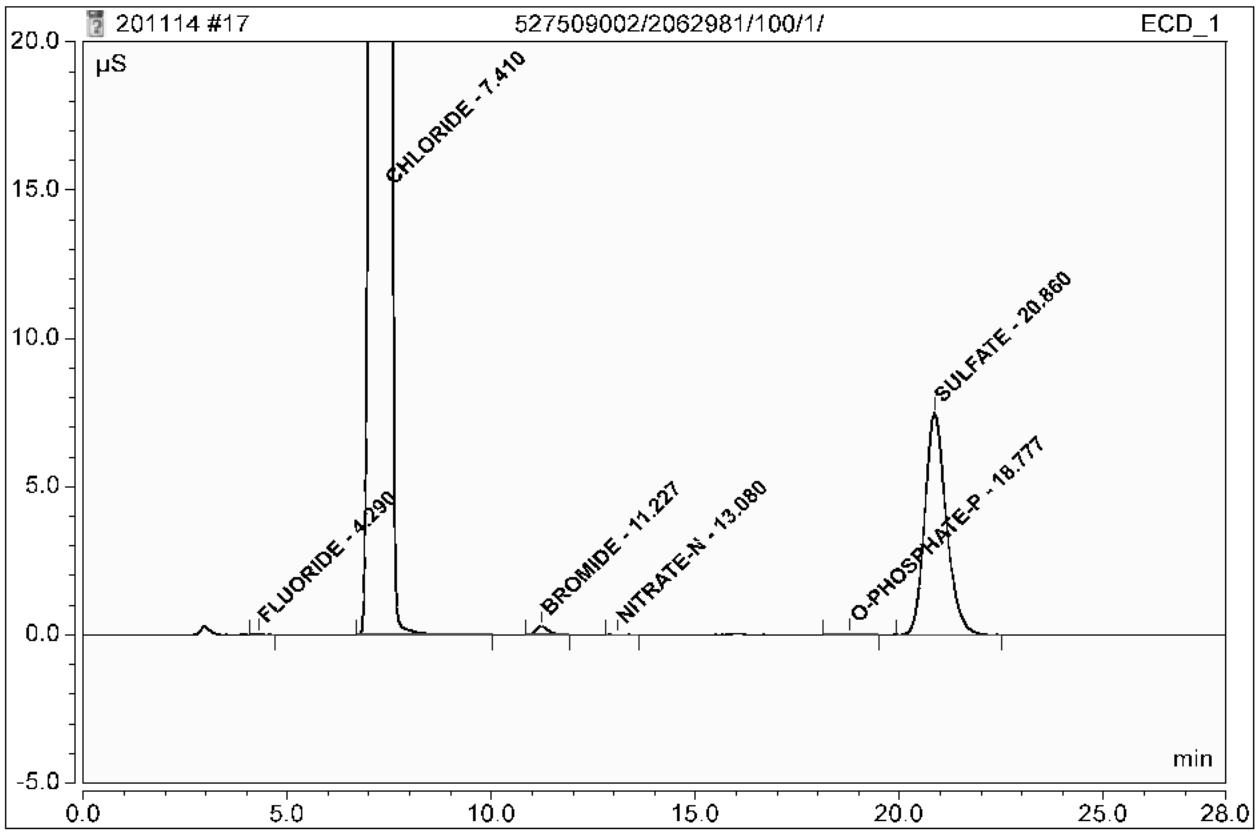
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:25**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.07	CHLORIDE	n.a.	0.1623		0.01713	92.13
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	20.63	SULFATE	n.a.	n.a.		0.00146	7.87
Total:				0.1623	0.000	0.019	100.00

17 527509002/2062981/100/1/

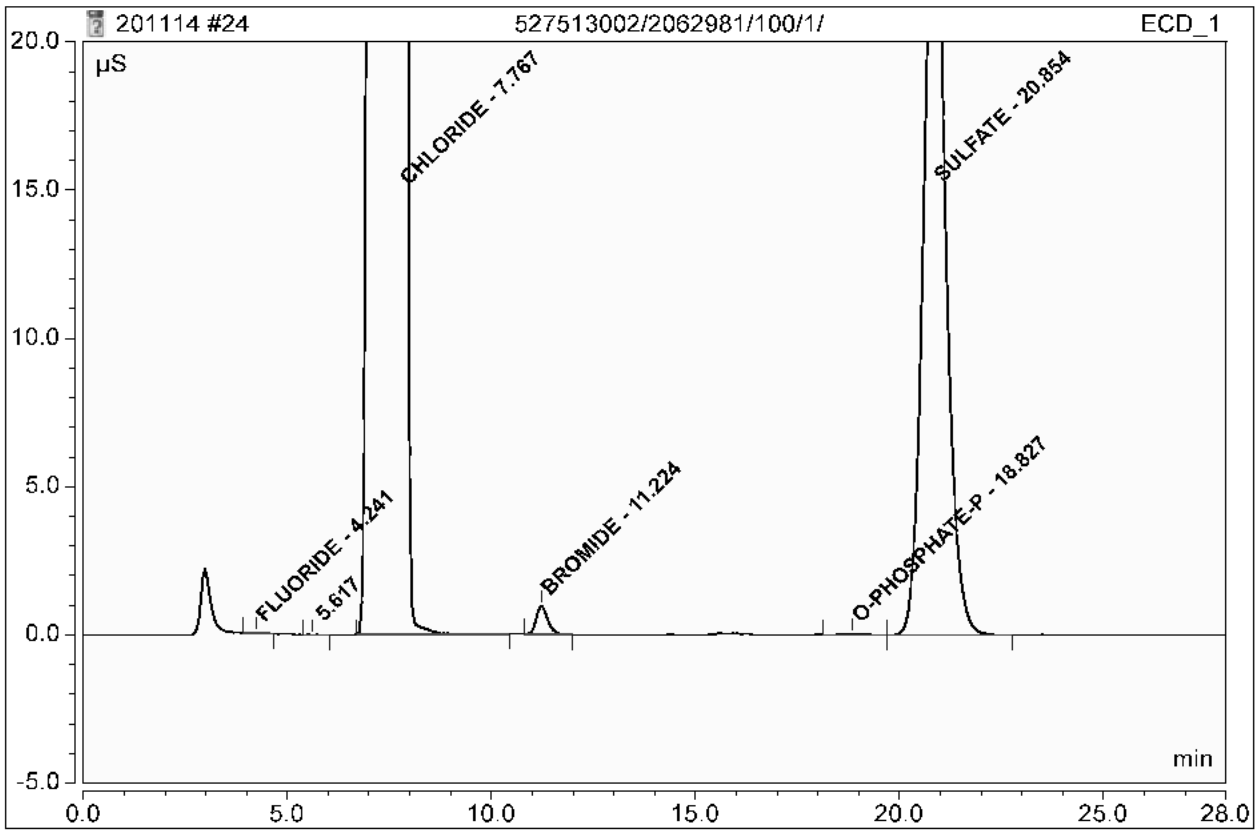
Sample Name:	**527509002/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 15:56**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	0.0336		0.00558	0.01
2	7.41	CHLORIDE	n.a.	566.7045		101.61736	95.61
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.23	BROMIDE	n.a.	1.2824		0.09098	0.09
4	13.08	NITRATE-N	n.a.	0.0312		0.00272	0.00
5	18.78	O-PHOSPHATE-P	n.a.	n.a.		0.00829	0.01
6	20.86	SULFATE	n.a.	35.2848		4.55412	4.29
Total:				603.3366	0.000	106.279	100.00

24 527513002/2062981/100/1/

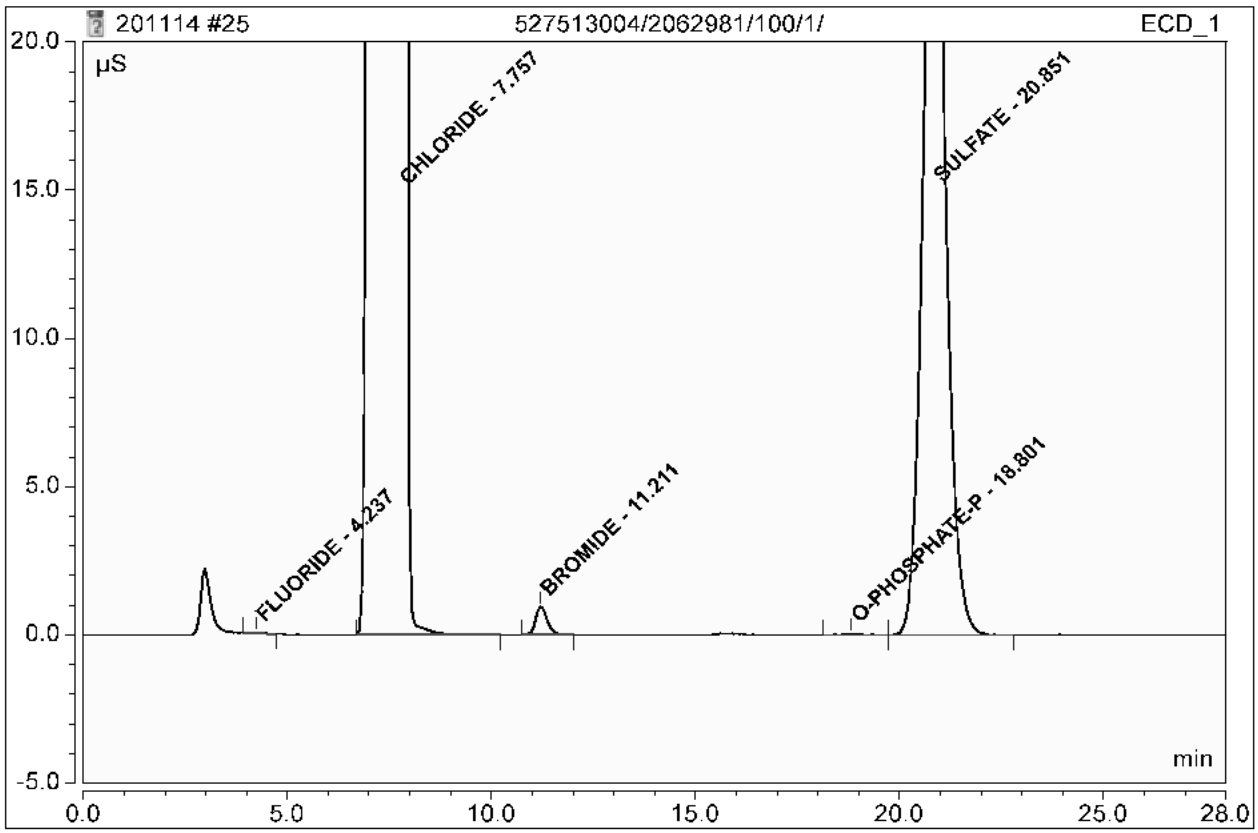
Sample Name:	**527513002/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 19:32**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.24	FLUORIDE	n.a.	0.0308		0.00483	0.00
3	7.77	CHLORIDE	n.a.	1880.9586		337.30768	95.25
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
4	11.22	BROMIDE	n.a.	4.3157		0.30690	0.09
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
5	18.83	O-PHOSPHATE-P	n.a.	n.a.		0.01734	0.00
6	20.85	SULFATE	n.a.	127.8176		16.48739	4.66
Total:				2013.1227	0.000	354.124	100.00

25 527513004/2062981/100/1/

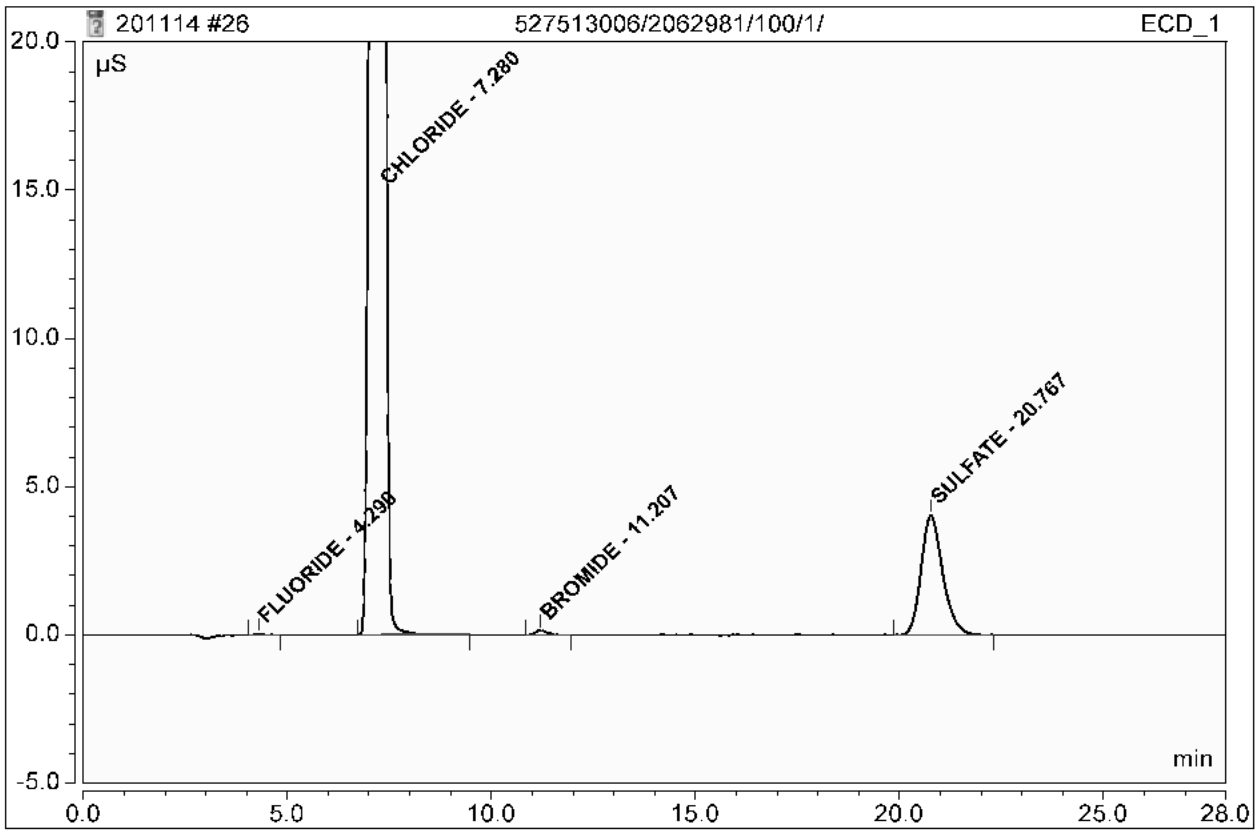
Sample Name:	**527513004/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 20:03**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.24	FLUORIDE	n.a.	0.0364		0.00633	0.00
2	7.76	CHLORIDE	n.a.	1875.3009		336.29307	94.63
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	4.2731		0.30387	0.09
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
4	18.80	O-PHOSPHATE-P	n.a.	n.a.		0.02100	0.01
5	20.85	SULFATE	n.a.	145.3591		18.74959	5.28
Total:				2024.9695	0.000	355.374	100.00

26 527513006/2062981/100/1/

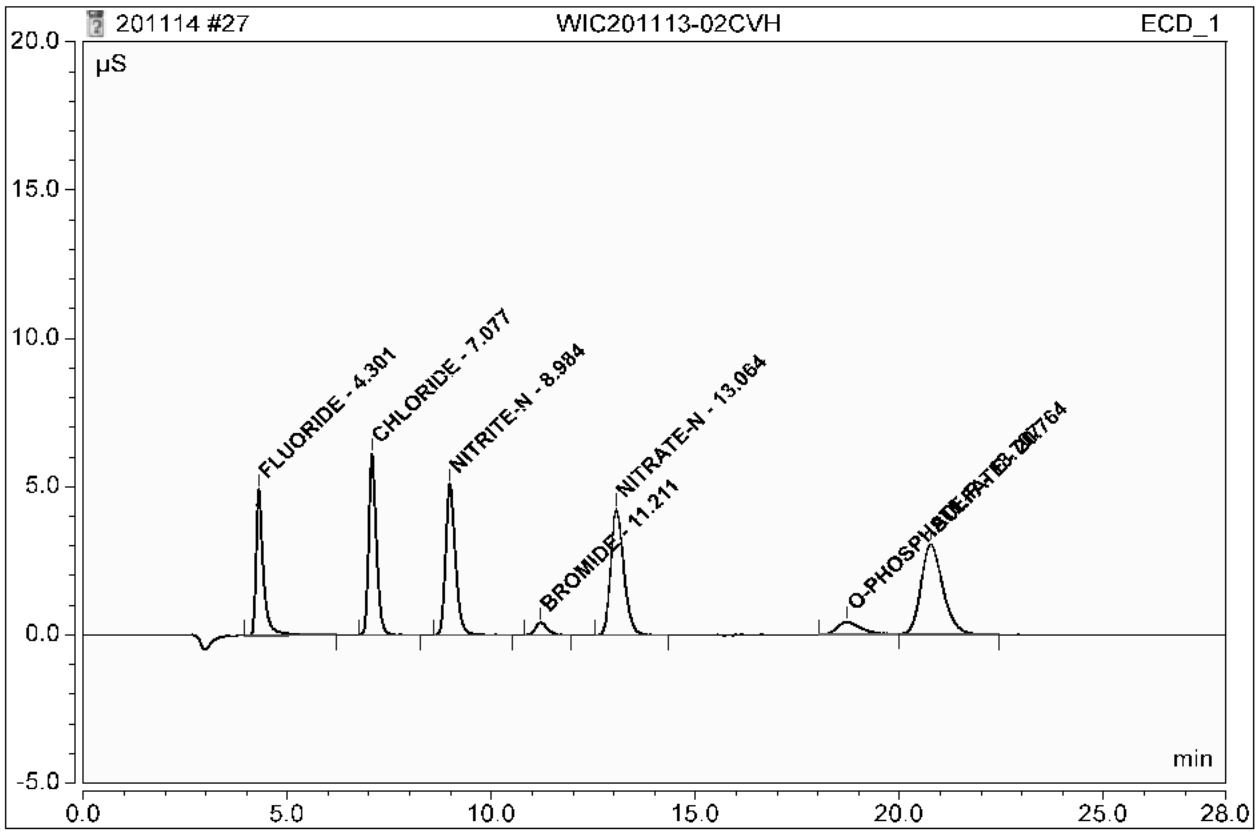
Sample Name:	**527513006/2062981/100/1/**	*Injection Volume:*	**5000.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 20:34**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	0.0381		0.00679	0.01
2	7.28	CHLORIDE	n.a.	297.4550		53.33179	95.47
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.6741		0.04767	0.09
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.77	SULFATE	n.a.	19.1918		2.47873	4.44
Total:				317.3590	0.000	55.865	100.00

27 WIC201113-02CVH

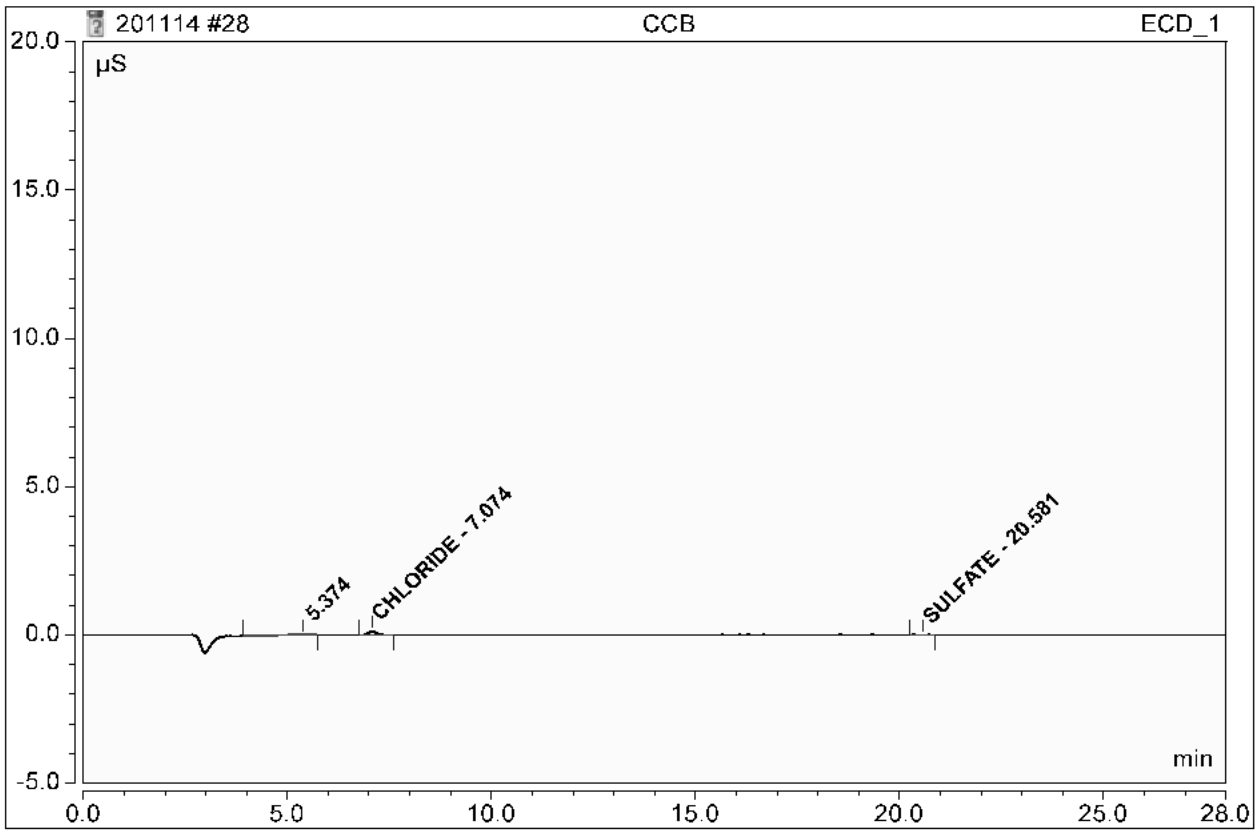
Sample Name:	**WIC201113-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 21:05**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.7206		1.00841	13.20
2	7.08	CHLORIDE	n.a.	7.4222		1.31907	17.27
3	8.98	NITRITE-N	n.a.	3.6575		1.40512	18.40
4	11.21	BROMIDE	n.a.	1.8795		0.13348	1.75
5	13.06	NITRATE-N	n.a.	3.6948		1.57114	20.57
6	18.71	O-PHOSPHATE-P	n.a.	1.3844		0.28100	3.68
7	20.76	SULFATE	n.a.	14.8608		1.92019	25.14
Total:				36.6197	0.000	7.638	100.00

28 CCB

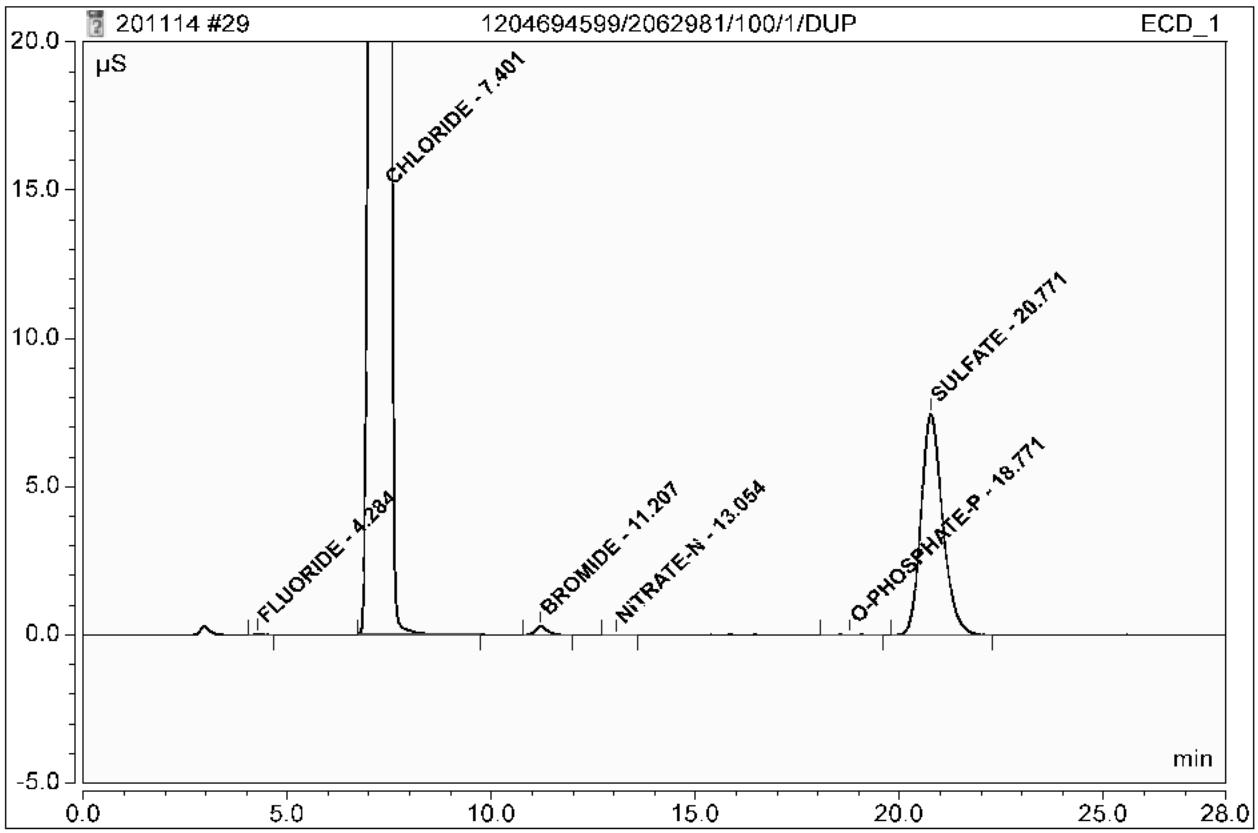
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 21:36**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
2	7.07	CHLORIDE	n.a.	0.2163		0.02681	76.12
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.58	SULFATE	n.a.	n.a.		0.00124	3.51
Total:				0.2163	0.000	0.028	79.63

29 1204694599/2062981/100/1/DUP

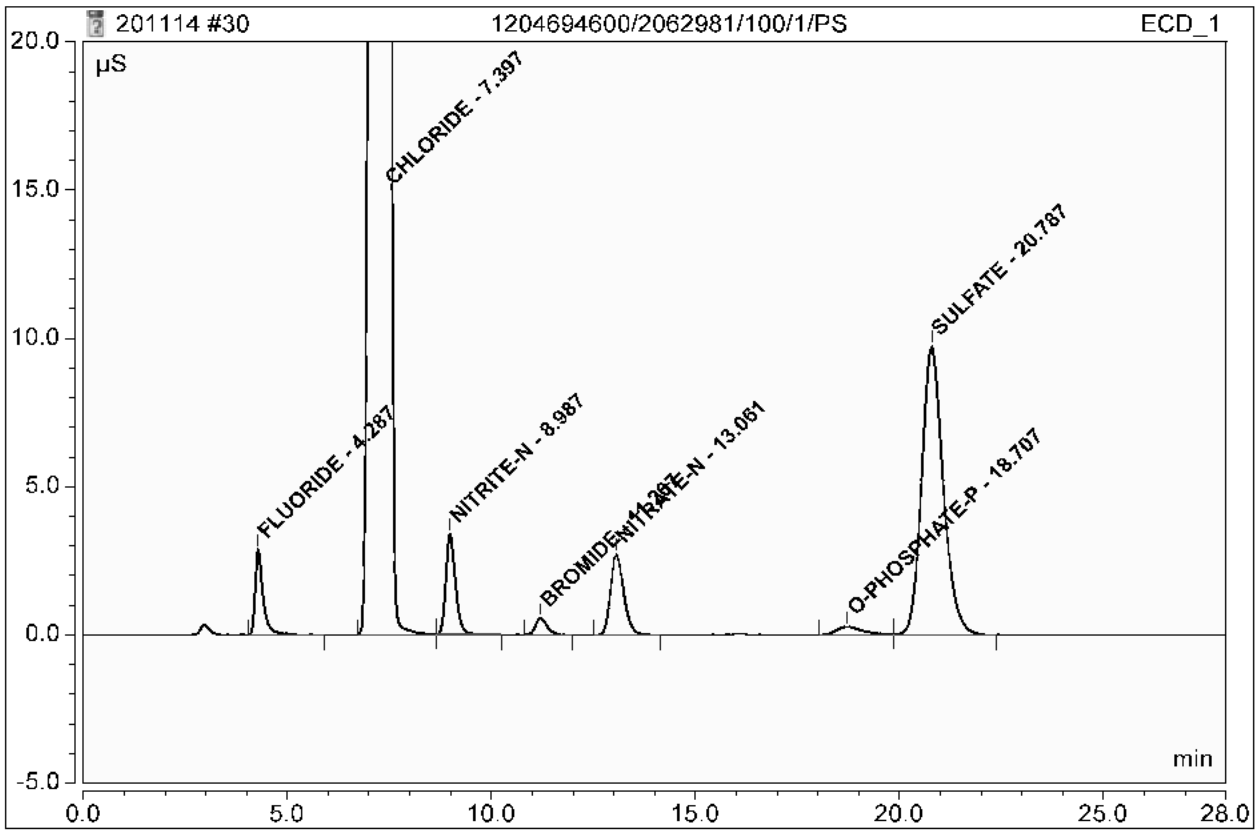
Sample Name:	**1204694599/2062981/100/1/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 22:07**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.28	FLUORIDE	n.a.	0.0350		0.00596	0.01
2	7.40	CHLORIDE	n.a.	567.0551		101.68024	95.62
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	1.2905		0.09156	0.09
4	13.05	NITRATE-N	n.a.	0.0312		0.00272	0.00
5	18.77	O-PHOSPHATE-P	n.a.	n.a.		0.00896	0.01
6	20.77	SULFATE	n.a.	35.2634		4.55136	4.28
Total:				603.6753	0.000	106.341	100.00

30 1204694600/2062981/100/1/PS

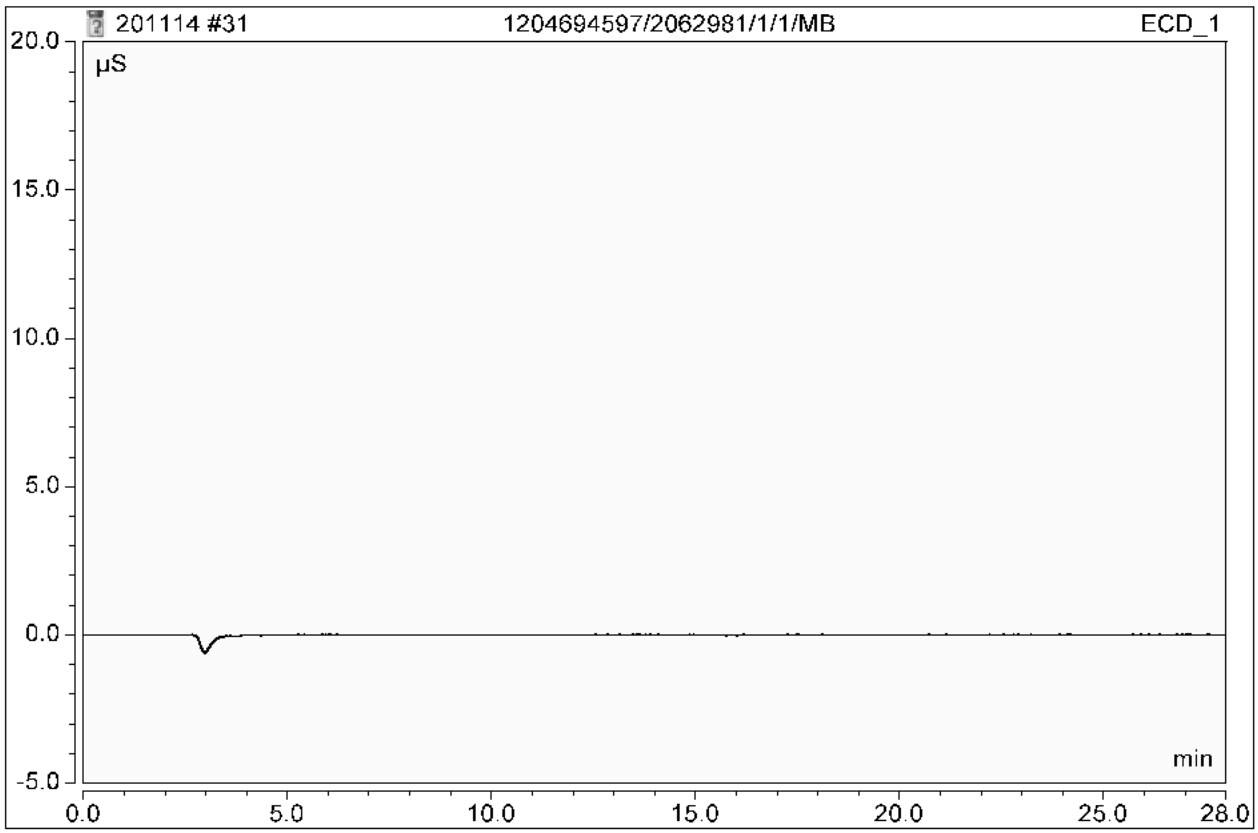
Sample Name:	**1204694600/2062981/100/1/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 22:37**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	2.3590		0.63807	0.58
2	7.40	CHLORIDE	n.a.	569.0249		102.03348	91.99
3	8.99	NITRITE-N	n.a.	2.4192		0.92588	0.83
4	11.21	BROMIDE	n.a.	2.5153		0.17874	0.16
5	13.06	NITRATE-N	n.a.	2.3916		1.01321	0.91
6	18.71	O-PHOSPHATE-P	n.a.	0.8826		0.20076	0.18
7	20.79	SULFATE	n.a.	45.9401		5.92826	5.34
Total:				625.5327	0.000	110.918	100.00

31 1204694597/2062981/1/1/MB

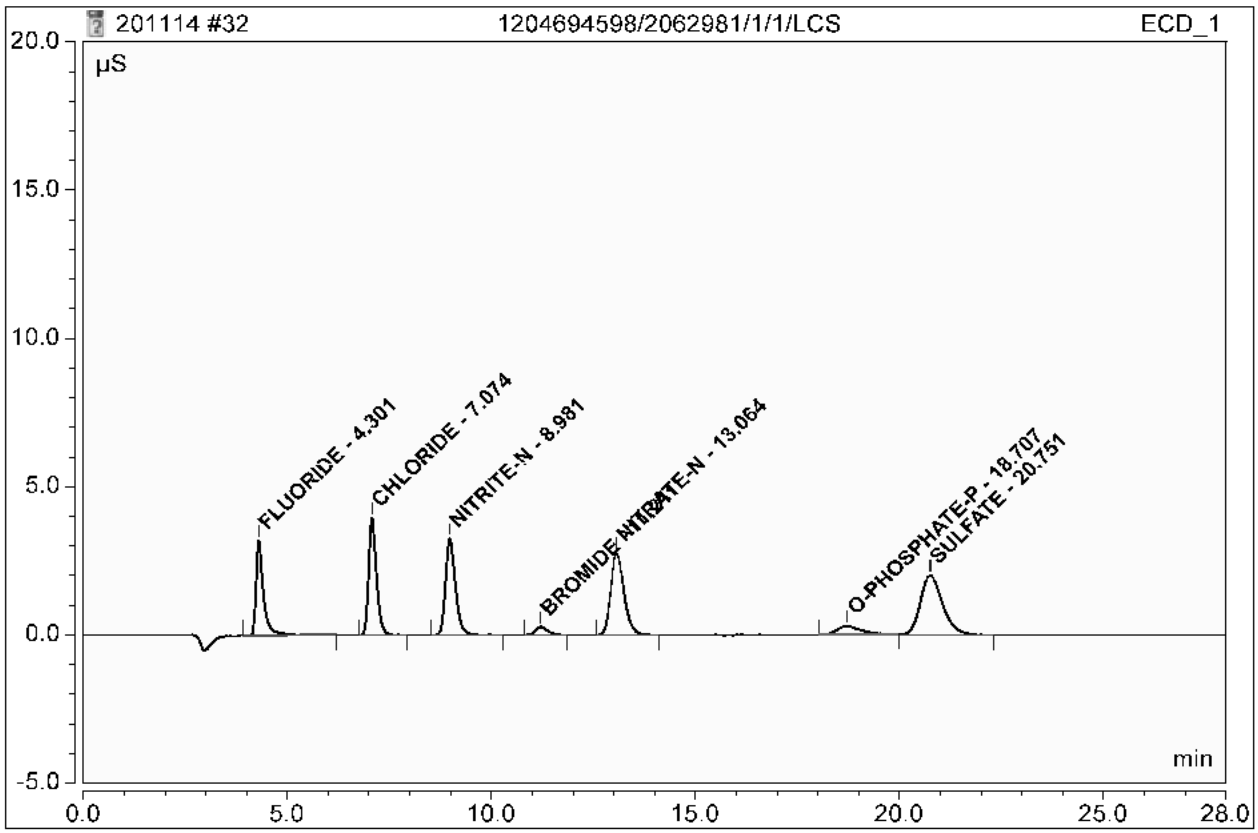
Sample Name:	**1204694597/2062981/1/1/MB**	*Injection Volume:*	**5000.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 23:08**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

32 1204694598/2062981/1/1/LCS

Sample Name:	**1204694598/2062981/1/1/LCS**	*Injection Volume:*	**5000.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/14/2020 23:39**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



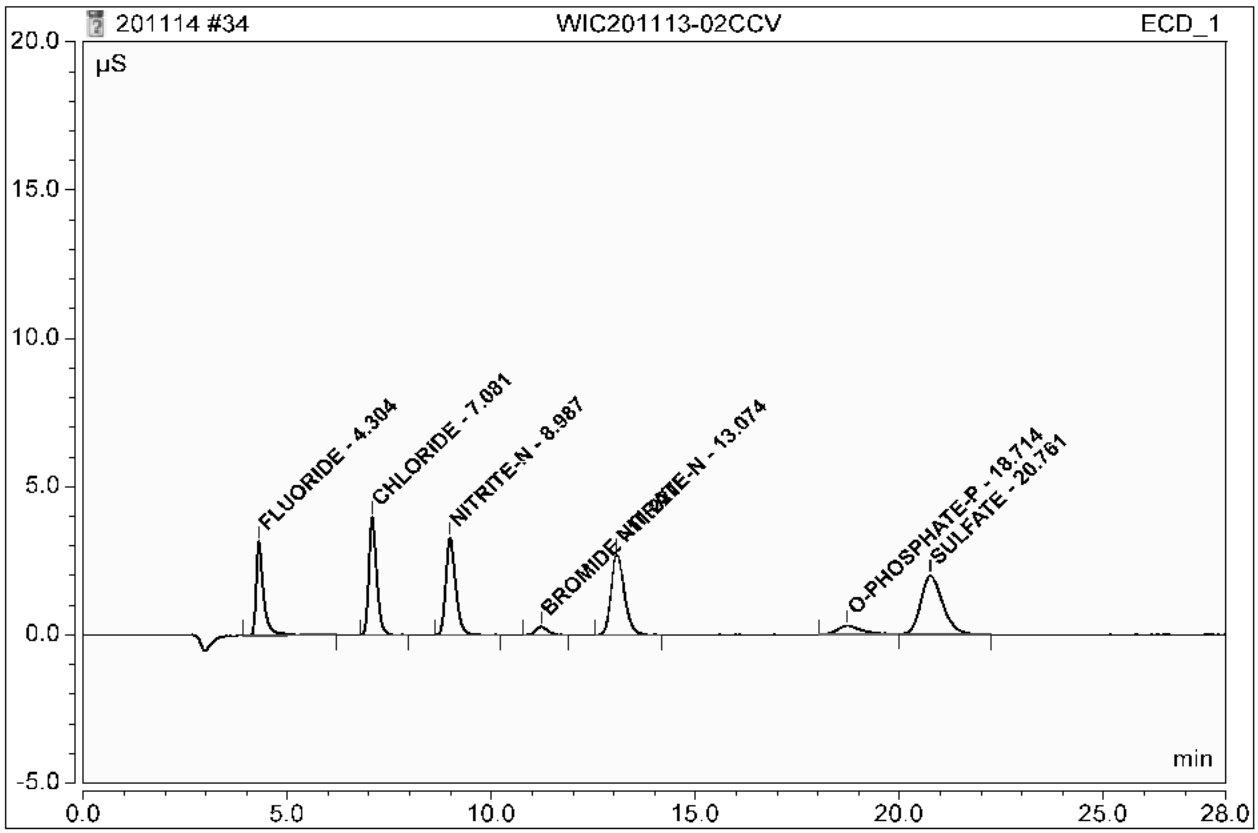
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4773		0.67025	13.36
2	7.07	CHLORIDE	n.a.	4.8838		0.86386	17.22
3	8.98	NITRITE-N	n.a.	2.3576		0.90201	17.98
4	11.21	BROMIDE	n.a.	1.2249		0.08688	1.73
5	13.06	NITRATE-N	n.a.	2.4233		1.02679	20.47
6	18.71	O-PHOSPHATE-P	n.a.	0.8331		0.19285	3.84
7	20.75	SULFATE	n.a.	9.8434		1.27313	25.38
Total:				24.0434	0.000	5.016	100.00

This is runlog for Sequence 201114.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
1204694179	11/15/20 00:10	2062706	1	201114	LXA2
CCV	11/15/20 00:41		1	201114	LXA2
CCB	11/15/20 01:12		1	201114	LXA2

34 WIC201113-02CCV

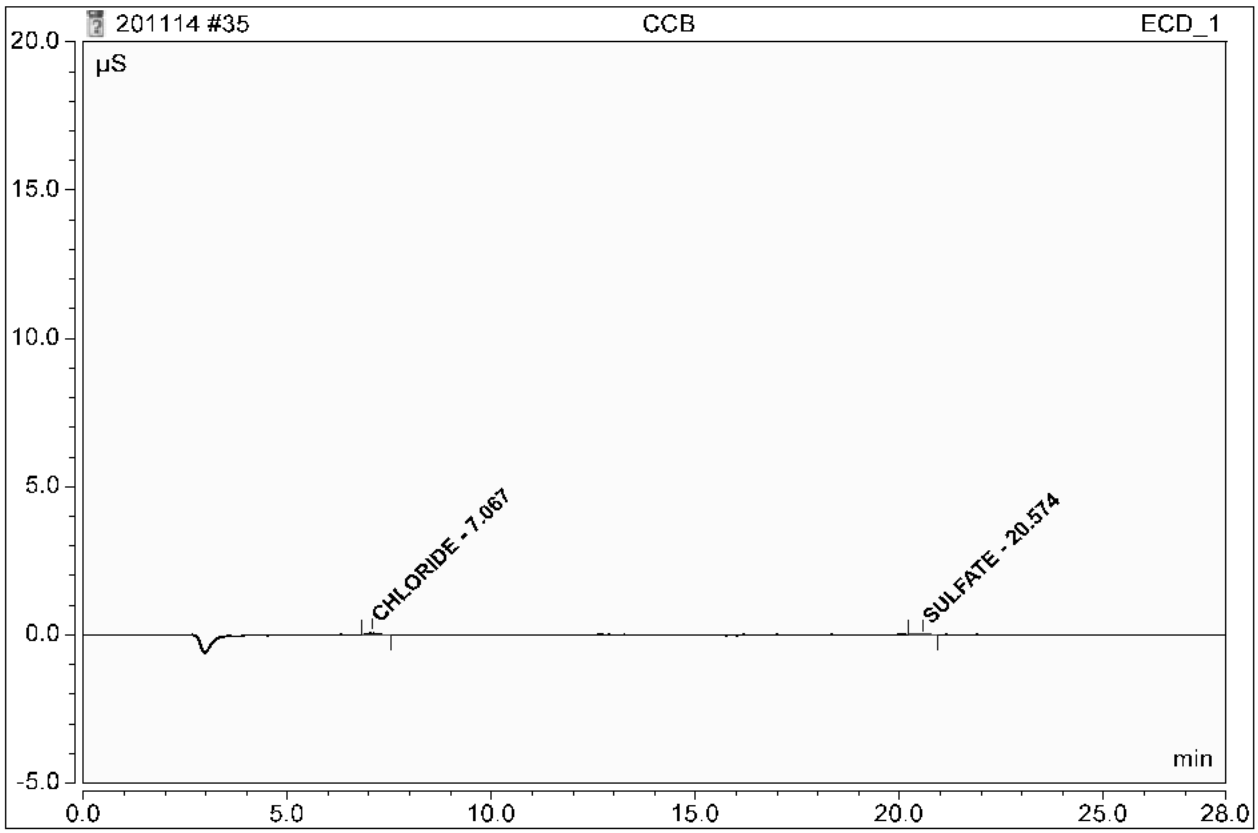
Sample Name:	**WIC201113-02CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 0:41**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4459		0.66171	13.26
2	7.08	CHLORIDE	n.a.	4.9095		0.86846	17.40
3	8.99	NITRITE-N	n.a.	2.3673		0.90577	18.15
4	11.22	BROMIDE	n.a.	1.2141		0.08612	1.73
5	13.07	NITRATE-N	n.a.	2.3980		1.01597	20.36
6	18.71	O-PHOSPHATE-P	n.a.	0.8394		0.19386	3.88
7	20.76	SULFATE	n.a.	9.7305		1.25857	25.22
Total:				23.9048	0.000	4.990	100.00

35 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/15/2020 1:12**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



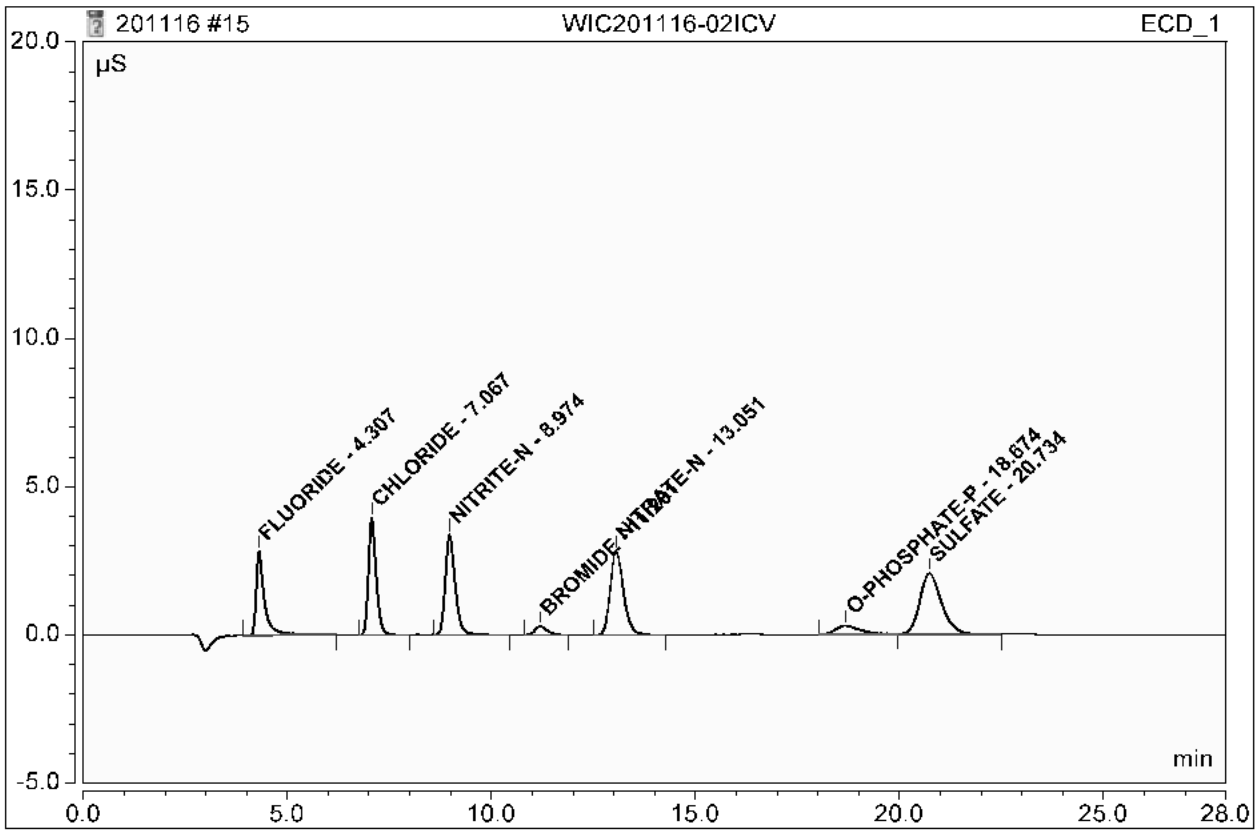
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.07	CHLORIDE	n.a.	0.1405		0.01323	90.33
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	20.57	SULFATE	n.a.	n.a.		0.00142	9.67
Total:				0.1405	0.000	0.015	100.00

This is runlog for Sequence 201116.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/16/20 08:16		1	201116	LXA2
ICV	11/16/20 08:46		1	201116	LXA2
ICB	11/16/20 09:17		1	201116	LXA2
527509007	11/16/20 10:40	2062981	1	201116	LXA2
527509011	11/16/20 11:11	2062981	500	201116	LXA2
527510002	11/16/20 11:42	2062981	1000	201116	LXA2
527510008	11/16/20 12:13	2062981	1000	201116	LXA2
527512005	11/16/20 12:43	2062981	500	201116	LXA2
527513002	11/16/20 13:14	2062981	1000	201116	LXA2
527513004	11/16/20 13:45	2062981	1000	201116	LXA2
527509002	11/16/20 14:16	2062981	10000	201116	LXA2
1204694599	11/16/20 14:47	2062981	10000	201116	LXA2
1204694600	11/16/20 15:18	2062981	10000	201116	LXA2
CVH	11/16/20 15:49		1	201116	LXA2
CCB	11/16/20 16:20		1	201116	LXA2
527509002	11/16/20 16:51	2062981	200	201116	LXA2
1204694599	11/16/20 17:21	2062981	200	201116	LXA2
1204694600	11/16/20 17:52	2062981	200	201116	LXA2
527509007	11/16/20 18:23	2062981	1	201116	LXA2
CCV	11/16/20 18:54		1	201116	LXA2
CCB	11/16/20 19:25		1	201116	LXA2

15 WIC201116-02ICV

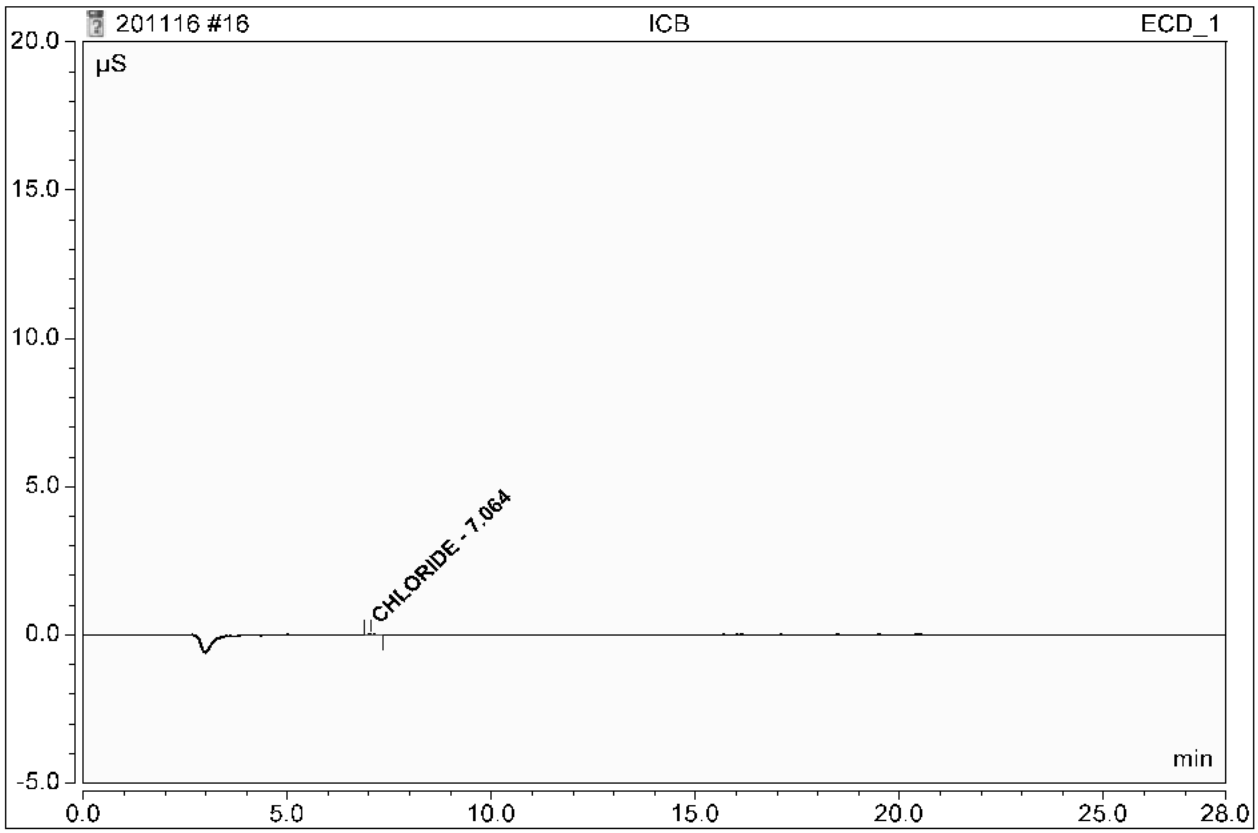
Sample Name:	**WIC201116-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 8:46**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	2.4431		0.66094	13.08
2	7.07	CHLORIDE	n.a.	4.8190		0.85223	16.87
3	8.97	NITRITE-N	n.a.	2.4316		0.93067	18.42
4	11.20	BROMIDE	n.a.	1.2403		0.08798	1.74
5	13.05	NITRATE-N	n.a.	2.4562		1.04086	20.60
6	18.67	O-PHOSPHATE-P	n.a.	0.8513		0.19576	3.87
7	20.73	SULFATE	n.a.	9.9257		1.28375	25.41
Total:				24.1673	0.000	5.052	100.00

16 ICB

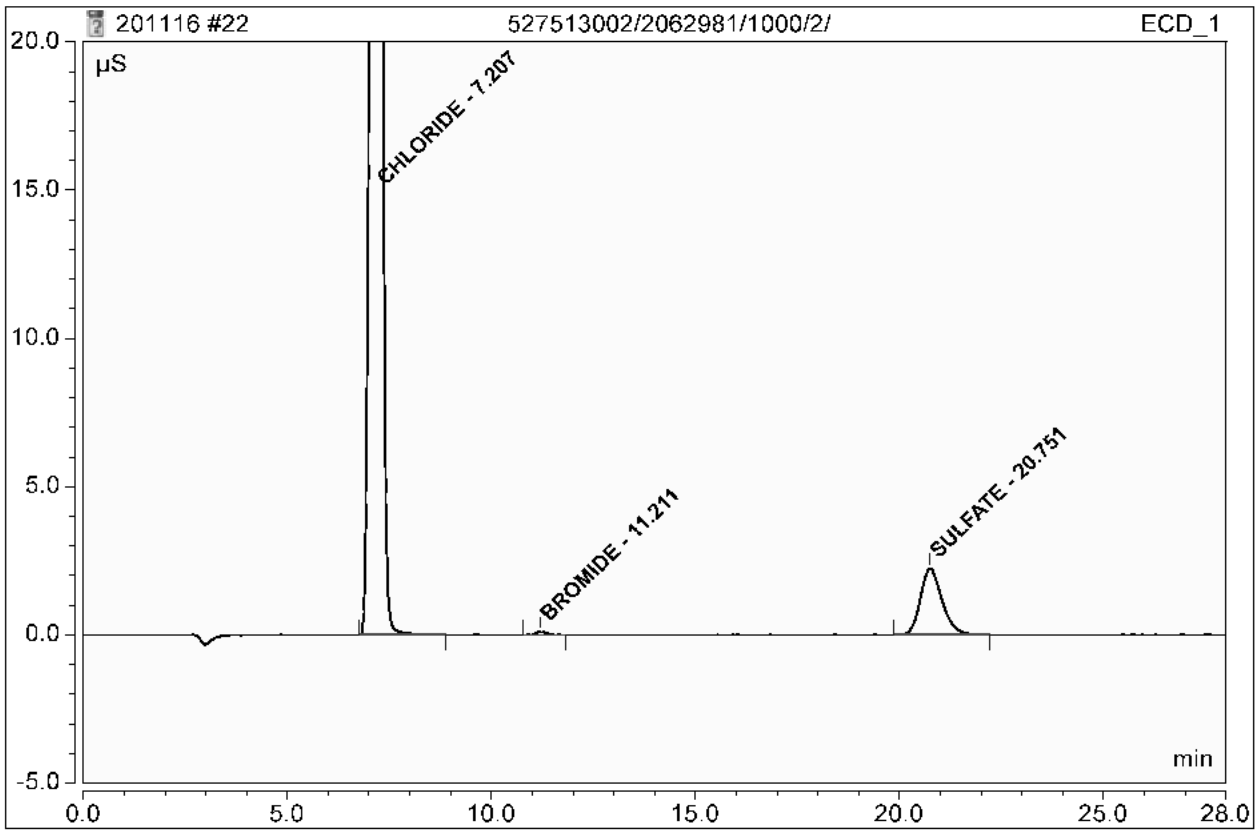
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 9:17**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.06	CHLORIDE	n.a.	0.0736		0.00122	100.00
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0736	0.000	0.001	100.00

22 527513002/2062981/1000/2/

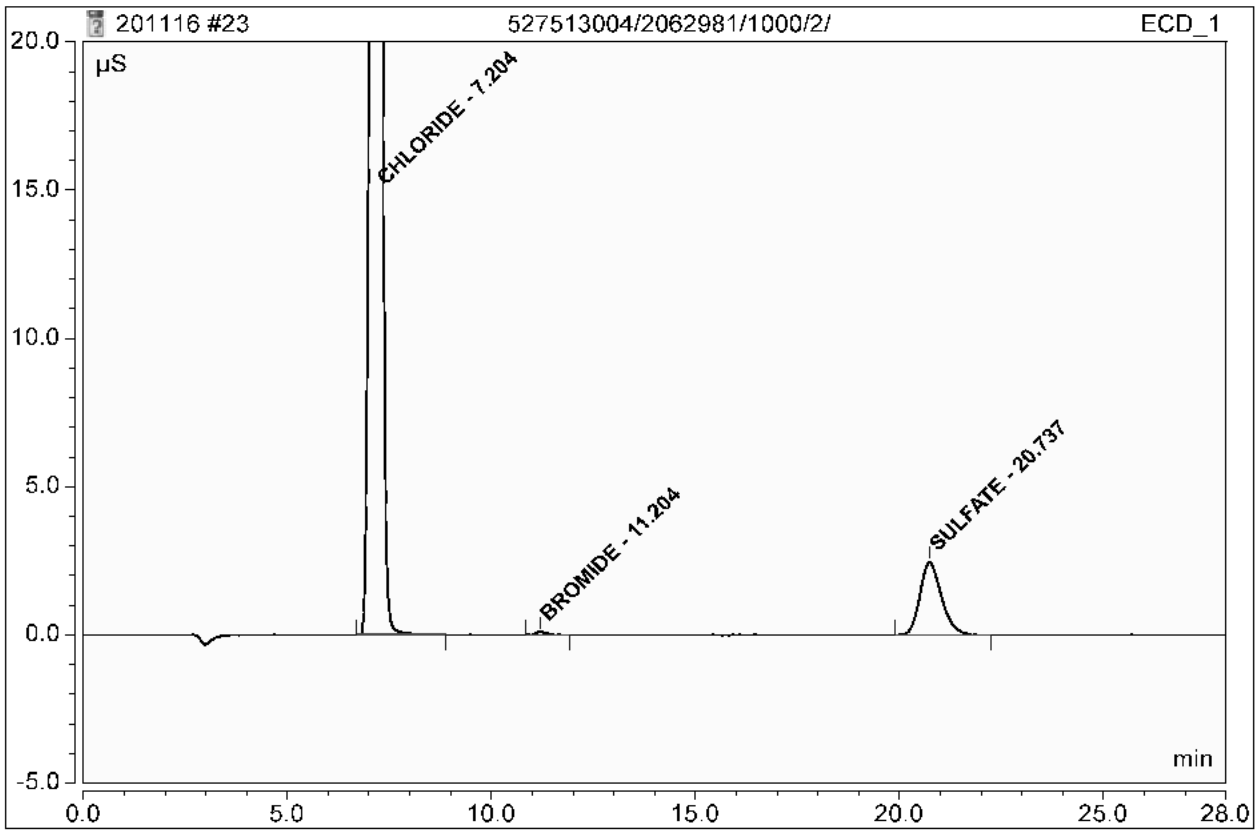
Sample Name:	**527513002/2062981/1000/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 13:14**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.21	CHLORIDE	n.a.	166.4311		29.83477	95.55
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.21	BROMIDE	n.a.	0.4227		0.02978	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.75	SULFATE	n.a.	10.5030		1.35819	4.35
Total:				177.3568	0.000	31.223	100.00

23 527513004/2062981/1000/2/

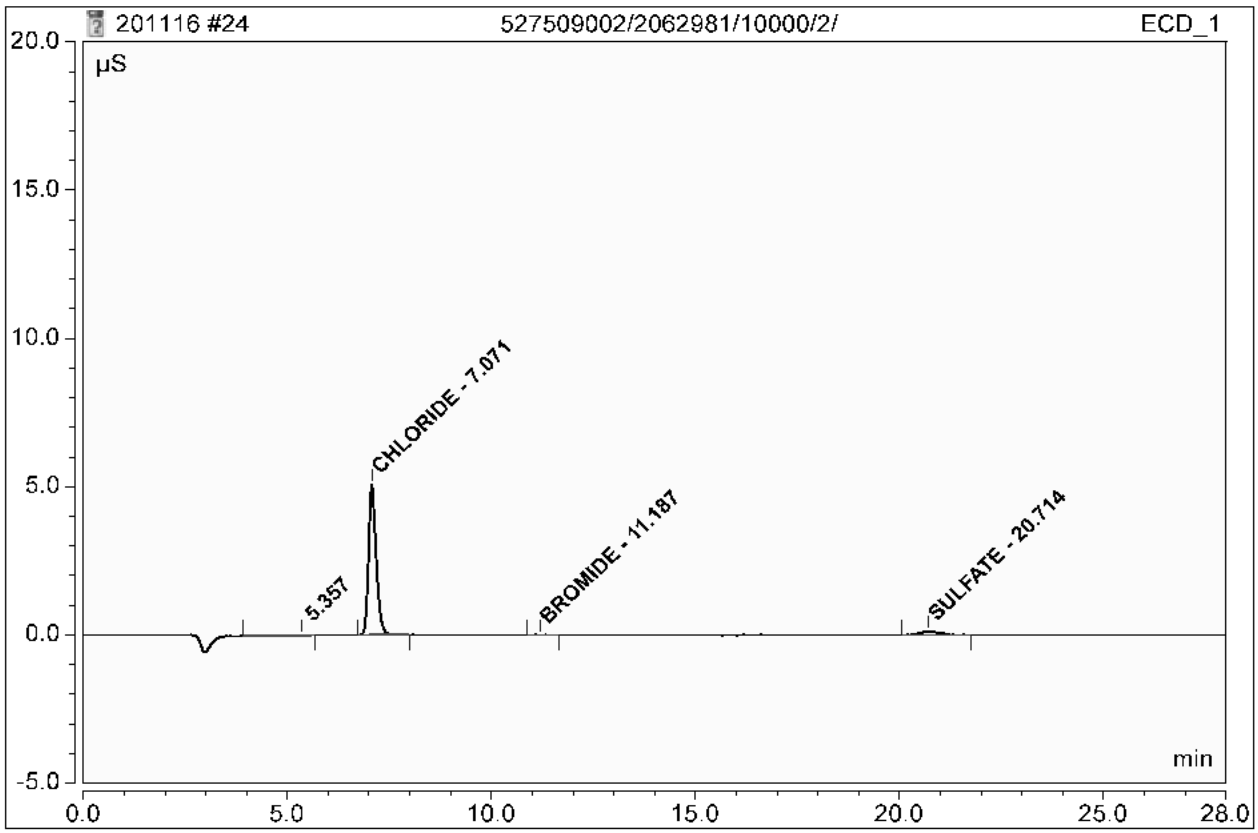
Sample Name:	**527513004/2062981/1000/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 13:45**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.20	CHLORIDE	n.a.	162.2552		29.08589	95.03
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.20	BROMIDE	n.a.	0.4167		0.02935	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.74	SULFATE	n.a.	11.5456		1.49265	4.88
Total:				174.2175	0.000	30.608	100.00

24 527509002/2062981/10000/2/

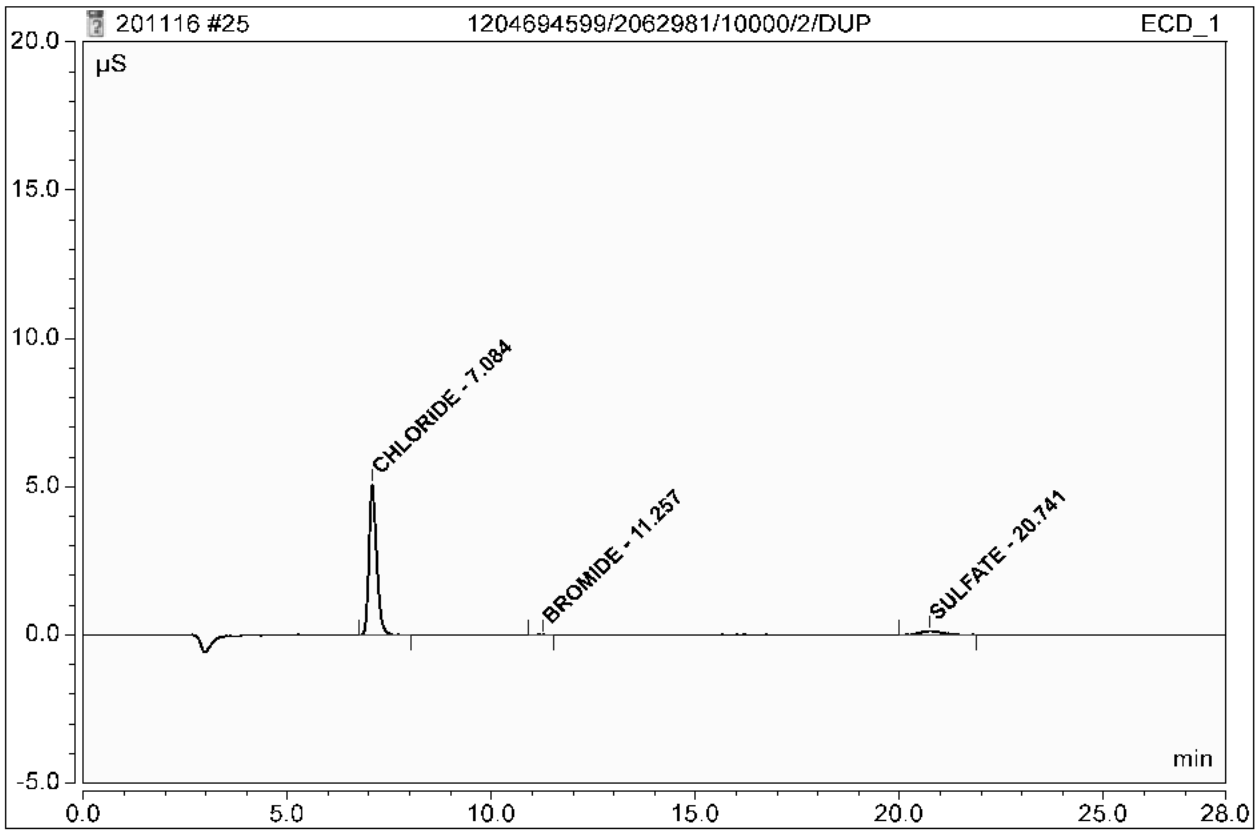
Sample Name:	**527509002/2062981/10000/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 14:16**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
2	7.07	CHLORIDE	n.a.	6.1539		1.09162	93.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.19	BROMIDE	n.a.	0.0300		0.00183	0.16
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.71	SULFATE	n.a.	0.5154		0.07017	6.00
Total:				6.6993	0.000	1.164	99.52

25 1204694599/2062981/10000/2/DUP

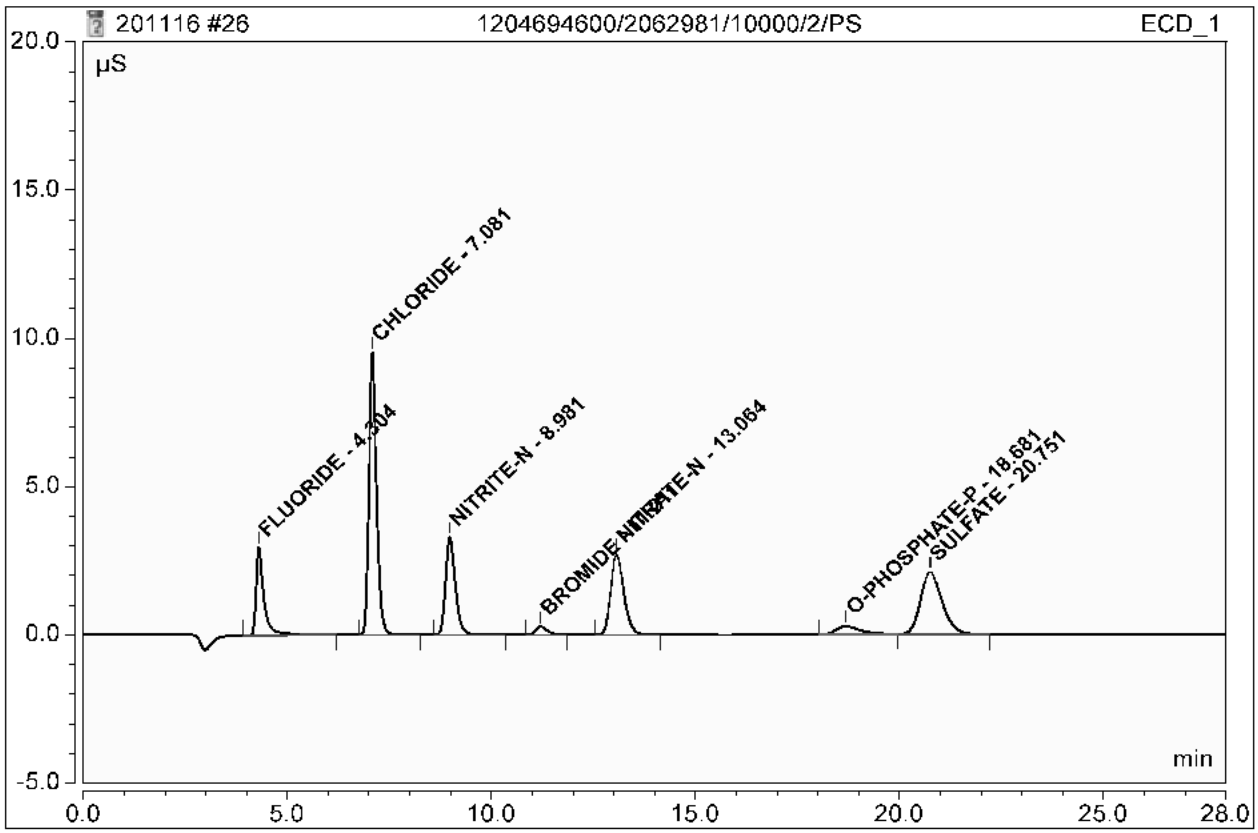
Sample Name:	**1204694599/2062981/10000/2/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 14:47**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.08	CHLORIDE	n.a.	6.1455		1.09013	93.73
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.26	BROMIDE	n.a.	0.0243		0.00142	0.12
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.74	SULFATE	n.a.	0.5255		0.07147	6.15
Total:				6.6953	0.000	1.163	100.00

26 1204694600/2062981/10000/2/PS

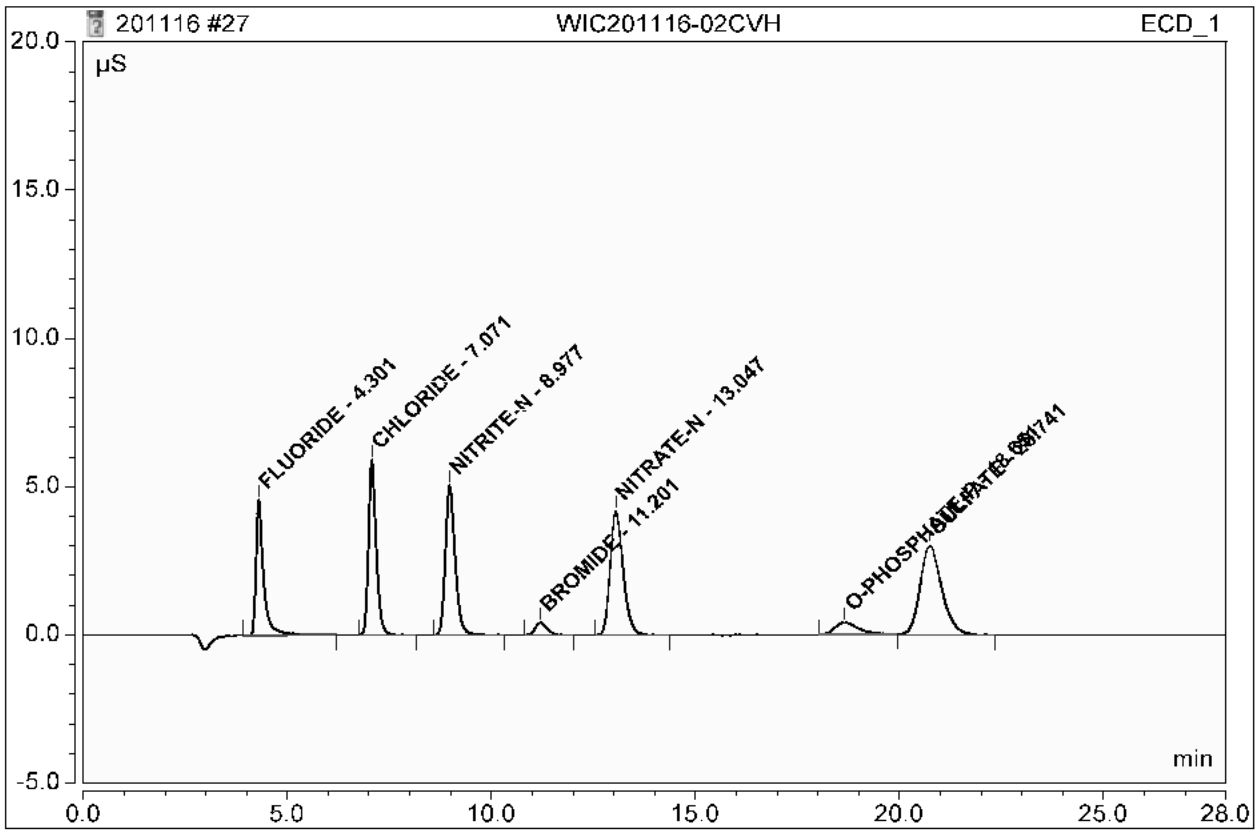
Sample Name:	**1204694600/2062981/10000/2/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 15:18**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4065		0.65099	10.56
2	7.08	CHLORIDE	n.a.	11.2848		2.01177	32.64
3	8.98	NITRITE-N	n.a.	2.3756		0.90898	14.75
4	11.21	BROMIDE	n.a.	1.2428		0.08816	1.43
5	13.06	NITRATE-N	n.a.	2.3733		1.00539	16.31
6	18.68	O-PHOSPHATE-P	n.a.	0.8010		0.18770	3.05
7	20.75	SULFATE	n.a.	10.1364		1.31092	21.27
Total:				30.6204	0.000	6.164	100.00

27 WIC201116-02CVH

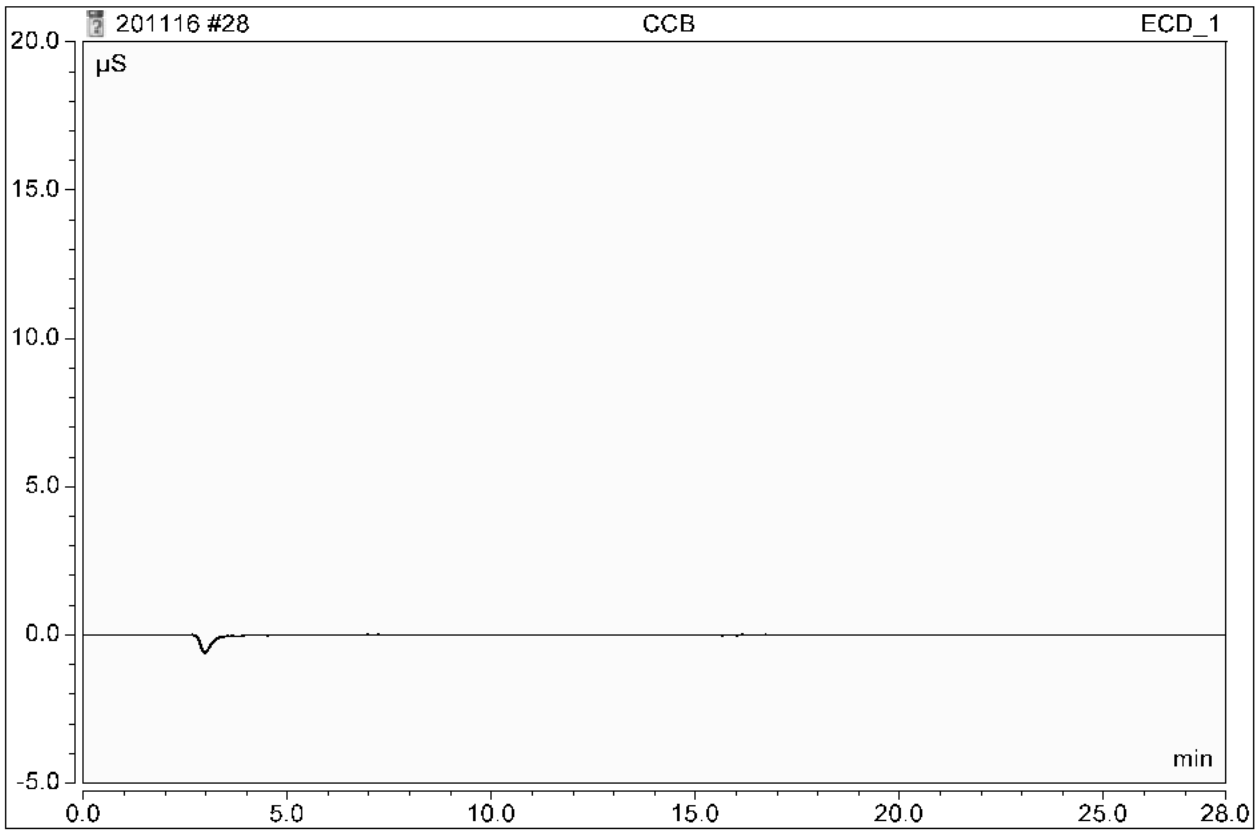
Sample Name:	**WIC201116-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 15:49**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.5865		0.97193	13.12
2	7.07	CHLORIDE	n.a.	7.1247		1.26573	17.09
3	8.98	NITRITE-N	n.a.	3.5939		1.38052	18.64
4	11.20	BROMIDE	n.a.	1.8309		0.13002	1.76
5	13.05	NITRATE-N	n.a.	3.5989		1.53007	20.66
6	18.65	O-PHOSPHATE-P	n.a.	1.3096		0.26904	3.63
7	20.74	SULFATE	n.a.	14.3892		1.85937	25.10
Total:				35.4337	0.000	7.407	100.00

28 CCB

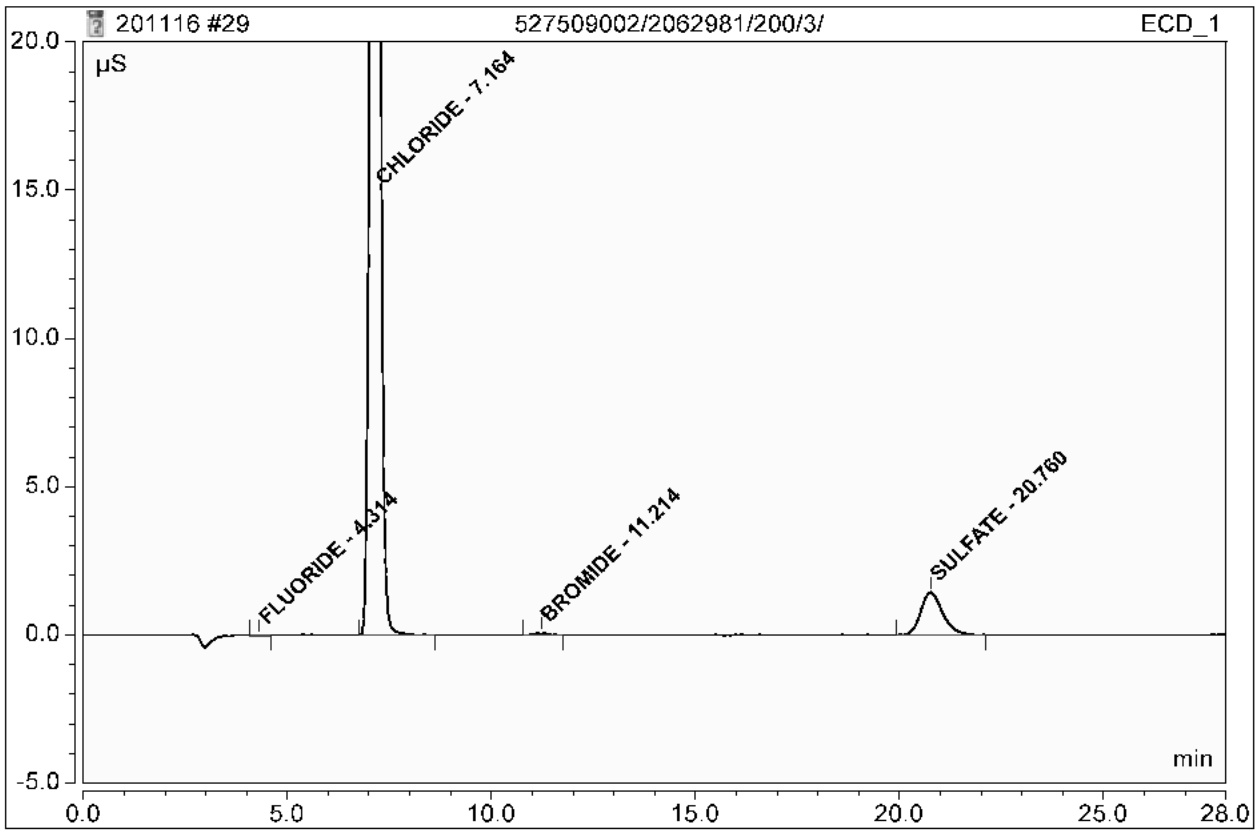
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 16:20**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

29 527509002/2062981/200/3/

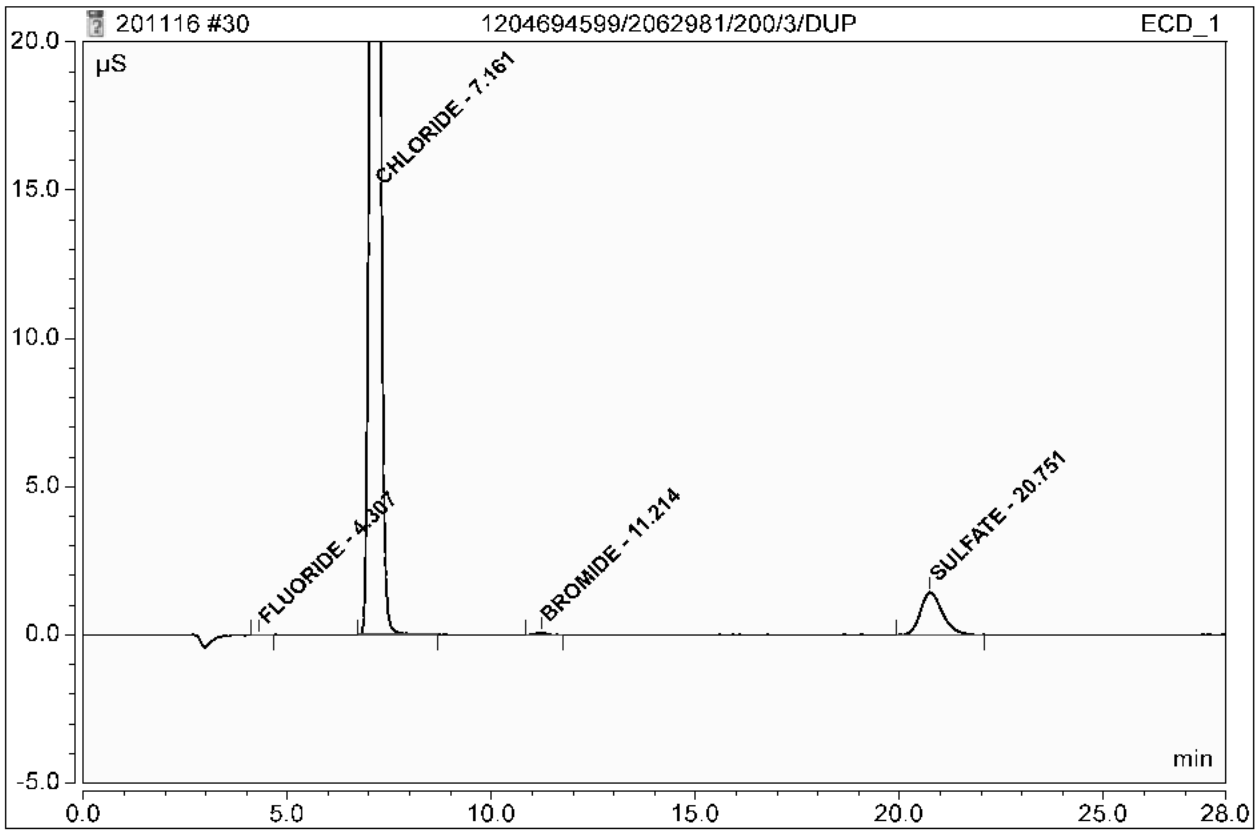
Sample Name:	**527509002/2062981/200/3/**	*Injection Volume:*	**5000.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 16:51**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	0.0176		0.00123	0.01
2	7.16	CHLORIDE	n.a.	102.8329		18.42944	95.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.2644		0.01851	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.76	SULFATE	n.a.	6.7658		0.87624	4.53
Total:				109.8807	0.000	19.325	100.00

30 1204694599/2062981/200/3/DUP

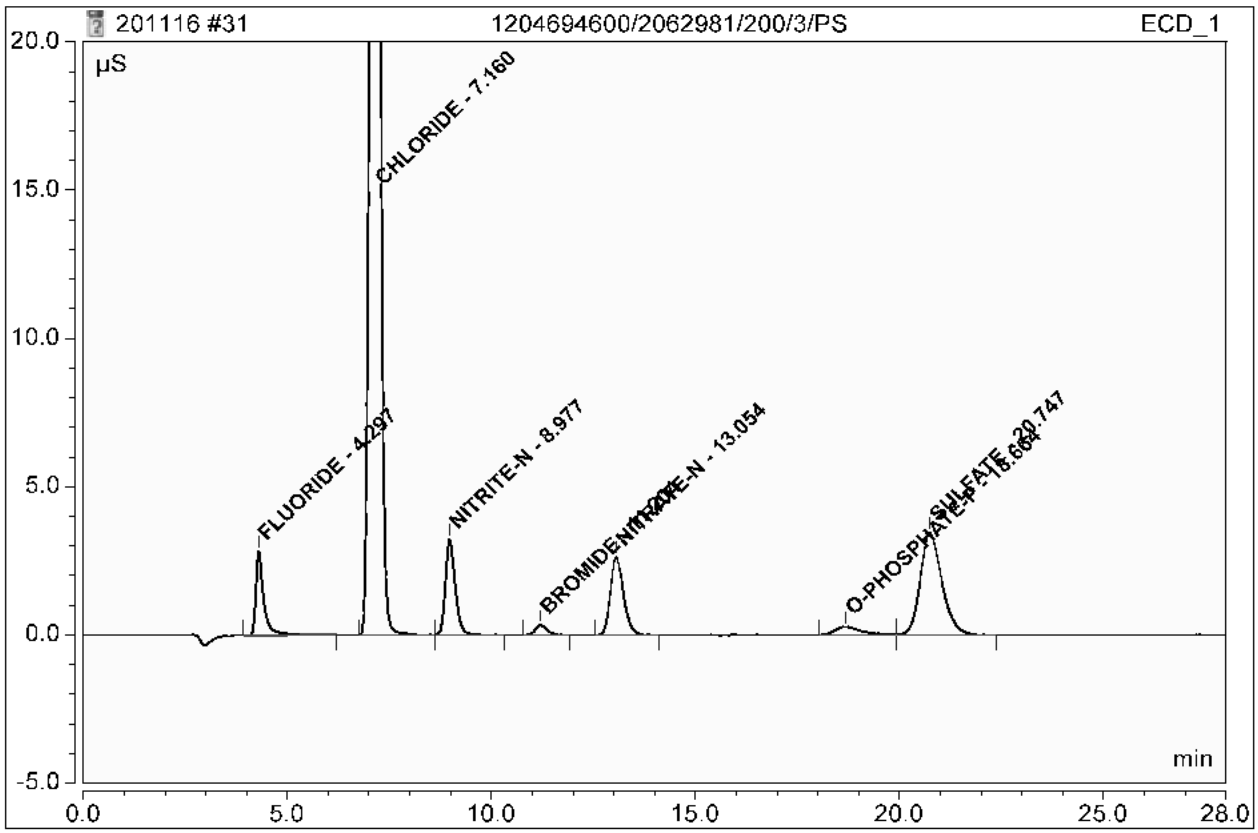
Sample Name:	**1204694599/2062981/200/3/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 17:21**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.31	FLUORIDE	n.a.	0.0174		0.00118	0.01
2	7.16	CHLORIDE	n.a.	102.8487		18.43228	95.36
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.2673		0.01872	0.10
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	20.75	SULFATE	n.a.	6.7751		0.87744	4.54
Total:				109.9085	0.000	19.330	100.00

31 1204694600/2062981/200/3/PS

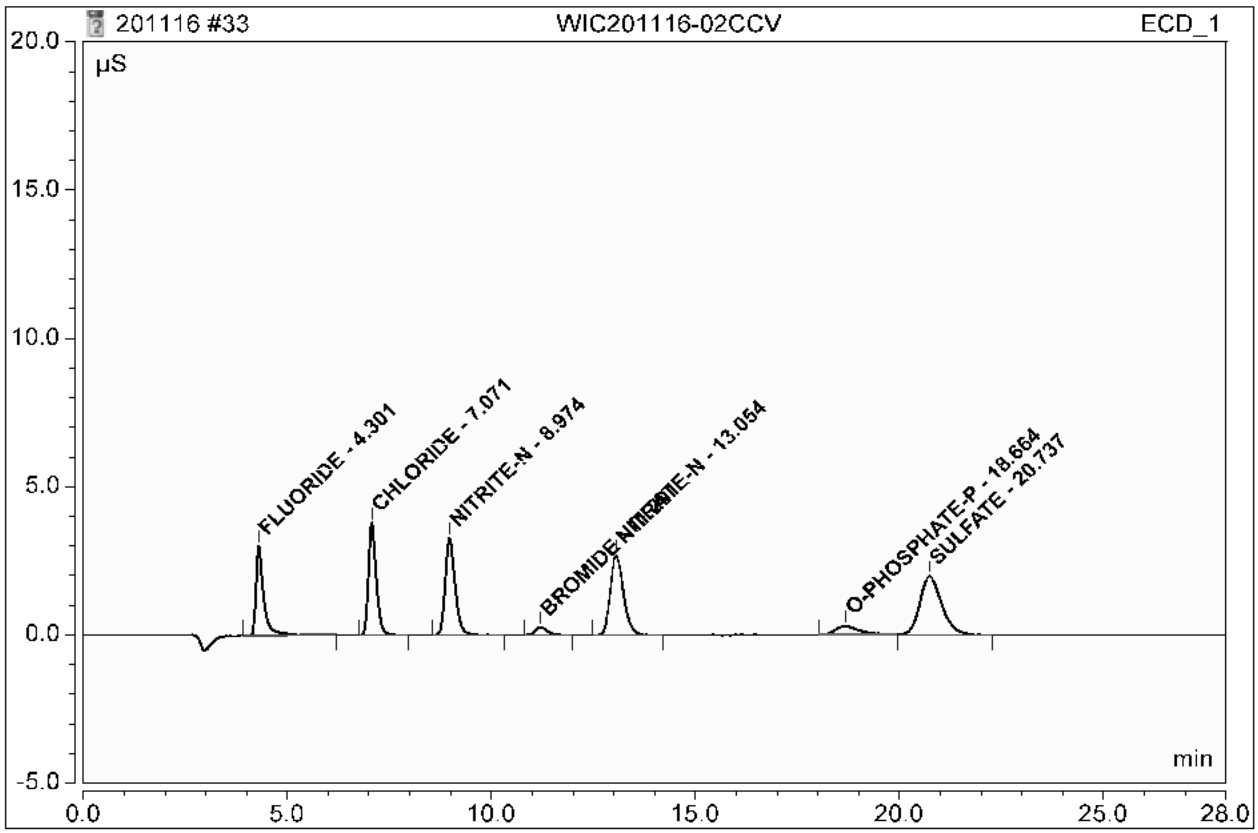
Sample Name:	**1204694600/2062981/200/3/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 17:52**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.3097		0.62465	2.56
2	7.16	CHLORIDE	n.a.	108.7050		19.48252	79.96
3	8.98	NITRITE-N	n.a.	2.3009		0.88009	3.61
4	11.20	BROMIDE	n.a.	1.4500		0.10291	0.42
5	13.05	NITRATE-N	n.a.	2.2920		0.97058	3.98
6	18.66	O-PHOSPHATE-P	n.a.	0.8756		0.19964	0.82
7	20.75	SULFATE	n.a.	16.3047		2.10640	8.64
Total:				134.2380	0.000	24.367	100.00

33 WIC201116-02CCV

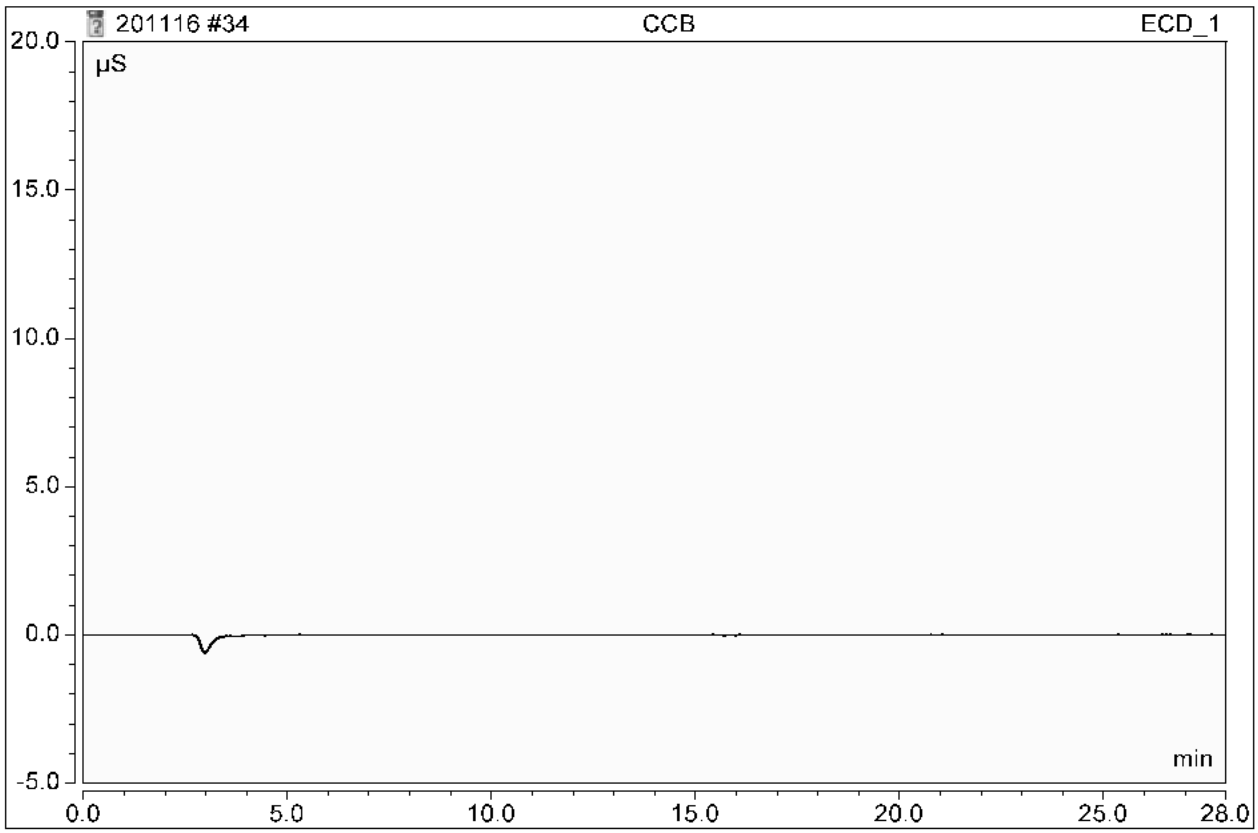
Sample Name:	**WIC201116-02CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 18:54**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.4178		0.65406	13.35
2	7.07	CHLORIDE	n.a.	4.6619		0.82406	16.82
3	8.97	NITRITE-N	n.a.	2.3657		0.90515	18.47
4	11.20	BROMIDE	n.a.	1.2163		0.08627	1.76
5	13.05	NITRATE-N	n.a.	2.3622		1.00061	20.42
6	18.66	O-PHOSPHATE-P	n.a.	0.8239		0.19136	3.91
7	20.74	SULFATE	n.a.	9.5738		1.23837	25.27
Total:				23.4215	0.000	4.900	100.00

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/16/2020 19:25**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



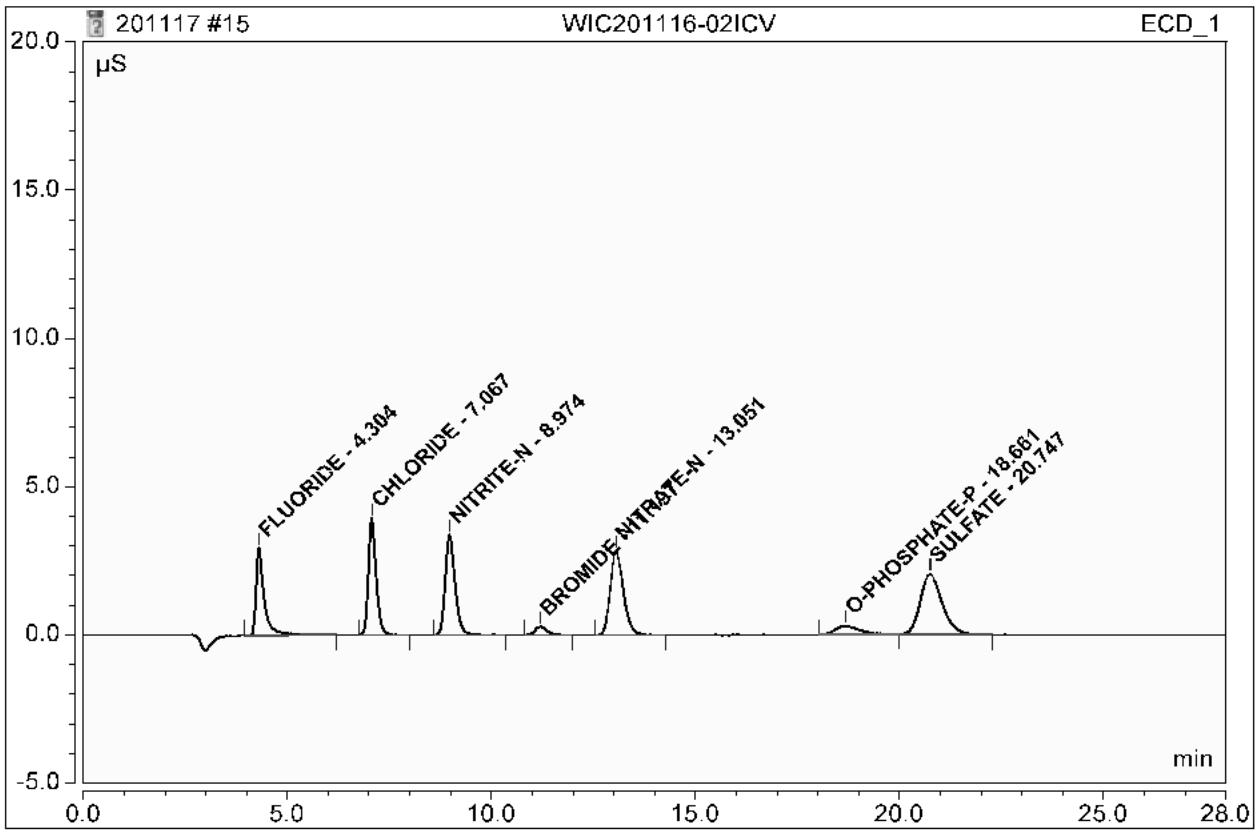
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 201117.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	11/17/20 07:54		1	201117	LXA2
ICV	11/17/20 08:24		1	201117	LXA2
ICB	11/17/20 08:55		1	201117	LXA2
527509002	11/17/20 10:45	2062981	200	201117	LXA2
1204694599	11/17/20 11:16	2062981	200	201117	LXA2
1204694600	11/17/20 11:47	2062981	200	201117	LXA2
CVH	11/17/20 12:17		1	201117	LXA2
CCB	11/17/20 12:48		1	201117	LXA2
527512005	11/17/20 14:35	10000	3	201117	LXA2
527513002	11/17/20 15:05	20000	3	201117	LXA2
527513004	11/17/20 15:36	20000	3	201117	LXA2
527513006	11/17/20 16:07	5000	2	201117	LXA2
CCV	11/17/20 16:38		1	201117	LXA2
CCB	11/17/20 17:08		1	201117	LXA2
527593020	11/17/20 17:44	2063976	1	201117	LXA2
527593021	11/17/20 18:15	2063976	1	201117	LXA2
527655001	11/17/20 18:46	2063976	1	201117	LXA2
527655002	11/17/20 19:17	2063976	200	201117	LXA2
527655003	11/17/20 19:47	2063976	200	201117	LXA2
527508001	11/17/20 20:18	2063976	1	201117	LXA2
1204697019	11/17/20 20:49	2063976	1	201117	LXA2
1204697020	11/17/20 21:20	2063976	1	201117	LXA2
1204697017	11/17/20 21:51	2063976	1	201117	LXA2
1204697018	11/17/20 22:22	2063976	1	201117	LXA2
CVH	11/17/20 22:53		1	201117	LXA2
CCB	11/17/20 23:24		1	201117	LXA2
527512005	11/17/20 23:55	2062981	10000	201117	LXA2

15 WIC201116-02ICV

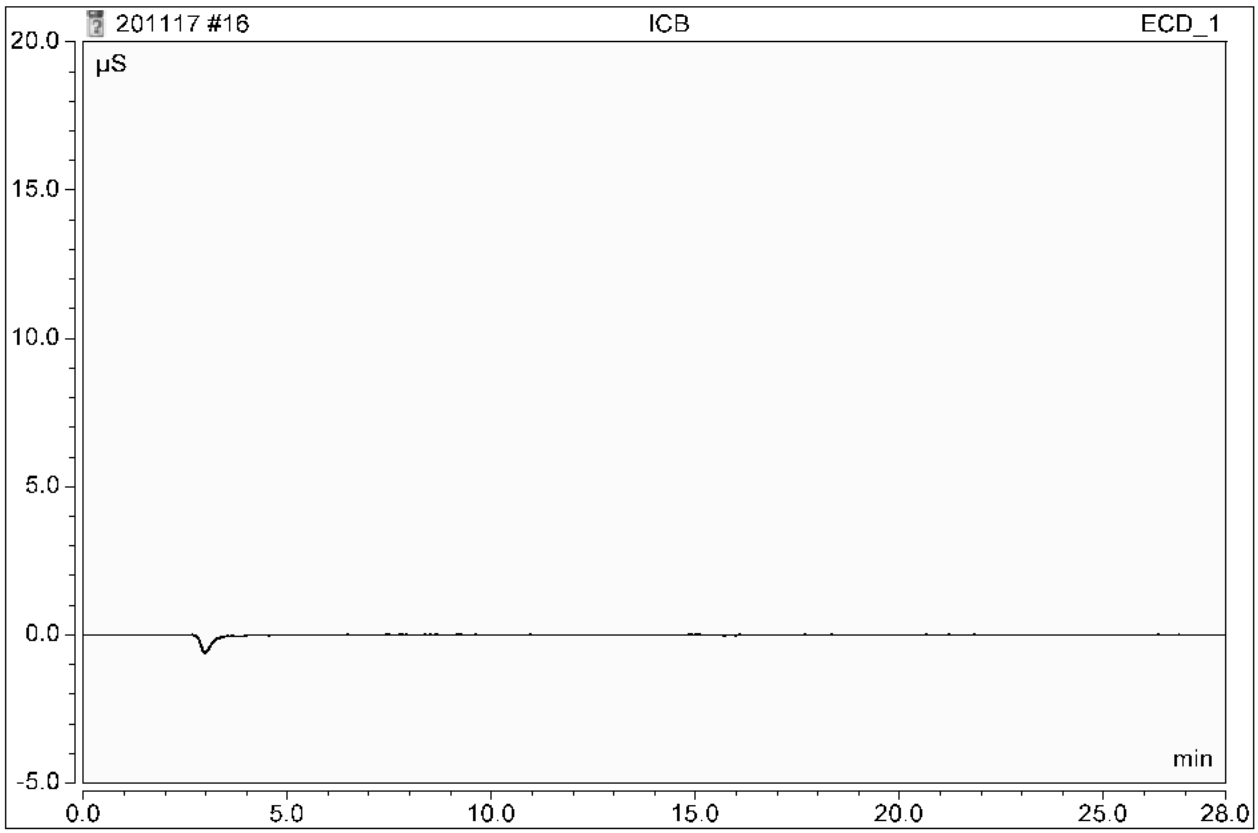
Sample Name:	**WIC201116-02ICV**	*Injection Volume:*	**5000.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 8:24**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.5028		0.67718	13.36
2	7.07	CHLORIDE	n.a.	4.8108		0.85076	16.78
3	8.97	NITRITE-N	n.a.	2.4351		0.93200	18.38
4	11.20	BROMIDE	n.a.	1.2430		0.08817	1.74
5	13.05	NITRATE-N	n.a.	2.4585		1.04186	20.55
6	18.66	O-PHOSPHATE-P	n.a.	0.8665		0.19819	3.91
7	20.75	SULFATE	n.a.	9.9067		1.28130	25.27
Total:				24.2234	0.000	5.069	100.00

16 ICB

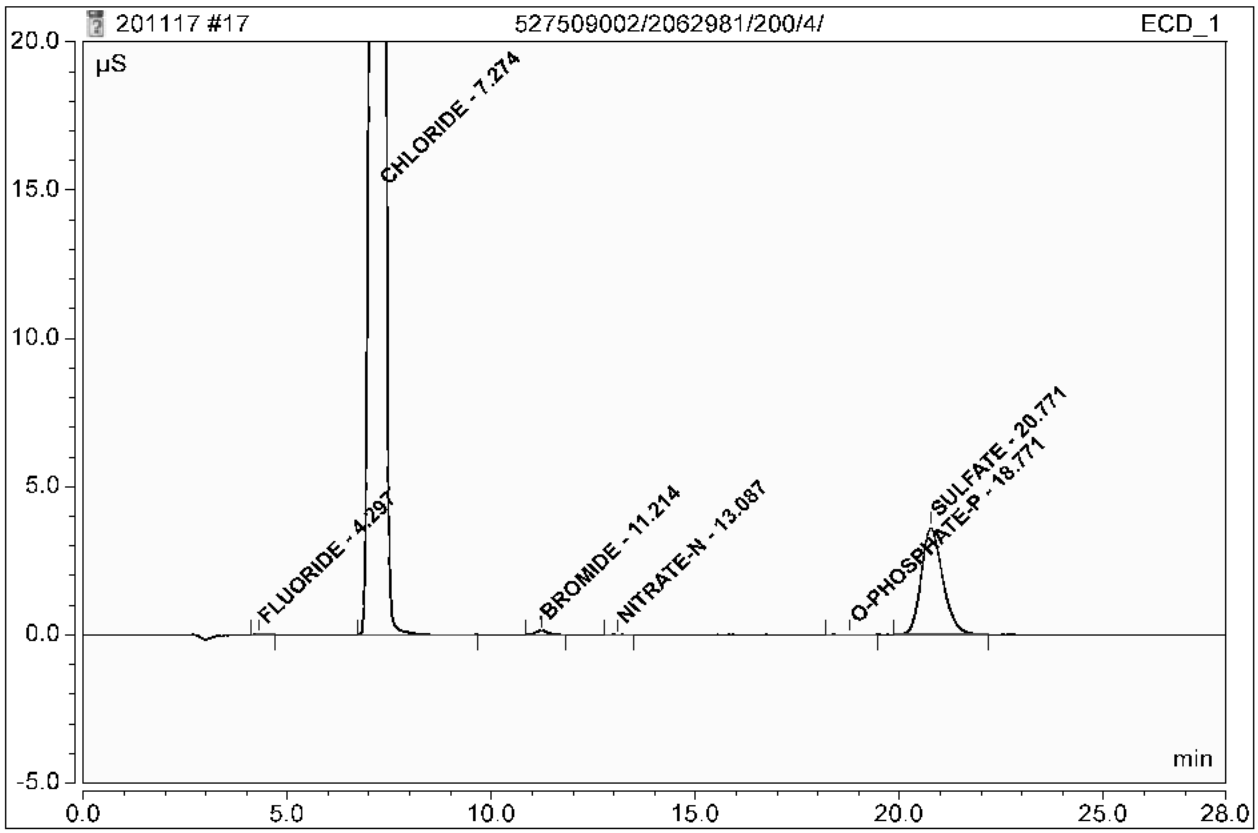
Sample Name:	**ICB**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 8:55**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

17 527509002/2062981/200/4/

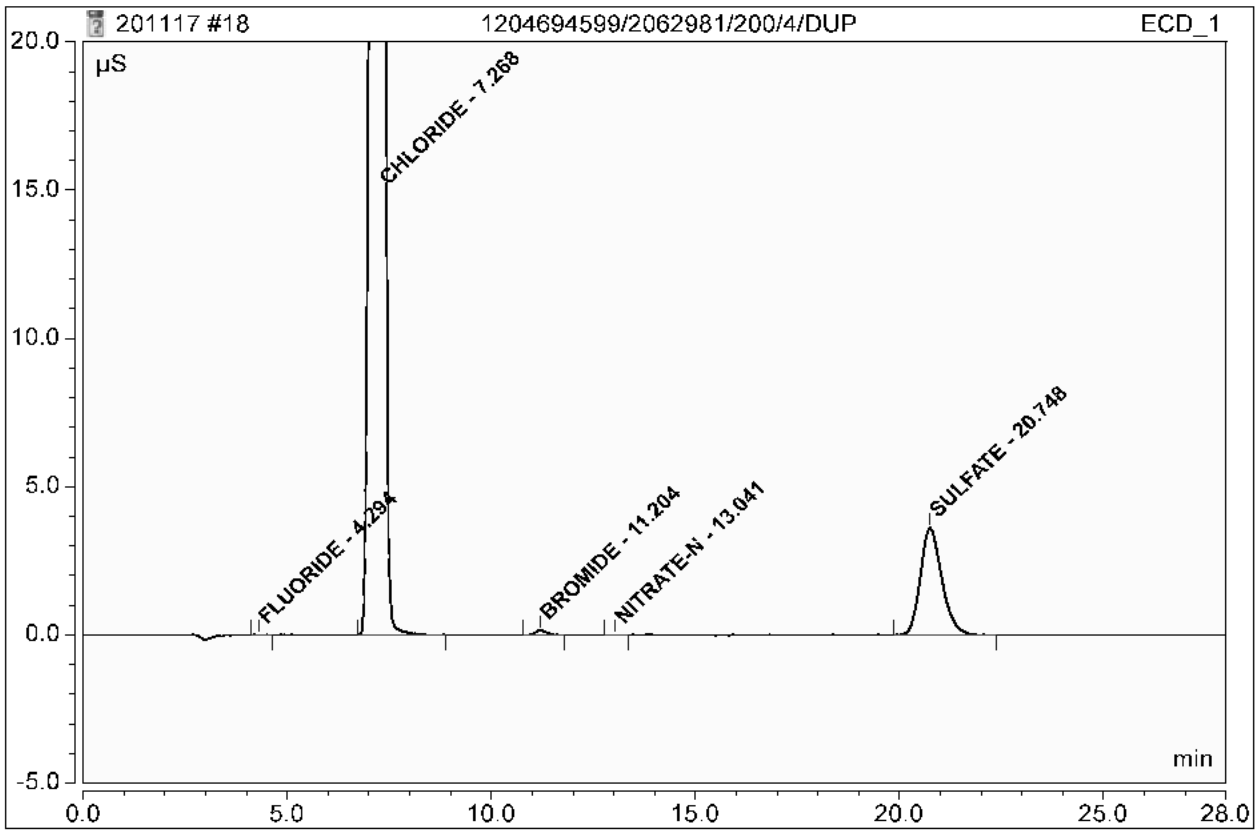
Sample Name:	**527509002/2062981/200/4/**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 10:45**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	0.0245		0.00310	0.01
2	7.27	CHLORIDE	n.a.	274.9938		49.30374	95.63
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.21	BROMIDE	n.a.	0.6441		0.04554	0.09
4	13.09	NITRATE-N	n.a.	0.0280		0.00133	0.00
5	18.77	O-PHOSPHATE-P	n.a.	n.a.		0.00458	0.01
6	20.77	SULFATE	n.a.	17.0294		2.19986	4.27
Total:				292.7198	0.000	51.558	100.00

18 1204694599/2062981/200/4/DUP

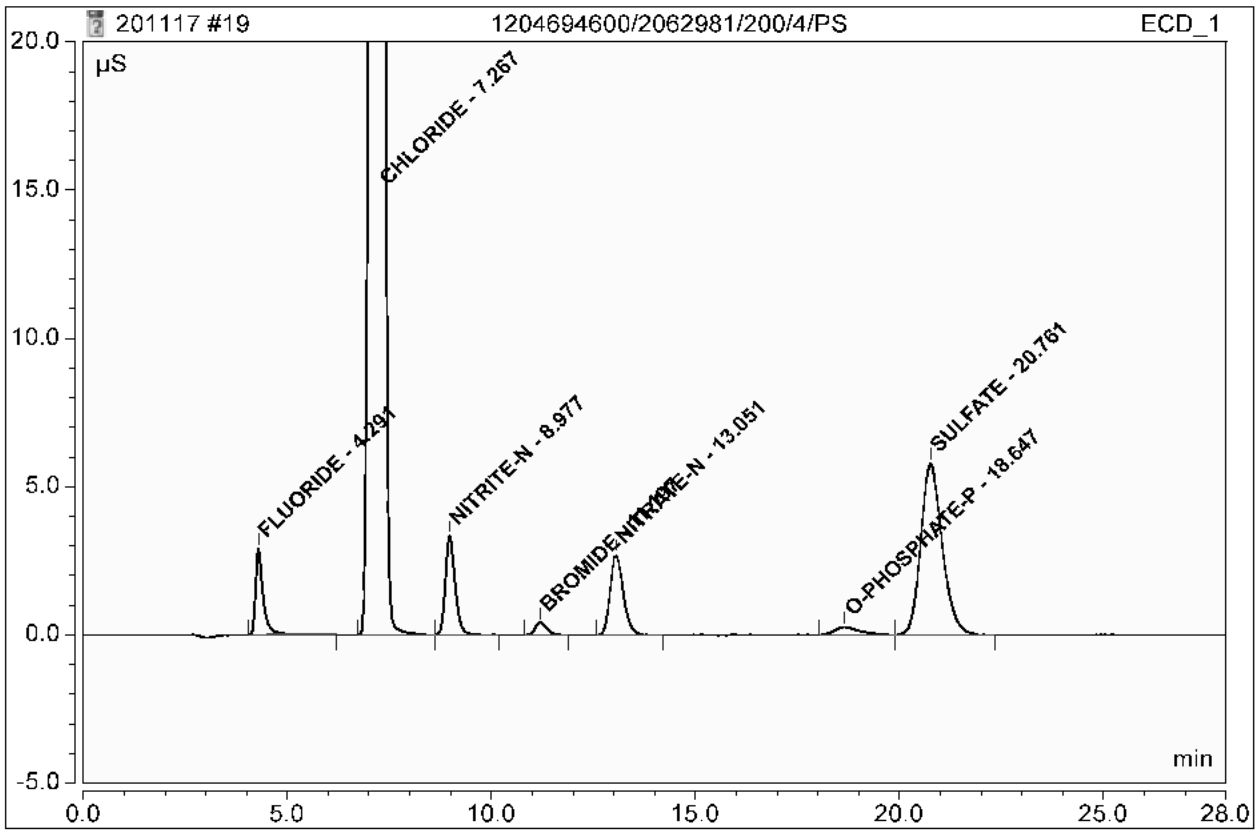
Sample Name:	**1204694599/2062981/200/4/DUP**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 11:16**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	0.0233		0.00278	0.01
2	7.27	CHLORIDE	n.a.	274.4562		49.20733	95.63
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
3	11.20	BROMIDE	n.a.	0.6487		0.04587	0.09
4	13.04	NITRATE-N	n.a.	0.0276		0.00116	0.00
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
5	20.75	SULFATE	n.a.	17.0210		2.19877	4.27
Total:				292.1768	0.000	51.456	100.00

19 1204694600/2062981/200/4/PS

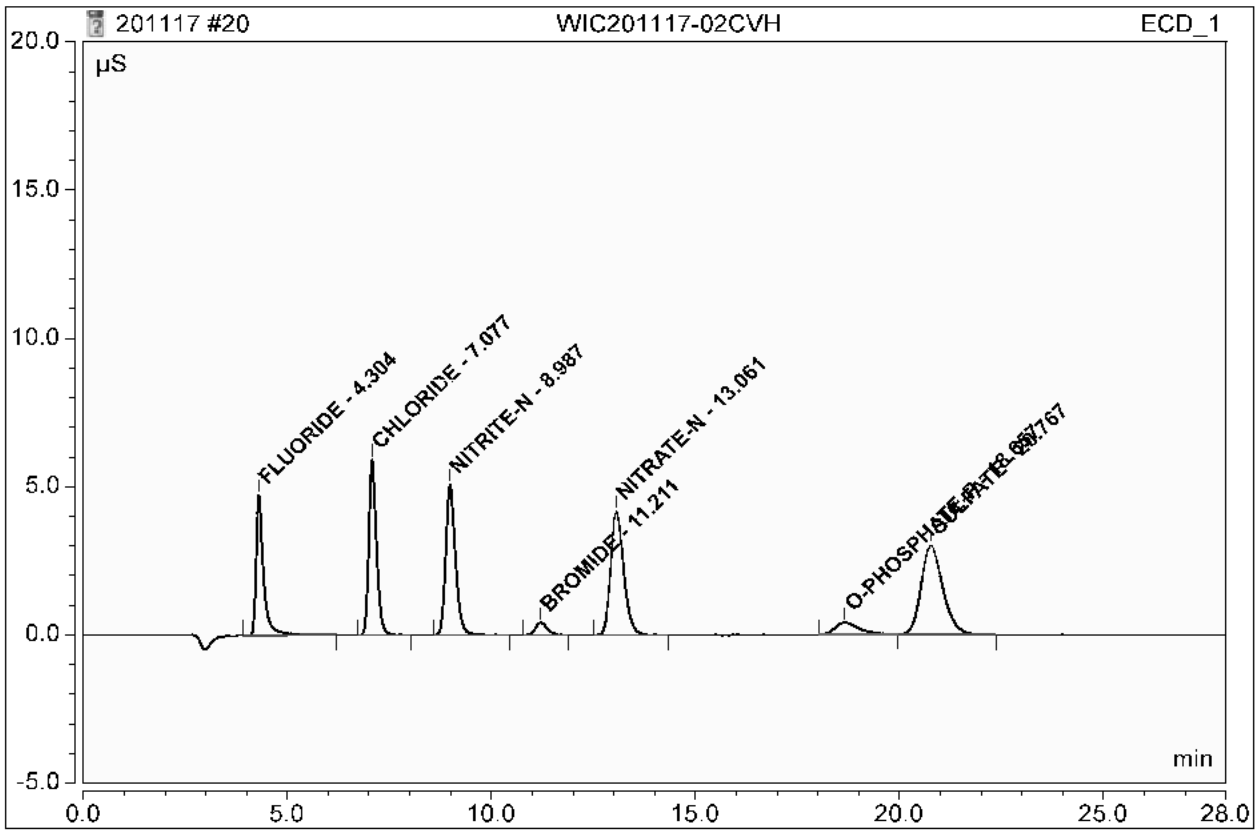
Sample Name:	**1204694600/2062981/200/4/PS**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 11:47**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.29	FLUORIDE	n.a.	2.3365		0.63193	1.12
2	7.27	CHLORIDE	n.a.	279.0131		50.02453	88.69
3	8.98	NITRITE-N	n.a.	2.3743		0.90849	1.61
4	11.20	BROMIDE	n.a.	1.8600		0.13209	0.23
5	13.05	NITRATE-N	n.a.	2.3665		1.00247	1.78
6	18.65	O-PHOSPHATE-P	n.a.	0.7884		0.18569	0.33
7	20.76	SULFATE	n.a.	27.2563		3.51875	6.24
Total:				315.9950	0.000	56.404	100.00

20 WIC201117-02CVH

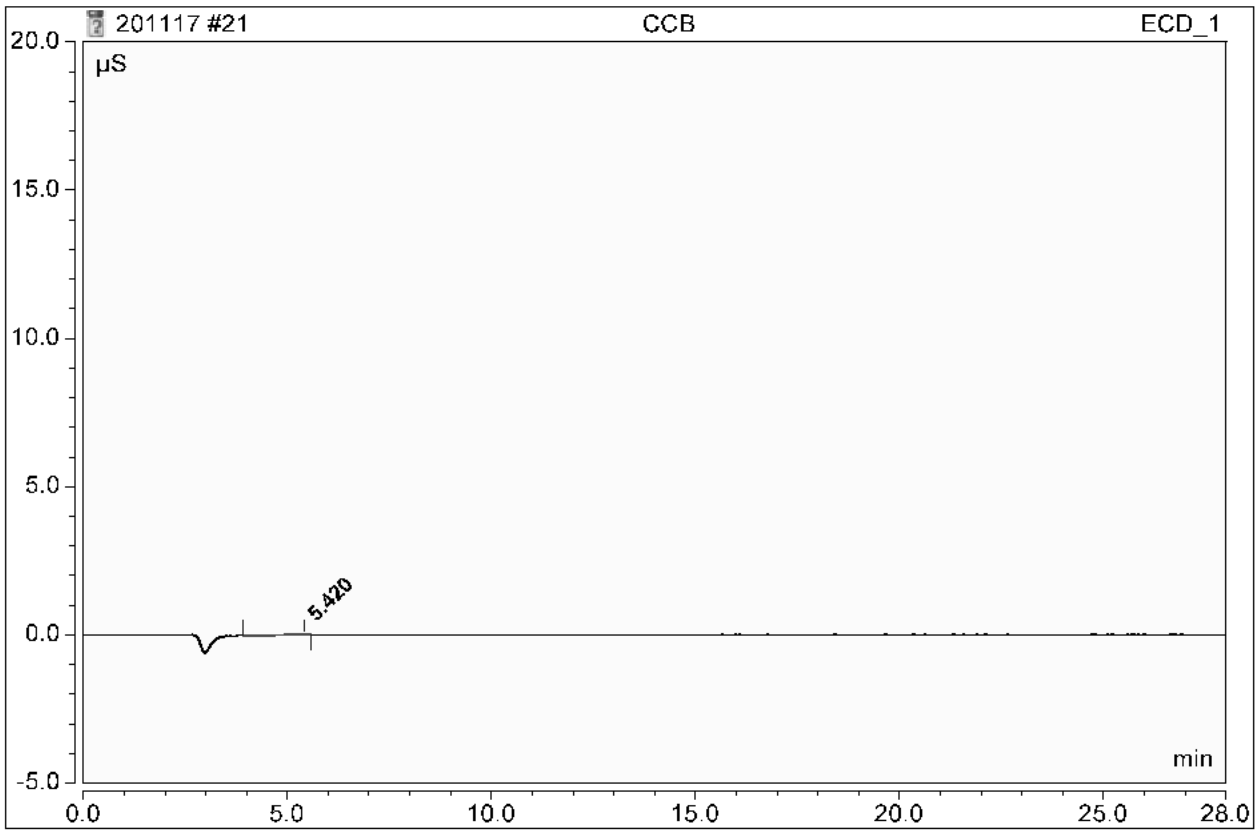
Sample Name:	**WIC201117-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 12:17**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.6105		0.97846	13.16
2	7.08	CHLORIDE	n.a.	7.1470		1.26973	17.08
3	8.99	NITRITE-N	n.a.	3.6097		1.38661	18.65
4	11.21	BROMIDE	n.a.	1.8465		0.13113	1.76
5	13.06	NITRATE-N	n.a.	3.6140		1.53655	20.67
6	18.66	O-PHOSPHATE-P	n.a.	1.3043		0.26819	3.61
7	20.77	SULFATE	n.a.	14.4278		1.86434	25.08
Total:				35.5597	0.000	7.435	100.00

21 CCB

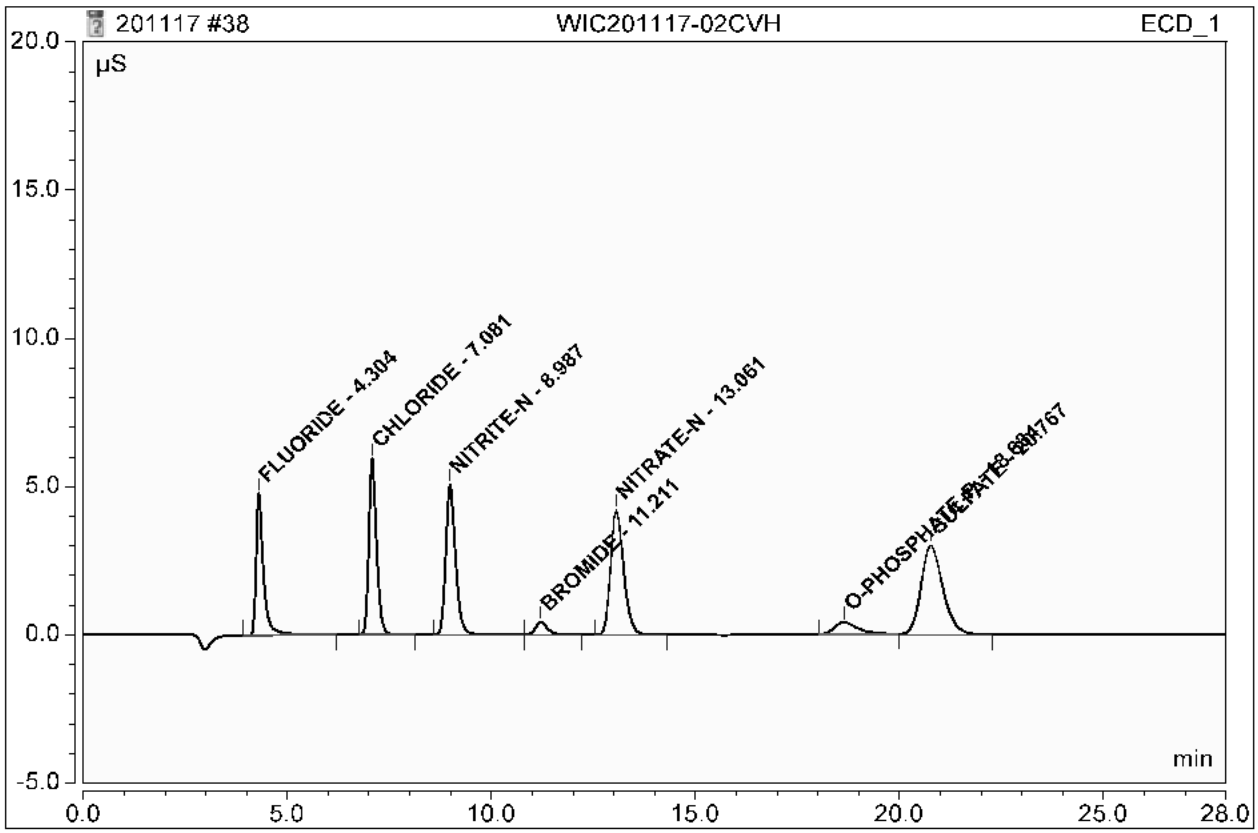
Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 12:48**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

38 WIC201117-02CVH

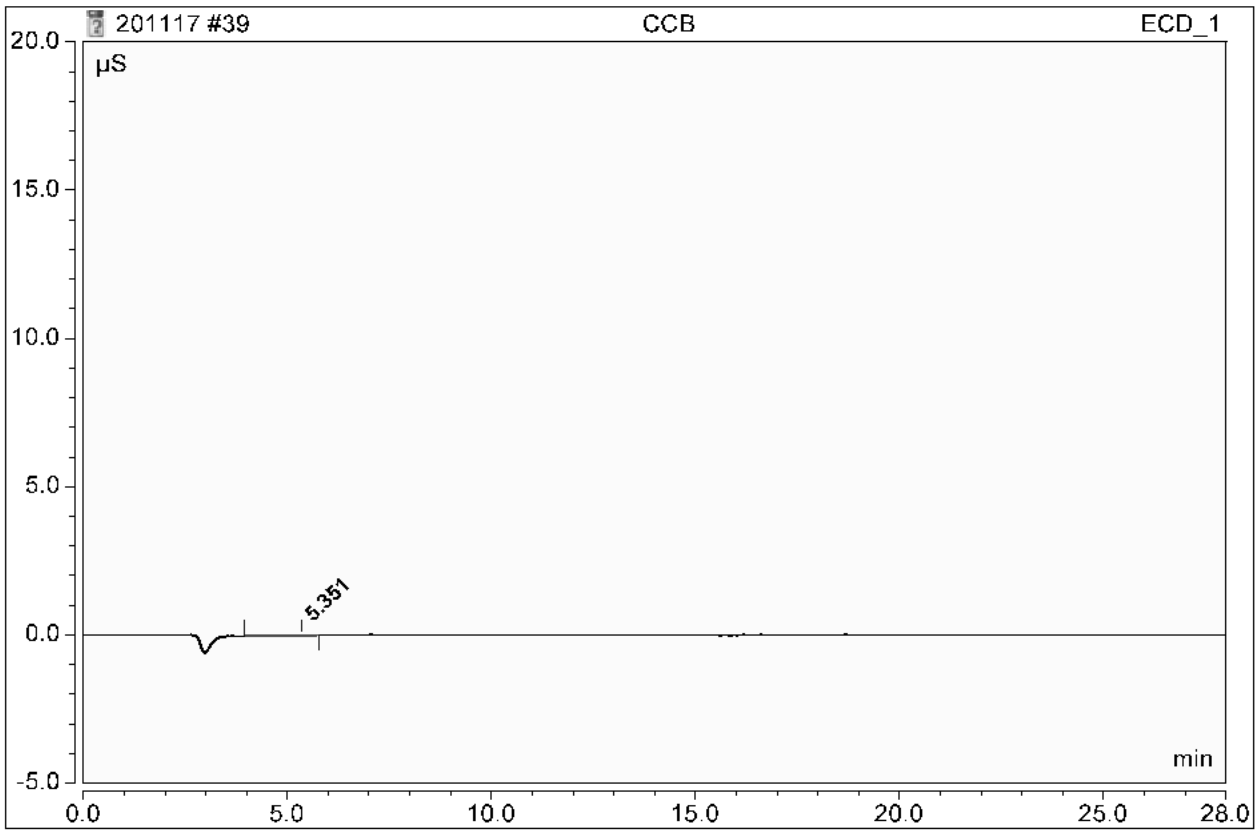
Sample Name:	**WIC201117-02CVH**	*Injection Volume:*	**5000.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 22:53**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	3.6446		0.98774	13.18
2	7.08	CHLORIDE	n.a.	7.2361		1.28571	17.15
3	8.99	NITRITE-N	n.a.	3.6342		1.39609	18.62
4	11.21	BROMIDE	n.a.	1.9191		0.13630	1.82
5	13.06	NITRATE-N	n.a.	3.6362		1.54606	20.62
6	18.63	O-PHOSPHATE-P	n.a.	1.3214		0.27093	3.61
7	20.77	SULFATE	n.a.	14.5013		1.87383	25.00
Total:				35.8929	0.000	7.497	100.00

39 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/17/2020 23:24**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



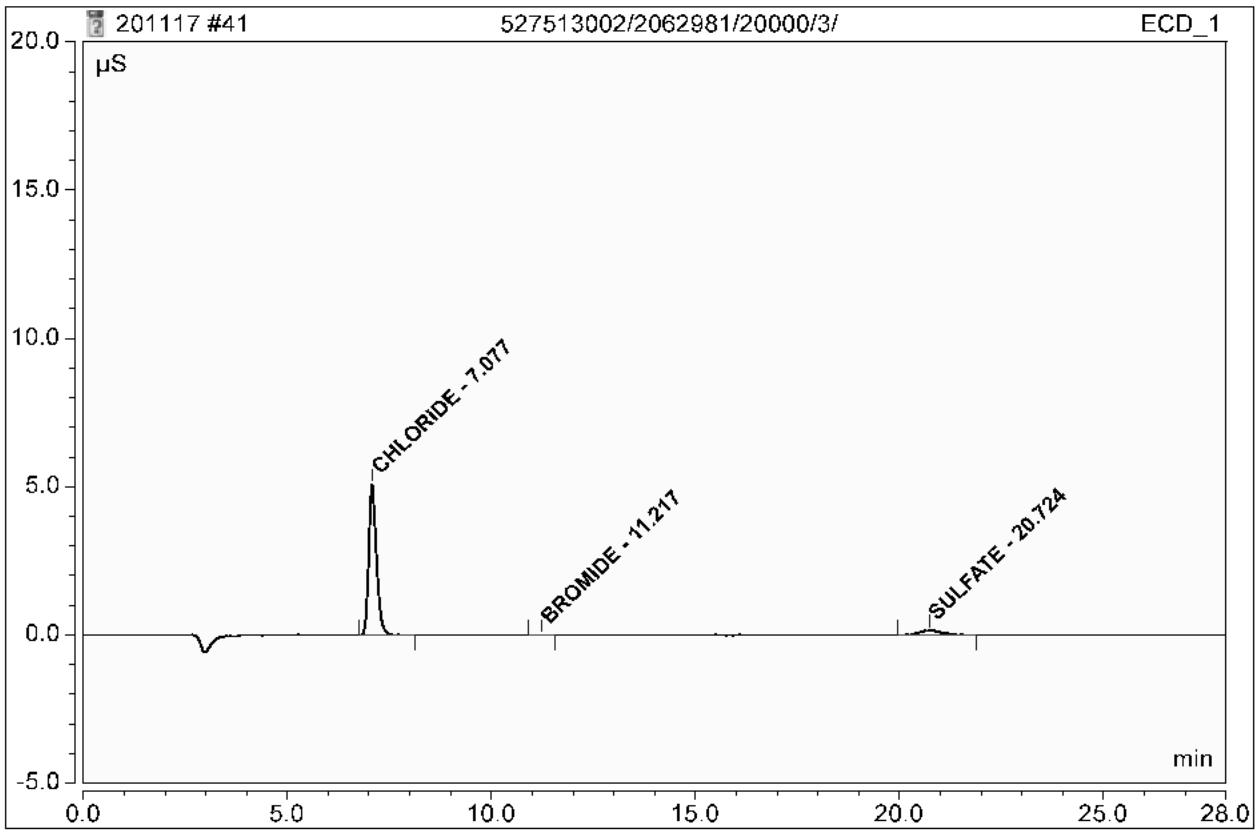
No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 201117.seq for IC12

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
527513002	11/18/20 00:26	2062981	20000	201117	LXA2
527513004	11/18/20 00:56	2062981	20000	201117	LXA2
527513006	11/18/20 01:27	2062981	5000	201117	LXA2
CCV	11/18/20 01:58	1		201117	LXA2
CCB	11/18/20 02:29	1		201117	LXA2

41 527513002/2062981/20000/3/

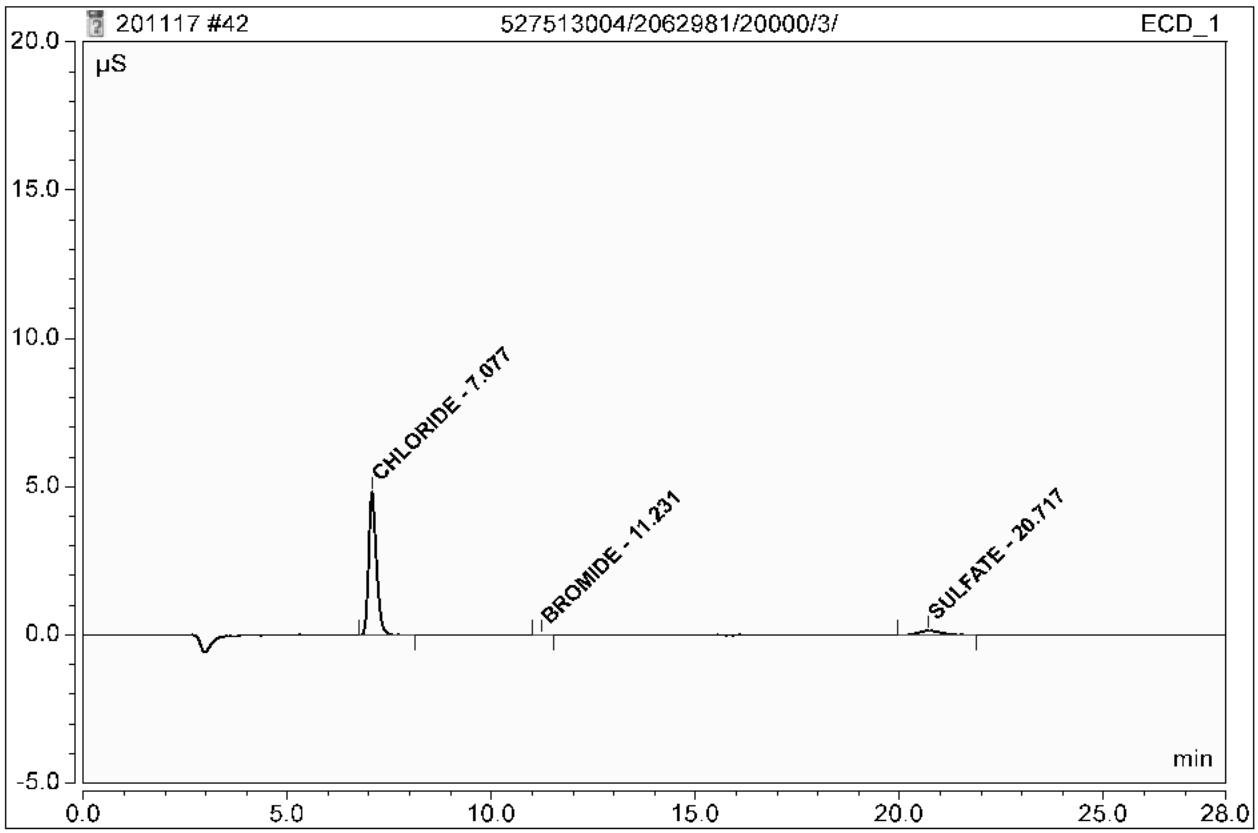
Sample Name:	**527513002/2062981/20000/3/**	*Injection Volume:*	**5000.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/18/2020 0:26**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.08	CHLORIDE	n.a.	6.2058		1.10093	92.17
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.22	BROMIDE	n.a.	0.0267		0.00159	0.13
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.72	SULFATE	n.a.	0.6839		0.09189	7.69
Total:				6.9164	0.000	1.194	100.00

42 527513004/2062981/20000/3/

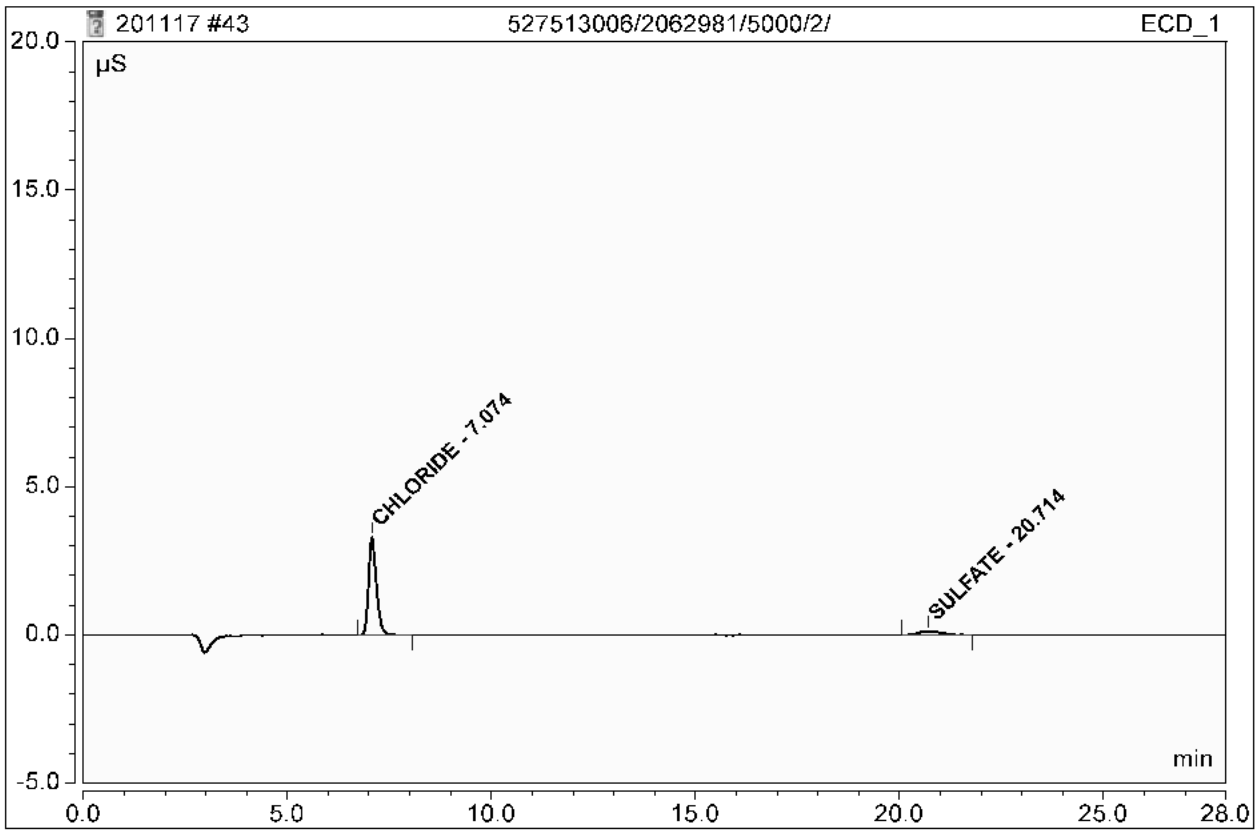
Sample Name:	**527513004/2062981/20000/3/**	*Injection Volume:*	**5000.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/18/2020 0:56**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.08	CHLORIDE	n.a.	5.9073		1.04739	92.11
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
2	11.23	BROMIDE	n.a.	0.0215		0.00122	0.11
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	20.72	SULFATE	n.a.	0.6571		0.08844	7.78
Total:				6.5859	0.000	1.137	100.00

43 527513006/2062981/5000/2/

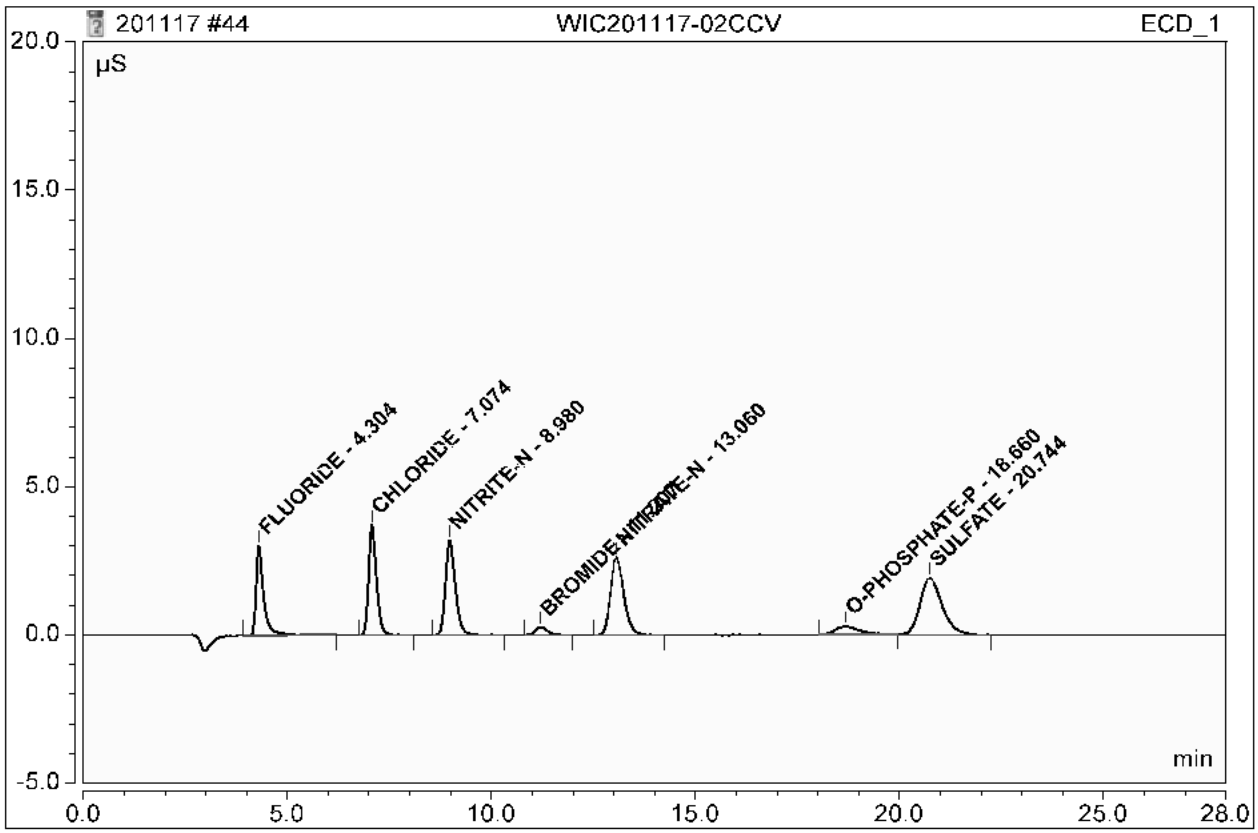
Sample Name:	**527513006/2062981/5000/2/**	*Injection Volume:*	**5000.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/18/2020 1:27**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
1	7.07	CHLORIDE	n.a.	4.1021		0.72368	90.72
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
2	20.71	SULFATE	n.a.	0.5455		0.07405	9.28
Total:				4.6476	0.000	0.798	100.00

44 WIC201117-02CCV

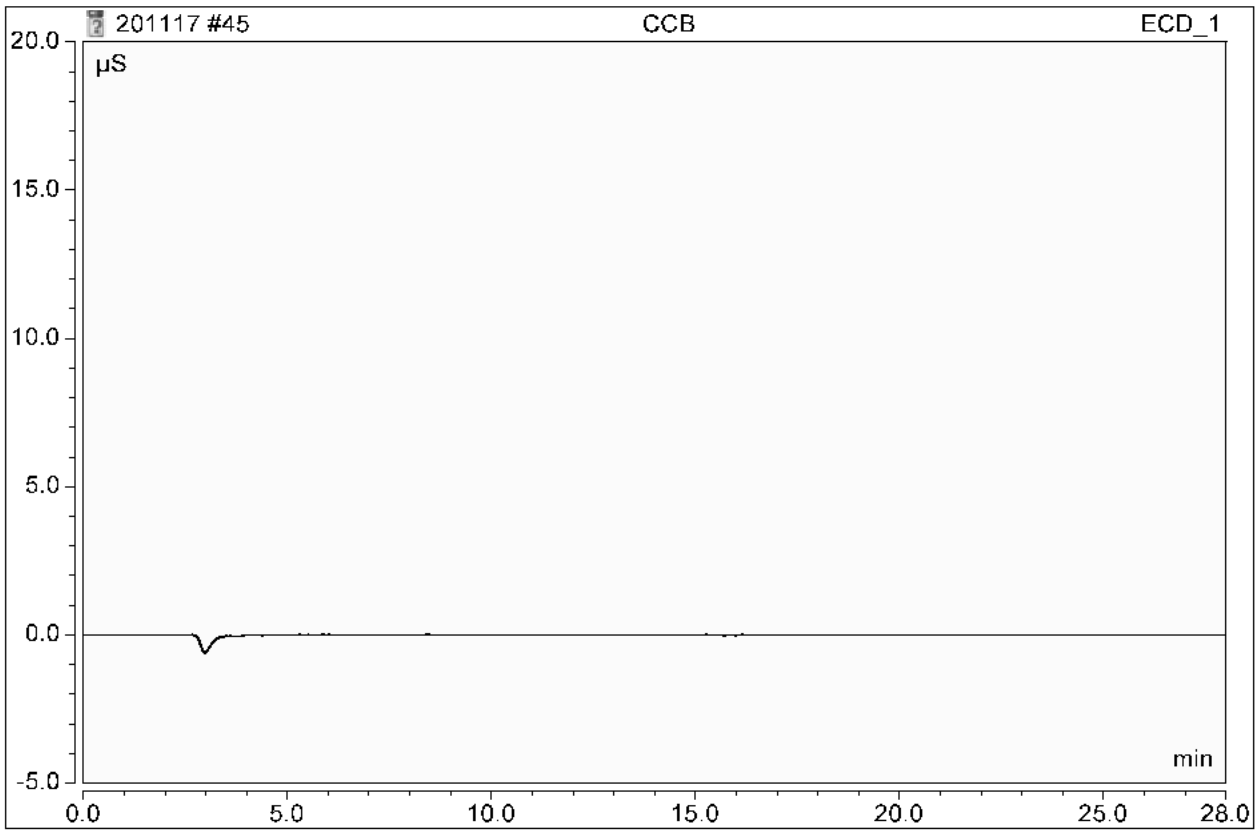
Sample Name:	**WIC201117-02CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/18/2020 1:58**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
1	4.30	FLUORIDE	n.a.	2.3679		0.64049	13.39
2	7.07	CHLORIDE	n.a.	4.5905		0.81126	16.95
3	8.98	NITRITE-N	n.a.	2.3052		0.88176	18.43
4	11.21	BROMIDE	n.a.	1.1980		0.08497	1.78
5	13.06	NITRATE-N	n.a.	2.2994		0.97375	20.35
6	18.66	O-PHOSPHATE-P	n.a.	0.7833		0.18488	3.86
7	20.74	SULFATE	n.a.	9.3370		1.20783	25.24
Total:				22.8815	0.000	4.785	100.00

45 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Control Program:	**AS23**	*Sample Weight:*	**1.0000**
Quantif. Method:	**201007an**	*Sample Amount:*	**1.0000**
Recording Time:	**11/18/2020 2:29**	Analyst:	**n.a.**
Run Time (min):	**28.00**	Column:	**AS23-001528;GLGCE086;300;9056**



No.	Ret.Time min	Peak Name	Concentration	Amount	Modified?	Area µS*min	Rel.Area %
n.a.	n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRITE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	BROMIDE	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	NITRATE-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-PHOSPHATE-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

Nitrate Nitrite by Cadmium Reduction Raw Data

This is runlog lachat3

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
1.5 ppm		1	AXH3	11/16/2020 8:07:59	OM_11-16-2020_08-06-59
1.0 ppm		1	AXH3	11/16/2020 8:09:11	OM_11-16-2020_08-06-59
0.5 ppm		1	AXH3	11/16/2020 8:10:23	OM_11-16-2020_08-06-59
0.1 ppm		1	AXH3	11/16/2020 8:11:35	OM_11-16-2020_08-06-59
0.05 ppm		1	AXH3	11/16/2020 8:12:47	OM_11-16-2020_08-06-59
0.02 ppm		1	AXH3	11/16/2020 8:14:00	OM_11-16-2020_08-06-59
ICAL-00		1	AXH3	11/16/2020 8:15:13	OM_11-16-2020_08-06-59
1.0 ppm ICV		1	AXH3	11/16/2020 8:17:34	OM_11-16-2020_08-06-59
ICB		1	AXH3	11/16/2020 8:19:55	OM_11-16-2020_08-06-59
Nitrate 1.0 ppm		1	AXH3	11/16/2020 8:22:14	OM_11-16-2020_08-06-59
Nitrite 1.0 ppm		1	AXH3	11/16/2020 8:24:33	OM_11-16-2020_08-06-59
1204691053	2061299	1	AXH3	11/16/2020 8:26:54	OM_11-16-2020_08-06-59
1204691054	2061299	1	AXH3	11/16/2020 8:28:06	OM_11-16-2020_08-06-59
526834001	2061299	10	AXH3	11/16/2020 8:29:18	OM_11-16-2020_08-06-59
1204691055	2061299	10	AXH3	11/16/2020 8:30:30	OM_11-16-2020_08-06-59
1204691057	2061299	10	AXH3	11/16/2020 8:31:41	OM_11-16-2020_08-06-59
526834003	2061299	1	AXH3	11/16/2020 8:32:53	OM_11-16-2020_08-06-59
526837003	2061299	1	AXH3	11/16/2020 8:34:05	OM_11-16-2020_08-06-59
1204691056	2061299	1	AXH3	11/16/2020 8:35:16	OM_11-16-2020_08-06-59
1204691058	2061299	1	AXH3	11/16/2020 8:36:28	OM_11-16-2020_08-06-59
526982001	2061299	25	AXH3	11/16/2020 8:37:39	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 8:38:50	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 8:41:11	OM_11-16-2020_08-06-59
526982004	2061299	10	AXH3	11/16/2020 8:43:30	OM_11-16-2020_08-06-59
526982008	2061299	10	AXH3	11/16/2020 8:44:41	OM_11-16-2020_08-06-59
527003003	2061299	1	AXH3	11/16/2020 8:45:52	OM_11-16-2020_08-06-59
1204692160	2061299	1	AXH3	11/16/2020 8:47:03	OM_11-16-2020_08-06-59
1204692162	2061299	1	AXH3	11/16/2020 8:48:13	OM_11-16-2020_08-06-59
527003011	2061299	1	AXH3	11/16/2020 8:49:26	OM_11-16-2020_08-06-59
527062001	2061299	50	AXH3	11/16/2020 8:50:38	OM_11-16-2020_08-06-59
1204692161	2061299	50	AXH3	11/16/2020 8:51:50	OM_11-16-2020_08-06-59
1204692163	2061299	50	AXH3	11/16/2020 8:53:01	OM_11-16-2020_08-06-59
527171001	2061299	1	AXH3	11/16/2020 8:54:13	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 8:55:25	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 8:57:45	OM_11-16-2020_08-06-59
1204693489	2061299	1	AXH3	11/16/2020 9:00:05	OM_11-16-2020_08-06-59
1204693490	2061299	1	AXH3	11/16/2020 9:01:17	OM_11-16-2020_08-06-59
527171004	2061299	5	AXH3	11/16/2020 9:02:28	OM_11-16-2020_08-06-59
527171007	2061299	1	AXH3	11/16/2020 9:03:40	OM_11-16-2020_08-06-59
527228003	2061299	1	AXH3	11/16/2020 9:04:51	OM_11-16-2020_08-06-59
1204692168	2061893	1	AXH3	11/16/2020 9:06:02	OM_11-16-2020_08-06-59
1204692169	2061893	1	AXH3	11/16/2020 9:07:13	OM_11-16-2020_08-06-59
527016004	2061893	10	AXH3	11/16/2020 9:08:24	OM_11-16-2020_08-06-59
1204692170	2061893	10	AXH3	11/16/2020 9:09:34	OM_11-16-2020_08-06-59
1204692171	2061893	10	AXH3	11/16/2020 9:10:45	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 9:11:56	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 9:14:17	OM_11-16-2020_08-06-59
527083002	2061893	5	AXH3	11/16/2020 9:16:37	OM_11-16-2020_08-06-59
527083006	2061893	5	AXH3	11/16/2020 9:17:49	OM_11-16-2020_08-06-59
527083010	2061893	1	AXH3	11/16/2020 9:19:01	OM_11-16-2020_08-06-59
1204692164	2061892	1	AXH3	11/16/2020 9:20:12	OM_11-16-2020_08-06-59
1204692165	2061892	1	AXH3	11/16/2020 9:21:25	OM_11-16-2020_08-06-59
526974001	2061892	1	AXH3	11/16/2020 9:22:36	OM_11-16-2020_08-06-59
1204692166	2061892	1	AXH3	11/16/2020 9:23:48	OM_11-16-2020_08-06-59
1204692167	2061892	1	AXH3	11/16/2020 9:24:59	OM_11-16-2020_08-06-59
526974002	2061892	1	AXH3	11/16/2020 9:26:11	OM_11-16-2020_08-06-59
1204695092	2063130	1	AXH3	11/16/2020 9:27:22	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 9:28:33	OM_11-16-2020_08-06-59

CCB		1	AXH3	11/16/2020 9:30:54	OM_11-16-2020_08-06-59
1204695093	2063130	1	AXH3	11/16/2020 9:33:13	OM_11-16-2020_08-06-59
527300003	2063130	1	AXH3	11/16/2020 9:34:24	OM_11-16-2020_08-06-59
1204695096	2063130	1	AXH3	11/16/2020 9:35:35	OM_11-16-2020_08-06-59
1204695099	2063130	1	AXH3	11/16/2020 9:36:45	OM_11-16-2020_08-06-59
527489001	2063130	1	AXH3	11/16/2020 9:37:56	OM_11-16-2020_08-06-59
527489004	2063130	5	AXH3	11/16/2020 9:39:08	OM_11-16-2020_08-06-59
527489007	2063130	10	AXH3	11/16/2020 9:40:21	OM_11-16-2020_08-06-59
527493001	2063130	25	AXH3	11/16/2020 9:41:32	OM_11-16-2020_08-06-59
1204695095	2063130	25	AXH3	11/16/2020 9:42:44	OM_11-16-2020_08-06-59
1204695098	2063130	25	AXH3	11/16/2020 9:43:56	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 9:45:07	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 9:47:28	OM_11-16-2020_08-06-59
527497001	2063130	1	AXH3	11/16/2020 9:49:48	OM_11-16-2020_08-06-59
527501001	2063130	5	AXH3	11/16/2020 9:51:00	OM_11-16-2020_08-06-59
527501004	2063130	1	AXH3	11/16/2020 9:52:11	OM_11-16-2020_08-06-59
527501006	2063130	1	AXH3	11/16/2020 9:53:23	OM_11-16-2020_08-06-59
527509007	2063130	1	AXH3	11/16/2020 9:54:34	OM_11-16-2020_08-06-59
527511005	2063130	5	AXH3	11/16/2020 9:55:45	OM_11-16-2020_08-06-59
1204695094	2063130	5	AXH3	11/16/2020 9:56:56	OM_11-16-2020_08-06-59
1204695097	2063130	5	AXH3	11/16/2020 9:58:06	OM_11-16-2020_08-06-59
527511009	2063130	1	AXH3	11/16/2020 9:59:17	OM_11-16-2020_08-06-59
527511013	2063130	10	AXH3	11/16/2020 10:00:28	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 10:01:40	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 10:04:01	OM_11-16-2020_08-06-59
527512002	2063130	1	AXH3	11/16/2020 10:06:21	OM_11-16-2020_08-06-59
527512003	2063130	1	AXH3	11/16/2020 10:07:33	OM_11-16-2020_08-06-59
527512005	2063130	1	AXH3	11/16/2020 10:08:45	OM_11-16-2020_08-06-59
527513002	2063130	5	AXH3	11/16/2020 10:09:57	OM_11-16-2020_08-06-59
527513004	2063130	5	AXH3	11/16/2020 10:11:09	OM_11-16-2020_08-06-59
527513006	2063130	1	AXH3	11/16/2020 10:12:20	OM_11-16-2020_08-06-59
1204695100	2063131	1	AXH3	11/16/2020 10:13:32	OM_11-16-2020_08-06-59
1204695101	2063131	1	AXH3	11/16/2020 10:14:44	OM_11-16-2020_08-06-59
527290006	2063131	1	AXH3	11/16/2020 10:15:55	OM_11-16-2020_08-06-59
1204695102	2063131	1	AXH3	11/16/2020 10:17:06	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 10:18:17	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 10:20:38	OM_11-16-2020_08-06-59
1204695103	2063131	1	AXH3	11/16/2020 10:22:57	OM_11-16-2020_08-06-59
1.0 ppm CCV		1	AXH3	11/16/2020 10:25:15	OM_11-16-2020_08-06-59
CCB		1	AXH3	11/16/2020 10:27:36	OM_11-16-2020_08-06-59

Author: lachat Date : 11/16/2020

Original Run Filename: OM_11-16-2020_08-06-59.OMN created 11/16/2020 08:06:59
Original Run Author's Signature: [lachat]
Current Run Filename: OM_11-16-2020_08-06-59.OMN last modified 11/16/2020 10:28:58
Current Run Author's Signature: [lachat]
Description: EPA 353.2
Cadmium Colum AR1111A
LCS nominal 1.0 mg/L

Sample	Rep.	Cup No.	Channel 1 NO3 + NO2 Conc. (mg/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WTR201116-26	1	S9	1.50	14.5	11/16/2020@08:07:59			1.5 ppm
WTR201116-25	1	S10	1.00	9.83	11/16/2020@08:09:11			1.0 ppm
WTR201116-24	1	S11	0.500	4.99	11/16/2020@08:10:23			0.5 ppm
WTR201116-23	1	S12	0.100	1.03	11/16/2020@08:11:35			0.1 ppm
WTR201116-21	1	S13	0.0500	0.518	11/16/2020@08:12:47			0.05 ppm
WTR201116-20	1	S14	0.0200	0.228	11/16/2020@08:14:00			0.02 ppm
0.0ppm	1	S15	0.00	0.0116	11/16/2020@08:15:13			0.0 ppm
DQM Test: Minimum Correlation Coefficient								
Result:			0.99994 > 0.99500					
Message			Calibration Passed					
Action			Continue					
WTR201116-27 ICV	1	S16	1.01	9.88	11/16/2020@08:17:34			1.0 ppm ICV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.01 < 1.10					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			1.01 > 0.899					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
ICB	1	S15	-0.00457	0.0113	11/16/2020@08:19:55			ICB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.00457 < 0.0200					
Message			ICB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.00457 > -0.0200					
Message			ICB Passed					
Action			Continue					
WTR201116-22	1	S1	1.05	10.2	11/16/2020@08:22:14			Nitrate 1.0 ppm
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.05 < 1.10					
Message			Nitrate Standard Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			1.05 > 0.900					
Message			Nitrate Standard Passed					
Action			None					
WTR201116-28	1	S2	1.05	10.2	11/16/2020@08:24:33			Nitrite 1.0 ppm
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.05 < 1.10					
Message			Pass					
Action			None					
DQM Test: < - Concentration Limit								
Result:			1.05 > 0.900					
Message			Nitrite Standard Passed					
Action			Continue					
1204691053|2061299|MB	1	1	-0.00445	0.0125	11/16/2020@08:26:54			
1204691054||LCS	1	2	0.989	9.64	11/16/2020@08:28:06			
526834001	1	3	0.214	2.13	11/16/2020@08:29:18		10.00	
1204691055||DUP	1	4	0.212	2.11	11/16/2020@08:30:30		10.00	

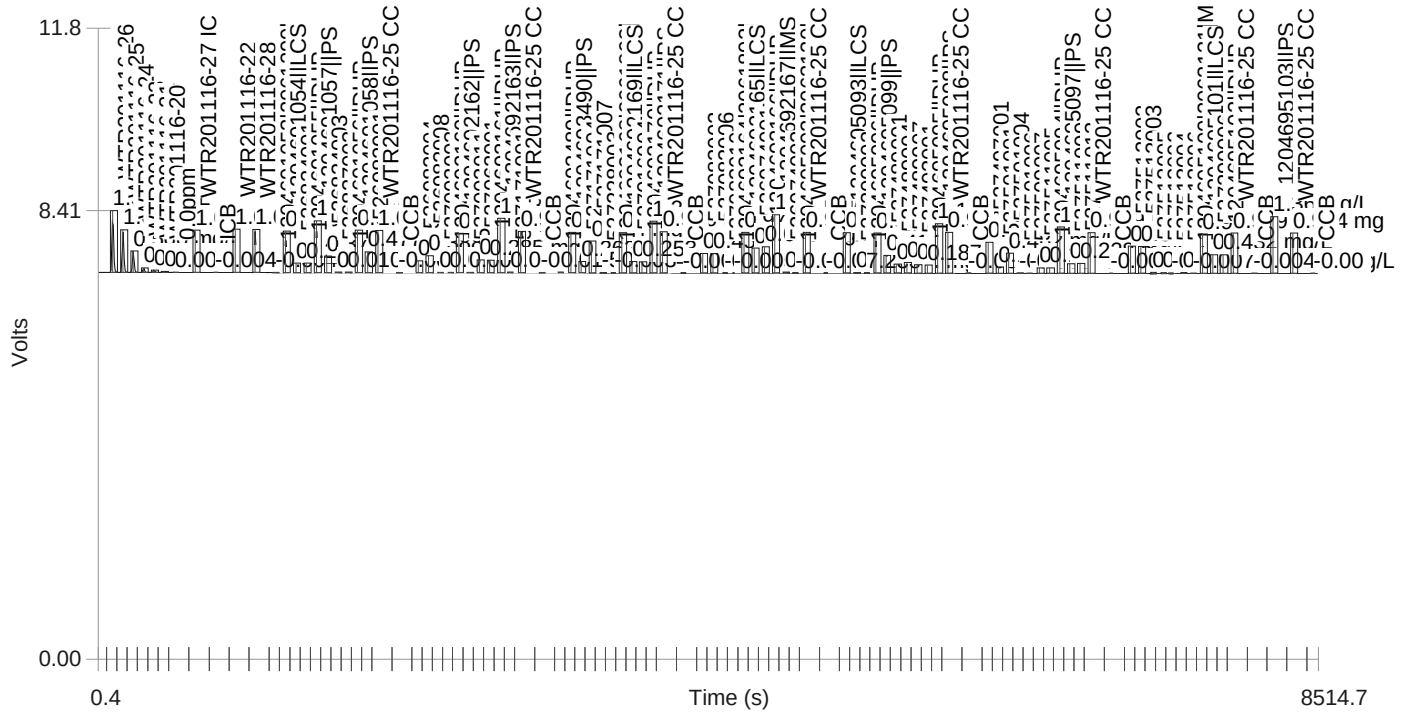
1204691057||PS	1	5	1.21	11.8	11/16/2020@08:31:41		10.00	
526834003	1	6	0.379	3.73	11/16/2020@08:32:53			
526837003	1	7	0.0105	0.158	11/16/2020@08:34:05			
1204691056||DUP	1	8	0.0102	0.155	11/16/2020@08:35:16			
1204691058||PS	1	9	0.991	9.66	11/16/2020@08:36:28			
526982001	1	10	0.477	4.68	11/16/2020@08:37:39		25.00	
WTR201116-25 CCV	1	S10	1.00	9.79	11/16/2020@08:38:50			1.0 ppm CCV
	Known Conc:		1.00					
DQM Test: > + Concentration Limit								
	Result:		1.00 < 1.10					
	Message		CCV Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		1.00 > 0.899					
	Message		CCV Passed					
	Action		Continue					
CCB	1	S15	-0.00416	0.0153	11/16/2020@08:41:11			CCB
	Known Conc:		0.00					
DQM Test: > + Concentration Limit								
	Result:		-0.00416 < 0.0200					
	Message		CCB Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		-0.00416 > -0.0200					
	Message		CCB Passed					
	Action		Continue					
526982004	1	11	0.268	2.65	11/16/2020@08:43:30		10.00	
526982008	1	12	0.388	3.81	11/16/2020@08:44:41		10.00	
527003003	1	13	0.00471	0.101	11/16/2020@08:45:52			
1204692160||DUP	1	14	0.00492	0.103	11/16/2020@08:47:03			
1204692162||PS	1	15	0.957	9.33	11/16/2020@08:48:13			
527003011	1	16	0.00232	0.0781	11/16/2020@08:49:26			
527062001	1	17	0.291	2.88	11/16/2020@08:50:38		50.00	
1204692161||DUP	1	18	0.285	2.82	11/16/2020@08:51:50		50.00	
1204692163||PS	1	19	1.28	12.4	11/16/2020@08:53:01		50.00	
527171001	1	20	0.0109	0.162	11/16/2020@08:54:13			
WTR201116-25 CCV	1	S10	0.989	9.64	11/16/2020@08:55:25			1.0 ppm CCV
	Known Conc:		1.00					
DQM Test: > + Concentration Limit								
	Result:		0.989 < 1.10					
	Message		CCV Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		0.989 > 0.899					
	Message		CCV Passed					
	Action		Continue					
CCB	1	S15	-0.00419	0.0151	11/16/2020@08:57:45			CCB
	Known Conc:		0.00					
DQM Test: > + Concentration Limit								
	Result:		-0.00419 < 0.0200					
	Message		CCB Passed					
	Action		Continue					
DQM Test: < - Concentration Limit								
	Result:		-0.00419 > -0.0200					
	Message		CCB Passed					
	Action		Continue					
1204693489||DUP	1	21	0.0107	0.159	11/16/2020@09:00:05			
1204693490||PS	1	22	0.949	9.25	11/16/2020@09:01:17			
527171004	1	23	0.262	2.60	11/16/2020@09:02:28		5.00	
527171007	1	24	0.744	7.27	11/16/2020@09:03:40			
527228003	1	25	-5.68e-4	0.0502	11/16/2020@09:04:51			
1204692168|2061893|MB	1	26	-0.00345	0.0222	11/16/2020@09:06:02			
1204692169||LCS	1	27	0.966	9.42	11/16/2020@09:07:13			
527016004	1	28	0.259	2.56	11/16/2020@09:08:24		10.00	
1204692170||DUP	1	29	0.253	2.51	11/16/2020@09:09:34		10.00	
1204692171||PS	1	30	1.22	11.8	11/16/2020@09:10:45		10.00	
WTR201116-25 CCV	1	S10	0.980	9.55	11/16/2020@09:11:56			1.0 ppm CCV
	Known Conc:		1.00					

DQM Test: > + Concentration Limit								
		Result:	0.980 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.980 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00440	0.0130	11/16/2020@09:14:17			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00440 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00440 > -0.0200					
		Message	CCB Passed					
		Action	Continue					
527083002	1	31	0.453	4.45	11/16/2020@09:16:37		5.00	
527083006	1	32	0.452	4.44	11/16/2020@09:17:49		5.00	
527083010	1	33	-0.00321	0.0245	11/16/2020@09:19:01			
1204692164|2061892|MB	1	34	-0.00518	0.00541	11/16/2020@09:20:12			
1204692165||LCS	1	35	0.974	9.50	11/16/2020@09:21:25			
526974001	1	36	0.586	5.74	11/16/2020@09:22:36			
1204692166||DUP	1	37	0.615	6.01	11/16/2020@09:23:48			
1204692167||MS	1	38	1.39	13.5	11/16/2020@09:24:59			
526974002	1	39	0.0139	0.190	11/16/2020@09:26:11			
1204695092|2063130|MB	1	40	-0.00742	-0.0163	11/16/2020@09:27:22			
WTR201116-25 CCV	1	S10	0.981	9.56	11/16/2020@09:28:33			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.981 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.981 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00449	0.0121	11/16/2020@09:30:54			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00449 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00449 > -0.0200					
		Message	CCB Passed					
		Action	Continue					
1204695093||LCS	1	41	0.969	9.45	11/16/2020@09:33:13			
527300003	1	42	0.00151	0.0703	11/16/2020@09:34:24			
1204695096||DUP	1	43	7.23e-4	0.0627	11/16/2020@09:35:35			
1204695099||PS	1	44	0.956	9.32	11/16/2020@09:36:45			
527489001	1	45	0.414	4.07	11/16/2020@09:37:56			
527489004	1	46	0.211	2.10	11/16/2020@09:39:08		5.00	
527489007	1	47	0.246	2.44	11/16/2020@09:40:21		10.00	
527493001	1	48	0.193	1.93	11/16/2020@09:41:32		25.00	
1204695095||DUP	1	49	0.187	1.87	11/16/2020@09:42:44		25.00	
1204695098||PS	1	50	1.17	11.4	11/16/2020@09:43:56		25.00	
WTR201116-25 CCV	1	S10	0.979	9.54	11/16/2020@09:45:07			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.979 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.979 > 0.899					
		Message	CCV Passed					
		Action	Continue					

CCB	1	S15	-0.00439	0.0131	11/16/2020@09:47:28			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00439 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00439 > -0.0200					
		Message	CCB Passed					
		Action	Continue					
527497001	1	51	0.729	7.12	11/16/2020@09:49:48			
527501001	1	52	0.146	1.47	11/16/2020@09:51:00		5.00	
527501004	1	53	0.462	4.54	11/16/2020@09:52:11			
527501006	1	54	-0.00110	0.0450	11/16/2020@09:53:23			
527509007	1	55	-0.00376	0.0192	11/16/2020@09:54:34			
527511005	1	56	0.127	1.28	11/16/2020@09:55:45		5.00	
1204695094||DUP	1	57	0.127	1.28	11/16/2020@09:56:56		5.00	
1204695097||PS	1	58	1.10	10.7	11/16/2020@09:58:06		5.00	
527511009	1	59	0.224	2.23	11/16/2020@09:59:17			
527511013	1	60	0.228	2.27	11/16/2020@10:00:28		10.00	
WTR201116-25 CCV	1	S10	0.979	9.55	11/16/2020@10:01:40			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.979 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.979 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00335	0.0232	11/16/2020@10:04:01			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00335 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00335 > -0.0200					
		Message	CCB Passed					
		Action	Continue					
527512002	1	61	0.678	6.62	11/16/2020@10:06:21			
527512003	1	62	0.672	6.57	11/16/2020@10:07:33			
527512005	1	63	0.0371	0.416	11/16/2020@10:08:45			
527513002	1	64	0.0124	0.176	11/16/2020@10:09:57		5.00	
527513004	1	65	-0.0198	-0.136	11/16/2020@10:11:09		5.00	
527513006	1	66	0.0137	0.188	11/16/2020@10:12:20			
1204695100|2063131|MB	1	67	-0.00712	-0.0133	11/16/2020@10:13:32			
1204695101||LCS	1	68	0.956	9.32	11/16/2020@10:14:44			
527290006	1	69	0.432	4.24	11/16/2020@10:15:55			
1204695102||DUP	1	70	0.432	4.25	11/16/2020@10:17:06			
WTR201116-25 CCV	1	S10	0.959	9.35	11/16/2020@10:18:17			1.0 ppm CCV
		Known Conc:	1.00					
DQM Test: > + Concentration Limit								
		Result:	0.959 < 1.10					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	0.959 > 0.899					
		Message	CCV Passed					
		Action	Continue					
CCB	1	S15	-0.00426	0.0144	11/16/2020@10:20:38			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-0.00426 < 0.0200					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-0.00426 > -0.0200					

Message			CCB Passed					
Action			Continue					
1204695103||PS	1	71	1.36	13.2	11/16/2020@10:22:57			
WTR201116-25 CCV	1	S10	0.964	9.40	11/16/2020@10:25:15			1.0 ppm CCV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			0.964 < 1.10					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.964 > 0.899					
Message			CCV Passed					
Action			Continue					
CCB	1	S15	-0.00474	0.00969	11/16/2020@10:27:36			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-0.00474 < 0.0200					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-0.00474 > -0.0200					
Message			CCB Passed					
Action			Continue					

Channel 1 (NO3 + NO2) : Current View

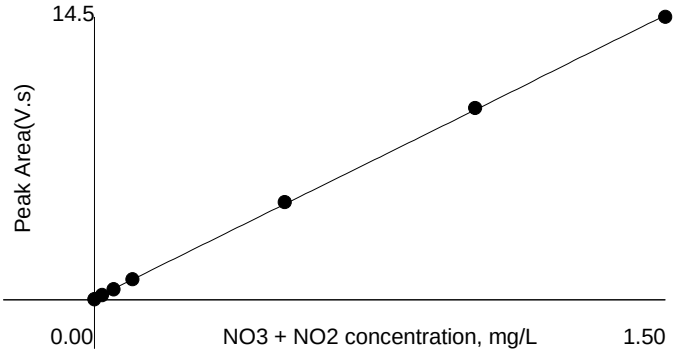


Author: lachat Date : 11/16/2020

Table 1: NO3 + NO2

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	1.50	1	14.5	1.16	0.6	11/16/2020	08:09:20
2	1.00	1	9.83	0.796	-0.8	11/16/2020	08:10:31
3	0.500	1	4.99	0.402	-1.9	11/16/2020	08:11:43
4	0.100	1	1.03	0.0818	-0.0	11/16/2020	08:12:55
5	0.0500	1	0.518	0.0409	4.3	11/16/2020	08:14:07
6	0.0200	1	0.228	0.0178	9.0	11/16/2020	08:15:20
7	0.00	1	0.0116	7.34e-4		11/16/2020	08:16:33

Figure 1: NO3 + NO2



Area = 9.69 * Conc + 0.0562
Conc = 0.103 * Area - 0.00574
Correlation Coefficient (r) = 0.99994

No Weighting

Solids, Total Dissolved
Raw Data

Batch: 2063665
Analyst: KLP1

TDS/TS/VS LogBook

Procedure Code BALDSSM_L
Procedure Description SM2540C Solids, Dissolved
Lab Sop GL-GC-E-001

Sample Type	Sample Id	Lot Id	Nc(mg/L)	Recovery(%)
LCS	1204696424	3124185	300	96.19

Sample Type	Sample Id	Rpd(%)
DUP	1204696425	3.0030030030030
DUP	1204696426	100.00000000000

Sample Id	Sample Type	Original Hsn	Instrument	Run Date	Crucible ID	Aliquot (L)	Crucible Wt(g)	Final Wt Event 1	Final Wt Event 2	Final Wt Event 3	Final Wt Event 4	Result	Units
1204696423	MB		BAL216	17-NOV-2020 14:37	700	0.07	72.8862	72.8857	72.8859			-4.28571	mg/L
1204696424	LCS		BAL216	17-NOV-2020 14:37	106	0.07	78.5289	78.5491	78.5491			288.57143	mg/L
527011025	SAMPLE		BAL216	17-NOV-2020 14:37	9	0.07	69.5553	69.5775	69.5771			311.42857	mg/L
527011026	SAMPLE		BAL216	17-NOV-2020 14:37	71	0.07	74.0024	74.0238	74.0241			310	mg/L
527016005	SAMPLE		BAL216	17-NOV-2020 14:37	57	0.07	76.6481	76.6647	76.665			241.42857	mg/L
1204696425	DUP	527016005	BAL216	17-NOV-2020 14:37	933	0.07	82.6954	82.7119	82.7118			234.28571	mg/L
527017001	SAMPLE		BAL216	17-NOV-2020 14:37	28	0.07	72.3563	72.7002	72.7001			4911.42857	mg/L
527180001	SAMPLE		BAL216	17-NOV-2020 14:37	40	0.07	66.7399	66.7672	66.7668			384.28571	mg/L
527180002	SAMPLE		BAL216	17-NOV-2020 14:37	MEH	0.07	103.5542	103.5589	103.5587			64.28571	mg/L
527180003	SAMPLE		BAL216	17-NOV-2020 14:37	M	0.07	72.3662	72.367	72.3667			7.14286	mg/L
527180004	SAMPLE		BAL216	17-NOV-2020 14:37	8	0.07	75.7814	75.7909	75.7908			134.28571	mg/L
527221003	SAMPLE		BAL216	17-NOV-2020 14:37	16	0.07	67.8348	67.8567	67.8567			312.85714	mg/L
527221008	SAMPLE		BAL216	17-NOV-2020 14:37	940	0.07	69.5912	69.6238	69.6237			464.28571	mg/L
527305003	SAMPLE		BAL216	17-NOV-2020 14:37	980	0.07	72.9475	72.9601	72.96			178.57143	mg/L
527312003	SAMPLE		BAL216	17-NOV-2020 14:37	107	0.07	80.6636	80.6892	80.6887			358.57143	mg/L
527312008	SAMPLE		BAL216	17-NOV-2020 14:37	177	0.07	72.0857	72.1041	72.1037			257.14286	mg/L
527509007	SAMPLE		BAL216	17-NOV-2020 14:37	7	0.07	76.5104	76.5099	76.5098			-8.57143	mg/L
1204696426	DUP	527509007	BAL216	17-NOV-2020 14:37	32	0.07	76.1239	76.1237	76.1237			-2.85714	mg/L
527512002	SAMPLE		BAL216	17-NOV-2020 14:37	ABC	0.07	75.23	79.9661	79.9578	79.9579		67541.42857	mg/L
527512003	SAMPLE		BAL216	17-NOV-2020 14:37	422	0.07	74.7831	79.4675	79.4596	79.4596		66807.14286	mg/L
527512005	SAMPLE		BAL216	17-NOV-2020 14:37	TT	0.07	89.3628	96.2553	96.2413	96.2413		98264.28571	mg/L
527513002	SAMPLE		BAL216	17-NOV-2020 14:37	500	0.07	65.6664	87.0315	81.5338	81.5338		2.27E+05	mg/L
527513004	SAMPLE		BAL216	17-NOV-2020 14:37	967	0.07	69.0547	87.5315	84.8331	84.8327		2.25E+05	mg/L
527513006	SAMPLE		BAL216	17-NOV-2020 14:37	17	0.07	77.08	79.7535	79.7489	79.7487		38124.28571	mg/L

Comments: **All Weights are in Grams**

A) Result = (Final - Crucible)/Aliquot * 1000

B) Prep Factor = 0.5 / Aliquot

In Oven Date/Time: 18-NOV-2020 05:00:00
In Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
Out Oven Date/Time: 18-NOV-2020 06:00:00
Out Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
In Oven Date/Time: 18-NOV-2020 10:00:00
In Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
Out Oven Date/Time: 18-NOV-2020 11:00:00
Out Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
In Oven Date/Time: 18-NOV-2020 15:00:00

In Oven Temperature (178-182C): 181 C
Temperature within limits (Y/N)?: Y
Out Oven Date/Time: 19-NOV-2020 06:00:00
Out Oven Temperature (178-182C): 180 C
Temperature within limits (Y/N)?: Y
Filter Lot Number: 600024-0070-K

Note: Aliquot is used for the determination of the effective MDL and PQL in LIMS

Total Kjeldahl Nitrogen Raw Data

Prep Logbook

Total Phosphorous and Total Kjeldahl Nitrogen Sample Preparation

Batch ID: **2063653**
Analyst: Kristen Mizzell
Method: EPA 351.2 Prep
Lab SOP: GL-GC-E-071 REV# 17
Instrument: No instrument-manual method

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1204696394	TRASPIKE2	UTR3125391-02	.2	mL
MS	1204696396	TRASPIKE2	UTR3125391-02	.2	mL
MS	1204698327	TRASPIKE2	UTR3125391-02	.2	mL

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check
1204696393 MB	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204696394 LCS	19-NOV-2020 16:00:00	Water	20	20	1	<2
527509005	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204696395 DUP (527509005)	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204696396 MS (527509005)	19-NOV-2020 16:00:00	Water	20	20	1	<2
527512001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527512004	19-NOV-2020 16:00:00	Water	20	20	1	<2
527513001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527513003	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204698326 DUP (527705001)	19-NOV-2020 16:00:00	Water	20	20	1	<2
1204698327 MS (527705001)	19-NOV-2020 16:00:00	Water	20	20	1	<2
527513005	19-NOV-2020 16:00:00	Water	20	20	1	<2
527569001	19-NOV-2020 16:00:00	Waste Water	20	20	1	<2
527654001	19-NOV-2020 16:00:00	Ground Water	20	20	1	<2
527654002	19-NOV-2020 16:00:00	Ground Water	20	20	1	<2
527705001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705002	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705003	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705004	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705005	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705006	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705007	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705008	19-NOV-2020 16:00:00	Water	20	20	1	<2
527705009	19-NOV-2020 16:00:00	Water	20	20	1	<2
527771001	19-NOV-2020 16:00:00	Water	20	20	1	<2
527784001	19-NOV-2020 16:00:00	Water	20	20	1	<2

Reagent/Solvent Lot ID	Description	Amount
3127042-C	TKN/PO4 Digestion Solution	4 mL
WTR201119-12	TKN,TP Working Standard 5ppm	20 mL
WTR201119-13	TKN, TP Working Standard 3ppm	20 mL
WTR201119-14	TKN,TP Working Standard 1ppm CCV	20 mL
WTR201119-15	TKN, TP Working Standard 0.5ppm	20 mL
WTR201119-16	TKN, TP Working Standard 0.1ppm	20 mL
WTR201119-18	TKN, TP Standard 1ppm ICV	20 mL
WTR201119-19	TKN, TP Working Standard 0ppm	20 mL

Comments:
Digestion Start Time: 19-NOV-2020 12:00
Digestion Stop Time: 19-NOV-2020 16:00
Pipette ID: Rachel and Monica

Prep Logbook

Sample ID	Prep Date	Matrix	Initial Volume (mL)	Final Volume (mL)	Prep Factor (mL/mL)	pH Check

Reagent/Solvent Lot ID	Description	Amount

Comments:

This is runlog lachat3

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
5.0 ppm Std.		1	KLP1	11/20/2020 10:18:11	OM_11-20-2020_10-17-23
3.0 ppm Std.		1	KLP1	11/20/2020 10:19:01	OM_11-20-2020_10-17-23
1.0 ppm Std.		1	KLP1	11/20/2020 10:19:53	OM_11-20-2020_10-17-23
0.5 ppm Std		1	KLP1	11/20/2020 10:20:46	OM_11-20-2020_10-17-23
0.1 ppm Std		1	KLP1	11/20/2020 10:21:38	OM_11-20-2020_10-17-23
ICAL-00		1	KLP1	11/20/2020 10:22:32	OM_11-20-2020_10-17-23
ICV		1	KLP1	11/20/2020 10:24:44	OM_11-20-2020_10-17-23
ICB		1	KLP1	11/20/2020 10:26:55	OM_11-20-2020_10-17-23
1204693497	2062509	1	KLP1	11/20/2020 10:29:05	OM_11-20-2020_10-17-23
1204693498	2062509	1	KLP1	11/20/2020 10:29:59	OM_11-20-2020_10-17-23
526974001	2062509	50	KLP1	11/20/2020 10:30:51	OM_11-20-2020_10-17-23
1204693499	2062509	50	KLP1	11/20/2020 10:31:44	OM_11-20-2020_10-17-23
1204693500	2062509	50	KLP1	11/20/2020 10:32:36	OM_11-20-2020_10-17-23
526974002	2062509	100	KLP1	11/20/2020 10:33:29	OM_11-20-2020_10-17-23
CCV		1	KLP1	11/20/2020 10:35:39	OM_11-20-2020_10-17-23
CCB		1	KLP1	11/20/2020 10:37:50	OM_11-20-2020_10-17-23

Author: lachat Date : 11/20/2020

Original Run Filename: OM_11-20-2020_10-17-23.OMN created 11/20/2020 10:17:23
Original Run Author's Signature: [lachat]
Current Run Filename: OM_11-20-2020_10-17-23.OMN last modified 11/20/2020 10:39:15
Current Run Author's Signature: [lachat]
Description: TKN EPA Method 351.2 GEL SOP: GL-GC-E-104
Detection 660 nM
Sample spiked with 100ppm stock standard LCS/ICV/CCV/Spike nominal 1.0 ppm

Sample	Rep.	Cup No.	Channel 1 TKN Conc. (mg/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WTR201120-12	1	S1	5.00	10.6	11/20/2020@10:18:11			5.0 ppm Std.
WTR201120-13	1	S2	3.00	6.39	11/20/2020@10:19:01			3.0 ppm Std.
WTR201120-14	1	S3	1.00	2.21	11/20/2020@10:19:53			1.0 ppm Std.
WTR201120-15	1	S4	0.500	1.05	11/20/2020@10:20:46			0.5 ppm Std
WTR201120-16	1	S5	0.100	0.156	11/20/2020@10:21:38			0.1 ppm Std
WTR201120-19 0.0 ppm	1	S7	0.00	0.0212	11/20/2020@10:22:32			0.0 ppm
DQM Test: Minimum Correlation Coefficient								
Result:			0.99993 > 0.99500					
Message			Calibration Passed					
Action			Continue					
WTR201120-18 ICV	1	S8	0.987	2.10	11/20/2020@10:24:44			ICV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			0.987 < 1.10					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.987 > 0.895					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WTR201120-19 ICB	1	S7	0.0116	0.0328	11/20/2020@10:26:55			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			0.0116 < 0.100					
Message			ICB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.0116 > -0.100					
Message			ICB Passed					
Action			Continue					
1204693497|2062509|MB	1	1	-0.0313	-0.0582	11/20/2020@10:29:05			
1204693498||LCS	1	2	1.10	2.33	11/20/2020@10:29:59			
526974001	1	3	0.695	1.48	11/20/2020@10:30:51		50.00	
1204693499||DUP	1	4	0.793	1.69	11/20/2020@10:31:44		50.00	
1204693500||MS	1	5	1.14	2.42	11/20/2020@10:32:36		50.00	
526974002	1	6	1.87	3.97	11/20/2020@10:33:29		100.00	
WTR201120-14 CCV	1	S3	1.00	2.14	11/20/2020@10:35:39			CCV
Known Conc:			1.00					
DQM Test: > + Concentration Limit								
Result:			1.00 < 1.10					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			1.00 > 0.895					
Message			CCV Passed					
Action			Continue					
WTR201120-19 CCB	1	S7	0.00891	0.0271	11/20/2020@10:37:50			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			0.00891 < 0.0990					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			0.00891 > -0.100					

Message	CCB Passed					
Action	Continue					

Channel 1 (TKN) : Current View

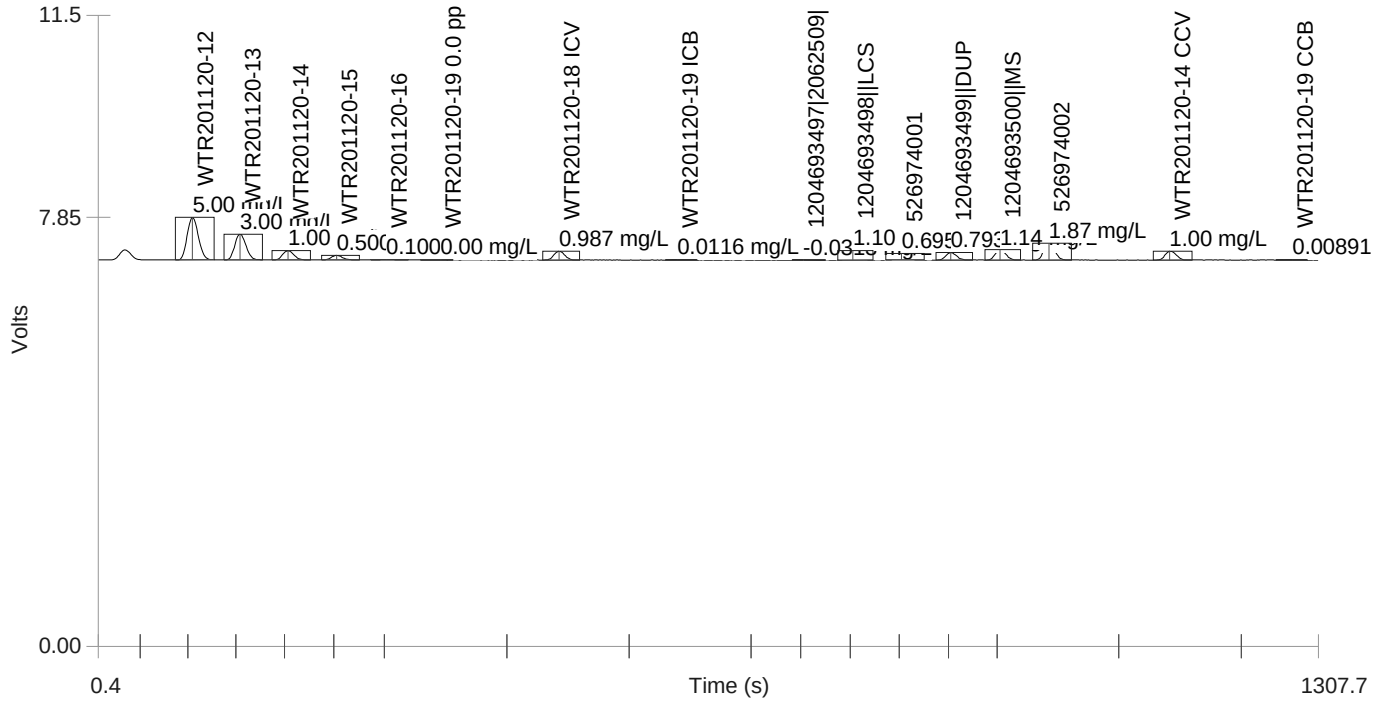
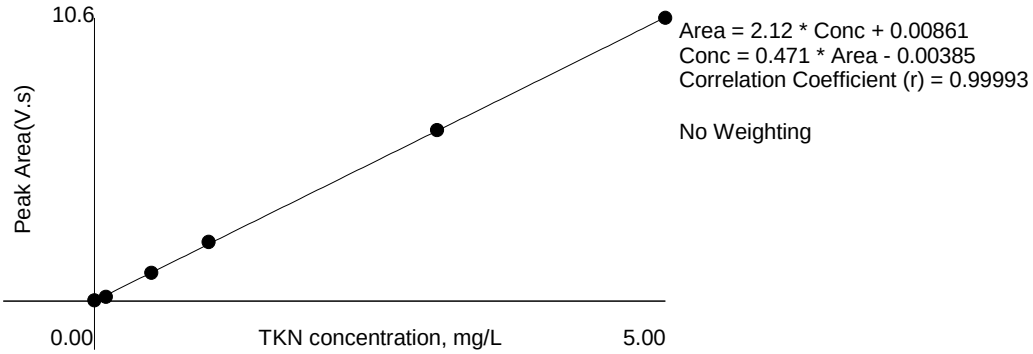


Table 1: TKN

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	5.00	1	10.6	0.771	0.2	11/20/2020	10:19:34
2	3.00	1	6.39	0.464	-0.2	11/20/2020	10:20:25
3	1.00	1	2.21	0.161	-3.7	11/20/2020	10:21:17
4	0.500	1	1.05	0.0764	1.9	11/20/2020	10:22:09
5	0.100	1	0.156	0.0103	29.2	11/20/2020	10:23:01
6	0.00	1	0.0212	0.00127		11/20/2020	10:23:55

Figure 1: TKN



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Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
CCV		1	KLP1	11/20/2020 11:29:59	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 11:32:10	OM_11-20-2020_11-29-09
1204696393	2063654	1	KLP1	11/20/2020 11:34:20	OM_11-20-2020_11-29-09
1204696394*	2063654	1	KLP1	11/20/2020 11:35:13	OM_11-20-2020_11-29-09
527509005	2063654	1	KLP1	11/20/2020 11:36:06	OM_11-20-2020_11-29-09
1204696395	2063654	1	KLP1	11/20/2020 11:36:58	OM_11-20-2020_11-29-09
1204696396	2063654	1	KLP1	11/20/2020 11:37:51	OM_11-20-2020_11-29-09
527512001	2063654	1	KLP1	11/20/2020 11:38:43	OM_11-20-2020_11-29-09
527512004	2063654	1	KLP1	11/20/2020 11:39:35	OM_11-20-2020_11-29-09
527513001	2063654	1	KLP1	11/20/2020 11:40:27	OM_11-20-2020_11-29-09
527513003	2063654	1	KLP1	11/20/2020 11:41:19	OM_11-20-2020_11-29-09
527513005	2063654	1	KLP1	11/20/2020 11:42:10	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 11:43:02	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 11:45:13	OM_11-20-2020_11-29-09
1204696394	2063654	1	KLP1	11/20/2020 11:47:24	OM_11-20-2020_11-29-09
527569001	2063654	1	KLP1	11/20/2020 11:48:15	OM_11-20-2020_11-29-09
527654001	2063654	1	KLP1	11/20/2020 11:49:06	OM_11-20-2020_11-29-09
527654002	2063654	1	KLP1	11/20/2020 11:49:57	OM_11-20-2020_11-29-09
527705001	2063654	1	KLP1	11/20/2020 11:50:47	OM_11-20-2020_11-29-09
1204698326	2063654	1	KLP1	11/20/2020 11:51:38	OM_11-20-2020_11-29-09
1204698327	2063654	1	KLP1	11/20/2020 11:52:30	OM_11-20-2020_11-29-09
527705002	2063654	1	KLP1	11/20/2020 11:53:23	OM_11-20-2020_11-29-09
527705003	2063654	1	KLP1	11/20/2020 11:54:16	OM_11-20-2020_11-29-09
527705004	2063654	1	KLP1	11/20/2020 11:55:08	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 11:56:01	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 11:58:11	OM_11-20-2020_11-29-09
527705005	2063654	1	KLP1	11/20/2020 12:00:21	OM_11-20-2020_11-29-09
527705006	2063654	1	KLP1	11/20/2020 12:01:14	OM_11-20-2020_11-29-09
527705007	2063654	1	KLP1	11/20/2020 12:02:06	OM_11-20-2020_11-29-09
527705008	2063654	1	KLP1	11/20/2020 12:02:58	OM_11-20-2020_11-29-09
527705009	2063654	1	KLP1	11/20/2020 12:03:49	OM_11-20-2020_11-29-09
527771001	2063654	1	KLP1	11/20/2020 12:04:41	OM_11-20-2020_11-29-09
527784001	2063654	1	KLP1	11/20/2020 12:05:32	OM_11-20-2020_11-29-09
527512001	2063654	5	KLP1	11/20/2020 12:06:24	OM_11-20-2020_11-29-09
527513001	2063654	5	KLP1	11/20/2020 12:07:15	OM_11-20-2020_11-29-09
527513005	2063654	10	KLP1	11/20/2020 12:08:07	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:10:18	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:12:30	OM_11-20-2020_11-29-09
527771001	2063654	10	KLP1	11/20/2020 12:14:40	OM_11-20-2020_11-29-09
1204698332	2064569	1	KLP1	11/20/2020 12:15:30	OM_11-20-2020_11-29-09
1204698333	2064569	1	KLP1	11/20/2020 12:16:21	OM_11-20-2020_11-29-09
527719002	2064569	1	KLP1	11/20/2020 12:17:11	OM_11-20-2020_11-29-09
1204698334	2064569	1	KLP1	11/20/2020 12:18:02	OM_11-20-2020_11-29-09
1204698335	2064569	1	KLP1	11/20/2020 12:18:53	OM_11-20-2020_11-29-09
527719004	2064569	1	KLP1	11/20/2020 12:19:46	OM_11-20-2020_11-29-09
527719006	2064569	1	KLP1	11/20/2020 12:20:39	OM_11-20-2020_11-29-09
527719008	2064569	1	KLP1	11/20/2020 12:21:32	OM_11-20-2020_11-29-09
527731001	2064569	1	KLP1	11/20/2020 12:22:24	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:23:17	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:25:28	OM_11-20-2020_11-29-09
1204698336	2064569	1	KLP1	11/20/2020 12:27:38	OM_11-20-2020_11-29-09
1204698337	2064569	1	KLP1	11/20/2020 12:28:30	OM_11-20-2020_11-29-09
527734006	2064569	1	KLP1	11/20/2020 12:29:22	OM_11-20-2020_11-29-09
527826002	2064569	1	KLP1	11/20/2020 12:30:13	OM_11-20-2020_11-29-09
527826004	2064569	1	KLP1	11/20/2020 12:31:05	OM_11-20-2020_11-29-09
1204699917	2065369	1	KLP1	11/20/2020 12:31:56	OM_11-20-2020_11-29-09
1204699918	2065369	1	KLP1	11/20/2020 12:32:47	OM_11-20-2020_11-29-09
527936001	2065369	1	KLP1	11/20/2020 12:33:38	OM_11-20-2020_11-29-09

527871001	2065369	1	KLP1	11/20/2020 12:34:30	OM_11-20-2020_11-29-09
1204699919	2065369	1	KLP1	11/20/2020 12:35:20	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:36:12	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:38:23	OM_11-20-2020_11-29-09
1204699920	2065369	1	KLP1	11/20/2020 12:40:32	OM_11-20-2020_11-29-09
527871004	2065369	1	KLP1	11/20/2020 12:41:24	OM_11-20-2020_11-29-09
527871006	2065369	1	KLP1	11/20/2020 12:42:17	OM_11-20-2020_11-29-09
527936001	2065369	10	KLP1	11/20/2020 12:43:10	OM_11-20-2020_11-29-09
527826004	2064569	100	KLP1	11/20/2020 12:44:02	OM_11-20-2020_11-29-09
CCV		1	KLP1	11/20/2020 12:46:13	OM_11-20-2020_11-29-09
CCB		1	KLP1	11/20/2020 12:48:24	OM_11-20-2020_11-29-09

Original Run Filename: OM_11-20-2020_11-29-09.OMN created 11/20/2020 11:29:09
Original Run Author's Signature: [lachat]
Current Run Filename: OM_11-20-2020_11-29-09.OMN last modified 11/20/2020 12:49:48
Current Run Author's Signature: [lachat]
Description: TKN EPA Method 351.2 GEL SOP: GL-GC-E-104
Detection 660 nM
Sample spiked with 100ppm stock standard LCS/ICV/CCV/Spike nominal 1.0 ppm

Sample	Rep.	Cup No.	Channel 1 TKN Conc. (mg/L)	Channel 1 TKN Area (Vs)	Detection Time	ADF	MDF
WTR201120-14 CCV	1	S3	1.04	2.21	11/20/2020@11:29:59		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.04 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.04 > 0.895				
Message			CCV Passed				
Action			Continue				
Calibration:			Table/Fig. 1				
WTR201120-19 CCB	1	S7	0.00341	0.0154	11/20/2020@11:32:10		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00341 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00341 > -0.100				
Message			CCB Passed				
Action			Continue				
1204696393|2063654|MB	1	1	0.0109	0.0313	11/20/2020@11:34:20		
1204696394||LCS	1	2	1.11	2.36	11/20/2020@11:35:13		
527509005	1	3	-0.0160	-0.0258	11/20/2020@11:36:06		
1204696395||DUP	1	4	-0.0157	-0.0251	11/20/2020@11:36:58		
1204696396||MS	1	5	1.05	2.23	11/20/2020@11:37:51		
527512001	1	6	5.42	11.5	11/20/2020@11:38:43		
527512004	1	7	2.70	5.74	11/20/2020@11:39:35		
527513001	1	8	6.30	13.4	11/20/2020@11:40:27		
527513003	1	9	3.94	8.36	11/20/2020@11:41:19		
527513005	1	10	14.8	31.4	11/20/2020@11:42:10		
WTR201120-14 CCV	1	S3	1.09	2.32	11/20/2020@11:43:02		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.09 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.09 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.0148	0.0396	11/20/2020@11:45:13		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.0148 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.0148 > -0.100				
Message			CCB Passed				
Action			Continue				
1204696394||LCS	1	2	1.08	2.29	11/20/2020@11:47:24		
527569001	1	11	0.260	0.559	11/20/2020@11:48:15		
527654001	1	12	0.103	0.227	11/20/2020@11:49:06		
527654002	1	13	0.464	0.992	11/20/2020@11:49:57		

527705001	1	14	0.346	0.741	11/20/2020@11:50:47		
1204698326||DUP	1	15	0.399	0.854	11/20/2020@11:51:38		
1204698327||MS	1	16	1.42	3.02	11/20/2020@11:52:30		
527705002	1	17	0.502	1.07	11/20/2020@11:53:23		
527705003	1	18	0.384	0.824	11/20/2020@11:54:16		
527705004	1	19	0.631	1.35	11/20/2020@11:55:08		
WTR201120-14 CCV	1	S3	1.06	2.26	11/20/2020@11:56:01		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.06 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.06 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	-0.00912	-0.0112	11/20/2020@11:58:11		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			-0.00912 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			-0.00912 > -0.100				
Message			CCB Passed				
Action			Continue				
527705005	1	20	0.334	0.716	11/20/2020@12:00:21		
527705006	1	21	0.380	0.814	11/20/2020@12:01:14		
527705007	1	22	1.03	2.18	11/20/2020@12:02:06		
527705008	1	23	0.385	0.824	11/20/2020@12:02:58		
527705009	1	24	0.419	0.896	11/20/2020@12:03:49		
527771001	1	25	8.21	17.4	11/20/2020@12:04:41		
527784001	1	26	0.433	0.928	11/20/2020@12:05:32		
527512001	1	6	1.49	3.17	11/20/2020@12:06:24		5.00
527513001	1	8	1.66	3.53	11/20/2020@12:07:15		5.00
527513005	1	10	1.85	3.93	11/20/2020@12:08:07		10.00
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:10:18		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00723	0.0235	11/20/2020@12:12:30		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00723 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00723 > -0.100				
Message			CCB Passed				
Action			Continue				
527771001	1	25	0.958	2.04	11/20/2020@12:14:40		10.00
1204698332|2064569|MB	1	27	0.0140	0.0378	11/20/2020@12:15:30		
1204698333||LCS	1	28	1.08	2.31	11/20/2020@12:16:21		
527719002	1	29	-0.0274	-0.0500	11/20/2020@12:17:11		
1204698334||DUP	1	30	-0.0630	-0.125	11/20/2020@12:18:02		
1204698335||MS	1	31	0.982	2.09	11/20/2020@12:18:53		
527719004	1	32	0.0463	0.106	11/20/2020@12:19:46		
527719006	1	33	0.0188	0.0481	11/20/2020@12:20:39		
527719008	1	34	-0.00738	-0.00747	11/20/2020@12:21:32		
527731001	1	35	0.0453	0.104	11/20/2020@12:22:24		
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:23:17		
Known Conc:			1.00				

DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00328	0.0151	11/20/2020@12:25:28		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00328 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00328 > -0.100				
Message			CCB Passed				
Action			Continue				
1204698336||DUP	1	36	0.0434	0.100	11/20/2020@12:27:38		
1204698337||MS	1	37	1.20	2.56	11/20/2020@12:28:30		
527734006	1	38	-0.0180	-0.0301	11/20/2020@12:29:22		
527826002	1	39	2.09	4.45	11/20/2020@12:30:13		
527826004	1	40	35.9	76.1	11/20/2020@12:31:05		
1204699917|2065369|MB	1	41	0.0713	0.159	11/20/2020@12:31:56		
1204699918||LCS	1	42	1.09	2.32	11/20/2020@12:32:47		
527936001	1	48	7.27	15.4	11/20/2020@12:33:38		
527871001	1	43	0.676	1.44	11/20/2020@12:34:30		
1204699919||DUP	1	44	0.575	1.23	11/20/2020@12:35:20		
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:36:12		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00291	0.0143	11/20/2020@12:38:23		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00291 < 0.0990				
Message			CCB Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			0.00291 > -0.100				
Message			CCB Passed				
Action			Continue				
1204699920||MS	1	45	1.24	2.64	11/20/2020@12:40:32		
527871004	1	46	0.358	0.767	11/20/2020@12:41:24		
527871006	1	47	0.00789	0.0249	11/20/2020@12:42:17		
527936001	1	48	0.775	1.65	11/20/2020@12:43:10		10.00
527826004|2064569|	1	40	0.635	1.36	11/20/2020@12:44:02		100.00
WTR201120-14 CCV	1	S3	1.08	2.29	11/20/2020@12:46:13		
Known Conc:			1.00				
DQM Test: > + Concentration Limit							
Result:			1.08 < 1.10				
Message			CCV Passed				
Action			Continue				
DQM Test: < - Concentration Limit							
Result:			1.08 > 0.895				
Message			CCV Passed				
Action			Continue				
WTR201120-19 CCB	1	S7	0.00347	0.0155	11/20/2020@12:48:24		
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
Result:			0.00347 < 0.0990				
Message			CCB Passed				

Action	Continue				
DQM Test: < - Concentration Limit					
Result:	0.00347 > -0.100				
Message	CCB Passed				
Action	Continue				

Channel 1 (TKN) : Current View

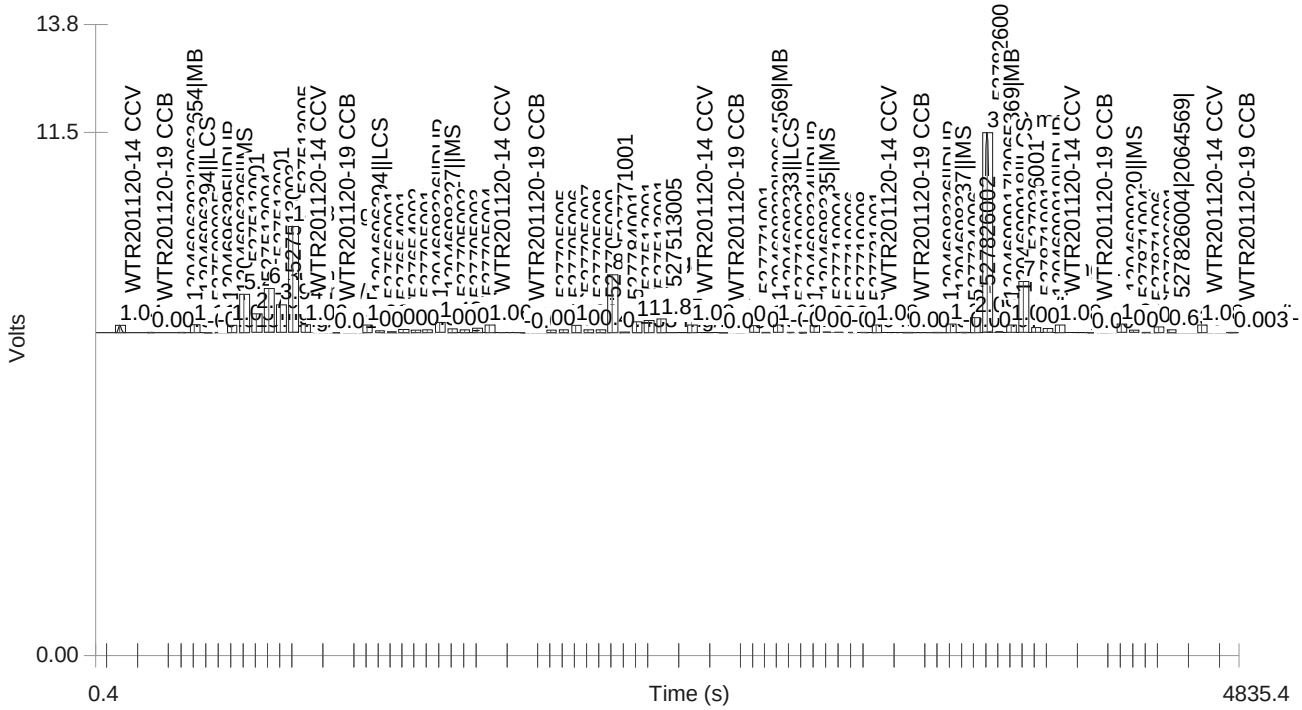


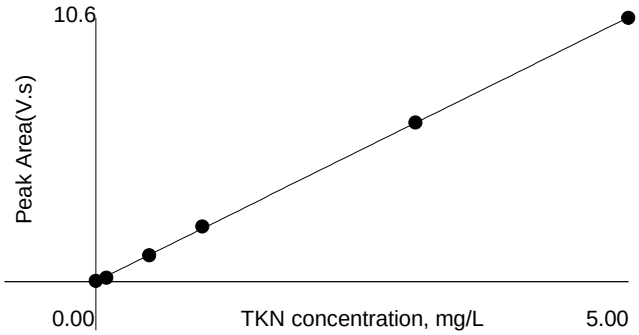
Table 1: TKN

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	5.00	1	10.6	0.771	0.2	11/20/2020	10:19:34
2	3.00	1	6.39	0.464	-0.2	11/20/2020	10:20:25
3	1.00	1	2.21	0.161	-3.7	11/20/2020	10:21:17
4	0.500	1	1.05	0.0764	1.9	11/20/2020	10:22:09
5	0.100	1	0.156	0.0103	29.2	11/20/2020	10:23:01
6	0.00	1	0.0212	0.00127		11/20/2020	10:23:55

Author: lachat

Date : 11/20/2020

Figure 1: TKN



Area = 2.12 * Conc + 0.00861
Conc = 0.471 * Area - 0.00385
Correlation Coefficient (r) = 0.99993

No Weighting

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

December 07, 2020

Mr. Stanislaw Marczak
Los Alamos National Laboratory
TA-00, SM1237, Rm104C
Los Alamos, New Mexico 87545

Re: LANL- Discharge Permits
Work Order: 529035
SDG: 2021-160

Dear Mr. Marczak:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on December 03, 2020, and analyzed for GC Semivolatile PCB. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4485.

Sincerely,

Nina Gampe for
Valerie Davis
Project Manager

Chain of Custody: 2021-160
Enclosures

ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 529035
SDG # : 2021-160

ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 529035
SDG # : 2021-160

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Case Narrative

Case Narrative

Case Narrative for
ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 529035
SDG # : 2021-160

December 07, 2020

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The sample arrived at GEL Laboratories LLC, Charleston, South Carolina on December 03, 2020 for analysis. The sample was delivered with proper chain of custody documentation and signatures. The samples were screened according to GEL Standard Operating Procedure. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. Shipping container temperature was checked, documented, and within specifications. Shipping container temperature was within specification (0 - 6C). There are no additional comments concerning sample receipt.

Sample Identification The laboratory received the following sample:

Laboratory ID	Client ID
529035001	SMEB01-20-211185

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: GC Semivolatile PCB.

I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.

Nina Gampe for
Valerie Davis
Project Manager

Case Narrative for
ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)
LANL- Discharge Permits
Workorder #: 529035
SDG # : 2021-160

December 07, 2020

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

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I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.

Nina Gampe for
Valerie Davis
Project Manager

List of current GEL Certifications as of 07 December 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122021−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−33
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Chain of Custody and Supporting Documentation

General Engineering
Charleston SC

529035

Chain of Custody/Analysis Request

COC/Lab Request #: 2021-160
Page 1 of 1

Client Contact:

Lab Agreement

Project Number: LANL

Analysis Turnaround
24 Hour - ☐ Other - ☐
7 Days - ☒
14 Days - ☐
21 Days - ☐
28 Days - ☐

Site Name: Los Alamos National Laboratory

Rad Screening Info: Similar locations identify no DOT hazard classification

Lab Reporting Limit Method Detection Limit

Field Sample ID	Sample Date	Sample Time	Sample Matrix	DP-8082																					
SMEB01-20-211185	12/02/2020	10:30	W	3																					7-Day TAT

Special Instructions:

Relinquished by: Sherri Sherwood	Print Name: Sherri Sherwood	Date/Time: 12/2/2020 15:00	Received by:	Print Name: Zach Worsham	Date/Time: 12/3/2020
Relinquished by:	Print Name:	Date/Time:	Received by:	Print Name:	Date/Time:
Relinquished by:	Print Name:	Date/Time:	Received by:	Print Name:	Date/Time:

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: LANL	**SDG/AR/COC/Work Order:** 529035
Received By: ZKW	**Date Received:** 12/3/20
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 9072 4837 4157

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 (CPM) / mR/Hr **Classified as: Rad 1 Rad 2 Rad 3**
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: (Wet Ice) Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius **TEMP:** 2°C
4	Daily check performed and passed on IR temperature gun?	✓			**Temperature Device Serial #:** IR3-18 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?			✓	Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?			✓	
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials NRG Date 12/4/20 Page 1 of 1

GL-CHL-SR-001 Rev 7



ORIGIN ID:SAFA (505) 665-8622
SHIPPING
US DOE C O LANL
BIKINI ATOLL RD BLDG SM 30

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 02DEC20
ACTWGT: 29.00 LB MAN
CAD: 0745193/CAFE3407

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE ROAD

CHARLESTON SC
(843) 556-8171
REF: 8A930AW6L1157000

RT 250 1 A
10:30
FZ
4157
12.03

SGDC2/9196/05A2

edEx
Express

E

J201019110601uv

THU - 03 DEC 10:30A
PRIORITY OVERNIGHT

TRK# 0201 9072 4837 4157

X7 RBWA

29407
SC-US CHS

Part # 156148-434 RIT EXP 07/1

Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

P Organics-The concentrations between the primary and confirmation columns/detectors is >40% difference. For HPLC, the difference is >70%.

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

PCB Analysis

Case Narrative

GC Semivolatile PCB
Technical Case Narrative
ARS International, LLC
SDG #: 2021-160
Work Order #: 529035

Product: **Analysis of The Analysis of Polychlorinated Biphenyls by GC/ECD by ECD**
Analytical Method: SW846 3535A/8082A
Analytical Procedure: GL-OA-E-040 REV# 25
Analytical Batch: 2069551

Preparation Method: SW846 3535A
Preparation Procedure: GL-OA-E-070 REV# 11
Preparation Batch: 2069548

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
529035001	SMEB01-20-211185
1204708706	Method Blank (MB)
1204708707	Laboratory Control Sample (LCS)
1204708710	529035001(SMEB01-20-211185) Matrix Spike (MS)
1204708711	529035001(SMEB01-20-211185) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Preparation/Analytical Method Verification
All samples and QC in this batch were cleaned using alumina in order to remove oil and other high molecular weight interferences. All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Miscellaneous Information

Manual integrations
Sample 1204708710 (SMEB01-20-211185MS) required manual integration to correctly position the baseline as set in the calibration standard injections.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

ARSL004 ARS International, LLC (ARS-LANS-MTOA6-25093-GEL)

Client SDG: 2021-160 GEL Work Order: 529035

The Qualifiers in this report are defined as follows:

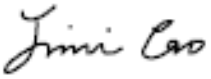
* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Jimin Cao**

Date: 08 DEC 2020 **Title: Data Validator**

Sample Data Summary

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-160**	**Date Collected:**	**12/02/2020 10:30**	**Matrix:**	**W**
Lab Sample ID:	**529035001**	**Date Received:**	**12/03/2020 09:55**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-211185**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2069551**	**Inst:**	**ECD9A.I**	**Dilution:**	**1**
Run Date:	**12/08/2020 10:00**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/07/2020 09:30**	**Aliquot:**	**200 mL**	**Final Volume:**	**1 mL**
Data File:	**120820.S\E9l0825.D**	**Column:**	**1 RTX-CLPEST 1**		
	120820.S\E9l0825.D		**2 RTX-CLPEST 2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.167	ug/L	0.167	0.500	1
11104-28-2	Aroclor-1221	U	0.167	ug/L	0.167	0.500	1
11141-16-5	Aroclor-1232	U	0.167	ug/L	0.167	0.500	1
53469-21-9	Aroclor-1242	U	0.167	ug/L	0.167	0.500	1
12672-29-6	Aroclor-1248	U	0.167	ug/L	0.167	0.500	1
11097-69-1	Aroclor-1254	U	0.167	ug/L	0.167	0.500	1
11096-82-5	Aroclor-1260	U	0.167	ug/L	0.167	0.500	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.489	1.00	ug/L	49	(30%-113%)
Decachlorobiphenyl	0.482	1.00	ug/L	48	(34%-130%)

Quality Control Summary

Surrogate Recovery Report

SDG Number: 2021-160

Matrix Type: LIQUID

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
1204708706	MB for batch 2069548	55	56	76	88
1204708707	LCS for batch 2069548	62	61	74	95
529035001	SMEB01-20-211185	49	51	48	51
1204708710	SMEB01-20-211185MS	40	42	49	52
1204708711	SMEB01-20-211185MSD	48	50	45	52

Surrogate	Parmname	Acceptance Limits
4CMX	= 4cmx	(30%-113%)
DCB	= Decachlorobiphenyl	(34%-130%)

* Recovery outside Acceptance Limits

\# Column to be used to flag recovery values

D Sample Diluted

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-160
Sample Type: Laboratory Control Sample
Client ID: LCS for batch 2069548
Matrix: WATER
Lab Sample ID 1204708707
Instrument: ECD9A.I
Analysis Date: 12/08/2020 07:21
Dilution: 1
Analyst: YS1
Prep Batch ID: 2069548
Inj. Vol: 1 uL
Batch ID: 2069551

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L	Spike Conc. ug/L	Recovery %	Acceptance Limits
12674-11-2	LCS	Aroclor-1016	1.00	0.0	0.715	71	38-100
11096-82-5	LCS	Aroclor-1260	1.00	0.0	0.769	77	46-110

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-160
Sample Type: Matrix Spike
Client ID: SMEB01-20-211185MS
Matrix: W
Lab Sample ID 1204708710
Instrument: ECD9A.I
Analysis Date: 12/08/2020 10:13
Dilution: 1
Analyst: YS1
Prep Batch ID: 2069548
Inj. Vol: 1 uL
Batch ID: 2069551

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits
12674-11-2	MS	Aroclor-1016	5.00	0.000	U	2.92	58	28-107
11096-82-5	MS	Aroclor-1260	5.00	0.000	U	2.64	53	32-122

Quality Control Summary
Spike Recovery Report

SDG Number: 2021-160
Sample Type: Matrix Spike Duplicate
Client ID: SMEB01-20-211185MSD
Matrix: W
Lab Sample ID 1204708711
Instrument: ECD9A.I
Analysis Date: 12/08/2020 10:27
Dilution: 1
Analyst: YS1
Prep Batch ID: 2069548
Inj. Vol: 1 uL
Batch ID: 2069551

CAS No		Parmname	Amount Added ug/L	Sample Conc. ug/L		Spike Conc. ug/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
12674-11-2	MSD	Aroclor-1016	5.00	0.000	U	3.27	65	28-107	11	0-27
11096-82-5	MSD	Aroclor-1260	5.00	0.000	U	2.73	55	32-122	3	0-29

Method Blank Summary

SDG Number:	**2021-160**	**Client:**	**ARSL004**	**Matrix:**	**WATER**
Client ID:	**MB for batch 2069548**	**Instrument ID:**	**ECD9A.I_1** **ECD9A.I_2**	**Data File:**	**120820.S\E9l0812.D** **120820.S\E9l0812.D**
Lab Sample ID:	**1204708706**			**Analyzed:**	**12/08/20 07:09**
Column:	**RTX-CLPEST 1** **RTX-CLPEST 2**	**Prep Date:**	**12/07/2020 09:30**		

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 2069548	1204708707	120820.S\E9l0813.D 120820.S\E9l0813.D	12/08/20	0721
02	SMEB01-20-211185	529035001	120820.S\E9l0825.D	12/08/20	1000
03	SMEB01-20-211185MS	1204708710	120820.S\E9l0826.D	12/08/20	1013
04	SMEB01-20-211185MSD	1204708711	120820.S\E9l0827.D	12/08/20	1027

Identification Summary

SDG Number: 2021-160 **Client ID:** LCS for batch 2069548

Lab Sample ID: 1204708707

Data File:	120820.S\E9l0813.D	**Data File:**	120820.S\E9l0813.D
Inst:	ECD9A.I_1	**Inst:**	ECD9A.I_2
Column:	RTX-CLPEST 1	**Column:**	RTX-CLPEST 2
Analyzed:	08-DEC-20 07:21	**Analyzed:**	08-DEC-20 07:21

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							4.42
Column 1	1	2.95	2.92 - 2.98	.701		ug/L	
	2	3.3	3.27 - 3.33	.751		ug/L	
	3	3.4	3.37 - 3.43	.716		ug/L	
	4	3.45	3.42 - 3.48	.71		ug/L	
	5	3.7	3.67 - 3.73	.695		ug/L	
					.715		
Column 2	1	3.82	3.79 - 3.85	.777		ug/L	
	2	3.92	3.89 - 3.95	.754		ug/L	
	3	4	3.97 - 4.03	.735		ug/L	
	4	4.07	4.04 - 4.1	.732		ug/L	
	5	4.1	4.07 - 4.13	.735		ug/L	
					.747		
Aroclor-1260							2.7
Column 1	1	4.58	4.55 - 4.61	.832		ug/L	
	2	4.78	4.75 - 4.81	.839		ug/L	
	3	5.05	5.02 - 5.08	.67		ug/L	
	4	5.44	5.41 - 5.47	.723		ug/L	
	5	5.64	5.61 - 5.67	.783		ug/L	
					.769		
Column 2	1	5.19	5.16 - 5.22	.859		ug/L	
	2	5.34	5.31 - 5.37	.874		ug/L	
	3	5.66	5.63 - 5.69	.717		ug/L	
	4	6.04	6.01 - 6.07	.742		ug/L	
	5	6.3	6.27 - 6.33	.761		ug/L	
					.791		

Identification Summary

SDG Number: 2021-160 **Client ID:** SMEB01-20-211185MS

Lab Sample ID: 1204708710

Data File:	120820.S\E9l0826.D	**Data File:**	120820.S\E9l0826.D
Inst:	ECD9A.I_1	**Inst:**	ECD9A.I_2
Column:	RTX-CLPEST 1	**Column:**	RTX-CLPEST 2
Analyzed:	08-DEC-20 10:13	**Analyzed:**	08-DEC-20 10:13

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							2.17
Column 1	1	2.95	2.92 - 2.98	2.94		ug/L	
	2	3.3	3.27 - 3.33	2.82		ug/L	
	3	3.4	3.37 - 3.43	3.26		ug/L	
	4	3.45	3.42 - 3.48	2.66		ug/L	
	5	3.7	3.67 - 3.73	2.91		ug/L	
					2.92		
Column 2	1	3.82	3.79 - 3.85	2.91		ug/L	
	2	3.92	3.89 - 3.95	2.87		ug/L	
	3	4	3.97 - 4.03	2.93		ug/L	
	4	4.07	4.04 - 4.1	2.75		ug/L	
	5	4.1	4.07 - 4.13	2.82		ug/L	
					2.86		
Aroclor-1260							.651
Column 1	1	4.58	4.55 - 4.61	2.97		ug/L	
	2	4.78	4.75 - 4.81	2.96		ug/L	
	3	5.05	5.02 - 5.08	2.32		ug/L	
	4	5.44	5.41 - 5.47	2.32		ug/L	
	5	5.64	5.61 - 5.67	2.61		ug/L	
					2.64		
Column 2	1	5.19	5.16 - 5.22	3.01		ug/L	
	2	5.34	5.31 - 5.37	3.11		ug/L	
	3	5.66	5.63 - 5.69	2.37		ug/L	
	4	6.04	6.01 - 6.07	2.36		ug/L	
	5	6.3	6.27 - 6.33	2.42		ug/L	
					2.65		

Identification Summary

SDG Number: 2021-160 **Client ID:** SMEB01-20-211185MSD

Lab Sample ID: 1204708711

Data File:	120820.S\E9l0827.D	**Data File:**	120820.S\E9l0827.D
Inst:	ECD9A.I_1	**Inst:**	ECD9A.I_2
Column:	RTX-CLPEST 1	**Column:**	RTX-CLPEST 2
Analyzed:	08-DEC-20 10:27	**Analyzed:**	08-DEC-20 10:27

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							9.4
Column 1	1	2.95	2.92 - 2.98	3.12		ug/L	
	2	3.3	3.27 - 3.33	3.11		ug/L	
	3	3.4	3.37 - 3.43	3.7		ug/L	
	4	3.45	3.42 - 3.48	3.13		ug/L	
	5	3.7	3.67 - 3.73	3.29		ug/L	
					3.27		
Column 2	1	3.82	3.79 - 3.85	3.02		ug/L	
	2	3.92	3.89 - 3.95	2.99		ug/L	
	3	4	3.97 - 4.03	3.04		ug/L	
	4	4.07	4.04 - 4.1	2.89		ug/L	
	5	4.1	4.07 - 4.13	2.95		ug/L	
					2.98		
Aroclor-1260							.571
Column 1	1	4.58	4.55 - 4.61	3.13		ug/L	
	2	4.78	4.75 - 4.81	3.06		ug/L	
	3	5.05	5.02 - 5.08	2.36		ug/L	
	4	5.44	5.41 - 5.47	2.38		ug/L	
	5	5.64	5.61 - 5.67	2.7		ug/L	
					2.73		
Column 2	1	5.19	5.16 - 5.22	3.15		ug/L	
	2	5.34	5.31 - 5.37	3.19		ug/L	
	3	5.66	5.63 - 5.69	2.45		ug/L	
	4	6.04	6.01 - 6.07	2.43		ug/L	
	5	6.3	6.27 - 6.33	2.5		ug/L	
					2.74		

Sample Data

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-160**	**Date Collected:**	**12/02/2020 10:30**	**Matrix:**	**W**
Lab Sample ID:	**529035001**	**Date Received:**	**12/03/2020 09:55**		
		Client:	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-211185**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2069551**	**Inst:**	**ECD9A.I**	**Dilution:**	**1**
Run Date:	**12/08/2020 10:00**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/07/2020 09:30**	**Aliquot:**	**200 mL**	**Final Volume:**	**1 mL**
Data File:	**120820.S\E9l0825.D**	**Column:**	**1 RTX-CLPEST 1**		
	120820.S\E9l0825.D		**2 RTX-CLPEST 2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.167	ug/L	0.167	0.500	1
11104-28-2	Aroclor-1221	U	0.167	ug/L	0.167	0.500	1
11141-16-5	Aroclor-1232	U	0.167	ug/L	0.167	0.500	1
53469-21-9	Aroclor-1242	U	0.167	ug/L	0.167	0.500	1
12672-29-6	Aroclor-1248	U	0.167	ug/L	0.167	0.500	1
11097-69-1	Aroclor-1254	U	0.167	ug/L	0.167	0.500	1
11096-82-5	Aroclor-1260	U	0.167	ug/L	0.167	0.500	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.489	1.00	ug/L	49	(30%-113%)
Decachlorobiphenyl	0.482	1.00	ug/L	48	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

12/08/2020

12/08/2020

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0825.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On   : 08 Dec 2020 10:00 (#1); 8 Dec 2020 10:00 (#2)
Operator : YS1   InstName : ECD9
Sample   : |529035001|2069551|1|SVA|1|ARSL|||
Misc   : |ECD5A2A_1L|WATER|SMEB01-20-211185|||
ALS Vial : 25   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Dec 08 10:10:25 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9   SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj.   : 1 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.385	0.001	726556302	97.726	2.731	2.731	0.000	2452875603	101.456
DCB	6.397	6.395	-0.002	557464929	96.472	7.120	7.119	-0.001	1897682540	102.780

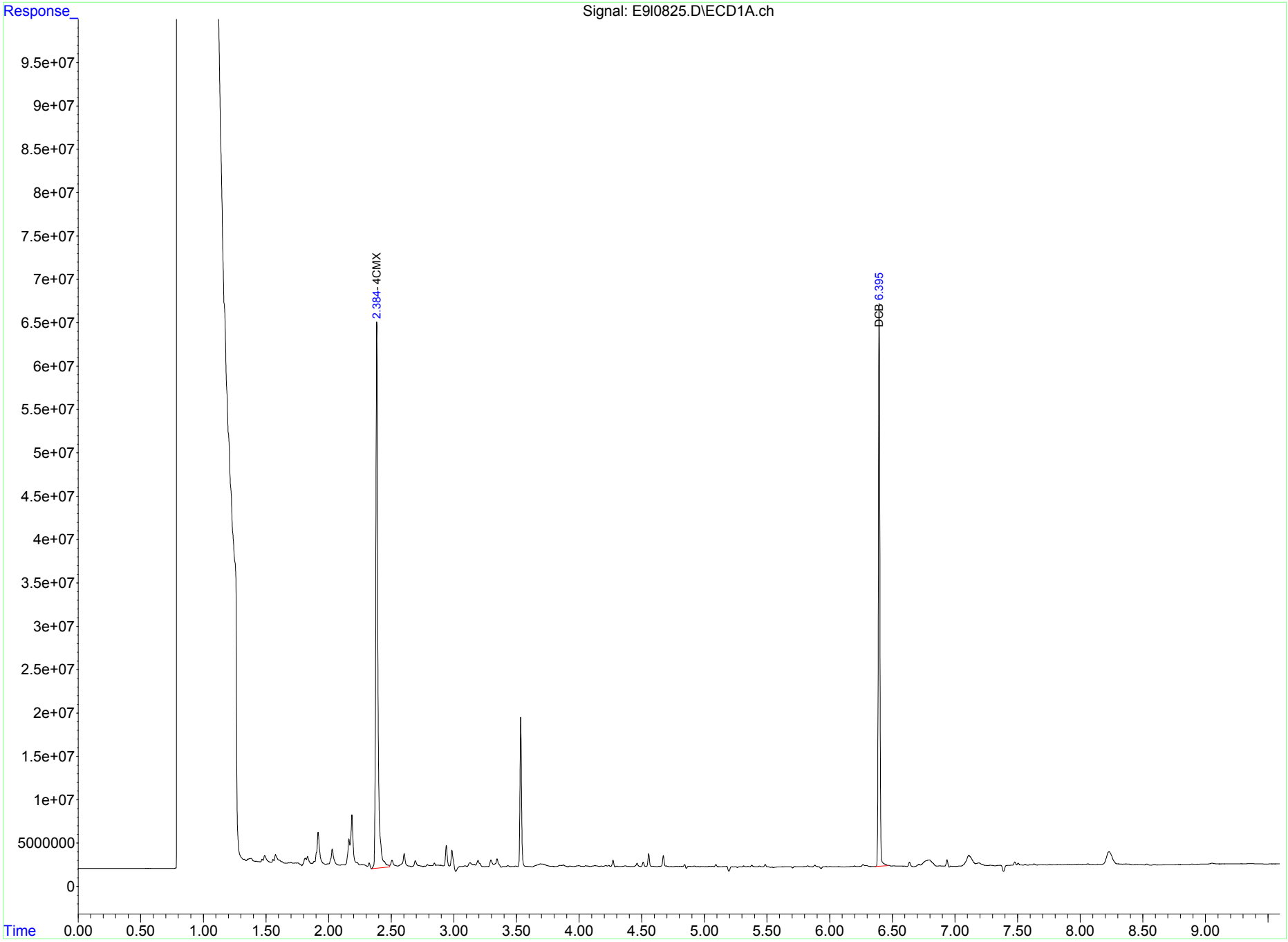
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	49%	51%
DCB	200.000	No Limits	48%	51%

Target Compounds

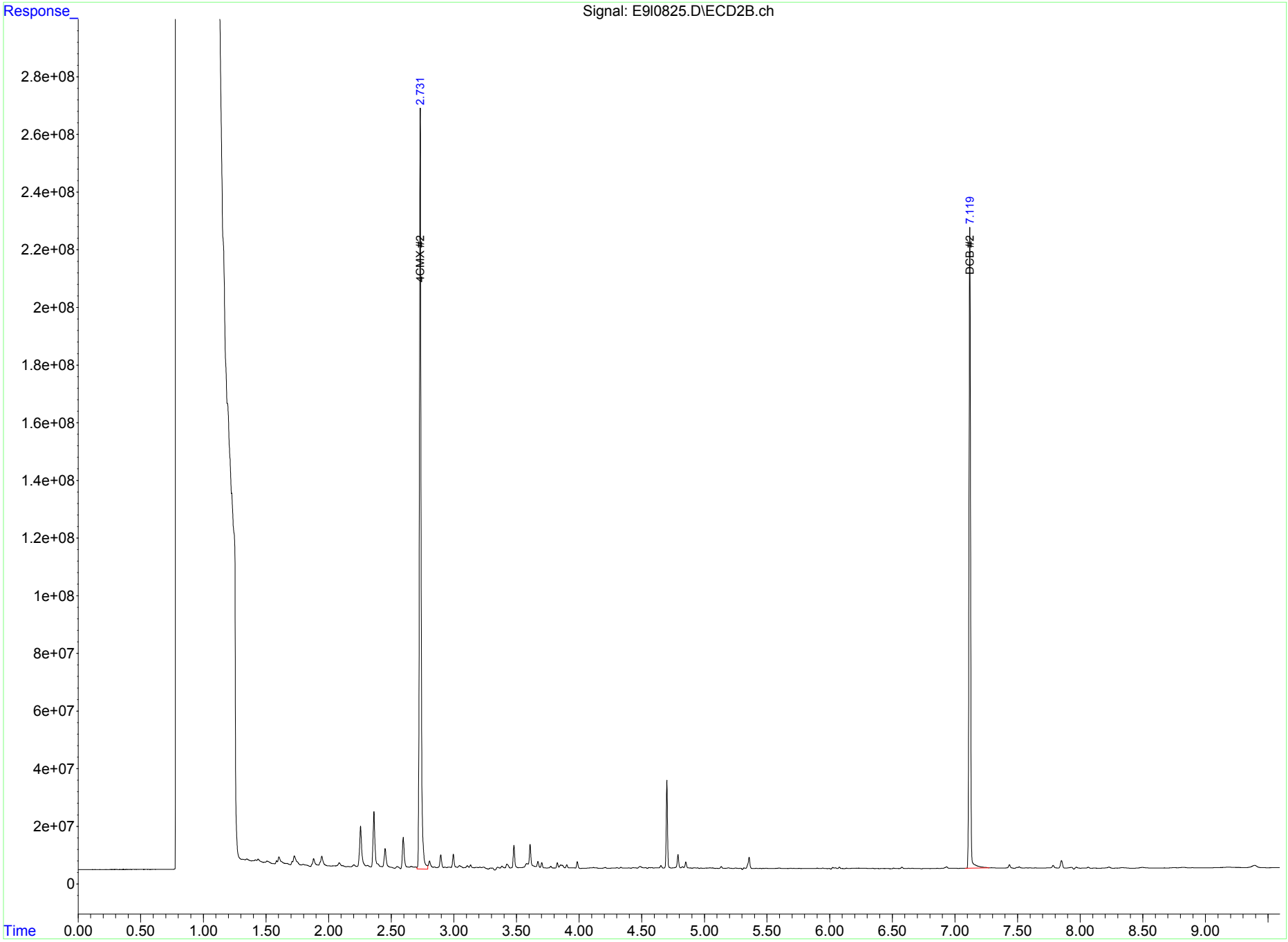
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0825.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0825.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.385	0.001	726556302	97.726	2.731	2.731	0.000	2452875603	101.456
DCB	6.397	6.395	-0.002	557464929	96.472	7.120	7.119	-0.001	1897682540	102.780

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	49%	51%
DCB	200.000	No Limits	48%	51%
4CMX	200.000	No Limits	49%	51%
DCB	200.000	No Limits	48%	51%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.940	-0.008	26668861	99.948	3.822	3.826	0.004	13626053	13.163
Aroclor-1016 {2}	3.303	3.296	-0.007	10621612	32.587	3.922	3.902	-0.020f	8568199	12.719
Aroclor-1016 {3}	3.402	0.000	-3.402	0	N.D.	4.000	3.985	-0.015	16933877	40.667
Sum Aroclor-1016				37290473	132.535				39128128	66.549 #
Average Aroclor-1016					66.268					<MDL
Aroclor-1221	2.526	2.506	-0.020f	10505498	106.384	2.976	2.996	0.020f	59510691	215.020
Aroclor-1221 {2}	2.643	0.000	-2.643	0	N.D.	3.092	3.108	0.016f	19278587	114.886
Aroclor-1221 {3}	2.674	2.692	0.018f	8315849	43.581	3.142	3.133	-0.009	24901527	37.691
Sum Aroclor-1221				18821347	149.965				103690805	367.597 #
Average Aroclor-1221					74.983					122.532 #
Aroclor-1232	2.674	2.692	0.018f	8315849	53.712	3.822	3.826	0.004	13626053	26.538
Aroclor-1232 {2}	3.304	3.296	-0.008	10621612	66.240	3.922	3.902	-0.020f	8568199	25.823
Aroclor-1232 {3}	3.402	0.000	-3.402	0	N.D.	3.999	3.985	-0.014	16933877	82.696
Sum Aroclor-1232				18937461	119.952				39128128	135.058
Average Aroclor-1232					59.976					45.019
Aroclor-1242	2.948	2.940	-0.008	26668861	122.646	3.821	3.826	0.005	13626053	16.944
Aroclor-1242 {2}	3.304	3.296	-0.008	10621612	40.430	3.922	3.902	-0.020f	8568199	16.294
Aroclor-1242 {3}	3.449	0.000	-3.449	0	N.D.	4.000	3.985	-0.015	16933877	51.881
Aroclor-1242 {4}	3.540	3.534	-0.006	145921820	1459.594	4.071	0.000	-4.071	0	N.D.
Sum Aroclor-1242				183212293	1622.670				39128128	85.119 #
Average Aroclor-1242					540.890					<MDL
Aroclor-1248	3.303	3.296	-0.007	10621612	70.013	3.821	3.826	0.005	13626053	30.730
Aroclor-1248 {2}	3.540	3.534	-0.006	145921820	802.765	4.071	0.000	-4.071	0	N.D.
Sum Aroclor-1248				156543432	872.779				13626053	30.730 #
Average Aroclor-1248					436.389					<MDL
Aroclor-1254 {2}	4.168	0.000	-4.168	0	N.D.	4.716	4.701	-0.015f	214669556	205.387
Aroclor-1254 {4}	4.647	4.672	0.025f	10284818	30.168	5.211	0.000	-5.211	0	N.D.
Aroclor-1254 {5}	4.778	0.000	-4.778	0	N.D.	5.336	5.317	-0.019f	4776217	7.206
Sum Aroclor-1254				10284818	30.168				219445773	212.593 #
Average Aroclor-1254					<MDL					106.297
Aroclor-1260	4.580	4.555	-0.025f	11754158	36.880	5.190	0.000	-5.190	0	N.D.
Aroclor-1260 {2}	4.776	0.000	-4.776	0	N.D.	5.335	5.317	-0.018f	4776217	3.838

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1260 {4}	5.441	0.000	-5.441	0	N.D.	6.039	6.025	-0.014	4950276	2.059
Sum Aroclor-1260				11754158	36.880				9726493	5.897 #
Average Aroclor-1260					36.880					<MDL
Aroclor-1262	4.580	4.555	-0.025f	11754158	47.486	5.190	0.000	-5.190	0	N.D.
Aroclor-1262 {2}	4.776	0.000	-4.776	0	N.D.	5.335	5.317	-0.018f	4776217	5.223
Aroclor-1262 {4}	5.441	0.000	-5.441	0	N.D.	6.039	6.025	-0.014	4950276	1.946
Sum Aroclor-1262				11754158	47.486				9726493	7.169 #
Average Aroclor-1262					47.486					<MDL
Aroclor-1268 {5}	6.266	0.000	-6.266	0	N.D.	6.937	6.934	-0.003	8133720	1.076
Sum Aroclor-1268				0	N.D.				8133720	1.076
Average Aroclor-1268					N.D.					<MDL
4,4' DDD	4.802	0.000	-4.802	0	N.D.	5.368	5.357	-0.011	42266043	<MDL

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0825.D

Aroclor-1016	Multi -	Deletion ==	DMP	
Aroclor-1221	Multi -	Deletion ==	DMP	
Aroclor-1232	Multi -	Deletion ==	DMP	
Aroclor-1242	Multi -	Deletion ==	DMP	
Aroclor-1248	Multi -	Deletion ==	DMP	
Aroclor-1254	Multi -	Deletion ==	DMP	
Aroclor-1260	Multi -	Deletion ==	DMP	
Aroclor-1262	Multi -	Deletion ==	DMP	
Aroclor-1268	Multi -	Deletion ==	DMP	
4,4' DDD #2	-	Deletion ==	DMP	

Standards

Calibration History Report ECD9
GEL Laboratories, LLC
Method File : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Last Update : Tue Dec 08 06:40:32 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

GS 12/08/2020

Cal Lvl:1 Amt:10.00 Last Updated with: C:\msdchem\1\data\120720.S\E9l0539.D

JC 12/08/2020

Injection Date	Mix	Calibration File
07 Dec 2020 09:01	A	C:\msdchem\1\data\120720.S\E9l0509.D
07 Dec 2020 10:16	B	C:\msdchem\1\data\120720.S\E9l0515.D
07 Dec 2020 11:30	D	C:\msdchem\1\data\120720.S\E9l0521.D
07 Dec 2020 12:45	E	C:\msdchem\1\data\120720.S\E9l0527.D
07 Dec 2020 13:59	O	C:\msdchem\1\data\120720.S\E9l0533.D
07 Dec 2020 15:13	K	C:\msdchem\1\data\120720.S\E9l0539.D

Cal Lvl:2 Amt:25.00 Last Updated with: C:\msdchem\1\data\120720.S\E9l0540.D

Injection Date	Mix	Calibration File
07 Dec 2020 09:14	A	C:\msdchem\1\data\120720.S\E9l0510.D
07 Dec 2020 10:28	B	C:\msdchem\1\data\120720.S\E9l0516.D
07 Dec 2020 11:43	D	C:\msdchem\1\data\120720.S\E9l0522.D
07 Dec 2020 12:57	E	C:\msdchem\1\data\120720.S\E9l0528.D
07 Dec 2020 14:11	O	C:\msdchem\1\data\120720.S\E9l0534.D
07 Dec 2020 15:26	K	C:\msdchem\1\data\120720.S\E9l0540.D

Cal Lvl:3 Amt:50.00 Last Updated with: C:\msdchem\1\data\120720.S\E9l0541.D

Injection Date	Mix	Calibration File
07 Dec 2020 09:26	A	C:\msdchem\1\data\120720.S\E9l0511.D
07 Dec 2020 10:40	B	C:\msdchem\1\data\120720.S\E9l0517.D
07 Dec 2020 11:55	D	C:\msdchem\1\data\120720.S\E9l0523.D
07 Dec 2020 13:09	E	C:\msdchem\1\data\120720.S\E9l0529.D
07 Dec 2020 14:24	O	C:\msdchem\1\data\120720.S\E9l0535.D
07 Dec 2020 15:38	K	C:\msdchem\1\data\120720.S\E9l0541.D

Cal Lvl:4 Amt:100.00 Last Updated with: C:\msdchem\1\data\120720.S\E9l0542.D

Injection Date	Mix	Calibration File
07 Dec 2020 09:38	A	C:\msdchem\1\data\120720.S\E9l0512.D
07 Dec 2020 10:53	B	C:\msdchem\1\data\120720.S\E9l0518.D
07 Dec 2020 12:07	D	C:\msdchem\1\data\120720.S\E9l0524.D
07 Dec 2020 13:22	E	C:\msdchem\1\data\120720.S\E9l0530.D
07 Dec 2020 07:59	J	C:\msdchem\1\data\120720.S\E9l0504.D
07 Dec 2020 14:36	O	C:\msdchem\1\data\120720.S\E9l0536.D
07 Dec 2020 07:34	X	C:\msdchem\1\data\120720.S\E9l0502.D
07 Dec 2020 07:47	F	C:\msdchem\1\data\120720.S\E9l0503.D
07 Dec 2020 15:51	K	C:\msdchem\1\data\120720.S\E9l0542.D

Cal Lvl:5 Amt:400.00 Last Updated with: C:\msdchem\1\data\120720.S\E9l0543.D

Injection Date	Mix	Calibration File
07 Dec 2020 09:51	A	C:\msdchem\1\data\120720.S\E9l0513.D
07 Dec 2020 11:05	B	C:\msdchem\1\data\120720.S\E9l0519.D
07 Dec 2020 12:20	D	C:\msdchem\1\data\120720.S\E9l0525.D
07 Dec 2020 13:34	E	C:\msdchem\1\data\120720.S\E9l0531.D
07 Dec 2020 14:49	O	C:\msdchem\1\data\120720.S\E9l0537.D
07 Dec 2020 16:03	K	C:\msdchem\1\data\120720.S\E9l0543.D

ECD9_8082_120720.m Tue Dec 08 08:53:59 2020

Response Factor Report ECD9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Last Update : Tue Dec 08 06:40:32 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

GS 12/08/2020

JC 12/08/2020

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

SDG: 2021-160

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
1)SA 4CMX	7.9389155	7.4778020	7.3106001	7.4785969	6.9670386		7.4346	AVRG	E6	4.7179
2)MAL1 Aroclor-1016	3.1693330	2.7919407	2.6479912	2.5909920	2.1411393		2.6683	AVRG	E5	13.9047
3)MAL1 Aroclor-1016 {2}	3.6196377	3.3591286	3.1855807	3.2708621	2.8619369		3.2594	AVRG	E5	8.4479
4)MAL1 Aroclor-1016 {3}	2.2543081	2.0212219	1.8770306	1.8830223	1.6254610		1.9322	AVRG	E5	11.8930
5)MAL1 Aroclor-1016 {4}	1.5875852	1.4260371	1.3326569	1.3491445	1.1973365		1.3786	AVRG	E5	10.3709
6)MAL1 Aroclor-1016 {5}	2.0904236	1.8727738	1.7355753	1.7550762	1.5266297		1.7961	AVRG	E5	11.4937
7)JL2 Aroclor-1221				9.8750369			9.8750	AVRG	E4	0.0000
8)JL2 Aroclor-1221 {2}				5.3452425			5.3452	AVRG	E4	0.0000
9)JL2 Aroclor-1221 {3}				1.9081444			1.9081	AVRG	E5	0.0000
10)FL3 Aroclor-1232				1.5482342			1.5482	AVRG	E5	0.0000
11)FL3 Aroclor-1232 {2}				1.6035114			1.6035	AVRG	E5	0.0000
12)FL3 Aroclor-1232 {3}				1.1239623			1.1240	AVRG	E5	0.0000
13)FL3 Aroclor-1232 {4}				6.7789973			6.7790	AVRG	E4	0.0000
14)FL3 Aroclor-1232 {5}				8.3328747			8.3329	AVRG	E4	0.0000
15)DL4 Aroclor-1242	2.5488419	2.2195479	2.2412652	2.1604833	1.7021769		2.1745	AVRG	E5	13.9850

Response Factor Report ECD9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Last Update : Tue Dec 08 06:40:32 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
16)DL4 Aroclor-1242 {2}	3.0214654	2.5987701	2.6684980	2.6451776	2.2017664		2.6271	AVRG	E5	11.0857
17)DL4 Aroclor-1242 {3}	1.3058296	1.1232644	1.1223916	1.1165681	0.9289655		1.1194	AVRG	E5	11.9063
18)DL4 Aroclor-1242 {4}	1.1844313	1.0255610	1.0147300	0.9689784	0.8050127		0.9997	AVRG	E5	13.5928
19)DL4 Aroclor-1242 {5}	1.6937834	1.4727738	1.4755415	1.4409481	1.1882857		1.4543	AVRG	E5	12.3528
20)EL5 Aroclor-1248	1.7158355	1.5188452	1.5101739	1.4992789	1.3413182		1.5171	AVRG	E5	8.7673
21)EL5 Aroclor-1248 {2}	2.1089828	1.8618455	1.8033012	1.7953291	1.5192367		1.8177	AVRG	E5	11.5588
22)EL5 Aroclor-1248 {3}	2.6670638	2.3564579	2.3199169	2.3088649	1.9676242		2.3240	AVRG	E5	10.6709
23)EL5 Aroclor-1248 {4}	3.0963657	2.7671362	2.7691969	2.8007159	2.4311546		2.7729	AVRG	E5	8.5005
24)EL5 Aroclor-1248 {5}	2.6762562	2.3812530	2.3925114	2.4026021	2.1242610		2.3954	AVRG	E5	8.1556
25)BL6 Aroclor-1254	3.1654479	2.8465002	2.4933364	2.6086912	2.2032574		2.6634	AVRG	E5	13.6567
26)BL6 Aroclor-1254 {2}	4.0346147	3.6647145	3.2340768	3.3780238	2.9390251		3.4501	AVRG	E5	12.1319
27)BL6 Aroclor-1254 {3}	5.4005258	5.0463642	4.4288287	4.6771081	3.9795664		4.7065	AVRG	E5	11.6550
28)BL6 Aroclor-1254 {4}	3.7793293	3.6165350	3.2423713	3.3961074	3.0112992		3.4091	AVRG	E5	8.8767
29)BL6 Aroclor-1254 {5}	3.7938102	3.6172157	3.1104100	3.2912267	2.8299233		3.3285	AVRG	E5	11.6105
30)MAL7 Aroclor-1260	3.5644285	3.2976856	3.1112562	3.1918586	2.7705682					

Response Factor Report ECD9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Last Update : Tue Dec 08 06:40:32 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
							3.1872	AVRG	E5	9.0649
31)MAL7 Aroclor-1260 {2}	5.4929320	5.0070512	4.7568017	4.9148901	4.2990552					
							4.8941	AVRG	E5	8.8164
32)MAL7 Aroclor-1260 {3}	3.3827578	3.0484453	2.9081211	3.0009087	2.6664350					
							3.0013	AVRG	E5	8.6331
33)MAL7 Aroclor-1260 {4}	7.5455517	7.0367661	6.8949759	7.1582792	6.4215566					
							7.0114	AVRG	E5	5.8328
34)MAL7 Aroclor-1260 {5}	3.9786234	3.6480010	3.4997927	3.6397016	3.3363994					
							3.6205	AVRG	E5	6.5458
35)KL8 Aroclor-1262	2.7979082	2.4128254	2.3248931	2.6016677	2.2391345					
							2.4753	AVRG	E5	9.0864
36)KL8 Aroclor-1262 {2}	3.7798256	3.2603749	3.1510804	3.5350236	3.0665014					
							3.3586	AVRG	E5	8.7645
37)KL8 Aroclor-1262 {3}	4.5791878	3.9719157	3.8907225	4.3813904	3.8223131					
							4.1291	AVRG	E5	8.0494
38)KL8 Aroclor-1262 {4}	8.1843824	7.2426772	7.3214844	8.2910128	7.2807331					
							7.6641	AVRG	E5	6.8600
39)KL8 Aroclor-1262 {5}	3.4535694	2.9323849	2.8967835	3.2561889	2.9118662					
							3.0902	AVRG	E5	8.1500
40)OL9 Aroclor-1268	1.0509656	0.9466420	0.9159555	1.0331006	0.8356275					
							0.9565	AVRG	E6	9.2253
41)OL9 Aroclor-1268 {2}	9.4665346	8.5277509	8.2961408	9.4883624	7.8957538					
							8.7349	AVRG	E5	8.1809
42)OL9 Aroclor-1268 {3}	8.1332221	7.3514305	7.1563262	8.0815393	6.7189657					
							7.4883	AVRG	E5	8.1468
43)OL9 Aroclor-1268 {4}	3.6085684	3.1627828	3.0302728	3.4102780	2.8989847					
							3.2222	AVRG	E5	8.9072
44)OL9 Aroclor-1268 {5}	2.4318124	2.2346109	2.1853810	2.4407605	1.9911937					
							2.2568	AVRG	E6	8.3080

Response Factor Report ECD9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Last Update : Tue Dec 08 06:40:32 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
45)X 4,4' DDT				6.6502752			6.6503	AVRG	E6	0.0000
46)X 4,4' DDD				6.9419636			6.9420	AVRG	E6	0.0000
47)X 4,4' DDE				8.8038423			8.8038	AVRG	E6	0.0000
48)SA DCB	6.2732078	5.7779847	5.6389340	5.8208209	5.3815008		5.7785	AVRG	E6	5.6317

----------COLUMN #2----------

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
1)SA 4CMX	2.2769582	2.3029332	2.3552350	2.5476918	2.6055444		2.4177	AVRG	E7	6.1720
2)MAL1 Aroclor-1016	1.0349389	1.0180287	1.0119117	1.0749482	1.0361481		1.0352	AVRG	E6	2.3751
3)MAL1 Aroclor-1016 {2}	7.0425378	6.6526416	6.5075787	6.9009650	6.5783663		6.7364	AVRG	E5	3.3618
4)MAL1 Aroclor-1016 {3}	4.2799855	4.0707101	3.9934524	4.2684629	4.2076291		4.1640	AVRG	E5	3.0391
5)MAL1 Aroclor-1016 {4}	4.2845819	3.9945641	3.8531561	4.0834968	3.9109688		4.0254	AVRG	E5	4.1988
6)MAL1 Aroclor-1016 {5}	4.3643136	4.0840485	3.9233514	4.1595827	4.0050135		4.1073	AVRG	E5	4.1036
7)JL2 Aroclor-1221				2.7676768			2.7677	AVRG	E5	0.0000
8)JL2 Aroclor-1221 {2}				1.6780681			1.6781	AVRG	E5	0.0000
9)JL2 Aroclor-1221 {3}				6.6067900						

Response Factor Report ECD9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Last Update : Tue Dec 08 06:40:32 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
							6.6068	AVRG	E5	0.0000
10)FL3 Aroclor-1232				5.1344764			5.1345	AVRG	E5	0.0000
11)FL3 Aroclor-1232 {2}				3.3180535			3.3181	AVRG	E5	0.0000
12)FL3 Aroclor-1232 {3}				2.0477188			2.0477	AVRG	E5	0.0000
13)FL3 Aroclor-1232 {4}				1.5866115			1.5866	AVRG	E5	0.0000
14)FL3 Aroclor-1232 {5}				1.7291230			1.7291	AVRG	E5	0.0000
15)DL4 Aroclor-1242	8.1296836	7.6316582	8.2398508	8.4838793	7.7239091		8.0418	AVRG	E5	4.4474
16)DL4 Aroclor-1242 {2}	5.4264006	5.1007722	5.3488988	5.4966824	4.9203279		5.2586	AVRG	E5	4.5830
17)DL4 Aroclor-1242 {3}	3.3978525	3.1250788	3.2743634	3.4043941	3.1181141		3.2640	AVRG	E5	4.2870
18)DL4 Aroclor-1242 {4}	3.1809346	2.8660004	2.9685357	3.0494814	2.7106859		2.9551	AVRG	E5	6.0479
19)DL4 Aroclor-1242 {5}	3.4206286	3.0801728	3.2070341	3.2888108	2.9294113		3.1852	AVRG	E5	5.9381
20)EL5 Aroclor-1248	4.4289254	4.1874574	4.4477986	4.6332740	4.4733538		4.4342	AVRG	E5	3.6058
21)EL5 Aroclor-1248 {2}	5.7214046	5.3079086	5.4939604	5.7206462	5.3790892		5.5246	AVRG	E5	3.4609
22)EL5 Aroclor-1248 {3}	7.1623448	6.7726698	7.1028847	7.4437075	7.0060524		7.0975	AVRG	E5	3.4366
23)EL5 Aroclor-1248 {4}	8.3775835	7.9965790	8.4332523	8.9490407	8.4753603		8.4464	AVRG	E5	4.0181

Response Factor Report ECD9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Last Update : Tue Dec 08 06:40:32 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
24)EL5 Aroclor-1248 {5}	9.2447306	8.8764665	9.3591339	9.9456754	9.4207781		9.3694	AVRG	E5	4.1107
25)BL6 Aroclor-1254	9.7308768	9.5039820	8.6692697	9.5584646	8.8834946		9.2692	AVRG	E5	5.0042
26)BL6 Aroclor-1254 {2}	1.0959595	1.0728739	0.9757784	1.0776803	1.0036735		1.0452	AVRG	E6	5.0039
27)BL6 Aroclor-1254 {3}	1.5533685	1.5593766	1.4193203	1.5807301	1.4749471		1.5175	AVRG	E6	4.4800
28)BL6 Aroclor-1254 {4}	1.0873812	1.1217356	1.0121037	1.1274632	1.0630664		1.0824	AVRG	E6	4.3625
29)BL6 Aroclor-1254 {5}	7.0396076	6.7738827	6.0263552	6.7287027	6.5725139		6.6282	AVRG	E5	5.6747
30)MAL7 Aroclor-1260	1.0098834	0.9673821	0.9623684	1.0407108	1.0021612		0.9965	AVRG	E6	3.2434
31)MAL7 Aroclor-1260 {2}	1.2400583	1.2059381	1.2003023	1.2999181	1.2757165		1.2444	AVRG	E6	3.4811
32)MAL7 Aroclor-1260 {3}	9.5646095	9.1797652	9.0794488	9.9596248	9.8013226		9.5170	AVRG	E5	4.0156
33)MAL7 Aroclor-1260 {4}	2.3352678	2.2895179	2.3210490	2.5252385	2.5487602		2.4040	AVRG	E6	5.1102
34)MAL7 Aroclor-1260 {5}	1.6339382	1.5758309	1.5753645	1.7168441	1.7227618		1.6449	AVRG	E6	4.4011
35)KL8 Aroclor-1262	7.0745916	6.9041051	6.9448140	8.2755016	7.8559472		7.4110	AVRG	E5	8.3528
36)KL8 Aroclor-1262 {2}	0.9078854	0.8271065	0.8414352	1.0232794	0.9727130		0.9145	AVRG	E6	9.1884
37)KL8 Aroclor-1262 {3}	1.2815044	1.1826773	1.2232735	1.4603588	1.3973864		1.3090	AVRG	E6	8.9401
38)KL8 Aroclor-1262 {4}	2.4263043	2.2601147	2.3703365	2.8419749	2.8186576		2.5435	AVRG	E6	10.5648

Response Factor Report ECD9
GEL Laboratories, LLC

Method File : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Last Update : Tue Dec 08 06:40:32 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

For Linear Calibration: x = concentration ratio, y = response ratio. y = b + m1(x) + m2(xE2)

Compound	1	2	3	4	5		Avg	Curve	Exp	%RSD/r2
b m1 m2										
39)KL8 Aroclor-1262 {5}	1.7249669	1.5695608	1.6377796	1.9538458	1.9213660		1.7615	AVRG	E6	9.6690
40)OL9 Aroclor-1268	3.1355496	2.9922150	3.0153774	3.6151739	3.3283079		3.2173	AVRG	E6	8.0565
41)OL9 Aroclor-1268 {2}	2.7952725	2.6675105	2.7216480	3.3247989	2.9827146		2.8984	AVRG	E6	9.1951
42)OL9 Aroclor-1268 {3}	2.3542395	2.2487098	2.2819357	2.7060674	2.4704201		2.4123	AVRG	E6	7.6664
43)OL9 Aroclor-1268 {4}	1.0233430	0.9523539	0.9495262	1.1497195	1.0332780		1.0216	AVRG	E6	7.9735
44)OL9 Aroclor-1268 {5}	7.5520409	7.3514074	7.4881556	8.8479221	6.5454640		7.5570	AVRG	E6	10.9455
45)X 4,4' DDT				2.6409556			2.6410	AVRG	E7	0.0000
46)X 4,4' DDD				2.4725645			2.4726	AVRG	E7	0.0000
47)X 4,4' DDE				3.1880416			3.1880	AVRG	E7	0.0000
48)SA DCB	1.8268838	1.7722633	1.7839991	1.9177531	1.9308536		1.8464	AVRG	E7	4.0162

(#) = Out of Range ($) = Individual RF Out of Range ### Number of calibration levels exceeded format ###
AVRG = Average, LINR = Linear Regression, 1/x = the inverse of concentration, 1/x^2 = the inverse square of concentration

COMPOUND LISTING
GEL Laboratories, LLC

GS 12/08/2020

Method File : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Last Update : Tue Dec 08 06:40:32 2020
Integrator : (ChemStation Integrator) Response via : Initial Calibration

JC 12/08/2020

Integration Parameter File: autoint1.e

*** Integrator Events ***
Initial Threshold 20.0
Initial Peak Width 0.005
Initial Area Reject 0.0
Shoulders OFF

Integration Parameter File: autoint2.e

*** Integrator Events ***
Initial Threshold 20.0
Initial Peak Width 0.005
Initial Area Reject 0.0
Shoulders OFF

Compound	RT	RT Window
1)SA 4CMX	2.384	2.354- 2.414
2)MAL1Aroclor-1016	2.948	2.918- 2.978
3)MAL1Aroclor-1016 {2}	3.303	3.273- 3.333
4)MAL1Aroclor-1016 {3}	3.402	3.372- 3.432
5)MAL1Aroclor-1016 {4}	3.448	3.418- 3.478
6)MAL1Aroclor-1016 {5}	3.704	3.674- 3.734
7)JL2 Aroclor-1221	2.526	2.496- 2.556
8)JL2 Aroclor-1221 {2}	2.643	2.613- 2.673
9)JL2 Aroclor-1221 {3}	2.674	2.644- 2.704
10)FL3 Aroclor-1232	2.674	2.644- 2.704
11)FL3 Aroclor-1232 {2}	3.304	3.274- 3.334
12)FL3 Aroclor-1232 {3}	3.402	3.372- 3.432
13)FL3 Aroclor-1232 {4}	3.448	3.418- 3.478
14)FL3 Aroclor-1232 {5}	3.704	3.674- 3.734
15)DL4 Aroclor-1242	2.948	2.918- 2.978
16)DL4 Aroclor-1242 {2}	3.304	3.274- 3.334
17)DL4 Aroclor-1242 {3}	3.449	3.419- 3.479
18)DL4 Aroclor-1242 {4}	3.540	3.510- 3.570
19)DL4 Aroclor-1242 {5}	3.704	3.674- 3.734
20)EL5 Aroclor-1248	3.303	3.273- 3.333
21)EL5 Aroclor-1248 {2}	3.540	3.510- 3.570
22)EL5 Aroclor-1248 {3}	3.704	3.674- 3.734
23)EL5 Aroclor-1248 {4}	4.011	3.981- 4.041
24)EL5 Aroclor-1248 {5}	4.031	4.001- 4.061
25)BL6 Aroclor-1254	3.980	3.950- 4.010
26)BL6 Aroclor-1254 {2}	4.168	4.138- 4.198
27)BL6 Aroclor-1254 {3}	4.451	4.421- 4.481
28)BL6 Aroclor-1254 {4}	4.647	4.617- 4.677
29)BL6 Aroclor-1254 {5}	4.778	4.748- 4.808
30)MAL7Aroclor-1260	4.580	4.550- 4.610
31)MAL7Aroclor-1260 {2}	4.776	4.746- 4.806
32)MAL7Aroclor-1260 {3}	5.052	5.022- 5.082
33)MAL7Aroclor-1260 {4}	5.441	5.411- 5.471
34)MAL7Aroclor-1260 {5}	5.639	5.609- 5.669
35)KL8 Aroclor-1262	4.580	4.555- 4.610
36)KL8 Aroclor-1262 {2}	4.776	4.751- 4.806
37)KL8 Aroclor-1262 {3}	5.052	5.027- 5.082
38)KL8 Aroclor-1262 {4}	5.441	5.416- 5.471
39)KL8 Aroclor-1262 {5}	5.662	5.637- 5.692
40)OL9 Aroclor-1268	5.661	5.636- 5.691
41)OL9 Aroclor-1268 {2}	5.688	5.663- 5.718
42)OL9 Aroclor-1268 {3}	5.823	5.798- 5.853
43)OL9 Aroclor-1268 {4}	6.069	6.044- 6.099
44)OL9 Aroclor-1268 {5}	6.266	6.241- 6.296

45)X 4,4' DDT	4.996	4.971- 5.026
46)X 4,4' DDD	4.802	4.777- 4.832
47)X 4,4' DDE	4.375	4.345- 4.405
48)SA DCB	6.397	6.367- 6.427
49) Column #2	4.866	4.836- 4.896
50)SA 4CMX #2	2.731	2.701- 2.761
51)MAL1Aroclor-1016 #2	3.822	3.792- 3.852
52)MAL1Aroclor-1016 {2} #2	3.922	3.892- 3.952
53)MAL1Aroclor-1016 {3} #2	4.000	3.970- 4.030
54)MAL1Aroclor-1016 {4} #2	4.071	4.041- 4.101
55)MAL1Aroclor-1016 {5} #2	4.104	4.074- 4.134
56)JL2 Aroclor-1221 #2	2.976	2.946- 3.006
57)JL2 Aroclor-1221 {2} #2	3.092	3.062- 3.122
58)JL2 Aroclor-1221 {3} #2	3.142	3.112- 3.172
59)FL3 Aroclor-1232 #2	3.822	3.792- 3.852
60)FL3 Aroclor-1232 {2} #2	3.922	3.892- 3.952
61)FL3 Aroclor-1232 {3} #2	3.999	3.969- 4.029
62)FL3 Aroclor-1232 {4} #2	4.072	4.042- 4.102
63)FL3 Aroclor-1232 {5} #2	4.104	4.074- 4.135
64)DL4 Aroclor-1242 #2	3.821	3.791- 3.851
65)DL4 Aroclor-1242 {2} #2	3.922	3.892- 3.952
66)DL4 Aroclor-1242 {3} #2	4.000	3.970- 4.030
67)DL4 Aroclor-1242 {4} #2	4.071	4.041- 4.101
68)DL4 Aroclor-1242 {5} #2	4.104	4.074- 4.134
69)EL5 Aroclor-1248 #2	3.821	3.791- 3.851
70)EL5 Aroclor-1248 {2} #2	4.071	4.041- 4.101
71)EL5 Aroclor-1248 {3} #2	4.272	4.242- 4.302
72)EL5 Aroclor-1248 {4} #2	4.549	4.519- 4.579
73)EL5 Aroclor-1248 {5} #2	4.584	4.554- 4.614
74)BL6 Aroclor-1254 #2	4.580	4.550- 4.610
75)BL6 Aroclor-1254 {2} #2	4.716	4.686- 4.746
76)BL6 Aroclor-1254 {3} #2	5.051	5.021- 5.081
77)BL6 Aroclor-1254 {4} #2	5.211	5.181- 5.241
78)BL6 Aroclor-1254 {5} #2	5.336	5.306- 5.366
79)MAL7Aroclor-1260 #2	5.190	5.160- 5.220
80)MAL7Aroclor-1260 {2} #2	5.335	5.306- 5.365
81)MAL7Aroclor-1260 {3} #2	5.656	5.626- 5.686
82)MAL7Aroclor-1260 {4} #2	6.039	6.009- 6.069
83)MAL7Aroclor-1260 {5} #2	6.301	6.271- 6.331
84)KL8 Aroclor-1262 #2	5.190	5.160- 5.220
85)KL8 Aroclor-1262 {2} #2	5.335	5.305- 5.365
86)KL8 Aroclor-1262 {3} #2	5.656	5.626- 5.686
87)KL8 Aroclor-1262 {4} #2	6.039	6.009- 6.069
88)KL8 Aroclor-1262 {5} #2	6.296	6.266- 6.326
89)OL9 Aroclor-1268 #2	6.294	6.264- 6.324
90)OL9 Aroclor-1268 {2} #2	6.327	6.297- 6.357
91)OL9 Aroclor-1268 {3} #2	6.508	6.478- 6.538
92)OL9 Aroclor-1268 {4} #2	6.703	6.673- 6.733
93)OL9 Aroclor-1268 {5} #2	6.937	6.907- 6.967
94)X 4,4' DDT #2	5.592	5.562- 5.622
95)X 4,4' DDD #2	5.368	5.338- 5.398
96)X 4,4' DDE #2	4.954	4.654- 5.254
97)SA DCB #2	7.120	7.090- 7.150

ECD9_8082_120720.m Tue Dec 08 08:54:07 2020

Quantitation Report
GEL Laboratories, LLC

12/08/2020

12/08/2020

Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0509.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 07 Dec 2020 09:01 (#1); 7 Dec 2020 9:01 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR201207-01|ICAL|1|SVA|1|AR1660-1
Misc : |MIX[A]
ALS Vial : 9 Sample Multiplier: 1

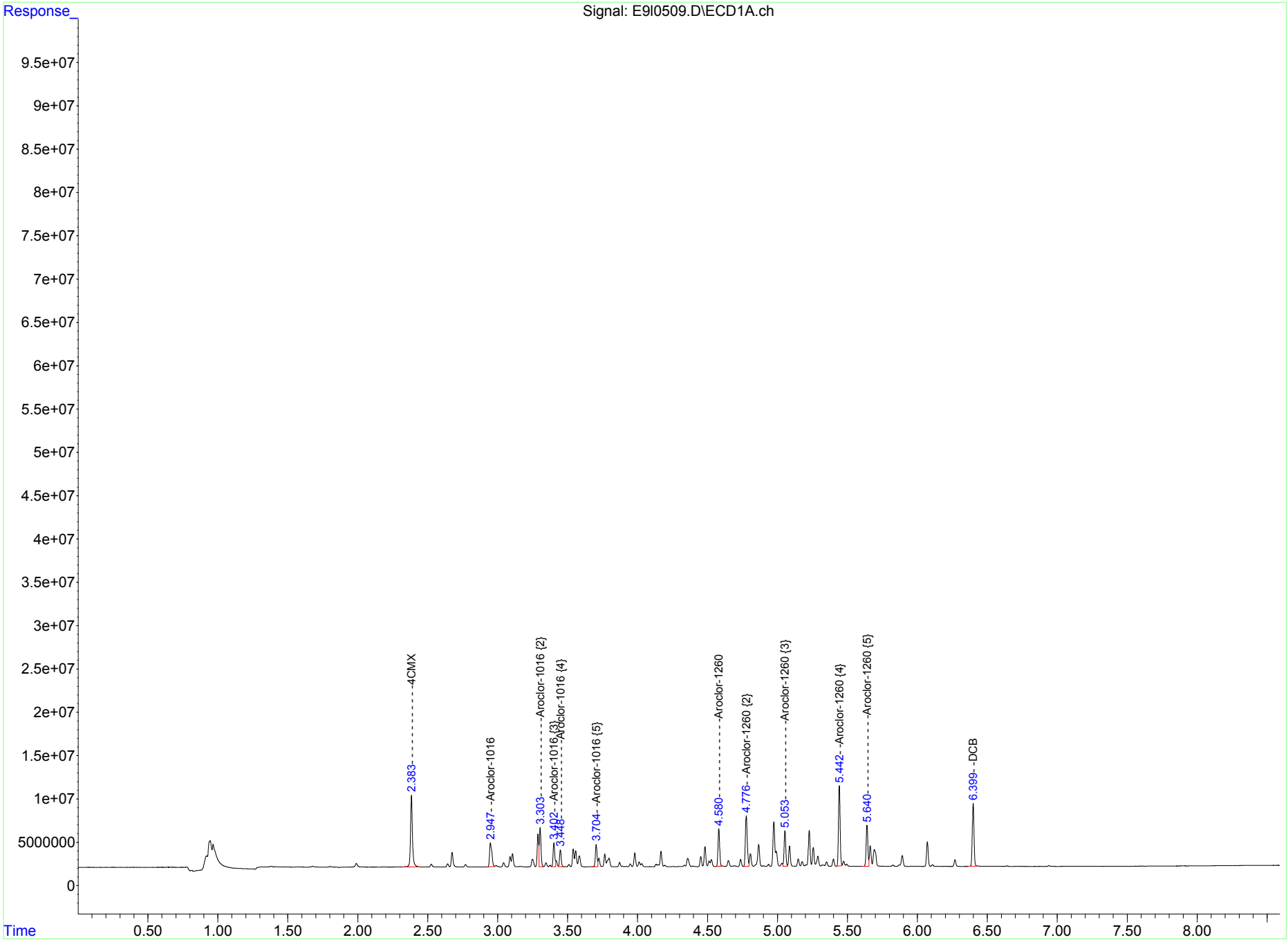
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 06:41:21 2020
Quant Method : C:\msdchem\1\data\120720.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

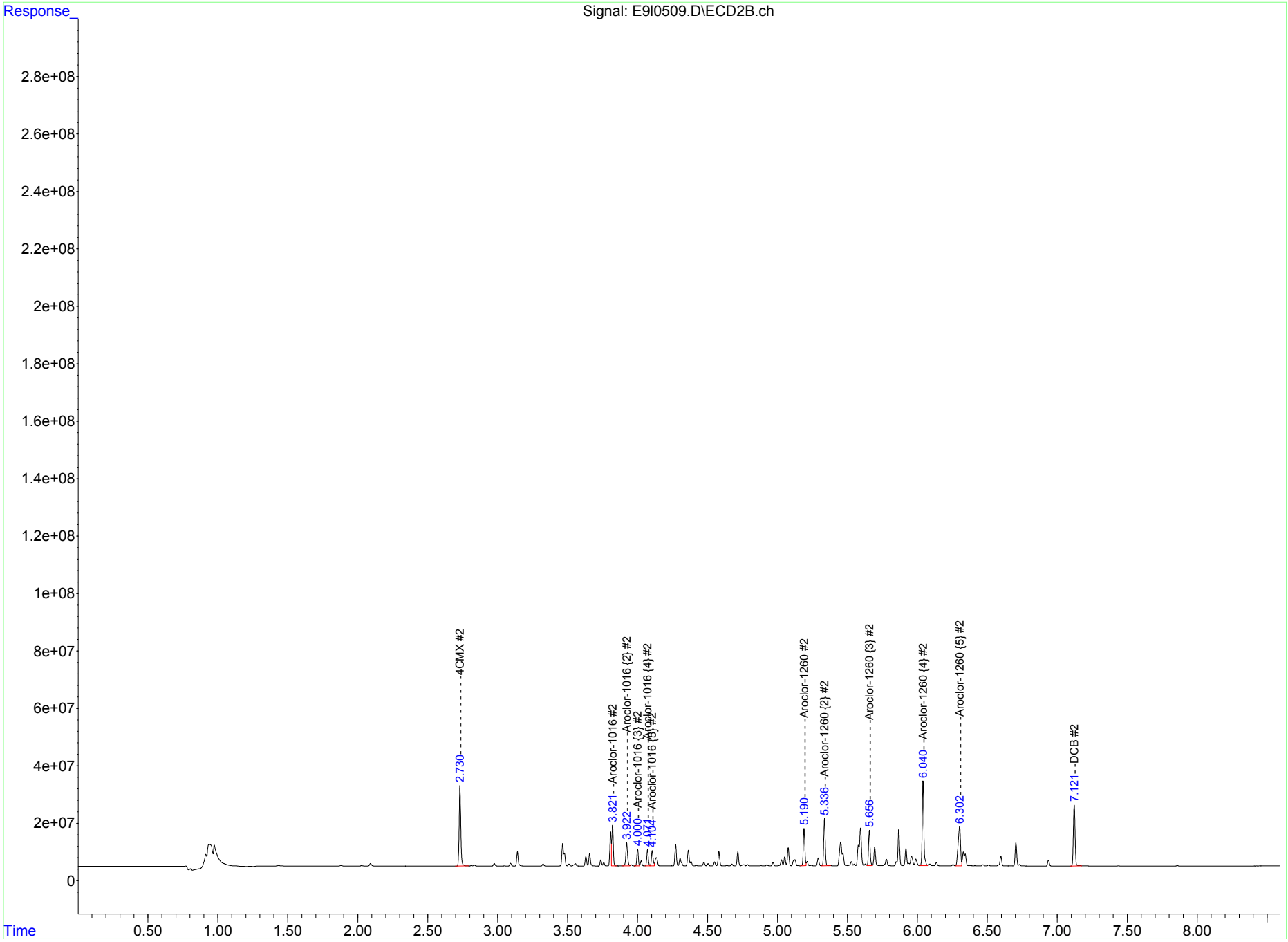
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	79389155	10.678	2.731	2.730	-0.001	227695823	9.418
DCB	6.398	6.399	0.001	62732078	10.856	7.121	7.121	0.000	182688377	9.895
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.948	0.000	31693330	118.778	3.822	3.821	-0.001	103493891	99.975
Aroclor-1016 {2}	3.304	3.304	0.000	36196377	111.051	3.922	3.922	0.000	70425378	104.544
Aroclor-1016 {3}	3.402	3.402	0.000	22543081	116.670	4.000	4.000	0.000	42799855	102.784
Aroclor-1016 {4}	3.448	3.448	0.000	15875852	115.163	4.071	4.071	0.000	42845819	106.440
Aroclor-1016 {5}	3.704	3.704	0.000	20904236	116.387	4.104	4.104	0.000	43643136	106.258
Sum Aroclor-1016				127212877	578.050				303208079	520.002
Average Aroclor-1016					115.610					104.000
Aroclor-1260	4.580	4.581	0.001	35644285	111.837	5.190	5.190	0.000	100988337	101.343
Aroclor-1260 {2}	4.776	4.777	0.001	54929320	112.235	5.336	5.336	0.000	124005830	99.652
Aroclor-1260 {3}	5.053	5.053	0.000	33827578	112.708	5.656	5.657	0.001	95646095	100.501
Aroclor-1260 {4}	5.441	5.442	0.001	75455517	107.618	6.040	6.040	0.000	233526775	97.142
Aroclor-1260 {5}	5.639	5.640	0.001	39786234	109.891	6.303	6.302	-0.001	163393817	99.331
Sum Aroclor-1260				239642934	554.290				717560855	497.969
Average Aroclor-1260					110.858					99.594

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0509.D



Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0509.D



Quantitation Report
GEL Laboratories, LLC

12/08/2020

12/08/2020

Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0510.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 07 Dec 2020 09:14 (#1); 7 Dec 2020 9:14 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR201207-02|ICAL|1|SVA|1|AR1660-2
Misc : |MIX[A]
ALS Vial : 10 Sample Multiplier: 1

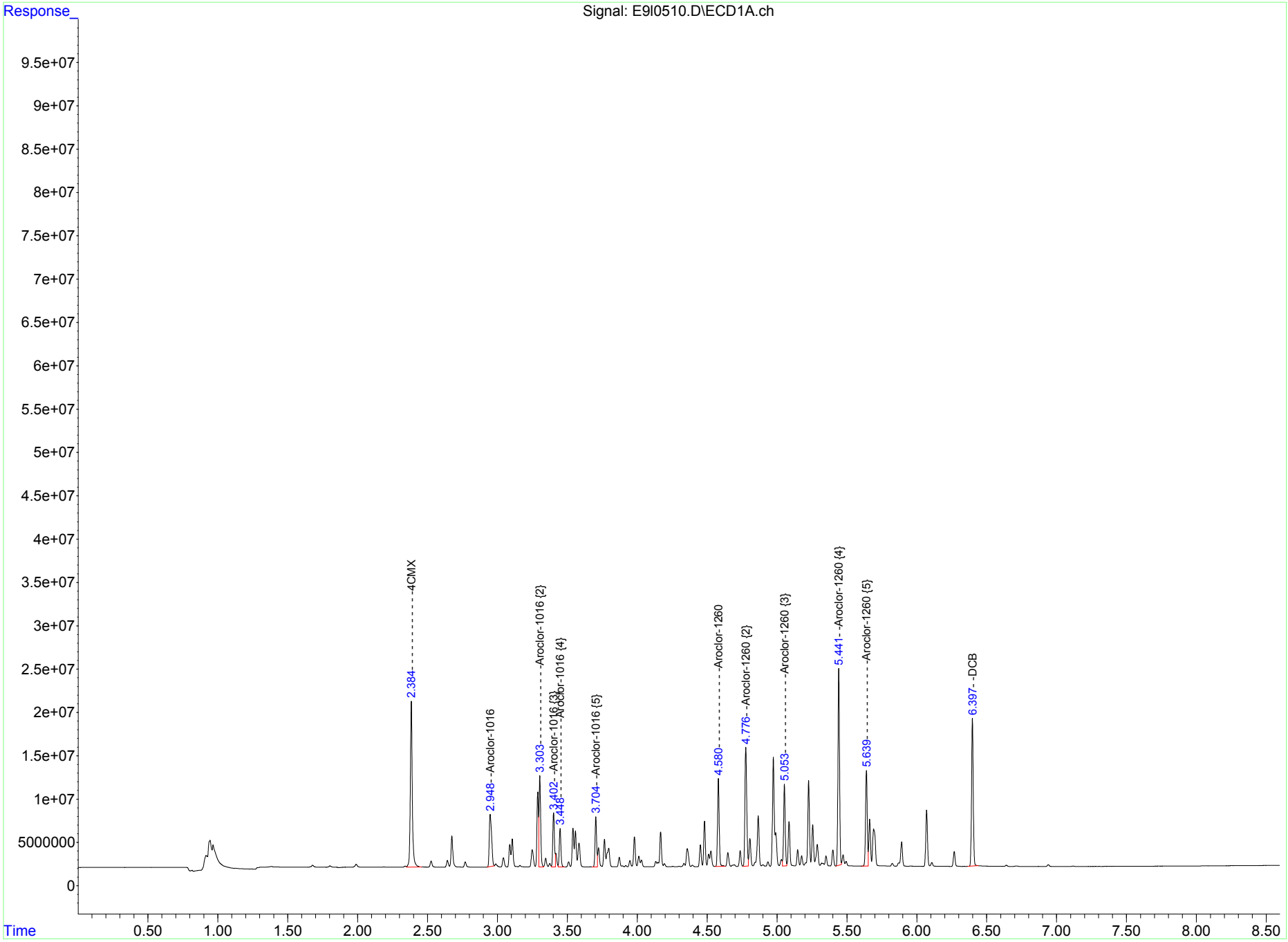
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 06:41:24 2020
Quant Method : C:\msdchem\1\data\120720.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	186945049	25.145	2.731	2.731	0.000	575733293	23.814
DCB	6.398	6.398	0.000	144449619	24.998	7.121	7.121	0.000	443065823	23.997
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.948	0.000	69798518	261.586	3.822	3.822	0.000	254507183	245.854
Aroclor-1016 {2}	3.304	3.304	0.000	83978215	257.647	3.922	3.922	0.000	166316039	246.891
Aroclor-1016 {3}	3.402	3.402	0.000	50530548	261.517	4.000	4.000	0.000	101767753	244.396
Aroclor-1016 {4}	3.448	3.449	0.001	35650928	258.611	4.071	4.072	0.001	99864103	248.088
Aroclor-1016 {5}	3.704	3.704	0.000	46819346	260.673	4.104	4.105	0.001	102101212	248.587
Sum Aroclor-1016				286777556	1300.035				724556291	1233.816
Average Aroclor-1016					260.007					246.763
Aroclor-1260	4.580	4.581	0.001	82442140	258.670	5.190	5.190	0.000	241845527	242.695
Aroclor-1260 {2}	4.776	4.777	0.001	125176281	255.767	5.336	5.336	0.000	301484537	242.276
Aroclor-1260 {3}	5.053	5.053	0.000	76211132	253.924	5.656	5.656	0.000	229494130	241.142
Aroclor-1260 {4}	5.441	5.442	0.001	175919152	250.904	6.040	6.040	0.000	572379486	238.098
Aroclor-1260 {5}	5.639	5.640	0.001	91200026	251.899	6.303	6.301	-0.002	393957725	239.496
Sum Aroclor-1260				550948731	1271.163				1739161404	1203.706
Average Aroclor-1260					254.233					240.741

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0510.D



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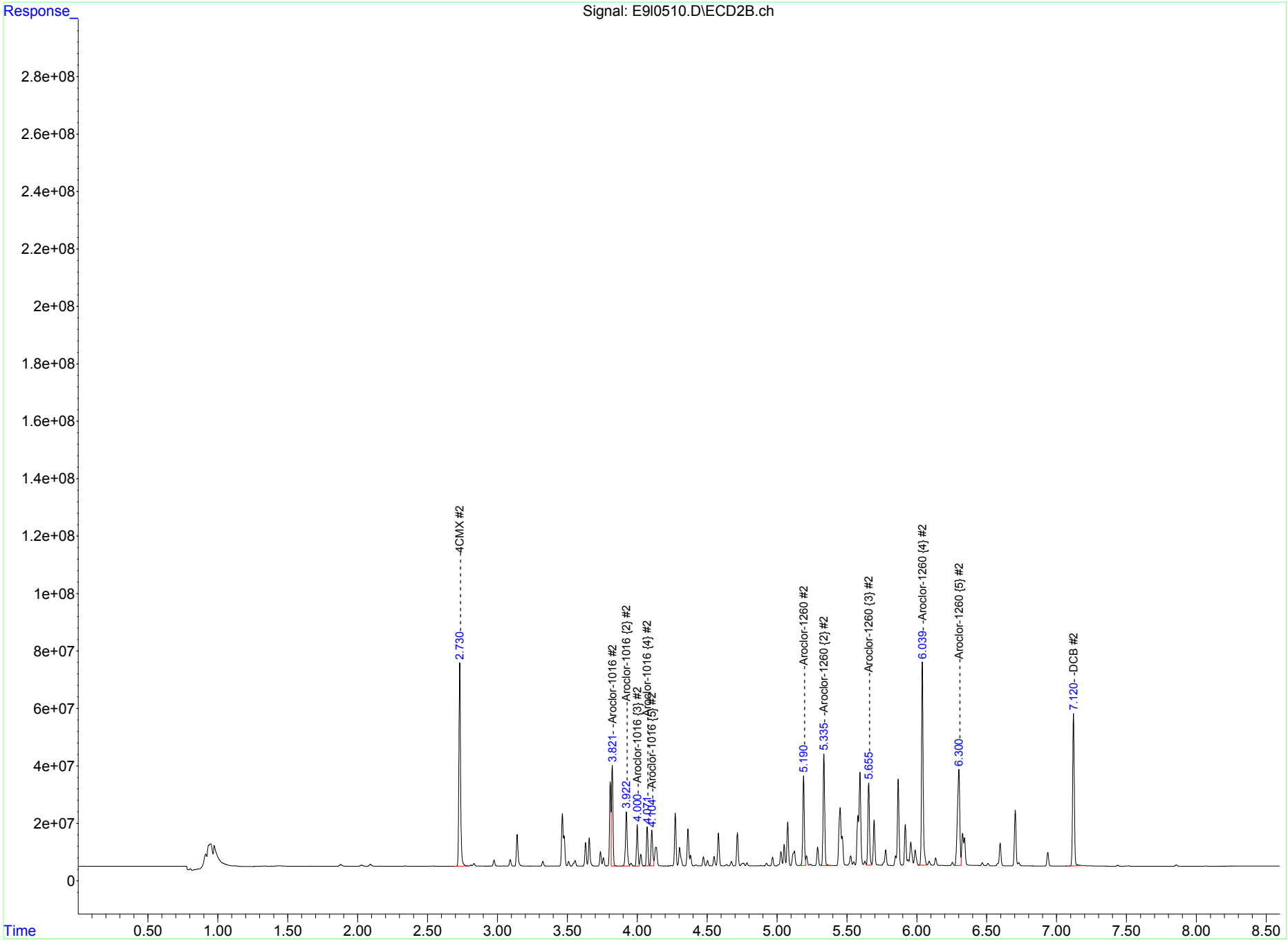
Data File : E9l0510.D



Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0511.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 07 Dec 2020 09:26 (#1); 7 Dec 2020 9:26 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR201207-03|ICAL|1|SVA|1|AR1660-3
Misc : |MIX[A]
ALS Vial : 11 Sample Multiplier: 1

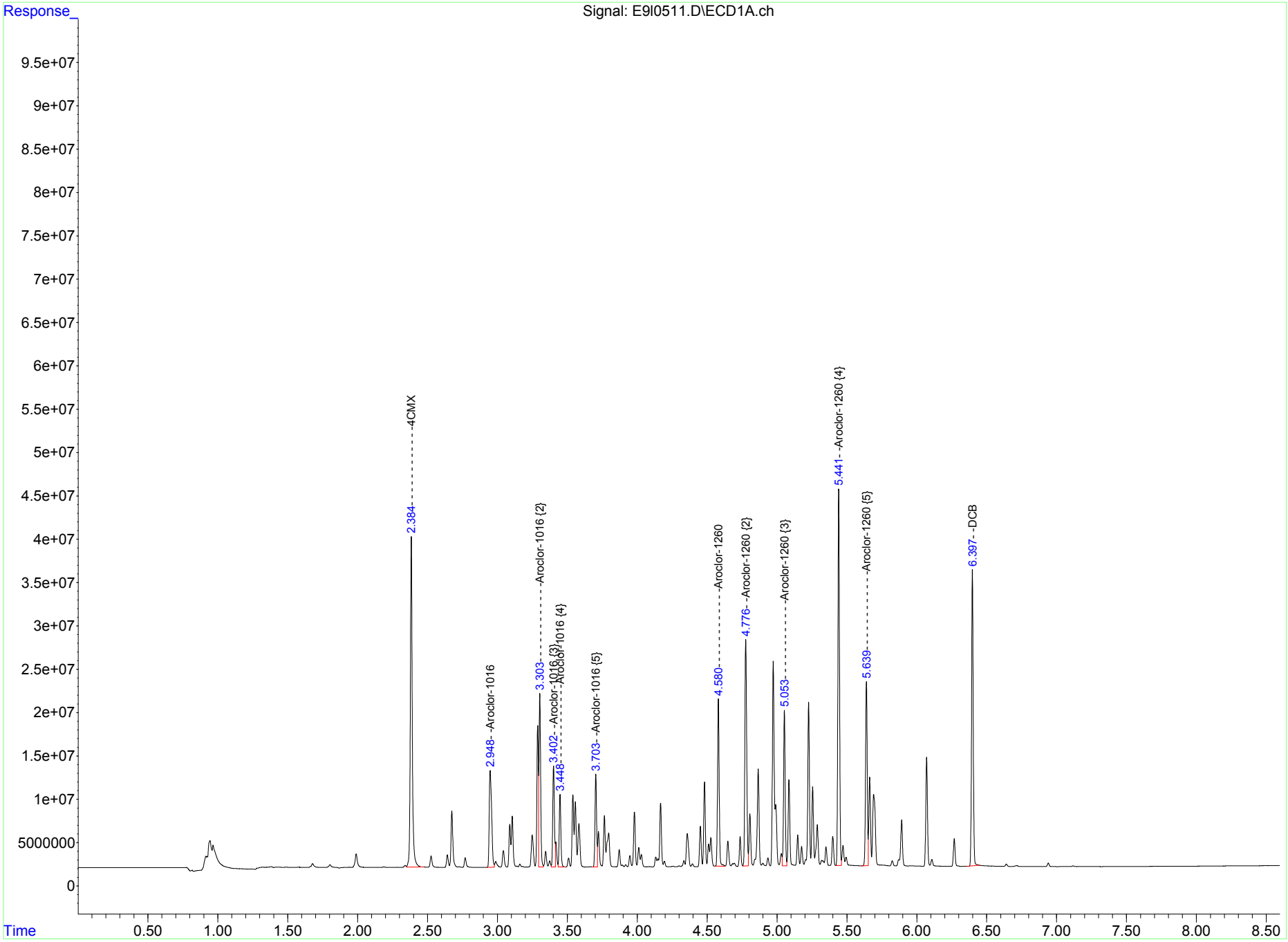
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 06:41:27 2020
Quant Method : C:\msdchem\1\data\120720.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

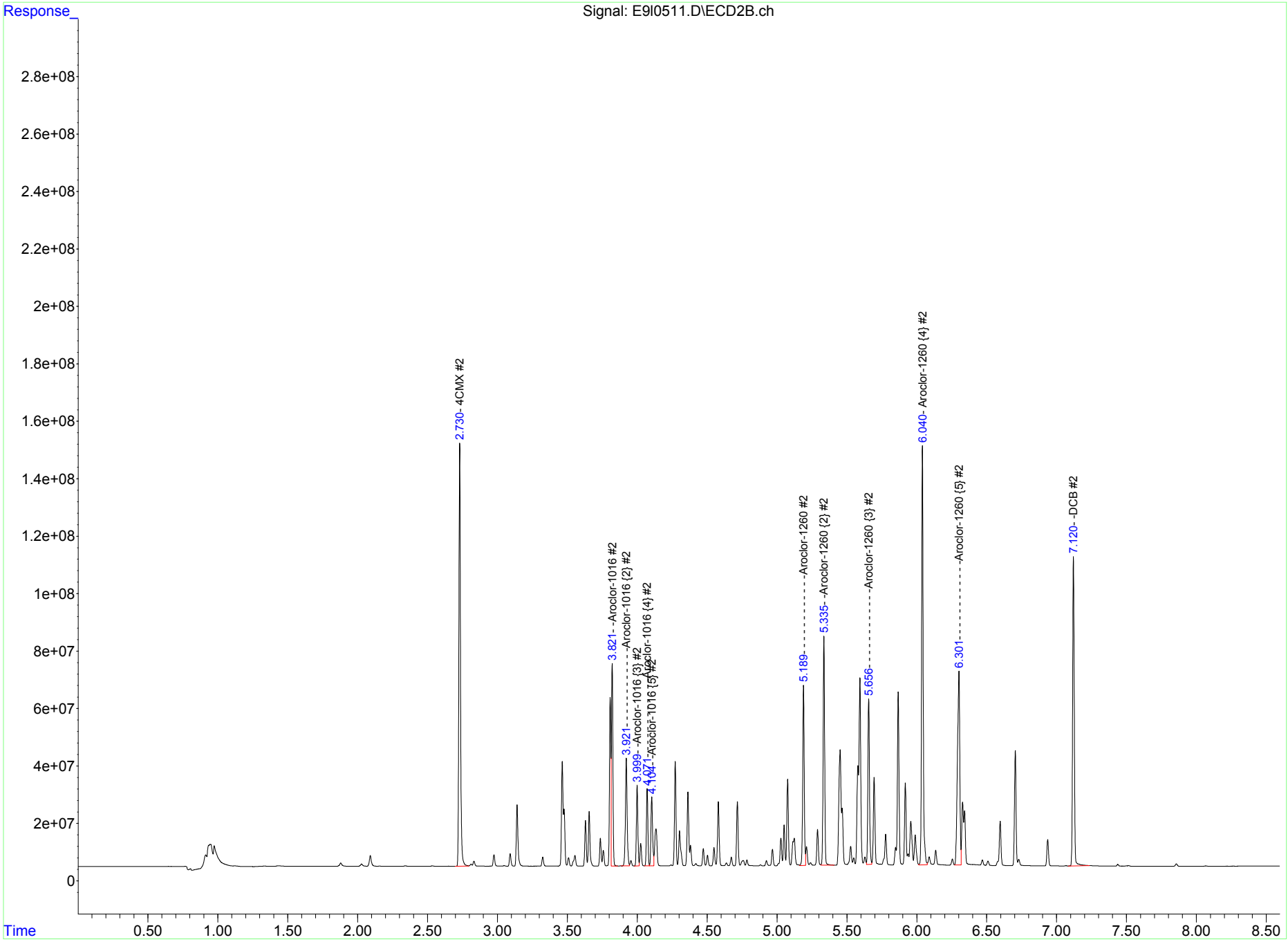
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	365530006	49.166	2.731	2.730	-0.001	1177617475	48.709
DCB	6.398	6.398	0.000	281946698	48.792	7.121	7.120	-0.001	891999554	48.311
Target Compounds										
Aroclor-1016	2.948	2.948	0.000	132399562	496.198	3.822	3.821	-0.001	505955828	488.754
Aroclor-1016 {2}	3.304	3.304	0.000	159279036	488.672	3.922	3.922	0.000	325378935	483.015
Aroclor-1016 {3}	3.402	3.402	0.000	93851531	485.721	4.000	3.999	-0.001	199672621	479.516
Aroclor-1016 {4}	3.448	3.448	0.000	66632843	483.354	4.071	4.072	0.001	192657803	478.611
Aroclor-1016 {5}	3.704	3.704	0.000	86778767	483.152	4.104	4.104	0.000	196167569	477.612
Sum Aroclor-1016				538941740	2437.097				1419832755	2407.507
Average Aroclor-1016					487.419					481.501
Aroclor-1260	4.580	4.581	0.001	155562810	488.092	5.190	5.190	0.000	481184217	482.874
Aroclor-1260 {2}	4.776	4.776	0.000	237840084	485.969	5.336	5.336	0.000	600151137	482.287
Aroclor-1260 {3}	5.053	5.053	0.000	145406054	484.471	5.656	5.656	0.000	453972439	477.014
Aroclor-1260 {4}	5.441	5.441	0.000	344748793	491.696	6.040	6.040	0.000	1160524489	482.754
Aroclor-1260 {5}	5.639	5.640	0.001	174989637	483.330	6.303	6.302	-0.001	787682258	478.849
Sum Aroclor-1260				1058547379	2433.558				3483514542	2403.778
Average Aroclor-1260					486.712					480.756

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0511.D



Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0511.D



GS 12/08/2020

JC 12/08/2020

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0512.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 07 Dec 2020 09:38 (#1); 7 Dec 2020 9:38 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR201207-04|ICAL|1|SVA|1|AR1660-4
Misc : |MIX[A]
ALS Vial : 12 Sample Multiplier: 1

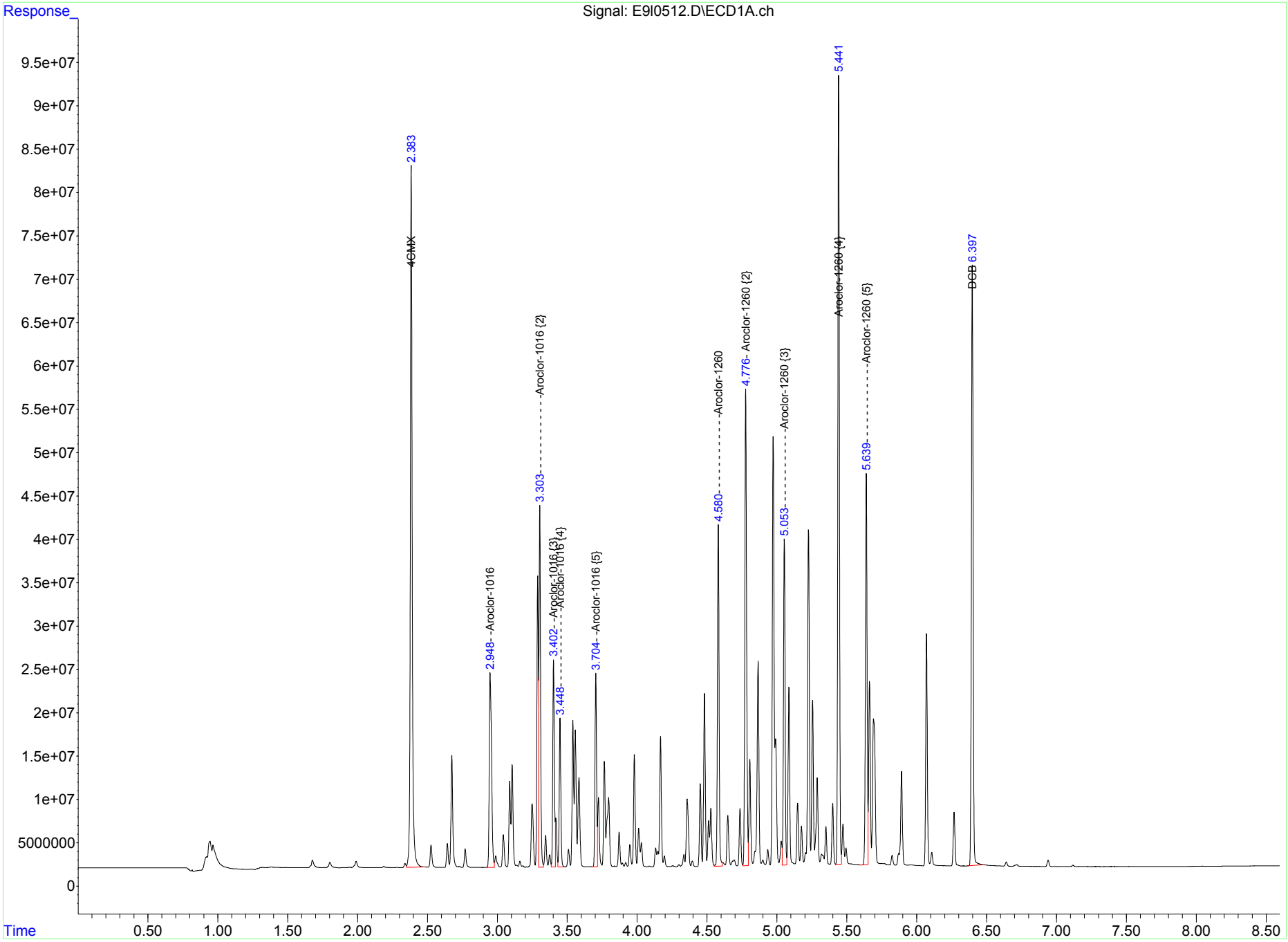
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 06:41:30 2020
Quant Method : C:\msdchem\1\data\120720.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	747859694	100.592	2.731	2.731	0.000	2547691841	105.378
DCB	6.398	6.397	-0.001	582082090	100.733	7.121	7.121	0.000	1917753122	103.867
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.948	0.000	259099197	971.035	3.822	3.821	-0.001	1074948184	1038.402
Aroclor-1016 {2}	3.304	3.304	0.000	327086210	1003.508	3.922	3.922	0.000	690096500	1024.427
Aroclor-1016 {3}	3.402	3.402	0.000	188302233	974.544	4.000	4.000	0.000	426846295	1025.075
Aroclor-1016 {4}	3.448	3.448	0.000	134914446	978.668	4.071	4.071	0.000	408349679	1014.444
Aroclor-1016 {5}	3.704	3.704	0.000	175507624	977.162	4.104	4.104	0.000	415958273	1012.739
Sum Aroclor-1016				1084909709	4904.916				3016198931	5115.086
Average Aroclor-1016					980.983					1023.017
Aroclor-1260	4.580	4.580	0.000	319185858	1001.474	5.190	5.190	0.000	1040710782	1044.365
Aroclor-1260 {2}	4.776	4.776	0.000	491489012	1004.239	5.336	5.336	0.000	1299918138	1044.626
Aroclor-1260 {3}	5.053	5.053	0.000	300090873	999.858	5.656	5.656	0.000	995962477	1046.514
Aroclor-1260 {4}	5.441	5.441	0.000	715827924	1020.945	6.040	6.040	0.000	2525238530	1050.447
Aroclor-1260 {5}	5.639	5.639	0.000	363970159	1005.303	6.303	6.302	-0.001	1716844129	1043.707
Sum Aroclor-1260				2190563826	5031.819				7578674056	5229.658
Average Aroclor-1260					1006.364					1045.932

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0512.D



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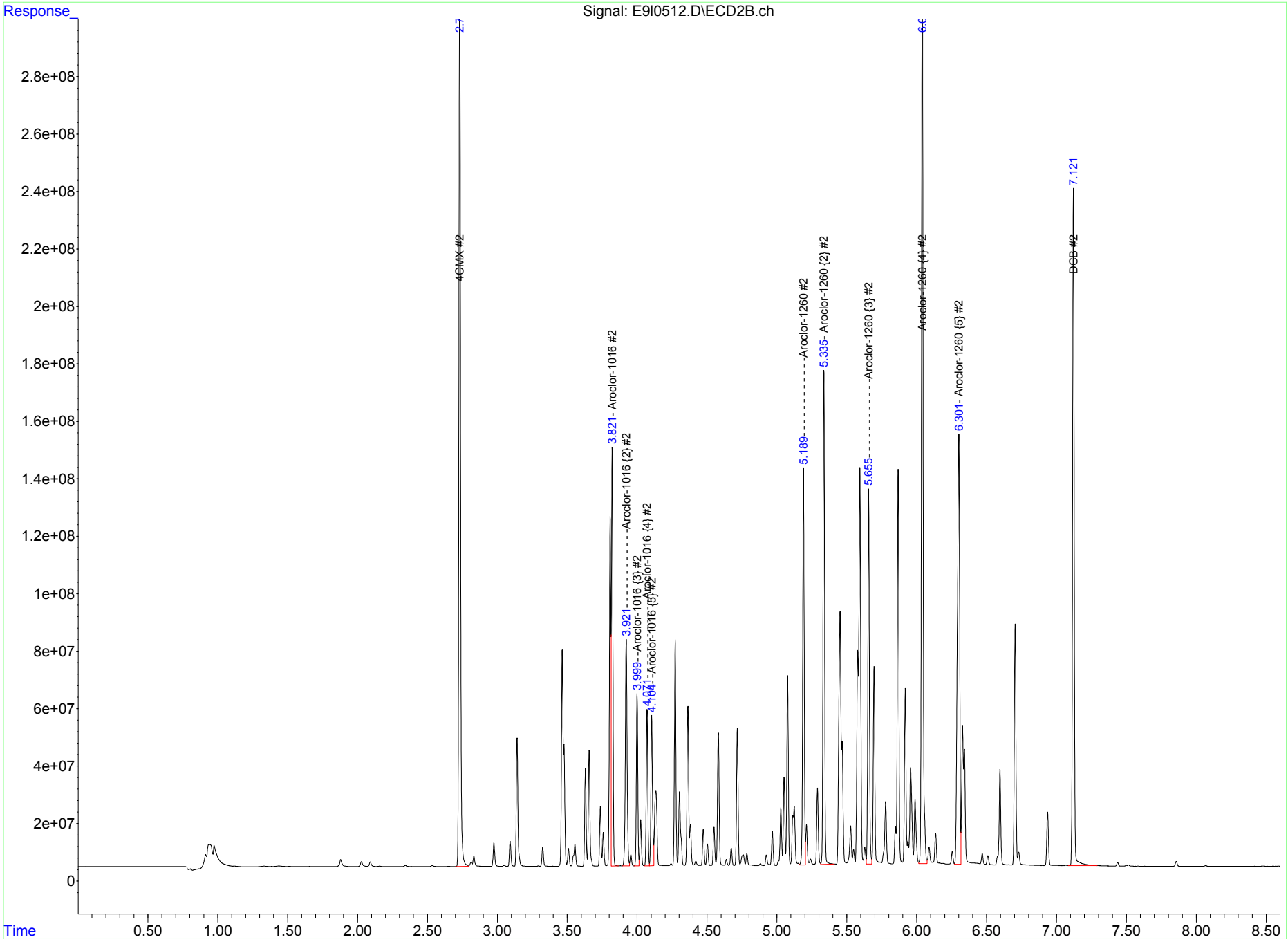
Data File : E9l0512.D



Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0513.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 07 Dec 2020 09:51 (#1); 7 Dec 2020 9:51 (#2)
Operator : YS1 InstName : ECD9
Sample : |IAR200730-01|ICAL|1|SVA|1|AR1660-5
Misc : |MIX[A]
ALS Vial : 13 Sample Multiplier: 1

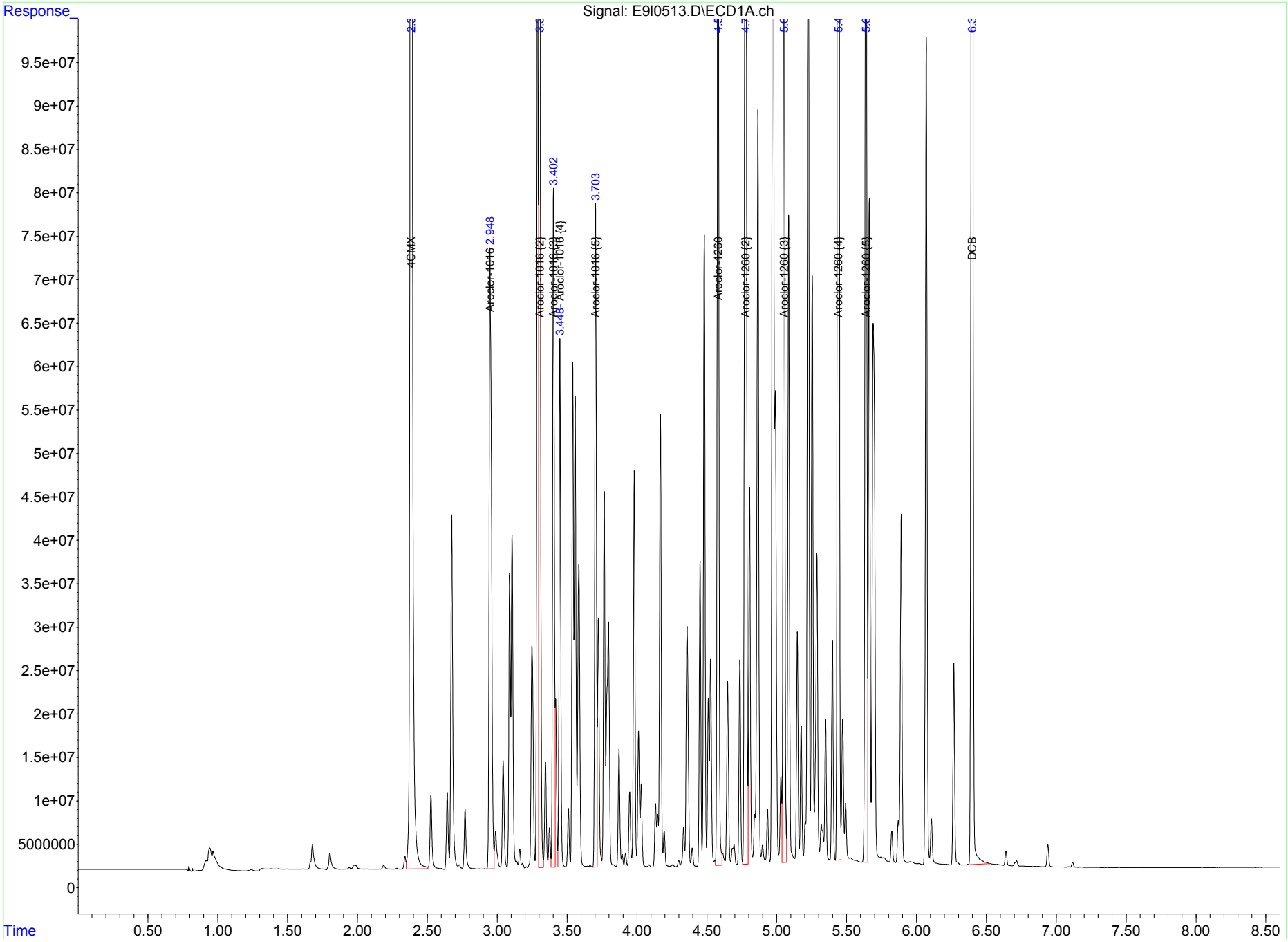
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 06:41:33 2020
Quant Method : C:\msdchem\1\data\120720.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

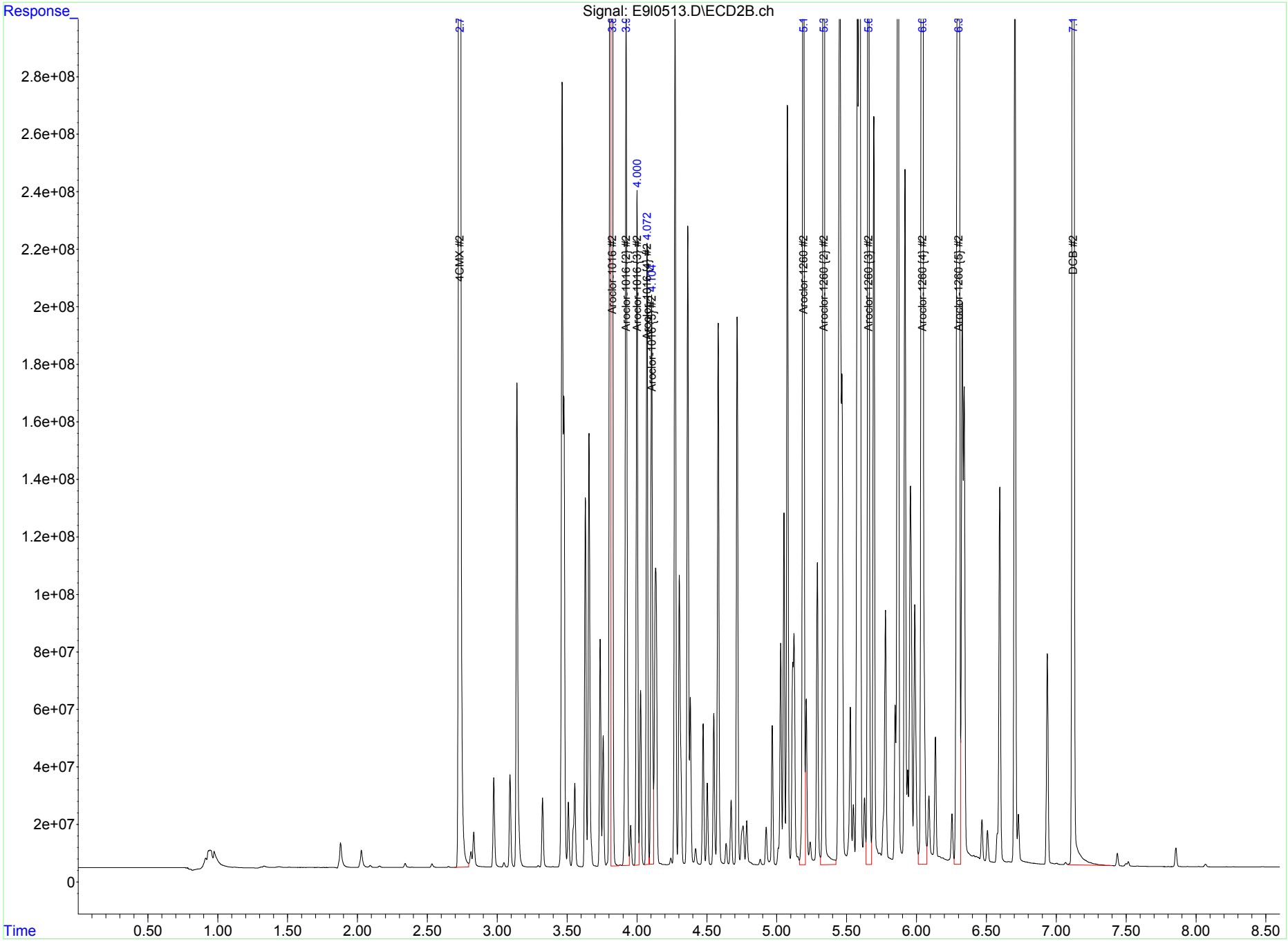
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
System Monitoring Compounds											
4CMX	2.384	2.384	0.000	2786815453	374.845	2.731	2.732	0.001	10422177637	431.083	A
DCB	6.398	6.397	-0.001	2152600300	372.520	7.121	7.121	0.000	7723414501	418.307	A
Target Compounds											
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1016	2.948	2.948	0.000	856455734	3209.768	3.822	3.822	0.000	4144592238	4003.682	A
Aroclor-1016 {2}	3.304	3.304	0.000	1144774744	3512.194	3.922	3.922	0.000	2631346511	3906.151	
Aroclor-1016 {3}	3.402	3.402	0.000	650184413	3364.980	4.000	4.001	0.001	1683051645	4041.864	A
Aroclor-1016 {4}	3.448	3.448	0.000	478934595	3474.186	4.071	4.072	0.001	1564387540	3886.336	
Aroclor-1016 {5}	3.704	3.704	0.000	610651898	3399.885	4.104	4.104	0.000	1602005410	3900.422	
Sum Aroclor-1016				3741001384	16961.013				11625383343	19738.455	
Average Aroclor-1016					3392.203					3947.691	
Aroclor-1260	4.580	4.580	0.000	1108227269	3477.163	5.190	5.191	0.001	4008644622	4022.719	A
Aroclor-1260 {2}	4.776	4.776	0.000	1719622070	3513.630	5.336	5.337	0.001	5102866187	4100.708	A
Aroclor-1260 {3}	5.053	5.052	-0.001	1066573990	3553.667	5.656	5.656	0.000	3920529050	4119.521	A
Aroclor-1260 {4}	5.441	5.441	0.000	2568622623	3663.481	6.040	6.041	0.001	10195040779	4240.924	A
Aroclor-1260 {5}	5.639	5.639	0.000	1334559742	3686.116	6.303	6.301	-0.002	6891047138	4189.219	A
Sum Aroclor-1260				7797605695	17894.058				30118127776	20673.091	
Average Aroclor-1260					3578.812					4134.618	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0513.D



Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0513.D



Continuing Calibration Summary

Instrument ID: ECD9A.I_1

Client SDG: 2021-160

Injection Date: 07-DEC-20 10:03

Data File: 120720.S\E9l0514.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 120720.S\ECD9_8082_120720.m

Column ID: RTX-CLPEST 1

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	266827.93	278136.92	1000	4.24	20		Averaged
Aroclor-1016(2)	325942.92	353054.46	1000	8.32	20		Averaged
Aroclor-1016(3)	193220.88	203344.36	1000	5.24	20		Averaged
Aroclor-1016(4)	137855.2	146242.58	1000	6.08	20		Averaged
Aroclor-1016(5)	179609.58	184255.64	1000	2.59	20		Averaged
Aroclor-1260	318715.94	358514.77	1000	12.49	20		Averaged
Aroclor-1260(2)	489414.6	559986.76	1000	14.42	20		Averaged
Aroclor-1260(3)	300133.36	276812.95	1000	-7.77	20		Averaged
Aroclor-1260(4)	701142.59	688252.51	1000	-1.84	20		Averaged
Aroclor-1260(5)	362050.36	382912.85	1000	5.76	20		Averaged
4cmx(Surr)	7434590.64	7551159.69	100	1.57	20		Averaged
Decachlorobiphenyl(Surr)	5778489.63	5853536.68	100	1.3	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD9A.I_2

Client SDG: 2021-160

Injection Date: 07-DEC-20 10:03

Data File: 120720.S\E9l0514.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 120720.S\ECD9_8082_120720.m

Column ID: RTX-CLPEST 2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	1035195.11	1170599.19	1000	13.08	20		Averaged
Aroclor-1016(2)	673641.79	746493.51	1000	10.81	20		Averaged
Aroclor-1016(3)	416404.8	462718.03	1000	11.12	20		Averaged
Aroclor-1016(4)	402535.36	428086.51	1000	6.35	20		Averaged
Aroclor-1016(5)	410726.19	443572.5	1000	8	20		Averaged
Aroclor-1260	996501.17	1177293.68	1000	18.14	20		Averaged
Aroclor-1260(2)	1244386.68	1483841.4	1000	19.24	20		Averaged
Aroclor-1260(3)	951695.42	925557.84	1000	-2.75	20		Averaged
Aroclor-1260(4)	2403966.68	2436878.72	1000	1.37	20		Averaged
Aroclor-1260(5)	1644947.9	1681789.6	1000	2.24	20		Averaged
4cmx(Surr)	24176725.21	23710262.79	100	-1.93	20		Averaged
Decachlorobiphenyl(Surr)	18463505.83	19400495.91	100	5.07	20		Averaged

Quantitation Report
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Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0514.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 07 Dec 2020 10:03 (#1); 7 Dec 2020 10:03 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR200922-60|ICV|1|SVA|1|AR1660
Misc : |MIX[A]
ALS Vial : 14 Sample Multiplier: 1

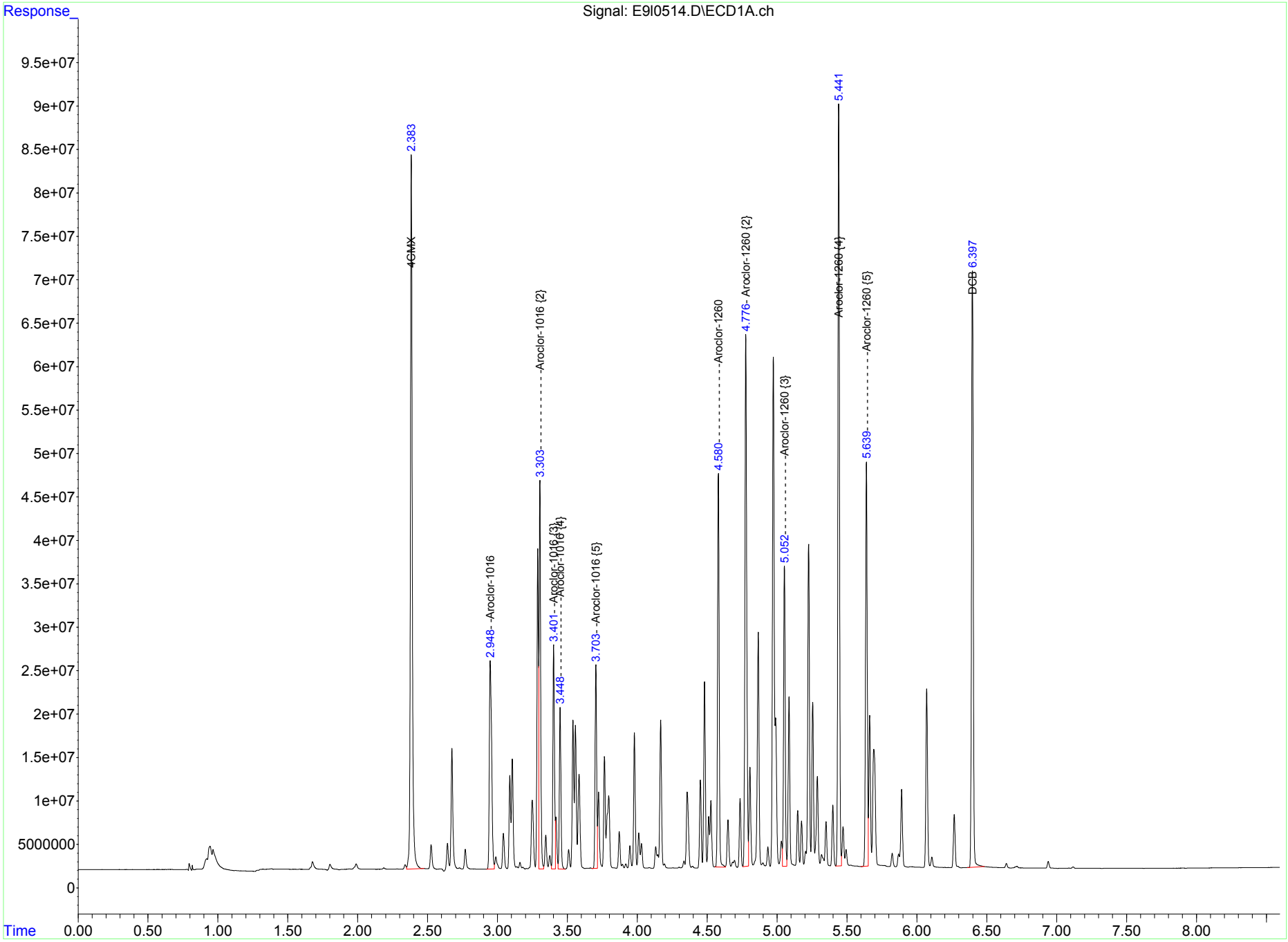
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 06:41:36 2020
Quant Method : C:\msdchem\1\data\120720.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

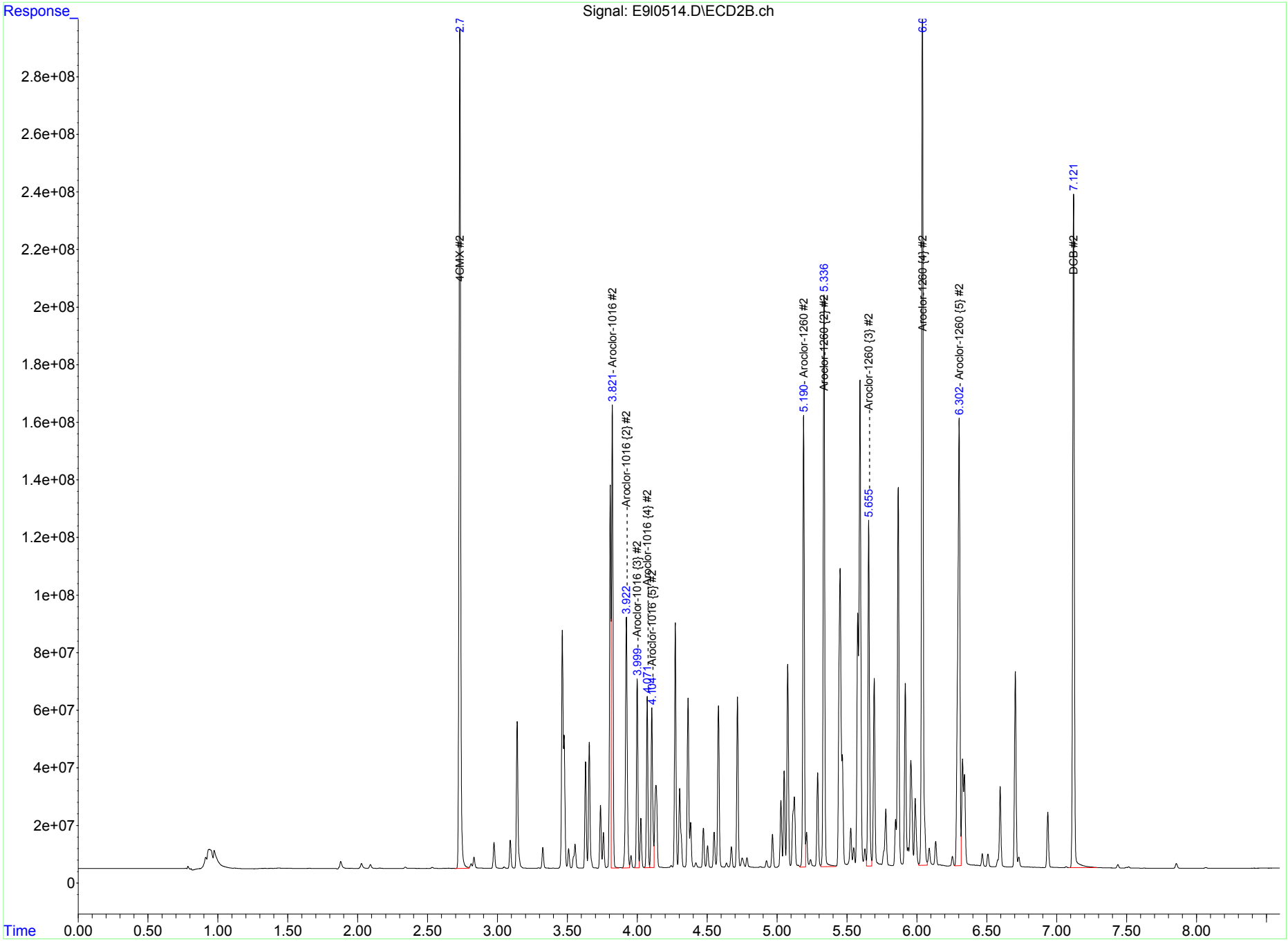
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	755115969	101.568	2.731	2.731	0.000	2371026279	98.071
DCB	6.398	6.398	0.000	585353668	101.299	7.121	7.121	0.000	1940049591	105.075
Target Compounds										
Aroclor-1016	2.948	2.948	0.000	278136923	1042.383	3.822	3.822	0.000	1170599193	1130.801
Aroclor-1016 {2}	3.304	3.304	0.000	353054455	1083.179	3.922	3.922	0.000	746493511	1108.146
Aroclor-1016 {3}	3.402	3.402	0.000	203344358	1052.393	4.000	4.000	0.000	462718025	1111.222
Aroclor-1016 {4}	3.448	3.448	0.000	146242581	1060.842	4.071	4.071	0.000	428086505	1063.476
Aroclor-1016 {5}	3.704	3.704	0.000	184255638	1025.868	4.104	4.104	0.000	443572497	1079.971
Sum Aroclor-1016				1165033956	5264.665				3251469732	5493.615
Average Aroclor-1016					1052.933					1098.723
Aroclor-1260	4.580	4.580	0.000	358514765	1124.872	5.190	5.190	0.000	1177293679	1181.427
Aroclor-1260 {2}	4.776	4.776	0.000	559986758	1144.197	5.336	5.336	0.000	1483841404	1192.428
Aroclor-1260 {3}	5.053	5.053	0.000	276812949	922.300	5.656	5.656	0.000	925557844	972.536
Aroclor-1260 {4}	5.441	5.441	0.000	688252505	981.616	6.040	6.040	0.000	2436878720	1013.691
Aroclor-1260 {5}	5.639	5.639	0.000	382912849	1057.623	6.303	6.303	0.000	1681789600	1022.397
Sum Aroclor-1260				2266479827	5230.608				7705361246	5382.479
Average Aroclor-1260					1046.122					1076.496

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0514.D



Data Path : C:\msdchem\1\data\120720.S\
Data File : E9l0514.D



Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0803.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 05:08 (#1); 8 Dec 2020 5:08 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR200707-32|CCV|1|SVA|1|AR1232
Misc : |MIX[F]
ALS Vial : 3 Sample Multiplier: 1

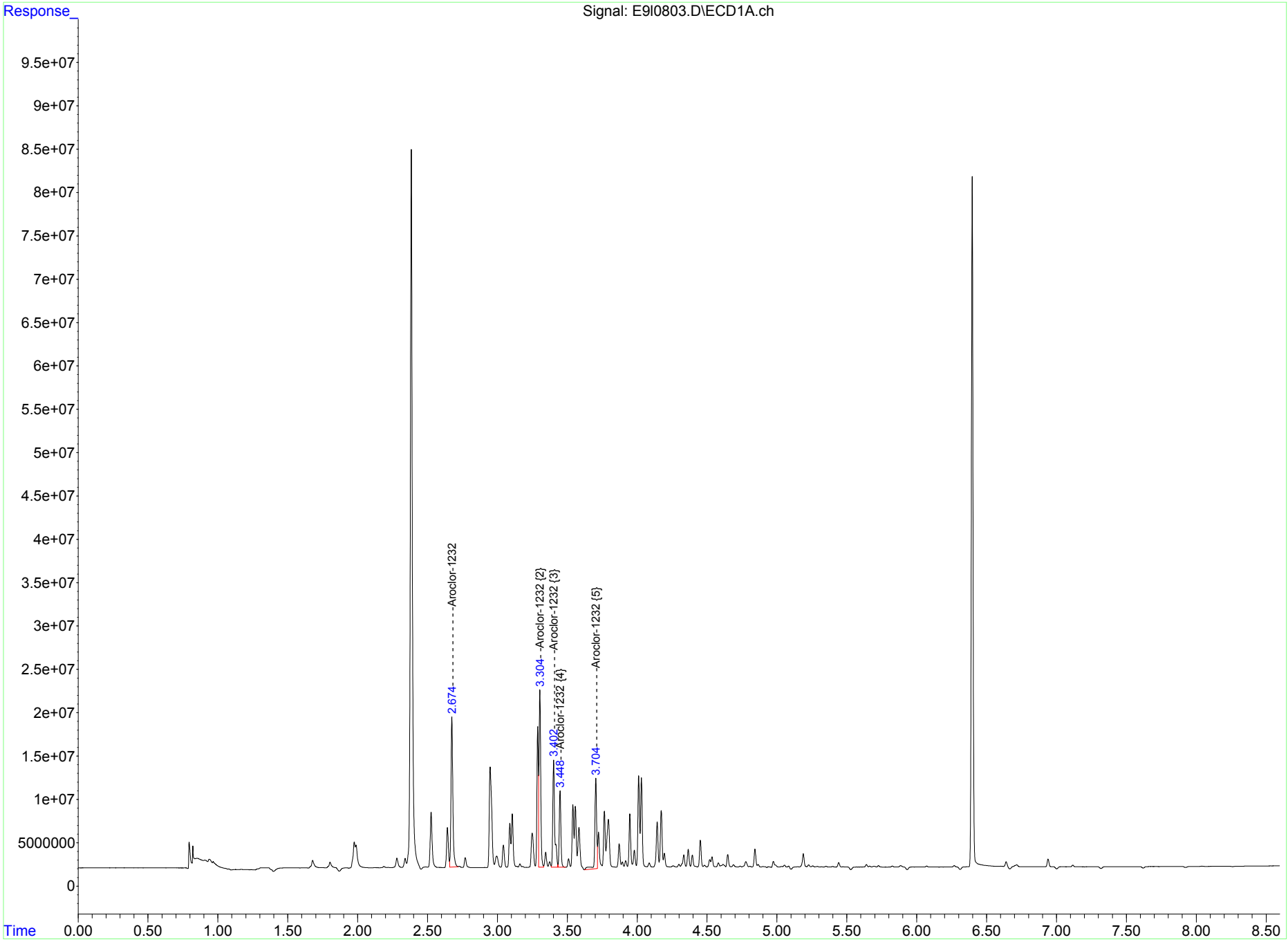
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 08:51:11 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

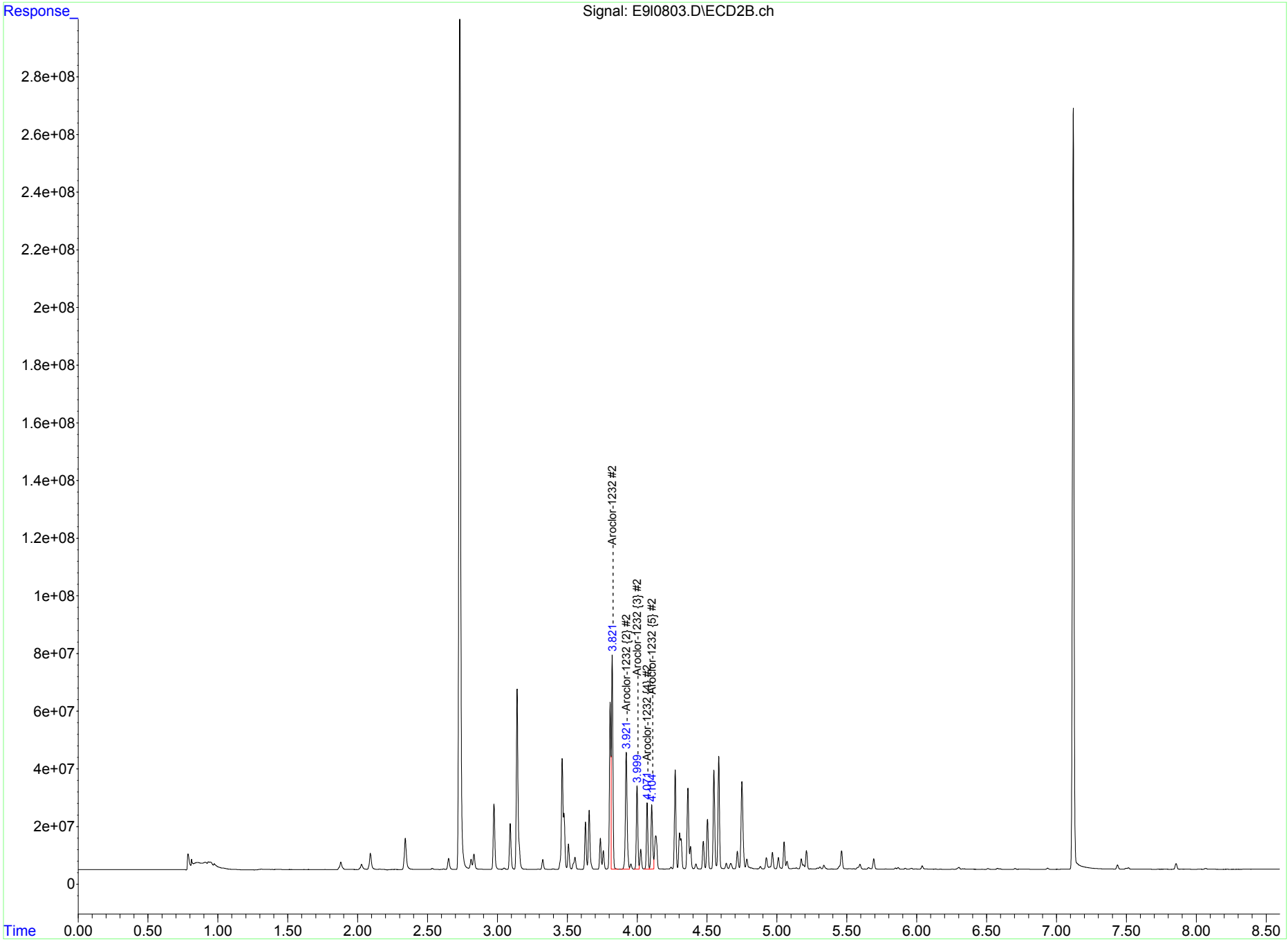
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Aroclor-1232	2.674	2.674	0.000	159121996	1027.764 A	3.822	3.822	0.000	543695308	1058.911 A
Aroclor-1232 {2}	3.304	3.304	0.000	165832470	1034.183 A	3.922	3.922	0.000	349142653	1052.251 A
Aroclor-1232 {3}	3.402	3.402	0.000	117085517	1041.721 A	3.999	3.999	0.000	209823451	1024.669 A
Aroclor-1232 {4}	3.448	3.448	0.000	70887785	1045.697 A	4.072	4.072	0.000	167858453	1057.968 A
Aroclor-1232 {5}	3.704	3.704	0.000	94038992	1128.530 A	4.104	4.104	0.000	182914925	1057.848 A
Sum Aroclor-1232				606966759	5277.896				1453434791	5251.648
Average Aroclor-1232					1055.579					1050.330

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0803.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0803.D



Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0804.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 05:20 (#1); 8 Dec 2020 5:20 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR200701-21|CCV|1|SVA|1|AR1221
Misc : |MIX[J]
ALS Vial : 4 Sample Multiplier: 1

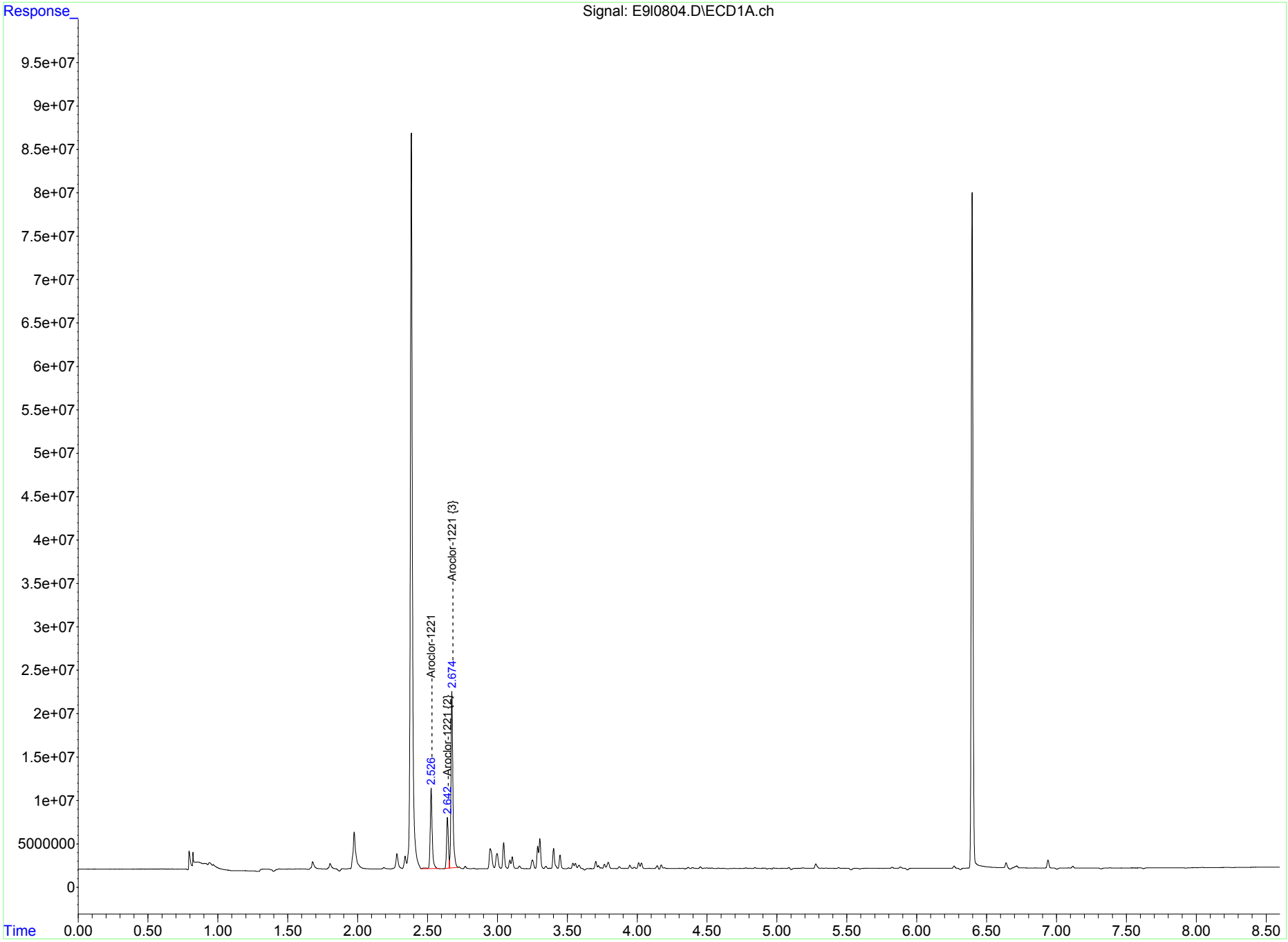
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 08:51:14 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

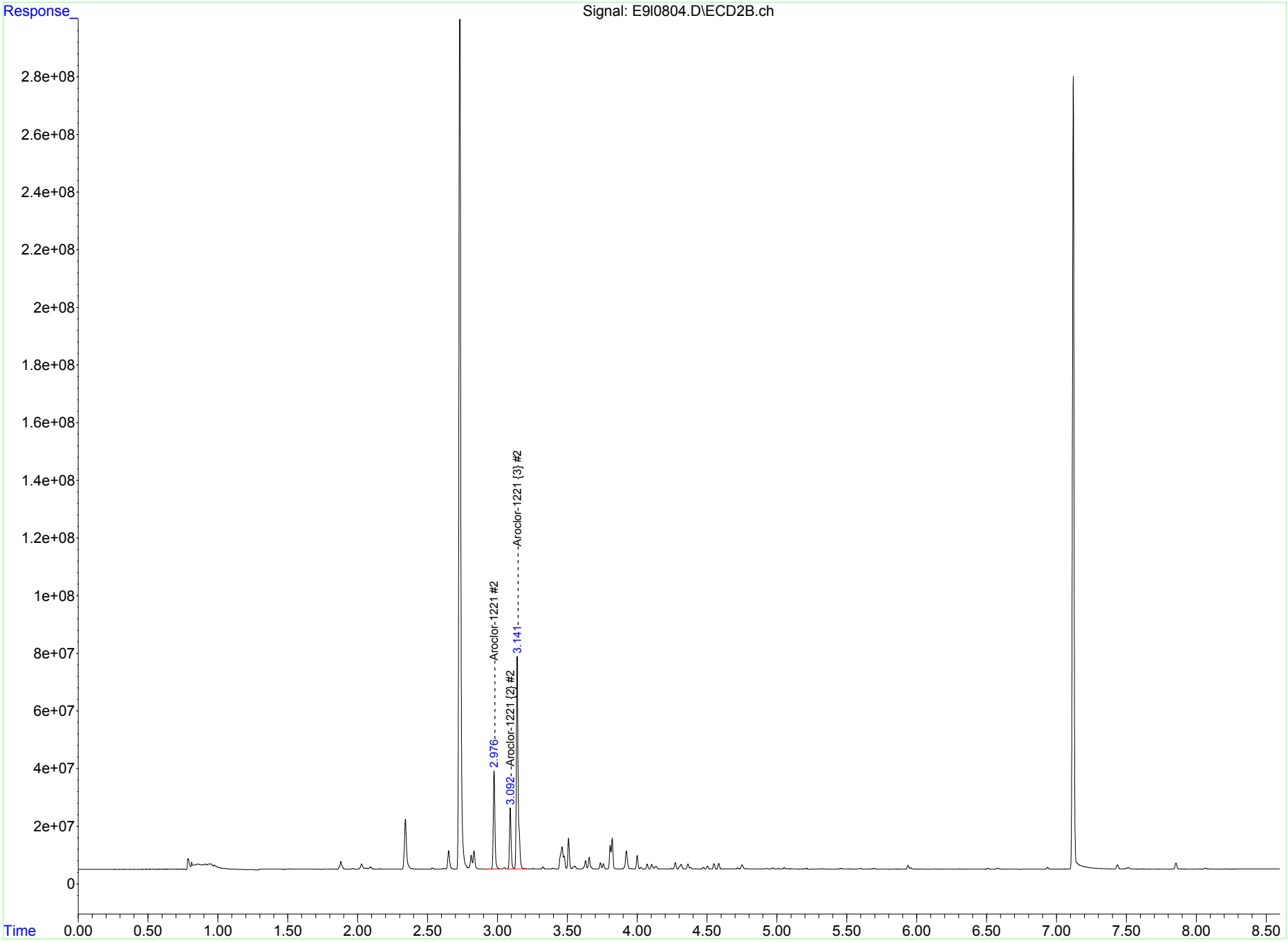
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1221	2.526	2.526	0.000	90667384	918.147	2.976	2.976	0.000	272745756	985.468
Aroclor-1221 {2}	2.643	2.643	0.000	51291347	959.570	3.092	3.092	0.000	165510092	986.313
Aroclor-1221 {3}	2.674	2.674	0.000	192444293	1008.542 A	3.142	3.142	0.000	650537416	984.650
Sum Aroclor-1221				334403024	2886.259				1088793264	2956.431
Average Aroclor-1221					962.086					985.477

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0804.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0804.D



Continuing Calibration Summary

Instrument ID: ECD9A.I_1

Client SDG: 2021-160

Injection Date: 08-DEC-20 05:32

Data File: 120820.S\E9l0805.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 120820.S\ECD9_8082_120720.m

Column ID: RTX-CLPEST 1

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	266827.93	240262.5	1000	-9.96	20		Averaged
Aroclor-1016(2)	325942.92	302940.65	1000	-7.06	20		Averaged
Aroclor-1016(3)	193220.88	172449.37	1000	-10.75	20		Averaged
Aroclor-1016(4)	137855.2	123846.19	1000	-10.16	20		Averaged
Aroclor-1016(5)	179609.58	159519.37	1000	-11.19	20		Averaged
Aroclor-1260	318715.94	286924.75	1000	-9.97	20		Averaged
Aroclor-1260(2)	489414.6	439242.01	1000	-10.25	20		Averaged
Aroclor-1260(3)	300133.36	267435.16	1000	-10.89	20		Averaged
Aroclor-1260(4)	701142.59	639660.45	1000	-8.77	20		Averaged
Aroclor-1260(5)	362050.36	325115.98	1000	-10.2	20		Averaged
4cmx(Surr)	7434590.64	6940188.52	100	-6.65	20		Averaged
Decachlorobiphenyl(Surr)	5778489.63	5157309.05	100	-10.75	20		Averaged

Continuing Calibration Summary

Client SDG: 2021-160

Instrument ID: ECD9A.I_2

Injection Date: 08-DEC-20 05:32

Data File: 120820.S\E9l0805.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 120820.S\ECD9_8082_120720.m

Column ID: RTX-CLPEST 2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	1035195.11	999600.16	1000	-3.44	20		Averaged
Aroclor-1016(2)	673641.79	634261.89	1000	-5.85	20		Averaged
Aroclor-1016(3)	416404.8	390859.42	1000	-6.13	20		Averaged
Aroclor-1016(4)	402535.36	374374.79	1000	-7	20		Averaged
Aroclor-1016(5)	410726.19	381491.07	1000	-7.12	20		Averaged
Aroclor-1260	996501.17	937139.31	1000	-5.96	20		Averaged
Aroclor-1260(2)	1244386.68	1179370.83	1000	-5.22	20		Averaged
Aroclor-1260(3)	951695.42	892276.33	1000	-6.24	20		Averaged
Aroclor-1260(4)	2403966.68	2260423.25	1000	-5.97	20		Averaged
Aroclor-1260(5)	1644947.9	1539193.02	1000	-6.43	20		Averaged
4cmx(Surr)	24176725.21	22481911.93	100	-7.01	20		Averaged
Decachlorobiphenyl(Surr)	18463505.83	17006493.97	100	-7.89	20		Averaged

Quantitation Report
GEL Laboratories, LLC

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Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0805.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 05:32 (#1); 8 Dec 2020 5:32 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR200922-60|CCV|1|SVA|1|AR1660
Misc : |MIX[A]
ALS Vial : 5 Sample Multiplier: 1

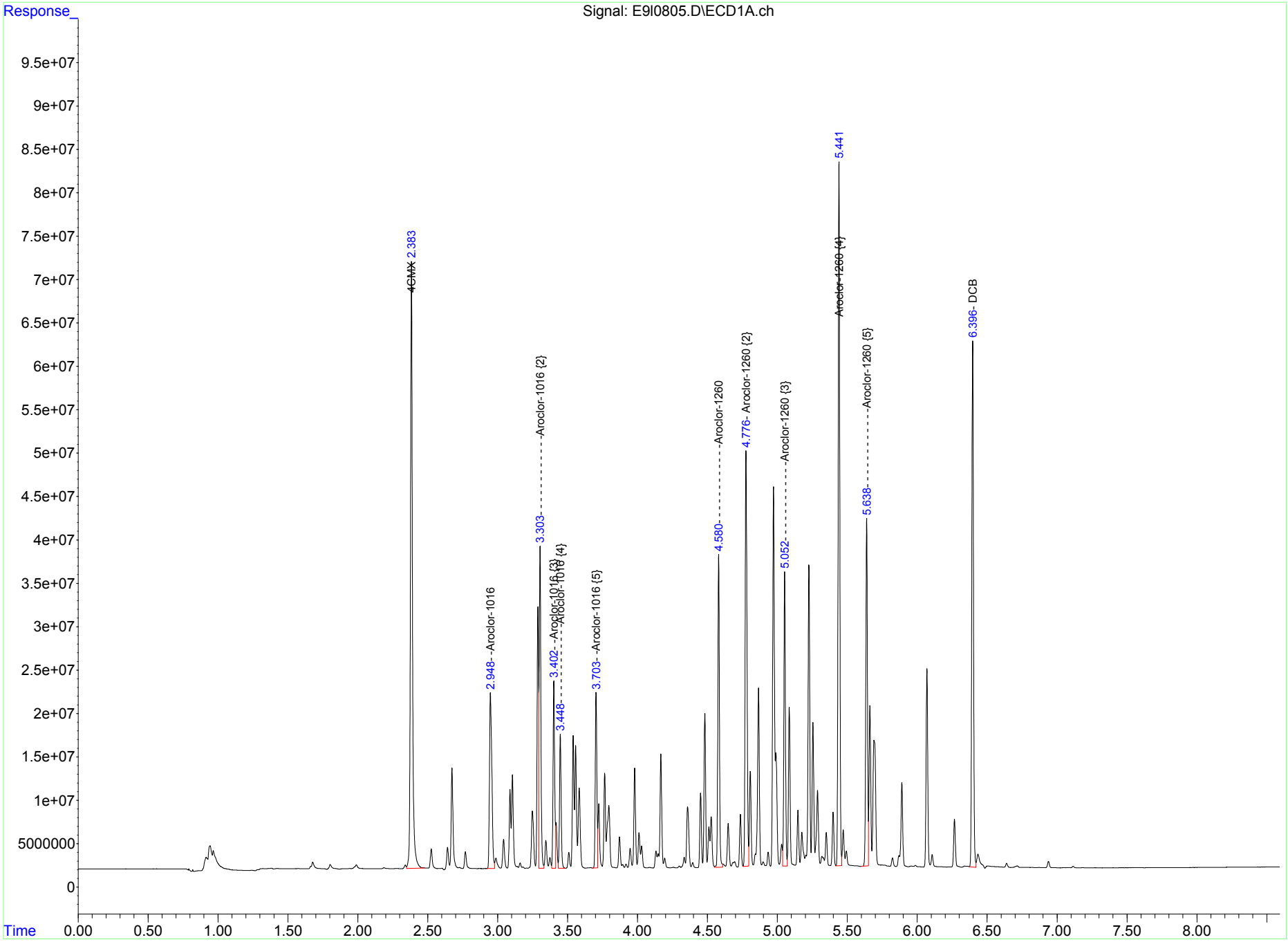
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 08:51:17 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

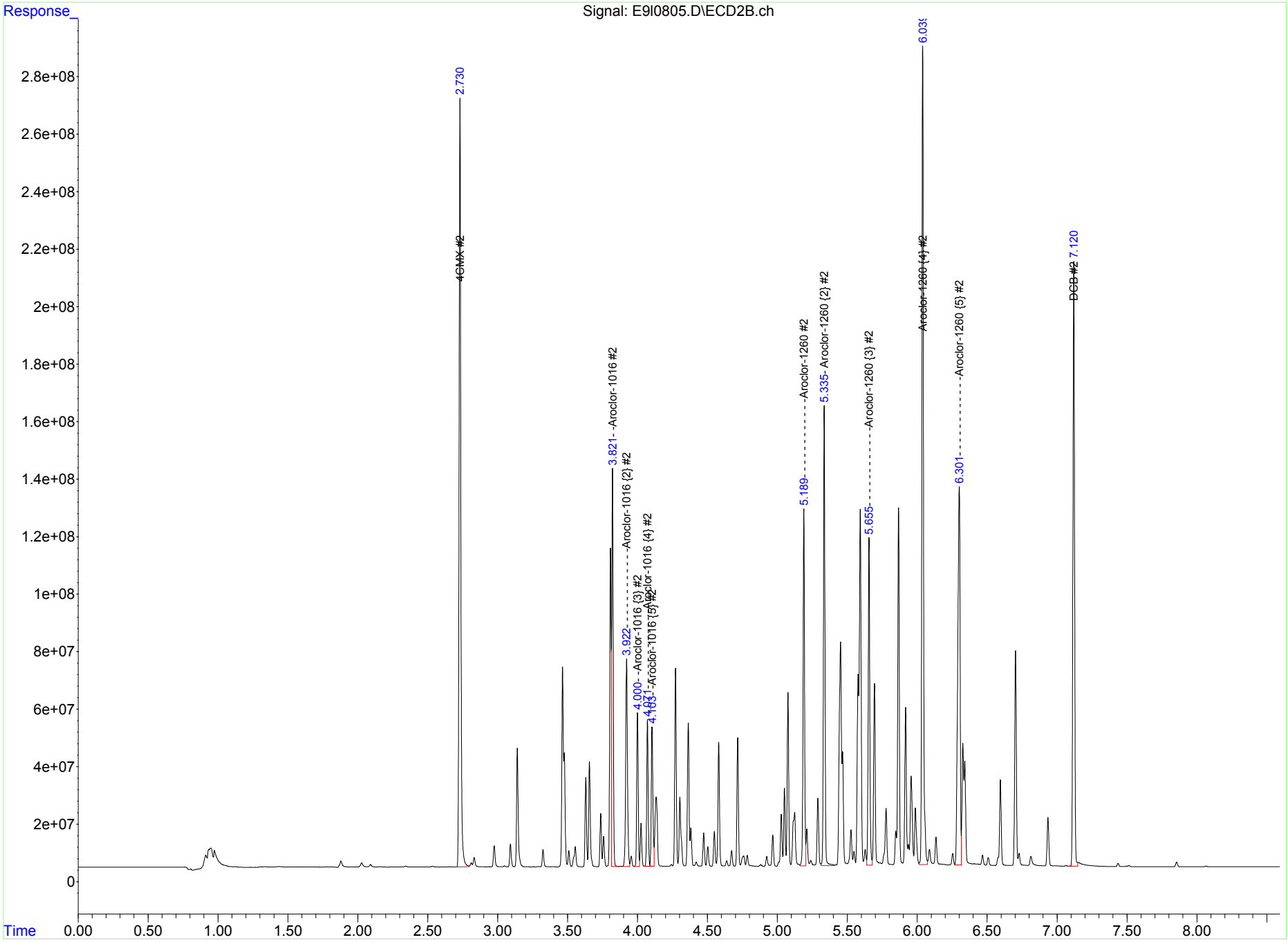
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	694018852	93.350	2.731	2.731	0.000	2248191193	92.990
DCB	6.397	6.397	0.000	515730905	89.250	7.120	7.120	0.000	1700649397	92.109
Target Compounds										
Aroclor-1016	2.948	2.948	0.000	240262502	900.440	3.822	3.822	0.000	999600164	965.615
Aroclor-1016 {2}	3.303	3.303	0.000	302940648	929.429	3.922	3.922	0.000	634261890	941.542
Aroclor-1016 {3}	3.402	3.402	0.000	172449372	892.499	4.000	4.000	0.000	390859422	938.653
Aroclor-1016 {4}	3.448	3.448	0.000	123846188	898.379	4.071	4.071	0.000	374374792	930.042
Aroclor-1016 {5}	3.704	3.704	0.000	159519371	888.145	4.104	4.104	0.000	381491072	928.821
Sum Aroclor-1016				999018081	4508.891				2780587340	4704.672
Average Aroclor-1016					901.778					940.934
Aroclor-1260	4.580	4.580	0.000	286924745	900.252	5.190	5.190	0.000	937139305	940.430
Aroclor-1260 {2}	4.776	4.776	0.000	439242005	897.484	5.335	5.335	0.000	1179370834	947.753
Aroclor-1260 {3}	5.052	5.052	0.000	267435162	891.054	5.656	5.656	0.000	892276334	937.565
Aroclor-1260 {4}	5.441	5.441	0.000	639660454	912.312	6.039	6.039	0.000	2260423247	940.289
Aroclor-1260 {5}	5.639	5.639	0.000	325115983	897.986	6.301	6.301	0.000	1539193023	935.709
Sum Aroclor-1260				1958378349	4499.088				6808402743	4701.746
Average Aroclor-1260					899.818					940.349

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0805.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0805.D



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Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0806.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 05:45 (#1); 8 Dec 2020 5:45 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR200825-54|CCV|1|SVA|1|AR1254
Misc : |MIX[B]
ALS Vial : 6 Sample Multiplier: 1

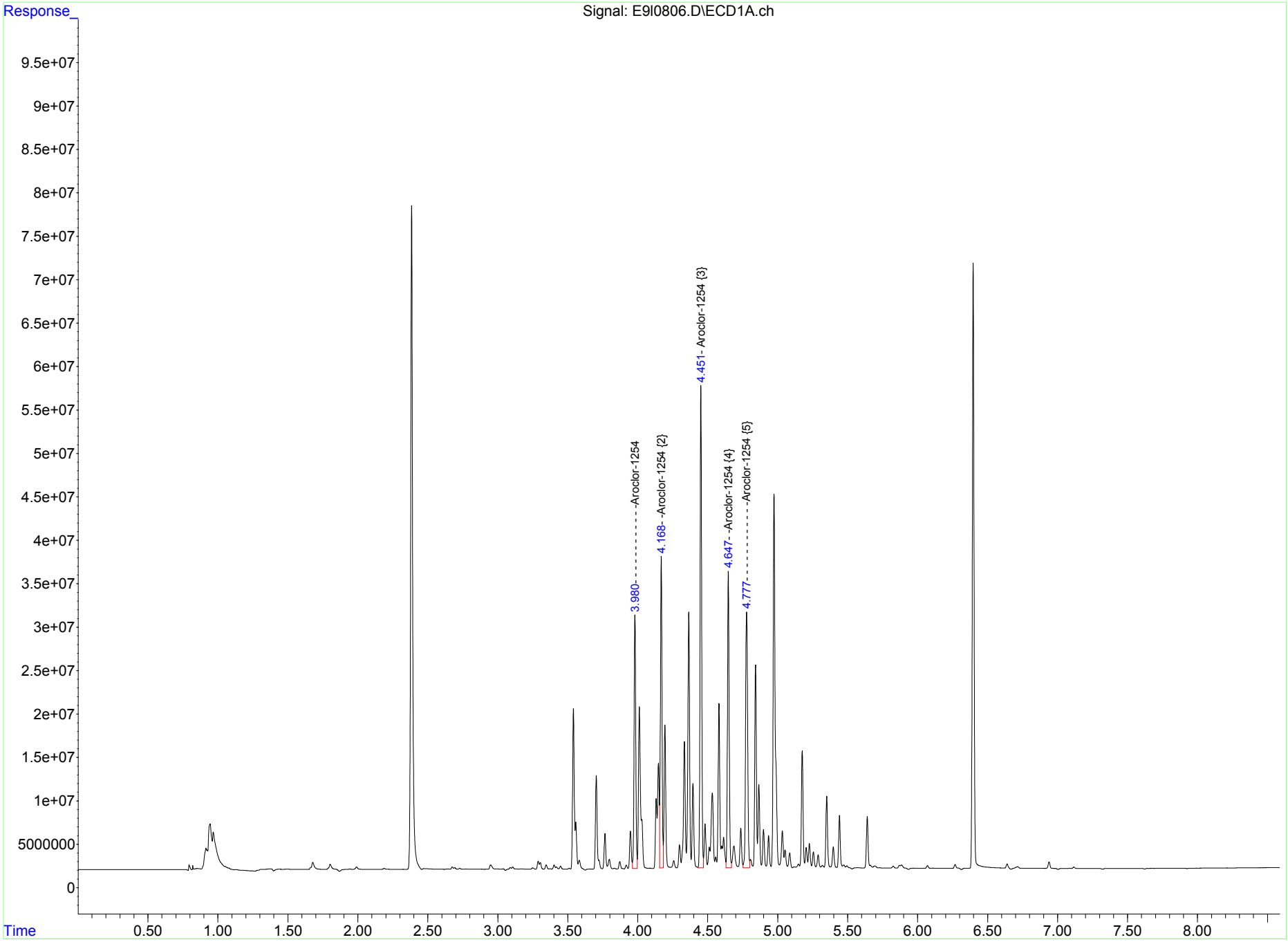
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 08:51:20 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

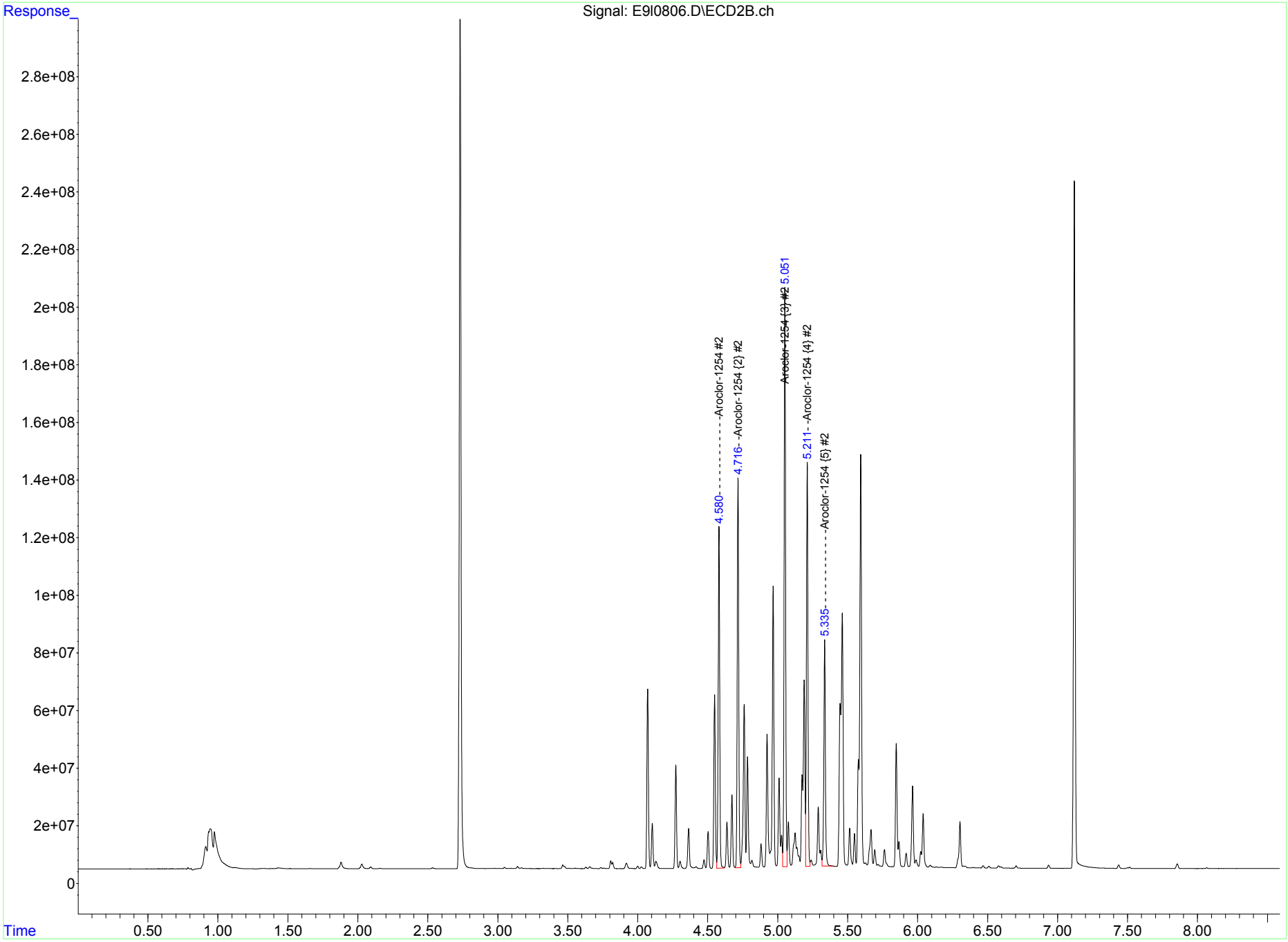
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1254	3.980	3.980	0.000	240701185	903.721	4.580	4.580	0.000	882890001	952.497
Aroclor-1254 {2}	4.168	4.168	0.000	293850901	851.719	4.716	4.716	0.000	1002284554	958.947
Aroclor-1254 {3}	4.451	4.451	0.000	430950149	915.653	5.051	5.051	0.000	1465036028	965.396
Aroclor-1254 {4}	4.647	4.647	0.000	282925761	829.906	5.211	5.211	0.000	1038103653	959.120
Aroclor-1254 {5}	4.778	4.778	0.000	305482845	917.775	5.336	5.336	0.000	619134329	934.089
Sum Aroclor-1254				1553910840	4418.774				5007448566	4770.050
Average Aroclor-1254					883.755					954.010

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0806.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0806.D



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Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0807.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 05:57 (#1); 8 Dec 2020 5:57 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR200612-42|CCV|1|SVA|1|AR1242
Misc : |MIX[D]
ALS Vial : 7 Sample Multiplier: 1

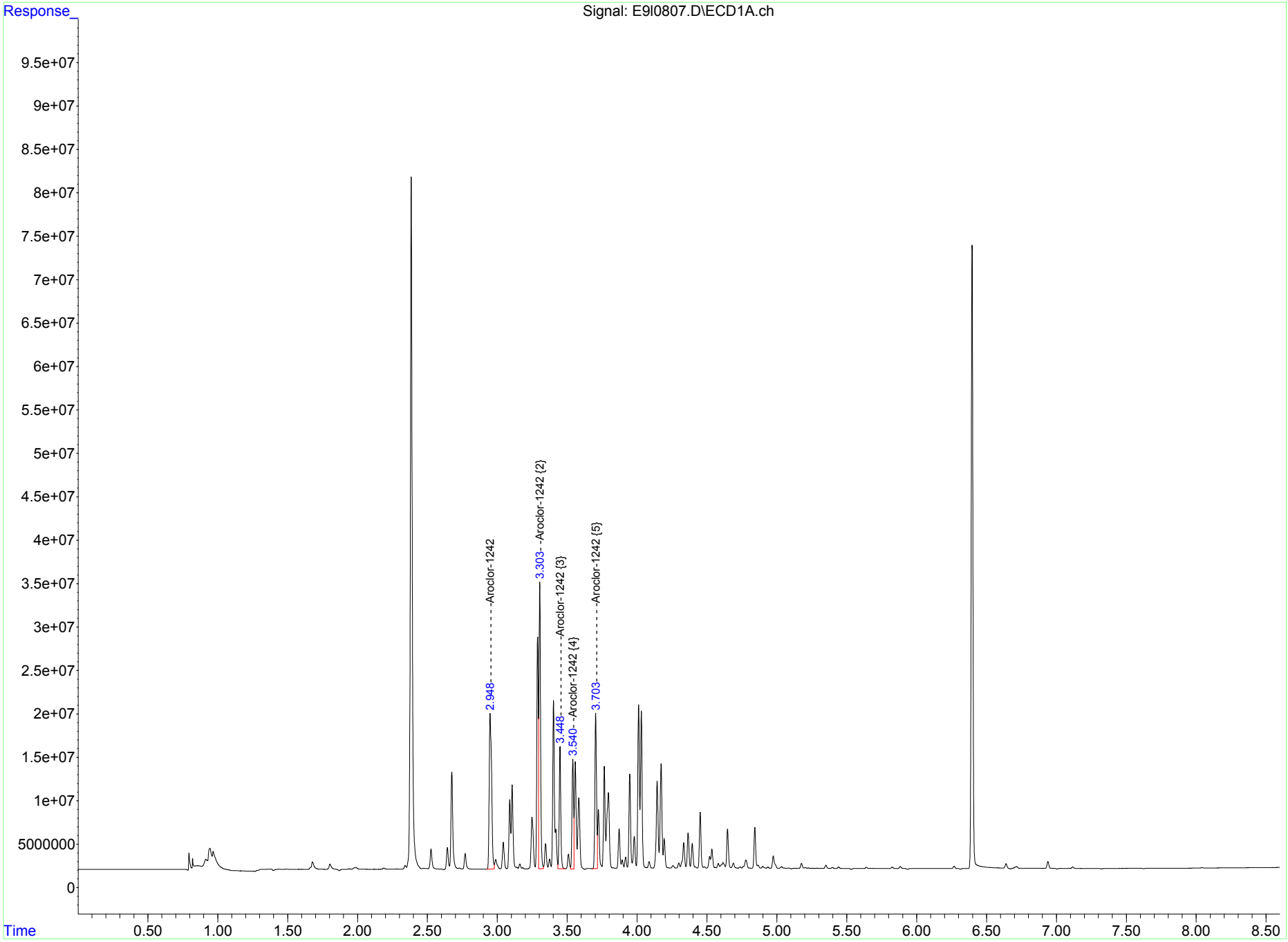
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 08:51:23 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

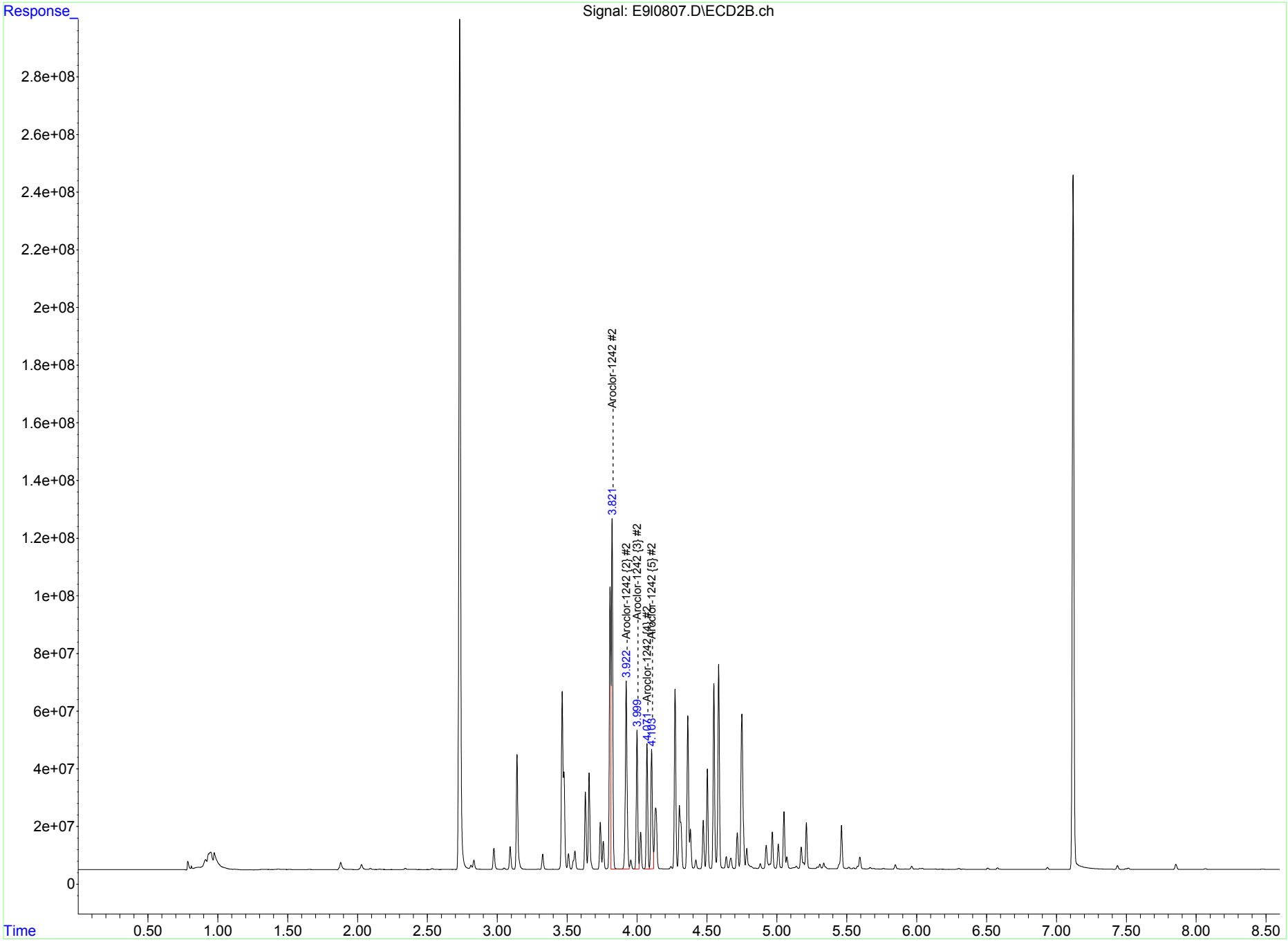
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Aroclor-1242	2.948	2.948	0.000	213118772	980.098	3.821	3.821	0.000	869454419	1081.169
Aroclor-1242 {2}	3.304	3.304	0.000	263101410	1001.476	3.922	3.922	0.000	555665006	1056.675
Aroclor-1242 {3}	3.449	3.449	0.000	109318723	976.580	4.000	4.000	0.000	342639933	1049.767
Aroclor-1242 {4}	3.540	3.540	0.000	97848044	978.732	4.071	4.071	0.000	307667569	1041.131
Aroclor-1242 {5}	3.704	3.704	0.000	143377590	985.910	4.104	4.104	0.000	331803777	1041.701
Sum Aroclor-1242				826764539	4922.797				2407230704	5270.444
Average Aroclor-1242					984.559					1054.089

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0807.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0807.D



Quantitation Report
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Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0808.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 06:10 (#1); 8 Dec 2020 6:10 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR200916-48|CCV|1|SVA|1|AR1248
Misc : |MIX[E]
ALS Vial : 8 Sample Multiplier: 1

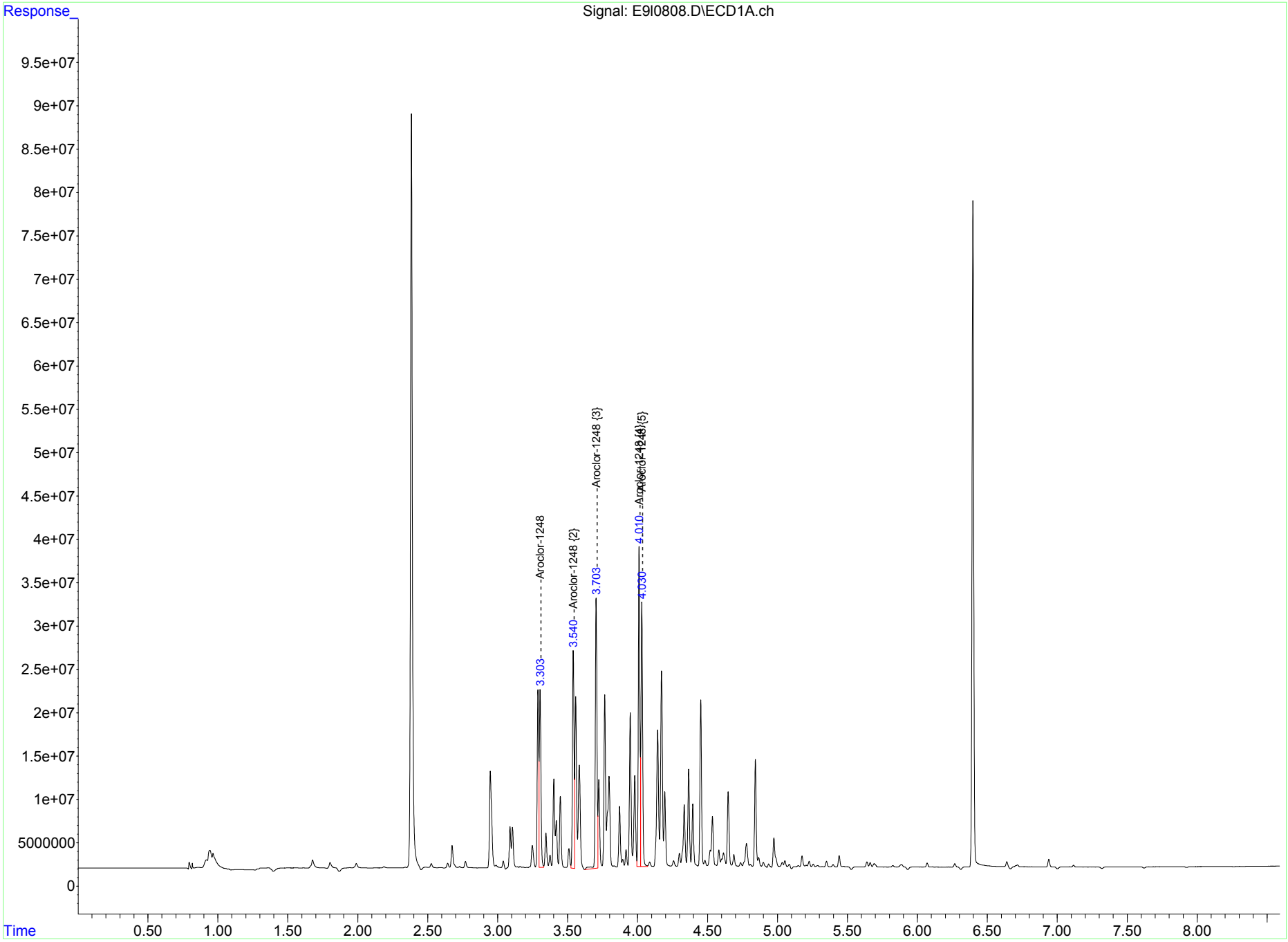
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 08:51:26 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1248	3.303	3.303	0.000	162064985	1068.262	3.821	3.821	0.000	523541578	1180.700
Aroclor-1248 {2}	3.540	3.540	0.000	193061916	1062.099	4.071	4.071	0.000	630598735	1141.437
Aroclor-1248 {3}	3.704	3.704	0.000	255274870	1098.436	4.272	4.272	0.000	808778636	1139.521
Aroclor-1248 {4}	4.011	4.011	0.000	287214687	1035.787	4.549	4.549	0.000	944619144	1118.374
Aroclor-1248 {5}	4.031	4.031	0.000	243926114	1018.320	4.584	4.584	0.000	1039582514	1109.556
Sum Aroclor-1248				1141542572	5282.904				3947120606	5689.588
Average Aroclor-1248					1056.581					1137.918

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0808.D



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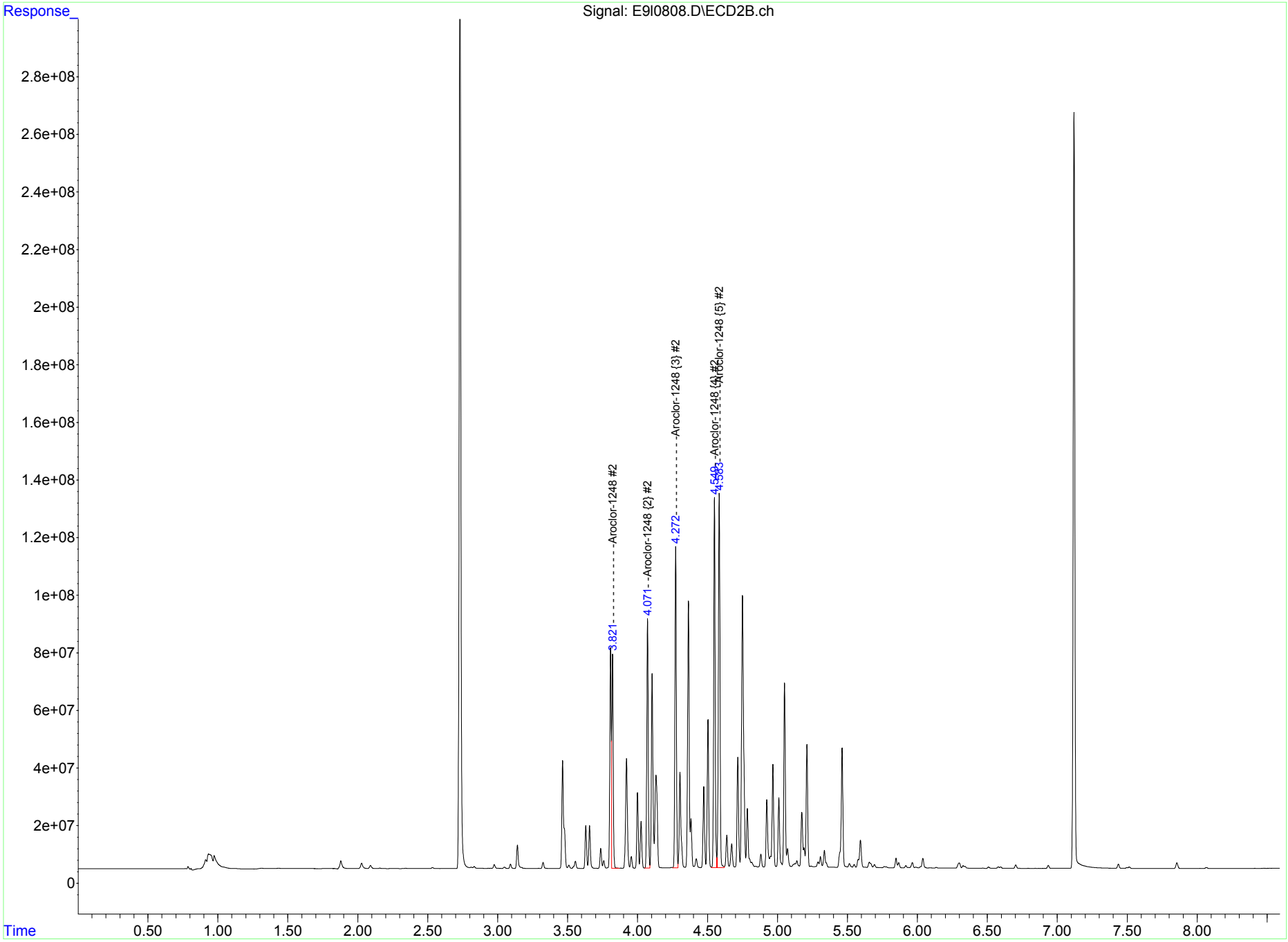
Data File : E9l0808.D



Continuing Calibration Summary

Instrument ID: ECD9A.I_1

Client SDG: 2021-160

Injection Date: 08-DEC-20 09:21

Data File: 120820.S\E9l0822.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 120820.S\ECD9_8082_120720.m

Column ID: RTX-CLPEST 1

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	266827.93	236094.14	1000	-11.52	20		Averaged
Aroclor-1016(2)	325942.92	298387.39	1000	-8.45	20		Averaged
Aroclor-1016(3)	193220.88	171042.7	1000	-11.48	20		Averaged
Aroclor-1016(4)	137855.2	121392.81	1000	-11.94	20		Averaged
Aroclor-1016(5)	179609.58	155346.5	1000	-13.51	20		Averaged
Aroclor-1260	318715.94	280662.87	1000	-11.94	20		Averaged
Aroclor-1260(2)	489414.6	426003.61	1000	-12.96	20		Averaged
Aroclor-1260(3)	300133.36	256940.24	1000	-14.39	20		Averaged
Aroclor-1260(4)	701142.59	614981.87	1000	-12.29	20		Averaged
Aroclor-1260(5)	362050.36	316077.4	1000	-12.7	20		Averaged
4cmx(Surr)	7434590.64	6872917.35	100	-7.55	20		Averaged
Decachlorobiphenyl(Surr)	5778489.63	4927905.25	100	-14.72	20		Averaged

Continuing Calibration Summary

Client SDG: 2021-160

Instrument ID: ECD9A.I_2

Injection Date: 08-DEC-20 09:21

Data File: 120820.S\E9l0822.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 120820.S\ECD9_8082_120720.m

Column ID: RTX-CLPEST 2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	1035195.11	973185.52	1000	-5.99	20		Averaged
Aroclor-1016(2)	673641.79	621615.69	1000	-7.72	20		Averaged
Aroclor-1016(3)	416404.8	382769.65	1000	-8.08	20		Averaged
Aroclor-1016(4)	402535.36	365458.13	1000	-9.21	20		Averaged
Aroclor-1016(5)	410726.19	372334.21	1000	-9.35	20		Averaged
Aroclor-1260	996501.17	909117.11	1000	-8.77	20		Averaged
Aroclor-1260(2)	1244386.68	1145255.4	1000	-7.97	20		Averaged
Aroclor-1260(3)	951695.42	863389.26	1000	-9.28	20		Averaged
Aroclor-1260(4)	2403966.68	2189603.43	1000	-8.92	20		Averaged
Aroclor-1260(5)	1644947.9	1491822.25	1000	-9.31	20		Averaged
4cmx(Surr)	24176725.21	22585058.14	100	-6.58	20		Averaged
Decachlorobiphenyl(Surr)	18463505.83	16917310.46	100	-8.37	20		Averaged

Quantitation Report
GEL Laboratories, LLC

12/08/2020

12/08/2020

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0822.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 09:21 (#1); 8 Dec 2020 9:21 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR200922-60|CCV|1|SVA|1|AR1660
Misc : |MIX[A]
ALS Vial : 22 Sample Multiplier: 1

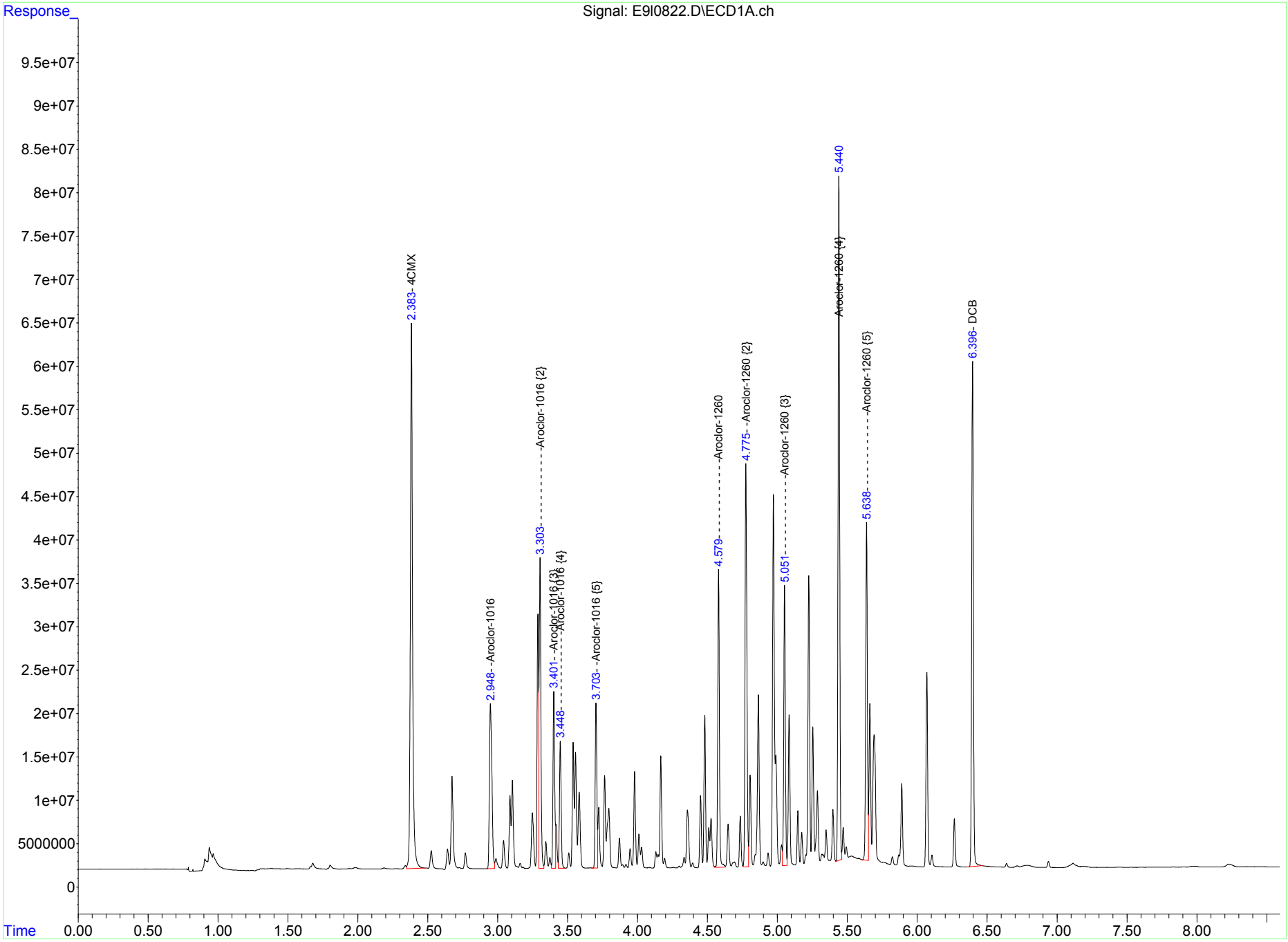
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 09:54:10 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

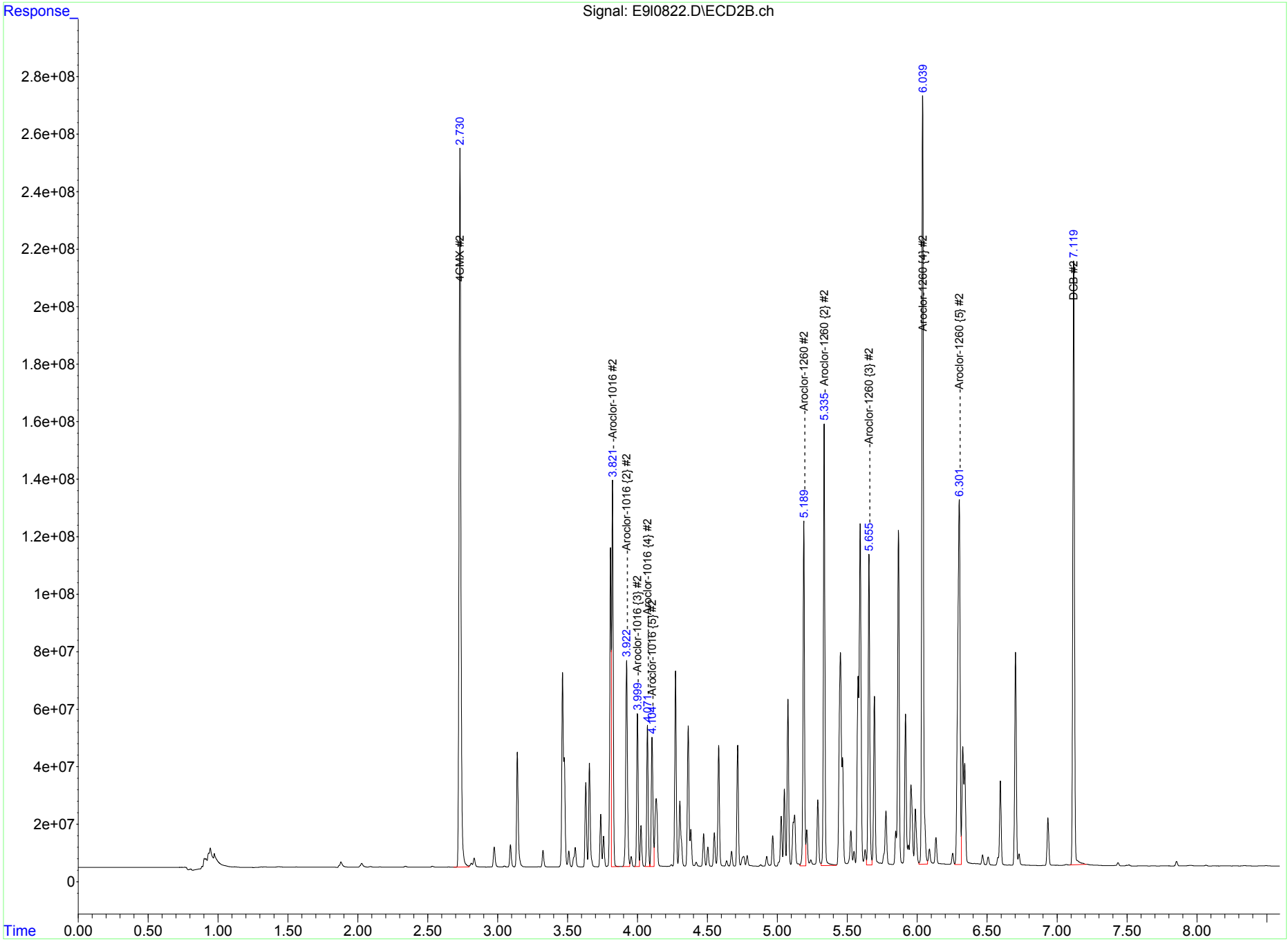
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	687291735	92.445	2.731	2.731	0.000	2258505814	93.417
DCB	6.397	6.396	-0.001	492790525	85.280	7.120	7.119	-0.001	1691731046	91.626
Target Compounds										
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.948	0.000	236094141	884.818	3.822	3.821	-0.001	973185518	940.099
Aroclor-1016 {2}	3.303	3.303	0.000	298387391	915.459	3.922	3.922	0.000	621615688	922.769
Aroclor-1016 {3}	3.402	3.402	0.000	171042697	885.218	4.000	4.000	0.000	382769652	919.225
Aroclor-1016 {4}	3.448	3.448	0.000	121392807	880.582	4.071	4.071	0.000	365458125	907.891
Aroclor-1016 {5}	3.704	3.704	0.000	155346497	864.912	4.104	4.104	0.000	372334211	906.527
Sum Aroclor-1016				982263532	4430.990				2715363195	4596.510
Average Aroclor-1016					886.198					919.302
Aroclor-1260	4.580	4.580	0.000	280662869	880.605	5.190	5.189	-0.001	909117113	912.309
Aroclor-1260 {2}	4.776	4.775	-0.001	426003612	870.435	5.335	5.335	0.000	1145255403	920.337
Aroclor-1260 {3}	5.052	5.052	0.000	256940237	856.087	5.656	5.655	-0.001	863389256	907.212
Aroclor-1260 {4}	5.441	5.440	-0.001	614981874	877.114	6.039	6.039	0.000	2189603432	910.829
Aroclor-1260 {5}	5.639	5.638	-0.001	316077398	873.021	6.301	6.301	0.000	1491822247	906.912
Sum Aroclor-1260				1894665990	4357.261				6599187450	4557.599
Average Aroclor-1260					871.452					911.520

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0822.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0822.D



Continuing Calibration Summary

Instrument ID: ECD9A.I_1

Client SDG: 2021-160

Injection Date: 08-DEC-20 10:40

Data File: 120820.S\E9l0828.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 120820.S\ECD9_8082_120720.m

Column ID: RTX-CLPEST 1

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	266827.93	237128.55	1000	-11.13	20		Averaged
Aroclor-1016(2)	325942.92	304451.29	1000	-6.59	20		Averaged
Aroclor-1016(3)	193220.88	204981.4	1000	6.09	20		Averaged
Aroclor-1016(4)	137855.2	122748.67	1000	-10.96	20		Averaged
Aroclor-1016(5)	179609.58	155742.2	1000	-13.29	20		Averaged
Aroclor-1260	318715.94	281455.4	1000	-11.69	20		Averaged
Aroclor-1260(2)	489414.6	423993.3	1000	-13.37	20		Averaged
Aroclor-1260(3)	300133.36	257342.4	1000	-14.26	20		Averaged
Aroclor-1260(4)	701142.59	616913.94	1000	-12.01	20		Averaged
Aroclor-1260(5)	362050.36	314392.44	1000	-13.16	20		Averaged
4cmx(Surr)	7434590.64	6899013.32	100	-7.2	20		Averaged
Decachlorobiphenyl(Surr)	5778489.63	5056840.52	100	-12.49	20		Averaged

Continuing Calibration Summary

Instrument ID: ECD9A.I_2

Client SDG: 2021-160

Injection Date: 08-DEC-20 10:40

Data File: 120820.S\E9l0828.D

Init. Cal. Date(s): NA

Lab Sample ID WAR200922-60

Method: 120820.S\ECD9_8082_120720.m

Column ID: RTX-CLPEST 2

Quant Type: ESTD

Compound	AVECF / Amount	CF CCV	Nominal CCV	%D / %Drift	Max	Drift Q	Curve Type
Aroclor-1016	1035195.11	982503.62	1000	-5.09	20		Averaged
Aroclor-1016(2)	673641.79	623022.12	1000	-7.51	20		Averaged
Aroclor-1016(3)	416404.8	383788.32	1000	-7.83	20		Averaged
Aroclor-1016(4)	402535.36	366646.27	1000	-8.92	20		Averaged
Aroclor-1016(5)	410726.19	372552.11	1000	-9.29	20		Averaged
Aroclor-1260	996501.17	907250.05	1000	-8.96	20		Averaged
Aroclor-1260(2)	1244386.68	1136485.13	1000	-8.67	20		Averaged
Aroclor-1260(3)	951695.42	861901	1000	-9.44	20		Averaged
Aroclor-1260(4)	2403966.68	2185482.18	1000	-9.09	20		Averaged
Aroclor-1260(5)	1644947.9	1483253.45	1000	-9.83	20		Averaged
4cmx(Surr)	24176725.21	22728726.46	100	-5.99	20		Averaged
Decachlorobiphenyl(Surr)	18463505.83	17022433.52	100	-7.8	20		Averaged

Quantitation Report
GEL Laboratories, LLC

12/08/2020

12/08/2020

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0828.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 10:40 (#1); 8 Dec 2020 10:40 (#2)
Operator : YS1 InstName : ECD9
Sample : |WAR200922-60|CCV|1|SVA|1|AR1660
Misc : |MIX[A]
ALS Vial : 28 Sample Multiplier: 1

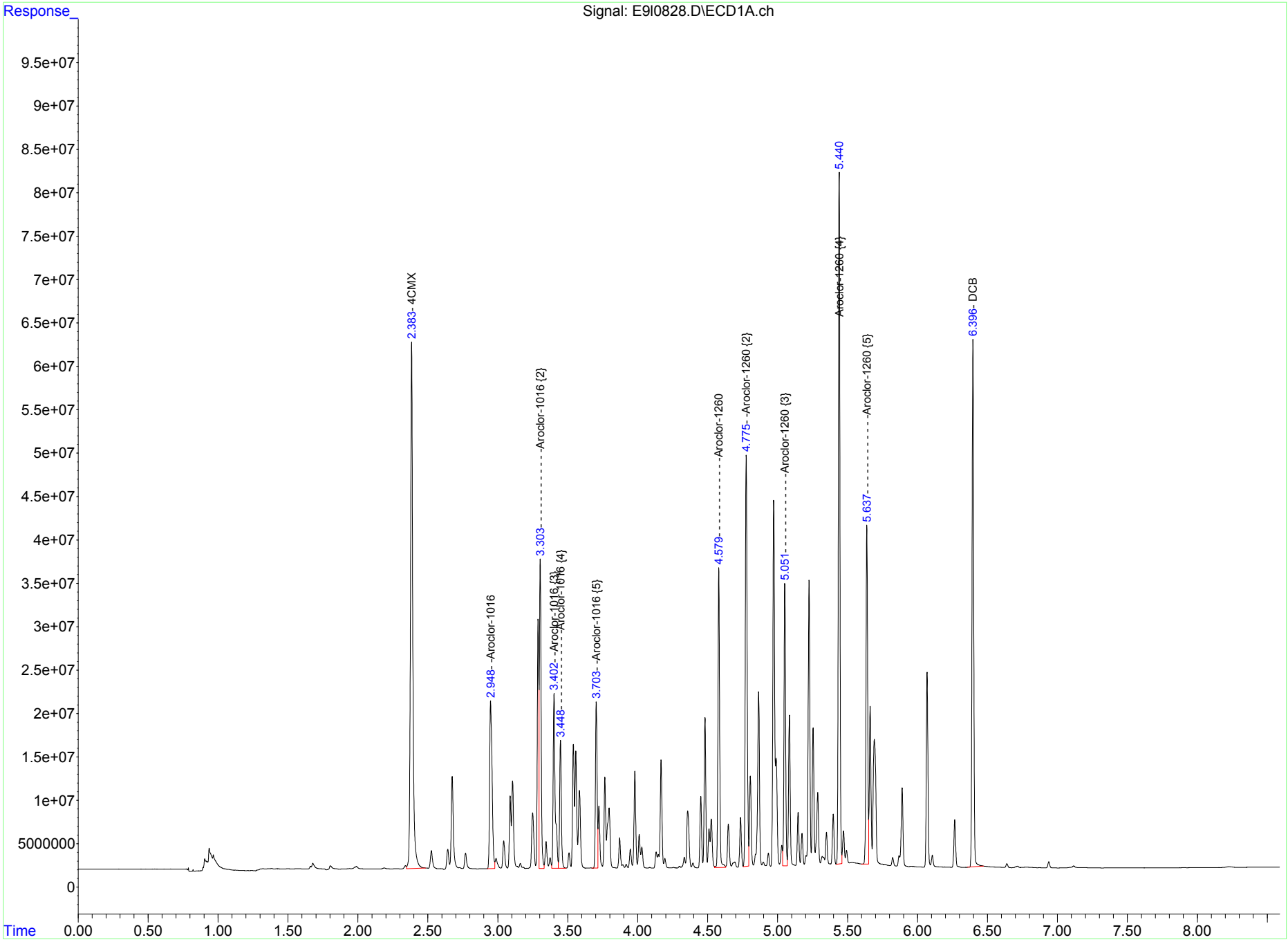
Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 10:50:13 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

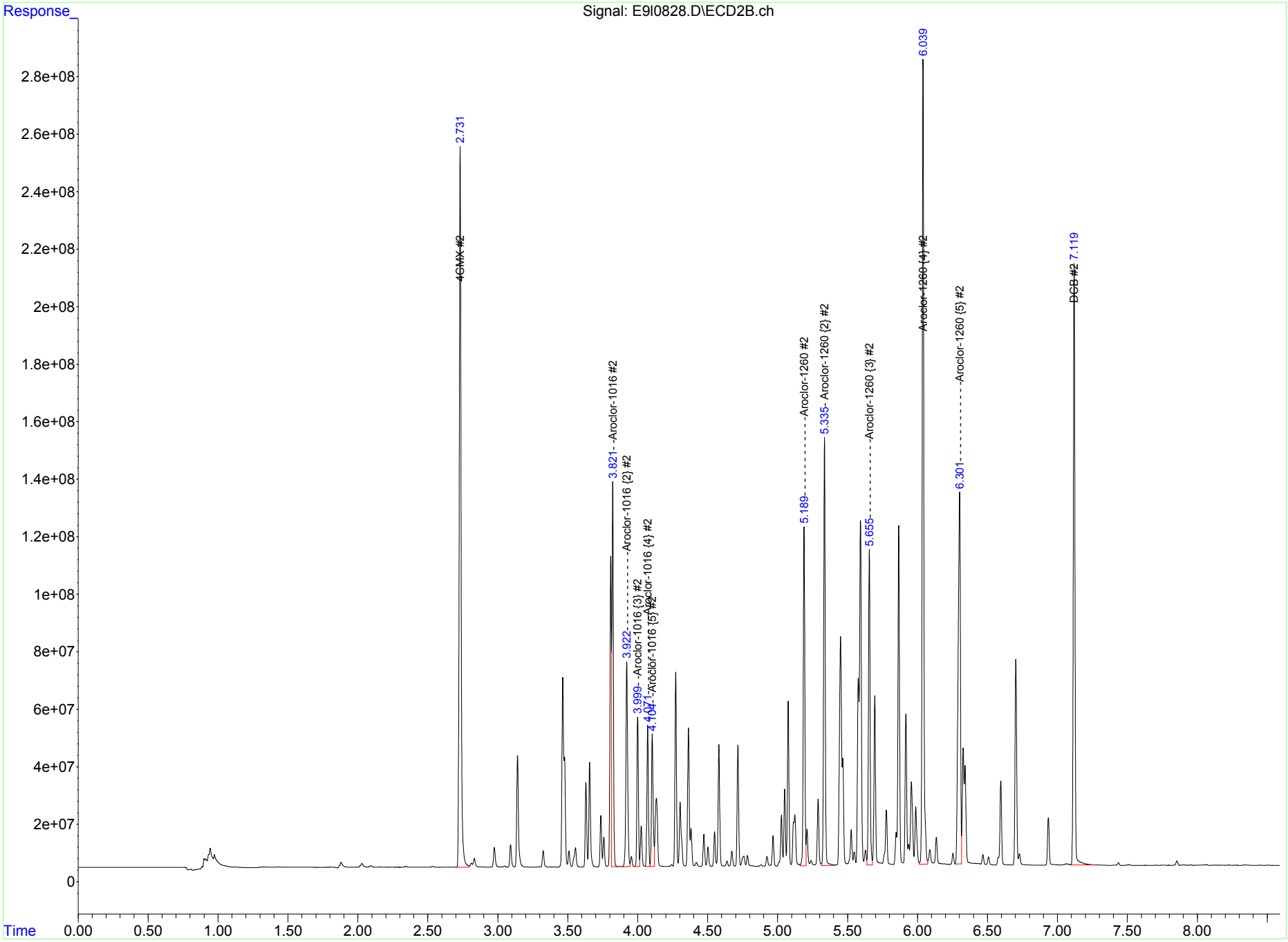
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	689901332	92.796	2.731	2.731	0.000	2272872646	94.011
DCB	6.397	6.396	-0.001	505684052	87.511	7.120	7.120	0.000	1702243352	92.195
Target Compounds										
Aroclor-1016	2.948	2.949	0.001	237128547	888.695	3.822	3.822	0.000	982503617	949.100
Aroclor-1016 {2}	3.303	3.303	0.000	304451291	934.063	3.922	3.922	0.000	623022115	924.857
Aroclor-1016 {3}	3.402	3.402	0.000	204981403	1060.866	4.000	4.000	0.000	383788323	921.671
Aroclor-1016 {4}	3.448	3.448	0.000	122748670	890.417	4.071	4.072	0.001	366646271	910.842
Aroclor-1016 {5}	3.704	3.704	0.000	155742196	867.115	4.104	4.104	0.000	372552110	907.057
Sum Aroclor-1016				1025052107	4641.156				2728512436	4613.527
Average Aroclor-1016					928.231					922.705
Aroclor-1260	4.580	4.580	0.000	281455403	883.092	5.190	5.189	-0.001	907250052	910.436
Aroclor-1260 {2}	4.776	4.776	0.000	423993298	866.327	5.335	5.335	0.000	1136485128	913.289
Aroclor-1260 {3}	5.052	5.052	0.000	257342399	857.427	5.656	5.656	0.000	861901003	905.648
Aroclor-1260 {4}	5.441	5.440	-0.001	616913939	879.869	6.039	6.040	0.001	2185482178	909.115
Aroclor-1260 {5}	5.639	5.638	-0.001	314392440	868.367	6.301	6.301	0.000	1483253446	901.702
Sum Aroclor-1260				1894097479	4355.082				6574371807	4540.190
Average Aroclor-1260					871.016					908.038

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0828.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0828.D



Lab Name: GEL Laboratories LLC **Client SDG:** 2021-160

GC Column: RTX-CLPEST 1

Instrument ID: ECD9A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration: **RT Range Based on Calibration Verification:**				2.38 2.35 2.41 #	6.4 6.37 6.43 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E9l0509.D	ICAL	WAR201207-01	07-DEC-20 09:01	2.38	6.4
E9l0510.D	ICAL	WAR201207-02	07-DEC-20 09:14	2.38	6.4
E9l0511.D	ICAL	WAR201207-03	07-DEC-20 09:26	2.38	6.4
E9l0512.D	ICAL	WAR201207-04	07-DEC-20 09:38	2.38	6.4
E9l0513.D	ICAL	IAR200730-01	07-DEC-20 09:51	2.38	6.4
E9l0514.D	ICV	WAR200922-60	07-DEC-20 10:03	2.38	6.4

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-160

GC Column: RTX-CLPEST 2

Instrument ID: ECD9A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.73	7.12
RT Range Based on Calibration Verification:				2.7 2.76 #	7.09 7.15 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E9l0509.D	ICAL	WAR201207-01	07-DEC-20 09:01	2.73	7.12
E9l0510.D	ICAL	WAR201207-02	07-DEC-20 09:14	2.73	7.12
E9l0511.D	ICAL	WAR201207-03	07-DEC-20 09:26	2.73	7.12
E9l0512.D	ICAL	WAR201207-04	07-DEC-20 09:38	2.73	7.12
E9l0513.D	ICAL	IAR200730-01	07-DEC-20 09:51	2.73	7.12
E9l0514.D	ICV	WAR200922-60	07-DEC-20 10:03	2.73	7.12

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-160

GC Column: RTX-CLPEST 1

Instrument ID: ECD9A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.38	6.4
RT Range Based on Calibration Verification:				2.35 2.41 #	6.37 6.43 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E9l0801.D	CCB	WAR201102-99	08-DEC-20 04:43	2.39	6.4
E9l0802.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 04:55	NA	NA
E9l0803.D	CCV	WAR200707-32	08-DEC-20 05:08	NA	NA
E9l0804.D	CCV	WAR200701-21	08-DEC-20 05:20	NA	NA
E9l0805.D	CCV	WAR200922-60	08-DEC-20 05:32	2.38	6.4
E9l0806.D	CCV	WAR200825-54	08-DEC-20 05:45	NA	NA
E9l0807.D	CCV	WAR200612-42	08-DEC-20 05:57	NA	NA
E9l0808.D	CCV	WAR200916-48	08-DEC-20 06:10	NA	NA
E9l0809.D	CCV	WAR201112-68	08-DEC-20 06:22	NA	NA
E9l0810.D	CCV	WAR201104-62	08-DEC-20 06:34	NA	NA
E9l0811.D	CCB	WAR201102-99	08-DEC-20 06:56	2.39	6.4
E9l0812.D	MB	1204708706	08-DEC-20 07:09	2.38	6.4
E9l0813.D	BLK01LCS	1204708707	08-DEC-20 07:21	2.38	6.4
E9l0814.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 07:33	2.38	6.4
E9l0815.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 07:47	2.38	6.4
E9l0816.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 08:00	2.38	6.4
E9l0817.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 08:14	2.39	6.39
E9l0818.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 08:27	2.38	6.4
E9l0819.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 08:41	2.38	6.4
E9l0820.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 08:54	2.38	6.4
E9l0821.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 09:08	2.38	6.39
E9l0822.D	CCV	WAR200922-60	08-DEC-20 09:21	2.38	6.4
E9l0823.D	CCB	WAR201102-99	08-DEC-20 09:34	2.39	6.4
E9l0824.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 09:46	2.38	6.4
E9l0825.D	SMEB01-20-211185	529035001	08-DEC-20 10:00	2.39	6.4
E9l0826.D	SMEB01-20-211185MS	1204708710	08-DEC-20 10:13	2.39	6.4
E9l0827.D	SMEB01-20-211185MSD	1204708711	08-DEC-20 10:27	2.38	6.4
E9l0828.D	CCV	WAR200922-60	08-DEC-20 10:40	2.38	6.4

Column used to flag retention time values with an asterisk.

Lab Name: GEL Laboratories LLC **Client SDG:** 2021-160

GC Column: RTX-CLPEST 2

Instrument ID: ECD9A.

Analytical Sequence for Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT From Initial Calibration:				2.73	7.12
RT Range Based on Calibration Verification:				2.7 2.76 #	7.09 7.15 #
File	**Sample Number**	**Lab Sample ID**	**Analysis Date**	**4cmx**	**Decachlorobiphenyl**
E9l0801.D	CCB	WAR201102-99	08-DEC-20 04:43	2.73	7.12
E9l0802.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 04:55	NA	NA
E9l0803.D	CCV	WAR200707-32	08-DEC-20 05:08	NA	NA
E9l0804.D	CCV	WAR200701-21	08-DEC-20 05:20	NA	NA
E9l0805.D	CCV	WAR200922-60	08-DEC-20 05:32	2.73	7.12
E9l0806.D	CCV	WAR200825-54	08-DEC-20 05:45	NA	NA
E9l0807.D	CCV	WAR200612-42	08-DEC-20 05:57	NA	NA
E9l0808.D	CCV	WAR200916-48	08-DEC-20 06:10	NA	NA
E9l0809.D	CCV	WAR201112-68	08-DEC-20 06:22	NA	NA
E9l0810.D	CCV	WAR201104-62	08-DEC-20 06:34	NA	NA
E9l0811.D	CCB	WAR201102-99	08-DEC-20 06:56	2.73	7.12
E9l0812.D	MB	1204708706	08-DEC-20 07:09	2.73	7.12
E9l0813.D	BLK01LCS	1204708707	08-DEC-20 07:21	2.73	7.12
E9l0814.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 07:33	2.73	7.12
E9l0815.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 07:47	2.73	7.12
E9l0816.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 08:00	2.73	7.12
E9l0817.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 08:14	2.73	7.12
E9l0818.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 08:27	2.73	7.12
E9l0819.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 08:41	2.73	7.12
E9l0820.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 08:54	2.73	7.12
E9l0821.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 09:08	2.73	7.12
E9l0822.D	CCV	WAR200922-60	08-DEC-20 09:21	2.73	7.12
E9l0823.D	CCB	WAR201102-99	08-DEC-20 09:34	2.73	7.12
E9l0824.D	ZZZZZZZ	ZZZZZZZ	08-DEC-20 09:46	2.73	7.12
E9l0825.D	SMEB01-20-211185	529035001	08-DEC-20 10:00	2.73	7.12
E9l0826.D	SMEB01-20-211185MS	1204708710	08-DEC-20 10:13	2.73	7.12
E9l0827.D	SMEB01-20-211185MSD	1204708711	08-DEC-20 10:27	2.73	7.12
E9l0828.D	CCV	WAR200922-60	08-DEC-20 10:40	2.73	7.12

Column used to flag retention time values with an asterisk.

Quality Control Data

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-160**			**Matrix:**	**WATER**
Lab Sample ID:	**1204708706**				
Client Sample:	**QC for batch 2069548**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**MB for batch 2069548**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2069551**	**Inst:**	**ECD9A.I**	**Dilution:**	**1**
Run Date:	**12/08/2020 07:09**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/07/2020 09:30**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**120820.S\E9l0812.D**	**Column:**	**1 RTX-CLPEST 1**		
	120820.S\E9l0812.D		**2 RTX-CLPEST 2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	0.0333	ug/L	0.0333	0.100	1
11104-28-2	Aroclor-1221	U	0.0333	ug/L	0.0333	0.100	1
11141-16-5	Aroclor-1232	U	0.0333	ug/L	0.0333	0.100	1
53469-21-9	Aroclor-1242	U	0.0333	ug/L	0.0333	0.100	1
12672-29-6	Aroclor-1248	U	0.0333	ug/L	0.0333	0.100	1
11097-69-1	Aroclor-1254	U	0.0333	ug/L	0.0333	0.100	1
11096-82-5	Aroclor-1260	U	0.0333	ug/L	0.0333	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.110	0.200	ug/L	55	(30%-113%)
Decachlorobiphenyl	0.153	0.200	ug/L	76	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

12/08/2020

12/08/2020

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0812.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On   : 08 Dec 2020 07:09 (#1); 8 Dec 2020   7:09 (#2)
Operator : YS1   InstName : ECD9
Sample   : |1204708706|2069551|1|SVA|1|MB|||
Misc   : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 12   Sample Multiplier: 1

Integration Files signal 1: autoint1.e   signal 2: autoint2.e
Quant Time: Dec 08 08:51:38 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9   SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj.   : 1 ul
Signal #1 Phase : RTX-CLPEST 1   Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um   Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	816677943	109.848	2.731	2.731	0.000	2703874464	111.838
DCB	6.397	6.397	0.000	881474683	152.544	7.120	7.120	0.000	3231706606	175.032

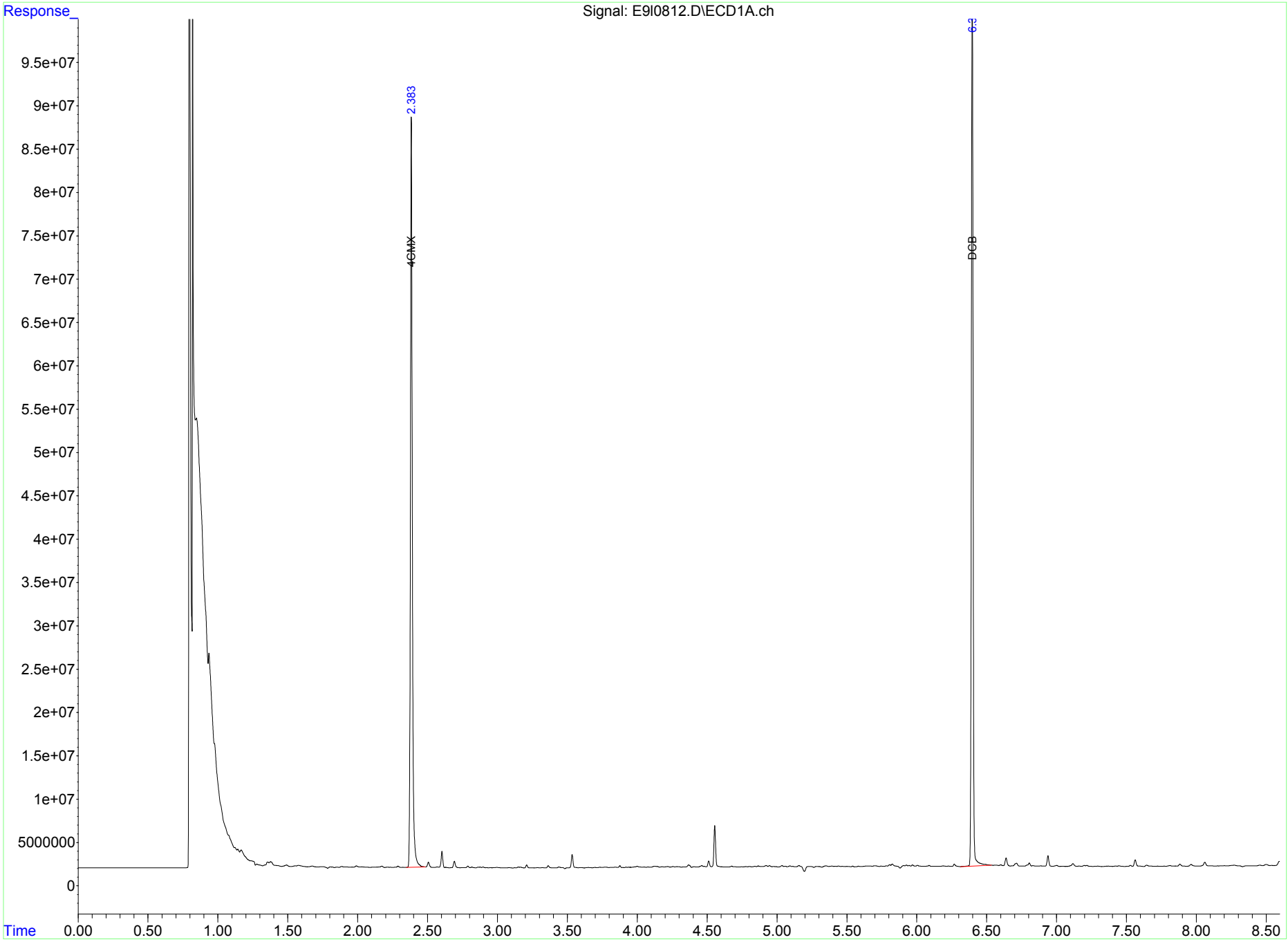
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	55%	56%
DCB	200.000	No Limits	76%	88%

Target Compounds

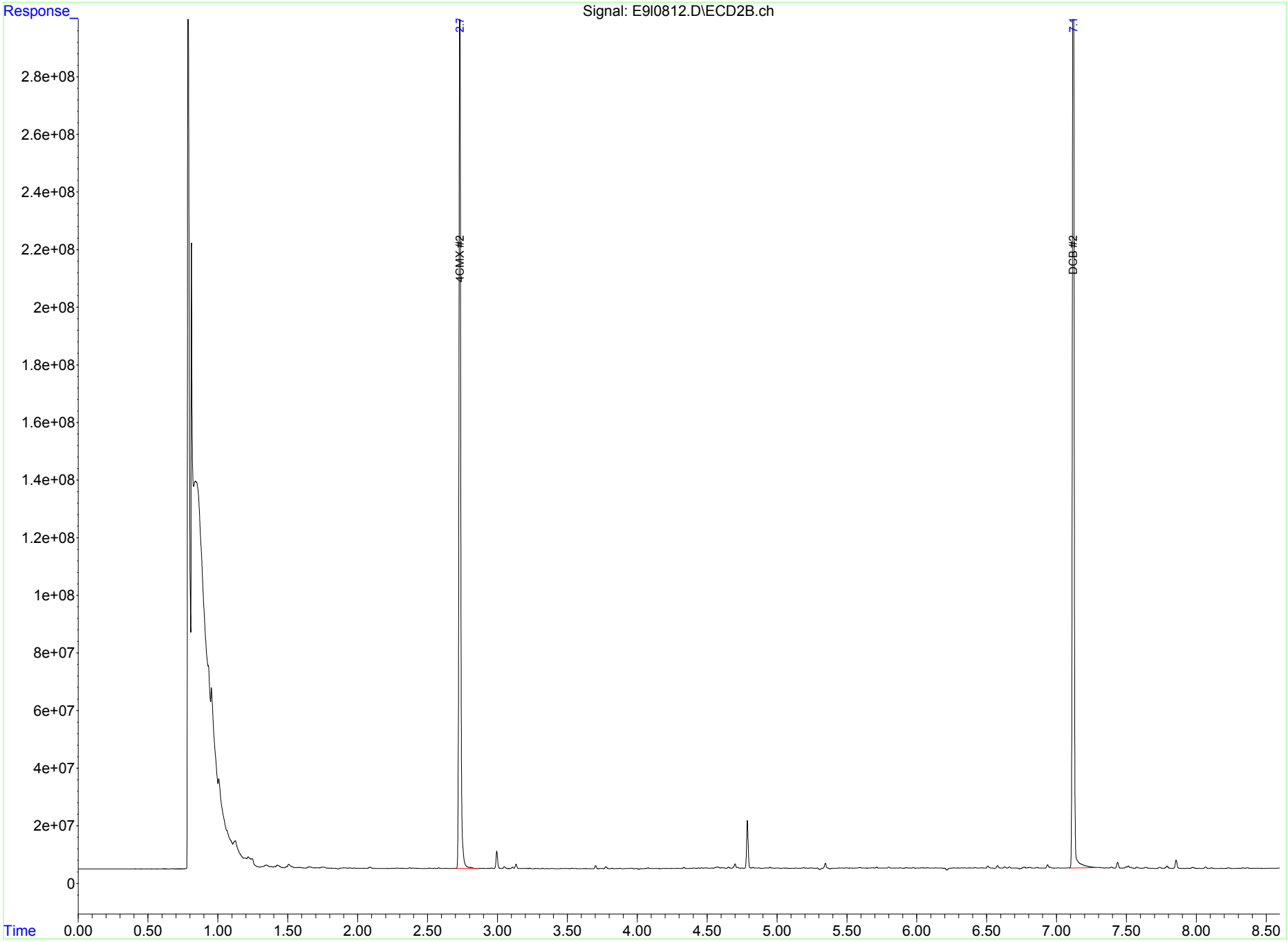
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0812.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0812.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	816677943	109.848	2.731	2.731	0.000	2703874464	111.838
DCB	6.397	6.397	0.000	881474683	152.544	7.120	7.120	0.000	3231706606	175.032

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	55%	56%
DCB	200.000	No Limits	76%	88%
4CMX	200.000	No Limits	55%	56%
DCB	200.000	No Limits	76%	88%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016 {4}	3.448	0.000	-3.448	0	N.D.	4.071	4.077	0.006	1919685	4.769
Aroclor-1016 {5}	3.704	0.000	-3.704	0	N.D.	4.104	4.077	-0.027f	1919685	4.674
Sum Aroclor-1016				0	N.D.				3839369	9.443
Average Aroclor-1016					N.D.					<MDL
Aroclor-1221	2.526	2.506	-0.020f	5357225	54.250	2.976	2.995	0.019f	48127018	173.890
Aroclor-1221 {2}	2.643	0.000	-2.643	0	N.D.	3.092	3.109	0.017f	4056264	24.172
Aroclor-1221 {3}	2.674	2.692	0.018f	6585893	34.515	3.142	3.133	-0.009	11978154	18.130
Sum Aroclor-1221				11943117	88.765				64161435	216.192 #
Average Aroclor-1221					44.382					72.064 #
Aroclor-1232	2.674	2.692	0.018f	6585893	42.538	3.822	0.000	-3.822	0	N.D.
Aroclor-1232 {4}	3.448	0.000	-3.448	0	N.D.	4.072	4.077	0.005	1919685	12.099
Aroclor-1232 {5}	3.704	0.000	-3.704	0	N.D.	4.104	4.077	-0.027f	1919685	11.102
Sum Aroclor-1232				6585893	42.538				3839369	23.201 #
Average Aroclor-1232					42.538					<MDL
Aroclor-1242 {4}	3.540	3.535	-0.005	11420541	114.235	4.071	4.077	0.006	1919685	6.496
Aroclor-1242 {5}	3.704	0.000	-3.704	0	N.D.	4.104	4.077	-0.027f	1919685	6.027
Sum Aroclor-1242				11420541	114.235				3839369	12.523 #
Average Aroclor-1242					114.235					<MDL
Aroclor-1248 {2}	3.540	3.535	-0.005	11420541	62.828	4.071	4.077	0.006	1919685	3.475
Aroclor-1248 {4}	4.011	0.000	-4.011	0	N.D.	4.549	4.576	0.027f	6068350	7.185
Aroclor-1248 {5}	4.031	0.000	-4.031	0	N.D.	4.584	4.576	-0.008	6068350	6.477
Sum Aroclor-1248				11420541	62.828				14056384	17.136 #
Average Aroclor-1248					62.828					<MDL
Aroclor-1254	3.980	0.000	-3.980	0	N.D.	4.580	4.576	-0.004	6068350	6.547
Aroclor-1254 {2}	4.168	0.000	-4.168	0	N.D.	4.716	4.700	-0.016f	13018712	12.456
Aroclor-1254 {5}	4.778	0.000	-4.778	0	N.D.	5.336	5.346	0.010	25174702	37.981
Sum Aroclor-1254				0	N.D.				44261763	56.984
Average Aroclor-1254					N.D.					<MDL
Aroclor-1260	4.580	4.555	-0.025f	38971732	122.277	5.190	0.000	-5.190	0	N.D.
Aroclor-1260 {2}	4.776	0.000	-4.776	0	N.D.	5.335	5.346	0.011	25174702	20.231
Aroclor-1260 {5}	5.639	0.000	-5.639	0	N.D.	6.301	6.295	-0.006	4100620	2.493
Sum Aroclor-1260				38971732	122.277				29275322	22.723 #

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Average Aroclor-1260					122.277					<MDL
Aroclor-1262 {2}	4.776	0.000	-4.776	0	N.D.	5.335	5.346	0.011	25174702	27.529
Aroclor-1262 {5}	5.662	0.000	-5.662	0	N.D.	6.296	6.295	-0.001	4100620	2.328
Sum Aroclor-1262				0	N.D.				29275322	29.857
Average Aroclor-1262					N.D.					<MDL
Aroclor-1268	5.661	0.000	-5.661	0	N.D.	6.294	6.295	0.001	4100620	1.275
Aroclor-1268 {2}	5.688	0.000	-5.688	0	N.D.	6.327	6.341	0.014	4029093	1.390
Aroclor-1268 {3}	5.823	0.000	-5.823	0	N.D.	6.508	6.508	0.000	6084502	2.522
Aroclor-1268 {5}	6.266	0.000	-6.266	0	N.D.	6.937	6.936	-0.001	6739018	0.892
Sum Aroclor-1268				0	N.D.				20953234	6.079
Average Aroclor-1268					N.D.					<MDL
4,4' DDD	4.802	0.000	-4.802	0	N.D.	5.368	5.346	-0.022f	25174702	<MDL

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0812.D

Aroclor-1016	Multi -	Deletion ==	DMP	
Aroclor-1221	Multi -	Deletion ==	DMP	
Aroclor-1232	Multi -	Deletion ==	DMP	
Aroclor-1242	Multi -	Deletion ==	DMP	
Aroclor-1248	Multi -	Deletion ==	DMP	
Aroclor-1254	Multi -	Deletion ==	DMP	
Aroclor-1260	Multi -	Deletion ==	DMP	
Aroclor-1262	Multi -	Deletion ==	DMP	
Aroclor-1268	Multi -	Deletion ==	DMP	
4,4' DDD #2	-	Deletion ==	DMP	

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-160**			**Matrix:**	**WATER**
Lab Sample ID:	**1204708707**				
Client Sample:	**QC for batch 2069548**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**LCS for batch 2069548**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2069551**	**Inst:**	**ECD9A.I**	**Dilution:**	**1**
Run Date:	**12/08/2020 07:21**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/07/2020 09:30**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**120820.S\E9l0813.D**	**Column:**	**1 RTX-CLPEST 1**		
	120820.S\E9l0813.D		**2 RTX-CLPEST 2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		0.715	ug/L	0.0333	0.100	1
11104-28-2	Aroclor-1221	U	0.0333	ug/L	0.0333	0.100	1
11141-16-5	Aroclor-1232	U	0.0333	ug/L	0.0333	0.100	1
53469-21-9	Aroclor-1242	U	0.0333	ug/L	0.0333	0.100	1
12672-29-6	Aroclor-1248	U	0.0333	ug/L	0.0333	0.100	1
11097-69-1	Aroclor-1254	U	0.0333	ug/L	0.0333	0.100	1
11096-82-5	Aroclor-1260		0.769	ug/L	0.0333	0.100	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
Decachlorobiphenyl	0.148	0.200	ug/L	74	(34%-130%)
4cmx	0.122	0.200	ug/L	61	(30%-113%)

Quantitation Report
GEL Laboratories, LLC

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0813.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 07:21 (#1); 8 Dec 2020 7:21 (#2)
Operator : YS1 InstName : ECD9
Sample : |1204708707|2069551|1|SVA|1|LCS|||
Misc : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 13 Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 08:51:41 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

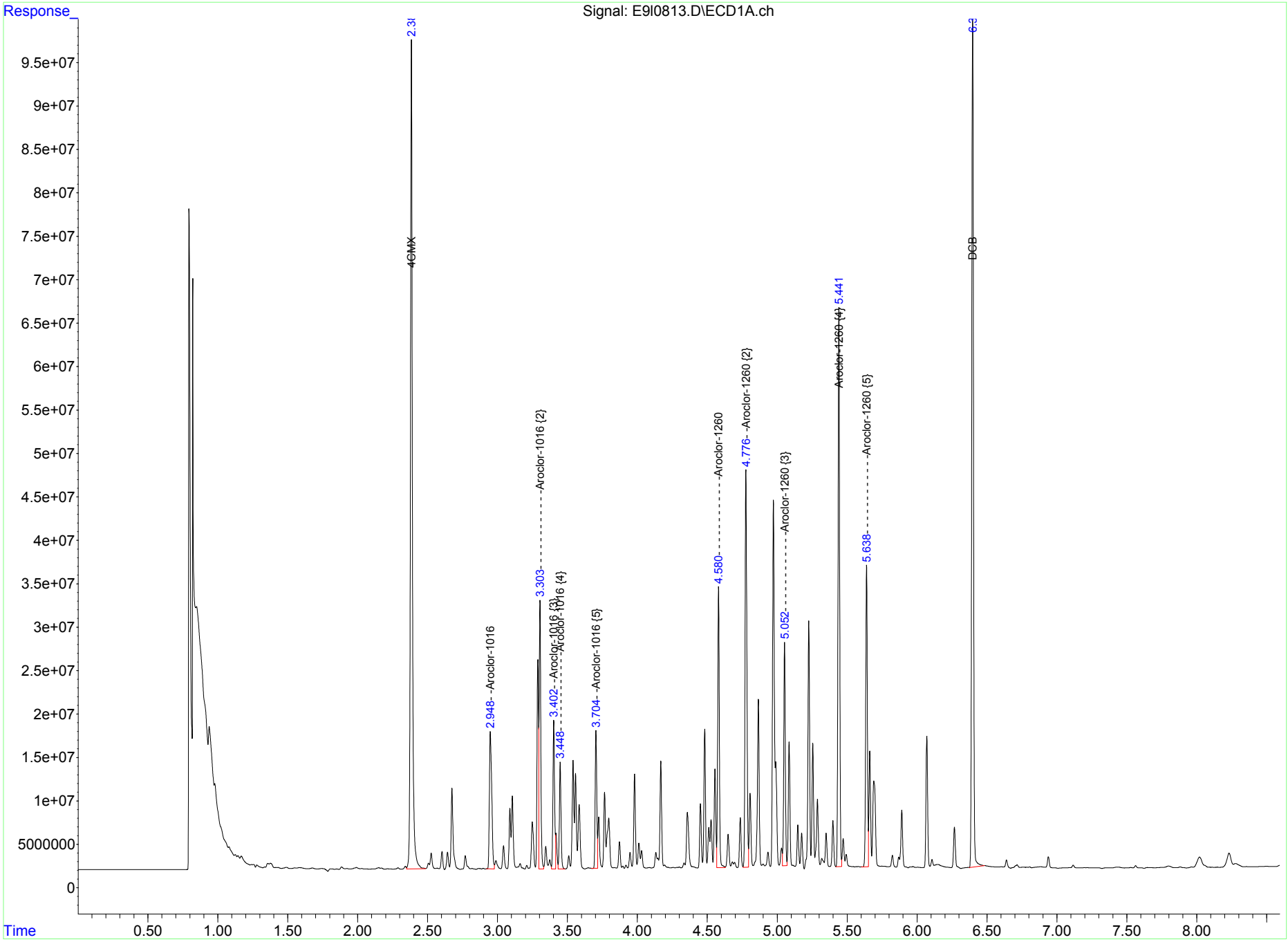
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	919634939	123.697	2.731	2.731	0.000	2954472801	122.203
DCB	6.397	6.397	0.000	856485603	148.220	7.120	7.120	0.000	3490459506	189.046

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	62%	61%
DCB	200.000	No Limits	74%	95%

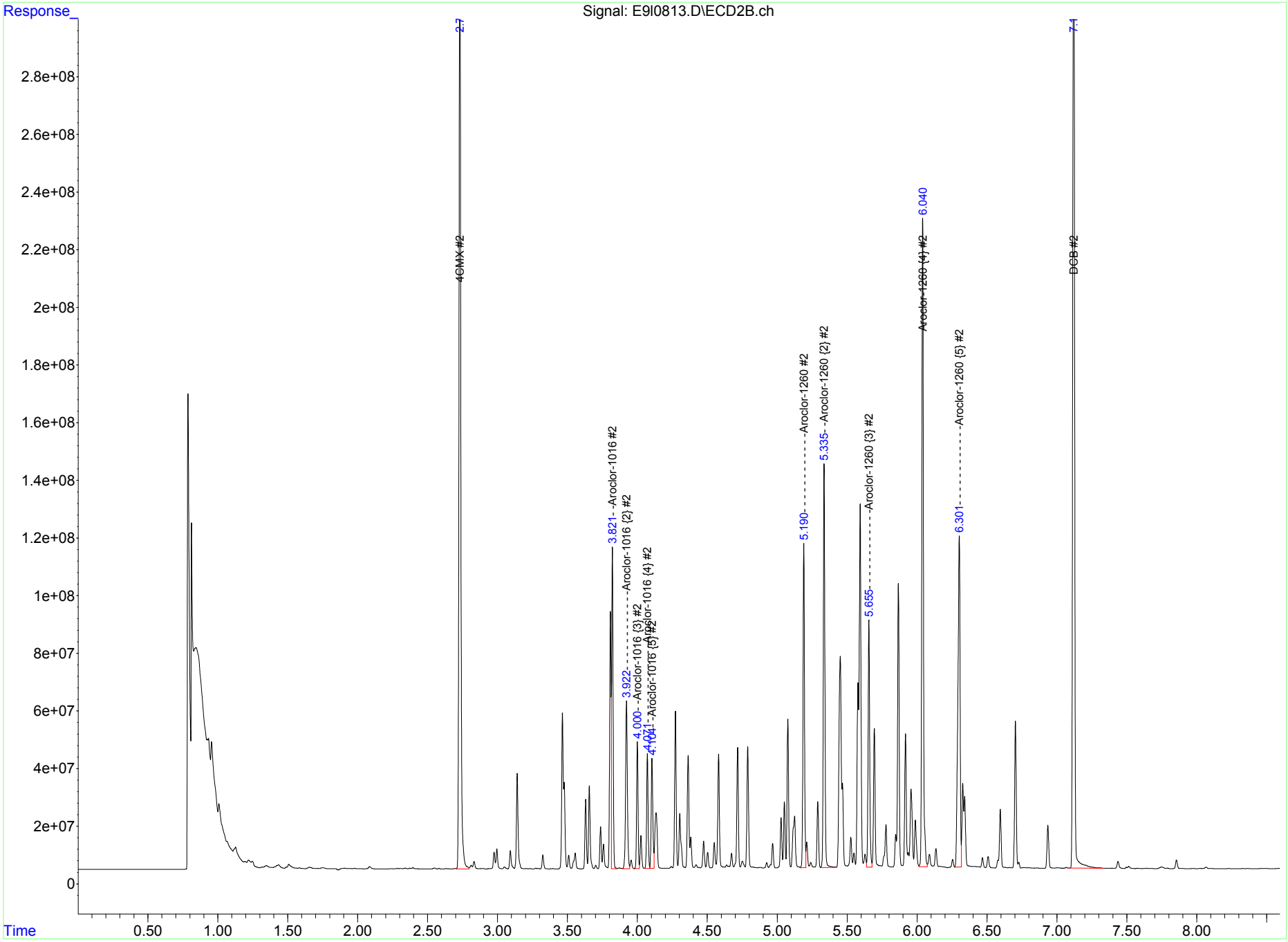
Target Compounds Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.948	0.000	186989112	700.785	3.822	3.821	-0.001	804684271	777.326
Aroclor-1016 {2}	3.303	3.304	0.001	244716127	750.794	3.922	3.922	0.000	508240636	754.467
Aroclor-1016 {3}	3.402	3.402	0.000	138267505	715.593	4.000	4.000	0.000	306248768	735.459
Aroclor-1016 {4}	3.448	3.448	0.000	97912708	710.258	4.071	4.072	0.001	294578288	731.807
Aroclor-1016 {5}	3.704	3.704	0.000	124893895	695.363	4.104	4.104	0.000	301922270	735.094
Sum Aroclor-1016				792779347	3572.794				2215674233	3734.154
Average Aroclor-1016					714.559					746.831
Aroclor-1260	4.580	4.580	0.000	265064905	831.665	5.190	5.190	0.000	855548299	858.552
Aroclor-1260 {2}	4.776	4.776	0.000	410732634	839.232	5.335	5.335	0.000	1088042431	874.360
Aroclor-1260 {3}	5.052	5.053	0.001	201158158	670.229	5.656	5.655	-0.001	682236522	716.864
Aroclor-1260 {4}	5.441	5.441	0.000	507078675	723.218	6.039	6.040	0.001	1784668032	742.385
Aroclor-1260 {5}	5.639	5.639	0.000	283443246	782.883	6.301	6.302	0.001	1251034362	760.531
Sum Aroclor-1260				1667477617	3847.228				5661529645	3952.693
Average Aroclor-1260					769.446					790.539

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0813.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0813.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	919634939	123.697	2.731	2.731	0.000	2954472801	122.203
DCB	6.397	6.397	0.000	856485603	148.220	7.120	7.120	0.000	3490459506	189.046

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	62%	61%
DCB	200.000	No Limits	74%	95%
4CMX	200.000	No Limits	62%	61%
DCB	200.000	No Limits	74%	95%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.948	0.000	186989112	700.785	3.822	3.821	-0.001	804684271	777.326
Aroclor-1016 {2}	3.303	3.304	0.001	244716127	750.794	3.922	3.922	0.000	508240636	754.467
Aroclor-1016 {3}	3.402	3.402	0.000	138267505	715.593	4.000	4.000	0.000	306248768	735.459
Aroclor-1016 {4}	3.448	3.448	0.000	97912708	710.258	4.071	4.072	0.001	294578288	731.807
Aroclor-1016 {5}	3.704	3.704	0.000	124893895	695.363	4.104	4.104	0.000	301922270	735.094
Sum Aroclor-1016				792779347	3572.794				2215674233	3734.154
Average Aroclor-1016					714.559					746.831
Aroclor-1221	2.526	2.526	0.000	16189813	163.947	2.976	2.976	0.000	46223368	167.011
Aroclor-1221 {2}	2.643	2.643	0.000	18029897	337.307	3.092	3.092	0.000	53661241	319.780
Aroclor-1221 {3}	2.674	2.675	0.001	91618802	480.146	3.142	3.141	-0.001	271525442	410.979
Sum Aroclor-1221				125838512	981.400				371410051	897.771
Average Aroclor-1221					327.133					299.257
Aroclor-1232	2.674	2.675	0.001	91618802	591.763	3.822	3.821	-0.001	804684271	1567.218 A
Aroclor-1232 {2}	3.304	3.304	0.000	244716127	1526.126 A	3.922	3.922	0.000	508240636	1531.743 A
Aroclor-1232 {3}	3.402	3.402	0.000	138267505	1230.179 A	3.999	4.000	0.001	306248768	1495.561 A
Aroclor-1232 {4}	3.448	3.448	0.000	97912708	1444.354 A	4.072	4.072	0.000	294578288	1856.650 A
Aroclor-1232 {5}	3.704	3.704	0.000	124893895	1498.809 A	4.104	4.104	0.000	301922270	1746.101 A
Sum Aroclor-1232				697409036	6291.232				2215674233	8197.273
Average Aroclor-1232					1258.246					1639.455
Aroclor-1242	2.948	2.948	0.000	186989112	859.932	3.821	3.821	0.000	804684271	1000.628
Aroclor-1242 {2}	3.304	3.304	0.000	244716127	931.494	3.922	3.922	0.000	508240636	966.491
Aroclor-1242 {3}	3.449	3.448	-0.001	97912708	874.686	4.000	4.000	0.000	306248768	938.273
Aroclor-1242 {4}	3.540	3.540	0.000	101054207	1010.802	4.071	4.072	0.001	294578288	996.838
Aroclor-1242 {5}	3.704	3.704	0.000	124893895	858.810	4.104	4.104	0.000	301922270	947.888
Sum Aroclor-1242				755566049	4535.725				2215674233	4850.118
Average Aroclor-1242					907.145					970.024
Aroclor-1248	3.303	3.304	0.001	244716127	1613.062	3.821	3.821	0.000	804684271	1814.738
Aroclor-1248 {2}	3.540	3.540	0.000	101054207	555.934	4.071	4.072	0.001	294578288	533.212
Aroclor-1248 {3}	3.704	3.704	0.000	124893895	537.413	4.272	4.273	0.001	404440559	569.833
Aroclor-1248 {4}	4.011	4.011	0.000	24959934	90.013	4.549	4.550	0.001	67522252	79.942
Aroclor-1248 {5}	4.031	4.031	0.000	17012358	71.022	4.584	4.581	-0.003	318649583	340.098
Sum Aroclor-1248				512636521	2867.443				1889874953	3337.823
Average Aroclor-1248					573.489					667.565

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.980	3.980	0.000	87344952	327.940	4.580	4.581	0.001	318649583	343.772	
Aroclor-1254 {2}	4.168	4.168	0.000	96868957	280.772	4.716	4.717	0.001	314501618	300.903	
Aroclor-1254 {3}	4.451	4.451	0.000	58988643	125.335	5.051	5.051	0.000	174264251	114.833	
Aroclor-1254 {4}	4.647	4.649	0.002	34894505	102.356	5.211	5.211	0.000	65778597	60.774	
Aroclor-1254 {5}	4.778	4.776	-0.002	410732634	1233.981	5.336	5.335	-0.001	1088042431	1641.532	
Sum Aroclor-1254				688829690	2070.384				1961236480	2461.814	
Average Aroclor-1254					414.077					492.363	
Aroclor-1260	4.580	4.580	0.000	265064905	831.665	5.190	5.190	0.000	855548299	858.552	
Aroclor-1260 {2}	4.776	4.776	0.000	410732634	839.232	5.335	5.335	0.000	1088042431	874.360	
Aroclor-1260 {3}	5.052	5.053	0.001	201158158	670.229	5.656	5.655	-0.001	682236522	716.864	
Aroclor-1260 {4}	5.441	5.441	0.000	507078675	723.218	6.039	6.040	0.001	1784668032	742.385	
Aroclor-1260 {5}	5.639	5.639	0.000	283443246	782.883	6.301	6.302	0.001	1251034362	760.531	
Sum Aroclor-1260				1667477617	3847.228				5661529645	3952.693	
Average Aroclor-1260					769.446					790.539	
Aroclor-1262	4.580	4.580	0.000	265064905	1070.846	5.190	5.190	0.000	855548299	1154.432	
Aroclor-1262 {2}	4.776	4.776	0.000	410732634	1222.942	5.335	5.335	0.000	1088042431	1189.788	
Aroclor-1262 {3}	5.052	5.053	0.001	201158158	487.171	5.656	5.655	-0.001	682236522	521.173	
Aroclor-1262 {4}	5.441	5.441	0.000	507078675	661.632	6.039	6.040	0.001	1784668032	701.665	
Aroclor-1262 {5}	5.662	5.662	0.000	104746661	338.969	6.296	6.302	0.006	1251034362	710.208	
Sum Aroclor-1262				1488781032	3781.560				5661529645	4277.266	
Average Aroclor-1262					756.312					855.453	
Aroclor-1268	5.661	5.662	0.001	104746661	109.515	6.294	6.302	0.008	1251034362	388.843	
Aroclor-1268 {2}	5.688	5.691	0.003	129101479	147.799	6.327	6.327	0.000	220025706	75.913	
Aroclor-1268 {3}	5.823	5.824	0.001	11796930	15.754	6.508	6.508	0.000	32822695	13.607	
Aroclor-1268 {4}	6.069	6.070	0.001	122759303	380.982	6.703	6.703	0.000	399493323	391.030	
Aroclor-1268 {5}	6.266	6.267	0.001	43757227	19.389	6.937	6.935	-0.002	125376599	16.591	
Sum Aroclor-1268				412161600	673.440				2028752684	885.983	
Average Aroclor-1268					134.688					177.197	
4,4' DDT	4.996	4.989	-0.007	89713300	<MDL	5.592	5.593	0.001	1072591192	40.614	#
4,4' DDD	4.802	4.806	0.004	71708470	10.330	5.368	0.000	-5.368	0	N.D.	#
4,4' DDE	4.375	4.358	-0.017	69029688	7.841	4.954	4.968	0.014	71184653	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0813.D

Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD		-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-160**	**Date Collected:**	**12/02/2020 10:30**	**Matrix:**	**W**
Lab Sample ID:	**1204708710**	**Date Received:**	**12/03/2020 09:00**		
Client Sample:	**QC for batch 2069548**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-211185MS**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2069551**	**Inst:**	**ECD9A.I**	**Dilution:**	**1**
Run Date:	**12/08/2020 10:13**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/07/2020 09:30**	**Aliquot:**	**200 mL**	**Final Volume:**	**1 mL**
Data File:	**120820.S\E9l0826.D**	**Column:**	**1 RTX-CLPEST 1**		
	120820.S\E9l0826.D		**2 RTX-CLPEST 2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		2.92	ug/L	0.167	0.500	1
11104-28-2	Aroclor-1221	U	0.167	ug/L	0.167	0.500	1
11141-16-5	Aroclor-1232	U	0.167	ug/L	0.167	0.500	1
53469-21-9	Aroclor-1242	U	0.167	ug/L	0.167	0.500	1
12672-29-6	Aroclor-1248	U	0.167	ug/L	0.167	0.500	1
11097-69-1	Aroclor-1254	U	0.167	ug/L	0.167	0.500	1
11096-82-5	Aroclor-1260		2.64	ug/L	0.167	0.500	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.399	1.00	ug/L	40	(30%-113%)
Decachlorobiphenyl	0.490	1.00	ug/L	49	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

12/08/2020

12/08/2020

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0826.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 10:13 (#1); 8 Dec 2020 10:13 (#2)
Operator : YS1 InstName : ECD9
Sample : |1204708710|2069551|1|SVA|1|MS|||
Misc : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 26 Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 10:30:40 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.385	0.001	593612545	79.845	2.731	2.731	0.000	2025982039	83.799
DCB	6.397	6.395	-0.002	566534379	98.042	7.120	7.119	-0.001	1909311096	103.410

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	40%	42%
DCB	200.000	No Limits	49%	52%

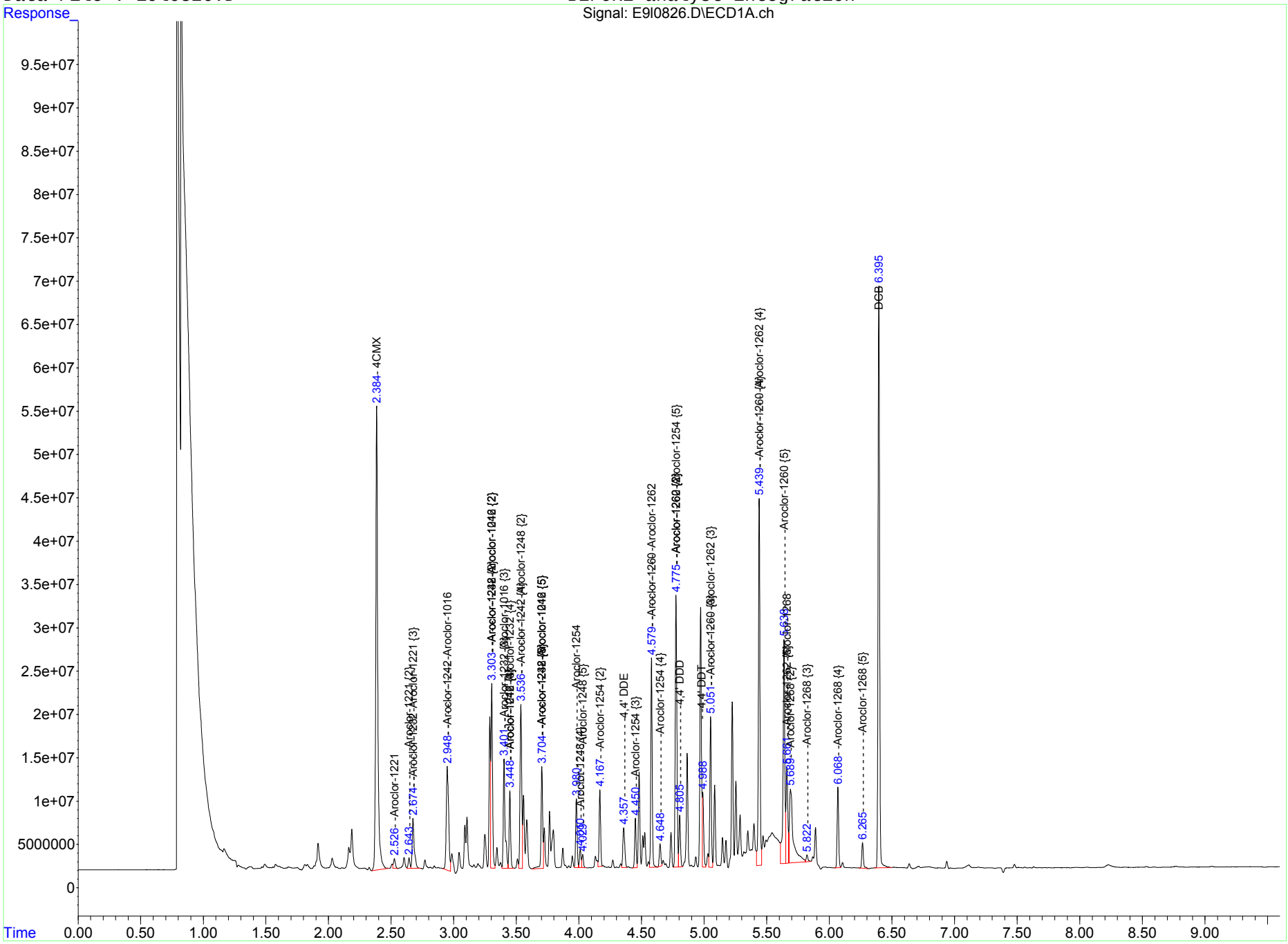
Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.948	0.000	156785712	587.591	3.822	3.822	0.000	603128351	582.623
Aroclor-1016 {2}	3.303	3.304	0.001	183588324	563.253	3.922	3.922	0.000	386371603	573.556
Aroclor-1016 {3}	3.402	3.402	0.000	126010662	652.159	4.000	4.000	0.000	243614204	585.042
Aroclor-1016 {4}	3.448	3.448	0.000	73354243	532.111	4.071	4.071	0.000	221366551	549.931
Aroclor-1016 {5}	3.704	3.704	0.000	104652991	582.669	4.104	4.104	0.000	231647802	563.996
Sum Aroclor-1016				644391932	2917.783				1686128511	2855.148
Average Aroclor-1016					583.557					571.030
Aroclor-1260	4.580	4.580	0.000	189036145	593.118	5.190	5.190	0.000	599518794	601.624
Aroclor-1260 {2}	4.776	4.775	-0.001	290058343	592.664	5.335	5.335	0.000	773685603	621.741
Aroclor-1260 {3}	5.052	5.052	0.000	139424435	464.542	5.656	5.655	-0.001	451832354	474.766
Aroclor-1260 {4}	5.441	5.439	-0.002	325661256	464.472m	6.039	6.039	0.000	1136657490	472.826
Aroclor-1260 {5}	5.639	5.638	-0.001	189189327	522.550m	6.301	6.301	0.000	795539441	483.626
Sum Aroclor-1260				1133369505	2637.345				3757233681	2654.582
Average Aroclor-1260					527.469					530.916

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

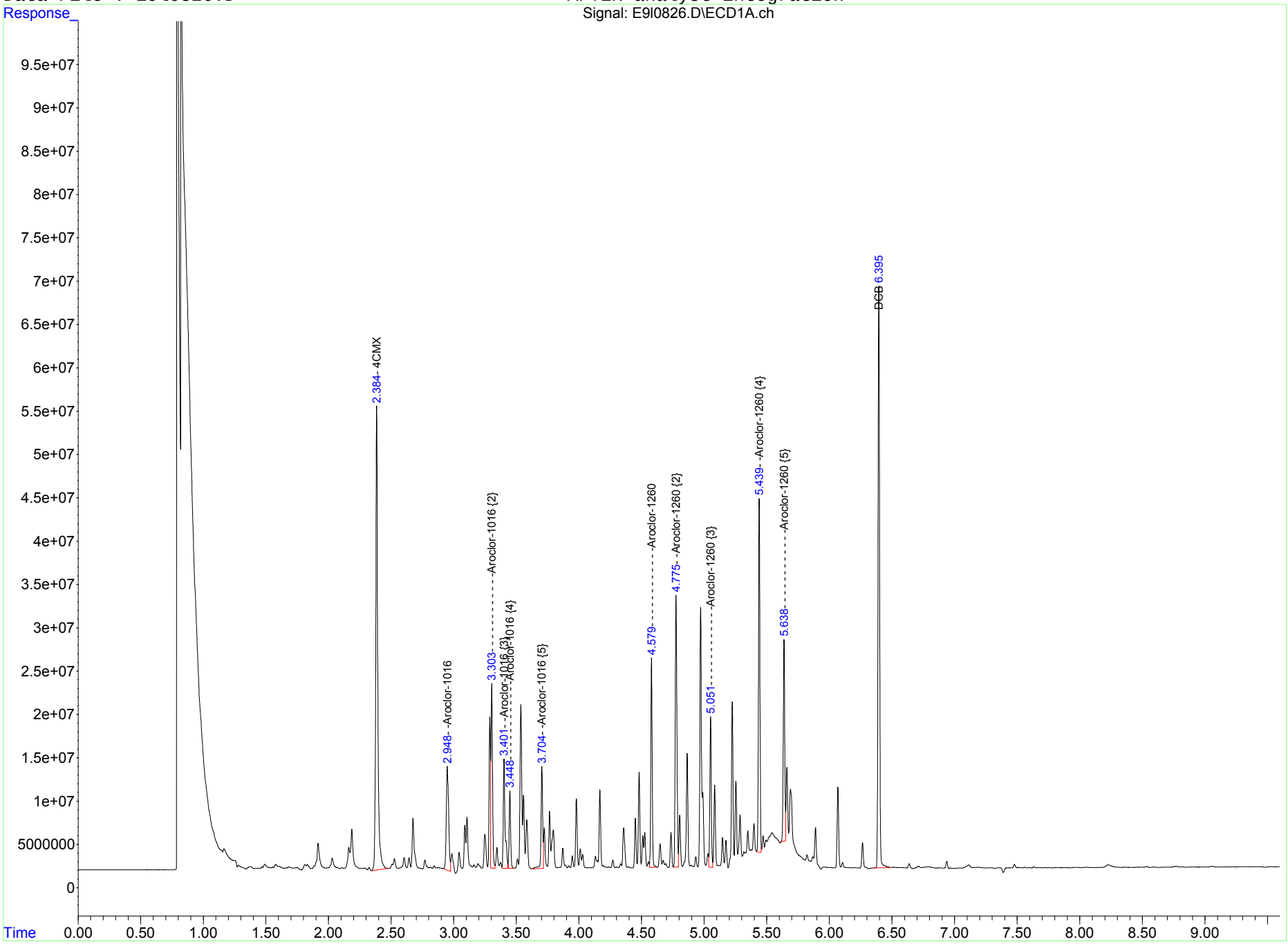
Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0826.D

BEFORE analyst integration

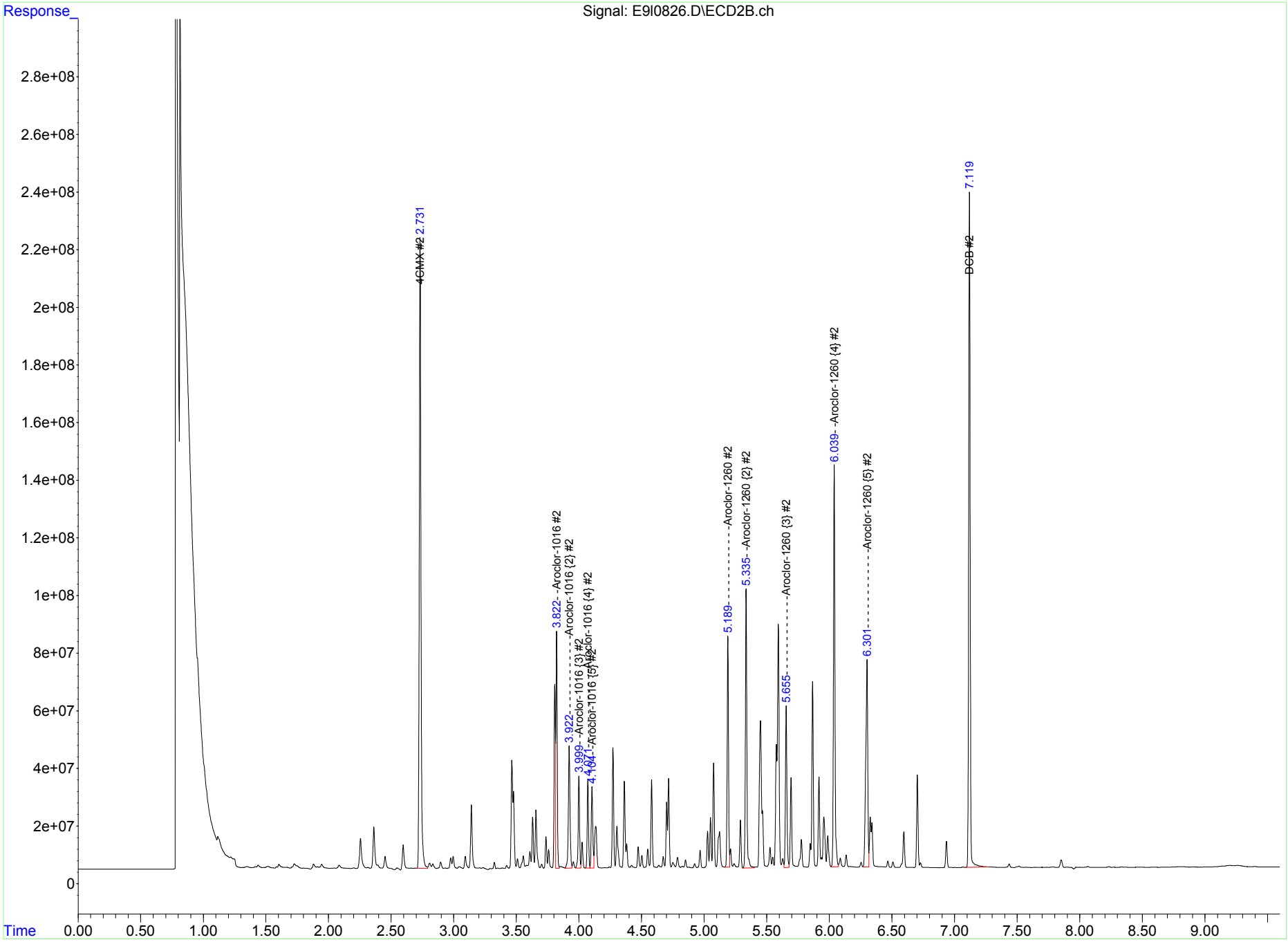


Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0826.D

AFTER analyst integration



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0826.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
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Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.385	0.001	593612545	79.845	2.731	2.731	0.000	2025982039	83.799
DCB	6.397	6.395	-0.002	566534379	98.042	7.120	7.119	-0.001	1909311096	103.410

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	40%	42%
DCB	200.000	No Limits	49%	52%
4CMX	200.000	No Limits	40%	42%
DCB	200.000	No Limits	49%	52%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.948	0.000	156785712	587.591	3.822	3.822	0.000	603128351	582.623
Aroclor-1016 {2}	3.303	3.304	0.001	183588324	563.253	3.922	3.922	0.000	386371603	573.556
Aroclor-1016 {3}	3.402	3.402	0.000	126010662	652.159	4.000	4.000	0.000	243614204	585.042
Aroclor-1016 {4}	3.448	3.448	0.000	73354243	532.111	4.071	4.071	0.000	221366551	549.931
Aroclor-1016 {5}	3.704	3.704	0.000	104652991	582.669	4.104	4.104	0.000	231647802	563.996
Sum Aroclor-1016				644391932	2917.783				1686128511	2855.148
Average Aroclor-1016					583.557					571.030
Aroclor-1221	2.526	2.526	0.000	11812770	119.623	2.976	2.976	0.000	31731164	114.649
Aroclor-1221 {2}	2.643	2.643	0.000	11251053	210.487	3.092	3.093	0.001	41417873	246.819
Aroclor-1221 {3}	2.674	2.675	0.001	66097842	346.399	3.142	3.141	-0.001	199993215	302.709
Sum Aroclor-1221				89161665	676.508				273142252	664.176
Average Aroclor-1221					225.503					221.392
Aroclor-1232	2.674	2.675	0.001	66097842	426.924	3.822	3.822	0.000	603128351	1174.664 A
Aroclor-1232 {2}	3.304	3.304	0.000	183588324	1144.914 A	3.922	3.922	0.000	386371603	1164.453 A
Aroclor-1232 {3}	3.402	3.402	0.000	126010662	1121.129 A	3.999	4.000	0.001	243614204	1189.686 A
Aroclor-1232 {4}	3.448	3.448	0.000	73354243	1082.081 A	4.072	4.071	-0.001	221366551	1395.216 A
Aroclor-1232 {5}	3.704	3.704	0.000	104652991	1255.905 A	4.104	4.104	0.000	231647802	1339.684 A
Sum Aroclor-1232				553704063	5030.953				1686128511	6263.702
Average Aroclor-1232					1006.191					1252.740
Aroclor-1242	2.948	2.948	0.000	156785712	721.032	3.821	3.822	0.001	603128351	749.992
Aroclor-1242 {2}	3.304	3.304	0.000	183588324	698.816	3.922	3.922	0.000	386371603	734.740
Aroclor-1242 {3}	3.449	3.448	-0.001	73354243	655.297	4.000	4.000	0.000	243614204	746.376
Aroclor-1242 {4}	3.540	3.537	-0.003	178649212	1786.952	4.071	4.071	0.000	221366551	749.093
Aroclor-1242 {5}	3.704	3.704	0.000	104652991	719.627	4.104	4.104	0.000	231647802	727.260
Sum Aroclor-1242				697030482	4581.724				1686128511	3707.462
Average Aroclor-1242					916.345					741.492
Aroclor-1248	3.303	3.304	0.001	183588324	1210.134	3.821	3.822	0.001	603128351	1360.186
Aroclor-1248 {2}	3.540	3.537	-0.003	178649212	982.810	4.071	4.071	0.000	221366551	400.692
Aroclor-1248 {3}	3.704	3.704	0.000	104652991	450.317	4.272	4.272	0.000	306116345	431.300
Aroclor-1248 {4}	4.011	4.011	0.000	18837384	67.934	4.549	4.550	0.001	52738229	62.439
Aroclor-1248 {5}	4.031	4.030	-0.001	12583377	52.532	4.584	4.581	-0.003	234765646	250.568
Sum Aroclor-1248				498311288	2763.727				1418115123	2505.184
Average Aroclor-1248					552.745					501.037

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
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Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.980	3.980	0.000	66294089	248.903	4.580	4.581	0.001	234765646	253.275	
Aroclor-1254 {2}	4.168	4.167	-0.001	71479839	207.182	4.716	4.716	0.000	230809588	220.830	
Aroclor-1254 {3}	4.451	4.451	0.000	44566578	94.692	5.051	5.051	0.000	129556787	85.372	
Aroclor-1254 {4}	4.647	4.648	0.001	22604702	66.306	5.211	5.211	0.000	46550441	43.009	
Aroclor-1254 {5}	4.778	4.775	-0.003	290058343	871.434	5.336	5.335	-0.001	773685603	1167.261	
Sum Aroclor-1254				495003550	1488.518				1415368066	1769.747	
Average Aroclor-1254					297.704					353.949	
Aroclor-1260	4.580	4.580	0.000	189036145	593.118	5.190	5.190	0.000	599518794	601.624	
Aroclor-1260 {2}	4.776	4.775	-0.001	290058343	592.664	5.335	5.335	0.000	773685603	621.741	
Aroclor-1260 {3}	5.052	5.052	0.000	139424435	464.542	5.656	5.655	-0.001	451832354	474.766	
Aroclor-1260 {4}	5.441	5.440	-0.001	362721169	517.329	6.039	6.039	0.000	1136657490	472.826	
Aroclor-1260 {5}	5.639	5.638	-0.001	253027559	698.874	6.301	6.301	0.000	795539441	483.626	
Sum Aroclor-1260				1234267650	2866.526				3757233681	2654.582	
Average Aroclor-1260					573.305					530.916	
Aroclor-1262	4.580	4.580	0.000	189036145	763.694	5.190	5.190	0.000	599518794	808.959	
Aroclor-1262 {2}	4.776	4.775	-0.001	290058343	863.639	5.335	5.335	0.000	773685603	846.035	
Aroclor-1262 {3}	5.052	5.052	0.000	139424435	337.663	5.656	5.655	-0.001	451832354	345.163	
Aroclor-1262 {4}	5.441	5.440	-0.001	362721169	473.276	6.039	6.039	0.000	1136657490	446.891	
Aroclor-1262 {5}	5.662	5.661	-0.001	109443339	354.167	6.296	6.301	0.005	795539441	451.625	
Sum Aroclor-1262				1090683430	2792.438				3757233681	2898.674	
Average Aroclor-1262					558.488					579.735	
Aroclor-1268	5.661	5.661	0.000	109443339	114.426	6.294	6.301	0.007	795539441	247.267	
Aroclor-1268 {2}	5.688	5.689	0.001	182137273	208.517	6.327	6.327	0.000	137619720	47.481	
Aroclor-1268 {3}	5.823	5.822	-0.001	7771883	10.379	6.508	6.508	0.000	15940575	6.608	
Aroclor-1268 {4}	6.069	6.068	-0.001	78774354	244.476	6.703	6.703	0.000	244334017	239.158	
Aroclor-1268 {5}	6.266	6.265	-0.001	27328385	12.110	6.937	6.935	-0.002	72245844	9.560	
Sum Aroclor-1268				405455234	589.906				1265679598	550.075	
Average Aroclor-1268					117.981					110.015	
4,4' DDT	4.996	4.989	-0.007	63974105	<MDL	5.592	5.593	0.001	746836504	28.279	#
4,4' DDD	4.802	4.805	0.003	49345083	7.108	5.368	0.000	-5.368	0	N.D.	#
4,4' DDE	4.375	4.358	-0.017	49281068	5.598	4.954	4.968	0.014	47627738	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0826.D

Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1260 {4}	-	Manual Integration	==	DMP
Aroclor-1260 {5}	-	Manual Integration	==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD	-		Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**2021-160**	**Date Collected:**	**12/02/2020 10:30**	**Matrix:**	**W**
Lab Sample ID:	**1204708711**	**Date Received:**	**12/03/2020 09:00**		
Client Sample:	**QC for batch 2069548**	**Client:**	**ARSL004**	**Project:**	**ESHL00118**
Client ID:	**SMEB01-20-211185MSD**	**Method:**	**SW846 3535A/8082A**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**2069551**	**Inst:**	**ECD9A.I**	**Dilution:**	**1**
Run Date:	**12/08/2020 10:27**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/07/2020 09:30**	**Aliquot:**	**200 mL**	**Final Volume:**	**1 mL**
Data File:	**120820.S\E9l0827.D**	**Column:**	**1 RTX-CLPEST 1**		
	120820.S\E9l0827.D		**2 RTX-CLPEST 2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		3.27	ug/L	0.167	0.500	1
11104-28-2	Aroclor-1221	U	0.167	ug/L	0.167	0.500	1
11141-16-5	Aroclor-1232	U	0.167	ug/L	0.167	0.500	1
53469-21-9	Aroclor-1242	U	0.167	ug/L	0.167	0.500	1
12672-29-6	Aroclor-1248	U	0.167	ug/L	0.167	0.500	1
11097-69-1	Aroclor-1254	U	0.167	ug/L	0.167	0.500	1
11096-82-5	Aroclor-1260		2.73	ug/L	0.167	0.500	1

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
4cmx	0.483	1.00	ug/L	48	(30%-113%)
Decachlorobiphenyl	0.451	1.00	ug/L	45	(34%-130%)

Quantitation Report
GEL Laboratories, LLC

12/08/2020

12/08/2020

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0827.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 08 Dec 2020 10:27 (#1); 8 Dec 2020 10:27 (#2)
Operator : YS1 InstName : ECD9
Sample : |1204708711|2069551|1|SVA|1|MSD|||
Misc : |ECD5A2A_1L|WATER|QC A|||
ALS Vial : 27 Sample Multiplier: 1

Integration Files signal 1: autoint1.e signal 2: autoint2.e
Quant Time: Dec 08 10:49:46 2020
Quant Method : C:\msdchem\1\data\120820.S\ECD9_8082_120720.m
Quant Title : ECD9 SubList :
QLast Update : Tue Dec 08 06:40:32 2020
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1 ul
Signal #1 Phase : RTX-CLPEST 1 Signal #2 Phase: RTX-CLPEST 2
Signal #1 Info : 250 um Signal #2 Info : 250 um

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	718542877	96.649	2.731	2.731	0.000	2408999128	99.641
DCB	6.397	6.396	-0.001	520826249	90.132	7.120	7.119	-0.001	1916306693	103.789

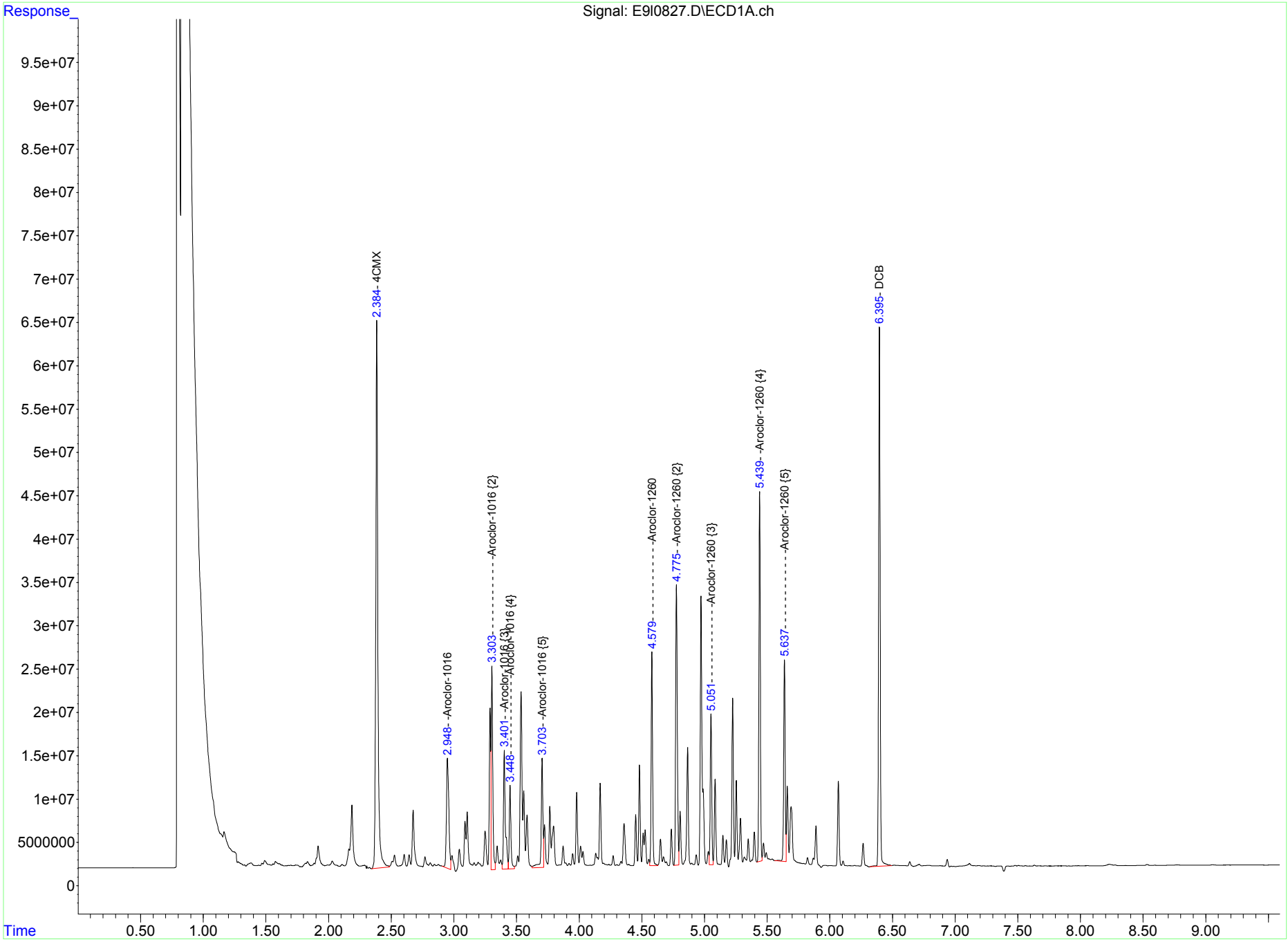
Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	48%	50%
DCB	200.000	No Limits	45%	52%

Target Compounds

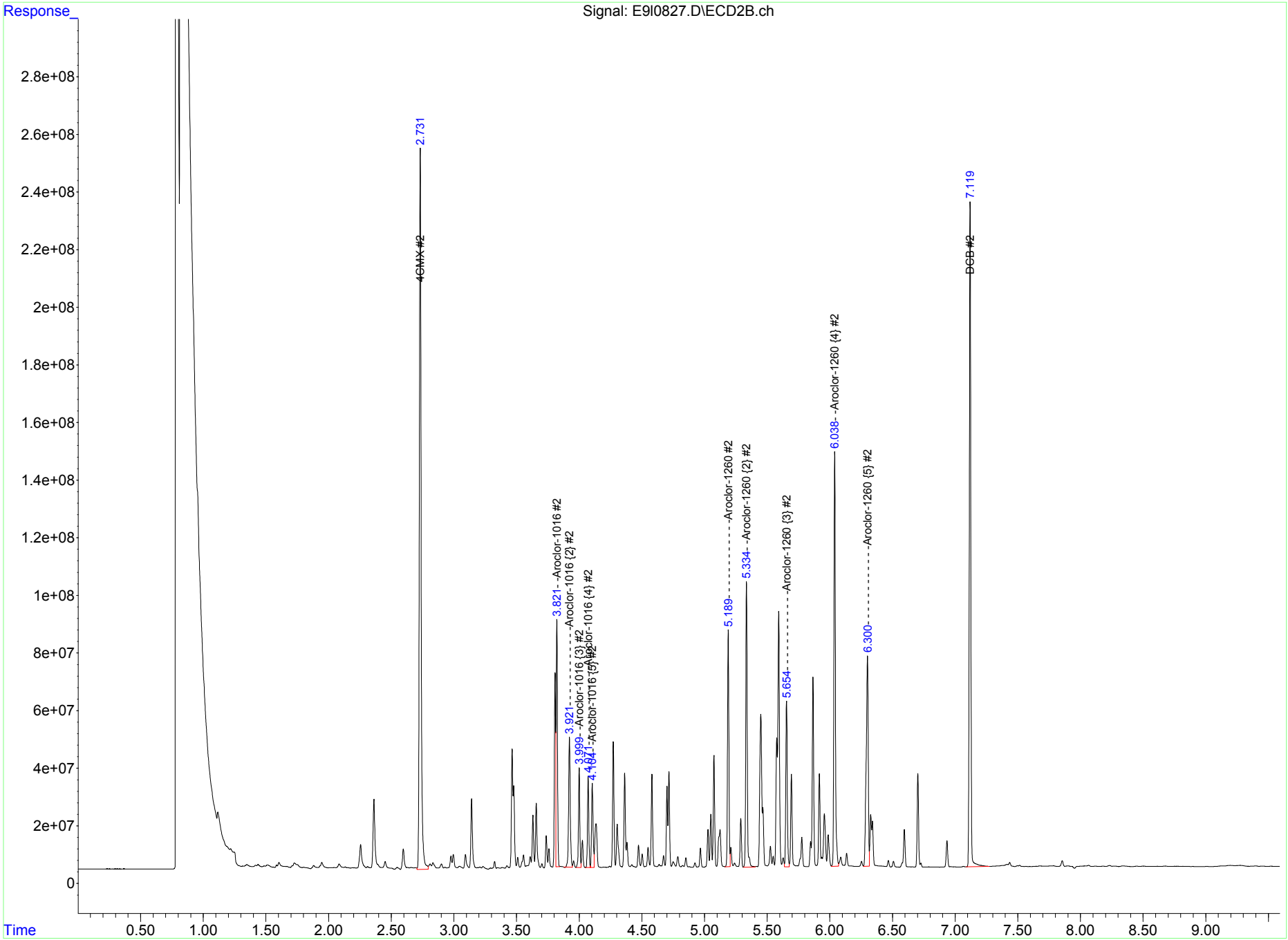
Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.948	0.000	166724653	624.840	3.822	3.821	-0.001	625992387	604.710
Aroclor-1016 {2}	3.303	3.304	0.001	202651406	621.739	3.922	3.922	0.000	403079925	598.359
Aroclor-1016 {3}	3.402	3.402	0.000	143146868	740.846	4.000	4.000	0.000	252941734	607.442
Aroclor-1016 {4}	3.448	3.448	0.000	86433550	626.988	4.071	4.071	0.000	232717249	578.129
Aroclor-1016 {5}	3.704	3.704	0.000	118104210	657.561	4.104	4.104	0.000	242212518	589.718
Sum Aroclor-1016				717060687	3271.973				1756943813	2978.357
Average Aroclor-1016					654.395					595.671
Aroclor-1260	4.580	4.580	0.000	199507247	625.972	5.190	5.189	-0.001	628260386	630.466
Aroclor-1260 {2}	4.776	4.776	0.000	299834009	612.638	5.335	5.335	0.000	792952124	637.223
Aroclor-1260 {3}	5.052	5.052	0.000	141807738	472.482	5.656	5.655	-0.001	465829384	489.473
Aroclor-1260 {4}	5.441	5.440	-0.001	334029319	476.407	6.039	6.039	0.000	1166920841	485.415
Aroclor-1260 {5}	5.639	5.638	-0.001	195377871	539.643	6.301	6.301	0.000	822788895	500.191
Sum Aroclor-1260				1170556184	2727.142				3876751630	2742.769
Average Aroclor-1260					545.428					548.554

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0827.D



Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0827.D



The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
System Monitoring Compounds										
4CMX	2.384	2.384	0.000	718542877	96.649	2.731	2.731	0.000	2408999128	99.641
DCB	6.397	6.396	-0.001	520826249	90.132	7.120	7.119	-0.001	1916306693	103.789

Compound	Amount	Range	Recovery1	Recovery2
4CMX	200.000	No Limits	48%	50%
DCB	200.000	No Limits	45%	52%
4CMX	200.000	No Limits	48%	50%
DCB	200.000	No Limits	45%	52%

Target Compounds

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2
Aroclor-1016	2.948	2.948	0.000	166724653	624.840	3.822	3.821	-0.001	625992387	604.710
Aroclor-1016 {2}	3.303	3.304	0.001	202651406	621.739	3.922	3.922	0.000	403079925	598.359
Aroclor-1016 {3}	3.402	3.402	0.000	143146868	740.846	4.000	4.000	0.000	252941734	607.442
Aroclor-1016 {4}	3.448	3.448	0.000	86433550	626.988	4.071	4.071	0.000	232717249	578.129
Aroclor-1016 {5}	3.704	3.704	0.000	118104210	657.561	4.104	4.104	0.000	242212518	589.718
Sum Aroclor-1016				717060687	3271.973				1756943813	2978.357
Average Aroclor-1016					654.395					595.671
Aroclor-1221	2.526	2.526	0.000	14369634	145.515	2.976	2.976	0.000	45246078	163.480
Aroclor-1221 {2}	2.643	2.643	0.000	12180369	227.873	3.092	3.092	0.000	55667548	331.736
Aroclor-1221 {3}	2.674	2.675	0.001	69980269	366.745	3.142	3.141	-0.001	225103442	340.715
Sum Aroclor-1221				96530272	740.133				326017069	835.932
Average Aroclor-1221					246.711					278.644
Aroclor-1232	2.674	2.675	0.001	69980269	452.001	3.822	3.821	-0.001	625992387	1219.194 A
Aroclor-1232 {2}	3.304	3.304	0.000	202651406	1263.798 A	3.922	3.922	0.000	403079925	1214.808 A
Aroclor-1232 {3}	3.402	3.402	0.000	143146868	1273.591 A	3.999	4.000	0.001	252941734	1235.237 A
Aroclor-1232 {4}	3.448	3.448	0.000	86433550	1275.020 A	4.072	4.071	-0.001	232717249	1466.756 A
Aroclor-1232 {5}	3.704	3.704	0.000	118104210	1417.329 A	4.104	4.104	0.000	242212518	1400.782 A
Sum Aroclor-1232				620316303	5681.738				1756943813	6536.778
Average Aroclor-1232					1136.348					1307.356
Aroclor-1242	2.948	2.948	0.000	166724653	766.739	3.821	3.821	0.000	625992387	778.424
Aroclor-1242 {2}	3.304	3.304	0.000	202651406	771.378	3.922	3.922	0.000	403079925	766.513
Aroclor-1242 {3}	3.449	3.448	-0.001	86433550	772.139	4.000	4.000	0.000	252941734	774.953
Aroclor-1242 {4}	3.540	3.536	-0.004	202667158	2027.193	4.071	4.071	0.000	232717249	787.503
Aroclor-1242 {5}	3.704	3.704	0.000	118104210	812.122	4.104	4.104	0.000	242212518	760.428
Sum Aroclor-1242				776580976	5149.572				1756943813	3867.822
Average Aroclor-1242					1029.914					773.564
Aroclor-1248	3.303	3.304	0.001	202651406	1335.790	3.821	3.821	0.000	625992387	1411.749
Aroclor-1248 {2}	3.540	3.536	-0.004	202667158	1114.941	4.071	4.071	0.000	232717249	421.238
Aroclor-1248 {3}	3.704	3.704	0.000	118104210	508.197	4.272	4.272	0.000	325144316	458.109
Aroclor-1248 {4}	4.011	4.011	0.000	20093899	72.465	4.549	4.549	0.000	55629070	65.862
Aroclor-1248 {5}	4.031	4.030	-0.001	13662177	57.036	4.584	4.580	-0.004	249745579	266.556
Sum Aroclor-1248				557178850	3088.428				1489228601	2623.513
Average Aroclor-1248					617.686					524.703

The following values were generated by the chromatography software before the analyst manually integrated or deleted peaks.
These values should NOT be used for reporting. Refer to the begining of this report for reportable values.

Compound	Exp#1	RT#1	Dlt#1	Resp#1	ug/L#1	Exp#2	RT#2	Dlt#2	Resp#2	ug/L#2	
Aroclor-1254	3.980	3.980	0.000	70927590	266.300	4.580	4.580	0.000	249745579	269.435	
Aroclor-1254 {2}	4.168	4.167	-0.001	76213986	220.904	4.716	4.716	0.000	241537930	231.094	
Aroclor-1254 {3}	4.451	4.451	0.000	47214672	100.318	5.051	5.051	0.000	136384818	89.872	
Aroclor-1254 {4}	4.647	4.649	0.002	28461447	83.486	5.211	5.211	0.000	48897300	45.177	
Aroclor-1254 {5}	4.778	4.776	-0.002	299834009	900.804	5.336	5.335	-0.001	792952124	1196.329	
Sum Aroclor-1254				522651704	1571.812				1469517751	1831.907	
Average Aroclor-1254					314.362					366.381	
Aroclor-1260	4.580	4.580	0.000	199507247	625.972	5.190	5.189	-0.001	628260386	630.466	
Aroclor-1260 {2}	4.776	4.776	0.000	299834009	612.638	5.335	5.335	0.000	792952124	637.223	
Aroclor-1260 {3}	5.052	5.052	0.000	141807738	472.482	5.656	5.655	-0.001	465829384	489.473	
Aroclor-1260 {4}	5.441	5.440	-0.001	334029319	476.407	6.039	6.039	0.000	1166920841	485.415	
Aroclor-1260 {5}	5.639	5.638	-0.001	195377871	539.643	6.301	6.301	0.000	822788895	500.191	
Sum Aroclor-1260				1170556184	2727.142				3876751630	2742.769	
Average Aroclor-1260					545.428					548.554	
Aroclor-1262	4.580	4.580	0.000	199507247	805.997	5.190	5.189	-0.001	628260386	847.741	
Aroclor-1262 {2}	4.776	4.776	0.000	299834009	892.745	5.335	5.335	0.000	792952124	867.103	
Aroclor-1262 {3}	5.052	5.052	0.000	141807738	343.434	5.656	5.655	-0.001	465829384	355.856	
Aroclor-1262 {4}	5.441	5.440	-0.001	334029319	435.839	6.039	6.039	0.000	1166920841	458.790	
Aroclor-1262 {5}	5.662	5.661	-0.001	71599347	231.701	6.296	6.301	0.005	822788895	467.095	
Sum Aroclor-1262				1046777659	2709.717				3876751630	2996.585	
Average Aroclor-1262					541.943					599.317	
Aroclor-1268	5.661	5.661	0.000	71599347	74.859	6.294	6.301	0.007	822788895	255.737	
Aroclor-1268 {2}	5.688	5.691	0.003	86464197	98.987	6.327	6.326	-0.001	140772780	48.569	
Aroclor-1268 {3}	5.823	5.822	-0.001	6753049	9.018	6.508	6.508	0.000	17602230	7.297	
Aroclor-1268 {4}	6.069	6.068	-0.001	79588782	247.003	6.703	6.703	0.000	253093331	247.731	
Aroclor-1268 {5}	6.266	6.266	0.000	25126637	11.134	6.937	6.935	-0.002	74996867	9.924	
Sum Aroclor-1268				269532010	441.001				1309254102	569.259	
Average Aroclor-1268					88.200					113.852	
4,4' DDT	4.996	4.972	-0.024f	328585729	49.409	5.592	5.592	0.000	771891469	29.228	#
4,4' DDD	4.802	4.806	0.004	50868963	7.328	5.368	0.000	-5.368	0	N.D.	#
4,4' DDE	4.375	4.358	-0.017	51571864	5.858	4.954	4.967	0.013	49302239	<MDL	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int. (A) = Over the calibration range (d) = deleted

Reasons for Analyst Intervention

Data Path : C:\msdchem\1\data\120820.S\
Data File : E9l0827.D

Aroclor-1221	Multi	-	Deletion ==	DMP
Aroclor-1232	Multi	-	Deletion ==	DMP
Aroclor-1242	Multi	-	Deletion ==	DMP
Aroclor-1248	Multi	-	Deletion ==	DMP
Aroclor-1254	Multi	-	Deletion ==	DMP
Aroclor-1262	Multi	-	Deletion ==	DMP
Aroclor-1268	Multi	-	Deletion ==	DMP
4,4' DDT	Both	-	Deletion ==	DMP
4,4' DDD		-	Deletion ==	DMP
4,4' DDE	Both	-	Deletion ==	DMP

Miscellaneous

Prep Logbook

Solid-Phase Extraction

Batch ID: **2069548** **Verified by:** _____
Analyst: **Briana Smith**
Method: **SW846 3535A**

Lab SOP: **GL-OA-E-070 REV# 11**
Instrument: **Semi-Volatiles Manual**

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Ph 1	Ph 2	Clean Up	Final Volume (mL)	Prepped Factor (mL/mL)
1204708706 MB	07-DEC-2020 09:30:00			1000	7	1	H2SO4/KMnO4	1	0.001
1204708707 LCS	07-DEC-2020 09:30:00			1000	7	1	H2SO4/KMnO4	1	0.001
527501005	07-DEC-2020 09:30:00			1000	7	1	H2SO4/KMnO4	1	0.001
1204708708 MS (527501005)	07-DEC-2020 09:30:00			500	7	1	H2SO4/KMnO4	1	0.002
1204708709 MSD (527501005)	07-DEC-2020 09:30:00			500	7	1	H2SO4/KMnO4	1	0.002
527501006	07-DEC-2020 09:30:00	1411.92	438.62	973.3	7	1	H2SO4/KMnO4	1	0.00103
527604011	07-DEC-2020 09:30:00	1503.52	499.95	1003.57	7	1	H2SO4/KMnO4	1	0.001
527604012	07-DEC-2020 09:30:00	1554.3	498.45	1055.85	7	1	H2SO4/KMnO4	1	0.00095
527604013	07-DEC-2020 09:30:00	1552.32	502.94	1049.38	7	1	H2SO4/KMnO4	1	0.00095
527604014	07-DEC-2020 09:30:00	1558.57	502.27	1056.3	7	1	H2SO4/KMnO4	1	0.00095
527719008	07-DEC-2020 09:30:00	1448.32	440.69	1007.63	7	1	H2SO4/KMnO4	1	0.00099
529035001	07-DEC-2020 09:30:00			200	10	1	H2SO4/KMnO4	1	0.005
1204708710 MS (529035001)	07-DEC-2020 09:30:00			200	10	1	H2SO4/KMnO4	1	0.005
1204708711 MSD (529035001)	07-DEC-2020 09:30:00			200	10	1	H2SO4/KMnO4	1	0.005

Type	Sample Id	Description	Serial Number	Spike Amt	Units
LCS	1204708707	PCB Laboratory Control	WE201002-06	1	mL
MS	1204708708	PCB Laboratory Control	WE201002-06	.5	mL
MS	1204708710	PCB Laboratory Control	WE201002-06	1	mL
MSD	1204708709	PCB Laboratory Control	WE201002-06	.5	mL
MSD	1204708711	PCB Laboratory Control	WE201002-06	1	mL
SURR	All	PEST LOW LEVEL SURROGATE 200 UG/L	WE201030-12	.5	mL
SURR	All	PEST LOW LEVEL SURROGATE 200 UG/L	WE201030-12	1	mL
REGNT	All	Hexane	3133107	10	mL
REGNT	All	Methylene Chloride	3138096	100	mL
REGNT	All	Acetone	3140994-B4	5	mL
REGNT	All	5% Potassium Permanganate	3150864	5	mL
REGNT	All	1:1 sulfuric acid	3152869	20	mL

Comments:

Sample 529035001 had surfactants, therefore 200mL was used.
Turbovap #: 1,2
Cartridge lot #: 046306-BT
Final Solvent: Hexane
Verified by: DF

Prep Logbook

Batch ID: 2069548 **Verified by:** _____
Analyst: Briana Smith
Method: SW846 3535A

Lab SOP: GL-OA-E-070 REV# 11
Instrument: Semi-Volatiles Manual

Sample ID	Prep Date	Initial Wt (g)	Final Wt (g)	Initial Volume (mL)	Ph 1	Ph 2	Clean Up	Final Volume (mL)	Prepped Factor (mL/mL)
SOURC All	SODIUM SULFATE			3129846		10 g			

ORGANIC RUN LOG - INSTRUMENT ID#ECD9

GEL ORGANIC RUN LOG 120720.S

DATE: 7-Dec-20 METHOD: See Data OPERATOR: YS1

Solvent ID 2913975
Alumina ID 200407A
Copper ID 20022A.4

Calibration & QC Information:
Initial Calibration Dates: See Calibration History and Standards Log
Initial Calibration Std ID's: See Calibration History and Standards Log
GEL SOP: GL-OA-E-040

Sequence Number: 120720.S

Analysis Date Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
12/07/2020 07:22	E9I0501.D	WAR201102-99	IBK	BLANK	1	1	YS1	
12/07/2020 07:34	E9I0502.D	WAR201016-DDT	DDT	ICS	1	2	YS1	
12/07/2020 07:47	E9I0503.D	WAR200707-32	AR1232	CCV	1	3	YS1	
12/07/2020 07:59	E9I0504.D	WAR200701-21	AR1221	CCV	1	4	YS1	
12/07/2020 08:11	E9I0505.D	WAR200612-42	AR1242	CCV	1	5	YS1	
12/07/2020 08:24	E9I0506.D	WAR200916-48	AR1248	CCV	1	6	YS1	
12/07/2020 08:36	E9I0507.D	WAR201112-68	AR1268	CCV	1	7	YS1	
12/07/2020 08:49	E9I0508.D	WAR201104-62	AR1262	CCV	1	8	YS1	
12/07/2020 09:01	E9I0509.D	WAR201207-01	AR1660-1	ICAL	1	9	YS1	
12/07/2020 09:14	E9I0510.D	WAR201207-02	AR1660-2	ICAL	1	10	YS1	
12/07/2020 09:26	E9I0511.D	WAR201207-03	AR1660-3	ICAL	1	11	YS1	
12/07/2020 09:38	E9I0512.D	WAR201207-04	AR1660-4	ICAL	1	12	YS1	
12/07/2020 09:51	E9I0513.D	IAR200730-01	AR1660-5	ICAL	1	13	YS1	
12/07/2020 10:03	E9I0514.D	WAR200922-60	AR1660	ICV	1	14	YS1	
12/07/2020 10:16	E9I0515.D	WAR201207-05	AR1254-1	ICAL	1	15	YS1	
12/07/2020 10:28	E9I0516.D	WAR201207-06	AR1254-2	ICAL	1	16	YS1	
12/07/2020 10:40	E9I0517.D	WAR201207-07	AR1254-3	ICAL	1	17	YS1	
12/07/2020 10:53	E9I0518.D	WAR201207-08	AR1254-4	ICAL	1	18	YS1	
12/07/2020 11:05	E9I0519.D	IAR200824-01	AR1254-5	ICAL	1	19	YS1	
12/07/2020 11:18	E9I0520.D	WAR200825-54	AR1254	ICV	1	20	YS1	
12/07/2020 11:30	E9I0521.D	WAR201207-09	AR1242-1	ICAL	1	21	YS1	
12/07/2020 11:43	E9I0522.D	WAR201207-10	AR1242-2	ICAL	1	22	YS1	
12/07/2020 11:55	E9I0523.D	WAR201207-11	AR1242-3	ICAL	1	23	YS1	
12/07/2020 12:07	E9I0524.D	WAR201207-12	AR1242-4	ICAL	1	24	YS1	
12/07/2020 12:20	E9I0525.D	IAR201103-01	AR1242-5	ICAL	1	25	YS1	
12/07/2020 12:32	E9I0526.D	WAR200612-42	AR1242	ICV	1	26	YS1	
12/07/2020 12:45	E9I0527.D	WAR201207-13	AR1248-1	ICAL	1	27	YS1	
12/07/2020 12:57	E9I0528.D	WAR201207-14	AR1248-2	ICAL	1	28	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD9

GEL ORGANIC RUN LOG 120720.S

12/07/2020 13:09	E9I0529.D	WAR201207-15	AR1248-3	ICAL	1	29	YS1	
12/07/2020 13:22	E9I0530.D	WAR201207-16	AR1248-4	ICAL	1	30	YS1	
12/07/2020 13:34	E9I0531.D	IAR200916-02	AR1248-5	ICAL	1	31	YS1	
12/07/2020 13:47	E9I0532.D	WAR200916-48	AR1248	ICV	1	32	YS1	
12/07/2020 13:59	E9I0533.D	WAR201207-21	AR1268-1	ICAL	1	33	YS1	
12/07/2020 14:11	E9I0534.D	WAR201207-22	AR1268-2	ICAL	1	34	YS1	
12/07/2020 14:24	E9I0535.D	WAR201207-23	AR1268-3	ICAL	1	35	YS1	
12/07/2020 14:36	E9I0536.D	WAR201207-24	AR1268-4	ICAL	1	36	YS1	
12/07/2020 14:49	E9I0537.D	IAR201112-01	AR1268-5	ICAL	1	37	YS1	
12/07/2020 15:01	E9I0538.D	WAR201112-68	AR1268	ICV	1	38	YS1	
12/07/2020 15:13	E9I0539.D	WAR201207-17	AR1262-1	ICAL	1	39	YS1	
12/07/2020 15:26	E9I0540.D	WAR201207-18	AR1262-2	ICAL	1	40	YS1	
12/07/2020 15:38	E9I0541.D	WAR201207-19	AR1262-3	ICAL	1	41	YS1	
12/07/2020 15:51	E9I0542.D	WAR201207-20	AR1262-4	ICAL	1	42	YS1	
12/07/2020 16:03	E9I0543.D	IAR200916-01	AR1262-5	ICAL	1	43	YS1	
12/07/2020 16:15	E9I0544.D	WAR201104-62	AR1262	ICV	1	44	YS1	
12/07/2020 16:28	E9I0545.D	WAR201102-99	IBK	BLANK	1	45	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD9

GEL ORGANIC RUN LOG 120820.S

DATE: 8-Dec-20 METHOD: See Data OPERATOR: YS1

Solvent ID 2913975
Alumina ID 200407A
Copper ID 20022A.4

Calibration & QC Information:
Initial Calibration Dates: See Calibration History and Standards Log
Initial Calibration Std ID's: See Calibration History and Standards Log
GEL SOP: GL-OA-E-040

Sequence Number: 120820.S

Analysis Date Time	Data File	Lab Sample ID	Client	Batch #	Dil. Factor	AS Slot #	Analyst	Comments
12/08/2020 04:43	E9I0801.D	WAR201102-99	IBK	BLANK	1	1	YS1	
12/08/2020 04:55	E9I0802.D	WAR201016-DDT	DDT	ICS	1	2	YS1	
12/08/2020 05:08	E9I0803.D	WAR200707-32	AR1232	CCV	1	3	YS1	
12/08/2020 05:20	E9I0804.D	WAR200701-21	AR1221	CCV	1	4	YS1	
12/08/2020 05:32	E9I0805.D	WAR200922-60	AR1660	CCV	1	5	YS1	
12/08/2020 05:45	E9I0806.D	WAR200825-54	AR1254	CCV	1	6	YS1	
12/08/2020 05:57	E9I0807.D	WAR200612-42	AR1242	CCV	1	7	YS1	
12/08/2020 06:10	E9I0808.D	WAR200916-48	AR1248	CCV	1	8	YS1	
12/08/2020 06:22	E9I0809.D	WAR201112-68	AR1268	CCV	1	9	YS1	
12/08/2020 06:34	E9I0810.D	WAR201104-62	AR1262	CCV	1	10	YS1	
12/08/2020 06:56	E9I0811.D	WAR201102-99	IBK	BLANK	1	11	YS1	
12/08/2020 07:09	E9I0812.D	1204708706	MB	2069551	1	12	YS1	
12/08/2020 07:21	E9I0813.D	1204708707	LCS	2069551	1	13	YS1	
12/08/2020 07:33	E9I0814.D	527501005	N3BL	2069551	1	14	YS1	
12/08/2020 07:47	E9I0815.D	1204708708	MS	2069551	1	15	YS1	
12/08/2020 08:00	E9I0816.D	1204708709	MSD	2069551	1	16	YS1	
12/08/2020 08:14	E9I0817.D	527501006	N3BL	2069551	1	17	YS1	
12/08/2020 08:27	E9I0818.D	527604011	CPRC	2069551	1	18	YS1	
12/08/2020 08:41	E9I0819.D	527604012	CPRC	2069551	1	19	YS1	
12/08/2020 08:54	E9I0820.D	527604013	CPRC	2069551	1	20	YS1	
12/08/2020 09:08	E9I0821.D	527604014	CPRC	2069551	1	21	YS1	
12/08/2020 09:21	E9I0822.D	WAR200922-60	AR1660	CCV	1	22	YS1	
12/08/2020 09:34	E9I0823.D	WAR201102-99	IBK	BLANK	1	23	YS1	
12/08/2020 09:46	E9I0824.D	527719008	N3BL	2069551	1	24	YS1	
12/08/2020 10:00	E9I0825.D	529035001	ARSL	2069551	1	25	YS1	
12/08/2020 10:13	E9I0826.D	1204708710	MS	2069551	1	26	YS1	
12/08/2020 10:27	E9I0827.D	1204708711	MSD	2069551	1	27	YS1	
12/08/2020 10:40	E9I0828.D	WAR200922-60	AR1660	CCV	1	28	YS1	

ORGANIC RUN LOG - INSTRUMENT ID#ECD9

GEL ORGANIC RUN LOG 120820.S

12/08/2020 10:52	E9I0829.D	WAR201102-99	IBK	BLANK	1	29	YS1	
12/08/2020 11:05	E9I0830.D	1204708747	MB	2069584	1	30	YS1	
12/08/2020 11:17	E9I0831.D	1204708748	LCS	2069584	1	31	YS1	

AI 856 | Los Alamos National Laboratory

Operating Permit P100-R2M4

Monitoring Period July 1–December 31, 2020

ATTACHMENT A1507.A.b

Evaporative Sprayers

Hours of Operation

2020 Operational Data for SERF Spray Evaporators - Data entry

	Evap Sprayer #1 (SN 0053)		Evap Sprayer #2 (SN 0054)		Evap Sprayer #3 (SN 0055)		Evap Sprayer #4 (SN 0006 Installed 8/23/18)		Evap Sprayer #5 (SN 0008 Installed 8/23/18)		Large Evap Sprayer Fixed Unit (SN 9360 Installed 6/4/19)	
	Hours	Gallons	Hours	Gallons	Hours	Gallons	Hours	Gallons	Hours	Gallons	Hours	Gallons
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-	-
Apr	1,276	580,885	-	-	-	-	-	-	386	60,522	-	-
May	658	250,456	-	-	-	-	-	-	23	3,968	-	-
Jun	243	61,132	637	223,621	-	-	10	20,169	15	11,119	-	-
Jul	26	9,943	751	303,298	-	-	-	-	751	321,385	-	-
Aug	2	514	713	296,429	-	-	-	-	748	284,267	-	-
Sep	-	-	689	277,730	-	-	-	-	376	100,529	-	-
Oct	-	-	650	165,654	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
Annual Totals	2,205	902,930	3,440	1,266,732	-	-	10	20,169	2,299	781,790	-	-

Reviewed by: Vince Carretti 1/11/2021

ATTACHMENT A1507.B.

Evaporative Sprayers

Work Practice Standards

Maintenance and Repair Requirements and Records

SERF SIGMA BASINS EVAPORATOR PM LOG

UI-PROC-81-00-027-LOG

Date	Evaporator Number	Pond Number	Inspection		Cleaning	Performed By	Z#	Comments
			Damage? (Y/N)	Wear? (Y/N)				
5/11/2020	SN 0006	Land	N	N	HP Wash	CB	280633	HP Washed
5/11/2020	SN 0008	Land	N	N	HP Wash	CB	280633	HP Washed
7/15/2020	SN 0054	Land	N	N	HP Wash	CB	280633	HP Washed
7/15/2020	SN 0008	Land	N	N	HP Wash	CB	280633	HP Washed
7/29/2020	SN 0054	Land	N	N	HP Wash	CB	280633	HP Washed
7/29/2020	SN 0008	Land	N	N	HP Wash	CB	280633	HP Washed
7/29/2020	SN 0053	Land	N	N	HP Wash	CB	280633	HP Washed
8/25/2020	SN 0054	Land	N	N	HP Wash	CB	280633	HP Washed
8/25/2020	SN 0008	Land	N	N	HP Wash	CB	280633	HP Washed
8/25/2020	SN 0053	Land	N	N	HP Wash	CB	280633	HP Washed
9/24/2020	SN 0054	Land	N	N	HP Wash	CB	280633	HP Washed
9/24/2020	SN 0008	Land	N	N	HP Wash	CB	280633	HP Washed
9/24/2020	SN 0053	Land	N	N	HP Wash	CB	280633	HP Washed
10/22/2020	SN 0054	Land	N	N	HP Wash	CB	280633	HP Washed
10/22/2020	SN 0008	Land	N	N	HP Wash	CB	280633	HP Washed
10/22/2020	SN 0053	Land	N	N	HP Wash	CB	280633	HP Washed
11/19/2020	SN 0054	Land	N	N	No	CB	280633	Inspection only
11/19/2020	SN 0008	Land	N	N	No	CB	280633	Inspection only
11/19/2020	SN 0053	Land	N	N	No	CB	280633	Inspection only
12/14/2020	SN 0054	Land	N	N	No	CB	280633	No operations / Inspecttion only
12/14/2020	SN 0008	Land	N	N	No	CB	280633	No operations / Inspecttion only
12/14/2020	SN 0053	Land	N	N	No	CB	280633	No operations / Inspecttion only

Operations Procedure

SERF Sigma Basin SMI 120F Evaporator Inspections

Review frequency 1 yr ☐ 2 yr ☐ 3 yr ☒

Issue date 6/18/18 **Next review** 6/18/21

Process Owner

Jared Hornberger	SERF Lead Operator	
	Z-# 281223	Date 6/13/18

Reviewed by

Joshua Begay	SERF System Engineer	
	Z-# 304395	Date 6/13/2018

ESH Review

Russell Stone	ESH Manager	
	Z-# 117365	Date 6/14/2018

Approved by

Lawrence Chavez	Operations Manager	
	Z-# 186199 090208	Date 6-18-18

Derivative Classifier Review

Michael E. Gallegos	VERIFIED UNCLASSIFIED	
	~~Z-# 089711~~ 128179	Date 14 June 18

History of Revisions

Document Number	Issue Date	Action
UI-PROC-81-00-027-R1	6/18/18	Review and reissue. Minor changes.
UI-PROC-81-00-027-R0	06/01/18	New procedure.

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Utilities & Institutional Facilities
Operations Procedure

SERF Sigma Basin SMI 120F Evaporator Inspections

1 Purpose

The purpose of this procedure is to provide instructions for inspecting and removing scale and debris from SMI Evaporative Solutions Model 120F Floating Mechanical Evaporators used at SERF evaporation ponds at TA-60-0221/0222 on Sigma Mesa.

2 Scope/Applicability

1. The procedure includes inspecting evaporator housings and pump sleeves for scale, inspecting fan blades for wear, removing scale, removing obstructions, and cleaning evaporator pump static inlet filters.
2. Affected personnel: SERF Operations and other personnel

3 Prerequisites

1. Required training and qualifications:
   a. Utilities & Institutional Facilities (UI) procedures and work control processes
   b. The current procedure, equipment, supplies, etc.
   c. P101-3, Lockout/Tagout for Hazardous Energy Control
2. Pre-job briefing

4 Precautions and Limitations

1. Required Personal Protective Equipment (PPE)
   - Steel-toe safety shoes
   - Safety glasses with side shields
   - Personal floatation device
2. All procedure hazards, both task and site, must be addressed in accordance with UI work control processes.
3. Refer to Integrated Work Document (IWD) for specific task and site hazards.
4. Lockout/tagout (LO/TO) must be performed per P101-3, Lockout/Tagout for Hazardous Energy Control.

5 Equipment, Supplies, etc.

1. Equipment, tools, instruments:
   - Pressure washer
   - Power generator
   - Pump
   - Flat and/or combination screwdriver
   - Hand tools
   - Flashlight

6 Responsibilities

1. Persons performing this procedure are responsible for –
   - Complying with its requirements
   - Notifying appropriate supervisory personnel of equipment damage or other conditions that could require corrective action
   - Issuing a PAUSE/STOP WORK order whenever warranted by conditions related to health or safety in accordance with P101-18, Procedure for Pause/Stop Work
2. Managers are responsible for ensuring procedure compliance.

7 Work Steps

7.1 General Items

1. Schedule performance of the procedure in coordination with SERF Operations.
   - Inform affected personnel when the inspection process is about to begin.
2. Make sure evaporators are operational.

   If an evaporator is out of service, record the following information in SERF Operator Log:
   - Reason out of service
   - Submitted Work Order/FSR number

     (if MSS repair)

7.2 Perform Inspections

Perform inspections yearly.

1. Turn evaporators OFF.
2. Apply LO/TO per P101-3, Lockout/Tagout for Hazardous Energy Control.
3. Remove evaporators from ponds using tethering cable.
    - Inspect cables for tear or excessive jacket wear.
4. Inspect exterior of evaporators for scale build-up.
    - Use pressure washer to remove scale.
5. Inspect fan blades for wear.
    - Note that the blades are not sharp.
    - Notify appropriate personnel of excessive wear.
6. Inspect pump sleeves through viewing port for obstructions and scale build-up.
    - Remove any obstructions.
    - Use pressure washer to remove scale.
7. Remove static inlet filters from pumps and clean them.
8. Reinstall cleaned static inlet filters.
9. Return evaporators and tethering cables where they came from in pond.
10. Remove LO/TO.
11. Turn evaporators ON and check for normal operation.
12. If a problem is found, immediately notify appropriate personnel so corrective action can be taken.

8 Records

Records generated as a result of implementing this procedure are maintained in accordance with the UI records program.

9 Abbreviations, Acronyms, and Terms

Abbreviation, Acronym, or Term	Definition
ESH	Environment, Safety, and Health
IWD	Integrated Work Document
LO/TO	Lockout/tagout
PPE	Personal Protective Equipment
SERF	Sanitary Effluent Reclamation Facility
UI	Utilities & Institutional Facilities

10 References

P101-3, Lockout/Tagout for Hazardous Energy Control

11 Appendices and Attachments

None

SERF SIGMA BASINS EVAPORATOR CLEANING LOG

UI-PROC-81-00-027-LOG

Date	Evaporator Number	Pond Number	Inspection		Cleaning	Performed By	Z#	Comments
			Damage? (Y/N)	Wear? (Y/N)				